

**No. D-11011/500/2024-AcademicCell (e-
8284443)
Government of India
National Medical Commission**

Sector-8, Dwarka
New Delhi-110075
12-09-2024

Subject: Guidelines for Competency Based Medical Education (CBME) Curriculum 2024— regarding

The revised guidelines for Competency Based Medical Education (CBME) Curriculum 2024 by the Under Graduate Medical Education Board (UGMEB) is enclosed herewith. All concerned stakeholders are requested to kindly take note of the same.

Encl.: As above

**Signed by B Srinivas
Date: 12-09-2024 14:52:16**

**DR B SRINIVAS
SECRETARY**

Copy to:

- i. ACS/ PS/ Secretaries/ Department/s of Medical Education in all States/ Union Territories
- ii. PPS to Chairman, NMC
- iii. PPS to President(UGMEB)
- iv. DMMP-I System Integrator- for uploading of NMC Website
- v. Guard File



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राष्ट्रीय आयुर्विज्ञान आयोग
National Medical Commission
Academic Cell
Undergraduate Medical Education Board

No.D-11011/500/2024/AC


New Delhi, dated the 12/09/2024

Subject: Revised Competency Based Medical Education Curriculum (CBME) Guidelines, 2024 - National Medical Commission.

In response to the various queries raised by stakeholders in respect to the Disability Guidelines (Annexure-14) mentioned in the CBME Guidelines, 2024 and other issues raised in respect of Topics and Competencies of various departments mentioned in the Guidelines, all the requisite addition/deletion has been carried out after due consultation with the experts of each Subject group.

2. Accordingly, Under Graduate Medical Education Board in exercise of powers conferred by the National Medical Commission Act, 2019 particularly by sections 10, 24, 25 and 57 of the NMC Act, publishes the Modified Competency Based Medical Education Guidelines, 2024 along with CBME Topics and Competencies Volume-I, II and III.

3. These guidelines will supersede the earlier Guidelines issued by Undergraduate Medical Education Board (UGMEB) and will be implemented from the MBBS batch of 2024-25 onwards.


(Aruna V. Vanikar)
President (UGMEB)

COMPETENCY BASED MEDICAL EDUCATION (CBME) CURRICULUM 2024

1. Preamble

The new Graduate Medical Education Regulations (GMER) attempt to stand on the shoulders of the contributions and the efforts of resource persons, teachers and students (past and present). It intends to prepare the learner to provide health care to the evolving needs of the nation and the world.

Following the Regulations on Graduate Medical Education (GMER) 1997, a new crisp 'avatar' in the form of GMER 2023 was placed last year. Since five years are completed after implementation of CBME it was time to have a relook at all aspects of the various components in the existing regulations and guidelines, and adapt them to the changing demography, socio-economic context, perceptions, values, advancements in medical education and expectations of stakeholders. Emerging health care issues particularly in the context of emerging diseases, impact of advances in science and technology and shorter distances on diseases and their management also need consideration.

The thrust in the new guidelines is put on continuation and evolution of medical education based on feedback and experience of CBME in the last 5 years since its inception in 2019, making it more learner-centric, patient-centric, gender-sensitive, outcome-oriented and environment appropriate. The result is an outcome driven curriculum which conforms to global trends. Emphasis is made on alignment and integration of subjects both horizontally and vertically while respecting the strengths and necessity of subject-based instruction and assessment. This has necessitated a deviation from using "broad competencies"; instead, the reports have written end of phase subject competencies. These "competencies" can be mapped to the global competencies in the Graduate Medical Education Regulations.

The importance of ethical values, responsiveness to the needs of the patient and acquisition of communication skills is underscored by providing dedicated time in curriculum in the form of a longitudinal program titled 'AETCOM' based on Attitude, Ethics and Communication (AETCOM) competencies. Great emphasis has been placed on collaborative and inter disciplinary teamwork, professionalism, altruism and respect in professional relationships with due sensitivity to differences in thought,

socioeconomic position and gender.

2. Objectives of the Indian Graduate Medical Training Programme

The undergraduate medical education program is designed with a goal to create an "Indian Medical Graduate" (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training program are hereby prescribed. The first contact physician needs to be skillful to perform duties of primary care physician and have requisite skills for promotive, preventative, rehabilitative, palliative care & referral services.

3. National Goals

At the end of undergraduate program, the Indian Medical Graduate should be able to:

- a) Recognize "health for all" as a national goal and health right of all citizens and by undergoing training for medical profession to fulfill his social obligations towards realization of this goal.
- b) Learn key aspects of National policies on health and devote himself to its practical implementation.
- c) Achieve competence in the practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- d) Develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- e) Become an exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

4. Institutional Goals

In consonance with the national goals, each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should be competent in diagnosis and management of common health problems of the individual

and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.

- a. Be competent for working in the health care team from Phase 1 MBBS to Compulsory rotatory medical internship (CRMI) in a gradual manner with increasing complexity in an integrated multi-department involvement.
- b. Be competent to practice preventive, promotive, curative, palliative and rehabilitative medicine in respect to the commonly encountered health problems.
- c. Appreciate rationale for different therapeutic modalities; be familiar with the administration of the "essential medicines" and their common adverse effects.
- d. Appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.
- e. Possess the attitude for continued self-learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- f. Be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:
 - i) Family Welfare and Maternal and Child Health (MCH);
 - ii) Sanitation and water supply;
 - iii) Prevention and control of communicable and non-communicable diseases;
 - iv) Immunization;
 - v) Health Education and advocacy;
 - vi) Indian Public Health Standards (IPHS) at various level of service delivery;

- vii) Bio-medical waste disposal;
 - viii) Organizational and or institutional arrangements.
- g. Acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, general and hospital management, principal inventory skills and counseling.
 - h. Be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures with maximum community participation.
 - i. Be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
 - j. Be competent to work in a variety of health care settings.
 - k. Have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals.

5. Goals for the Learner

In order to fulfill these goals, the Indian Medical Graduate must be able to function in the following Roles appropriately and effectively:-

- a. **Clinician** who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- b. **Leader** and member of the health care team and system with capabilities to collect, analyze, synthesize and communicate health data appropriately.
- c. **Communicate with patients**, families, colleagues, and community in a methodological and skillful way using various approaches in family visits, family adoption program, clinic-social cases, clinical cases and AETCOM training programs.

- d. **Lifelong learner** committed to continuous improvement of skills and knowledge.
- e. **Professional**, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession and society. Training of humanities and social sciences will be useful for this training.
- f. **Critical Thinker** who demonstrates problem solving skills in professional practice
- g. **Researcher** who generates and interprets evidence to ensure effective patient care as well as contribute in the field of medical research and practice.

6. Competency Based Training Programme of the Indian Medical Graduate

Competency based learning would include designing and implementing medical education curriculum that focuses on the desired and observable ability in real life situations. In order to effectively fulfill the roles, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

- a. **Clinician, who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.**
 - Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective.
 - Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
 - Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence healthcare.
 - Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
 - Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease

identification, disease prevention and health promotion.

- Demonstrate ability to elicit and record from the patient, and other relevant sources. including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.
- Demonstrate ability to perform a physical examination that is contextual to gender, social and economic status, patient preferences and values.
- Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that confirm to established national and regional health programmers and policies for the following:
 - Disease prevention,
 - Health promotion and cure,
 - Pain and distress alleviation, and
 - Rehabilitation and palliation.
- Demonstrate ability to provide a continuum of care at the primary (including home care) and/or secondary level that addresses chronicity, mental and physical disability,
- Demonstrate ability to appropriately identify and refer patients who may require

specialized or advanced tertiary care.

- Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

b. Leader and member of the health care team and system

- Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
- Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings. Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
- Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyze and utilize health data.
- Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
- Recognize and advocate health. promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

c. Communicator with patients, families, colleagues and community

- Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients, families, colleagues and community in a language that they understand and in a manner that will be mutually satisfying and beneficial to them as well as care givers cum learners to yield positive health care outcomes.
- Demonstrate ability to establish professional relationships with patients, families,

colleagues and community that are positive, understanding, humane, ethical, empathetic, and trustworthy.

- Demonstrate ability to communicate with patients, families, colleagues and community in a manner respectful of patient's preferences, values, prior experience, beliefs, confidentiality and privacy.
- Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision-making and overcoming hesitancy towards health initiatives.

d. Lifelong learner committed to continuous improvement of skills and knowledge

- Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.
- Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.
- Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning. Demonstrate ability to search (including through electronic means), and critically re- evaluate the medical literature and apply the information in the care of the patient.
- Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

e. Professional who is committed to excellence, is ethical, responsive and accountable to patients, the profession and community.

- Practice selflessness, integrity, responsibility, accountability and respect.
- Respect and maintain professional boundaries between patients, colleagues and society.
- Demonstrate ability to recognize and manage ethical and professional conflicts.
- Abide by prescribed ethical and legal codes of conduct and practice.
- Demonstrate commitment to the growth of the medical profession as a whole.

f. Critical Thinker who demonstrates problem solving skills in professional practice

- Perceive, analyse, synthesise and evaluate information obtained through observation, experience and communication that leads to rational clinical decision.
- Evaluate the credibility of information resources.
- Adequately consider the social, cultural and geographical diversity while practicing personalized medicine
- Develop independence of thought, clarity, integrity and self confidence in decision making.

g. Researcher who generates and interprets evidence to ensure effective patient care as well as contribute in the field of medical research and practice.

- Read, review, appraise and critique the scientific body of literature for practice of Evidence Based Medicine.
- Apply methodological approach to scientific enquiry for generating evidence.
- Demonstrate basic principles and ethical implications of research governance.

A. CURRICULUM (subject wise competencies are given in Competency Based Undergraduate Curriculum 2024 on NMC website)

➤ **Phase 1 :**

1. ANATOMY

Subject Goals:

At the end of anatomy teaching, a student should be able to demonstrate:

- i. Comprehension of normal structure, development and genetic pattern of organ and organ systems, as well as the clinical correlation of structures involved in diseases and its anatomical basis.

- ii. Comprehension of the normal disposition, clinically relevant inter-relationships, functional and cross -sectional Anatomy of the various organs and structures of the body.
- iii. Identification of the microscopic structure of various organs and tissues with the functions, as a prerequisite for understanding the altered state in various disease processes.
- iv. Basic principles and sequential development of the organs and systems; recognize the critical stages of development and the effects of common teratogens, genetic mutations and environmental hazards.
- v. Principles of karyotyping and identify the gross congenital anomalies.
- vi. Principles of newer imaging techniques and interpretation of CT scan, sonogram, MRI & Angiography.

2. PHYSIOLOGY

Subject Goals:

At the end of physiology teaching, the learner must be able to:

- i. Demonstrate knowledge of normal human physiology, organizational and functional relationship between cells, tissues and organs and body systems, age and sex related physiological changes in the organ functions that reflect normal growth and development.
- ii. Explain physiological variations (Genotype/Phenotype) with healthy ageing through the course of life i.e. fetal, neonatal, childhood, adolescence and adulthood and demonstrate understanding of the physiological responses and adaptation to environment and exercise.
- iii. Perform experiments to demonstrate physiological phenomenon and principles, interpret investigation results falling within the scope of physiology.

- iv. Apply principles of Physiology in clinicopathological conditions, diagnosis, investigations and management of diseased conditions.
- v. Conduct physical examination (general and system based) of normal subject in real or simulated conditions and demonstrate understanding of altered findings in physical examination of diseased conditions.

3. BIOCHEMISTRY

Subject Goals:

The learner after teaching learning in Biochemistry should be able to:

- i. Understand and explain Biochemical and molecular processes involved in health and disease.
- ii. Enlist and describe the cell organelles with their molecular and functional organization.
- iii. Understand basic enzymology and emphasize on its clinical applications wherein regulation of enzymatic activity is disturbed.
- iv. Describe Importance of nutrition in health and disease.
- v. Describe digestion and assimilation of nutrients and consequences of malnutrition.
- vi. Describe function and interrelationships of various biomolecules and consequences of deviation from the normal.
- vii. Describe and integrate metabolic pathways of various biomolecules with their regulatory mechanisms relevant to clinical conditions.
- viii. Describe Biochemical basis and rationale of clinical laboratory tests, Perform biochemical analytical tests relevant to clinical screening and diagnosis using conventional techniques / instruments and interpret investigative data.
- ix. Explain the biochemical basis of inherited disorders with their associated

sequel.

- x. Describe mechanisms involved in maintenance of water, electrolyte and acid base balance and consequences of their imbalances.
- xi. Outline basics genetics, explain the molecular mechanisms of gene expression and regulation, basic principles of biotechnology and latest techniques and their applications in medicine.
- xii. Demonstrate the skills of solving scientific and clinical problems and decision making.

➤ **Phase 2 :**

4. PATHOLOGY

Subject Goals:

At the end of the teaching learning in pathology learner should be able to:

- i. Demonstrate knowledge of causes, mechanisms, alterations in gross and cellular morphology of organs in disease states.
- ii. Explain, interpret and analyse the pathology with clinical condition including diseases which are locally and regionally relevant.
- iii. Perform experiments to demonstrate routine pathological investigations on blood and explain principles, interpret investigation results.
- iv. Perform experiments to demonstrate routine pathological investigations on the various biological samples and explain principles, interpret investigation results.
- v. Demonstrate updated pathological investigations on the various biological samples.

5. MICROBIOLOGY

Subject goals

At the end of Microbiology teaching-learning activities learner should be able to:

- i. Comprehend the immunological mechanisms in health and disease.
- ii. Comprehend the role of microbial agents in health and disease.
- iii. Correlate the natural history, mechanisms and clinical manifestations of infectious diseases as they relate to the properties of microbial agents.
- iv. Comprehend the principles and application of infection control measures.
- v. Comprehend the basis of choice of laboratory diagnostic tests and their interpretation.
- vi. Comprehend the principles of antimicrobial therapy and the control and prevention of infectious diseases.
- vii. Comprehend the mechanisms of antimicrobial resistance (AMR) and its prevention along with concept and application of the antimicrobial stewardship program.
- viii. Demonstrate the knowledge of outbreak investigation and its control.
- ix. Describe commensals, opportunistic and pathogenic organisms and explain host parasite relationship.
- x. Describe the characteristics (morphology, cultural characteristics, resistance, virulence factors, incubation period, mode of transmission etc.) of different microorganisms.
- xi. Explain the various defense mechanisms of the host against the microorganisms which can cause human infection.
- xii. Describe the laboratory diagnosis of microorganisms causing human infections and disease.
- xiii. Describe the prophylaxis for the particular infecting microorganisms.
- xiv. Operate routine and sophisticated instruments in the laboratory.

- xv. Demonstrate respect for patient samples, confidentiality pertaining to patient identity in laboratory results and effective communication skills in patient care.

6. PHARMACOLOGY

Subject Goals:

At the end of teaching learning in pharmacology, the student should be able to:

- i. Know about essential and commonly used drugs and an understanding of the pharmacologic basis of therapeutics.
- ii. Apply pharmacokinetic and pharmacodynamic concept of drugs to drug selection and dosage regimens.
- iii. Explain mechanism of action of commonly used drugs.
- iv. Select and rationally prescribe drugs based on clinical condition and the pharmacologic properties, efficacy, safety and cost of medicines for common clinical conditions of national importance.
- v. Understand generic, branded, over the counter (OTC) and prescription only drugs.
- vi. Understand pharmacovigilance and identify adverse drug reactions and drug interactions of commonly used drugs.
- vii. Understand essential medicine concept and explore sources of drug information.
- viii. Administer drugs through various common routes of administration.
- ix. Understand and apply concept of evidence based medicine and rational use of drugs.
- x. Communicate well in imparting drug related information to patients.
- xi. Knows basics of new drug delivery and industry-doctor relationship.
- xii. Critically analyze drug promotional literature and drug formulations.

- xiii. Understand regulatory and ethical aspects of drug discovery and drug use.

➤ **PHASE III PART I**

7. FORENSIC MEDICINE AND TOXICOLOGY

Subject Goals:

At the end of teaching learning in forensic medicine and toxicology, the student should be able to:

- i. Comprehend Medico-legal responsibilities of a general physician while rendering community service either in a rural primary health center or an urban health center.
- ii. Comprehend of basic Medico-legal aspects of hospital and general practice.
- iii. Understand the rational approach to the investigation of crime, based on scientific and legal principles.
- iv. Understand the medico-legal framework of medical practice, codes of conduct, medical ethics, Professional Misconduct and Medical Negligence.
- v. Conduct Medico-legal examination and documentation of various Medico-legal cases. Identify and interpret important post-mortem findings in common unnatural deaths.
- vi. Conduct postmortem examination and Preparation of postmortem reports in unnatural deaths- Suicidal, Homicidal, Accidental.
- vii. Prepare Medical Certificate of Cause of Death (MCCD) and Medico-legal reports of injuries and age estimation.
- viii. Conduct examination and documentation of sexual offences, intoxication cases and preservation of relevant ancillary materials for medico-legal examination.
- ix. Analyse, Diagnose, manage legal aspects of common acute and chronic poisoning cases.

- x. Understand of latest Acts and laws related to medical professional including related Court judgements e.g. MTP Act, CPA, HOTA etc.

8. COMMUNITY MEDICINE

Subject Goals:

At the end of teaching learning in Community Medicine, the student should be able to:

- i. Demonstrate understanding of role of primary care physician for preventive, promotive, curative, rehabilitative, palliative care & referral services.
- ii. Demonstrate understanding of the concept of health and disease, demography, population dynamics and disease burden in National and global context, comprehension of principles of health economics and hospital management.
- iii. Apply the understanding of physical, social, psychological, economic and environmental determinants of health and disease, ability to recognize and manage common health problems including physical, emotional and social aspects at individual family and community level in the context of National Health Programmes,
- iv. Ability to implement and monitor National Health Programmes in the primary care setting.
- v. Ability to recognize, investigate, report, plan and manage community health problems including malnutrition and emergencies.
- vi. Apply understanding the role of nutrition in health promotion and disease prevention.
- vii. Demonstrate role of researcher & community medicine physician by understanding the concepts of various epidemiological study designs and their application and epidemiology of diseases and ability to critically review.
- viii. Demonstrate understanding of pandemic and epidemic situations with emerging and re-emerging diseases and able to investigate under supervision and plan, advise and promote preventive aspects as per international and national health

regulations and programs.

- ix. Demonstrate understanding of all principles of public health, community medicine, preventive aspects, social aspects utilizing family adoption program , providing services to the families adopted and being first care physician under the guidance of mentor.
- x. Apply the principles of behaviour change communication for improving health related aspects for communicable, non-communicable diseases, health promotive aspects, related to addictions, health related information and misinformation.

9. OTO-RHINOLARYNGOLOGY (ENT)

Subject Goals:

At the end of training in ENT, the learner should be able to:

- i. Demonstrate knowledge of the common Otorhinolaryngological (ENT) emergencies and problems.
- ii. Recognize, diagnose and manage common ENT emergencies and problems in primary care setting.
- iii. Perform simple ENT procedures as applicable in a primary care setting.
- iv. Recognize hearing impairment and refer to the appropriate hearing impairment rehabilitation programme.
- v. Communicate to patients in respectful non-threatening non-judgmental empathetic manner appropriately
- vi. Identify, discuss and defend medicolegal socio cultural and ethical issues as they pertain to consent for ENT surgical procedures and address patients queries in patient undergoing a basic ENT surgical procedure in a simulated environment.

10. OPHTHALMOLOGY

Subject Goals:

The student after teaching / learning in Ophthalmology should be able to:

- i. Demonstrate knowledge of common eye disease in the community and the ability to diagnose and manage the common eye disease in primary care set up.
- ii. Recognize diagnose and manage (primary management) of ocular emergencies in primary care setting and have knowledge of the indication for their referral.
- iii. Demonstrate knowledge about various cause of blindness and visual impairment in the community.
- iv. Demonstrate knowledge about various national programs for the control of blindness in the community and their implementation in the primary care setting.
- v. Demonstrate knowledge about common Ocular drugs, their mechanism of action, their pharmaceutical, indications dosage schedule, side effects and complications.
- vi. Demonstrate knowledge about common ocular surgeries, their indication and counselling regarding various ocular procedures and indications for referral from primary care setting.
- vii. Demonstrate knowledge about eye donations, eye transplantation and eye bank.
- viii. Perform simple ocular procedures as applicable in primary care setting.
- ix. Be a team member of national program for control of blindness.
- x. Have good rapport with public, colleagues, superiors and subordinates.
- xi. Counsel patients and their families regarding various ocular conditions, management, indication for referral.
- xii. Counsel the blind and visually impaired patients regarding their Rehabilitation.

➤ **Phase III PART - II**

11. GENERAL MEDICINE

Subject Goals:

At the end of training learning in general medicine, the learner should be able to:

- i. Demonstrate understanding of the pathophysiologic basis, epidemiological profile, signs and symptoms of disease and their investigation and management.
- ii. Competently interview and examine an adult patient and make a clinical diagnosis.
- iii. Appropriately order and interpret laboratory tests.
- iv. Initiate appropriate cost-effective treatment based on an understanding of the rational drug prescriptions, medical interventions required and preventive measures.
- v. Follow up of patients with medical problems and refer whenever required.
- vi. Communicate effectively, educate and counsel the patient and family.
- vii. Manage common medical emergencies and refer when required.
- viii. Independently perform common medical procedures safely and understand patient safety issues.
- ix. Diagnose common clinical disorders with special reference to infectious diseases, nutritional disorders, tropical and environmental diseases.
- x. Outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indications and contra- indications.
- xi. Propose diagnostic and investigative procedures and ability to interpret them.
- xii. Provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required.
- xiii. Recognize geriatric disorders and their management.

- xiv. Develop clinical skills (history taking, clinical examination and other instruments of examination) to diagnose various common medical disorders and emergencies;
- xv. Refer a patient to secondary and/or tertiary level of health care after having instituted primary care.
- xvi. Perform simple routine investigations like hemogram, stool, urine, sputum and biological fluid examinations.
- xvii. Assist the common bedside investigative procedure like pleural tap, Lumbar puncture, bone marrow aspiration/biopsy and liver biopsy.

12. PEDIATRICS

Subject Goals:

At end of training on pediatrics, the student should be able to:

- i. Assess and promote optimal growth, development and nutrition of children and adolescents and identify deviations from normal.
- ii. Recognize and provide emergency and routine ambulatory and First Level Referral Unit care for neonates, infants, children and adolescents and refer as may be appropriate.
- iii. Perform procedures as indicated for children of all ages in the primary care setting.
- iv. Recognize children with special needs and refer appropriately.
- v. Promote health and prevent diseases in children.
- vi. Participate in National Programmes related to child health and in conformation with the Integrated Management of Neonatal and Childhood Illnesses (IMNCI) Strategy.
- vii. Communicate appropriately and effectively.
- viii. Describe the normal Growth and Development during fetal life, Neonatal period, Childhood and Adolescence and the deviations thereof.
- ix. Describe the common Pediatric disorders and emergencies in terms of Epidemiology, Etiopathogenesis, Clinical manifestations, Diagnosis and also describe the rational therapy and rehabilitation services.

- x. Workout age related requirements of calories, nutrients, fluids, dosages of drugs etc. in health and disease.
- xi. Describe preventive strategies for common infectious disorders, Malnutrition, Genetic and Metabolic disorders, Poisonings, Accidents and Child abuse.
- xii. Outline national programs related to child health including Immunization programs.
- xiii. Take detailed Pediatric and Neonatal history and conduct an appropriate physical examination of children and neonates, make clinical diagnosis, conduct common.
- xiv. Bedside investigative procedures, interpret common laboratory investigations, plan and institute therapy.
- xv. Take anthropometric measurements, resuscitate newborn, prepare oral rehydration solution, perform tuberculin test, administer vaccines available under current National programs, perform venesection, start intravenous fluids and provide nasogastric feeding.
- xvi. Demonstrate knowledge about all steps of the diagnostic procedures such as lumbar puncture, liver and kidney biopsy, bone marrow aspiration, pleural and ascitic tap.
- xvii. Distinguish between normal Newborn babies and those requiring special care and institute early care to all newborn babies including care of preterm and low birth weight babies, provide correct guidance and counseling about Breast feeding and Complementary feeding.
- xviii. Provide ambulatory care to all not so sick children, identify indications for specialized/ inpatient care and ensure timely referral to those who require hospitalization.

13. DERMATOLOGY, VENEREOLOGY AND LEPROSY

Subject Goals:

At the end of training, the learner should be able to:

- i. Demonstrate understanding of the principles of diagnosis of diseases of the skin,

- hair, nail and mucosa.
- ii. Recognize, diagnose, order appropriate investigations and treat common diseases of the skin including leprosy in the primary care setting and refer as appropriate.
 - iii. Learn a syndromic approach to the recognition, diagnosis, prevention, counseling, testing and management of common sexually transmitted diseases including HIV based on national health priorities.
 - iv. Recognize and treat emergencies including drug reactions and refer as appropriate.
 - v. Counsel and provide patient education on safe sexual behaviors/ disease prevention/ prognosis including pretest counseling for HIV.

14. PSYCHIATRY

Subject Goals:

At the end of training, the learner should be able to:

- i. Promote mental health and mental hygiene.
- ii. Identify clinical features, make diagnosis and manage common psychiatric disorders across all ages.
- iii. Identify and manage psychotic disorders, mainly schizophrenia.
- iv. Identify and manage stress related psychiatric disorders, institute preliminary treatment in disorders difficult to manage, and refer appropriately.
- v. Identify alcohol/ substance abuse disorders and refer them to appropriate centers.
- vi. Assess the risk for suicide and refer appropriately.

15. GENERAL SURGERY

Subject Goals:

At the end of training in general surgery, the student should be able to:

- i. Demonstrate understanding of the structural and functional basis, principles of diagnosis and management of common surgical problems in adults and children.

- ii. Choose, calculate and administer appropriately intravenous fluids, electrolytes, blood and blood products based on the clinical condition.
- iii. Apply the principles of asepsis, sterilization, disinfection, rational use of prophylaxis, therapeutic utilities of antibiotics and universal precautions in surgical practice.
- iv. Demonstrate knowledge about common malignancies in India and their prevention, early detection and therapy.
- v. Perform common diagnostic and surgical procedures at the primary care level.
- vi. Demonstrate knowledge about organ retrieval from deceased donor and living donor.
- vii. Administer informed consent and counsel patient prior to surgical procedures.
- viii. Describe etiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies in adult and children.
- ix. Describe common malignancies in the country and their management including prevention.
- x. Enumerate different types of anesthetic agents, their indications, contraindications, mode of administration, and side effects.
- xi. Plan various laboratory tests for surgical conditions and interpret the results.
- xii. Identify and manage patients of hemorrhagic, septicemia and other types of shock.
- xiii. Recognize, resuscitate, stabilize and provide Basic Life Support to patients following trauma.
- xiv. Monitor patient of head, chest, spinal and abdominal injuries, both in adults and children.
- xv. Provide primary care for a patient of burns.
- xvi. Acquire principles of operative surgery including preoperative, operative and post operative care and monitoring.
- xvii. Treat open wound including preventive measures against tetanus and gas gangrene.

16. OBSTETRICS AND GYNAECOLOGY

Subject Goals:

At the end of training in Obstetrics and gynecology, the learner should be able to:

- i. Provide preconceptional counseling and antenatal care.
- ii. Identify high-risk pregnancies and refer appropriately.
- iii. Conduct normal deliveries, using safe delivery practices in the primary and secondary care settings.
- iv. Prescribe drugs safely and appropriately in pregnancy and lactation.
- v. Diagnose complications of labor, institute primary care and refer in timely manner.
- vi. Perform early neonatal resuscitation.
- vii. Provide postnatal care, including education in breast-feeding.
- viii. Counsel and support couples in correct choice of contraception.
- ix. Interpret test results of laboratory and radiological investigations as they apply to the care of the obstetric patient.
- x. Apply medico-legal principles as they apply to tubectomy, Medical Termination of Pregnancy (MTP), Pre-conception and Prenatal Diagnostic Techniques (PC PNDT Act) and other related Acts.
- xi. Elicit gynecologic history, perform appropriate physical and pelvic examinations and PAP smear in the primary care setting.
- xii. Recognize, diagnose and manage common reproductive tract infections in the primary care setting.
- xiii. Recognize and diagnose common genital cancers and refer them appropriately.

17. ORTHOPAEDICS

Subject Goals:

At the end of training in orthopedics, the learner should be able to:

- i. Demonstrate ability to recognize and assess bone injuries, dislocation and poly-trauma and provide first contact care prior to appropriate referral.
- ii. Recognize and manage common infections of bone and joints in the primary care setting.
- iii. Recognize common congenital, metabolic, neoplastic, degenerative and inflammatory bone diseases, treat and refer appropriately.
- iv. Perform simple orthopedic techniques as applicable to a primary care setting.
- v. Recommend rehabilitative services for common orthopedic problems across all ages.
- vi. Demonstrate knowledge about the medico-legal aspects of trauma.

18. ANAESTHESIOLOGY

Subject Goals:

At the end of training in anaesthesiology, the learner should be able to:

- i. Explain principles of administration of general, regional and local anaesthesia including selection of cases, pre-operative evaluation, optimisation and recovery.
- ii. Comprehend management of acute and chronic pain including labour analgesia. Clear and maintain airway in an unconscious patient.
- iii. Explain principles of oxygen therapy, select oxygen delivery devices and administer oxygen therapy judiciously.
- iv. Perform cardiopulmonary resuscitation with available resources and transfer the patient to higher centre for advanced life support.
- v. Comprehend the implications and obtain informed consent for various procedures and maintain the documents.

19. RADIODIAGNOSIS

Subject Goals:

At the end of training in Radiodiagnosis, the learner should be able to:

- i. Make rational choice of imaging modality and imaging procedure for common diseases
- ii. Exhibit mindful behaviour regarding risks associated with imaging modalities
- iii. Exhibit appropriate interdisciplinary conduct and documentation
- iv. Interpretation of images of normal x-rays, abnormalities in x-rays involving emergency conditions and diseases that would be treated by the primary care physician.

PHASE WISE TRAINING AND TIME DISTRIBUTION FOR PROFESSIONAL DEVELOPMENT

Subject wise competencies published in Competency Based Undergraduate Curriculum 2024 on NMC website and Attitude, Ethics and Communication (AETCOM) course available on the NMC website, shall be the curriculum for the batches admitted in MBBS from the academic year 2024-25 onwards. **Teaching learning and assessment may be carried out using bilingual mode (Assamese, Bangla, Gujarati, Hindi, Kannada, Malayalam, Marathi, Odiya, Punjabi, Tamil, and Telugu) along with English language.**

In order to ensure that training is in alignment with the goals and competencies required for a medical graduate, there shall be a **Foundation Course** to orient medical learners to MBBS programme, and provide them with requisite knowledge, communication (including electronic), technical and language skills.

I. Training period and time distribution:

Universities shall organize admission timing and admission process in such a way that teaching in the phase I commences with induction through the Foundation Course at the beginning of academic year. There shall be no admission of students in respect of any academic session beyond dates specified for each academic year. **The Universities/ Institutions/colleges shall not register any student (in MBBS course) admitted beyond the said date.** Any student identified as having obtained admission after the last date for closure of admission shall be discharged from the course of study, or any medical qualification granted to such a student shall not be a recognized qualification by National Medical Commission.

The institution which grants admission to any student after the last date specified from the same shall also be liable to face such action as may be prescribed by National Medical Commission.

Every learner shall undergo a period of certified study extending over 4 ½ academic years, divided into four professional years from the date of commencement of course to the date of completion of examination which shall be followed by one year of compulsory rotating medical internship.

Each academic year will have at least 39 teaching weeks with a minimum of 39 hours a week.

Large group teaching shall not exceed one third of the total allotted hours for a subject. Two third of the total allotted hours shall include small group teaching, interactive sessions, practicals, clinical, small group teaching, self-directed learning and tutorials etc. The learning process shall include clinical experiences, problem- oriented approach, case studies and community health care activities.

Learner centered teaching learning methods shall include early clinical exposure, problem/case-based learning, case studies, community-oriented learning, self-directed, integrated learning, experiential learning & electives. Teaching and learning shall be aligned and integrated across specialties both vertically and horizontally for better learner comprehension.

At the end of each professional year university examination will be conducted. If any student fails to clear the regular university examination, student will appear in supplementary examination.

Supplementary examinations and declaration of results shall be processed by universities within 6-8 weeks from the date of declaration of the results of the main examination for every professional year, so that the candidates, who pass, can join the main batch for progression.

If the student fails in the supplementary examination in phase 1 of MBBS, the student goes to the junior batch for teaching learning as well as for university examinations. There shall be no supplementary batches. If a candidate has not appeared for university examination (both theory and practical) for a subject then it shall not be counted as an attempt for that subject. Partial attendance in examination (only theory or only practical) in any subject shall be counted as an attempt. No more than four attempts shall be allowed for a candidate to pass the Phase I examination. The total period for successful completion of phase I course shall not exceed four (4) years. A learner shall not be entitled to graduate later than ten (10) years of her/his joining the first MBBS course (including continuous rotatory medical internship).

Phase wise details are:

- A candidate, who fails in the Phase-I examination, shall not be allowed to join the Phase-II until the candidate passes all subjects of Phase-I examination.
- A candidate who fails in the Phase-II regular/ supplementary university examination, shall be allowed to join the Phase-III Part I training, however he shall not be allowed appear for the university examination.

- A candidate who fails in the Phase III, Part-I regular/supplementary university examination, shall be allowed to join the Phase-III Part II training, however he shall not be allowed appear for the university examination.

II. The period of 4½ years is divided as follows:

i) **Phase-I of 12 months including Foundation Course of two weeks and university exams.** It shall consist of - Anatomy, Physiology, Biochemistry, Introduction to Community Medicine, Humanities, Attitude, Ethics & Communication (AETCOM) module, family adoption programme through village outreach where-in each student shall adopt minimum of three (03) families and preferably at least five (05) families, simulation-based learning, early clinical exposure, alignment & integration and pandemic module integrated.

ii) **Phase-II of 12 months including university exams.** It will consist of Pathology, Pharmacology, Microbiology, family visit under Community Medicine, General Surgery, General Medicine, Obstetrics & Gynecology, AETCOM module, Forensic Medicine & Toxicology, alignment & integration and introduction to clinical subjects. Family Adoption Programme through village outreach where-in each student shall continue to follow up and provide necessary services under the supervision. Pandemic module integration & simulation-based learning to be continued with increasing complexity.

The clinical exposure to learners will be in the form of learner-doctor method of clinical training in all phases. The emphasis will be on primary, preventive and comprehensive health care. A part of training during clinical postings shall take place at the *primary level* of health care. It is desirable to provide learning experiences in secondary health care, wherever possible. This will involve: Experience in recognizing and managing common problems seen in outpatient, inpatient and emergency settings,

- Involvement in patient care as a team member,
- Involvement in patient management and performance of basic procedures.

iii) Phase III - 30 months

a. Phase III Part I (12 months, including University exams)

Forensic Medicine and Toxicology, Community Medicine, Medicine & allied subjects, Ophthalmology, Otorhinolaryngology (ENT), Surgery & allied subjects, Pediatrics, Obstetrics & Gynecology, Radiodiagnosis, Anesthesiology, AETCOM, Pandemic module integration, alignment & integration and Clinical postings. Family Adoption Programme through village outreach and simulation- based learning to be continued with increasing complexity.

Electives (1 month) shall be in 2 blocks of 15 days each in Phase III part II. First 15days block starts after annual exam of Phase III MBBS part 1 and 2nd block after the end of 1st elective.

b. Phase 3 Part II (18 months, including University exam)-

Subjects include:

Medicine and allied specialties (General Medicine, Psychiatry, Dermatology, Venereology and Leprosy (DVL), Surgery and allied specialties (General Surgery, Orthopedics, Anesthesiology and Radiodiagnosis), Obstetrics and Gynecology (including Family Welfare), Pediatrics, AETCOM module, Pandemic module integration, alignment & integration and Clinical postings.

III. Distribution of teaching hours phase wise:

a Phase I, phase II and phase III- part 1 teaching hours:

Time allotted 12 months (approximately 52 weeks) out of which time available for teaching- learning: approximately 39 weeks.

(Excluded- 13 weeks: Preliminary/ University examinations and results: 9 weeks, vacations: 2 weeks, public holidays: 2 weeks)

Time distribution in weeks: 39 weeks x 39 hours = 1521 hours for Teaching-Learning.

b Phase-III Part-II, teaching hours:

Time allotted: 18 months (approx. 78 weeks)

Time available: Approx. 62 weeks (excluding 16 weeks) (39 hours/ week)

Prelim / University Exam & Results: 10 weeks

Vacation: 3 weeks

Public Holidays: 3 weeks

Time distribution in weeks: 62 x 39 hrs= 2418 hrs available for Teaching-Learning

(Clinical Postings: 15 hours/ week Phase II onwards included in academic schedule. These are attached in separate annexure with all relevant tables).

- Academic calendar is given in annexure.
- Distribution of subjects for Professional Phase-wise training is given in annexure
- Minimum teaching hours prescribed in various disciplines phase wise are given in annexures.
- Distribution and duration of clinical postings is given in annexure.

Time allotted excludes time reserved for internal /University examinations, and vacation.

Phase II clinical postings shall commence before / after declaration of results of the first professional phase examinations, as decided by the institution/ University.

Phase III part I and part II clinical postings shall start no later than two weeks after the completion of the previous professional examination.

Note:

A total of approximately 20% of allotted time of a Phase shall be utilized for integrated teaching learning with other subjects. This will be included in the assessment of subjects.

The period of training is minimum suggested. Adjustments where required depending on availability of time may be made by the concerned college/ institution. This period of training does not include university examination period. Pandemic module teaching hours are added to respective allocated subjects and these subjects will teach as per module.

An exposure to skills lab based teaching by each subject in each phase shall be there weekly or fortnightly.

c New teaching /learning elements (Refer to booklets on NMC website related to these elements)

1) Foundation Course

Goal: The goal of the Foundation Course is to prepare a learner to study medicine effectively.

Objectives:

(a) Orient the learner to:

- The medical profession and the physician's role in society
- The MBBS programme
- Alternate health systems i.e. AYUSH in India and history of Medicine
- Medical ethics, attitudes and professionalism
- Health care system, its delivery and visits to health centers
- National health programmes and policies
- Universal precautions and vaccinations
- Patient safety and biohazard safety
- Principles of primary care(general and community based care)
- Mental Health
- The academic ambience

(b) Enable the learner to acquire enhanced skills in:

- Language
- Interpersonal relationships
- Communication emphasis on clinico-laboratory communication
- Learning including self-directed learning
- Time management
- Stress management, Mental Health
- Use of information technology, and artificial intelligence

(c) Train the learner to provide:

- First-aid
- Basic /cardiopulmonary/emergency life support

In addition to the above, learners maybe enrolled in one of the following programmes which will be run concurrently:

- Local language programme
- English language programme
- Computer skills

These may be done in the last two hours of the day. These sessions must be as interactive as possible. Sports (to be used through the Foundation Course as protected 04 hours/week). Leisure and extracurricular activity (to be used through the Foundation Course).

Institutions shall develop learning modules and identify the appropriate resource persons for their delivery. The time committed for the Foundation Course may not be used for any other curricular activity. The Foundation Course shall have a minimum of 75% attendance of all students mandatorily. This will be certified by the Principal/Dean of the college.

The Foundation Course shall be organized by the Coordinator appointed by the Principal/Dean of the college and shall be under supervision of the Heads of MBBS phase I departments.

Every college shall arrange for a meeting with parents/ wards of all students and records of the same shall be made available to UGMEB of NMC. Mentor- mentee program shall be carried out judiciously, with the ratio of 1 Mentor to 3 mentees. Mentor may be selected from all disciplines from the level of Professor/ HOD to Assistant Professor. Mentor shall be allotted his mentees during the foundation course itself from Phase 1. The mentee shall stay connected with the Mentor throughout his career till he completes CRMI. Each year when 3 new mentees are added from phase 1 to the mentor, the senior batch students shall support the junior students and create a healthy sibling environment.

2) Early Clinical Exposure

Objectives: The objectives of early clinical exposure of the first-year medical learners are to enable the learner to:

- Recognize the relevance of sciences basic to diagnosis, patient care and management,
- Provide a context that will enhance learning of sciences basic to clinical reasoning,
- Relate to experience of patients as a motivation to learn,
- Recognize attitude, ethics and professionalism as integral to doctor- Patient relationship,
- Understand the socio-cultural context of disease through the study of humanities.

Elements

- Phase I subject correlation: i.e. apply and correlate principles of phase I subjects as they relate to patient care (this shall be part of integrated modules as well as in routine teaching wherever relevant).
- Clinical skills: to include basic skills in interviewing patients, doctor- patient communication, ethics and professionalism, critical thinking and analysis and self-learning (this training shall be imparted in the time allotted for early clinical exposure).

- Humanities: to introduce learners to a broader understanding of the socio-economic framework and cultural context within which health is delivered through the study of humanities and social sciences.

3) Electives

Objectives: To provide the learner with opportunities:

- For diverse learning experiences.
- It is mandatory for learners to do an elective. The elective time shall not be used to make up for missed clinical postings, shortage of attendance or other purposes.
- Institutions will pre-determine the number and nature of electives, names of the supervisors, and the number of learners in each elective based on the local conditions, available resources and faculty.
- Electives on topics in areas such as Research methodology, Research ethics, Use of Artificial intelligence and computers in Health and Medical Education, Health Management, Health economics, Indian system of medicine, Medical photography /clinical photography, Global health, Evidence based medicine, Art and music, Physiotherapy, Nutrition, ethical use of technology including artificial intelligence etc. in medicine, Literary activities, etc. may be provided by the college/ institution.
- It shall be preferable that elective choices are made available to the learners in the beginning of the academic year.
- The learner must submit a learning log book based on both blocks of the electives.
- 75% attendance in the electives and submission of log book maintained during electives is required for eligibility to appear in the University MBBS examination/ (or NExT whenever it is applicable).

4) Attitude, Ethics and Communication Module (AETCOM)

Objectives of the programme: At the end of the programme, the learner must demonstrate ability to:

- Understand and apply principles of bioethics and law as they apply to medical practice and research, understand and apply the principles of clinical reasoning as they apply to the care of the patients,
- Understand and apply the principles of system-based care as they relate to the care of the patient,
- Understand and apply empathy and other human values to the care of the patient,
- Communicate effectively with patients, families, colleagues and other health care professionals,
- Understand the strengths and limitations of alternative systems of medicine,
- Respond to events and issues in a professional, considerate and humane fashion,
- Translate learning from the humanities in order to further his professional and personal growth.

Learning experiences:

- This will be a longitudinal programme spread across the continuum of the MBBS programme including internship.
- Learning experiences shall include small group discussions, patient care scenarios, self-directed learning, workshops, seminars, role plays, large/small group teaching etc.
- Application based subject oriented cases may be used as additional resources for this training and real-life case studies are the best examples for this AETCOM training. Community based case studies must be used in communication aspects of health education, informed consent and counseling in addition to clinical case studies.
- Attitude, Ethics & Communication Module (AETCOM module) developed by the erstwhile Medical Council of India should be used longitudinally for purposes of instruction.
- 75% attendance in AETCOM Module is mandatory for eligibility to appear for all

university examinations of all subjects in each Phase.

(5) Alignment and integration (AIT) teaching

Integration is a learning experience that allows the learner to perceive relationships from blocks of knowledge and develop a unified view of its basis and its application.

Objectives

In the earlier phases, the purpose of vertical integration (across phases) is to emphasize the applicative use of the basic science concept taught. In the later phases, its purpose is to utilise and build on prior knowledge and emphasize the foundations of clinical practice.

Learning experiences

In order to achieve this, the MBBS curriculum will become -

a) aligned to the extent possible - meaning that as much as possible topics/systems in different subjects in the same phase will be grouped together in the same weeks/months in timetable for teaching learning. The purpose of horizontal integration (within a phase) is to remove redundancy and provide interconnectedness. Suggested formats for alignment in phase 1 & 2 are given in annexures. Phase 3 part 1 and 2 can be aligned accordingly as needed.

b) integrated to a limited extent both vertically and horizontally.

Integration must be horizontal (i.e. across disciplines in a given phase of the course) and vertical (across different phases of the course). Teaching/learning occurs in each phase through study of organ systems or disease blocks in order to integrate the learning process. Clinical linker cases must be used to integrate and link learning across subjects.

The six integrated modules to be used across 4 years ½ are anemia, ischemic heart disease, diabetes mellitus, tuberculosis, hypertension and thyroid. The complete modules are part of documents on NMC website.

(6) Learner-doctor method of clinical training (Clinical Clerkship)

a. Goal: To provide learners with experience in:

- Longitudinal patient care,
- Being part of the health care team,
- Hands-on care of patients in outpatient and in-patient setting.

b. Structure:

- The first clinical posting in Phase II shall orient learners to the patient, their roles and the specialty.
- The learner-doctor programme shall progress as outlined in Table 9.
- The learner shall function as a part of the health care team with the following responsibilities:
- Be a part of the units' out-patient services on admission days,
- Remain with the admission unit until at least 6 PM except during designated class hours,
- Be assigned patients admitted during each admission day for whom he will undertake responsibility, under the supervision of a senior resident or faculty member,
- Participate in the unit rounds on its admission day and will present the assigned patients to the supervising physician,
- Follow the patient's progress throughout the hospital stay until discharge,
- Participate, under supervision, in procedures, surgeries, deliveries etc. of assigned patients,
- Participate in unit rounds on at least one other day of the week excluding the admission day,
- Discuss ethical and other humanitarian issues during unit rounds,
- Attend all scheduled classes and educational activities,
- Document his observations in a prescribed log book /case record.

No learner will be given independent charge of the patient in the capacity of primary physician of the concerned patient.

The supervising physician shall be responsible for all patient care decisions and guide the learner from time to time as required.

(7) Assessment:

- A designated faculty member in each unit will coordinate and facilitate the activities of the learner, monitor progress, provide feedback and review the log book/ case record.
- The log book/ case record must include the written case record prepared by the learner including relevant investigations, treatment and its rationale, hospital course, family and patient discussions, discharge summary etc.
- The log book shall also include records of outpatients assigned. Submission of the log book/ case record to the department is required for eligibility to appear for the final examination of the subject. An e-logbook is desirable.

Assessment

I. Eligibility to appear for Professional examinations

The performance in essential components of training are to be assessed, based on following three components:

(a) Attendance

- There shall be a minimum of 75% attendance in theory and 80% attendance in practical /clinical for eligibility to appear for the examinations in that subject. In subjects that are taught in more than one phase - the learner must have 75% attendance in theory and 80% attendance in practical in each phase of instruction in that subject. There shall be a minimum of 75% attendance in AETCOM and minimum of 80% attendance in family visits under Family adoption

programme. Each student shall adopt minimum 3 families/ households and preferably five families. The details shall be as per Family Adoption Program guidelines.

- If an examination comprises more than one subject (for e.g., General Surgery and allied branches), the candidate must have a minimum of 75% attendance in each subject including its allied branches, and 80% attendance in each clinical posting.

Learners who do not have at least 75% attendance in the electives will not be eligible for the Third Professional - Part II examination/ NExT.

b) Internal Assessment (IA): Internal assessment shall be based on day-to-day assessment. For subjects taught in more than one phase, there shall be IA in every phase in which the subject is taught.

It shall relate to different ways in which learners participate in the learning process including assignments, preparation for seminar, clinical case presentation, preparation of clinical case for discussion, clinical case study/ problem solving exercise, participation in project for health care in the community, Quiz, Certification of competencies, museum study, log books, SDL skills etc. Internal assessment should have both subjective and objective assessment. Internal assessment shall not be added to summative assessment. However, internal assessment marks in absolute marks should be displayed under a separate column in a detailed marks card.

The internal assessment marks for each subject will be out of 100 for theory and out of 100 for practical/clinical (except in General Medicine, General Surgery and Obstetrics & Gynaecology, in which theory and practical assessment will be of 200 marks each).

For subjects that teach in more than one phase, cumulative IA to be used as eligibility criteria. The final cumulative marks are to be used for eligibility. The details are:

- I. General medicine: The IA of 200 marks in medicine shall be divided across phases as Phase II - 50 marks,
Phase III part 1 - 50 marks

- Phase III part 2 - 100 marks.
- Phase III part 2 - 100 marks is divided as
 - Medicine - 75 marks
 - Psychiatry - 13 marks
 - Dermatology- 12 marks.

The final cumulative IA for Medicine is out of 200 marks for theory and practical each.

II. General surgery: The IA in surgery shall be divided across phases as:

- Phase II - 25 marks,
- Phase III part 1 - 25 marks,
- Phase III part 2 - 150 marks.
- Phase III part 2 - 150 marks shall be divided as
 - General surgery - 75 marks,
 - Orthopedics -50 marks,
 - Anesthesia -13 marks
 - Radiodiagnosis - 12 marks.

The final cumulative IA for surgery is out of 200 marks for theory and practical each.

- III. IA of Forensic Medicine and Toxicology is divided as 25 marks in phase II and 75 marks in Phase III part 1. The final cumulative IA is out of 100 for theory and practical each.
- IV. IA in Community Medicine is divided as 25 marks in phase I, 25 marks in phase II, and 50 marks in Phase III- part 1. The final cumulative IA for Community Medicine is out of 100 marks for theory and practical each.
- V. IA in ophthalmology and ENT is divided as 25 marks in phase II and 75 marks in Phase III part 1. The final cumulative IA is out of 100 for theory and practical each for each subject.

(b) Certifiable Competencies Achieved:

1. Learners must have completed the required certifiable competencies for that phase of training and completed the log book appropriate for that phase of training to be eligible for appearing at the final university

examination of that subject.

2. Regular periodic examinations shall be conducted throughout the course. There shall be no less than three theory and practical internal assessment examinations in each subject of phase 1 & II, and this mandatorily includes pre-university examination. There shall be no less than two theory and clinical examinations in each subject of Phase III part 1 & 2 and this mandatorily includes an end of posting assessment. Log book (including required skill certifications) to be assessed and marks given from 10-20% in internal assessment.
3. Learners must secure at least 50% of the total marks (combined in theory and practical / clinical; and minimum 40% in theory and practical separately) for internal assessment in a particular subject in order to be eligible for appearing at the final University examination of that subject.
4. The results of internal assessment should be intimated to students at least once in 3 months and as and when a student wants to see the results.

Remedial measures:

A student whose has deficiency(s) in any of the 3 criteria that are required to be eligible to appear in university examination, should be put into remedial process as below:

- *During the course:* If Internal assessment (IA) or attendance is less or/and certifiable competencies not achieved and marked in log book in quarterly/ six monthly monitoring, the students/parents must be intimated about the possibility of being detained much before the final university examination, so that there is sufficient time for remedial measures. These students should be provided remedial measures as and when needed to improve IA. Any certifiable competency/ IA marks deficiency should be attended with planned teaching/tests for them. Student should complete the remedial measures and it should be documented. **In spite of all above measures, if student is still not meeting the criteria to be eligible for regular exam he shall be offered remedial for the same batch supplementary exam. For attendance, he will be allowed remedial measures ONLY IF attendance is more than 60% for each component.**

At the end of phase: If Internal assessment (IA) or attendance is less or/and certifiable competencies not achieved and marked in log book at the end of regular classes in a phase, the student is detained to appear in regular university examination of that batch.

- Remedial classes can be planned for students missing regular classes on genuine grounds, thus ensuring that all certifiable competencies are achieved.
- Students who have less than 75% attendance in theory and 80% attendance in practical cannot appear for University examination, however; they may appear for Supplementary examination provided they attend the remedial classes organised between University Sit and Supplementary exam. Students who have attendance 60% or above shall be eligible for such remedial classes.

2.University Examinations: University examinations are to be designed with a view to ascertain whether the candidate has acquired the necessary knowledge, minimal level of skills, ethical and professional values with clear concepts of the fundamentals which are necessary for him to function effectively and appropriately as a physician of the first contact.

Nature of questions in theory examinations shall include different types such as structured essays like Long-Answer Questions (LAQ), Short-Answer Questions (SAQ) and Multiple-Choice Questions (MCQ) shall be accorded minimum 20% weightage of the total marks of each theory paper, Scenario based MCQs shall be accorded more weightage in view of NEXT. Blueprint may be used for theory question papers.

Practical/clinical examinations shall be conducted in the laboratories and /or hospital wards and a blueprint must be used. The objective will be to assess proficiency and skills to conduct experiments, interpret data and form logical conclusion. Clinical cases kept in the examination must be common conditions that the learner may encounter as a physician of first contact in the community. Selection of rare syndromes and disorders as examination cases is to be discouraged. Emphasis should be on candidate's capability to elicit history, demonstrate physical signs, write a case record, analyze the case and

develop a management plan.

Viva/oral examination should assess approach to patient management, emergencies and attitudinal, ethical and professional values. Candidate's skill in interpretation of common investigative data like X-rays, identification of specimens, ECG, etc. is to be also assessed.

Application based questions should be included for newer CBME components like foundation course, ECE, AETCOM, Integrated topics, student-learner methods etc. in all theory, practical and clinical examinations of all internal assessments and university assessments.

University Examinations shall be held as under:

- a) **Phase-I** shall be held at the end of Phase I training (in the 12th month of that training), in the subjects of Anatomy, Physiology and Biochemistry.
- b) **Phase-II** examination shall be held at the end of Phase II training (12th month of that training), in the subjects of Pathology, Microbiology, and Pharmacology
- c) **Phase III Part 1** examination shall be held at the end of Phase III part 1 of training (12th month of that training) in the subjects of Community Medicine, Forensic Medicine & Toxicology, Ophthalmology and Otorhinolaryngology.
- d) **Phase III Part 2** / National Exit Test (NExT) as per NExT regulations- (Final Professional) examination shall be at the end of 17th / 18th month of that training, in the subjects of General Medicine, General Surgery, Obstetrics & Gynecology, Pediatrics, and allied subjects as per NExT Regulations.

Criteria for passing in a subject: A candidate shall obtain a cumulative 50% marks in University conducted examination including theory and practical and not less than 40% separately in Theory and in Practical in order to be declared as passed in that subject. **In subjects that have two papers, the learner must secure a minimum 40% marks in aggregate (both theory papers together).**

Appointment of Examiners:

- (1)** Person appointed as an examiner in the particular subject must have at least three years of total teaching experience as Assistant Professor after obtaining postgraduate degree following MBBS, in the concerned subject in a college affiliated to a recognized medical college (by UGMEB of NMC).
- (2)** For Practical /Clinical examinations, there shall be at least four examiners for every learner, out of whom not less than 50% must be external examiners. Of the four examiners, the senior-most internal examiner shall act as the Chairman and coordinator of the whole examination programme so that uniformity in the matter of assessment of candidates is maintained.
- (3)** A University having more than one college shall have separate sets of examiners for each college, with internal examiners from the concerned college. External examiners may be from outside the college/ university/ state/ union territory.
- (4)** There shall be a Chairman of the Board of paper-setters who shall be an internal examiner and shall mandatorily moderate the theory question paper(s).
- (5)** All eligible examiners with requisite qualifications and experience can be appointed internal examiners by rotation in their subjects.
- (6)** All theory paper assessment should be done as a central assessment program (CAP) of the concerned university.
- (7)** Internal examiners shall be appointed from the same institution for unitary examination in the same institution. For pooled examinations at one centre, the approved internal examiners from the same university may be appointed.
- (8)** The Examiners for General Surgery and allied subjects shall be from General Surgery and 25% from orthopedics. There shall be one orthopedics examiner out of four examiners (either internal or external).
- (9)** Ophthalmology and ENT examinations to be held as separate examinations and not combined with other subjects.
- (10)** There shall be NO grace marks to be considered for passing in an examination.

ANNEXURES:

1. AETCOM module curricular governance and blueprinting
2. Academic calendar
3. Phase wise distribution of subjects
4. Foundation course hours distribution
5. Distribution of hours phase wise
6. Clinical postings distribution
7. Learner doctor (Clinical Clerkship) method
8. University examination marks
9. Sample format of paper theory with marks distribution
10. Alignment Phase I
11. Alignment Phase II
12. Family adoption programme
13. Guidelines for manpower requirement for research facilities

Annexure 1

AETCOM Modules teaching and assessment

The tables below show the suggested AETCOM blueprinting for various university papers and for module leader/in-charge for coordinating Module teaching. Each module leader/in-charge should select a multi-subject team and then the module is taught by various members of the team. The module teaching learning activities should be planned and conducted by this team.

Assessment: All internal and University exams must have one question/application based question on AETCOM in each theory paper (5%) and it should be assessed in various components of practical/clinical exams.

| AETCOM Phase 1 | | |
|-----------------------|--------------|--|
| Subject | Paper | Module number |
| Anatomy | Paper 1 | 1.5 |
| | Paper 2 | 1.4 Foundations of communications |
| Physiology | Paper 1 | 1.2 |
| | Paper 2 | 1.3 |
| Biochemistry | Paper 1 | 1.1 <ul style="list-style-type: none"> ● Enumerate and describe professional qualities and roles of a physician ● Describe and discuss commitment to lifelong learning as an important part of physician growth |
| | Paper 2 | 1.1 <ul style="list-style-type: none"> ● Describe and discuss the role of a physician in health care system ● Identify and discuss physician's role and responsibility to society and the community that she/ he serves |

| AETCOM Phase 2 | | |
|-----------------------|--------------|----------------------|
| Subject | Paper | Module number |
| Microbiology | Paper 1 | 2.1 |
| | Paper 2 | 2.8 |
| Pharmacology | Paper 1 | 2.2, 2.3 |
| | Paper 2 | 2.5 |
| Pathology | Paper 1 | 2.4 |
| | Paper 2 | 2.7 |

| AETCOM Phase 3, part I | | |
|--------------------------------|--------------|----------------------|
| Subject | Paper | Module number |
| Ophthalmology | Single paper | 3.1 |
| ENT | Single paper | 3.3 |
| Forensic Medicine & Toxicology | Single paper | 2.6, 3.4 |
| Community Medicine | Paper 1 | 3.2 |
| | Paper 2 | 3.5 |

| AETCOM Phase 3, part 2 | | |
|---|--------------------------|-------------------|
| Subject | Competency Number | Competency |
| Medicine and Allied Subjects, integration | Paper 1 | 4.1 |
| | Paper 2 | 4.3 |
| Surgery and Allied Subjects, | Paper 1 | 4.4 |
| | Paper 2 | 4.5, 4.6 |
| Obstetrics and Gynecology | Paper 1 | 4.2, 4.7 |
| | Paper 2 | 4.8 |
| Pediatrics | Single paper | 4.9 |

Annexure 2 Time distribution of MBBS Teaching & Examination Schedule

| Academic calendar for admission batch 2024-2025 | | | | | | | | | | | | |
|---|-----|-----|---------------------------|-----------|-----|-----|-----|-----|-----------------------------------|-----------------------------|-----|-----|
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| Adm year | | | | | | | | | | 1 14 Oct | 2 | 3 |
| Phase 1 exam | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 Phase 1 exam, result | 13 Phase 2 starts | 14 | 15 |
| Phase 2 exam | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 Phase 2 exam, result | 25 Phase 3 part 1 starts | 26 | 27 |
| Phase 3 part I exam | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 Phase 3 Part 1 exam, result | 37 Phase 3 part 2 starts | 38 | 39 |
| | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 |
| Phase 3 part II exam | 52 | 53 | 54 Proposed NExT step1 | 1 CRMI | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Internship | 10 | 11 | 12 Proposed NExT step2 | | | | | | | | | |

Legends:

CRMI-Compulsory rotating medical internship

Proposed time distribution of MBBS Teaching & Examination Schedule from A.Y. 2025-'26

| Generic proposed academic calendar from admission batch 2025-2026 onwards | | | | | | | | | | | | |
|---|-----|---------------------------|-----------|-----|-----|-----|-----|-----------------------------------|-----------------------------|-----|-----|-----|
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| Adm year | | | | | | | | | 1 | 2 | 3 | 4 |
| Phase 1 exam | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 Phase 1 exam, result | 13 Phase 2 starts | 14 | 15 | 16 |
| Phase 2 exam | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 Phase 2 exam, result | 25 Phase 3 part 1 starts | 26 | 27 | 28 |
| Phase 3 part I exam | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 Phase 3 Part 1 exam, result | 37 Phase 3 part 2 starts | 38 | 39 | 40 |
| | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
| Phase 3 part II exam | 53 | 54 Proposed NExT step1 | 1 CRMI | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Internship | 11 | 12 Proposed NExT step2 | | | | | | | | | | |

Legends:

CRMI-Compulsory rotating medical internship

Annexure 3

Distribution of subjects in each Professional Phase

| Phase & year of MBBS training | Subjects & Teaching Elements | Duration (months) | University Examination |
|-------------------------------|--|---------------------------------|------------------------|
| Phase-1 | <ol style="list-style-type: none"> 1. Foundation course of 2 weeks at start of course 2. Anatomy, Physiology & Biochemistry, Introduction to Community Medicine, including Family adoption programme (FAP) through village outreach 3. Early Clinical Exposure 4. Attitude, Ethics, and communication Module (AETCOM) including Humanities | 12 months | Phase 1 |
| Phase-2 | <ol style="list-style-type: none"> 1. Pathology, Microbiology, Pharmacology 2. Community Medicine (including FAP) 3. Forensic Medicine and Toxicology 4. Introduction to clinical subjects 5. Clinical postings, Family visits for FAP 6. AETCOM | 12 months | Phase 2 |
| Phase- 3, Part-I | <ol style="list-style-type: none"> 1. Community Medicine, Forensic Medicine and Toxicology, Medicine & allied, Surgery & allied, Pediatrics, Obstetrics & Gynecology 2. Family visits for FAP 3. Oto-rhinolaryngology, 4. Ophthalmology 5. Clinical postings 6. AETCOM | 12 months | Phase 3, Part 1 |
| Electives | 2 blocks, 15 days each (after the annual exams are over, irrespective of result outcome) | 1 month | Phase 3, Part II |
| Phase-3, Part- II, MBBS | <ol style="list-style-type: none"> 1. General Medicine, Dermatology, Psychiatry, Pediatrics, General Surgery, Orthopedics, Radiodiagnosis, Anesthesiology, Obstetrics & Gynecology 2. Clinical postings 3. AETCOM | 18 months (including electives) | Phase 3, Part II |

Annexure 4**Foundation Course- 2 weeks at start of course**

| Subjects/Contents | Teaching hours |
|---|-----------------------|
| Orientation Module including History of Indian Medicine | 15 |
| Skills Module | 15 |
| Community orientation module | 5 |
| Professional Development and Ethics Module (P&E) including Mental health | 20 |
| Enhancement of Language and Computer Skills Module including clinico-laboratory communication | 10 |
| Sports and Extra curricular Activities | 15 |
| Total | 80 |

Annexure 5**Distribution of Subject Wise Teaching Hours for Phase -1 MBBS**

| Subject | Large group teaching | SGT/ Practical/ Tutorials/ Seminars | SDL | Total |
|--|-----------------------------|--|------------|--------------|
| Foundation Course | | | | 80 |
| Anatomy | 180 | 430 | 10 | 620 |
| Physiology | 130 | 305 | 10 | 445 |
| Biochemistry * | 82 | 157 | 10 | 249 |
| Early Clinical Exposure (ECE)** | - | 27 | - | 27 |
| Community Medicine | 20 | 20 | - | 40 |
| Family adoption Program (FAP) | - | 24 | - | 24 |
| (AETCOM)*** | - | 26 | - | 26 |
| Sports and extra-curricular Activities | - | - | - | 10 |
| Total | 412 | 989 | 30 | 1521 |

SGT: Small group teaching, SDL: Self-directed learning

*Including Molecular Biology

**Minimum ECE hours. These hours are to be divided equally by anatomy, physiology & biochemistry.

***AETCOM module is a longitudinal programme.

Distribution of Subject Wise Teaching Hours for Phase-2 MBBS

| Subjects | Large group teaching | SGT/ Practicals/ Tutorials/ Seminars | Clinical Postings* | SDL | Total |
|--|-----------------------------|---|---------------------------|------------|--------------|
| Pathology | 80 | 170 | - | 10 | 260 |
| Pharmacology | 80 | 170 | - | 10 | 260 |
| Microbiology | 75 | 143 | - | 10 | 228 |
| Community Med (including FAP) | 25 | 0 | 24 | 10 | 59 |
| Forensic Medicine and Toxicology | 12 | 25 | - | 08 | 45 |
| Clinical Subjects | 60 | | 540 | - | 600 |
| AETCOM | - | 29 | - | 8 | 37 |
| Sports, Yoga extra-curricular activities | - | - | - | 32 | 32 |
| Final total | 332 | 537 | 564 | 88 | 1521 |

SGT: Small group teaching SDL: Self-directed learning

*Pl. note: *Clinical postings shall be for 3 hours per day, Monday to Friday.*

There will be 15 hours per week for all clinical postings.

Distribution of Subject Wise Teaching Hours for MBBS Phase-3, part 1

| Subject | Large group teaching | SGT/ Practicals/ Tutorials/ Seminars | SDL | Total |
|-----------------------------------|-----------------------------|---|------------|--------------|
| Electives | 0 | 156 | 0 | 156 |
| Gen. Medicine | 20 | 30 | 10 | 60 |
| Gen Surgery | 20 | 30 | 10 | 60 |
| Obstetrics & Gynecology | 20 | 30 | 10 | 60 |
| Pediatrics | 20 | 30 | 05 | 55 |
| *Forensic Medicine and Toxicology | 35 | 65* | 20* | 120 |
| Community Med | 50 | 80 | 20 | 150 |
| FAP (Visits +log book submission) | - | 26 | 10 | 36 |
| Otorhinolaryngology (ENT) | 30 | 50 | 20 | 100 |
| Ophthalmology | 30 | 50 | 20 | 100 |
| Clinical posting* | | | | 593 |
| AETCOM | 0 | 19 | 12 | 31 |
| Total | 225 | 566 | 137 | 1521 |

*Out of this, 21 Hours (07 days x 03 hours) must be utilised for demonstration of post mortem examinations

*Pl. note: *Clinical postings shall be for 3 hours per day, Monday to Saturday.*

There will be 18 hours per week for all clinical postings.

Distribution of Subject wise Teaching Hours for Phase 3 part-2 MBBS

| Subjects | Lectures | SGL | SDL | Total |
|------------------------------------|-----------------|------------|------------|--------------|
| General Medicine | 110 | 185 | 40 | 335 |
| General Surgery | 90 | 153 | 30 | 273 |
| Obstetrics and Gynecology | 80 | 150 | 30 | 260 |
| Pediatrics | 20 | 35 | 10 | 65 |
| Orthopedics | 30 | 50 | 20 | 100 |
| AETCOM | 30 | 0 | 22 | 52 |
| Dermatology, Venereology & Leprosy | 13 | 17 | 10 | 40 |
| Psychiatry | 13 | 17 | 10 | 40 |
| Radiodiagnosis | 8 | 10 | 8 | 26 |
| Anesthesiology | 8 | 10 | 8 | 26 |
| Clinical postings* | | | | 1201 |
| TOTAL | 402 | 627 | 188 | 2418 |

*Pl. note: *Clinical postings shall be for 3 hours per day, Monday to Saturday.*

*There will be 18 hours per week for all clinical postings.
Extra hours may be used for preparation of NExT or SDL.*

Annexure 6**Clinical Posting Schedules in weeks phase wise**

| Subjects | Period of training in weeks | | | Total Weeks |
|------------------------------------|------------------------------------|------------------------|------------------------|--------------------|
| | Phase 2 | Phase 3, Part 1 | Phase 3, Part 2 | |
| Electives | 0 | 4 | 0 | 4 |
| General Medicine | 8 | 3 | 13 | 24 |
| General Surgery | 6 | 5 | 13 | 24 |
| Obstetrics & Gynaecology | 6 | 3 | 13 | 22 |
| Pediatrics | 4 | 2 | 6 | 12 |
| Community Medicine | 4 | 4 | 0 | 8 |
| Orthopaedics | 0 | 2 | 6 | 8 |
| Otorhinolaryngology | 4 | 4 | 0 | 8 |
| Ophthalmology | 4 | 4 | 0 | 8 |
| Psychiatry | 0 | 2 | 4 | 6 |
| Radio-diagnosis | 0 | 0 | 2 | 2 |
| Dermatology, Venereology & Leprosy | 0 | 0 | 6 | 6 |
| Anaesthesiology | 0 | 0 | 2 | 2 |
| Total | 36 | 33 | 65 | 134 |

Annexure 7: Learner- Doctor programme (Clinical Clerkship)

| Year of Curriculum | Focus of Learner-Doctor programme |
|---------------------------|---|
| Phase-1 | Introduction to hospital environment, early clinical exposure, understanding perspectives of illness, family adoption program |
| Phase-2 | History taking, physical examination, assessment of change in clinical status, communication and patient education, family adoption program |
| Phase-3, Part -1 | All of the above and choice of investigations, basic procedures and continuity of care |
| Phase-3, Part -2 | All of the above (except Family adoption programme) and decision making, management and outcomes |

Annexure 8

Marks distribution for various subjects for University Annual Examinations

| Phase of Course | Theory | Practicals | Passing criteria |
|---|---------------|-------------------|--|
| Phase-I MBBS | | | Mandatory to get 40% marks separately in theory and in practicals; and totally 50% for theory plus practicals. |
| Anatomy- 2 papers | Paper 1- 100 | 100 | |
| | Paper 2 -100 | | |
| Physiology- 2 papers | Paper 1- 100 | 100 | |
| | Paper 2 -100 | | |
| Biochemistry- 2 papers | Paper 1- 100 | 100 | |
| | Paper 2- 100 | | |
| Phase-II MBBS | | | |
| Pathology - 2 papers | Paper 1- 100 | 100 | |
| | Paper 2 -100 | | |
| Microbiology- 2 papers | Paper 1- 100 | 100 | |
| | Paper 2- 100 | | |
| | | | |
| Pharmacology- 2 papers | Paper 1 -100 | 100 | |
| | Paper 2- 100 | | |
| Phase-III MBBS part 1 | | | |
| Forensic Medicine and Toxicology- 1 paper | Paper 1 – 100 | 100 | |
| Community Med – 2 papers | Paper 1 -100 | 100 | |
| | Paper 2- 100 | | |
| Otorhinolaryngology | Paper-1 100 | 100 | |
| Ophthalmology | Paper-1 100 | 100 | |
| Phase-III MBBS part 2 | | | |
| Medicine & allied | Paper 1- 100 | 100 | |
| | Paper 2- 100 | | |
| Surgery & allied | Paper 1- 100 | 100 | |
| | Paper 2- 100 | | |
| Obstetrics and Gynecology | Paper 1- 100 | 100 | |
| | Paper 2- 100 | | |
| Pediatrics | Paper-1 100 | 100 | |

Medicine & allied Paper-2 to have Medicine 50%, Psychiatry 25% and Dermatology 25% questions.

Surgery & allied Paper-2 to have General Surgery 40%, Orthopedics 40%, Anesthesia 10% and Radiodiagnosis 10%.

Any further updates as per NEXT regulations.

Annexure 9

| Suggested format for a Theory paper – Universities and colleges may design their unique question paper blueprint as per the principles given in the format | | |
|---|---|---------------------------|
| Duration-3 hours | | 100 marks |
| | Type of question/ Number of questions | Marks per question |
| Q No 1 | Scenario based MCQ/ 10-20 | 1-2 |
| Q No 2 | Long essay question/ ONE | 10-12 |
| Q No 3 | Reasoning Questions/ FIVE | 3 |
| Q No 4 | Short notes (applied aspects)/ FOUR All four subparts related to six integrated topics if subject is part of integrated modules. However, if a subject has less competencies in integrated module than atleast 2 sub-parts from integrated modules. | 4-5 |
| Q No 5 | Short notes / THREE | 5-6 |
| Q No 6 | Short notes / FOUR (one subpart of 5 marks from AETCOM) | 4-5 |

Annexure 10- Phase I Alignment

| Suggested Phase-I Alignment Table (Anatomy, Physiology & Biochemistry) (Topics written here are indicative and can be adjusted if required) | | | |
|---|--|---------------------------------------|---|
| Month | Anatomy | Physiology | Biochemistry |
| 1 | -General Anatomy -Lower Limb (LL) | General Physiology, Blood | Cell membrane and organelles, extracellular matrix, Chemistry of carbohydrates, amino-acid & proteins, Lab Safety and Biomedical Waste Management and Chromatography (Demo) |
| 2 | -LL/UL -General Embryology & Histology | Blood, N-M | Plasma protein, immunoglobulins, Enzymes, Hemoglobin structure and Hemoglobinopathies, Electrophoresis (Demo), Heme synthesis, Porphyria's, Hemecatabolism, iron metabolism (mineral) Bilirubin formation, Jaundice, colorimetry (Demo) |
| 3 | UL -General Embryology & Histology | ANS, CVS | Clinical Enzymology, Chemistry of lipids, and lipoprotein metabolism, carbohydrate metabolism, vitamins, Estimation of Protein and albumin |
| 4 | -Abdomen -Related Systemic Embryology & Histology | GIT, Renal | Vitamins, Nutrition, Liver Function Tests, Renal Function Tests, acid-base balance and its disorders, water and electrolyte normal and abnormal analysis of urine(DOAP), Estimation of Urea, creatinine |
| 5 | -Abdomen,Pelvis -Related Systemic Embryology & Histology | GIT (contd.), Repro. | Metabolism of proteins and their metabolic disorders, Metabolism of carbohydrates and their metabolic disorders, Diabetes mellitus, Electron transport chain and oxidative phosphorylation, Xenobiotics, Estimation of Glucose. |
| 6 | -Thorax -Related systemic Embryology & Histology | Repro (contd.), RS | Metabolism of lipids (remaining) and disorders, Metabolism of proteins, minerals, vitamins, Reproductive Hormones, Prenatal screening, new born screening. |
| 7 | H & N-I -Related Systemic Embryology & Histology, Genetics | Endocrine (Neck region), CNS | Hormone Biochemistry; Tumour markers and, Thyroid Function Tests, Adrenal Function tests, Free radicals, and antioxidants |
| 8 | H & N-II -Related Systemic Embryology & Histology, Genetics | CNS contd , Special senses | Purine and pyrimidines metabolism, gout, purine salvage pathway, replication, DNA damage and repair mechanism, transcription, translation, post-translational modifications, protein synthesis inhibitors, genetic code, and mutations, estimation of uric acid |
| 9 | - Neuroanatomy -Related Systemic Embryology & Histology | CNS (Contd.) Integrated physiology | Molecular biology techniques and Miscellaneous. |

Annexure 11- Phase 2 Alignment

| | Pathology | Microbiology | Pharmacology |
|---|--|---|------------------------------------|
| 1 st month | Gen. Path | Gen. Micro, Communication and Ethics(14 competencies) | Gen. Pharm |
| 2 nd month | Gen. Path | Gen. Micro, Communication and Ethics(14 competencies) | Gen. Pharm |
| 3 rd month | Inflammation Immunology HIV | Immunology and Immunological Disorders (8 competencies) | (ANS/PNS) NSAIDs |
| 4 th month | Immunology | Immunology and Immunological Disorders | Immunosuppressants CVS |
| | CVS | CVS & Bloodstream infections (1.5 months) | |
| 1st Internal Assessment | | | |
| 5 th month | CVS Hematology | CVS & Bloodstream infections (1.5 months) | CVS Blood |
| 6 th month | Respiratory System (2-3 weeks) | Respiratory System (2.5 weeks) Tb | Chemo |
| 7 th month | Respiratory System | CNS 1.5 weeks | Respiratory System TB (7 hours) |
| | CNS 2 hours Kidney | | CNS 4weeks |
| 2nd Internal Assessment | | | |
| 8 th month | Kidney Genito-urinary 2 weeks | Genito-urinary and STI 2 wks GIT Hepatobiliary | Chemotherapy |
| 9 th month | GIT Hepatobiliary | GIT Hepatobiliary | GIT |
| 10 th month | Bone Breast Skin, eye, joints Endocrine | Musculoskeletal system, Skin and Soft Tissue Infections (2 weeks) Zoonotic & Miscellaneous Infections (2 weeks) HAI and Antimicrobial Stewardship Hospital Infection Control | Drugs on skin, ocular Endocrine |
| 3rd Internal Assessment/ Pre University | | | |
| 11 th month | Phase 2 University Exam | | |

Annexure 12-FAMILY ADOPTION PROGRAMME

CURRICULUM FOR FAMILY ADOPTION PROGRAMME (FAP)

The National Medical Commission (NMC) envisages the FAP as an opportunity for the Institute(s) to discharge its social responsibility and as a critical platform to facilitate *Authentic learning* of the under-graduate students to sensitize them with the real-life challenges of working for the Universal health coverage (UHC). The FAP will present an opportunity for the students to experience the health inequities and understand the social factors contributing to it.

The FAP is expected to complement the other Competency-Based Medical Education (CBME) reforms e.g., posting of interns in the public health facilities under the Compulsory Rotating Medical Internship (CRMI) and the District Residency Program (DRP) for producing socially-responsive competent Indian Medical Graduates who would contribute for the cause of reducing inequities in health and society in the future. Institute(s) should leverage collaboration and partnership with the community and the public health care delivery system for effective implementation of the FAP so as to serve the larger purpose of the CBME reforms in the country.

TARGETS TO BE ACHIEVED BY STUDENTS:

Phase 1:

1. Rapport building and connect with the families
2. Learning communication skills and inspire trust building amongst families
3. Understand the dynamics of community set-up of that region
4. Mobilize families for participation in Screening programs
5. Undertake detailed family study and prepare the family diagnosis to identify diseases/ ill-health/ malnutrition of allotted families/ risk factors / scope for health promotion
6. Formulate objectives to be achieved for each family

Phase 2:

1. Continue active involvement to become the first doctor /reference point of the family by continued active interaction
2. Ensure follow-up of members from adopted families for vaccination, growth monitoring and promotion, menstrual hygiene, IFA prophylaxis, health lifestyle adoption, nutrition, vector control measures, compliance to medications etc.
3. Work collaboratively with adopted families to achieve the formulated objectives
4. Inform families about ongoing government sponsored health related programs
5. Ensure appropriate referral of family members considering their choice for additional or annual screening at higher health facilities.

Phase 3:

1. Work collaboratively with adopted families to achieve the formulated objectives
2. Observation of services delivered at the community level during Village Health Nutrition Days (VHND), Community-based events (CBEs), Health and Wellness Centres (HWC) camps under the different national health program
3. Build understanding regarding work of frontline workers (ANM, ASHA/USHA, AWW, MPW) through interaction
4. Build understanding around intersectoral action for health through Local self-governing bodies, NGOs, SHGs etc for health promotion
5. Undertake short term action projects for improving health in the adopted families or community
6. Analysis of their own involvement and impact on improving the health conditions in the adopted families

Final visit to have last round of active interaction with families - prepare a report to be submitted to department addressing:

1. Improvement in overall health of the family
2. Immunization

3. Sanitation,
4. De-addiction
5. Whether healthy lifestyles like reading good books. Sports/yoga activities have been inculcated in the house-holds
6. Improvement in anaemia, tuberculosis control
7. Health awareness
8. Any other issues
9. Role of the student in supporting family during illness / medical emergency
10. Social responsibility in the form of environment protection programme in form of plantation drive (medicinal plants/trees) cleanliness and sanitation drive with the initiative of the medical student

Phase wise competencies to be achieved through the FAP

| Professional year and topics for visit | Competency | Objectives | Suggested T-L methods | Suggested Assessment methods | Teaching Hours |
|---|--|---|---|---|---|
| First year Visit 1 – Rapport building with the Families and Orientation Socio-demographic and Socio-economic profile Visit 2 – Environmental health | Collect demographic profile of allotted families, take history and conduct clinical examination of all family members | By the end of this visit, students should be able to compile the basic demographic profile of allocated family members and formulate objectives for each family | Family survey, Screening camps Field visit clinics | Community case presentation. OSPE, Observation, FAP logbook Multi-source feedback Reflections Case studies | Total 24 hours [A minimum of 4 visits of full day of around 6 hours] OR [If 3 hours visit then 8 visits to be conducted] |
| | Mobilize the adopted family members for participation in screening camps and coordinate treatment of adopted family under overall guidance of mentor | By the end of this visit, students should be able to report the basic health profile and treatment history of allocated family members | Screening camps Field visit clinics PLA techniques (sorting, ranking etc) | Community case presentation. OSPE, Observation, FAP logbook Multi-source feedback Reflections Case studies | |

| | | | | | |
|--|---|---|--|--|---|
| Drinking Water supply, Sanitation and Vector control | Maintain communication and follow-up of remedial measures | By the end of this visit, students should be able to provide details of communication maintained with family members for follow up of treatment and suggested remedial measures. | Family survey, Screening camps Field visit clinics Reporting of follow up visits. | Community case presentation. OSPE, FAP logbook based verification of competency, Multi-source feedback Reflections | |
| Visit 3 – Individual health profile including Anthropometry | Take part in health promotion, environment protection and sustenance activities | By the end of this visit, students should be able to report the activities undertaken for health promotion, environment protection and sustenance like tree plantation, herbal plantation activities conducted in the community | Participation in and process documentation of activities (NSS activities) along with reporting of case studies | Community case presentation. OSPE, Observation, FAP logbook Multi-source feedback Reflections Case studies | |
| Visit 4 – Addictions Tobacco, Alcohol, Screen addiction and other addictions | | | | | |
| Second year | Take history and conduct clinical examination of all family members | By the end of this visit, Students should be able to compile the updated medical history of family members through family follow-up | Family survey, Field visit clinics Referral and follow-up | Community case presentation. OSPE, Observation, FAP logbook Multi-source feedback Reflections Case studies | Total 24 hours [A minimum of 4 visits of full day of around 6 hours] OR |
| Visit 5 – Healthy Lifestyle Dietary assessment, | | | | | |

| | | | | | |
|---|--|---|--|--|---|
| Physical activity and Exercise Visit 6 – Micronutrient deficiencies - Nutritional anemia, Iodine deficiency disorders Care of under-5 children Visit 7 – Feeding, vaccination, HBYC Maternal health Visit 8 – Care of Pregnant and Lactating mothers | Facilitate checkup and/or referral of adopted family under overall guidance of mentor Maintain communication and follow-up of remedial measures | By the end of this visit, students should be able to report the details of clinical examination and investigations like HB %, blood group urine routine and blood sugar or any other investigation along with treatment history, compliance to treatment, of allocated family members By the end of this visit, students should be able to provide details of communication maintained with family members including information about National programs provided. Students should also be able to follow up on treatment and suggested remedial measures under the guidance of a mentor. Documentation of referral in logbook | Field visit clinics Referral Field visit clinics Reporting of follow up visits. Family survey, Screening camps Field visit clinics Reporting of follow up visits. | Community case presentation. OSPE, FAP logbook Case studies Multi-source feedback Community case presentation. OSPE, FAP logbook based verification of competency, Multi-source feedback Reflections | [If 3 hours visit then 8 visits to be conducted] |
| Third year Visit 9 – Communicable diseases – Tuberculosis, Influenza and others Visit 10 – | Take history and conduct clinical examination of all family members and facilitate health check-up if required | By the end of this visit, students should be able to maintain follow-up with the families and update the medical history of family members | Family survey, Field visit clinics Referral and follow-up | Community case presentation. OSPE, Observation, FAP logbook Multi-source feedback Reflections Case studies | Total 36 hours [A minimum of 6 visits of full day of around 6 hours] OR [If 3 hours visit then |

| | | | | | |
|---|--|--|--|--|----------------------------|
| Non-communicable diseases – HTN, DM and others | Maintain communication and follow-up of remedial measures | By the end of this visit, students should be able to provide details of communication maintained with family members and collaborative efforts undertaken with family members for improving their health. | Family survey, Field visit clinics Referral and tracking Reporting of follow up visits. | Community case presentation. OSPE, Observation, FAP logbook based verification of competency, Multi-source feedback Reflections | 12 visits to be conducted] |
| Visit 11 – Adolescent health / School health Menstrual hygiene, Life skills | | | | | |
| Visit 12 – Healthy ageing Health care of the Elderly | Counsel the family members of allotted families and analyze the health trajectory of adopted family under overall guidance of mentor | By the end of this visit, students <u>should</u> be able to analyze and report the findings of short term action projects and its effect on health trajectory at individual Family and community level | Participation in and process documentation of activities (NSS activities) along with reporting of photographic evidences. Small group discussion (report of the health trajectory of adopted family) | Community case presentation. OSPE, Logbook based verification of competency. Observation Viva-voce Multi-source feedback Reflections | |
| Visit 13 – Mental health Healthy coping strategies and Resilience | Work as a member of Health Team and facilitate intersectoral action for health | By the end of this visit, students should be able to report the role of various frontline functionaries’ delivery primary health care and Local self-governing bodies, NGOs, SHGs etc for health promotion | Observation and reporting of events Exposure visits Interaction with frontline functionaries | Logbook based verification of competency, Observation Viva-voce Multi-source feedback Reflections | |
| Visit 14 – Well-being of the Families Final visit and Report submission | | | | | |

LOG BOOK FOR FAMILY ADOPTION PROGRAMME

(To be modified by the Institute as per their requirement)

Institute:

University:

Name of the Student:

Roll No:

Batch:

Address of Community for FAP:

Number of Adopted Families:

Names of Head of Household of Adopted families:

Dates of Screening Camp: _____

Name of Faculty Guide/Mentor

Names of PGs/SRs Guide/Mentor

Names of Para-medical staff Guide/Mentor

Annexure 13

DRAFT GUIDELINES FOR MANPOWER REQUIREMENT FOR RESEARCH FACILITIES IN A MEDICAL COLLEGE

Research labs may be under following categories:

1. Molecular lab
2. Stem cell research lab
3. Cytogenetics lab
4. HLA and tissue typing research lab
5. Integrative Research lab

Applied Clinical research for organ perfusion, cancer research, in vitro fertilization, etc. can be under any of the above research facilities.

For integrative research lab, qualified faculty from Yoga/ Ayurvedic/ Siddha etc can also be employed and man-power may be selected as per AYUSH guidelines.

MAN POWER

(1) Lab Director-post-1

Minimum Qualifications required:

MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry/

Faculty with PhD/ MSc PhD may be taken if exceptional in research.

Lab work: 10 years experience

Lab research related publications- minimum 10 in last 10 years

(2) Lab Supervisor- post-1 (per research facility)

Minimum Qualifications required:

MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry

Faculty with PhD (Medical subject) will be preferred

or MSc in life sciences with PhD from Medical college

Lab work: 7 years experience

Lab research related publications- minimum 5 in last 5 years

(3) Senior Scientific Research Officer- posts- 1 or more (per research facility)

Minimum Qualifications required:

PhD with MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry /

PhD in medical college or MSc in life sciences with PhD from medical college

Lab work: 4years experience

Lab research related publications- minimum 3 in last 3 years

(4) Junior Research Officer-posts- 1 or more (per research facility)

Minimum Qualifications required:

MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry or Diploma
in Clinical Pathology/ MSc in life sciences, PhD scholar/ Postdoc fellow

Diploma holder in any branch may pursue PhD if experience / research inclinations
proved for minimum of 1 year. They can be enrolled for integrated Master's PhD course.

Lab work: 1 year experience

Lab research related publications- preferably 1 in last 2 years

(5) Laboratory Technicians- Posts- minimum 2

Minimum Qualifications required: BSc/ MSc, in life sciences including Biotechnology,
DMLT

(6) Data entry operator/ Clerk -1 (minimum)

Minimum Qualifications required:

Graduation

(7) Store keeper -1 (minimum)

Minimum Qualifications required: **Graduate**

Experience: 5 years

(8) Biostatistician- 1(minimum)-Asst Professor/ Above

Experience: 5 years

(9) Lab attendant

(10) Peon/ Multi-task worker

(11) Clinical Monitors-

Any MBBS or above with research inclination

**(12) Social worker/ MSW with applied research
inclinations**

DISABILITY GUIDELINES

Modified guidelines for the academic year 2025-'26 onwards regarding admission of students with 'specified disabilities' under the 'Rights Of Persons With Disabilities Act 2016' with respect to admission in MBBS will be notified separately. Till further notice, the disability guidelines (page numbers 96 to 98) stipulated under CBME Guidelines 2023 dated 1st August, 2023 shall be applicable for the academic year 2024-'25.



NATIONAL MEDICAL COMMISSION COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE



Volume I-2024

**COMPETENCY BASED UNDERGRADUATE CURRICULUM
FOR THE
INDIAN MEDICAL GRADUATE**

2024



**National Medical Commission
Pocket-14, Sector- 8, Dwarka
New Delhi 110 077**



राष्ट्रीय आयुर्विज्ञान आयोग National Medical Commission



FOREWORD

The National Medical Commission (NMC) was created on 24th September, 2020 by the Act of Parliament replacing the erstwhile Medical Council of India and Board of Governors. The foundation for making of an Indian Medical Graduate (‘Doctor’) depends on building a sound base of medical education. In the year 2019, a committed team appointed by erstwhile MCI revolutionized the age-old didactic teaching system in Indian medical colleges by bringing in Competency Based Medical Education (CBME). This unique approach has raised the level of medical education with respect to quality, versatility and horizontal- vertical alignment of all subjects. The mandate of NMC to see that the first line of health care leaders who reach out to the common masses empathizing with the problems of the rural populace are being met with. The two-pronged approach of increasing the quantity and improving the quality of medical education is being tackled with this approach.

Education has now become student-centric and patient-centric instead of pedagogic system. The first batch of students have now completed their training under CBME implemented in 2019. It was a demand from actively involved academia to revisit the curriculum and modify it so as to keep abreast at international level. Interim years of covid pandemic also were ‘a good teaching academy’ for all. Increasing influence of artificial intelligence on student community, matched with rising cost of medical education and competitiveness, instead of accommodative, helping and balanced approach,

has led to increasing risk of losing social intelligence and humane approach amidst the emerging doctors. The risk of creating overqualified clerks looms large on our medical system.

A national team of experienced as well as emerging empathetic and talented teachers engaged as full-time faculty in various medical institutions were invited by the Undergraduate Education Board (UGMEB) of the NMC to invest their extra energy and hours to assess the curricula, examinations, AETCOM, vertical and horizontal integration of various subjects and bring in modifications. Each subject had committee of five persons on an average, from different parts of the country. Totally 93 experts have given their valuable time and energy in framing this new curriculum and all three volumes, prepared by their predecessors in 2019. The hard work done by them was the base on which this edifice has further been refined.

We are sure that fraternity and students are going to have an educational journey that will be full of fun, knowledge and experience sharing. UGMEB of the NMC acknowledges each and every one involved in the process, named and unsung heroes who have been the part of this exercise of bringing the document to the readers.

**Dr. Aruna V. Vanikar, President,
Dr. Vijayendra Kumar, Member,
UGMEB.**

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| 6. | Anaesthesiology | AS | 82 |
| 7. | Radiodiagnosis | RT | 87 |
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How to use the Manual

This Manual is intended for curriculum planners in an institution to design learning and assessment experiences for the MBBS student. Contents created by subject experts have been curated to provide guidance for the curriculum planners, leaders and teachers in medical schools. The manual must be used with reference to and in the context of the Regulations.

Section 1

Competencies for the Indian Medical Graduate

Section 1 - provides the Roles (global competencies) extracted from the Competency Based Medical Education (CBME) Guidelines, 2024. The global competencies identified as defining the roles of the Indian Medical Graduate are the broad competencies that the learner must aspire to achieve, teachers and curriculum planners must ensure that the learning experiences are aligned to this Manual.

Extract from the Competency Based Medical Education (CBME) Guidelines, 2024

2. Objectives of the Indian Graduate Medical Training Programme

The undergraduate medical education program is designed with a goal to create an "Indian Medical Graduate" (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training program are hereby advocated. The first contact physician needs to be skilful to perform duties of primary care physician and have requisite skills for promotive, preventative, rehabilitative, palliative care & referral services.

2.1 National Goals

At the end of undergraduate program, the Indian Medical Graduate should be able to:

- a. Recognize "health for all" as a national goal and health right of all citizens and by undergoing training for medical profession to fulfill his social obligations towards realization of this goal.
- b. Learn key aspects of National policies on health and devote himself to its practical implementation.
- c. Achieve competence in the practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- d. Develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- e. Become an exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

2.2 Institutional Goals

In consonance with the national goals, each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.

- a. Be competent for working in the health care team from Phase I MBBS to Compulsory rotatory medical internship (CRMI) in a gradual manner with increasing complexity in an integrated multi-department involvement.
- b. Be competent to practice preventive, promotive, curative, palliative and rehabilitative medicine in respect to the commonly encountered health problems.

- c. Appreciate rationale for different therapeutic modalities; be familiar with the administration of the "essential medicines" and their common adverse effects.
- d. Appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.
- e. Possess the attitude for continued self-learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- f. Be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:
 - i. Family Welfare and Maternal and Child Health (MCH);
 - ii. Sanitation and water supply;
 - iii. Prevention and control of communicable and non-communicable diseases;
 - iv. Immunization;
 - v. Health Education and advocacy;
 - vi. Indian Public Health Standards (IPHS) at various level of service delivery;
 - vii. Bio-medical waste disposal;
 - viii. Organizational and or institutional arrangements.
- g. Acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, general and hospital management, principal inventory skills and counselling.

- h. Be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures with maximum community participation.
- i. Be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
- j. Be competent to work in a variety of health care settings.
- k. Have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility, dependability, and ability to relate to or show concern for other individuals.

All efforts must be made to equip the medical graduates to acquire certifiable skills as given in comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) Indian Medical Graduate, as given in the Graduate Medical Education Regulations.

2.3 Goals for the Learner

In order to fulfil these goals, the Indian Medical Graduate must be able to function in the following roles appropriately and effectively:-

- a. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- b. Leader and member of the health care team and system with capabilities to collect, analyse, synthesize and communicate health data appropriately.
- c. Communicate with patients, families, colleagues, community and community in a methodological and skillful way using various approaches in family visits, family adoption program, clinic-social cases, clinical cases and AETCOM training programs.
- d. Lifelong learner committed to continuous improvement of skills and knowledge.
- e. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community, profession, and society. Training of humanities and social sciences will be useful for this training.

3. Competency Based Training Programme of the Indian Medical Graduate

Competency based learning would include designing and implementing medical education. Curriculum that focuses on the desired and observable activity in real life situations. In order to effectively fulfil the roles, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

3.1 Clinician, who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.

- 3.1.1 Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
- 3.1.2 Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
- 3.1.3 Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence healthcare.
- 3.1.4 Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
- 3.1.5 Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.6 Demonstrate ability to elicit and record from the patient, and other relevant sources. including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- 3.1.7 Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.

- 3.1.8 Demonstrate ability to perform a physical examination that is contextual to gender, social and economic status, patient preferences and values.
- 3.1.9 Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- 3.1.10 Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- 3.1.11 Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- 3.1.12 Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmes and policies for the following:
 - a. Disease prevention,
 - b. Health promotion and cure,
 - c. Pain and distress alleviation, and
 - d. Rehabilitation and palliation.
- 3.1.13 Demonstrate ability to provide a continuum of care at the primary (including home care) and/or secondary level that addresses chronicity, mental and physical disability,
- 3.1.14 Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.
- 3.1.15 Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

3.2 Leader and member of the health care team and system

- 3.2.1 Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
- 3.2.2 Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.
- 3.2.3 Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
- 3.2.4 Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyse and utilize health data.
- 3.2.5 Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
- 3.2.6 Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

3.3 Communicator with patients, families, colleagues and community

- 3.3.1 Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients, families, colleagues and community in a language that patients, families, colleagues and community understands and in a manner that will improve patient patients, families, colleagues and community satisfaction and health care outcomes.
- 3.3.2 Demonstrate ability to establish professional relationships with patients, families, colleagues and community that are positive, understanding, humane, ethical, empathetic, and trustworthy.
- 3.3.3 Demonstrate ability to communicate with patients, families, colleagues and community in a manner respectful of patient's preferences, values, prior

experience, beliefs, confidentiality and privacy.

3.3.4 Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision- making and overcoming hesitancy towards health initiatives.

3.4 Lifelong learner committed to continuous improvement of skills and knowledge

3.4.1 Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.

3.4.2 Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.

3.4.3 Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.

3.4.4 Demonstrate ability to search (including through electronic means), and critically re- evaluate the medical literature and apply the information in the care of the patient.

3.4.5 Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

3.5 Professional who is committed to excellence, is ethical, responsive and accountable to patients, the profession and community.

3.5.1 Practice selflessness, integrity, responsibility, accountability and respect.

3.5.2 Respect and maintain professional boundaries between patients, colleagues and society.

3.5.3 Demonstrate ability to recognize and manage ethical and professional conflicts.

3.5.4 Abide by prescribed ethical and legal codes of conduct and practice.

3.5.5 Demonstrate commitment to the growth of the medical profession as a whole.

Section 2

Subject-wise competencies

Section 2 contains subject-wise competencies that must be achieved at the end of instruction in that subject. These are organised in tables.

Competencies (Outcomes) in each subject are grouped according to topics number-wise. It is important to review the individual competencies in the light of the topic outcomes as a whole. For each competency outlined - the learning domains (Knowledge, Skill, Attitude, and Communication) are identified. The expected level of achievement in that subject is identified as – [knows (K), knows how (KH), shows how (SH), perform (P)]. As a rule, 'perform' indicates independent performance without supervision and is required rarely in the pre-internship period. The competency is a core (Y - must achieve) or a non-core (N - desirable) outcome. Suggested learning and assessment methods (these are suggestions) and explanation of the terms used are given under the section “definitions used in this document”. The suggested number of times a skill must be performed independently for certification in the learner’s log book is also given.

The number of topics and competencies in each subject are given below:

Topics and competencies in Phase 1 & Phase 2 subjects (Volume I)

| Sr. No. | Subjects | Number of topics | Number of competencies |
|----------------|-------------------|-------------------------|-------------------------------|
| 1. | Anatomy | 82 | 413 |
| 2. | Physiology | 12 | 136 |
| 3. | Biochemistry | 14 | 84 |
| 4. | Pharmacology | 10 | 92 |
| 5. | Pathology | 35 | 182 |
| 6. | Microbiology | 11 | 74 |
| 7. | Forensic Medicine | 14 | 158 |
| | Total | 178 | 1139 |

Topics competencies in Medicine and Allied subjects (Volume II)

| Sr. No. | Subjects | Number of topics | Number of competencies |
|----------------|------------------------------------|-------------------------|-------------------------------|
| 1. | Community Medicine | 20 | 136 |
| 2. | General Medicine | 29 | 525 |
| 3. | Paediatrics | 35 | 406 |
| 4. | Psychiatry | 13 | 17 |
| 5. | Dermatology, Venereology & Leprosy | 15 | 48 |
| | Total | 112 | 1132 |

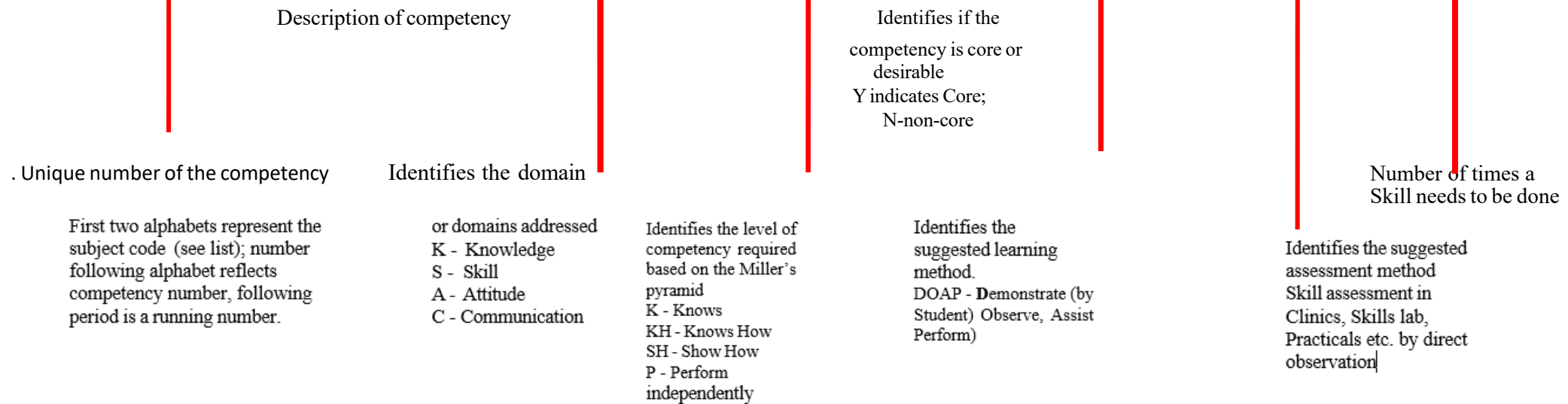
Topics and competencies in Surgery and Allied subjects (Volume III)

| Sr. No. | Subjects | Number of topics | Number of competencies |
|---------|--------------------------|------------------|------------------------|
| 1. | General Surgery | 30 | 133 |
| 2. | Ophthalmology | 10 | 60 |
| 3. | Otorhinolaryngology | 04 | 63 |
| 4. | Obstetrics & Gynaecology | 38 | 141 |
| 5. | Orthopaedics' | 14 | 40 |
| 6. | Anaesthesiology | 11 | 52 |
| 7. | Radiodiagnosis | 07 | 21 |
| | Total | 114 | 510 |

Understanding the competencies table

Understanding the competencies table

| A | B | C | D | E | F | G | H |
|-------------------|---|--------|-----------|------|------------------------------------|-----------------------------|-----------------------------|
| No. | Competencies | Domain | K/KH/SH/P | Core | Suggested Teaching Learning Method | Suggested Assessment method | No. required to certify (P) |
| Physiology | | | | | | | |
| PY1.1 | Describe the structure and functions of a | K | KH | Y | LGT, SGT | Written/Viva | |
| IM 4.10 | Elicit <i>document</i> and present a medical history that helps delineate the | S | SH | Y | Bed Side Clinic, DOAP | OSCE, Direct observation | 3 |



LGT-Large group teaching; SGT-Small group teaching; OSCE-Objective structured clinical examination; P- indicate how many competencies/competencies must be done independently under

Deriving learning objectives from competencies

Deriving learning objectives from competencies

| | | |
|----|--|--|
| K | Knows | A knowledge attribute – Usually enumerates or describes |
| KH | Knows how | A higher level of knowledge – is able to discuss or analyse |
| S | Shows | A skill attribute: is able to identify or demonstrate the steps |
| SH | Shows how | A skill attribute: is able to interpret / demonstrate a complex procedure requiring thought, knowledge and behaviour |
| P | Performs (under supervision or independently) | Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results |

Competency: An observable ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

| | | | | |
|---------|---|-----|----|---|
| PA42.3* | Identify the etiology of meningitis based on given CSF parameters | K/S | SH | Y |
|---------|---|-----|----|---|

| | | |
|------|--|---|
| LO 1 | At the end of the session the phase II student must be able to enumerate the most common causes of meningitis correctly | <u>Audience</u> - who will do the behavior |
| LO 2 | At the end of the session the phase II student must be able to enumerate the components of CSF analysis correctly | <u>Behavior</u> - What should the learner be able to do? |
| LO 3 | At the end of the session the phase II student must be able to describe the CSF features for a given etiology of meningitis accurately | <u>Condition</u> - Under what conditions should the learner be able to do it? |
| LO 4 | At the end of the session the phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters | <u>Degree</u> - How well must it be done |

Learning Objective (LO): Statement of what a learner should be able to do at the end of a specific learning experience

*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

Deriving learning methods from competencies

Deriving learning methods from competencies

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

| | | | | |
|---------|---|------|----|---|
| PA34.3* | Identify the etiology of meningitis based on given CSF parameters | K, S | SH | Y |
|---------|---|------|----|---|

Objective: Statement of what a learner should be able to do at the end of a specific learning experience

| | | |
|------|--|--|
| LO 1 | At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly | |
| LO 2 | At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly | |
| LO 3 | At the end of the session the Phase II student must be able to describe the CSF features for a given etiologic of meningitis accurately | |
| LO 4 | At the end of the session the Phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters | |

*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

Deriving assessment methods from competencies

Deriving assessment methods from competencies

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

| | | | | |
|---------|---|------|----|---|
| PA34.3* | Identify the etiology of meningitis based on given CSF parameters | K, S | SH | Y |
|---------|---|------|----|---|

Objective: Statement of what a learner should be able to do at the end of a specific learning experience

| | | |
|------|--|---|
| LO 1 | At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly | Written/SAQ: Enumerate 5 causes of meningitis based on their prevalence in India |
| LO 2 | At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly | Short note or part of structured essay: Enumerate the components tested in a CSF analysis |
| LO 3 | At the end of the session the Phase II student must be able to describe the CSF features for a given aetiology of meningitis accurately | Short note or part of structured essay: Describe the CSF findings that are characteristic of tuberculous meningitis |
| LO 4 | At the end of the session the Phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters | Short note / part of the structured essay/ Direct observation/OSPE/ Viva voce Review the CSF findings in the following patient and identify (write or vocalize) the most likely etiology |

* Numbers given are for illustrative purposes only and should not be compared with numbers in the curriculum document

Definitions used in the Manual

1. **Goal:** A projected state of affairs that a person or system plans to achieve. In other words: Where do you want to go? or What do you want to become?
2. **Competency:** The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served. In other words: What should you have? or What should have changed?
3. **Objective:** Statement of what a learner should be able to do at the end of a specific learning experience. In other words: What the Indian Medical Graduate should know, do, or behave.

Action Verbs used in this manual

| Knowledge | Skill | Attitude/communicate |
|---------------|---------------------------|------------------------------|
| Enumerate | Identify | Counsel |
| List | Demonstrate | Inform |
| Describe | Perform under supervision | Demonstrate understanding of |
| Discuss | Perform independently | Communicate |
| Differentiate | Document | |
| Define | Present | |
| Classify | Record | |
| Choose | Elicit | |
| Interpret | | |
| Report | | |

Note: Specified essential competencies only will be required to be performed independently at the end of the final year MBBS.

1. The word 'perform' or 'do' is used ONLY if the task has to be done on patients or in laboratory practical in the pre/para- clinical phases.
2. Most tasks that require performance during undergraduate years will be performed under supervision.
3. If a certification to perform independently has been done, then the number of times the task has to be performed under supervision will be indicated in the last column.

Explanation of terms used in this manual

| | |
|---|---|
| LGT (LGT) | Any instructional large group method including interactive lecture |
| SGT (SGT) | Any instructional method involving small groups of students in an appropriate learning context |
| DOAP (Demonstration-Observation - Assistance-Performance) | A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently |
| Skill assessment/ Direct observation | A session that assesses the skill of the student including those in the practical laboratory, skills lab, skills station that uses mannequins/ paper case/simulated patients/real patients as the context demands |
| DOPS (Directly observed procedural skills) | DOPS is a method of assessment for assessing competency of the students in which the examiner directly observes the student performing procedure |
| Core | A competency that is necessary in order to complete the requirements of the subject (traditional must know) |
| Non-Core | A competency that is optional in order to complete the requirements of the subject (traditional nice (good) to know/ desirable to know) |
| National Guidelines | Health programs as relevant to the competency that are part of the National Health Program |

Domains of learning

| | |
|---|---------------|
| K | Knowledge |
| S | Skill |
| A | Attitude |
| C | Communication |

Levels of competency

| | | |
|----|---|--|
| K | Knows | A knowledge attribute - Usually enumerates or describes |
| KH | Knows how | A higher level of knowledge - is able to discuss or analyze |
| SH | Shows how | A skill attribute: is able to interpret/ demonstrate a complex procedure requiring thought, knowledge and behavior |
| P | Performs (under supervision or independently) | Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results |

Note:

1. In the table of competency - the highest level of competency acquired is specified and implies that the lower levels have been acquired already. Therefore, when a student is able to SH - Show how - an informed consent is obtained - it is presumed that the preceding steps - the knowledge, the analytical skills, the skill of communicating have all been obtained.
2. It may also be noted that attainment of the highest level of competency may be obtained through steps spread over several subjects or phases and not necessarily in the subject or the phase in which the competency has been identified

Volume I
Competency based Undergraduate Curriculum
in
Phase 1 & Phase 2 subjects

ANATOMY (CODE: AN)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-----------------------------------|------------------------|--|------------------------------------|---------------------------------------|---------------------------------|
| Anatomy (Topics = 82, Competencies = 413) | | | | | | | |
| Topic 1: Anatomical terminology - | | Number of Competencies (2) | | Number of competencies for certification: (NIL) | | | |
| AN1.1 | Describe & Demonstrate normal anatomical position, various planes, relation, comparison, laterality & movements in the human body | K/S | SH | Y | LGT, Demonstration | Written/ Viva voce/ skills assessment | |
| AN1.2 | Describe composition of bone and bone marrow | K | KH | Y | LGT | Written/ viva | |
| Topic 2: General features of bones & Joints | | Number of Competencies (6) | | Number of competencies for certification: (NIL) | | | |
| AN2.1 | Describe parts, types, peculiarities of each type, blood and nerve supply of bones. | K | KH | Y | LGT | Written/ viva voce | |
| AN2.2 | Describe the laws of ossification, epiphysis, its various types and their importance | K | KH | N | LGT | Written/ Viva voce | |
| AN2.3 | Describe special features of a sesamoid bone | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| AN2.4 | Describe various types of cartilage with its structure & distribution in body | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN2.5 | Describe & demonstrate various joints with possible movements, subtypes and examples | K,S | SH | Y | LGT, Demonstration | Written/ Viva voce/skills assessment | |
| AN2.6 | Explain the concept of nerve supply of joints & Hilton's law | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| Topic 3: General features of Muscle | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN3.1 | Classify & describe muscle tissue according to structure, size, shape, region & action | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |

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|---|--|-----------------------------------|------------------------|---------------|--|-----------------------------|------------------------------|
| AN3.2 | Describe parts of skeletal muscle and differentiate between tendons and aponeuroses with examples | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN3.3 | Explain Shunt and spurt muscles with examples and role in joint movement | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| Topic 4: General features of skin and fascia | | Number of Competencies (5) | | | Number of competencies for certification: (NIL) | | |
| AN4.1 | Describe different types of skin & dermatomes in body | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| AN4.2 | Describe & demonstrate structure of skin with its appendages along with clinical anatomy | K,S | SH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN4.3 | Describe structure, contents and identify modifications of superficial fascia along with fat distribution in body | K,S | SH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN4.4 | Describe & demonstrate modifications of deep fascia with its location, function & examples | K,S | SH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN4.5 | Explain principles of skin incisions and their surgical importance | K | KH | N | LGT, Demonstration | Written | |
| Topic 5: General features of the cardiovascular system | | Number of Competencies (8) | | | Number of competencies for certification: (NIL) | | |
| AN5.1 | Differentiate between blood vascular and lymphatic system | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN5.2 | Differentiate between pulmonary and systemic circulation | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN5.3 | Describe general differences between arteries, veins and sinuses | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN5.4 | Explain functional and gross structural differences between elastic, muscular arteries and arterioles | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN5.5 | Describe portal system giving examples | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN5.6 | Describe the concept of anastomoses and collateral circulation, its different sites & significance of end arteries | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |

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|---|---|-----------------------------------|------------------------|--|------------------------------------|--------------------------------------|------------------------------|
| AN5.7 | Explain function of meta-arterioles, precapillary sphincters, arterio-venous anastomoses | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| AN5.8 | Describe thrombosis, infarction & aneurysm | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| Topic 6: General Features of lymphatic system | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN6.1 | Describe the components and functions of the lymphatic system | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| AN6.2 | Describe structure of lymph capillaries & mechanism of lymph circulation | K | KH | N | LGT, Demonstration | Written | |
| AN6.3 | Explain the concept of lymphoedema and spread of tumors via lymphatics and venous system | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| Topic 7: Introduction to the nervous system | | Number of Competencies (8) | | Number of competencies for certification: (NIL) | | | |
| AN7.1 | Describe general plan of nervous system with components of central, peripheral & autonomic nervous systems | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN7.2 | List components of nervous tissue and their functions | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN7.3 | Describe parts of a neuron and classify them based on number of neurites, size & function | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN7.4 | Describe structure of a typical spinal nerve | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN7.5 | Describe principles of sensory and motor innervation of muscles | K | KH | N | LGT, Demonstration | Written | |
| AN7.6 | Describe concept of loss of innervation of a muscle with its applied anatomy | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN7.7 | Describe various types of synapse | K | KH | N | LGT, Demonstration | Written | |
| AN7.8 | Describe differences between sympathetic and spinal ganglia | K | KH | N | LGT, Demonstration | Written | |
| Topic 8: Features of individual bones (Upper Limb) | | Number of Competencies (4) | | Number of competencies for certification: (NIL) | | | |
| AN8.1 | Identify the given bone, its side, anatomical position, joint formation, important features and clinical anatomy (clavicle, scapula, humerus, radius, ulna, carpal bones) | K,S | SH | Y | Demonstration | Written/ Viva voce/ skill assessment | |

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|---|---|------------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN8.2 | Demonstrate important muscle attachments on the given bone | K,S | SH | Y | Demonstration | Written/ Viva voce/ skill assessment | |
| AN8.3 | Identify and name various bones in articulated hand, Specify the parts of metacarpals and phalanges and enumerate the peculiarities of pisiform | K,S | SH | Y | Demonstration | Viva voce Practicals | |
| AN8.4 | Describe scaphoid fracture and explain the anatomical basis of avascular necrosis | K | KH | N | LGT, Demonstration | Viva voce | |
| Topic 9: Pectoral region | | Number of Competencies (3) | | | Number of competencies for certification: (NIL) | | |
| AN9.1 | Describe attachment, nerve supply & action of pectoralis major and pectoralis minor and describe clavipectoral fascia | K | KH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce | |
| AN9.2 | Describe the location, extent, deep relations, structure, blood supply, lymphatic drainage, microanatomy and applied anatomy of breast | K | KH | Y | LGT, | Written/ Viva voce | |
| AN9.3 | Describe development of breast, associated age changes and congenital anomalies | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| Topic 10: Axilla, Shoulder and Scapular region | | Number of Competencies (13) | | | Number of competencies for certification: (NIL) | | |
| AN10.1 | Identify & describe boundaries and contents of axilla | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN10.2 | Identify, describe and demonstrate the origin, extent, course, parts, relations and branches of axillary artery & tributaries of axillary vein | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN10.3 | Describe, identify and demonstrate formation, branches, relations, area of supply of branches, course and relations of terminal branches of brachial plexus | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|------------------------|---------------|---|--------------------------------------|------------------------------|
| AN10.4 | Describe the anatomical groups of axillary lymph nodes and specify their areas of drainage | K | KH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN10.5 | Explain variations in formation of brachial plexus | K | KH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce | |
| AN10.6 | Explain the anatomical basis of clinical features of Erb's palsy and Klumpke's paralysis | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN10.7 | Describe axillary lymph nodes, areas of drainage and anatomical basis of their enlargement | K | KH | Y | LGT, Practical, Demonstration, Dissection | Written | |
| AN10.8 | Describe, identify and demonstrate the position, attachment, nerve supply and actions of trapezius and latissimus dorsi | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN10.9 | Describe the arterial anastomosis around the scapula and mention the boundaries of triangle of auscultation | K | KH | N | LGT, Practical, Demonstration, Dissection | Written | |
| AN10.10 | Describe and identify the deltoid and rotator cuff muscles along with their nerve supply and clinical anatomy | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN10.11 | Describe & demonstrate attachment, action and clinical anatomy of serratus anterior muscle | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN10.12 | Describe and demonstrate shoulder joint for- type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, muscles involved, blood supply, nerve supply and applied anatomy | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|------------------------------------|------------------------|--|---|--------------------------------------|------------------------------|
| AN10.13 | Explain anatomical basis of Injury to axillary nerve during intramuscular injections | K | KH | Y | LGT | Viva voce | |
| Topic 11: Arm & Cubital fossa | | Number of Competencies (6) | | Number of competencies for certification: (NIL) | | | |
| AN11.1 | Describe and demonstrate muscle groups of upper arm with emphasis on biceps and triceps brachii | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN11.2 | Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels in arm | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN11.3 | Describe the anatomical basis of Venipuncture of cubital veins | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN11.4 | Describe the anatomical basis of Saturday night paralysis | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN11.5 | Identify & describe boundaries and contents of cubital fossa | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN11.6 | Describe the anastomosis around the elbow joint | K | KH | N | LGT | Written | |
| Topic 12: Forearm & hand | | Number of Competencies (15) | | Number of competencies for certification: (NIL) | | | |
| AN12.1 | Describe and demonstrate important muscle groups of ventral forearm with attachments, nerve supply and actions | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN12.2 | Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of forearm | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|------------------------|---------------|---|--------------------------------------|------------------------------|
| AN12.3 | Identify & describe flexor retinaculum with its attachments | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN12.4 | Explain anatomical basis of carpal tunnel syndrome | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN12.5 | Identify & describe small muscles of hand. Also describe movements of thumb and muscles involved | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN12.6 | Describe & demonstrate movements of thumb and muscles involved | K,S | SH | Y | Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN12.7 | Identify & describe course and branches of important blood vessels and nerves in hand | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN12.8 | Describe anatomical basis of Claw hand | K | KH | Y | LGT, Demonstration, Practical | Written/ Viva voce | |
| AN12.9 | Identify & describe fibrous flexor sheaths, ulnar bursa, radial bursa and digital synovial sheaths | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce | |
| AN12.10 | Explain infection of fascial spaces of palm | K | KH | N | LGT | Written | |
| AN12.11 | Identify, describe and demonstrate important muscle groups of dorsal forearm with attachments, nerve supply and actions | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN12.12 | Identify & describe origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of forearm | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|------------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN12.13 | Describe the anatomical basis of Wrist drop | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN12.14 | Identify & describe compartments deep to extensor retinaculum and describe the boundaries and contents of anatomical snuff box. | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN12.15 | Identify & describe extensor expansion formation | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| Topic 13: General Features, Joints, radiographs & surface marking | | Number of competencies: (8) | | | Number of competencies for certification: (NIL) | | |
| AN13.1 | Describe and explain Fascia of upper limb and compartments, veins of upper limb and its lymphatic drainage | K | KH | Y | LGT, demonstration | Written/ Viva voce | |
| AN13.2 | Describe dermatomes of upper limb | K | KH | N | LGT | Written/ Viva voce | |
| AN13.3 | Identify & describe the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements, blood and nerve supply of elbow joint, proximal and distal radio-ulnar joints, wrist joint & first carpometacarpal joint | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN13.4 | Describe Sternoclavicular joint, Acromioclavicular joint, Carpometacarpal joints & Metacarpophalangeal joint | K | KH | N | LGT, Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN13.5 | Identify the bones and joints of upper limb seen in anteroposterior and lateral view radiographs of shoulder region, arm, elbow, forearm and hand | K,S | SH | Y | LGT, Practical, Demonstration | Viva voce/ skill assessment | |
| AN13.6 | Identify & demonstrate important bony landmarks of upper limb: Jugular notch, sternal angle, acromial angle, spine of the scapula, vertebral level of the medial end and Inferior angle of the scapula | K,S | SH | Y | Practical, Demonstration | Viva voce/ skill assessment | |

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|--|--|-----------------------------------|------------------------|--|---|--------------------------------------|------------------------------|
| AN13.7 | Identify & demonstrate surface projection of: Cephalic and basilic vein, Palpation of Brachial artery, Radial artery, Testing of muscles: Trapezius, pectoralis major, serratus anterior, latissimus dorsi, deltoid, biceps brachii, Brachioradialis | K,S | SH | Y | Practical, Demonstration | Viva voce/ skill assessment | |
| AN13.8 | Describe development of upper limb | K | KH | N | LGT | Written | |
| Topic 14: Features of individual bones (Lower Limb) | | Number of Competencies (4) | | Number of competencies for certification: (NIL) | | | |
| AN14.1 | Identify the given bone, its side, anatomical position, joint formation, important features and clinical anatomy (hip bone, femur, tibia fibula, tarsal bones) | K,S | SH | Y | Demonstration | Viva voce | |
| AN14.2 | Identify & describe joints formed by the given bone | K,S | SH | Y | LGT, Demonstration | Viva voce | |
| AN14.3 | Describe the importance of ossification of lower end of femur & upper end of tibia, and explain violation of law of ossification in fibula | K | KH | Y | LGT, Demonstration | Viva voce | |
| AN14.4 | Identify and name various bones in the articulated foot with individual muscle attachment | K,S | SH | N | LGT, Demonstration | Viva voce | |
| Topic 15: Front & Medial side of thigh | | Number of Competencies (5) | | Number of competencies for certification: (NIL) | | | |
| AN15.1 | Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of anterior thigh | K,S | SH | Y | LGT, Dissection, Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN15.2 | Describe and demonstrate major muscles with their attachment, nerve supply and actions | K,S | SH | Y | LGT, Dissection, Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN15.3 | Describe and demonstrate boundaries, floor, roof and contents of femoral triangle | K,S | SH | Y | LGT, Dissection, Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN15.4 | Explain anatomical basis of Psoas abscess & Femoral hernia | K | KH | N | LGT, Demonstration | Written/ Viva voce | |

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|---|--|-----------------------------------|------------------------|--|-------------------------------------|--------------------------------------|------------------------------|
| AN15.5 | Describe and demonstrate adductor canal with its contents | K,S | SH | Y | LGT, Demonstration | Written/ Viva voce/ skill assessment | |
| Topic 16: Gluteal region & back of thigh | | Number of Competencies (6) | | Number of competencies for certification: (NIL) | | | |
| AN16.1 | Describe and demonstrate major muscles with their attachment, nerve supply and actions. | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN16.2 | Describe and demonstrate structures under the cover of gluteus maximus. Also explain the anatomical basis of sciatic nerve injury during gluteal intramuscular injections | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN16.3 | Explain the anatomical basis of Trendelenburg sign | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN16.4 | Describe and demonstrate the hamstrings group of muscles with their attachment, nerve supply and actions | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN16.5 | Describe and demonstrate the origin, course, relations, branches (or tributaries), termination of important nerves and vessels on the back of thigh | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN16.6 | Describe and demonstrate the boundaries, roof, floor, contents and relations of popliteal fossa with its clinical anatomy | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |
| Topic 17: Hip Joint | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN17.1 | Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply, bursae around the hip joint | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |

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|---|--|-----------------------------------|------------------------|--|-------------------------------------|--------------------------------------|------------------------------|
| AN17.2 | Describe anatomical basis of complications of fracture neck of femur | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| AN17.3 | Describe dislocation of hip joint and surgical hip replacement | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| Topic 18: Knee joint, Anterior compartment of leg & dorsum of foot | | Number of Competencies (7) | | Number of competencies for certification: (NIL) | | | |
| AN18.1 | Describe and demonstrate major muscles of anterior compartment of leg with their attachment, nerve supply and actions | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN18.2 | Describe and demonstrate origin, course, relations, branches (or tributaries), termination of important nerves and vessels of anterior compartment of leg | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN18.3 | Explain the anatomical basis of foot drop | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN18.4 | Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, nerve supply, bursae around the knee joint along with anastomosis around the knee joint | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN18.5 | Explain the anatomical basis of locking and unlocking of the knee joint | K | KH | Y | LGT, Demonstration, Practical | Written/ Viva voce | |
| AN18.6 | Describe knee joint injuries with its applied anatomy | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| AN18.7 | Explain anatomical basis of Osteoarthritis | K | KH | N | LGT | Written/ Viva voce | |
| Topic 19: Back of Leg & Sole | | Number of Competencies (7) | | Number of competencies for certification: (NIL) | | | |
| AN19.1 | Describe and demonstrate the major muscles of back of leg with their attachment, nerve supply and actions | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |

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|---|---|-------------------------------|------------------------|---|--|--------------------------------------|------------------------------|
| AN19.2 | Describe and demonstrate the origin, course, relations, branches (or tributaries), termination of important nerves and vessels of back of leg | K,S | SH | Y | Dissection, LGT, SGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN19.3 | Explain the concept of "Peripheral heart" | K | KH | Y | LGT | Written/ Viva voce | |
| AN19.4 | Explain the anatomical basis of rupture of calcaneal tendon | K | KH | N | LGT | Written/ Viva voce | |
| AN19.5 | Describe factors maintaining importance arches of the foot with its importance | K | KH | Y | LGT | Written/ Viva voce | |
| AN19.6 | Explain the anatomical basis of Flat foot & Club foot | K | KH | N | LGT | Written/ Viva voce | |
| AN19.7 | Explain the anatomical basis of Metatarsalgia & Plantar fasciitis | K | KH | N | LGT | Written/ Viva voce | |
| Topic 20: General Features, Joints, radiographs & surface marking | | Number of Competencies (10) | | Number of competencies for certification: (NIL) | | | |
| AN20.1 | Describe and demonstrate the type, articular surfaces, capsule, synovial membrane, ligaments, relations, movements and muscles involved, blood and nerve supply of tibiofibular and ankle joint | K,S | SH | Y | Dissection, LGT, SGT, Demonstration, Practical | Written/ Viva voce/ skill assessment | |
| AN20.2 | Describe the subtalar and transverse tarsal joints | K | KH | N | LGT, Demonstration | Written/ Viva voce | |
| AN20.3 | Describe and demonstrate Fascia lata, Venous drainage, Lymphatic drainage, Retinacula & Dermatomes of lower limb | K,S | SH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce/ skill assessment | |
| AN20.4 | Explain anatomical basis of enlarged inguinal lymph nodes | K | KH | N | LGT | Written/ Viva voce | |
| AN20.5 | Explain anatomical basis of varicose veins and deep vein thrombosis | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN20.6 | Identify the bones and joints of lower limb seen in anteroposterior and lateral view radiographs of various regions of lower limb | K/S | SH | Y | LGT, SGT, Demonstration | Viva voce/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------------------------------|--|------------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN20.7 | Identify & demonstrate important bony landmarks of lower limb: - Vertebral levels of highest point of iliac crest, posterior superior iliac spines, iliac tubercle, pubic tubercle, ischial tuberosity, adductor tubercle, -Tibial tuberosity, head of fibula, -Medial and lateral malleoli, Condyles of femur and tibia, sustentaculum tali, tuberosity of fifth metatarsal, tuberosity of the navicular | K,S | SH | Y | Practical, LGT, SGT, Demonstration | Viva voce/ skill assessment | |
| AN20.8 | Identify & demonstrate palpation of femoral, popliteal, posterior tibial, anterior tibial & dorsalis pedis arteries in a simulated environment | K,S | SH | Y | Practical, LGT, SGT, Demonstration | Viva voce/ skill assessment | |
| AN20.9 | Demonstrate surface projection of: femoral, popliteal, dorsalis pedis, post tibial arteries, Mid inguinal point, femoral nerve, Saphenous opening, Sciatic, tibial, common peroneal & deep peroneal nerve, Great and small saphenous veins | K,S | SH | Y | Practical, LGT, SGT, Demonstration | Viva voce/ skill assessment | |
| AN20.10 | Describe basic concept of development of lower limb | K | KH | N | LGT | Viva voce | |
| Topic 21: Thoracic cage | | Number of Competencies (11) | | | Number of competencies for certification: (NIL) | | |
| AN21.1 | Identify and describe the salient features of sternum, typical rib and typical thoracic vertebra. | K,S | SH | Y | LGT, Dissection, Practical, Demonstration | Viva voce/ skill assessment | |
| AN21.2 | Identify & describe the features of atypical ribs and atypical thoracic vertebrae. | K,S | SH | N | LGT, Dissection, Practical, Demonstration | Viva voce/ skill assessment | |
| AN21.3 | Describe & demonstrate the boundaries of thoracic inlet, cavity and outlet along with its applied aspect.(Thoracic inlet Syndrome) | K/S | SH | Y | LGT, Demonstration | Written/ Viva voce/ skill assessment | |

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|--|--|-----------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN21.4 | Describe & demonstrate extent, attachments, direction of fibres, nerve supply and actions of intercostal muscles | K,S | SH | Y | LGT, Dissection, Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN21.5 | Describe & demonstrate origin, course, relations and branches of a typical intercostal nerve | K,S | SH | Y | LGT, Dissection, Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN21.6 | Mention origin, course and branches/ tributaries of: 1) anterior & posterior intercostal vessels 2) internal thoracic vessels | K | KH | Y | LGT, Dissection, Practical, Demonstration | Written/ Viva voce | |
| AN21.7 | Mention the origin, course, relations and branches of 1) atypical intercostal nerve 2) superior intercostal artery, subcostal artery | K | KH | N | LGT, Dissection, Practical, Demonstration | Written | |
| AN21.8 | Describe & demonstrate type, articular surfaces & movements of manubriosternal, costovertebral, costotransverse and xiphisternal joints | K,S | SH | N | LGT, Demonstration, Dissection, Practical | Written/ Viva voce/ skill assessment | |
| AN21.9 | Describe & demonstrate mechanics and types of respiration | K,S | SH | Y | Demonstration, Dissection, Practical | Written/ Viva voce/ skill assessment | |
| AN21.10 | Describe costochondral and interchondral joints | K | KH | N | LGT, Demonstration, Dissection, Practical | Written/ Viva voce | |
| AN21.11 | Mention boundaries and contents of the superior, anterior, middle and posterior mediastinum | K | KH | Y | LGT, Demonstration, Dissection | Written/ Viva voce | |
| Topic 22: Heart & Pericardium | | Number of Competencies (7) | | | Number of competencies for certification: (NIL) | | |
| AN22.1 | Describe & demonstrate subdivisions, sinuses in pericardium, blood supply and nerve supply of pericardium | K,S | SH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce/ skill assessment | |

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|------------------------------|--|-----------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN22.2 | Describe & demonstrate external and internal features of each chamber of heart | K,S | SH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce/ skill assessment | |
| AN22.3 | Describe & demonstrate origin, course and branches of coronary arteries | K,S | SH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce/ skill assessment | |
| AN22.4 | Describe anatomical basis of ischaemic heart disease | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN22.5 | Describe & demonstrate the formation, course, tributaries and termination of coronary sinus | K,S | SH | Y | LGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN22.6 | Describe the fibrous skeleton of heart | K | KH | Y | LGT | Written | |
| AN22.7 | Mention the parts, position and arterial supply of the conducting system of heart | K | KH | Y | LGT | Written/ Viva voce | |
| Topic 23: Mediastinum | | Number of Competencies (6) | | | Number of competencies for certification: (NIL) | | |
| AN23.1 | Describe & demonstrate the external appearance, relations, blood supply, nerve supply, lymphatic drainage and applied anatomy of oesophagus | K,S | SH | Y | LGT, Demonstration | Written/ Viva voce/ skill assessment | |
| AN23.2 | Describe & demonstrate the extent, relations and tributaries of thoracic duct and enumerate its applied anatomy. | K,S | SH | Y | LGT | Written/ Viva voce/ skill assessment | |
| AN23.3 | Describe & demonstrate origin, course, relations, tributaries and termination of superior vena cava, azygos, hemiazygos and accessory hemiazygos veins | K,S | SH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce/ skill assessment | |
| AN23.4 | Mention the extent, branches and relations of arch of aorta & descending thoracic aorta | K | KH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce | |

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|--------------------------------------|---|-----------------------------------|------------------------|--|---|--------------------------------------|------------------------------|
| AN23.5 | Identify & Mention the location and extent of thoracic sympathetic chain | K,S | SH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce/ skill assessment | |
| AN23.6 | Describe the splanchnic nerves | K | KH | N | LGT | Written | |
| Topic 24: Lungs & Trachea | | Number of Competencies (6) | | Number of competencies for certification: (NIL) | | | |
| AN24.1 | Mention the blood supply, lymphatic drainage and nerve supply of pleura, extent of pleura and describe the pleural recesses and their applied anatomy | K | KH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce | |
| AN24.2 | Identify side, external features and relations of structures which form root of lung & bronchial tree and their clinical correlate | K,S | SH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce/ skill assessment | |
| AN24.3 | Describe a bronchopulmonary segment with its clinical anatomy | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN24.4 | Identify phrenic nerve & describe its formation & distribution | K,S | SH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN24.5 | Mention the blood supply, lymphatic drainage and nerve supply of lungs | K | KH | Y | LGT, Demonstration, Dissection, Practical | Written/ Viva voce | |
| AN24.6 | Describe the extent, length, relations, blood supply, lymphatic drainage and nerve supply of trachea | K | KH | N | LGT, Demonstration | Written | |
| Topic 25: Thorax | | Number of Competencies (9) | | Number of competencies for certification: (NIL) | | | |
| AN25.1 | Identify, draw and label a slide of trachea and lung | K,S | SH | Y | LGT, Demonstration, Practical | Written/ skill assessment | |
| AN25.2 | Describe development of pleura, lung & heart | K | KH | Y | LGT | Written | |
| AN25.3 | Describe fetal circulation and changes occurring at birth | K | KH | Y | LGT, Demonstration | Written | |

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| AN25.4 | Describe embryological basis of: 1) atrial septal defect, 2) ventricular septal defect, 3) Fallot's tetralogy & 4) tracheoesophageal fistula | K | KH | Y | LGT | Written/ Viva voce | |
| AN25.5 | Describe developmental basis of congenital anomalies, transposition of great vessels, dextrocardia, patent ductus arteriosus and coarctation of aorta | K | KH | Y | LGT | Written/ Viva voce | |
| AN25.6 | Mention development of aortic arch arteries, SVC, IVC and coronary sinus | K | KH | N | LGT | Written/ Viva voce | |
| AN25.7 | Identify structures seen on a plain x-ray chest (PA view) | K,S | SH | Y | LGT, Demonstration, Practical | Written/ Viva voce | |
| AN25.8 | Identify and describe in brief a barium swallow | K,S | SH | N | LGT, Demonstration, Practical | Written/ Viva voce | |
| AN25.9 | Demonstrate surface marking of lines of pleural reflection, lung borders and fissures, trachea, heart borders, apex beat & surface projection of valves of heart | K,S | SH | Y | Demonstration, Practical | Viva voce/ skill assessment | |
| Topic 26: Skull osteology | | Number of Competencies (7) | | | Number of competencies for certification: (NIL) | | |
| AN26.1 | Describe & demonstrate anatomical position of skull, Identify and locate individual skull bones in skull | K,S | SH | Y | LGT, Demonstration | Viva voce/ skill assessment | |
| AN26.2 | Describe & demonstrate the features of norma frontalis, verticalis, occipitalis, lateralis and basalis | K,S | SH | Y | LGT, Demonstration | Viva voce/ skill assessment | |
| AN26.3 | Describe & demonstrate cranial cavity, its subdivisions, foramina and structures passing through them | K,S | SH | Y | LGT, Demonstration | Viva voce/ skill assessment | |
| AN26.4 | Describe & demonstrate morphological features of mandible | K,S | SH | Y | LGT, Demonstration | Viva voce/ skill assessment | |
| AN26.5 | Describe & demonstrate features of typical and atypical cervical vertebrae (atlas and axis) | K,S | SH | Y | LGT, Demonstration | Viva voce/ skill assessment | |
| AN26.6 | Explain the concept of bones that ossify in membrane | K | KH | N | LGT | Viva voce | |

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| AN26.7 | Describe & demonstrate the features of the 7th cervical vertebra | K,S | SH | N | LGT, Demonstration | Viva voce | |
| Topic 27: Scalp | | Number of Competencies (2) | | Number of competencies for certification: (NIL) | | | |
| AN27.1 | Describe & demonstrate the layers of scalp, its blood supply, nerve supply and surgical importance. | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN27.2 | Describe emissary veins with its role in the spread of infection from extracranial route to intracranial venous sinuses | K | KH | Y | LGT, Practical, Demonstration, Dissection | Written | |
| Topic 28: Face & parotid region | | Number of Competencies (10) | | Number of competencies for certification: (NIL) | | | |
| AN28.1 | Describe & demonstrate muscles of facial expression and their nerve supply | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN28.2 | Describe sensory innervation of face | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |
| AN28.3 | Describe & demonstrate origin /formation, course, branches /tributaries of facial vessels | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN28.4 | Describe & demonstrate branches of facial nerve with distribution | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN28.5 | Describe cervical lymph nodes and lymphatic drainage of head, face and neck | K | KH | Y | LGT | Written/ Viva voce | |
| AN28.6 | Identify superficial muscles of face, their nerve supply and actions | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-----------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN28.7 | Explain the anatomical basis of facial nerve palsy | K | KH | Y | LGT | Written | |
| AN28.8 | Explain surgical importance of deep facial vein | K | KH | Y | LGT | Written | |
| AN28.9 | Describe & demonstrate the parts, borders, surfaces, contents, relations and nerve supply of parotid gland with course of its duct and surgical importance | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN28.10 | Explain the anatomical basis of Frey's syndrome | K | KH | N | LGT | Written | |
| Topic 29: Posterior triangle of neck | | Number of Competencies (5) | | | Number of competencies for certification: (NIL) | | |
| AN29.1 | Describe and demonstrate the boundaries, subdivisions and contents of posterior triangle of neck | K, S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN29.2 | Describe & demonstrate attachments, nerve supply, relations and actions of sternocleidomastoid | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN29.3 | Explain anatomical basis of Erb's & Klumpke's palsy | K | KH | Y | LGT, Demonstration | Written | |
| AN29.4 | Explain anatomical basis of wry neck | K | KH | N | LGT, Demonstration | Written | |
| AN29.5 | Describe & demonstrate attachments of 1) inferior belly of omohyoid, 2) scalenus anterior, 3) scalenus medius & 4) levator scapulae | K,S | SH | N | LGT, Practical, Demonstration, Dissection | Written/ Viva voce | |
| Topic: 30 Cranial cavity | | Number of Competencies (5) | | | Number of competencies for certification: (NIL) | | |
| AN30.1 | Describe the cranial fossae & identify related structures | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |

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| AN30.2 | Describe & identify major foramina with structures passing through them | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN30.3 | Describe & identify dural folds & dural venous sinuses | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN30.4 | Describe clinical importance of dural venous sinuses | K | KH | Y | LGT | Written | |
| AN30.5 | Explain effect of pituitary tumours on visual pathway | K | KH | N | LGT | Written | |
| Topic 31: Orbit | | Number of Competencies (5) | | | Number of competencies for certification: (NIL) | | |
| AN31.1 | Describe & identify extra ocular muscles of eyeball, along with a note on its attachment, action and clinical anatomy | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN31.2 | Describe & demonstrate nerves and vessels in the orbit | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN31.3 | Describe anatomical basis of Horner's syndrome | K | KH | N | LGT | Written | |
| AN31.4 | Describe the components of lacrimal apparatus | K | KH | Y | LGT | Written | |
| AN31.5 | Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus | K | KH | Y | LGT | Written | |
| Topic 32: Anterior Triangle | | Number of Competencies (2) | | | Number of competencies for certification: (NIL) | | |
| AN32.1 | Describe boundaries and subdivisions of anterior triangle | K | KH | Y | LGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|------------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN32.2 | Describe & demonstrate boundaries and contents of muscular, carotid, digastric and submental triangles | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| Topic 33: Temporal and Infratemporal regions | | Number of Competencies (5) | | | Number of competencies for certification: (NIL) | | |
| AN33.1 | Describe & demonstrate extent, boundaries and contents of temporal and infratemporal fossae | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN33.2 | Describe & demonstrate attachments, direction of fibres, nerve supply and actions of muscles of mastication | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN33.3 | Describe & demonstrate articulating surface, type & movements of temporomandibular joint | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN33.4 | Explain the clinical significance of pterygoid venous plexus | K | KH | Y | LGT | Written | |
| AN33.5 | Describe the features of dislocation of temporomandibular joint | K | KH | N | LGT | Written | |
| Topic 34: Submandibular region | | Number of Competencies (3) | | | Number of competencies for certification: (NIL) | | |
| AN34.1 | Describe and demonstrate the superficial and deep structures, muscles, nerves, vessels, and glands in the submandibular region | K,S | SH | Y | LGT, Dissection, Practical, Demonstration | Written/Viva/ Skill Assessment | |
| AN34.2 | Describe & demonstrate the morphology, relations and nerve supply of submandibular salivary gland & submandibularganglion | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN34.3 | Describe the basis of formation of submandibular stones | K | KH | N | LGT | Written | |
| Topic 35: Deep structures in the neck | | Number of Competencies (10) | | | Number of competencies for certification: (NIL) | | |
| AN35.1 | Describe the parts, extent, attachments, modifications of deep cervical fascia | K | KH | Y | LGT | Written | |

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|--|---|-----------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN35.2 | Describe & demonstrate location, parts, borders, surfaces, relations, blood supply & applied anatomy of thyroid gland. Also describe the parathyroid glands in brief. | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN35.3 | Demonstrate & describe the origin, parts, course & branches subclavian artery | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN35.4 | Describe & demonstrate origin, course, relations, tributaries and termination of internal jugular & brachiocephalic veins | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN35.5 | Describe and demonstrate extent, drainage & applied anatomy of cervical lymph nodes | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN35.6 | Describe and demonstrate the extent, formation, relation & branches of cervical sympathetic chain | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN35.7 | Describe the course and branches of IX, X, XI & XII nerve in the neck | K | KH | Y | LGT | Written | |
| AN35.8 | Describe the anatomically relevant clinical features of Thyroid swellings | K | KH | N | LGT, Demonstration | Written | |
| AN35.9 | Describe the clinical features of compression of subclavian artery and lower trunk of brachial plexus by cervical rib | K | KH | N | LGT | Written | |
| AN35.10 | Describe the fascial spaces of neck | K | KH | N | LGT | Written | |
| Topic 36: Mouth, Pharynx & Palate | | Number of Competencies (7) | | | Number of competencies for certification: (NIL) | | |
| AN36.1 | Describe and demonstrate the structures of the vestibule of the mouth and oral cavity proper. | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |

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| AN36.2 | Describe the 1) morphology, relations, blood supply and applied anatomy of palatine tonsil 2) composition of soft palate | K | KH | Y | LGT, Practical, Demonstration, Dissection | Written | |
| AN36.3 | Describe and demonstrate the muscles, nerve supply, blood supply and lymphatic drainage of the pharynx | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN36.4 | Describe the components and functions of Waldeyer's lymphatic ring | K | KH | Y | LGT | Written | |
| AN36.5 | Describe the pharyngeal spaces. Also describe the boundaries and clinical significance of pyriform fossa | K | KH | N | LGT | Written | |
| AN36.6 | Describe the anatomical basis of tonsillitis, tonsillectomy, adenoids and peri-tonsillar abscess | K | KH | N | LGT | Written | |
| AN36.7 | Describe the clinical significance of Killian's dehiscence | K | KH | N | LGT | Written | |
| Topic 37: Cavity of Nose | | Number of Competencies (3) | | | Number of competencies for certification: (NIL) | | |
| AN37.1 | Describe & demonstrate features of nasal septum, lateral wall of nose, their blood supply and nerve supply | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN37.2 | Describe location and functional anatomy of paranasal sinuses | K | KH | Y | LGT, Practical, Demonstration | Written | |
| AN37.3 | Describe anatomical basis of sinusitis & maxillary sinus tumours | K | KH | N | LGT | Written | |
| Topic 38: Larynx | | Number of Competencies (3) | | | Number of competencies for certification: (NIL) | | |
| AN38.1 | Describe & demonstrate the morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscles of the larynx | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN38.2 | Describe the anatomical aspects of laryngitis | K | KH | N | LGT | Written | |

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| AN38.3 | Describe anatomical basis of recurrent laryngeal nerve injury | K | KH | N | LGT | Written | |
| Topic 39: Tongue | | Number of Competencies (2) | | Number of competencies for certification: (NIL) | | | |
| AN39.1 | Describe & demonstrate the morphology, nerve supply, embryological basis of nerve supply, blood supply, lymphatic drainage and actions of extrinsic and intrinsic muscles of tongue | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN39.2 | Explain the anatomical basis of hypoglossal nerve palsy | K | KH | N | LGT | Written | |
| Topic 40: Organs of hearing and equilibrium | | Number of Competencies (5) | | Number of competencies for certification: (NIL) | | | |
| AN40.1 | Describe & identify the parts, blood supply and nerve supply of external ear | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN40.2 | Describe & demonstrate the boundaries, contents, relations and functional anatomy of middle ear and auditory tube | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN40.3 | Describe the features of internal ear | K | KH | N | LGT | Written | |
| AN40.4 | Explain anatomical basis of otitis externa and otitis media | K | KH | N | LGT | Written | |
| AN40.5 | Explain anatomical basis of myringotomy | K | KH | N | LGT | Written | |
| Topic 41: Eyeball | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN41.1 | Describe & demonstrate parts and layers of eyeball | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN41.2 | Describe the anatomical aspects of cataract, glaucoma & central retinal artery occlusion | K | KH | N | LGT | Written | |
| AN41.3 | Describe the position, nerve supply and actions of intraocular muscles | K | KH | N | LGT, Practical, Demonstration | Written | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-----------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| Topic 42: Back Region | | Number of Competencies (3) | | | Number of competencies for certification: (NIL) | | |
| AN42.1 | Describe and demonstrate the contents of the vertebral canal | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN42.2 | Describe & demonstrate the boundaries and contents of Suboccipital triangle | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN42.3 | Describe the position, direction of fibres, relations, nerve supply, actions of semispinalis capitis and splenius capitis | K | KH | N | LGT | Written | |
| Topic 43: Head & neck Joints, Histology, Development, Radiography & Surface marking | | Number of Competencies (9) | | | Number of competencies for certification: (NIL) | | |
| AN43.1 | Describe & demonstrate the movements with muscles producing the movements of atlantooccipital joint & atlantoaxial joint | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN43.2 | Identify, describe and draw the microanatomy of pituitary gland, thyroid, parathyroid gland, tongue, salivary glands, tonsil, epiglottis, cornea, retina | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| AN43.3 | Identify, describe and draw microanatomy of olfactory epithelium, eyelid, lip, sclero-corneal junction, optic nerve, cochlea- organ of corti, pineal gland | K,S | SH | N | LGT, Practical | Written/ skill assessment | |
| AN43.4 | Describe the development and developmental basis of congenital anomalies of face, palate, tongue, branchial apparatus, pituitary gland, thyroid gland & eye | K | KH | Y | LGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-----------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN43.5 | Demonstrate- 1) Testing of muscles of facial expression, extraocular muscles, muscles of mastication, 2) Palpation of carotid arteries, facial artery, superficial temporal artery, 3) Location of internal and external jugular veins, 4) Location of hyoid bone, thyroid cartilage and cricoid cartilage with their vertebral levels | K,S | SH | Y | Practical, Demonstration | Viva voce/ skill assessment | |
| AN43.6 | Demonstrate surface projection of- Thyroid gland, Parotid gland and duct, Pterion, Common carotid artery, Internal jugular vein, Subclavian vein, External jugular vein, Facial artery in the face & accessory nerve | K,S | SH | N | Practical, Demonstration | Viva voce/ skill assessment | |
| AN43.7 | Identify the anatomical structures in 1) Plain x-ray skull, 2) AP view and lateral view 3) Plain x-ray cervical spine-AP and lateral view 4) Plain x- ray of paranasal sinuses | K,S | SH | Y | Practical, Demonstration | Viva voce/ skill assessment | |
| AN43.8 | Describe the anatomical route used for carotid angiogram and vertebral angiogram | K | KH | N | LGT | Viva voce/ skill assessment | |
| AN43.9 | Identify anatomical structures in carotid angiogram and vertebral angiogram | K,S | SH | N | Practical, Demonstration | Viva voce/ skill assessment | |
| Topic 44: Anterior abdominal wall | | Number of Competencies (7) | | | Number of competencies for certification: (NIL) | | |
| AN44.1 | Describe & demonstrate the Planes (transpyloric, transtuberular, subcostal, lateral vertical, linea alba, linea semilunaris), regions & Quadrants of abdomen | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN44.2 | Describe & identify the Fascia, nerves & blood vessels of anterior abdominal wall | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN44.3 | Describe the formation of rectus sheath and its contents | K | KH | Y | LGT, Practical, Demonstration, | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| AN44.4 | Describe & demonstrate extent, boundaries, contents of Inguinal canal including Hesselbach's triangle. | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN44.5 | Explain the anatomical basis of inguinal hernia. | K | KH | Y | LGT | Written/ Viva voce | |
| AN44.6 | Describe & demonstrate attachments of muscles of anterior abdominal wall | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN44.7 | Describe common abdominal incisions with example and their clinical importance | K | KH | N | LGT | Written | |
| Topic 45: Posterior abdominal wall | | Number of Competencies (3) | | | Number of competencies for certification: (NIL) | | |
| AN45.1 | Describe Thoracolumbar fascia, its different layers, their attachments and extents | K | KH | Y | LGT | Written | |
| AN45.2 | Describe & demonstrate Lumbar plexus, its root value, formation, branches and clinical anatomy (compression/ injury to the rootlets of lumbar plexus) | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN45.3 | Describe and demonstrate back muscles, nerve supply and action | K | KH | N | LGT | Written | |
| Topic 46: Male external genitalia | | Number of Competencies (5) | | | Number of competencies for certification: (NIL) | | |
| AN46.1 | Describe & demonstrate coverings, internal structure, side determination, blood supply, nerve supply, lymphatic drainage & descent of testis with its applied anatomy | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN46.2 | Describe parts of Epididymis | K | KH | Y | LGT, Dissection | Written/ Viva voce | |
| AN46.3 | Describe Penis under following headings: (parts, components, blood supply and lymphatic drainage) | K | KH | Y | LGT, Dissection | Written/ Viva voce | |
| AN46.4 | Explain the anatomical basis of Varicocele | K | KH | N | LGT | Written | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| AN46.5 | Explain the anatomical basis of Phimosis & Circumcision | K | KH | N | LGT | Written | |
| Topic 47: Abdominal cavity | | Number of Competencies (14) | | Number of competencies for certification: (NIL)(NIL) | | | |
| AN47.1 | Describe & demonstrate horizontal and vertical tracing of peritoneum. Also describe boundaries and recesses of Lesser & Greater sac. | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN47.2 | Name & identify various peritoneal folds & pouches with its explanation | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN47.3 | Explain anatomical basis of Ascites & Peritonitis | K | KH | N | LGT | Written | |
| AN47.4 | Explain anatomical basis of Subphrenic abscess | K | KH | N | LGT | Written | |
| AN47.5 | Describe & demonstrate major viscera of abdomen under following headings (anatomical position, external and internal features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and applied aspects) | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN47.6 | Explain the anatomical basis of Splenic notch, Accessory spleens, Kehr's sign, Different types of vagotomy, Liver biopsy (site of needle puncture), Referred pain in cholecystitis, Obstructive jaundice, Referred pain around umbilicus, Radiating pain of kidney to groin & Lymphatic spread in carcinoma stomach | K | KH | N | LGT | Written | |
| AN47.7 | Demonstrate boundaries of Calot's triangle and mention its clinical importance | K | KH | N | LGT | Written | |
| AN47.8 | Describe & identify the formation, course relations and tributaries of Portal vein, Inferior vena cava & Renal vein | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| AN47.9 | Describe & identify the origin, course, important relations and branches of Abdominal aorta, Coeliac trunk, Superior mesenteric, Inferior mesenteric & Common iliac artery | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN47.10 | Describe sites of portosystemic anastomosis, describe its applied anatomy and anatomical correlations | K | KH | Y | LGT | Written | |
| AN47.11 | Explain the anatomic basis of hematemesis & caput medusae in portal hypertension | K | KH | Y | LGT, | Written/ Viva voce | |
| AN47.12 | Describe important nerve plexuses of posterior abdominal wall | K | KH | N | LGT | Written | |
| AN47.13 | Describe & demonstrate the attachments, openings, nerve supply & action of the thoracoabdominal diaphragm | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN47.14 | Describe the abnormal openings of thoracoabdominal diaphragm and diaphragmatic hernia | K | KH | N | LGT | Written | |
| Topic 48: Pelvic wall and viscera | | Number of Competencies (8) | | | Number of competencies for certification: (NIL) | | |
| AN48.1 | Describe & demonstrate the position, features, important peritoneal and other relations, blood supply, nerve supply, lymphatic drainage and clinical aspects of important male & female pelvic viscera. | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN48.2 | Describe & identify the muscles of Pelvic diaphragm. | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN48.3 | Describe & demonstrate the origin, course, important relations and branches of internal iliac artery | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN48.4 | Describe the branches of sacral plexus | K | KH | Y | LGT | Written | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-----------------------------------|--|-----------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN48.5 | Explain the anatomical basis of suprapubic cystostomy, Urinary obstruction in benign prostatic hypertrophy, Retroverted uterus, Prolapse uterus, Internal and external haemorrhoids, Anal fistula, Vasectomy, Tubal pregnancy & Tubal ligation | K | KH | N | LGT | Written | |
| AN48.6 | Describe the neurological basis of Automatic bladder | K | KH | Y | LGT | Written | |
| AN48.7 | Mention the lobes involved in benign prostatic hypertrophy & prostatic cancer | K | KH | N | LGT | Written | |
| AN48.8 | Mention the structures palpable during vaginal & rectal examination | K | KH | N | LGT | Written | |
| Topic 49: Perineum | | Number of Competencies (5) | | | Number of competencies for certification: (NIL) | | |
| AN49.1 | Describe & demonstrate the superficial & deep perineal pouch (boundaries and contents) | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill | |
| AN49.2 | Describe & identify Perineal body | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN49.3 | Describe & demonstrate Perineal membrane in male & female | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN49.4 | Describe & demonstrate boundaries, content & applied anatomy of Ischiorectal fossa | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN49.5 | Explain the anatomical basis of Perineal tear, Episiotomy, Perianal abscess and Anal fissure | K | KH | N | LGT | Written | |
| Topic 50: Vertebral column | | Number of Competencies (4) | | | Number of competencies for certification: (NIL) | | |
| AN50.1 | Describe the curvatures of the vertebral column | K | KH | Y | LGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-----------------------------------|------------------------|---------------|--|--------------------------------------|------------------------------|
| AN50.2 | Describe & demonstrate the type, articular ends, ligaments and movements of Intervertebral joints, Sacroiliac joints & Pubic symphysis | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN50.3 | Describe lumbar puncture (site, direction of the needle, structures pierced during the lumbar puncture) | K | KH | Y | LGT | Written/ Viva voce | |
| AN50.4 | Explain the anatomical basis of Scoliosis, Lordosis, Prolapsed disc, Spondylolisthesis & Spina bifida | K | KH | N | LGT | Written | |
| Topic 51: Sectional Anatomy | | Number of Competencies (2) | | | Number of competencies for certification: (NIL) | | |
| AN51.1 | Describe & identify the cross-section at the level of T8, T10 and L1 (transpyloric plane) | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| AN51.2 | Describe & identify the midsagittal section of male and female pelvis | K | SH | Y | Dissection, LGT, SGT, DOAP | Written/ Viva voce/ skill assessment | |
| Topic 52: Histology & Embryology | | Number of Competencies (8) | | | Number of competencies for certification: (NIL) | | |
| AN52.1 | Describe & identify the microanatomical features of Gastro-intestinal system: Oesophagus, Fundus of stomach, Pylorus of stomach, Duodenum, Jejunum, Ileum, Large intestine, Appendix, Liver, Gall bladder, Pancreas & Suprarenal gland | K,S | SH | Y | LGT, Demonstration, Practical | Written/ skill assessment | |
| AN52.2 | Describe & identify the microanatomical features of: Urinary system: Kidney, Ureter & Urinary bladder Male Reproductive System: Testis, Epididymis, Vas deferens, Prostate & penis Female reproductive system: Ovary, Uterus, Uterine tube, Cervix, Placenta & Umbilical cord | K,S | SH | Y | LGT, Demonstration, Practical | Written/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| AN52.3 | Describe & identify the microanatomical features of Cardiooesophageal junction, Corpus luteum | K,S | SH | N | LGT, Demonstration, Practical | Written/ skill assessment | |
| AN52.4 | Describe the development of anterior abdominal wall | K | KH | N | LGT | Written/ Viva voce | |
| AN52.5 | Describe the development and congenital anomalies of Diaphragm | K | KH | Y | LGT | Written/ Viva voce | |
| AN52.6 | Describe the development and congenital anomalies of: Foregut, Midgut & Hindgut | K | KH | Y | LGT | Written/ Viva voce | |
| AN52.7 | Describe the development of Urinary system | K | KH | Y | LGT | Written/ Viva voce | |
| AN52.8 | Describe the development of male & female reproductive system | K | KH | Y | LGT | Written/ Viva voce | |
| Topic 53: Osteology | | Number of Competencies (4) | | | Number of competencies for certification: (NIL) | | |
| AN53.1 | Identify & hold the bone in the anatomical position, Describe the salient features, articulations & demonstrate the attachments of muscle groups | K,S | SH | Y | LGT, Demonstration, Practical | Viva voce/ skill assessment | |
| AN53.2 | Demonstrate the anatomical position of bony pelvis & show boundaries of pelvic inlet, pelvic cavity, pelvic outlet | K,S | SH | Y | LGT, DOAP | Viva voce/ skill assessment | |
| AN53.3 | Define true pelvis and false pelvis and demonstrate sex determination in male & female bony pelvis | K,S | SH | Y | LGT, DOAP | Viva voce/ skill assessment | |
| AN53.4 | Explain and demonstrate clinical importance of bones of abdominopelvic region (sacralization of lumbar vertebra, Lumbarization of 1st sacral vertebra, types of bony pelvis & Coccyx) | K,S | SH | N | LGT, DOAP | Viva voce/ skill assessment | |
| Topic 54: Radiodiagnosis | | Number of Competencies (4) | | | Number of competencies for certification: (NIL) | | |
| AN54.1 | Describe the principles of Plain and contrast radiography, Computed Tomography, Magnetic Resonance Imaging, Positron Emission Tomography scan and Digital subtraction angiography | K | KH | Y | LGT | Viva voce/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------------------------------|--|-----------------------------------|------------------------|--|---|--------------------------------------|------------------------------|
| AN54.2 | Describe & identify features of plain X ray abdomen | K,S | SH | Y | LGT, DOAP | Viva voce/ skill assessment | |
| AN54.3 | Describe & identify the special radiographs of abdominopelvic region (contrast X ray Barium swallow, Barium meal, Barium enema, Cholecystography, Intravenous pyelography & Hysterosalpingography) | K,S | SH | Y | LGT, DOAP | Viva voce/ skill assessment | |
| AN54.4 | Describe role of ERCP, CT abdomen, MRI, Arteriography in radiodiagnosis of abdomen | K | KH | N | LGT | Viva voce | |
| Topic 55: Surface marking | | Number of Competencies (2) | | Number of competencies for certification: (NIL) | | | |
| AN55.1 | Demonstrate the surface marking of Regions and planes of abdomen, Superficial inguinal ring, Deep inguinal ring, McBurney's point, Renal Angle & Murphy's point | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Viva voce/ skill assessment | |
| AN55.2 | Demonstrate the surface projections of: Stomach, Liver, Fundus of gall bladder, Spleen, Duodenum, Pancreas, Ileocaecal junction, Kidneys & Root of mesentery | K,S | SH | Y | Dissection, LGT, SGT, DOAP | Viva voce/ skill assessment | |
| Topic 56: Meninges & CSF | | Number of Competencies (2) | | Number of competencies for certification: (NIL) | | | |
| AN56.1 | Describe & identify various layers of meninges with its extent & modifications | K,S | SH | Y | LGT, Practical, Demonstration, Dissection | Written/ Viva voce/ skill assessment | |
| AN56.2 | Describe formation, circulation and absorption of CSF with its applied anatomy. | K | KH | Y | LGT | Written/ Viva voce | |
| Topic 57 : Spinal Cord | | Number of Competencies (5) | | Number of competencies for certification: (NIL) | | | |
| AN57.1 | Identify external features of spinal cord | K,S | SH | Y | Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN57.2 | Describe extent of spinal cord in child & adult with its clinical implication | K | KH | Y | LGT, Demonstration | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| AN57.3 | Draw & label transverse section of spinal cord at mid-cervical & mid-thoracic level | K | KH | Y | LGT | Written/ Viva voce | |
| AN57.4 | Enumerate ascending & descending tracts at mid thoracic level of spinal cord | K | KH | Y | LGT | Written/ Viva voce | |
| AN57.5 | Describe the anatomical basis of clinical conditions affecting the grey and white matter of spinal cord (Brown-Sequard Syndrome, Poliomyelitis, Amyotrophic lateral sclerosis or motor neuron disease, Syringomyelia, Hereditary sensory neuropathy, Subacute Combined degeneration, Transversemyelitis, paraplegia) | K | KH | Y | LGT | Written/ Viva voce | |
| Topic 58 : Medulla Oblongata | | Number of Competencies (4) | | Number of competencies for certification: (NIL) | | | |
| AN58.1 | Identify external features of medulla oblongata | K,S | SH | Y | Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN58.2 | Describe transverse section of medulla oblongata at the level of 1) pyramidal decussation, 2) sensory decussation 3) Inferior Olivary Nucleus | K | KH | Y | LGT | Written/ Viva voce | |
| AN58.3 | Describe cranial nerve nuclei in medulla oblongata with their functional group | K | KH | Y | LGT | Written/ Viva voce | |
| AN58.4 | Describe the anatomical basis of clinical conditions affecting the medulla oblongata (Medial and lateral medullary syndromes, Crossed Diplegia) | K | KH | Y | LGT | Written/ Viva voce | |
| Topic 59: Pons | | Number of Competencies (4) | | Number of competencies for certification: (NIL) | | | |
| AN59.1 | Identify external features of pons | K,S | SH | Y | Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN59.2 | Draw & label transverse section of pons at the upper and lower level | K | KH | Y | LGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-----------------------------------|------------------------|--|------------------------------------|--------------------------------------|------------------------------|
| AN59.3 | Describe cranial nerve nuclei in pons with their functional group | K | KH | Y | LGT | Written/ Viva voce | |
| AN59.4 | Describe the anatomical basis of clinical conditions affecting the pons (Locked-in syndrome, Pontine haemorrhage, Foville syndrome, Raymond syndrome, Millard-Gubler syndrome) | K | KH | Y | LGT | Written/ Viva voce | |
| Topic 60: Cerebellum | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN60.1 | Describe & demonstrate external & internal features of cerebellum | K,S | SH | Y | Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN60.2 | Describe connections of cerebellar cortex and intracerebellar nuclei | K | KH | Y | LGT | Written/ Viva voce | |
| AN60.3 | Describe anatomical basis of cerebellar dysfunction | K | KH | N | LGT | Written | |
| Topic 61: Midbrain | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN61.1 | Identify external & internal features of midbrain | K,S | SH | Y | Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN61.2 | Describe internal features of midbrain at the level of superior & inferior colliculus | K | KH | Y | LGT | Written/ Viva voce | |
| AN61.3 | Describe the anatomical basis of clinical conditions affecting the midbrain (Weber syndrome, Benedikt syndrome, Parinaud syndrome) | K | KH | Y | LGT | Written/ Viva voce | |
| Topic 62: Cranial nerve nuclei & Cerebral hemispheres | | Number of Competencies (6) | | Number of competencies for certification: (NIL) | | | |
| AN62.1 | Describe the cranial nerve nuclei with its functional components | K | KH | Y | LGT | Written/ Viva voce | |

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| AN62.2 | Describe & demonstrate surfaces, sulci, gyri, poles, & functional areas of cerebral hemisphere. Also describe the effects of damage to various functional areas of cerebral cortex | K,S | SH | Y | LGT, Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN62.3 | Describe the white matter of cerebrum. Also describe the effects of damage to corpus callosum and different parts of internal capsule | K | KH | Y | LGT | Written/ Viva voce | |
| AN62.4 | Describe the parts & major connections of basal ganglia & limbic lobe. Also explain the anatomical basis of Parkinson's disease, chorea, athetosis and ballismus | K | KH | Y | LGT | Written/ Viva voce | |
| AN62.5 | Describe boundaries, parts, gross relations, major nuclei and connections of dorsal thalamus, hypothalamus, epithalamus, metathalamus and subthalamus | K | KH | Y | LGT | Written/ Viva voce | |
| AN62.6 | Describe & identify formation, branches & major areas of distribution of circle of Willis | K/S | SH | Y | LGT, Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| Topic 63: Ventricular System & Special sensory pathways | | Number of Competencies (3) | | | Number of competencies for certification: (NIL) | | |
| AN63.1 | Describe & demonstrate parts, boundaries & features of 3rd, 4th & lateral ventricle | K,S | SH | Y | LGT, Practical, Demonstration | Written/ Viva voce/ skill assessment | |
| AN63.2 | Describe anatomical basis of congenital hydrocephalus | K | KH | N | LGT | Written | |
| AN63.3 | Describe the olfactory, visual, auditory and gustatory pathways | K | KH | Y | LGT | Written/ Viva voce | |
| Topic 64: Histology & Embryology | | Number of Competencies (3) | | | Number of competencies for certification: (NIL) | | |
| AN64.1 | Describe & identify the microanatomical features of Spinal cord, Cerebellum & Cerebrum | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| AN64.2 | Describe the development of neural tube, spinal cord, medulla oblongata, pons, midbrain, cerebral hemisphere & cerebellum | K | KH | Y | LGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-----------------------------------|------------------------|--|------------------------------------|-----------------------------|------------------------------|
| AN64.3 | Describe various types of open neural tube defects with its embryological basis | K | KH | N | LGT | Written/ Viva voce | |
| Topic 65: Epithelium histology | | Number of Competencies (2) | | Number of competencies for certification: (01) | | | |
| AN65.1 | Identify epithelium under the microscope & describe the various types that correlate to its function | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| AN65.2 | Describe the ultrastructure of epithelium | K | KH | N | LGT, Practical | Written | |
| Topic 66: Connective tissue histology | | Number of Competencies (2) | | Number of competencies for certification: (NIL) | | | |
| AN66.1 | Describe & identify various types of connective tissue with functional correlation | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| AN66.2 | Describe the ultrastructure of connective tissue | K | KH | N | LGT, Practical | Written | |
| Topic 67: Muscle histology | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN67.1 | Describe & identify various types of muscle under the microscope | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| AN67.2 | Classify muscle and describe the structure-function correlation of the same | K | KH | Y | LGT | Written | |
| AN67.3 | Describe the ultrastructure of muscular tissue | K | KH | N | LGT | Written | |
| Topic 68: Nervous tissue histology | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN68.1 | Describe & Identify multipolar & unipolar neuron, ganglia, peripheral nerve under the microscope | K/S | SH | Y | LGT, Practical | Written/ skill assessment | |
| AN68.2 | Describe the structure-function correlation of neuron | K | KH | Y | LGT | Written | |
| AN68.3 | Describe the ultrastructure of nervous tissue | K | KH | N | LGT | Written | |
| Topic 69: Blood Vessels | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN69.1 | Identify elastic & muscular blood vessels, capillaries under the microscope | K,S | SH | Y | LGT, Practical | Skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|-----------------------------------|------------------------|--|------------------------------------|-----------------------------|------------------------------|
| AN69.2 | Describe the various types and structure-function correlation of blood vessel | K | KH | Y | LGT | Written | |
| AN69.3 | Describe the ultrastructure of blood vessels | K | KH | Y | LGT | Written | |
| Topic 70: Glands & Lymphoid tissue | | Number of Competencies (2) | | Number of competencies for certification: (NIL) | | | |
| AN70.1 | Identify exocrine gland under the microscope & distinguish between serous, mucous and mixed acini | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| AN70.2 | Identify the lymphoid tissue under the microscope & describe microanatomy of lymph node, spleen, thymus, tonsil and correlate the structure with function | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| Topic: Bone & Cartilage - Number of Competencies (2) | | | | | | | |
| AN71.1 | Identify bone under the microscope; classify various types and describe the structure-function correlation of the same | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| AN71.2 | Identify cartilage under the microscope & describe various types and structure- function correlation of the same | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| Topic 72: Integumentary System | | Number of Competencies (1) | | Number of competencies for certification: (NIL) | | | |
| AN72.1 | Identify the skin and its appendages under the microscope and correlate the structure with function | K,S | SH | Y | LGT, Practical | Written/ skill assessment | |
| Topic: 73 Chromosomes | | Number of Competencies (3) | | Number of competencies for certification: (NIL) | | | |
| AN73.1 | Describe the structure of chromosomes with classification | K | KH | Y | LGT, Practical | Written | |
| AN73.2 | Describe technique of karyotyping with its applications | K | KH | Y | LGT, Practical | Written | |
| AN73.3 | Describe the Lyon's hypothesis | K | KH | Y | LGT, Practical | Written | |
| Topic 74: Patterns of Inheritance | | Number of Competencies (4) | | Number of competencies for certification: (NIL) | | | |
| AN74.1 | Describe mendelian and non-mendelian inheritance. Explain various modes of inheritance with examples. | K | KH | Y | LGT, Practical | Written | |
| AN74.2 | Draw pedigree charts for the various types of inheritance & give examples of diseases of each mode of inheritance | K | KH | Y | LGT, Practical | Written | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-----------------------------------|------------------------|--|------------------------------------|-----------------------------|------------------------------|
| AN74.3 | Describe multifactorial inheritance with examples | K | KH | Y | LGT, Practical | Written | |
| AN74.4 | Describe the genetic basis & clinical features of Achondroplasia, Cystic Fibrosis, Vitamin D resistant | K | KH | N | LGT, Practical | Written | |
| Topic 75: Principles of Genetics, Chromosomal Aberrations & Clinical Genetics | | Number of Competencies (5) | | Number of competencies for certification: (NIL) | | | |
| AN75.1 | Describe the structural and numerical chromosomal aberrations | K | KH | Y | LGT, Practical | Written | |
| AN75.2 | Explain the terms mosaics and chimeras with example | K | KH | N | LGT | Written | |
| AN75.3 | Describe the genetic basis & clinical features of: Prader Willi syndrome, Edward syndrome, Patau syndrome, Down syndrome, Turner Syndrome & Klinefelter syndrome | K | KH | N | LGT | Written | |
| AN75.4 | Describe genetic basis of variation: polymorphism and mutation | K | KH | Y | LGT | Written | |
| AN75.5 | Describe in brief: genetic counseling, karyotyping, FISH, PCR and genetic sequencing | K | KH | Y | LGT | Written | |
| Topic 76: Introduction to embryology | | Number of Competencies (2) | | Number of competencies for certification: (NIL) | | | |
| AN76.1 | Describe the stages of human life | K | KH | Y | LGT | Written | |
| AN76.2 | Explain the terms- phylogeny, ontogeny, trimester, viability | K | KH | Y | LGT | written | |
| Topic 77: Gametogenesis and fertilization | | Number of Competencies (6) | | Number of competencies for certification: (NIL) | | | |
| AN77.1 | Describe the uterine changes occurring during the menstrual cycle | K | KH | Y | LGT | Written | |
| AN77.2 | Describe the synchrony between the ovarian and menstrual cycles | K | KH | Y | LGT | Written | |
| AN77.3 | Describe spermatogenesis and oogenesis along with diagrams | K | KH | Y | LGT | Written | |
| AN77.4 | Describe the stages and consequences of fertilisation | K | KH | Y | LGT | Written | |
| AN77.5 | Describe the anatomical principles underlying contraception | K | KH | Y | LGT | Written | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-----------------------------------|------------------------|---------------|--|-----------------------------|------------------------------|
| AN77.6 | Describe teratogenic influences: fertility and sterility, surrogate motherhood, social significance of "sex- ratio". | K | KH | N | LGT | Written | |
| Topic 78 : Second week of development | | Number of Competencies (5) | | | Number of competencies for certification: (NIL) | | |
| AN78.1 | Describe cleavage and formation of blastocyst | K | KH | Y | LGT | Written | |
| AN78.2 | Describe the development of trophoblast | K | KH | Y | LGT | Written | |
| AN78.3 | Describe the process of implantation & common abnormal sites of implantation | K | KH | Y | LGT | Written | |
| AN78.4 | Describe the formation of extra-embryonic mesoderm and coelom, bilaminar disc and prochordal plate | K | KH | Y | LGT | Written | |
| AN78.5 | Describe abortion, decidual reaction, pregnancy test | K | KH | Y | LGT | Written | |
| Topic 79: 3rd to 8th week of development | | Number of Competencies (6) | | | Number of competencies for certification: (NIL) | | |
| AN79.1 | Describe the formation & fate of the primitive streak | K | KH | Y | LGT | Written | |
| AN79.2 | Describe formation & fate of notochord | K | KH | Y | LGT | Written | |
| AN79.3 | Describe the process of neurulation | K | KH | Y | LGT | Written | |
| AN79.4 | Describe the development of somites and intra-embryonic coelom | K | KH | Y | LGT | Written | |
| AN79.5 | Explain embryological basis of congenital malformations, nucleus pulposus, sacrococcygeal teratomas, neural tube defects | K | KH | N | LGT | Written | |
| AN79.6 | Describe the diagnosis of pregnancy in first trimester and role of teratogens, alpha-fetoprotein | K | KH | N | LGT | Written | |
| Topic 80: Fetal membranes | | Number of Competencies (7) | | | Number of competencies for certification: (NIL) | | |
| AN80.1 | Describe formation, functions & fate of chorion, amnion, yolk sac, allantois & decidua | K | KH | Y | LGT | Written | |
| AN80.2 | Describe formation & structure of umbilical cord | K | KH | Y | LGT | Written | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------------------------------|--|-----------------------------------|------------------------|---------------|--|-----------------------------|------------------------------|
| AN80.3 | Describe formation of placenta, its physiological functions, foetomaternal circulation & placental barrier | K | KH | Y | LGT | Written | |
| AN80.4 | Describe embryological basis of twinning in monozygotic & dizygotic twins | K | KH | Y | LGT | Written | |
| AN80.5 | Describe role of placental hormones in uterine growth & parturition | K | KH | Y | LGT | Written | |
| AN80.6 | Explain embryological basis of estimation of fetal age. | K | KH | N | LGT | Written | |
| AN80.7 | Describe various types of umbilical cord attachments | K | KH | N | LGT | Written | |
| Topic 81: Prenatal Diagnosis | | Number of Competencies (3) | | | Number of competencies for certification: (NIL) | | |
| AN81.1 | Describe various invasive & non-invasive methods of prenatal diagnosis | K | KH | Y | LGT | Written | |
| AN81.2 | Describe indications, process and disadvantages of amniocentesis | K | KH | Y | LGT | Written | |
| AN81.3 | Describe indications, process and disadvantages of chorion villus biopsy | K | KH | Y | LGT | Written | |
| Topic 82: Ethics in Anatomy | | Number of Competencies (1) | | | Number of competencies for certification: (NIL) | | |
| AN 82.1 | Demonstrate respect, and follow the correct procedure when handling cadavers and other biologic tissue | A | SH | Y | SGT | NIL | |

PHYSIOLOGY (CODE: PY)

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|---------------------|------------|--|-------------------------------|------------------------------|
| PHYSIOLOGY (Topics = 12, Competencies = 136) | | | | | | | |
| Topic 1: General Physiology | | Number of competencies: (7) | | | Number of competencies that require certification : (NIL) | | |
| PY1.1 | Describe the structure and functions of a cell, intercellular communication and their applications in Clinical care and research | K | KH | Y | LGT | Written/Viva voce | |
| PY1.2 | Discuss the principles of homeostasis and feedback mechanism | K | KH | Y | LGT | Written/Viva voce | |
| PY1.3 | Describe apoptosis (programmed cell death) , explain its mechanism of action and physiological significance. | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY1.4 | Describe and discuss various transport mechanisms across cell membranes | K | KH | Y | LGT Student Seminar | Written/Viva voce/Assignments | |
| PY1.5 | Describe the fluid compartments of the body, its ionic composition & measurement methods | K | KH | Y | LGT | Written/Viva voce | |
| PY1.6 | Describe the concept of pH & Buffer systems in the body | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY1.7 | Describe the molecular basis of resting membrane potential (RMP) and generation of action potential in a nerve fibre | K | KH | Y | LGT SGT/Tutorial | Written/Viva voce | |
| Topic 2: Haematology | | Number of competencies: (13) | | | Number of competencies that require certification : (01) | | |
| PY2.1 | Describe the composition and functions of blood and its components | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY2.2 | Discuss the origin, forms, variations and functions of plasma proteins and its clinical implications | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY2.3 | Describe the physiological structure, synthesis , functions and breakdown of Hemoglobin. Discuss its variants and clinical significance. | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY2.4 | Describe Erythropoiesis & discuss its regulation in physiological and pathological situations | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY2.5 | Describe anaemias, polycythemia & jaundice and discuss its physiological principles of management | K | KH | Y | LGT SGT, Student Seminar, ECE | Written/Viva voce | |
| PY2.6 | Describe the formation of WBC (Leucopoiesis), structure and function of various WBC types and their regulatory mechanisms | K | KH | Y | LGT SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|-------------------------------------|---------------------|------------|---|--|------------------------------|
| PY2.7 | Discuss 'Immunity' in terms of its types, development, regulation and physiological significance | K | KH | Y | LGT SGT/Tutorials | Written/Viva voce | |
| PY2.8 | Describe the formation of platelets (thrombopoiesis), structure, functions and variations. | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY2.9 | Describe hemostasis, coagulation pathways, mechanism of action of anticoagulants and briefly discuss pathophysiological aspects of bleeding & clotting disorders (e.g. hemophilia, purpura) | K | KH | Y | LGT SGT, ECE- Visit to blood bank Flipped Classroom | Written/Viva voce | |
| PY2.10 | Discuss types of blood groups, clinical importance of blood grouping, blood banking and transfusion | K | KH | Y | LGT SGT,ECE- Visit to blood bank | Written/Viva voce | |
| PY2.11 | Estimate Hb, RBC, TLC, DLC, Blood groups, BT/CT, RBC indices | S | SH | Y | DOAPs | Practical/OSPE/Viva voce | 01 EACH |
| PY2.12 | Describe the test to measure Erythrocyte Sedimentation Rate (ESR), Osmotic fragility, Hematocrit, and interpret its findings | K | KH | Y | Demonstration | Written /Viva voce/OSPE (Question station) | |
| PY2.13 | Describe steps for reticulocyte and platelet count | K | KH | Y | Demonstration | Written /Viva voce | |
| Topic 3: Nerve and Muscle Physiology | | Number of competencies: (12) | | | Number of competencies that require certification : (01) | | |
| PY3.1 | Describe the structure and functions of a neuron and neuroglia; Discuss nerve growth factors | K | KH | Y | LGT | Written/Viva voce | |
| PY3.2 | Describe the types, functions, properties of nerve fibers including strength duration curve, chronaxie and rheobase | K | KH | Y | LGT | Written/Viva voce | |
| PY3.3 | Classify nerve injury and discuss the mechanism of degeneration and regeneration in peripheral nerves | K | KH | Y | LGT | Written/Viva voce | |
| PY3.4 | Describe the microscopic structure of neuro-muscular junction (NMJ) and mechanism of neuromuscular transmission | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY3.5 | Discuss the applied aspects of neuromuscular junction : myasthenia gravis, Lambert Eaton syndrome and neuromuscular blocking agents. | K | KH | Y | LGT SGT, ECE (classroom / hospital setting) | Written/Viva voce | |
| PY3.6 | Describe the different types of muscle fibres, their structure and physiological basis of action potential | K | KH | Y | LGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-------------------------------------|---------------------|------------|---|-----------------------------|------------------------------|
| PY3.7 | Describe properties, action potential and molecular basis of muscle contraction in skeletal muscle | K | KH | Y | LGT SGT Flipped Classroom | Written/Viva voce | |
| PY3.8 | Describe properties, action potential and molecular basis of muscle contraction in smooth muscle | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY3.9 | Describe the mode of muscle contraction (isometric and isotonic), energy source, muscle metabolism and gradation of muscular activity | K | KH | Y | LGT | Written/Viva voce | |
| PY3.10 | Enumerate and briefly discuss myopathies | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY3.11 | Perform Ergography and calculate the work done by a skeletal muscle | S | SH | Y | DOAPs | Practical/OSPE/Viva voce | 01 EACH |
| PY3.12 | Observe with Computer assisted learning (i) Amphibian nerve -muscle experiments (ii) Amphibian cardiac experiments | S | SH | Y | DOAPs | Practical/OSPE/Viva voce | |
| Topic 4: Gastro-intestinal Physiology | | Number of competencies: (12) | | | Number of competencies that require certification : (01) | | |
| PY4.1 | Describe the functional anatomy of digestive system | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY4.2 | Enumerate various Gastrointestinal hormones (GI) hormones, discuss their functions and regulation | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY4.3 | Describe the composition, mechanism of secretion, functions, and regulation of saliva | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY4.4 | Describe the composition, mechanism of secretion, functions, and regulation of gastric juice. Discuss various gastric function tests | K | KH | Y | LGT | Written/Viva voce | |
| PY4.5 | Describe the composition, mechanism of secretion, functions, and regulation of pancreatic juice including various pancreatic exocrine function tests | K | KH | Y | LGT | Written/Viva voce | |
| PY4.6 | Describe the composition, mechanism of secretion, functions, and regulation of intestinal juices | K | KH | Y | LGT | Written/Viva voce | |
| PY4.7 | Describe the physiology of digestion and absorption of nutrients | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY4.8 | Describe GIT movements, its regulation and physiological significance including defecation reflex and the role of dietary fibres | K | KH | Y | LGT SGT Flipped Classroom | Written/Viva voce | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|---------------------|------------|---|--|------------------------------|
| PY4.9 | Describe the structure , functions and secretion of liver and gallbladder with elaboration of various liver function tests | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY4.10 | Describe the Gut-Brain Axis and its physiological significance | K | KH | Y | LGT SGT, | Written/Viva voce | |
| PY4.11 | Discuss (in brief) the applied physiology of GIT viz. Peptic ulcer, gastroesophageal reflux disease, vomiting, diarrhoea, constipation, Adynamic ileus, Hirschsprung's disease | K | KH | Y | LGT SGT, ECE, SDL | Written/Viva voce | |
| PY4.12 | Obtain relevant history and conduct correct General and Clinical examination of the abdomen in a normal volunteer or simulated environment | S,A,C | SH | Y | DOAP (Simulation or real life setting) | Skill assessment/ Viva voce/OSCE | 1 |
| Topic 5: Cardiovascular Physiology | | Number of competencies: (16) | | | Number of competencies that require certification : (03) | | |
| PY5.1 | Describe the functional anatomy of heart including chambers and coronary circulation | K | KH | Y | LGT | Written/Viva voce | |
| PY5.2 | Describe the properties of cardiac muscle including its morphology, electrical, mechanical and metabolic functions | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY5.3 | Describe generation and conduction of cardiac impulse along with the conduction pathway (including pacemaker potential). | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY5.4 | Discuss the physiological events occurring during the cardiac cycle, concurrent pressure volume changes, generation of heart sounds and murmur | K | KH | Y | LGT SGT Flipped Classroom | Written/Viva voce | |
| PY5.5 | Describe the physiology of electrocardiogram (E.C.G), the cardiac axis and its applications | K | KH | Y | LGT SGT, ECE | Written/Viva voce/OSCE (Question station) | |
| PY5.6 | Discuss physiological variations in ECG waveforms, abnormal waveforms and intervals , arrhythmias, heart blocks and myocardial Infarction | K | KH | Y | LGT SGT/Student seminars/ECE | Written/Viva voce | |
| PY5.7 | Discuss haemodynamics of circulatory system | K | KH | Y | LGT SGT/Tutorials | Written/Viva voce | |
| PY5.8 | Describe and discuss local and systemic cardiovascular regulatory mechanisms | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY5.9 | Describe heart rate, factors affecting heart rate, and its regulation | K | KH | Y | LGT SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-------------------------------------|---------------------|------------|---|-------------------------------------|------------------------------|
| PY5.10 | Describe cardiac output, factors affecting cardiac output and its regulation. | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY5.11 | Describe blood pressure, factors affecting blood pressure and its regulation | K | KH | Y | LGT SGT/Student seminars | Written/Viva voce | |
| PY5.12 | Describe & discuss regional circulation including microcirculation, lymphatic circulation, cerebral, capillary, skin, foetal, pulmonary and splanchnic circulation | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY5.13 | Describe the patho-physiology of shock, syncope heart failure with physiological basis of its management | K | KH | Y | LGT SGT / Student seminars | Written/Viva voce | |
| PY5.14 | Record blood pressure & pulse at rest and in different grades of exercise and postures in a volunteer or simulated environment | S | SH | Y | DOAPs (Simulation or real life setting) | Practical/OSPE/ Viva voce | 3 |
| PY5.15 | Record and interpret normal ECG in a volunteer or simulated environment | S | SH | Y | DOAPs (Simulation or real life setting) | Practical/OSPE/ Viva voce | 1 |
| PY5.16 | Obtain relevant history and conduct General and Clinical examination of the cardiovascular system in a normal volunteer or simulated environment | S,A,C | SH | Y | DOAPs | Skill assessment/ Viva voce/OSCE | 1 |
| Topic 6: Respiratory Physiology | | Number of competencies: (13) | | | Number of competencies that require certification : (02) | | |
| PY6.1 | Describe the functional anatomy of respiratory tract and non-respiratory functions of lungs | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY6.2 | Describe the mechanics of normal respiration, pressure changes during ventilation, lung volume and capacities (Static and Dynamic) | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY6.3 | Describe the alveolar surface tension, compliance, airway resistance, ventilation, V/P ratio, diffusion capacity of lungs | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY6.4 | Discuss the transport of respiratory gases viz Oxygen and Carbon dioxide across lungs and whole body | K | KH | Y | LGT | Written/Viva voce | |
| PY6.5 | Describe the chemoreceptors (peripheral and central) and neural centres of respiration including chemical and neural regulation of respiration | K | KH | Y | LGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|----------------------------------|---|------------------------------------|---------------------|------------|--|-------------------------------------|------------------------------|
| PY6.6 | Describe and discuss the pathophysiology of dyspnoea, hypoxia, cyanosis, asphyxia, drowning, periodic breathing and oxygen therapy | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY6.7 | Discuss various lung function tests and their clinical significance in obstructive and restrictive lung diseases | K | KH | Y | LGT SGT, Tutorials Flipped Classroom | Written/Viva voce | |
| PY6.8 | Discuss the physiology of high altitude and acclimatization | K | KH | Y | LGT | Written/Viva voce | |
| PY6.9 | Discuss the physiology of deep sea diving and decompression sickness | K | KH | Y | LGT | Written/Viva voce | |
| PY6.10 | Perform Spirometry and interpret the findings (Digital / Manual) | S | P | Y | DOAPs | Skill assessment/ Viva voce/OSCE | 1 |
| PY6.11 | Describe principles and methods of artificial respiration | S | SH | Y | DOAPs | Practical/OSPE/ Viva voce | |
| PY6.12 | Obtain relevant history and conduct correct General and Clinical examination of the respiratory system in a normal volunteer or simulated environment | S,A,C | SH | Y | DOAPs | Practical/OSPE/ Viva voce | 1 |
| PY6.13 | Demonstrate the correct technique to perform measurement of peak expiratory flow rate in a normal volunteer or simulated environment | S | SH | Y | DOAPs | Practical/OSPE/ Viva voce | |
| Topic 7: Renal Physiology | | Number of competencies: (9) | | | Number of competencies that require certification : (NIL) | | |
| PY7.1 | Describe the functional anatomy of kidney and non-excretory functions of kidney | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY7.2 | Describe the structure and functions of juxta glomerular apparatus and role of renin-angiotensin system | K | KH | Y | LGT | Written/Viva voce | |
| PY7.3 | Describe the mechanism of urine formation involving processes of filtration (Glomerular filtration), tubular reabsorption & secretion. | K | KH | Y | LGT SGT, Student Seminar | Written/Viva voce | |
| PY7.4 | Describe the mechanism of urine concentration and dilution (Counter current Multiplier & Exchanger) | K | KH | Y | LGT SGT Flipped Classroom | Written/Viva voce | |
| PY7.5 | Describe the renal regulation of fluid and electrolytes & acid-base balance | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY7.6 | Describe the innervations of urinary bladder, physiology of micturition and its abnormalities | K | KH | Y | LGT SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|---------------------|--|---|-----------------------------|------------------------------|
| PY7.7 | Describe cystometry and discuss the normal cystometrogram | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY7.8 | Discuss various Renal Function Tests with its physiological significance and clinical implication of Renal clearance | K | KH | Y | LGT SGT, ECE (classroom / hospital setting) | Written/Viva voce | |
| PY7.9 | Discuss the role of artificial kidneys, dialysis and indications of renal transplant | K | KH | Y | LGT | Viva voce | |
| Topic 8: Endocrine Physiology | | Number of competencies: (7) | | Number of competencies that require certification : (NIL) | | | |
| PY8.1 | Describe the functional anatomy of endocrine glands, mechanism of hormonal action (steroid and peptide) and hypothalamus pituitary axis {HPA} | K | KH | Y | LGT Flipped Classroom | Written/Viva voce | |
| PY8.2 | Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of pituitary gland | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY8.3 | Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of thyroid gland including thyroid function tests | K | KH | Y | LGT SGT, ECE | Written/Viva voce | |
| PY8.4 | Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of adrenal gland and its function tests | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY8.5 | Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of parathyroid gland with emphasis of physiology of bone and calcium metabolism | K | KH | Y | LGT SGT/Tutorials | Written/Viva voce | |
| PY8.6 | Describe the synthesis, secretion, transport, physiological actions, regulation and effect of altered (hypo and hyper) secretion of pancreatic gland including pancreatic function tests | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY8.7 | Describe the physiology of Thymus & Pineal Gland | K | KH | Y | LGT | Written/Viva voce | |
| Topic 9: Reproductive Physiology | | Number of competencies: (10) | | Number of competencies that require certification : (NIL) | | | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|--------------------------------------|---------------------|------------|---|-----------------------------|------------------------------|
| PY9.1 | Explain sex determination, sex differentiation and their abnormalities and discuss the effects of removal of gonads on physiological functions | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY9.2 | Describe and discuss puberty: onset, progression, stages; early and delayed puberty. | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY9.3 | Describe the functional anatomy of male reproductive system, functions of testis, spermatogenesis and discuss the functions and regulations of testosterone hormone | K | KH | Y | LGT SGT | OSPE/Viva voce | |
| PY9.4 | Describe the functional anatomy of female reproductive system: functions of ovary and its hormones (estrogen and progesterone) ; hormonal regulation by hypothalamic pituitary gonadal (HPG axis) | K | KH | Y | LGT SGT , Student Seminar | Written/Viva voce | |
| PY9.5 | Discuss the menstrual cycle, uterine and ovarian changes, hormonal regulation and its implications in reproductive physiology | K | KH | Y | LGT SGT, ECE | Written/Viva voce | |
| PY9.6 | Enumerate male and female contraceptive methods, rationale of its prescription, side effects and its advantages & disadvantages | K | KH | Y | LGT SGT, ECE,SDL | Written/Viva voce | |
| PY9.7 | Discuss the physiology of pregnancy, parturition & lactation. | K | KH | Y | LGT SGT, Flipped Classroom | Written/Viva voce | |
| PY9.8 | Discuss the physiological basis of various pregnancy tests | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY9.9 | Discuss the hormonal changes and their effects during perimenopause and menopause | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY9.10 | Discuss the common causes of infertility in a couple and role of IVF in managing a case of infertility | K | KH | Y | LGT SGT, visit to IVF lab | Written/Viva voce | |
| Topic 10: Central Nervous System Physiology | | Number of competencies: (20) | | | Number of competencies that require certification : (02) | | |
| PY10.1 | Describe and discuss the functional organization of central nervous system (brain and spinal cord) | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.2 | Describe the functional anatomy of peripheral nervous system (including autonomic nervous system) | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.3 | Classify the neurotransmitters and discuss the chemical transmission in the nervous system. | K | KH | Y | LGT SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|---------------------|------------|------------------------------------|-----------------------------|------------------------------|
| PY10.4 | Discuss the classification, functions and properties of synapse | K | KH | Y | LGT SGT ,Student Seminar | Written/Viva voce | |
| PY10.5 | Discuss the classification, functions and properties of reflex | K | KH | Y | LGT SGT, Student Seminar | Written/Viva voce | |
| PY10.6 | Discuss the classification, functions and properties of receptors | K | KH | Y | LGT SGT , Student Seminar | Written/Viva voce | |
| PY10.7 | Discuss somatic sensations, ascending tracts, (sensory tracts) and applied aspects of sensory system | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.8 | Discuss Physiology of pain including pain pathways and its modulation with special emphasis on gate control theory of pain | K | KH | Y | LGT SGT, visit to pain clinic | Written/Viva voce | |
| PY10.9 | Describe the course of descending tracts (pyramidal and extra pyramidal), its clinical implications including difference in Upper motor neuron (UMN)and lower motor neuron (LMN) lesions | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.10 | Discuss types and clinical features of spinal cord lesions (complete, incomplete transection and hemisection - Brown Sequard syndrome) | K | KH | Y | LGT SGT, Tutorials, ECE | Written/Viva voce | |
| PY10.11 | Describe functional anatomy of cerebellum, its connections, functions and clinical abnormalities . | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.12 | Discuss functional anatomy of basal ganglia , its connections, functions and Clinical abnormalities . | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.13 | Discuss the mechanism of maintenance of tone, posture and control of body movements | K | KH | Y | LGT SGT Flipped Classroom | Written/Viva voce | |
| PY10.14 | Discuss functional anatomy of thalamus , its connections, functions and clinical abnormalities . | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.15 | Discuss functional anatomy of hypothalamus and limbic system , its connections, functions and clinical abnormalities . | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.16 | Discuss functional anatomy of cerebral cortex, its connections, functions and Clinical abnormalities | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.17 | Discuss the structure and functions of reticular activating system, sleep physiology and EEG waveforms during sleep wake cycle | K | KH | Y | LGT SGT, visit to sleep lab | Written/Viva voce | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|--------------------------------------|---------------------|------------|--|-------------------------------------|------------------------------|
| PY10.18 | Discuss the physiological basis of memory, learning and speech and clinical alterations in speech | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY10.19 | Obtain relevant history and conduct correct General and Clinical examination of the nervous system: Higher functions, sensory system, motor system, reflexes in a normal volunteer or simulated environment | S | SH | Y | DOAPs | Skill assessment/ Viva voce/OSCE | 4 (each) |
| PY10.20 | Obtain relevant history and conduct correct General and Clinical examination of the cranial nerves in a normal volunteer or simulated environment | S | P | Y | DOAPs | OSCE/Viva voce | 1 (each) |
| Topic 11: Special Senses | | Number of competencies: (7) | | | Number of competencies that require certification : (NIL) | | |
| PY11.1 | Describe and discuss physiology of smell and its applied aspects | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY11.2 | Describe and discuss physiology of taste sensation and applied aspects | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY11.3 | Describe and discuss functional anatomy of ear and auditory pathways, vestibular apparatus and equilibrium | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY11.4 | Discuss physiology of hearing, pathophysiology of deafness and hearing tests | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY11.5 | Discuss functional anatomy of eye, visual pathway, light and pupillary reflex and clinical implication of lesions in visual pathway | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY11.6 | Discuss physiology of image formation, refractive errors and physiological principles of its management | K S | P | Y | LGT SGT ECE | Written/Viva voce | |
| PY11.7 | Discuss physiology of vision including colour vision and colour blindness | K | KH | Y | LGT SGT Flipped Classroom | Written/Viva voce | |
| Topic 12: Integrated Physiology | | Number of competencies: (10) | | | Number of competencies that require certification : (NIL) | | |
| PY12.1 | Describe physiological mechanism of temperature regulation | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY12.2 | Discuss adaptation to altered temperature (heat and cold) and mechanism of fever, cold injuries and heat stroke | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY12.3 | Discuss cardio-respiratory and metabolic adjustments during exercise (isometric and isotonic), effects of physical training under different environmental conditions (heat and cold) | K | KH | Y | LGT SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to: | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------------|---|---|-----------------------------|-------------------|---|--|---|
| PY12.4 | Discuss physiological consequences of sedentary lifestyle; metabolic and endocrinal consequences of obesity & metabolic syndrome. | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY12.5 | Describe physiology of Infancy, Interpret growth charts and anthropometric assessment of infants | K | KH | Y | LGT SGT, ECE | Written/Viva voce | |
| PY12.6 | Describe and discuss physiology of aging, role of free radicals and antioxidants | K | KH | Y | LGT SGT | Written/Viva voce | |
| PY12.7 | Discuss the concept, criteria for diagnosis of Brain death and its implications | K | KH | Y | Small group teaching | Practical/OSPE/ Viva voce | |
| PY12.8 | Discuss the physiology of yoga and meditation | K | KH | Y | Small group teaching | Practical/OSPE/ Viva voce | |
| PY12.9 | Obtain history and perform general examination in the volunteer / simulated environment | S | SH | Y | DOAPs | Skill assessment/ Viva voce/OSCE | |
| PY12.10 | Demonstrate Basic Life Support in a simulated environment | S | SH | Y | DOAPs, Simulation lab (Simulation or real life setting) | Skill assessment/ Viva voce/OSCE | |

BIOCHEMISTRY (CODE: BC)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|------------------------------------|------------------------|---------------|--|---|---------------------------------|
| BIOCHEMISTRY (Topics = 14, Competencies = 84) | | | | | | | |
| Topic 1: Basic Biochemistry | | Number of competencies:(01) | | | Number of competencies that require certification:(NIL) | | |
| BC1.1 | Describe the molecular and functional organization of a cell and its sub-cellular components and composition and functions of Biological membranes. | K | KH | Y | LGT, SGT / SDL | Written assessment/ Viva voce | |
| Topic 2: Enzyme | | Number of competencies:(05) | | | Number of competencies that require certification:(NIL) | | |
| BC2.1 | Explain fundamental concepts of enzyme, isoenzyme and coenzyme. Enumerate the main classes of IUBMB nomenclature. | K | KH | Y | LGT, SGT | Written assessment / Viva voce | |
| BC2.2 | Describe and explain the basic principles of enzyme activity | K | KH | Y | LGT, SGT | Written assessment / Viva voce | |
| BC2.3 | Describe and discuss enzyme Inhibition and role of enzymes or drugs as Inhibitors, and enzymes as therapeutic agents. | K | KH | Y | LGT, CasediscussionSGT | Written assessment / Viva voce | |
| BC2.4 | Describe and discuss the clinical utility of various serum enzymes in laboratory and their use as markers of various pathological conditions. | K | KH | Y | LGT, SGT, Flipped class room | Written assessment / Viva voce | |
| BC2.5 | Interpret laboratory results of enzymes in various disorders. | K | KH | Y | SGT, DOAPs, Case Studies | Written assessment/ Viva voce/ Case studies, OSPE | |
| Topic 3: Chemistry and Metabolism of Carbohydrates | | Number of competencies:(06) | | | Number of competencies that require certification:(NIL) | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|------------------------|---------------|--|--|------------------------------|
| BC3.1 | Discuss and differentiate monosaccharides, di-saccharides and polysaccharides with examples, their importance as energy fuel, structural element, and storage molecule in human body. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC3.2 | Describe the digestion, absorption and transport of carbohydrates from food along with its disorders. | K | KH | Y | LGT, SGT, SDL | Written/Viva-voce | |
| BC3.3 | Define and briefly describe the pathways of carbohydrate metabolism and their regulation (glycolysis, gluconeogenesis, TCA, and significance of glycogen metabolism and HMP shunt), with associated disorders. | K | KH | Y | LGT, SGT, Flipped class room | Written/Viva voce | |
| BC3.4 | Describe and discuss the regulation, functions and integration of minor Carbohydrate Metabolism pathway briefly along with associated diseases /disorders. | K | KH | Y | LGT, SGT | Written/Viva-voce | |
| BC3.5 | Discuss the mechanism and significance of blood glucose regulation (Glucose homeostasis) in health and disease. Describe the types, Biochemical changes, complications and laboratory investigations related to diabetes & other carbohydrate metal disorders. | K | KH | Y | LGT, SGT, Flipped class room | Written/Viva voce | |
| BC3.6 | Interpret the results of analytes associated with metabolism of carbohydrates and other laboratory investigations related to disorders of carbohydrate metabolism. | K | KH | Y | LGT, SGT Case Studies / SDL, Flipped class room | Written/ Viva voce/ Case Studies /OSPE | |
| Topic 4 : Chemistry and Metabolism of Lipids | | Number of competencies: (08) | | | Number of competencies that require certification:(NIL) | | |
| BC4.1 | Describe and discuss main classes of lipids and their functions. | K | KH | Y | LGT, SGT /SDL | Written/Viva voce | |
| BC4.2 | Describe the digestion and absorption of dietary lipids and its (associated disorders. | K | KH | Y | LGT, SGT /SDL | Written /Viva voce | |
| BC4.3 | Describe and discuss the fatty acid oxidation, metabolism of ketone bodies along with their clinical significance. | K | KH | Y | LGT, SGT | Written /Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|------------------------------------|------------------------|---------------|--|---|------------------------------|
| BC4.4 | Describe metabolism of Triglycerides and cholesterol metabolism along with its regulation and clinical significance. | K | KH | Y | LGT, SGT | Written /Viva voce | |
| BC4.5 | Describe the metabolism of lipoproteins with brief overview of lipoprotein structure, their interrelations & relations with atherosclerosis. | K | KH | Y | LGT, SGT | Written /Viva voce | |
| BC4.6 | Discuss Biological role and therapeutic applications of Eicosanoids and their Inhibitors. | K | KH | Y | LGT, SGT, Flipped class room | Written /Viva voce | |
| BC4.7 | Describe Fatty liver, cholelithiasis and obesity. | K | KH | Y | LGT, SGT, Case Studies/Scenarios/SDL | Written /Viva voce | |
| BC4.8 | Interpret laboratory results of analytes associated with metabolism of lipids | K | KH | Y | LGT, SGT, case studies, Flipped class room | Written/Viva voce/ case studies/OSPE | |
| Topic 5: Chemistry & Metabolism of Proteins and Immunology | | Number of competencies:(09) | | | Number of competencies that require certification:(NIL) | | |
| BC5.1 | Discuss briefly structure of amino acids and classify amino acids on the basis of Nutritional and Metabolic significance. | K | KH | Y | LGT, SGT/SDL | Written / Viva voce | |
| BC5.2 | Discuss classification of proteins, structural organization, functions and clinical aspects. | K | KH | Y | LGT, SGT | Written / Viva voce | |
| BC 5.3 | Describe the digestion and absorption of dietary proteins | K | KH | Y | LGT, SGT / SDL | Written / Viva voce | |
| BC 5.4 | Describe plasma proteins and their functions and brief overview of normal and abnormal electrophoretic pattern of serum proteins, acute phase proteins. | K | KH | Y | LGT, SGT | Written / Viva voce | |
| BC 5.5 | Describe the structure, functions and disorders of Immunoglobulins with brief description of cellular and humoral Immunity. | K | KH | Y | LGT, SGT | Written / Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------------|------------------------|---|------------------------------------|-----------------------------|---------------------------------|
| BC 5.6 | Describe the formation, transport, detoxification of Ammonia, Ammonia toxicity and its clinical significance. | K | KH | Y | LGT, SGT | Written / Viva voce | |
| BC 5.7 | Describe the specialized products formed from the amino acids Glycine, Phenylalanine, Tyrosine, Tryptophan, and Methionine, branched chain amino acids and Arginine and the inborn errors associated with them. Discuss new-born screening. | K/S | KH/SH | Y | LGT, SGT | Written / Viva voce | |
| BC5.8 | Describe the structure and functions of haem in the body and describe the processes involved in its metabolism with emphasis on jaundice and describe porphyrin metabolism. | K | KH | Y | LGT, SGT | Written / Viva voce | |
| BC5.9 | Describe the major types of Hemoglobin and its types, derivatives & variants found in the body and their physiological / pathological relevance | K | KH | Y | LGT, SGT | Written / Viva voce | |
| Topic 6: Extracellular Matrix | | Number of competencies: (03) | | Number of competencies that require certification: (NIL) | | | |
| BC6.1 | Enumerate the functions and components of the extracellular matrix (ECM). | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC6.2 | Discuss the involvement of ECM components in health and disease. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC6.3 | Describe protein targeting & sorting along with its associated disorders. | K | KH | N | LGT, SGT | Written/Viva voce | |
| Topic 7: Integration of Metabolism and Biological Oxidation | | Number of competencies: (02) | | Number of competencies that require certification: (NIL) | | | |
| BC7.1 | Describe the integration of various metabolic processes in the body (Carbohydrate, Lipid, and Protein). | K | KH | Y | LGT, SGT | Written/viva voce | |
| BC7.2 | Describe the Biochemical processes involved in generation of energy in cells. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| Topic 8: Vitamins and Nutrition | | Number of competencies: (06) | | Number of competencies that require certification: (NIL) | | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|------------------------|---------------|---|-----------------------------|------------------------------|
| BC8.1 | Describe the Biochemical role of vitamins in the body and explain the manifestations of their deficiency | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC8.2 | Discuss the importance of various dietary components and explain importance of dietary fibre. | K | KH | Y | LGT, SGT, SDL | Written/Viva voce | |
| BC8.3 | Describe the types and causes of protein energy malnutrition and its effects. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC8.4 | Provide dietary advice for optimal health in childhood and adult in disease conditions like diabetes mellitus, coronary artery disease and in pregnancy. | K/S/C | KH | Y | LGT, SGT / role play | Written/Viva voce | |
| BC8.5 | Describe the causes (including dietary habits), effects and health risks associated with being overweight/ obese / metabolic syndrome | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC8.6 | Summarize the nutritional importance of commonly used items of food including fruits and vegetables (macro-molecules & its importance). | K | KH | Y | LGT, SGT, Home assignment | Written/Viva voce | |
| Topic 9: Minerals, electrolytes, Water and Acid base balance | | Number of competencies: (03) | | | Number of competencies that require certification: (NIL) | | |
| BC9.1 | Describe the dietary sources, absorption, transport, and metabolism, Biochemical functions of Iron, Calcium and copper with its associated clinical disorders. | K | KH | Y | LGT, SGT, Home Assignment, Flipped class room | Written/Viva voce | |
| BC9.2 | Discuss Magnesium, Zinc and Phosphorus along with its clinical significance and discuss the functions of trace elements | K | KH | Y | LGT, SGT, Home Assignment. / SDL | Written/Viva voce | |
| BC9.3 | Describe the processes involved in maintenance of normal pH, water & electrolyte balance of body fluids and the derangements associated with them | K | KH | Y | LGT, SGT / SDL | Written/Viva voce | |

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|--|--|------------------------------------|------------------------|--|------------------------------------|-------------------------------------|---------------------------------|
| Topic 10: Molecular Biology | | Number of competencies:(07) | | Number of competencies that require certification:(NIL) | | | |
| BC10.1 | Describe nucleotides and nucleic acids and their clinical significance. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC10.2 | Describe briefly synthesis of purines in the body with special stress on salvage pathway. | K | KH | N | LGT, SGT /SDL | Written/Viva voce | |
| BC10.3 | Describe the degradation of purines and its significance with associated disorders. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC10.4 | Describe in brief the major steps involved in Replication, Transcription, and translation. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC 10.5 | Describe the types of DNA repair, gene mutations and associated disorders. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC10.6 | Describe basic mechanism of regulation of gene expression | K | KH | Y | LGT, SGT /SDL | Written/Viva voce | |
| BC10.7 | Describe applications of molecular technologies like recombinant DNA technology and PCR in the diagnosis and treatment of diseases. Briefly discuss microarray, FISH, CRISPR | K | KH | Y | LGT, SGT, Flipped class room | Written/Viva voce | |
| Topic 11: Organ Function tests and Hormones | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| BC 11.1 | Describe the function tests of kidney, liver, thyroid and adrenal glands and their clinical significance. Interpret the function tests report. | K,S | KH/SH | Y | LGT, SGT, Case studies /SDL | Written/Viva voce/Case studies/OSPE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|------------------------------------|------------------------|--|------------------------------------|--|------------------------------|
| BC11.2 | Enumerate the hormones and markers related to reproduction and reproductive health and their clinical interpretation (For e.g. LH, FSH, Prolactin, beta-HCG, Estrogen Progesterone, testosterone and AMH). Discuss importance of prenatal screening. | K | KH | Y | LGT, SGT / SDL, Flipped class room | Written/Viva voce/Direct observation/ OSPE | |
| Topic 12: Xenobiotic, oxidative stress and antioxidants | | Number of competencies:(03) | | Number of competencies that require certification:(NIL) | | | |
| BC12.1 | Describe the role of xenobiotics in disease in health and disease | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC12.2 | Describe the anti-oxidant defense systems in the body. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC12.3 | Describe the role of oxidative stress in the pathogenesis of conditions such as cancer, complications of diabetes mellitus and atherosclerosis | K | KH | Y | LGT, SGT / SDL | Written/Viva voce | |
| Topic 13: Miscellaneous | | Number of competencies:(05) | | Number of competencies that require certification:(NIL) | | | |
| BC 13.1 | Describe oncogenesis, oncogenes & its activation with focus on p53 & apoptosis. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC 13.2 | Describe various Biochemical tumor markers and the Biochemical basis of cancer therapy. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| BC13.3 | Discuss briefly on HIV and Biochemical changes in AIDS. | K | KH | N | LGT, SGT | Written/Viva voce | |
| BC13.4 | Discuss metabolism of alcohol with Biochemical changes and effects of chronic alcoholism. | K | KH | Y | LGT, SGT, SDL | Written/Viva voce | |
| BC13.5 | Describe the role of Artificial Intelligence in clinical Biochemistry laboratory practices. | K | KH | N | LGT, SGT / SDL | Written/ Viva voce Logbook Record | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------|------------------------|---------------|---------------------------------------|--|---------------------------------|
| Topic 14: Biochemical Laboratory test / Practical Number of competencies: (24) Number of competencies that require certification : (11) | | | | | | | |
| 14.1 | Describe commonly used laboratory apparatus equipments, good / safe laboratory practice, Biomedical hazards & waste management. | K | KH | Y | LGT, SGT | Written/ Viva voce/ Direct observation | |
| BC14.2 | Describe estimation of pH by pH meter or ABG analyser and interpretation of results with paper case scenarios. | K | KH | Y | LGT, SGT / Case discussion | Written/ Viva voce Direct observation/ OSPE | |
| BC14.3 | Describe the physical properties, chemical constituents of normal urine and abnormal constituents of urine and Perform urine analysis to determine normal and abnormal constituents (including dipsticks method demonstration). | K,S | KH/P | Y | LGT, Small group Discussion / DOAP | Written/ Viva voce / DOAP | 2 |
| BC14.4 | Identify abnormal constituents in urine, interpret the findings and correlate these with pathological states and prepare a urine report. | S | P | Y | DOAPs | Skill assessment / OSPE | 1 |
| BC14.5 | Describe screening of urine for inborn errors & describe the use of paper chromatography | K | KH | Y | LGT, SGT | Written/ Viva voce/ Direct observation/ OSPE | |
| BC14.6 | Describe the principles of Colorimetry & Spectrophotometry. | K | KH | Y | LGT, SGT | Written / Viva voce / Direct observation | |
| BC14.7 | Perform estimation of glucose by manual / semi-automated analyzer method and demonstrate glucometer usage. and interpretation of results with clinical scenarios. | S | P | Y | DOAPs | Skill Assessment OSPE | 1 |
| BC14.8 | Perform estimation of urea and calculate BUN and interpretation of results in clinical scenarios. | S | P | Y | DOAPs | Skill Assessment OSPE | 1 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|------------------------|---------------|------------------------------------|--|------------------------------|
| BC14.9 | Perform the estimation of serum creatinine and calculate creatinine clearance. | S | P | Y | DOAP | Skill Assessment OSPE | 1 |
| BC14.10 | Perform estimation of uric acid in serum and interpretation of results with clinical scenarios. | S | P | Y | DOAPs | Skill Assessment OSPE | 1 |
| BC14.11 | Perform estimation of serum proteins, albumin and A:G ratio | S | P | Y | DOAPs | Skill Assessment OSPE | 1 |
| BC14.12 | Perform the estimation of serum total cholesterol | S | P | Y | DOAPs | Skill Assessment OSPE | 1 |
| BC14.13 | Perform the estimation of serum Bilirubin by manual / semi-automated analyzer method. | S | P | Y | DOAP | Skills assessment / OSPE | 1 |
| BC14.14 | Describe estimation of calcium and phosphorus and interpretation of results. | K | KH | Y | LGT, SGT, Demonstration | Written / Viva voce | |
| BC14.15 | Describe the estimation Triglycerides, HDL and calculation of LDL and interpretation of results with clinical scenarios. | K | KH | Y | LGT, SGT | Written / Viva voce / OSPE (LDL Calculate) | |
| BC14.16 | Describe the estimation of SGOT (AST) / SGPT (ALT) / Alkaline Phosphatase and interpretation of results with clinical scenarios. | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| BC14.17 | Describe briefly various body fluids & discuss the composition of CSF. | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| BC14.18 | Observe use of commonly used equipments/techniques in Biochemistry laboratory including: •pH meter •Paper chromatography of amino acid •Protein electrophoresis | K | KH | Y | Demonstration (SGT) & Lab Visit | Written/ Viva voce / Direct observation | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|------------------------|---------------|---|---|---------------------------------|
| | <ul style="list-style-type: none"> •TLC, PAGE •Electrolyte analysis by ISE •ABG analyzer •ELISA •Immunodiffusion •Autoanalyser •DNA isolation from blood/ tissue | | | | | | |
| BC14.19 | <p>Explain the basis and rationale of Biochemical tests done and interpretation of laboratory results in the following conditions:</p> <ul style="list-style-type: none"> - Diabetes mellitus, - Obesity, - dyslipidaemia, - Fatty liver - myocardial infarction, - Renal failure, - Gout, - Nephrotic syndrome, - Jaundice, - Liver diseases, pancreatitis, disorders of acid- base balance, - Thyroid disorders, - Genetic disorders - Nutritional disorders - Vitamin deficiency disorders, - Disorders of Mineral metabolism, - Disorders of electrolyte metabolism. | K | KH | Y | LGT/ Clinical case studies discussion (SGT) | Written/ Viva voce / OSPE / Case studies interpretation | |
| BC14.20 | Describe & Identify Pre-Analytical (especially order of draw, tourniquet technique), Analytical, Post Analytical errors. | S | SH | Y | LGT, SGT DOAP(clinical lab), Skill lab | Written/ Viva voce/ OSPE/ Direct observation/ OSPE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------|--|-------------------------------|------------------------|---------------|---|---|------------------------------|
| BC14.21 | Describe Quality control and identify basic L J charts in Clinical biochemistry lab. | S | SH | Y | LGT / SGT / DOAP (clinical lab) | Written/ Viva voce/ OSPE/ Direct observation/ OSPE | 1 |
| BC14.22 | Describe performance of OGTT, Glucose Challenge Test and HbA1c and interpretation of results with clinical scenarios. | K | KH | Y | LGT, SGT | Written/ Viva voce/ OSPE /Direct observation/ Case studies interpretation. | |
| BC14.23 | Calculate energy content of different food Items, identify food items with high and low glycaemic index and explain the importance of these in the diet. | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| BC 14.24 | Observe, Interpret and discuss the baseline, diagnostic, prognostic, and discharge investigations of clinical biochemistry. | K,A,S,C | SH | Y | ECE-SGT(Bedside/ Ward visit/ Medical record department) | Logbook, reflections | |

PHARMACOLOGY (CODE: PH)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-------------------------------------|------------------------|---------------|---|---|------------------------------|
| PHARMACOLOGY (Topics = 10, Competencies = 92) | | | | | | | |
| Topic 1: General Pharmacology (GP) | | Number of competencies: (13) | | | Number of competencies that require certification : (04) | | |
| PH1.1 | Describe the principles of pharmacology, pharmacotherapeutics and define various terms in pharmacology. | K | KH | Y | LGT/ SGT | Written, Tutorial | |
| PH1.2 | Describe evidence based medicine and rational use of drugs & discuss why these are relevant to therapeutics. | K | KH | Y | LGT/ SGT | Written, Tutorial | |
| PH1.3 | Describe nomenclature of drugs i.e., generic, branded drugs and scheduled drugs, explaining the utility of the nomenclature, cost effectiveness and use. | K | KH | Y | LGT/ Practical | Written, Tutorial | |
| PH1.4 | Identify the common drug formulations and drug delivery systems, demonstrate their use and describe their advantages and disadvantages. | K,S,A,C | KH, SH | Y | SGT, DOAP, role plays/ Simulations (mannequins, hybrid, computer) | Written/ Viva voce / Tutorial /OSPE/ direct observation | 1 |
| PH1.5 | Describe various routes of drug administration, their advantages and disadvantages and demonstrate administration of, e.g., SC, IV, IM, SL, rectal, spinal, sublingual, intranasal sprays and inhalers | K, S,A,C | KH, SH | Y | SGT, videos, DOAP, simulations, hybrid models | Written/ Viva voce/Tutorial/ OSPE | 2 |
| PH1.6 | Describe salient features of absorption, distribution, metabolism and excretion of drugs with emphasis on various routes of drug administration | K | KH | Y | LGT/ SGT, CBL, Simulations, practical exercises, Graphs, Flipped class room | Written/ Tutorial | |
| PH1.7 | Describe various principles of mechanism of action of drugs | K | KH | Y | LGT, Small Group discussion, Demonstration | Written/ Viva voce/ OSPE | |
| PH1.8 | Demonstrate the mechanism of action & effects of common prototype drugs on human body using computer assisted learning | S,K | KH/SH | Y | Animations, videos | OSPE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|------------------------------------|------------------------|---------------|--|--|------------------------------|
| PH 1.9 | Select rational drug combinations based on the pharmacokinetics/pharmacodynamic (PK/PD) parameters with emphasis on synergism, antagonism, 'therapeutic efficacy', risk benefit ratio | K | KH,SH | Y | LGT, SGT, demonstrations, CBL, Flipped class room | Written, OSPE, Viva voce/Tutorial | |
| PH1.10 | Describe changes in pharmacology of drugs in geriatric, pediatric and special situations such as Pregnancy, lactation, hepatic and renal disorders and adjust the drug treatment accordingly. | K, S, A | KH, SH | Y | LGT, CBL/ PBL | Written/ Tutorial, OSPE | |
| PH 1.11 | Define Adverse Drug Reactions (ADRs) & their types. Identify the ADRs in the given case scenario and assess causality. | K | KH, SH | Y | LGT, SGT, CBL | Written, Viva voce/Tutorial, OSPE | |
| PH1.12 | Define Pharmacovigilance its principles and demonstrate ADR reporting | K, S, C | KH, SH | Y | LGT, DOAP, CBL, Can be covered in Pandemic module sessions | Written/ Viva voce OSPE | 2 |
| PH1.13 | Identify and describe the management of drug interactions | K | KH, SH | Y | LGT, SGT/ CBL | Written/Viva/ Tutorial/ Prescription audit | 1 |
| Topic 2 : Autonomic & Peripheral Nervous system, Autacoids | | Number of competencies: (8) | | | Number of competencies that require certification : (NIL) | | |
| PH2.1 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of adrenergic and antiadrenergic drugs | K | KH | Y | LGT, SGT | Written/ Tutorial | |
| PH2.2 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of cholinergic and anticholinergic drugs and demonstrate OPC poisoning management | K,S,A,C | KH, SH | Y | LGT, SGT, Simulations, Role play, CBL | Written/ Tutorial/ Direct observations | |
| PH 2.3 | Explain the rationale and demonstrate the emergency use of various sympathetic and parasympathetic drug agonists/antagonists (like Noradrenaline/ Adrenaline/Dopamine/Dobutamine, Atropine) in case-based scenarios | S,A,C | KH,SH | Y | CBL, SGT, Simulations, | Written/ Viva/ Tutorial/ OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------------|------------------------|---------------|--|--|------------------------------|
| PH2.4 | Explain salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of skeletal muscle relaxants | K | KH | Y | LGT, SGT | Written/ Viva voce/Tutorial | |
| PH2.5 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of local anaesthetics (LA) & demonstrate various methods of administration of LA | K, S | KH, SH | Y | LGT, SGT, DOAP in simulated environment | Written/ Viva voce/Tutorial, OSPE | |
| PH2.6 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of anti-histaminics and explain management of common cold & allergic rhinitis. | K | KH | Y | LGT, CBL | Written/ Viva voce/ Tutorial | |
| PH2.7 | Define pain and enumerate drugs used for pain. Explain salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of analgesics including NSAIDs (except opioids) | K | KH | Y | LGT, SGT, Flipped class room | Written/ Viva voce/Tutorial | |
| PH2.8 | Devise management plan for a case of gout, arthritis and migraine using appropriate drugs | K, S | KH, SH | Y | LGT, CBL, PBL, prescription writing | Written/ Viva voce/Tutorial, prescription audit | |
| Topic 3: Central Nervous system | | Number of competencies: (09) | | | Number of competencies that require certification : (NIL) | | |
| PH3.1 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of General anaesthetics, and pre-anaesthetic medications | K | KH | Y | LGT, SGT, Flipped class room | Written/ Tutorial | |
| PH3.2 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of different sedative and hypnotic agents and explain pharmacological basis of selection and use of different sedative and hypnotic agents | K | KH | Y | LGT, CBL/ PBL, prescription writing | Written/ Viva voce/Tutorial, prescription audit | |
| PH3.3 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used in epilepsy and devise management plan for a case of uncontrolled seizure | K, S,A,C | KH, SH | Y | LGT, CBL/PBL/ Bedside teaching, prescription writing | Written/ Viva voce/ Tutorial, prescription audit | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|------------------------|---------------|--|---|------------------------------|
| PH3.4 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs of opioid analgesics and explain the special instructions for use of opioids. | K, C | KH, SH | Y | LGT, CBL/PBL/ Bedside teaching | Written/ Viva voce/Tutorial/ Direct observation | |
| PH3.5 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for depression and psychosis, devise management plan for depressive and psychotic disorders | K, A, C | KH, SH | Y | LGT, CBL/PBL/ Bedside teaching, prescription writing | Written/ Viva voce/ prescription audit | |
| PH3.6 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used in anxiety disorders. Discuss about general goals of Pharmacotherapy for the management of above disorders | K, A,C | KH, SH | Y | LGT, CBD, Bedside teaching, prescription writing | Written/ Viva voce, prescription audit | |
| PH3.7 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for Parkinsonism and other neurodegenerative disorders. Write a prescription to manage a case of drug induced parkinsonism | K | KH | Y | LGT, Problem/ case-based group discussion, prescription writing | Written/ Viva voce, prescription audit | |
| PH3.8 | Identify and manage methanol poisoning and chronic ethanol intoxication | K, S,A,C | KH, SH | Y | LGT, SGT, CBL, bedside teaching | Written/ Viva voce, direct observation | |
| PH3.9 | Describe the drugs that are abused and cause addiction (dependence, addiction, stimulants, depressants, psychedelics, drugs used for criminal offences). Explain the process and steps for management of drug de addiction | K | KH | Y | LGT, SGT/CBL, Simulations, Flipped class room | Written/ Viva voce/Tutorial | |
| Topic 4: Cardiovascular system & Blood | | Number of competencies: (11) | | | Number of competencies that require certification : (NIL) | | |
| PH4.1 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for different anaemias and thrombocytopenia. | K | KH | Y | LGT, integration module, CBL, SDL, Prescription writing | Written/ Tutorial/ Prescription audit | Anemia Integration |

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| PH4.2 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs acting on coagulation system (Coagulants/anticoagulants) and devise a plan to monitor therapy and management of adverse effects. | K, A, C | KH, SH | Y | LGT, SGT, bedside teaching | Written/Viva voce/ Direct observation | |
|-------|---|---------|--------|---|----------------------------|--|--|

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|--|-------------------------------|------------------------|---------------|---|---|------------------------------|
| PH4.3 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of Fibrinolytics and Antifibrinolytic agents. | K | KH | Y | LGT, SGT | Written/Tutorial | |
| PH4.4 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of Antiplatelets agents. | K | KH | Y | LGT, CBL, Flipped class room | Written/Tutorial | |
| PH4.5 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of Diuretics, antidiuretics-vasopressin and analogues | K | KH | Y | LGT, SGT | Written/ Tutorial | |
| PH4.6 | Explain salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs modulating renin angiotensin aldosterone system. | K | KH | Y | LGT, SGT | Written/ Tutorial | |
| PH4.7 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for the management of hypertension Devise plan for pharmacologic management of hypertension with Diabetes, Pregnancy induced hypertension and hypertensive emergency and urgency | K | KH | Y | LGT, CBL/PBL, prescription writing, Simulations | Written/ Viva voce/Tutorial prescription audit/ Direct observations | |
| PH4.8 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for the management of ischemic heart disease (stable, unstable angina and myocardial infarction), peripheral vascular disease and devise management plan for a patient of acute myocardial Infarction | K, S,A,C | KH, SH | Y | LGT, CBL, Simulations, prescription writing | Written/ Viva voce/ Direct observations, audit of prescriptions | |

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| PH4.9 | Explain salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for the management of heart failure. Devise management plan for heart failure patients and describe the strategies to prevent long term complications of heart failure. | K, A,C | KH | Y | LGT, CBL, PBL, SDL, prescription writing | Written/ Viva voce/ prescription audit | |
|-------|--|--------|----|---|--|--|--|

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|--|-------------------------------|------------------------|---------------|---|--|------------------------------|
| PH4.10 | Explain salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for cardiac arrhythmias. Devise a plan to manage a patient with supraventricular, ventricular arrhythmias, cardiac arrest and fibrillations | K,S, A,C | KH, SH | Y | LGT, SGT, CBL, SDL, simulations, prescription writing | Written/ Viva voce/ direct observation/ prescription audit | |
| PH4.11 | Explain salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for the management of dyslipidaemias and enumerate drugs leading to dyslipidaemias | K | KH | Y | LGT, SGT, CBL | Written/ Viva voce/ Tutorial | |

Topic 5: Respiratory system

Number of competencies: (2)

Number of competencies that require certification : (NIL)

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|-------|--|---------|--------|---|--|--|--|
| PH5.1 | Devise management of various stages of Bronchial asthma, COPD. Explain salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for the management of Bronchial asthma, COPD and Rhinitis. | K, A, C | KH /SH | Y | LGT, SGT, Demonstration of devices used in Br Asthma, Prescription writing | Written/ Viva voce/ OSPE/ Direct observation, Prescription audit | |
| PH5.2 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for cough management. Describe management of dry & productive cough | K | KH | Y | LGT , SGT, Flipped class room | Written/ Tutorial | |

Topic 6: Gastrointestinal system

Number of competencies: (5)

Number of competencies that require certification : (NIL)

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|-------|--|----|----|---|--------------------------------|--|--|
| PH6.1 | Explain types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used in Acid peptic diseases including Peptic Ulcers, GERD and devise a management plan for a case of peptic ulcer. | K, | KH | Y | LGT, SGT, Prescription writing | Written/ Viva voce/ Tutorial, Prescription audit | |
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|-------|--|---|----|---|----------|---------------------------------|--|
| PH6.2 | Describe types, salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of prokinetics & drugs used for emesis and antiemetics. | K | KH | Y | LGT, SGT | Written/ Viva voce/ Tutorial | |
|-------|--|---|----|---|----------|---------------------------------|--|

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|----------------------------------|---|------------------------------------|------------------------|---------------|--|--|------------------------------|
| PH6.3 | Describe salient pharmacokinetics, pharmacodynamics, therapeutic uses, adverse drug reactions of drugs used for the management of diarrhoea and devise pharmacotherapeutic plan to manage acute and chronic diarrhoea in adults and children. | K, C | KH, SH | Y | LGT, SGT, bed side teaching, SDL | Written/ Viva voce, Direct observation, OSPE | |
| PH6.4 | Describe salient pharmacokinetics, pharmacodynamics, adverse drug reactions of drugs used for the management of constipation and devise management plan for a case of constipation | K, C | KH, C | N | LGT, SGT, Direct observation | Written/ Tutorial | |
| PH6.5 | Describe salient pharmacokinetics, pharmacodynamics, adverse drug reactions of drugs used for the management of Inflammatory Bowel Disease and Irritable Bowel Disorders | K | KH | N | LGT, SGT | Written/ Tutorial | |
| Topic 7: Endocrine system | | Number of competencies: (9) | | | Number of competencies that require certification : (NIL) | | |
| PH7.1 | Describe the types, kinetics, dynamics, adverse drug reactions of drugs used in diabetes mellitus and devise management for an obese and non-obese diabetic patient & also comment on prevention of complications of the diabetes. | K,A | KH | Y | LGT, CBL, SDL, SGT, Prescription writing | Written/ Viva voce/Tutorial, prescription audit | |
| PH7.2 | Describe the types, kinetics, dynamics, therapeutic uses, adverse drug reactions of drugs used in osteoporosis and devise management plan for a female and male patient with osteoporosis. | K | KH | Y | LGT, CBL/ SDL/ SGT, Prescription writing | Written/ Viva voce/ Tutorial, prescription audit | |
| PH7.3 | Describe the types, kinetics, dynamics, adverse drug reactions of drugs used in thyroid Disorders and devise a management plan for a case with thyroid Disorder. | K | KH | Y | LGT, CBL, SDL, SGT, Prescription writing | Written/ Tutorial, prescription audit | |

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| PH7.4 | Describe the types, mechanisms of action, adverse effects, indications and contraindications of the drugs which modify the release of Anterior Pituitary Hormones | K | KH | N | LGT | Written/ Tutorial | |
| PH7.5 | Explain the types, kinetics, dynamics, adverse effects, indications and contraindications of corticosteroids and communicate to patient the appropriate use of corticosteroids | K, A,C | KH, SH | Y | LGT, SGT/ CBL/ PBL, Role play | Written/ Viva voce/tutorial, Direct observation, OSPE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|------------------------------|---|-------------------------------------|------------------------|---------------|--|--|------------------------------|
| PH7.6 | Describe the types, kinetics, dynamics, adverse effects, indications and contraindications of Androgens and drugs used of Erectile Dysfunction | K | KH | N | LGT, SGT/ CBL | Written/ tutorial | |
| PH7.7 | Explain the types, kinetics, dynamics, adverse effects, indications and contraindications of drugs which modify Female Reproductive Functions including contraceptives. Explain the important instruction for use of female and male contraceptives | K,A,C | KH, SH | Y | LGT, SDL, CBL, PBL, SGT, Role play | Written/ Viva voce/tutorial, OSPE | |
| PH7.8 | Explain the types, kinetics, dynamics, adverse effects, indications and contraindications of uterine relaxants and stimulants. | K | KH | Y | LGT, CBL, Flipped class room | Written/ Tutorial | |
| PH7.9 | Describe drugs used for treatment of Infertility | K | KH | Y | LGT, CBL | Written/ tutorial | |
| Topic 8: Chemotherapy | | Number of competencies: (11) | | | Number of competencies that require certification : (NIL) | | |
| PH8.1 | Discuss general principles of chemotherapy with emphasis on antimicrobial resistance. | K | KH | Y | LGT | Written/ Viva voce/tutorial, Pandemic module | |
| PH8.2 | Discuss rational use of antimicrobials and describe antibiotic stewardship program of your institute | K | KH | Y | LGT, CBL, SGT, Flipped class room | Written/ Viva voce/tutorial, Pandemic module | |

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| PH8.3 | Explain the kinetics, dynamics, adverse effects, indications of the following antibacterial drugs: Sulphonamides, Quinolones, Beta-lactams, Macrolides, Tetracyclines, Aminoglycosides, and newer antibacterial drugs | K | KH | Y | LGT, CBL, SGT | Written/ Viva voce/tutorial | |
| PH8.4 | Devise a pharmacotherapeutic plan for UTI and STDs and explain to patient the instructions and adherence to treatment. | K,A,C | KH, SH | Y | LGT, CBL/ PBL/ SGT, role play, Prescription writing | Written/Viva voce/tutorial, OSPE/ Prescription audit, Direct observation | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|---|-------------------------------|------------------------|---------------|--|---|------------------------------|
| PH8.5 | Explain the types, kinetics, dynamics, therapeutic uses and adverse effects of drugs used in tuberculosis. Devise management plan for tuberculosis treatment in various categories. | K | KH, SH | Y | LGT, CBL, PBL, SDL, Prescription writing | Written/ Viva voce/tutorial, Prescription audit | |
| PH8.6 | Discuss the types, Kinetics, dynamics, adverse effects for drugs used for Leprosy and outline management of Lepra reactions | K | KH | Y | LGT/CBL. Prescription writing | Written/ Viva voce/tutorial Prescription audit | |
| PH8.7 | Discuss the types, Kinetics, dynamics, adverse effects of drugs used for following Protozoal / Vector borne diseases: 1. Amoebiasis 2. Kala-azar 3. Malaria 4. Filariasis | K | KH | Y | LGT SGT, CBL, Prescription writing | Written/Viva voce/tutorial, Prescription audit | |
| PH8.8 | Explain the types, kinetics, dynamics, adverse effects of drugs used for fungal infections | K | KH | Y | LGT SGT, CBL, Prescription writing | Written/Viva voce/tutorial, Prescription | |
| PH8.9 | Discuss the types, kinetics, dynamics, adverse effects of drugs used for Intestinal Helminthiasis | K | KH | Y | LGT SGT, CBL, Prescription writing | Written/Viva voce, Prescription | |
| PH8.10 | Discuss the types, kinetics, dynamics, adverse effects, indications and contraindications of drugs used for viral diseases including HIV | K | KH | Y | LGT SGT, CBL, Prescription writing | Written/Viva voce/tutorial, Prescription | |

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| PH8.11 | Describe the types, kinetics, dynamics, adverse effects, indications and contraindications of anti-cancer drugs . Devise plan for amelioration of anticancer drug induced toxicity. | K | KH | N | LGT, SGT, CBL | Written/tutorial | |
| Topic 9: Miscellaneous | | Number of competencies: (7) | | | Number of competencies that require certification : (NIL) | | |
| PH9.1 | Describe the types, kinetics, dynamics, therapeutic uses, adverse drug reactions of immunomodulators | K | KH | N | LGT/ SGT | Written/ Viva voce /tutorial | |
| PH9.2 | Describe management of common drug poisonings, insecticides, common stings and bites | K | KH | Y | LGT, CBL, Simulations | Written/ Viva voce/tutorial, direct observations | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------------------------------------|---|-------------------------------------|------------------------|---------------|--|---------------------------------------|------------------------------|
| PH9.3 | Describe chelating agents and make a plan for management of heavy metal poisoning | K | KH | N | LGT, CBL | Written/ tutorial | |
| PH9.4 | Describe basics of vaccine use and types of vaccines | K | KH | Y | SGT, LGT | Written/ tutorial | |
| PH9.5 | Describe types, precautions and uses of antiseptics and disinfectants | K | KH | Y | SGT, LGT | Written/ tutorial | |
| PH9.6 | Describe drugs used in various skin disorders like acne vulgaris, scabies , pediculosis, psoriasis including sunscreens | K | KH | N | LGT, Prescription writing | Written/ tutorial, Prescription audit | |
| PH9.7 | Describe drugs used in glaucoma and other ocular disorders including topical (ocular) drug delivery systems | K | KH | N | LGT | Written/ tutorial | |
| Topic 10: Applied Pharmacology | | Number of competencies: (17) | | | Number of competencies that require certification : (7) | | |
| PH10.1 | Compare and contrast different sources of drug information and update on latest information on drugs | K, C | KH, SH | Y | SGT, Practicals, Debate | Written, OSPE | 2 |
| PH10.2 | Perform a critical evaluation of the drug promotional literature and Interpret the package insert information contained in the drug package | K | KH/SH | Y | CBL, SGT, Debate | Written, OSPE | 1 |
| PH10.3 | To prepare and explain a list of P-drugs for a given case/condition | S,K,C | SH/KH | Y | CBL, SGT | OSPE, written | 2 |

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| PH10.4 | Describe parts of a correct, rational and legible prescription and write rational prescriptions for the provided condition. (examples of conditions to be used are given with other relevant competencies) | K | KH, SH | Y | Practical, DOAP, CBL, prescription writing | Written/ Viva voce/tutorial prescription audit | 5 |
| PH10.5 | Identify and apply the legal and ethical regulation of prescribing drugs especially when prescribing for controlled drugs, off-label medicines, and prescribing for self, close family and friends | K | KH | Y | SGT, CBL | short note/ Viva voce/tutorial | |
| PH10.6 | Perform a critical appraisal of a given prescription and suggest ways to improve it | SK | KH | Y | CBL, SGT, prescription critique | Written, Viva voce, OSPE | |
| PH10.7 | Describe Pharmacogenomics and Pharmacoeconomics and manage genomic & economic issues in drug use and find out the price of given medication(s). | K | KH, SH | N | LGT, SGT, | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|------------------------|---------------|--|------------------------------|------------------------------|
| PH10.8 | Describe Essential medicines, Fixed dose combination, Over the counter drugs and explain steps to choose essential medicines. | K | KH, SH | Y | SGT, DOAP, Debate | Written/ Viva voce/ OSPE | |
| PH10.9 | Calculate the dosage of drugs for an individual patient, including children, elderly, pregnant and lactating women and patients with renal or hepatic dysfunction. | K,S | SH | Y | LGT, practical | Written/ OSPE | 1 |
| PH10.10 | Identify when therapeutic drug monitoring is considered for a particular patient, determine timing of sampling and calculate revised dose. | K | KH | N | LGT, SGT/CBL | Written, OSPE | |
| PH10.11 | Identify and apply drug Regulations principles, acts and legal aspects related of drug discovery and clinical use | K | KH/SH | Y | LGT, Visit to clinical research facility, Can be covered in Pandemic module sessions | Written/ Viva voce/ tutorial | |
| PH10.12 | Describe overview of drug development including phases of clinical trials and Good Clinical Practice & reflect on the role of research in developing new drugs | K,A | KH | Y | LGT, SGT, Can be covered in Pandemic module sessions | Written/ Viva voce/ tutorial | |

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| PH10.13 | Demonstrate how to optimize interaction with pharmaceutical representative/media to get/disseminate authentic information on drugs | C,A,K | SH | Y | Role Play, Videos, actual encounters | Direct observation, OSPE | 2 |
| PH10.14 | Communicate with the patient regarding optimal use of a drug therapy using empathy and professionalism e.g. Oral contraceptives, anti TB drugs etc. | A,C | SH | Y | Role Play, Videos, actual encounters | OSPE, Direct observation | |
| PH10.15 | Describe methods to improve adherence to treatment and motivate patients with chronic diseases to adhere to the prescribed pharmacotherapy | K,C,A | SH | Y | Role Play, Videos, actual encounters | Written/ OSPE, Direct observation | 2 |
| PH10.16 | Demonstrate an understanding of the caution in prescribing drugs likely to produce dependence and recommend the line of management | K,C | KH,SH | Y | SGT, CBL | Written/ OSPE, Direct observation | |
| PH10.17 | Demonstrate ability to educate public & patients about various aspects of drug use including drug dependence and OTC drugs | A,C | SH | Y | Role Play, Videos, actual encounters, Plays | OSPE, Direct observation | |

PATHOLOGY (CODE: PA)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------------|------------------------|---------------|--|-----------------------------|---------------------------------|
| PATHOLOGY (Topics = 35, Competencies = 182) | | | | | | | |
| Topic 1: Introduction to Pathology | | Number of competencies: (3) | | | Number of competencies that require certification : (NIL) | | |
| PA1.1 | Describe the role of a pathologist in diagnosis and management of disease | K | K | Y | LGT | Written/ Viva voce | |
| PA1.2 | Enumerate common definitions and terms used in Pathology and Describe the history and evolution of Pathology | K | K | Y | LGT, SGT | Written/ Viva voce | |
| PA1.3 | Describe proliferation and cell cycle and concept of regenerative medicine along with role of stem cells. | K | K | Y | LGT, SGT | Written/ Viva voce | |
| Topic 2: Cell Injury and Adaptation | | Number of competencies: (08) | | | Number of competencies that require certification: (NIL) | | |
| PA2.1 | Describe the causes, mechanisms, types and effects of cell injury and their clinical significance | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.2 | Describe the etiology of cell injury. Distinguish between reversible-irreversible injury: mechanisms; morphology of cell injury | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.3 | Describe morphological changes in intracellular accumulation of fats, proteins, carbohydrates, pigments | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.4 | Describe and explain Cell death- types, mechanisms, necrosis, apoptosis (basic as contrasted with necrosis), autolysis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.5 | Describe types and pathology of calcifications and gangrene | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.6 | Describe cellular adaptations: atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia and carcinoma in situ | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.7 | Describe the mechanisms of cellular aging and apoptosis | K | KH | N | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------------------------------------|--|-------------------------------------|------------------------|---|------------------------------------|-----------------------------|------------------------------|
| PA2.8 | Identify and describe various forms of cell injuries with their manifestations and consequences in gross and microscopic specimens | S | SH | Y | DOAP | Viva voce | |
| Topic: 3 Inflammation | | Number of competencies:(04) | | Number of competencies that require certification: (NIL) | | | |
| PA3.1 | Define and describe the general features of acute and chronic inflammation including stimuli, vascular and cellular events | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA3.2 | Enumerate and describe the mediators of acute inflammation | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA3.3 | Define and describe chronic inflammation including causes, types non-specific and granulomatous and enumerate examples of each | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA3.4 | Identify and describe acute and chronic inflammation in gross and microscopic specimens | S | SH | Y | DOAP | Viva voce | |
| Topic 4: Healing and repair | | Number of competencies: (01) | | Number of competencies that require certification:(NIL) | | | |
| PA4.1 | Define and describe the process of repair and regeneration including wound healing and its types | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Topic 5: Hemodynamic disorders | | Number of competencies: (06) | | Number of competencies that require certification :(NIL) | | | |
| PA5.1 | Define and describe edema, its types, pathogenesis and clinical correlations | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA5.2 | Define and describe hyperemia, congestion, hemorrhage | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA5.3 | Define and describe shock, its pathogenesis and its stage | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA5.4 | Define and describe normal haemostasis and the etiopathogenesis and consequences of thrombosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA5.5 | Define and describe Ischemia/infarction, embolism its types, etiology, morphologic changes and clinical effects | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|--------------------------------------|------------------------|---|------------------------------------|-----------------------------|------------------------------|
| PA5.6 | Identify and describe the gross and microscopic features of infarction in a pathologic specimen | S | SH | Y | DOAP | Viva voce | |
| Topic 6: Neoplastic disorders | | Number of competencies: (07) | | Number of competencies that require certification: (NIL) | | | |
| PA6.1 | Define and classify neoplasia. Describe the characteristics of neoplasia including gross, microscopy, Biological, behavior and spread. Differentiate between benign from malignant neoplasms | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.2 | Describe the molecular basis of cancer, role of genetic and epigenetic alterations with special emphasis on common cancers like breast/ colon | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.3 | Define and classify the carcinogens and describe the process of different types of carcinogenesis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.4 | Describe the effects of tumor on the host including para neoplastic syndrome | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.5 | Describe laboratory diagnosis of cancer including molecular profiles of tumors, tumors markers and future of cancer diagnostics | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.6 | Describe immunology and the immune response to cancer with its clinical significance – Immunotherapy | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA6.7 | Identify and describe the gross and microscopic features of Benign and malignant neoplasm in a pathologic specimen | S | SH | Y | DOAP | Viva voce | |
| Topic 7: Basic diagnostic cytology | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| PA7.1 | Describe the techniques of cytology, staining & diagnostic role of cytology and its application in clinical care | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Topic 8: Immunopathology and AIDS | | Number of competencies : (06) | | Number of competencies that require certification: (NIL) | | | |
| PA8.1 | Describe the principles and mechanisms involved in immunity | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA8.2 | Describe the mechanism of hypersensitivity reaction | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|-------------------------------------|------------------------|---------------|---|-----------------------------|------------------------------|
| PA8.3 | Describe the HLA system and the immune principles involved in transplant and mechanism of transplant rejection | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA8.4 | Define autoimmunity. Enumerate autoimmune disorder and describe the pathogenesis of common autoimmune diseases | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA8.5 | Define and describe the pathogenesis of systemic Lupus Erythematosus | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA8.6 | Define and describe the pathogenesis and pathology of HIV and AIDS | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Topic 9: Amyloidosis | | Number of competencies: (02) | | | Number of competencies that require certification:(NIL) | | |
| PA9.1 | Describe the pathogenesis and pathology of amyloidosis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA9.2 | Identify and describe various forms of amyloidosis with their manifestations and consequences in gross and microscopic specimens | S | SH | Y | DOAP | Viva voce | |
| Topic 10: Infections and Infestations | | Number of competencies: (05) | | | Number of competencies that require certification:(NIL) | | |
| PA10.1 | Define and describe the pathogenesis and pathology of malaria | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA10.2 | Define and describe the pathogenesis and pathology of cysticercosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA10.3 | Define and describe the pathogenesis and pathology of leprosy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA10.4 | Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA10.5 | Define and describe the pathogenesis and pathology and laboratory findings in COVID | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Topic 11: Genetic and pediatric diseases | | Number of competencies: (03) | | | Number of competencies that require certification :(NIL) | | |
| PA11.1 | Describe the pathogenesis and features of common cytogenetic abnormalities and mutations in with diagnostic modalities in childhood | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA11.2 | Describe the pathogenesis and pathology of tumor and tumor like conditions in infancy and childhood | K | KH | N | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|------------------------|--|------------------------------------|-----------------------------|------------------------------|
| PA11.3 | Describe the pathogenesis of common storage disorders in infancy and childhood | K | KH | N | LGT, SGT | Written/ Viva voce | |
| Topic 12: Environmental and nutritional diseases | | Number of competencies:(03) | | Number of competencies that require certification:(NIL) | | | |
| PA12.1 | Enumerate and describe the pathogenesis of disorders caused by air pollution, tobacco, alcohol and noise | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA12.2 | Describe the pathogenesis of disorders caused by protein calorie malnutrition, vitamins and starvation | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA12.3 | Describe the pathogenesis of obesity and its consequences with special emphasis on metabolic syndrome | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Topic 13: Introduction to hematology | | Number of competencies: (04) | | Number of competencies that require certification:(1) | | | |
| PA13.1 | Describe hematopoiesis and extra medullary hematopoiesis and the role of anticoagulants in hematology | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA13.2 | Define and classify anemia Enumerate and describe the investigation of anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA13.3 | Describe collection of specimens and identify coagulants and anticoagulant bulbs, instruments | S | SH` | Y | DEMO | Viva voce / OSPE | |
| PA13.4 | Perform common haematological tests – Hb, RBC count, WBC count and DLC | S | SH` | Y | DEMO | Viva voce / OSPE | 4 |
| Topic 14: Microcytic anemia | | Number of competencies: (02) | | Number of competencies that require certification:(1) | | | |
| PA14.1 | Describe iron metabolism and Describe the etiology, investigations and differential diagnosis of microcytic hypochromic anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA14.2 | Identify and describe the peripheral smear in microcytic Anemia | S | SH` | Y | DEMO | Viva voce / OSPE | 1 |
| Topic 15: Macrocytic anemia | | Number of competencies: (03) | | Number of competencies that require certification: (1) | | | |
| PA15.1 | Describe the metabolism of Vitamin B12 and the etiology and pathogenesis of B12 deficiency and describe laboratory investigations of macrocytic anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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|--|---|-------------------------------------|------------------------|---------------|--|-----------------------------|------------------------------|
| PA15.2 | Enumerate the differences and describe the etiology, laboratory features of megaloblastic anemia and distinguishing features of megaloblastic and non-megaloblastic macrocytic anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA15.3 | Identify and describe the peripheral blood picture of macrocytic Anemia | S | SH` | Y | DEMO | Viva voce / OSPE | 1 |
| Topic 16: Hemolytic anemia | | Number of competencies: (03) | | | Number of competencies that require certification: (01) | | |
| PA16.1 | Define and classify hemolytic anemia and describe the pathogenesis and clinical features and hematologic indices of hemolytic anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA16.2 | Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anemia and thalassemia | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | 1 |
| PA16.3 | Describe the etiology, pathogenesis, hematologic indices and peripheral blood picture of Acquired hemolytic anemia and different hemolytic Anemia's | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | |
| Topic 17: Aplastic anemia | | Number of competencies: (01) | | | Number of competencies that require certification:(NIL) | | |
| PA 17.1 | Describe the etiology, pathogenesis and findings in aplastic Anemia and Enumerate the indications and describe the findings in bone marrow aspiration and biopsy | K | K | N | LGT, SGT | Written/ Viva voce | |
| Topic 18: Leukocyte disorders | | Number of competencies: (02) | | | Number of competencies that require certification:(NIL) | | |
| PA18.1 | Enumerate and describe the causes of leukocytosis leucopenia lymphocytosis and leukemoid reactions | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA 18.2 | Describe the etiology, genetics, pathogenesis classification, features, hematologic features of acute and chronic leukemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Topic 19: Lymph node and spleen | | Number of competencies: (06) | | | Number of competencies that require certification:(NIL) | | |
| PA19.1 | Enumerate the causes and describe the differentiating features of lymphadenopathy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA19.2 | Describe the pathogenesis and pathology of tuberculous Lymphadenitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------------|------------------------|--|------------------------------------|-----------------------------|------------------------------|
| PA19.3 | Describe and discuss the pathogenesis, pathology and the differentiating features of Hodgkin's and non-Hodgkin's lymphoma | S | SH | Y | DOAP | Skill assessment | |
| PA19.4 | Enumerate and differentiate the causes of splenomegaly | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA19.5 | Identify and describe the features of tuberculous lymphadenitis in a gross and microscopic specimen | S | SH | Y | DOAP | Viva voce | |
| PA19.6 | Identify and describe the features of Hodgkin's lymphoma in a gross and microscopic specimen | S | SH | Y | DOAP | Viva voce | |
| Topic 20: Hemorrhagic disorders | | Number of competencies: (03) | | Number of competencies that require certification:(NIL) | | | |
| PA20.1 | Describe normal hemostasis Classify and describe the etiology, pathogenesis and pathology of vascular and platelet disorders including ITP and hemophilia's | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA20.2 | Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of disseminated intravascular coagulation and diagnosis of Vitamin K deficiency | S | SH | Y | LGT, SGT | Written/ Viva voce | |
| PA20.3 | Define and describe its laboratory findings and diagnosis of Multiple Myeloma | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Topic 21: Blood banking and transfusion | | Number of competencies: (06) | | Number of competencies that require certification: (1) | | | |
| PA21.1 | Classify and describe blood group systems (ABO and RH) | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.2 | Enumerate blood components and describe their clinical uses | S | SH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.3 | Enumerate and describe infections transmitted by blood transfusion | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.4 | Describe transfusion reactions and enumerate the steps in the investigation of a transfusion reaction | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.5 | Enumerate the indications and describe the principles and procedure of autologous transfusion | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.6 | Describe the correct technique to perform blood grouping Describe the correct technique to perform a cross match | S | SH` | Y | DEMO | Viva voce / OSPE | 1 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------|------------------------|---------------|------------------------------------|---|------------------------------|
| Topic 22: Clinical Pathology Number of competencies: (05) Number of competencies that require certification: (2) | | | | | | | |
| PA22.1 | Describe abnormal urinary findings in disease states and identify and describe common urinary abnormalities in a clinical specimen | S | SH | Y | DOAP | Skill Assessment | |
| PA22.2 | Describe abnormal findings in body fluids in various disease states | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA22.3 | Describe and interpret the abnormalities in a panel containing semen analysis, thyroid function tests. | S | SH | Y | DOAP | Skill Assessment | |
| PA22.4 | Describe and interpret the abnormalities in a panel containing liver function tests | KS | KH | Y | LGT/DOAP | Written/ Viva voce/ Skill Assessment | 4 |
| PA22.5 | Describe and interpret the abnormalities in a panel containing, renal function tests | KS | KH | Y | LGT/DOAP | Written/ Viva voce/ Skill Assessment | 4 |
| Topic 23: Gastrointestinal tract Number of competencies: (09) Number of competencies that require certification: (NIL) | | | | | | | |
| PA23.1 | Describe the etiology, pathogenesis, pathology and clinical features of oral cancers | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.2 | Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of carcinoma esophagus | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.3 | Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of peptic ulcer disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.4 | Describe and etiology and pathogenesis and pathologic features of carcinoma of the stomach | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.5 | Describe and etiology and pathogenesis and pathologic features of Tuberculosis of the intestine and appendicitis. | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.6 | Describe and etiology and pathogenesis and pathologic and distinguishing features of Inflammatory bowel disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.7 | Enumerate causes and describe laboratory diagnosis of malabsorption syndrome | K | KH | N | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------------------------------------|---|-------------------------------------|------------------------|--|------------------------------------|-----------------------------|---------------------------------|
| PA23.8 | Describe the etiology, pathogenesis, pathology and distinguishing features of carcinoma of the colon | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.9 | Describe and identify the microscopic features of peptic ulcer ,intestinal ulcers and tumours of GIT | S | SH | Y | DOAP | Viva voce | |
| Topic 24: Hepatobiliary system | | Number of competencies: (09) | | Number of competencies that require certification: (01) | | | |
| PA24.1 | Describe Bilirubin metabolism, enumerate the etiology and pathogenesis of jaundice, distinguish between direct and indirect hyper Bilirubinemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.2 | Describe the pathophysiology and pathologic changes seen in hepatic failure and their clinical manifestations, complications and consequences | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.3 | Describe the etiology and pathogenesis of viral and toxic hepatitis; distinguish the causes of hepatitis based on the clinical and laboratory features. Describe the pathology, complications and consequences of hepatitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.4 | Describe the pathophysiology, pathology and progression of alcoholic liver disease including cirrhosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.5 | Describe the etiology, pathogenesis and complications of portal hypertension | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.6 | Interpret liver function and viral hepatitis serology panel. Distinguish obstructive from non-obstructive jaundice based on clinical features and liver function tests | S | P | Y | DOAP | Skill assessment | 1 |
| PA24.7 | Define and describe the etiology, types, pathogenesis, morphology and complications of Hepatocellular Carcinoma | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.8 | Describe the pathophysiology, pathology and complications of acute cholecystitis and Cholelithiasis | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-------------------------------------|------------------------|---|------------------------------------|-----------------------------|---------------------------------|
| PA24.9 | Describe and identify the microscopic features of liver diseases and tumors | S | SH | Y | DOAP | Viva voce | |
| Topic 25: Respiratory system | | Number of competencies: (07) | | Number of competencies that require certification: (NIL) | | | |
| PA25.1 | Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.2 | Describe the etiology, gross and microscopic appearance and complications of lung abscess | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.3 | Define and describe the etiology, types, pathogenesis, stages morphology and complications and evaluation of Obstructive airway disease (OAD) and bronchiectasis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.4 | Define and describe the etiology, types, pathogenesis, stages, morphology microscopic appearance and complications of tuberculosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.5 | Define and describe the etiology, types, exposure, environmental influence, pathogenesis, stages, morphology, microscopic appearance and complications of Occupational lung disease | K | KH | Y | LGT, SGT | Written / Viva voce | |
| PA25.6 | Define and describe the etiology, types, exposure, genetic environmental influence, pathogenesis, stages, morphology, microscopic appearance, metastases and complications of tumors of the lung and pleura including mesothelioma | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.7 | Identify and describe the features of diseases and tumors of lung in a gross and microscopic specimen | S | SH | Y | DOAP | Viva voce | |
| Topic 26: Cardiovascular system | | Number of competencies: (10) | | Number of competencies that require certification: (NIL) | | | |
| PA26.1 | Distinguish arteriosclerosis from atherosclerosis. Describe the pathogenesis and pathology of various causes and types of atherosclerosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------------------------------|--|-------------------------------------|------------------------|---------------|---|-----------------------------|------------------------------|
| PA26.2 | Describe the etiology, dynamics, pathology types and complications of aneurysms including aortic aneurysms | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.3 | Describe the etiology, types, stages pathophysiology, pathology and complications of heart failure | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.4 | Describe the etiology, pathophysiology, pathology, gross and, complications of Congenital heart disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.5 | Describe the etiology, pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.6 | Describe the epidemiology, risk factors, etiology, pathophysiology, pathology, presentations, gross and microscopic features, diagnostic tests and complications of ischemic heart disease and Interpret abnormalities in cardiac function testing in acute coronary syndromes | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.7 | Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of infective endocarditis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.8 | Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of pericarditis and pericardial effusion | S | SH | Y | DOAP | Skill Assessment | |
| PA26.9 | Classify and describe the etiology, types, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of cardiomyopathies | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA26.10 | Describe the etiology, pathophysiology, pathology features and complications of tumors of cardiovascular system. | K | KH | N | LGT, SGT | Written/ Viva voce | |
| Topic 27 : Urinary Tract | | Number of competencies: (17) | | | Number of competencies that require certification: (NIL) | | |
| PA27.1 | Describe the normal histology of the kidney | K | K | Y | LGT, SGT | Written/ Viva voce | |
| PA27.2 | Define, classify and distinguish the clinical syndromes and describe the etiology, pathogenesis, pathology, morphology, clinical and laboratory and urinary findings, complications of renal failure | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|---|-------------------------------|------------------------|---------------|------------------------------------|-----------------------------|------------------------------|
| PA27.3 | Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings, progression and complications of acute renal failure | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.4 | Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings progression and complications of chronic renal failure | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.5 | Define and classify glomerular diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of glomerular injury, pathology, distinguishing features and clinical manifestations of glomerulonephritis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.6 | Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of IgA nephropathy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.7 | Enumerate and describe the findings in glomerular manifestations of systemic disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.8 | Enumerate and classify diseases affecting the tubular Interstitium | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.9 | Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of acute tubular necrosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.10 | Describe the etiology, pathogenesis, pathology, laboratory findings, distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.11 | Define classify and describe the etiology, pathogenesis pathology, laboratory, urinary findings, distinguishing features progression and complications of vascular disease of the kidney | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.12 | Define classify and describe the genetics, inheritance, etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features, progression and complications of cystic disease of the kidney | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------------------------------|---|-------------------------------------|------------------------|---------------|---|-----------------------------|------------------------------|
| PA27.13 | Define classify and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features progression and complications of renal stone disease and obstructive uropathy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.14 | Classify and describe the etiology, genetics, pathogenesis, pathology, presenting features, progression and spread of renal tumors | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA27.15 | Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of thrombotic angiopathies | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA27.16 | Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of urothelial tumors | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA27.17 | Identify and describe the features of kidney diseases and tumors in a gross and microscopic specimen | S | SH` | Y | DEMO | Viva voce / OSPE | |
| Topic 28: Male Genital Tract | | Number of competencies: (06) | | | Number of competencies that require certification: (NIL) | | |
| PA28.1 | Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA28.2 | Describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the penis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA28.3 | Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, urologic findings & diagnostic tests of benign prostatic hyperplasia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA28.4 | Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------------------------------------|--|-------------------------------------|------------------------|---|------------------------------------|-----------------------------|------------------------------|
| PA28.5 | Describe the etiology, pathogenesis, pathology and progression of prostatitis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA28.6 | Describe and identify the morphologic and microscopic features of diseases and tumors of male genital tract | S | SH | Y | DOAP | Viva voce | |
| Topic 29: Female Genital Tract | | Number of competencies: (10) | | Number of competencies that require certification: (NIL) | | | |
| PA.29.1 | Describe the epidemiology, pathogenesis, etiology, pathology, screening, diagnosis and progression of carcinoma of the cervix | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.2 | Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the endometrium | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.3 | Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the leiomyoma and leiomyosarcomas | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.4 | Classify and describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of ovarian tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.5 | Describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of gestational trophoblastic neoplasms | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.6 | Describe the etiology and morphologic features of cervicitis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA29.7 | Describe the etiology, hormonal dependence, features and morphology of endometriosis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA29.8 | Describe the etiology and morphologic features of adenomyosis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA29.9 | Describe the etiology, hormonal dependence and morphology of endometrial hyperplasia | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA29.10 | Describe and identify the morphologic and microscopic features of diseases and tumors of female genital tract | S | SH | Y | DOAP | Viva voce | |
| Topic 30: Breast | | Number of competencies: (05) | | Number of competencies that require certification: (NIL) | | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-----------------------------------|--|-------------------------------------|------------------------|---------------|---|-----------------------------|---------------------------------|
| PA30.1 | Classify and describe the types, etiology, pathogenesis, hormonal dependency of breast pathology and benign disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA30.2 | Classify and describe the epidemiology, pathogenesis, classification, morphologic and microscopic features, prognostic factors, hormonal dependency, staging and spread of carcinoma of the breast | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA30.3 | Describe and identify the morphologic and microscopic features of Phyllodes tumor of the breast | S | SH | N | DOAP | Skill Assessment | |
| PA30.4 | Enumerate and describe the etiology, hormonal dependency and pathogenesis of Gynaecomastia | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA30.5 | Describe and identify the morphologic and microscopic features of benign and malignant tumors of the breast | S | SH | Y | DOAP | Viva voce | |
| Topic 31: Endocrine system | | Number of competencies: (10) | | | Number of competencies that require certification: (NIL) | | |
| PA31.1 | Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA31.2 | Describe the etiology, cause, iodine dependency, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA31.3 | Describe the etiology, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis/ hypothyroidism | K | KH | Y | LGT, Small group | Written/ Viva voce | |
| PA31.4 | Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features & complications of Thyroid tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA31.5 | Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of diabetes mellitus | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA31.6 | Describe the etiology, genetics, pathogenesis, manifestations, laboratory and morphologic features of hyperparathyroidism | K | KH | N | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------------------------------------|--|-------------------------------------|------------------------|---------------|------------------------------------|-----------------------------|---------------------------------|
| PA31.7 | Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications and metastases of pancreatic cancer | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA31.8 | Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of adrenal insufficiency | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA31.9 | Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of Cushing's syndrome | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA31.10 | Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms | S | SH | Y | DOAP | Viva voce | |
| Topic 32: Bone and soft tissue | | Number of competencies: (07) | | | Number of competencies | | |
| PA32.1 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA32.2 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA32.3 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of soft tissue tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA32.4 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of Paget's disease of the bone | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA32.5 | Classify and describe the etiology, immunology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of rheumatoid arthritis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA32.6 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of Osteo arthritis and Gouty arthritis | K | KH | N | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|------------------------|---|------------------------------------|-----------------------------|------------------------------|
| PA32.7 | Describe and identify the morphologic and microscopic features of diseases and tumors of bone | S | SH | Y | DOAP | Viva voce | |
| Topic 33: Skin | | Number of competencies: (04) | | Number of competencies that require certification:(NIL) | | | |
| PA33.1 | Describe the risk factors pathogenesis, pathology and natural history of squamous cell carcinoma of the skin | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA33.2 | Describe the risk factors pathogenesis, pathology and natural history of basal cell carcinoma of the skin | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA33.3 | Describe the distinguishing features between a nevus and melanoma. Describe the etiology, pathogenesis, risk factors morphology clinical features and metastases of melanoma | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA33.4 | Identify, distinguish and describe common tumors of the skin | S | SH | N | DOAP | Skill Assessment | |
| Topic 34: Central Nervous System | | Number of competencies:(03) | | Number of competencies that require certification: (01) | | | |
| PA34.1 | Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA34.2 | Classify and describe the etiology, genetics, pathogenesis, pathology, presentation sequelae and complications of CNS tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA34.3 | Identify the etiology of meningitis based on given CSF parameters | S | P | Y | DOAP | Skill Assessment | 1 |
| Topic 35: Eye | | Number of competencies: (01) | | Number of competencies that require certification: (NIL) | | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|--|-------------------------------|------------------------|---------------|------------------------------------|-----------------------------|---------------------------------|
| PA35.1 | Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma | K | KH | N | LGT, SGT | Written/ Viva voce | |

MICROBIOLOGY (CODE: MI)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------------|------------------------|---------------|--|--|---------------------------------|
| MICROBIOLOGY (Topics = 11, Competencies = 74) | | | | | | | |
| Topic 1: General Microbiology, Ethics & Communication | | Number of competencies: (13) | | | Number of competencies that require certification: (02) | | |
| MI 1.1 | Discuss notable historical events, scientific developments and contributions of key scientists in the evolution of medical microbiology. Discuss the role of microbes in health and disease | K | K | N | LGT | Written assessment, Viva Voce | - |
| MI 1.2 | Describe basic morphology, physiology/characteristics, classification and common infections /diseases caused by bacteria, viruses, fungi and parasites. | K | KH | Y | LGT | Written assessment, Viva Voce | |
| MI 1.3 | Describe the basic principles of molecular biology and the concept and significance of studying molecular genetics. Discuss molecular techniques applied to disease diagnosis in clinical microbiology. | K | KH | Y | LGT | Written assessment, Viva Voce | |
| MI 1.4 | Describe the laboratory methods used to detect causative agents of infectious diseases. | K | KH | Y | LGT | Written assessment, Viva Voce | |
| MI 1.5 | Discuss the appropriate method of collecting and transporting samples to detect microbial agents, including instructions to be given to patients before sample collection. | K | KH | Y | LGT/ SGT | Written assessment, Viva Voce | |
| MI 1.6 | Demonstrate the appropriate method of collection and transport of samples for the detection of microbial agents including instructions to be given to patients before sample collection. | S | SH | Y | DOAP, Role play | Practical exercises /OSPE | 3 |
| MI 1.7 | Discuss the attitude & behaviors that portray respect & demonstrate respect for patient samples sent to the laboratory for performance of laboratory tests in the detection of microbial agents causing Infectious diseases | A | SH | Y | SGT, Role play | Observation, Viva Voce, Scenario based questions | |

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| MI 1.8 | Discuss and demonstrate effective communication skills with patients, relatives and clinicians during sample collection and pre/posttest counseling | C | SH | Y | Role play | OSPE, Observation, Scenario based questions | |
| MI 1.9 | Discuss & demonstrate confidentiality pertaining to patient identity in laboratory results | A | SH | Y | SGT, Role play | Scenario based questions, Viva Voce | |
| MI 1.10 | Perform Gram stain, ZN stain, and routine stool examination to identify the different causative agents of infectious diseases from the clinical specimen | S | P | Y | DOAP | Practicals/OSPE | 3 for each procedure |
| MI 1.11 | Describe the epidemiological basis of infectious diseases and their application. | K | KH | Y | LGT | Written assessment, Viva Voce | |
| MI 1.12 | Classify and describe the different methods of sterilization and disinfection. Discuss the mechanism of action, application and quality control of different methods in the laboratory and in clinical and surgical practices. | K | KH | Y | LGT SGT | Written assessment, Case discussion exercise, Case based MCQ, Viva Voce | |
| MI 1.13 | Choose the most appropriate method of sterilization and disinfection to be used in specific situations in the laboratory, in clinical and surgical practice. | K | KH | Y | SGT, Case discussion | Written assessment/Viva voce/ | |
| Topic 2 : Basic Immunology & Immunological disorders | | Number of competencies: (08) | | | Number of competencies that require certification: (NIL) | | |
| MI 2.1 | Explain the role of immunological mechanisms in health and disease (innate and acquired immunity). | K | KH | Y | LGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 2.2 | Describe the structure and functions of immune system and its components (antigens, antibodies and complement systems). | K | KH | Y | LGT SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 2.3 | Describe the host immune responses in Microbial infections (humoral and cellular immune response). | K | KH | Y | LGT SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 2.4 | Explain the immune response in different types of infections (bacterial, mycobacterial, viral, fungal and parasitic infections) | K | KH | Y | LGT SGT | Written assessment, Case based MCQ, Viva Voce | |

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| MI 2.5 | Discuss the principles and applications of laboratory tests used in diagnostic microbiology based on the host's immune response. | K | KH | Y | LGT SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 2.6 | Discuss the immunological basis of disease prevention through active and passive immune prophylaxis. Discuss the importance of herd immunity in prevention and control of infectious disease in community. | K | KH | Y | LGT SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 2.7 | Describe the immunological mechanisms in immunological disorders (hypersensitivity, autoimmune disorders and immunodeficiency states) and discuss the laboratory methods used in their detection. | K | KH | Y | LGT SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 2.8 | Describe the immunological mechanisms involved in transplantation, tumour immunity and their applications in disease management. | K | KH | N | LGT, SDL` | MCQ, Viva Voce | |
| Topic 3: CVS and Blood | | Number of competencies: (13) | | | Number of competencies that require certification: (1) | | |
| MI 3.1 | Describe the etiopathogenesis, clinical features, complications/sequelae and laboratory diagnosis of rheumatic fever. | K | KH | Y | LGT SGT, Case-based discussion | Written/ Viva voce | |
| MI3.2 | Describe the classification etio-pathogenesis, clinical features of Infective endocarditis (IE). | K | KH | Y | LGT, SGT, Case based discussion | Written/ Viva voce | |
| MI 3.3 | Discuss the diagnostic modalities of IE available with special emphasis on concept of sepsis and blood culture collection & processing. | K | KH | Y | LGT, SGT , Case based discussion | Written/ Viva voce | 2 |
| MI 3.4 | Diagnose a clinically suspected case of rheumatic fever/IE based on the findings of various microscopic, serological and culture investigations. | K | KH | Y | LGT, SGT, Case based discussion | Case based exercise, Case based MCQ, Viva voce | |
| MI 3.5 | Define & describe types of Pyrexia of unknown origin (PUO). Discuss the etiopathogenesis and diagnostic modalities available to rule out infective causes of PUO. | K | KH | Y | LGT, SDL, SGT , Case-based discussion | Written assessment/ Viva voce | |
| MI 3.6 | Classify & describe the enteric fever pathogens. Discuss the evolution of the clinical course, pathogenesis, complications, laboratory diagnosis and prevention of enteric fever. | K | KH | Y | LGT. SGT, Case-based discussion | Case based exercise, Written assessment, Case based MCQ, Viva voce | |

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| MI 3.7 | Choose the most appropriate laboratory test in a suspected case of enteric fever based on the duration of illness and in a suspected case of carrier. | K | KH | Y | Interpretational exercises (Practicals) | Case based exercise, Case based MCQ, interpretational exercise, Viva Voce | |
| MI 3.8 | Read and interpret the results of various laboratory investigations in a suspected case of enteric fever with special emphasis on serological test results. | K | KH | Y | Interpretational exercises (Practicals) | Case discussion exercise, Case based MCQ, interpretation exercise, Viva Voce | |
| MI 3.9 | Enumerate the common infective causes of anaemia and describe the mechanisms involved in causing anaemia by them. | K | KH | Y | LGT | Written assessment | |
| MI 3.10 | Describe the morphology, life cycle, pathogenesis, laboratory diagnosis, prevention and control of the common parasites causing anaemia. | K | KH | Y | LGT | Written assessment, Case based exercise, Case based MCQ, Viva Voce | |
| MI 3.11 | Describe the morphology, life cycle, pathogenesis, clinical presentation, laboratory diagnosis and prevention of hemoparasites commonly prevalent in India (e.g. causing kala-azar, malaria, filariasis etc.) | K | KH | Y | LGT, SGT, SDL | Written assessment, Case discussion exercise, Case based MCQ, Viva Voce | |
| MI 3.12 | Differentiate agents of malignant malaria from agents of benign malaria reported in peripheral blood smear examination/ serology and explain its clinical significance. | K, | KH | Y | Case-based discussion with reports (Practicals) | Interpretational exercise, Case based exercise, Case based MCQ, Viva Voce | |
| MI 3.13 | Describe the epidemiology, the etio- pathogenesis, evolution complications, opportunistic infections, diagnosis, prevention and the principles of management of HIV | K | KH | Y | LGT, SDL | Written assessment, Case based MCQ, Viva Voce | |
| Topic 4: Gastrointestinal and Hepatobiliary system | | Number of competencies:(09) | | | Number of competencies that require certification:(01) | | |
| MI 4.1 | Define and differentiate between diarrhea, dysentery and food poisoning. Enumerate the microbial agents causing them. | K | KH | Y | LGT | Written assessment, Case based MCQ, Viva Voce | |

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| MI 4.2 | Describe the epidemiology, morphology, pathogenesis, clinical features and diagnostic modalities of bacterial, viral, parasitic and fungal agents causing diarrhoea. | K | KH | Y | LGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 4.3 | Describe the epidemiology, morphology, pathogenesis, clinical features and diagnostic modalities of bacterial, viral, parasitic and fungal agents causing dysentery | K | KH | Y | LGT with case discussions | Written assessment, Case based MCQ, Viva Voce | |
| MI 4.4 | Identify the common etiologic agents of diarrhoea and dysentery by stool microscopic examination. | S | SH | Y | DOAP (Practicals) | Interpretational exercises /practical exercise | 3 |
| MI 4.5 | Enumerate the bacterial, viral, parasitic and fungal agents of food poisoning and discuss their pathogenesis, clinical course and laboratory diagnosis. | K | KH | Y | LGT with case discussion , SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 4.6 | Describe the infective aetiology, pathogenesis and clinical course of Acid peptic disease (APD) and Discuss the laboratory diagnosis and management of the causative agent of APD. | K | KH | Y | LGT with case discussion, SDL | Written assessment, Case based MCQ, Viva Voce | |
| MI 4.7 | Describe the epidemiology, etiopathogenesis, clinical features and complications of viral hepatitis. | K | KH | Y | LGT with case / clinical report discussion | Written assessment, Case based MCQ, Viva Voce | |
| MI 4.8 | Discuss the modalities in laboratory diagnosis, with special emphasis on viral markers and preventive strategies for viral hepatitis caused by hepatitis viruses. | K | KH | Y | LGT with case / clinical report discussion | Written assessment, Case based MCQ, Viva Voce | |
| MI 4.9 | Suggest the most appropriate laboratory test based on history and clinical presentation in a suspected case of viral hepatitis and interpret the type and progress of viral hepatitis based on the laboratory report of viral markers in a case of infection by hepatitis virus. | K | KH | Y | SDL, SGT with case / clinical report discussion | Written assessment, Case based MCQ, Viva Voce | |
| Topic 5: Musculoskeletal system, Skin and Soft tissue infections | | Number of competencies: (05) | | | Number of competencies that require certification: (NIL) | | |
| MI 5.1 | Enumerate the microbial agents causing anaerobic infections. Describe the pathogenesis, clinical course and the laboratory diagnosis of anaerobic infections. | K | KH | Y | LGT with case discussion | Written assessment, Case based MCQ, Viva Voce | |
| MI 5.2 | Explain the etiopathogenesis, clinical course & laboratory diagnosis of bone & joint infections caused by bacterial, fungal, viral and parasitic agents. | K | KH | Y | LGT with case discussion | Written assessment, Case based MCQ, Viva Voce | |

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| MI 5.3 | Explain the etiopathogenesis, clinical course and the laboratory diagnosis of skin and soft tissue infections caused by bacterial, fungal, viral and parasitic agents. | K | KH | Y | LGT with case discussion SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 5.4 | Differentiate between infective and non-infective lesions in the skin. Enlist microbes causing systemic disease with involvement of skin. | K | KH | N | LGT | Written assessment, Viva voce | |
| MI 5.5 | Describe the etiopathogenesis, clinical course, complications and laboratory diagnosis of mycobacterial infections involving skin & soft tissue with special emphasis on sample collection from/of skin | K | KH | Y | LGT, SGT, SDL | Written assessment | |
| Topic 6 : Central Nervous System infections | | Number of competencies: (03) | | | Number of competencies that require certification: (NIL) | | |
| MI 6.1 | Enumerate the microbial agents causing meningitis. Explain the pathogenesis, clinical course and laboratory diagnosis of meningitis caused by bacterial, fungal, viral and parasitic agents. | K | KH | Y | LGT with case discussion SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 6.2 | Enumerate the microbial agents causing encephalitis Explain the pathogenesis, clinical course and laboratory diagnosis of encephalitis caused by bacterial, fungal, viral and parasitic agents. | K | KH | Y | LGT with case discussion SGT, SDL | Written assessment, Case based MCQ, Viva Voce | |
| MI 6.3 | Identify the microbial agents causing meningitis from a Gram stained given smear. Read & Interpret the microscopic findings and culture report of CSF to diagnose a case of bacterial, viral, fungal or parasitic infection in CNS | K | KH | Y | SGT | Written assessment, Case based MCQ, Viva Voce, OSCE | |
| Topic 7: Respiratory tract infections | | Number of competencies: (05) | | | Number of competencies/ skills that require certification: (02) | | |
| MI 7.1 | Explain the etiopathogenesis, laboratory diagnosis and prevention of Infections of the upper respiratory tract caused by bacterial, viral, fungal and parasitic agents. | K | KH | Y | LGT with case discussion SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 7.2 | Explain the etiopathogenesis, laboratory diagnosis and prevention of Infections of the lower respiratory tract caused by bacterial, mycobacterial, viral, fungal and parasitic agents. | K | KH | Y | LGT with case discussion SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 7.3 | Enlist & identify the etiological agents of lower respiratory infection in specific situations like age, immune status, community-acquired pneumonia, hospital-acquired pneumonia etc | K | KH | Y | LGT with case discussion , SGT | Written assessment, Case based MCQ, Viva Voce | |
| MI 7.4 | Identify the common etiologic agents of upper respiratory tract infections in a Gram Stain/ Albert stained smear of throat swab and correlate with the clinical findings provided. | S | P | Y | DOAP Practicals | OSPE, Clinical case based exercises | 3 |

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| MI 7.5 | Identify the common etiologic agents of lower respiratory tract infections in a provided Gram Stained & Acid fast stained smear of sputum/BAL/tracheal aspirate and correlate with the clinical findings provided | S | P | Y | DOAP Practicals | OSPE, Clinical case based exercises | 3 |
| Topic:8 Genitourinary and Sexually Transmitted Infections | | Number of competencies: (04) | | | Number of competencies that require certification: (NIL) | | |
| MI 8.1 | Describe the etiopathogenesis and discuss the laboratory diagnosis of common bacterial, viral, fungal and parasitic infections of the genitourinary system | K | KH | Y | LGT/ SGT | Written assessment, Viva voce | - |
| MI 8.2 | Enlist common sexually transmitted infections (STI). Explain the pathogenesis, laboratory diagnosis and prevention of common bacterial and viral sexually transmitted infections. | K | KH | Y | LGT/ SGT | Written assessment, Viva Voce | |
| MI 8. | Explain the concept and utility of Syndromic management of STI. | K | KH | Y | SDL/ SGT | Written assessment, Viva voce | |
| MI 8.4 | Explain etiopathogenesis, clinical course, and the appropriate method for specimen collection, and discuss the laboratory diagnosis of different clinical and epidemiological types of urinary tract infections. | K | KH | Y | LGT/ SGT | Written assessment, Viva voce | |
| Topic 9: Zoonotic diseases and Miscellaneous | | Number of competencies: (06) | | | Number of competencies that require certification: (NIL) | | |
| MI 9.1 | Define and classify Zoonotic infections. Explain etio-pathogenesis, vectors, clinical course, transmission, risk factors, laboratory diagnosis, and preventive & control strategies of different zoonotic infections caused by bacterial, viral, fungal and parasitic agents. | K | KH | Y | LGT/ SGT | Written assessment, Viva voce | |
| MI 9.2 | Describe the etiopathogenesis and laboratory diagnosis of opportunistic infections(OI) along with factors predisposing to the development of OI by bacterial, viral, fungal and parasitic agents. | K | KH | Y | LGT, SGT | Written assessment, Viva voce | |
| MI 9.3 | Choose the most suitable microbiological investigation in a given clinical situation and Interpret the results of the laboratory tests for the diagnosis of the infectious disease | K | SH | Y | Case based exercise, SGT | Cased based exercises, Case based MCQ | |
| MI 9.4 | Describe the etiopathogenesis of infective causes of malignancy and explain the mechanisms used by oncogenic viruses in the development of virus-associated malignancies, along with their preventive measures. | K | KH | Y | LGT SGT | Written assessment, Viva voce | |

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| MI 9.5 | Describe the concept of emerging & re-emerging Infectious diseases. Explain the factors responsible for emergence and re-emergence of these disease and strategies for their prevention and control. | K | KH | Y | LGT, small group discussion, SDL | Written assessment, Viva voce | |
| MI 9.6 | Describe the National Health Programs in the prevention of common infectious diseases and discuss the National reference centres for disease diagnosis and control | K | K | N | LGT | Written assessment, Viva voce | |
| Topic 10: Healthcare-associated infections (HAI) | | Number of competencies: (05) | | | Number of competencies that require certification: (01) | | |
| MI 10.1 | Enumerate different causative agents and the types of Healthcare-Associated Infections (HAI). Define HAI and describe the chain of transmission and its role in preventing HAI. | K | K | Y | LGTs, SGT | Written assessment, Viva voce | |
| MI 10.2 | Describe the standard & transmission based precautions for infection control and the role of the hospital infection control committee (HICC) in the prevention of HAI. | K | KH | Y | LGTs, SGT | MCQ, viva voce | |
| MI 10.3 | Demonstrate hand washing, donning- doffing of PPE and segregation of Biomedical waste | S | SH | Y | DOAP, Role-play, SGT, Practicals | OSPE, Direct Observation with checklist | 3 each |
| MI 10.4 | Describe the methods used and significance of assessing the microbial contamination of food, water and air (in hospital surveillance) | K | KH | N | Interactive LGTs | Written assessment, MCQ, Viva Voce | |
| MI 10.5 | Describe the commonly detected drug-resistant microbes in HAI. Explain the mechanism of evolution, spread, and control of antimicrobial drug resistance in hospitalized patients. | K | KH | Y | LGT, SGT | Written assessment, MCQ, Viva Voce | |
| Topic 11: Antimicrobial resistance (AMR) & Antimicrobial Stewardship (AMSP) | | Number of competencies: (03) | | | Number of competencies that require certification: (Nil) | | |
| MI 11.1 | Describe the genotypic & phenotypic mechanisms of antimicrobial drug resistance and the methods of antimicrobial susceptibility testing, along with interpretation of the antimicrobial susceptibility testing report | K | KH | Y | LGT, SGT | Written assessment, MCQ, Viva Voce, Interpretational exercise | - |
| MI 11.2 | Explain intrinsic & acquired drug resistance along with the antimicrobial spectrum of important human pathogens and its application in clinical therapy. | K | KH | Y | LGT, SGT | Written assessment, MCQ, Viva Voce | - |
| MI 11.3 | Explain the concept and application of the antimicrobial stewardship program including rational antimicrobial prescription and your role in its implementation. | K | KH | Y | LGT, SGT | Written assessment, MCQ, Viva Voce | - |

FORENSIC MEDICINE & TOXICOLOGY (CODE: FM)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-------------------------------------|------------------------|---------------|---|-----------------------------|------------------------------|
| FORENSIC MEDICINE & TOXICOLOGY (Topics = 14, Competencies = 158) | | | | | | | |
| Topic 1: Introduction to forensic medicine basics of legal procedure. | | Number of competencies: (09) | | | Number of competencies that require certification: (NIL) | | |
| FM1.1 | Define Forensic medicine, Clinical Forensic Medicine, Forensic Pathology, State Medicine, Legal Medicine and Medical Jurisprudence | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM1.2 | Describe history of Forensic Medicine | K | KH | N | SDL | Written/ Viva voce | |
| FM1.3 | Describe legal competencies including Bharatiya Nagarika Suraksha Sanhita (BNSS), Bharatiya Nyay Sanhita (BNS) Bharatiya Sakshya Adhinyam (BSA), Protection of Children from Sexual Offences Act (POCSO) Civil and Criminal Cases, Inquest (Police Inquest and Magistrate's Inquest), Cognizable and Non-cognizable offences | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM1.4 | Describe Courts in India and their powers: Supreme Court, High Court, Sessions court, Magistrate's Court, Labour Court, Family Court, Executive Magistrate Court and Juvenile Justice Board | K | KH | N | SDL/Moot Court | Written/ Viva voce | |
| FM1.5 | Describe Court competencies including issue of Summons, conduct money, types of witnesses, recording of evidence oath, affirmation, examination in chief, cross examination, re-examination and court questions, recording of evidence & conduct of doctor in witness box | K | KH | Y | LGT, SGT/ Practicals / Seminars, Moot Court | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|------------------------------------|--|-------------------------------------|------------------------|---------------|--|---|---------------------------------|
| FM1.6 | Describe Offenses in Court including Perjury; Court strictures vis-a-vis Medical Officer | K | KH | N | SDL | Written/ Viva voce | |
| FM1.7 | Describe Dying Declaration & Dying Deposition | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM1.8 | Describe the latest decisions/notifications/resolutions/circulars/standing orders related to medico-legal practice issued by Courts/Government authorities etc. | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM1.9 | Describe the importance of documentation in medical practice in regard to medico legal examinations, Medical Certificates and medico legal reports especially - maintenance of patient case records, discharge summary, prescribed registers to be maintained in Health Centres. - maintenance of medico-legal register like accident register. - documents of issuance of wound certificate - documents of issuance of drunkenness certificate. - documents of issuance of sickness and fitness certificate. - documents for issuance of death certificate. -documents of Medical Certification of Cause of Death - Form Number4 and 4A - documents for estimation of age by physical, dental and radiological examination and issuance of certificate | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce/Direct observation | |
| Topic 2: Forensic Pathology | | Number of competencies: (28) | | | Number of competencies that require certification : (1) | | |
| FM2.1 | Select appropriate cause of death in a particular scenario by referring ICD 11 code | K | KH | Y | LGT,SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM2.2 | Write a correct Medical Certificate of Cause of Death (MCCD) certificate as per ICD 11 document | S | SH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce/ Direct observation /O SPE | 3 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|--|-------------------------------|------------------------|---------------|--|-----------------------------|---------------------------------|
| FM2.3 | Define, describe and discuss death and its types including somatic/clinical/cellular, molecular and brain-death, Cortical Death and Brainstem Death | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM2.4 | Describe salient features of the Organ Transplantation and The Human Organ Transplant (Amendment) Act 2011 and discuss ethical issues regarding organ donation | K | KH | Y | LGT, SGT/ Practicals / Seminars/video demo. | Written/ Viva voce | |
| FM2.5 | Describe and discuss issues related to sudden natural deaths | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM2.6 | Describe and discuss natural and unnatural deaths | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM2.7 | Discuss moment of death, modes of death – coma, asphyxia and syncope | K | KH | Y | LGT, SGT/ Practicals / Seminars/ Video demo. | Written/ Viva voce | |
| FM2.8 | Describe and discuss suspended animation | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM2.9 | Describe and discuss post-mortem changes including signs of death, cooling of body, post-mortem lividity, rigor mortis, cadaveric spasm, cold stiffening and heat stiffening | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP/Video Demo. | Written/Viva voce/OSPE | |
| FM2.10 | Describe putrefaction, mummification, adipocere and maceration | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP | Written/Viva voce/OSPE | |
| FM2.11 | Discuss estimation of time since death | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP | Written/ Viva voce/OSPE | |
| FM2:12 | Introduction to mortuary setup and minimum requirement for conducting post-mortem examination and Embalming techniques | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM2.13 | Describe and discuss autopsy competencies including post-mortem examination, different types of autopsies, aims and objectives of post-mortem examination | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP | Written/Viva voce/OSPE | |
| FM2.14 | Describe the legal requirements to conduct post-mortem examination and competencies to conduct medico-legal post- | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP | Written/Viva voce/OSPE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|------------------------|---------------|--|-----------------------------|---------------------------------|
| | mortem examination | | | | | | |
| FM2.15 | Describe and discuss obscure autopsy and Virtopsy | K | KH | Y | LGT, SGT/ Practicals / Seminars, Video Demo. | Written/ Viva voce | |
| FM2.16 | Describe and discuss examination of clothing, preservation of viscera on post-mortem examination for chemical analysis and other medico-legal purposes, post-mortem artefacts | K | KH | Y | LGT, SGT/ Practicals / Seminars , Autopsy, DOAP, Video Demo. | Written/ Viva voce/OSPE | |
| FM2.17 | Describe the clinical features, post-mortem finding and medico legal aspects of injuries due to physical agents like heat (heat-hyperpyrexia, heat stroke, sun stroke, heat exhaustion/prostration, heat cramps [miner's cramp] or cold (systemic and localized hypothermia, frostbite, trench foot, immersion foot) | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy ,DOAP | Written/ Viva voce | |
| FM2.18 | Describe types of injuries, clinical features, patho-physiology, post-mortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP | Written/ Viva voce/OSPE | |
| FM2.19 | Describe and discuss clinical features, post-mortem findings and medico-legal aspects of death due to starvation and neglect | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM 2.20 | Describe special protocols for conduction of medico-legal autopsies in cases of death in custody or following violation of human rights as per National Human Rights Commission Guidelines | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP | Written/ Viva voce/OSPE | |
| FM2.21 | Describe and discuss examination of mutilated bodies or fragments, charred bones and bundle of bones | K | KH | Y | LGT, SGT/ Practicals / Seminars, DOAP | Written/ Viva voce/OSPE | |
| FM2.22 | Describe and discuss exhumation | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM2.23 | Crime Scene Investigation: Describe and discuss the objectives of crime scene visit, the duties & responsibilities of doctors on crime scene and the reconstruction of sequence of events after crime scene investigation | K | KH | N | SDL | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------------------------------|---|-------------------------------------|------------------------|---------------|--|-----------------------------|---------------------------------|
| FM2.24 | Investigation of anaesthetic, operative deaths: Describe and discuss special protocols for conduction of autopsy and for collection, preservation and dispatch of related material evidences | K | KH | N | SDL | Written/ Viva voce | |
| FM2.25 | Demonstrate professionalism while conducting autopsy in medico legal situations, interpretation of findings and making inference/opinion, collection preservation and dispatch of biological or trace evidences | A, C | KH/SH | Y | LGT, SGT/ Practicals / Seminars, DOAP | Written/ Viva voce/ OSPE | |
| FM2.26 | Demonstrate ability to work in a team for conduction of medico-legal autopsies in cases of death following alleged negligence medical dowry death, death in custody or following violation of human rights as per National Human Rights Commission Guidelines on exhumation | A | KH | Y | LGT, SGT/ Practicals / Seminars, DOAP | Written/ Viva voce/ OSPE | |
| FM2.27 | Demonstrate ability to exchange information by verbal, or nonverbal communication to the peers, family members, law enforcing agency and judiciary | A and C | KH | Y | LGT, SGT/ Practicals / Seminars, DOAP | Written/ Viva voce | |
| FM2.28 | Demonstrate ability to use local resources whenever required like in mass disaster situations | A and C | KH | Y | LGT, SGT/ Practicals /Seminars | Written/ Viva voce | |
| Topic 3: Mechanical asphyxia | | Number of competencies: (04) | | | Number of competencies that require certification : (NIL) | | |
| FM3.1 | Define, classify and describe asphyxia and medico-legal interpretation of post-mortem findings in asphyxial deaths | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP | Written/Viva voce/OSPE | |
| FM3.2 | Describe and discuss different types of hanging and strangulation including clinical findings, causes of death, post-mortem findings and medico-legal aspects of death due to hanging and strangulation including examination, preservation and dispatch of ligature material | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy DOAP | Written/Viva voce/OSPE | |
| FM3.3 | Describe and discuss patho-physiology, clinical features, post-mortem findings and medico-legal aspects of traumatic asphyxia, obstruction of nose & mouth, suffocation and sexual asphyxia | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP | Written/Viva voce/OSPE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|------------------------|--|--|-------------------------------------|---------------------------------|
| FM3.4 | Describe and discuss types, patho-physiology, clinical features, postmortem findings and medico-legal aspects of drowning | K | KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy, DOAP | Written/Viva voce/OSPE | |
| Topic 4: Clinical forensic medicine – identification | | Number of competencies: (05) | | Number of competencies that require certification : (NIL) | | | |
| FM4.1 | Define and describe Corpus Delicti, establishment of identity of living persons including race, sex, religion, complexion, stature. | K | KH | Y | LGT, SGT/ Practicals / Seminars , Bedside clinic, DOAP | Written/Viva voce/ skill assessment | |
| FM4.2 | Discuss teeth-eruption, decay, bite marks, and medico-legal aspects of teeth. | K | KH | Y | LGT, SGT/ Practicals / Seminars , Bedside clinic, DOAP | Written/Viva voce/ skill assessment | |
| FM4.3 | Discuss age determination using morphology, bones- ossification centers and medico-legal aspects of age. | K | KH | Y | LGT, SGT/ Practicals / Seminars , Bedside clinic, DOAP | Written/Viva voce/ skill assessment | |
| FM 4.4 | Describe and discuss identification of criminals, unknown persons, dead bodies from the remains-hairs, fibers, teeth, anthropometry | K | KH | Y | LGT, SGT/ Practicals / Seminars , Bedside clinic, DOAP | Written/Viva voce/ skill assessment | |
| FM4.5 | Dactylography, footprints, scars, tattoos, poroscopy and superimposition | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| Topic 5: Clinical forensic medicine - mechanical injuries and wounds | | Number of competencies: (06) | | Number of competencies that require certification : (NIL) | | | |
| FM5.1 | Define, describe and classify different types of mechanical injuries, abrasion, bruise, laceration, stab wound, incised wound, chop wound, defense wound, self- inflicted/fabricated wounds and their medico-legal aspects | K | KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, DOAP | Written/Viva voce/OSCE | |
| FM5.2 | Define injury, assault & hurt. Describe Bharatiya Nyay Sanhita (BNS) pertaining to injuries | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |

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| FM5.3 | Describe accidental, suicidal and homicidal injuries. Describe simple, grievous and dangerous injuries. Describe ante-mortem and post-mortem injuries | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM5.4 | Describe healing of injury and fracture of bones with its medico-legal importance | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|---|-------------------------------|------------------------|---------------|------------------------------------|-----------------------------|------------------------------|
| FM5.5 | Describe factors influencing infliction of injuries and healing, examination and certification of wounds and wound as a cause of death: Primary and Secondary | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM5.6 | Describe and discuss different types of weapons including dangerous weapons and their examination | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |

Topic 6: Clinical forensic medicine - firearm injuries

Number of competencies: (02)

Number of competencies that require certification : (NIL)

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| FM6.1 | Describe different types of firearms including structure and components. Along with description of ammunition propellant charge and mechanism of fire-arms, different types of cartridges and bullets and various terminology in relation of firearm – caliber, range, choking | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM6.2 | Describe and discuss wound ballistics-different types of firearm injuries, blast injuries and their interpretation, preservation and dispatch of trace evidences in cases of firearm and blast injuries, various tests related to confirmation of use of firearms | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, DOAP | Written/Viva voce/OSCE | |

Topic 7: Clinical forensic medicine - regional injuries

Number of competencies: (02)

Number of competencies that require certification : (NIL)

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| FM7.1 | Describe and discuss regional injuries to head (Scalp wounds, fracture skull, intracranial hemorrhages, coup and countercoup injuries), neck, chest, abdomen, limbs, genital organs, spinal cord and Skeleton | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic or autopsy, DOAP | Written/ Viva voce/ OSCE/OSPE | |
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| FM7.2 | Describe and discuss injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic or autopsy, DOAP | Written/Viva voce/ OSCE/OSPE | |
| Topic 8: Clinical forensic medicine - sexual offences | | Number of competencies: (16) | | | Number of competencies that require certification : (NIL) | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|--|-------------------------------|------------------------|---------------|---|---------------------------------|------------------------------|
| FM8.1 | Describe various sections of BNS and BNSS related to definition of rape, medical examination of rape victim/ survivor and accused of rape, police information by the doctors and medical care with recent amendments notified till date (i.e. Sections 63 BNS, 200 BNS, 397 BNSS & 184 BNSS, 52 BNSS), and recent amendments notified till date, sections 3 to 12, 27 and 41 of Protection of Children from sexual offences (POCSO) Act. | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Video Demo. | Written/Viva voce/ OSCE/OSPE | |
| FM8.2 | Describe and discuss the examination of the survivor of an alleged case of rape, and the preparation of report, framing the opinion and preservation and dispatch of trace evidences in such cases | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, DOAP, Video Demo. | Written/Viva voce/OSCE | |
| FM8.3 | Describe and discuss informed consent in sexual intercourse. Describe and discuss histories of gender and sexuality-based (sexual orientation) identities and rights in India. Describe history of decriminalization of 'adultery' and consensual adult homosexual sexual behaviour. Describe sexual offences with its medicolegal significance- <ul style="list-style-type: none"> ➤ Forced/ non-consensual penetrative anal sex ➤ Forced/ non-consensual oral sex ➤ Sexual acts with animals/ bestiality/ zoophilia ➤ Forced/ non-consensual insertion of fingers or objects Forced/ non-consensual touching or groping or disrobing ('indecent assault'). | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |

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| FM 8.4 | Define and discuss infanticide, foeticide and stillbirth | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM8.5 | Define and discuss signs of intrauterine death, signs of live birth, viability of foetus, age determination of foetus, DOAP of ossification centres, Hydrostatic test, Sudden infant death syndrome and Munchausen's syndrome by proxy. | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM8.6 | Describe the difference between paraphilia and paraphilic disorder. Describe paraphilic disorder as per the latest guidelines of DSM and ICD and describe medico-legal implications of paraphilic disorder by referring scientific literature and legal justification (if any). Describe and discuss various paraphilias in the context of informed consent during any sexual interaction. | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM8.7 | Describe legitimacy and its medico legal importance. Describe and discuss how 'signs' of virginity (so called 'virginity test', including finger tests (on female genitalia) are unscientific, inhuman and discriminatory. Describe and discuss how to appraise the courts about unscientific basis of these tests if court orders it. | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM8.8 | Discuss the medico legal aspects of pregnancy and delivery, signs of pregnancy, precipitate labour, superfoetation, superfecundation and signs of recent and remote delivery in living and dead | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|---|-------------------------------|------------------------|---------------|------------------------------------|-----------------------------|------------------------------|
| FM8.9 | Discuss disputed paternity and maternity | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM8.10 | Discuss Pre-conception and Pre Natal Diagnostic Techniques (PC&PNDT) - Prohibition of Sex Selection Act 2003 and Domestic Violence Act 2005 with Amendments | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM8.11 | Define and discuss impotence, sterility, frigidity, sexual dysfunction, premature ejaculation. Discuss the causes of impotence and sterility in male and female | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |

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| FM8.12 | Discuss Sterilization of male and female, artificial insemination, Test Tube Baby, surrogate mother, hormonal replacement therapy with respect to appropriate national and state laws | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM8.13 | Discuss the relative importance of surgical methods of contraception(vasectomy and tubectomy) as methods of contraception in the National Family Planning Programme | K | K/KH | N | SDL | Written | |
| FM 8.14 | Discuss Assisted Reproductive Technology Regulation Act 2021 and Surrogacy Act 2021 for accreditation, supervision and regulation of ART and Surrogacy Clinics in India. | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written | |
| FM8.15 | Define, classify and discuss abortion, methods of MTP and criminal abortion and complication of abortion. MTP Act 2021 and recent amendments. | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written | |
| FM8.16 | Describe evidences of abortion - living and dead, duties of doctor in cases of abortion, investigations of death due to criminal abortion | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| Topic 9: Clinical forensic medicine - child abuse and torture and human rights Number of competencies: (04) Number of competencies that require certification : (NIL) | | | | | | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|--|-------------------------------|------------------------|---------------|------------------------------------|-----------------------------|---------------------------------|
| FM9.1 | Describe and discuss child abuse and battered baby syndrome | K | K/KH | Y | LGT, SGT/ Practicals/ Seminars | Written/ Viva voce | |
| FM9.2 | Describe and discuss issues relating to torture, identification of injuries caused by torture and its sequelae, management of torture Survivors | K | K/KH | N | SDL | Written/ Viva voce | |
| FM9.3 | Describe and discuss guidelines and Protocols of National Human Rights Commission regarding torture | K | K/KH | N | SDL | Written/ Viva voce | |
| FM9.4 | Should be able to demonstrate the professionalism while dealing with survivor of torture and human right violations, sexual assaults- psychological consultation, rehabilitation | A, C | K/KH/SH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |

| Topic 10: Medical jurisprudence (medical law and ethics) | | Number of competencies: (29) | | | Number of competencies that require certification : (NIL) | | |
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| FM10.1 | Describe Medical Ethics and explain its historical emergence | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.2 | Describe the Indian Medical Register | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.3 | Describe the functions and role of National Medical Commission and State Medical Councils | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.4 | Describe the Code of Medical Ethics 2002 conduct, Etiquette and Ethics in medical practice and unethical practices & the dichotomy | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.5 | Rights/privileges of a medical practitioner, penal erasure, infamous conduct, disciplinary Committee, disciplinary competencies, warning notice and penal erasure | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.6 | Describe the Laws in Relation to medical practice and the duties of a medical practitioner towards patients and society | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.7 | Describe and discuss ethics related to HIV patients and legal aspects as per The Human Immunodeficiency Virus and Acquired Immune Deficiency Syndrome (Prevention and Control) Act, 2017. | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.8 | Describe the Consumer Protection Act-2019 (Medical Indemnity Insurance, Civil Litigations and Compensations) | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.9 | Describe the medico - legal issues in relation to family violence, violation of human rights, NHRC and doctors | K | KH | N | SDL | Written/ Viva voce | |
| FM10.10 | Describe communication between doctors, public and media | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.11 | Describe and discuss euthanasia and Do not Resuscitate (DNR) | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.12 | Discuss legal and ethical issues in relation to stem cell research | K | KH | N | SDL | Written/ Viva voce | |

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| FM10.13 | Describe social aspects of Medico-legal cases with respect to survivors of assault, rape, attempted suicide, homicide, domestic violence, dowry- related cases | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.14 | Describe & discuss the challenges in managing medico-legal cases including development of skills in relationship management – Human behavior, communication skills, conflict resolution Techniques | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.15 | Describe the principles of handling pressure – definition, types, causes, sources and skills for managing the pressure while dealing with medico-legal cases by the doctor | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.16 | Describe and discuss Bioethics | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.17 | Describe and discuss ethical Principles: Respect for autonomy, non-maleficence, beneficence & justice | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.18 | Describe and discuss medical negligence including civil and criminal negligence, contributory negligence, corporate negligence, vicarious liability, Res Ipsa Loquitur, prevention of medical negligence and defenses in medical negligence litigations | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.19 | Define Consent. Describe different types of consent and ingredients of informed consent. Describe the rules of consent and importance of consent in relation to age, emergency situation, | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| | mental illness and alcohol intoxication | | | | | | |
| FM10.20 | Describe therapeutic privilege, Malingering, therapeutic Misadventure, Professional Secrecy, Human Experimentation | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.21 | Describe Products liability and Medical Indemnity Insurance | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.22 | Explain Oath – Hippocrates, Charaka and Sushruta and procedure for administration of Oath. | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |

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| FM10.23 | Describe the modified Declaration of Geneva and its relevance | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.24 | Enumerate rights, privileges and duties of a Registered Medical Practitioner. Discuss doctor- patient relationship: professional secrecy and privileged communication | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.25 | Clinical research & Ethics Discuss human experimentation including clinical trials | K | KH | N | SDL | Written/ Viva voce | |
| FM10.26 | Discuss the constitution and functions of ethical committees | K | KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.27 | Describe and discuss Ethical Guidelines for Biomedical Research on Human Subjects & Animals | K | KH | N | SDL | Written/ Viva voce | |
| FM10.28 | Demonstrate respect to laws relating to medical practice and Ethical code of conduct prescribed by National Medical Commission and rules and regulations prescribed by it from time to time | A and C | SH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM10.29 | Demonstrate ability to conduct research in pursuance to guidelines or research ethics | A and C | KH/SH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| Topic 11: Forensic psychiatry | | Number of competencies: (06) | | | Number of competencies that require certification : (NIL) | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| FM11.1 | Classify common mental illnesses including post-traumatic stress disorder (PTSD) | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM11.2 | Define, classify and describe delusions, hallucinations, illusion, lucid interval and obsessions with exemplification | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM11.3 | Describe Civil and criminal responsibilities of a mentally ill person | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM11.4 | Differentiate between true mental illness from feigned mental illness | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |

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| FM11.5 | Describe & discuss Delirium tremors | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM11.6 | Describe the Indian Mental Health Act, 2017 and recent amendments with special reference to admission, care and discharge of a mentally ill person | K | K/KH | N | SDL | Written/ Viva voce | |
| Topic 12: Forensic laboratory investigation, recent advances and trace evidences | | Number of competencies: (06) | | | Number of competencies that require certification : (NIL) | | |
| FM12.1 | Describe different types of specimen and tissues to be collected both in the living and dead: Body fluids (blood, urine, semen, faeces saliva), Skin, Nails, tooth pulp, vaginal smear, viscera, skull, specimen for histo-pathological examination, blood grouping, HLA Typing and DNA Fingerprinting. Describe Locard's Exchange Principle | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM12.2 | Describe the methods of sample collection, preservation, labelling, dispatch, and interpretation of reports | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM12.3 | Cyber Forensic in relation to Privacy of Medical Documents | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM12.4 | Demonstrate professionalism while sending the biological or trace evidences to Forensic Science laboratory, specifying the required tests to be carried out, objectives of preservation of evidences sent for examination, personal discussions on interpretation of findings | A and C | KH/SH | Y | LGT, SGT/ Practicals / Seminars, DOAPs | Viva voce / OSPE | |
| FM12.5 | Demonstrate the professionalism while preparing reports in medico legal situations, interpretation of findings and making inference/opinion, collection preservation and dispatch of biological or trace evidences | A and C | SH | Y | LGT, SGT/ Practicals / Seminars | OSPE/Viva voce | |

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| FM12.6 | Enumerate the indications and describe the principles and appropriate use for: - DNA profiling -Facial reconstruction - Polygraph (Lie Detector) - Narcoanalysis, - Brain Mapping, Digital autopsy, - Virtual Autopsy, Imaging technologies | K | K/KH | N | SDL | Written/ Viva voce | |
| Topic 13: Toxicology | | Number of competencies: (21) | | | Number of competencies that require certification : (NIL) | | |
| FM13.1 | Describe the history of Toxicology | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM13.2 | Define the terms Toxicology, Forensic Toxicology, Clinical Toxicology and poison. | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM13.3 | Describe the various types of poisons, Toxicokinetics, and Toxicodynamics and diagnosis of poisoning in living and dead | K | K/KH | Y | LGT, SGT/ Practical / Seminars | Written/viva voce | |
| FM13.4 | Describe the Laws in relations to poisons including NDPS Act, Medico-legal aspects of poisons | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/ Viva voce | |
| FM13.5 | Describe Medico-legal autopsy in cases of poisoning including preservation and dispatch of viscera for chemical analysis | K | K/KH | Y | LGT, SGT/ Practical / Seminars, Autopsy, DOAP | Written/Viva voce/OSPE | |
| FM13.6 | Describe the general symptoms, principles of diagnosis and management of common poisons encountered in India | K | K/KH | Y | LGT, SGT/ Practical / Seminars, Bed side clinic, DOAP | Written/Viva voce/OSCE | |
| FM13.7 | Describe simple Bedside clinic tests to detect poison/drug in a patient's body fluids | K | K/KH | Y | LGT, SGT/ Practical / Seminars, Bed side clinic, DOAP | Written/Viva voce/OSCE | |
| FM13.8 | Describe basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, competencies of enhanced elimination | K | K/KH | Y | LGT, SGT/ Practical / Seminars, Bed side clinic, DOAP | Written/Viva voce/OSCE | |

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| FM13.9 | Describe the procedure of intimation of suspicious cases or actual cases of foul play to the police, maintenance of records, preservation and dispatch of relevant samples for laboratory analysis. | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/Viva voce | |
| FM13.10 | Describe the general principles of Analytical Toxicology and give a brief description of analytical methods available for toxicological analysis: Chromatography – Thin Layer Chromatography, Gas Chromatography, Liquid Chromatography and Atomic Absorption Spectroscopy | K | K/KH | Y | LGT, SGT/ Practicals / Seminars | Written/Viva voce | |
| FM13.11 | Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, competencies of enhanced elimination with regard to: Caustics Inorganic – sulphuric, nitric, and hydrochloric acids; Organic- Carbolic Acid (phenol), Oxalic and acetylsalicylic acids | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, Autopsy, DOAP | Written/Viva voce/OSCE | |
| FM13.12 | Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, competencies of enhanced elimination with regard to Phosphorus, Iodine, Barium | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, Autopsy, DOAP | Written/Viva voce/OSCE | |
| FM13.13 | Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, competencies of enhanced elimination with regard to Arsenic, lead, mercury, copper, iron. | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, Autopsy, DOAP | Written/Viva voce/OSCE | |
| FM13.14 | Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, competencies of enhanced elimination with regard to Ethanol, methanol, ethylene glycol Local Made Liquor and Hooch Tragedy | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, Autopsy, DOAP | Written/Viva voce/OSCE | |
| FM13.15 | Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, competencies of enhanced elimination with regard to Organophosphates, Carbamates, Organochlorines, Pyrethroids, Paraquat, Aluminium and Zinc phosphide | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, Autopsy, DOAP | Written/Viva voce/OSCE | |

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| FM13.16 | Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, competencies of enhanced elimination with regard to Ammonia, carbon monoxide, hydrogen cyanide & derivatives, methyl isocyanate, tear (riot control) gases | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, Autopsy, DOAP | Written/Viva voce/OSCE | |
| FM13.17 | Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, competencies of enhanced elimination with regard to: i. Antipyretics – Paracetamol, Salicylates ii. Anti-Infectives (Common antibiotics – an overview) iii. Neuropsychotoxicology Barbiturates, benzodiazepines, phenytoin, lithium, haloperidol, neuroleptics, tricyclics | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, Autopsy, DOAP | Written/Viva voce/OSCE | |
| FM13.18 | Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, competencies of enhanced elimination with regard to: iv. Narcotic Analgesics, Anaesthetics, and Muscle Relaxants v. Cardiovascular Toxicology Cardio toxic plants – oleander, Cerbera odollam, aconite, digitalis vi. Gastro- Intestinal and Endocrinal Drugs – Insulin | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Bed side clinic, Autopsy, DOAP | Written/Viva voce/OSCE | |
| FM13.19 | Describe features and management of Snake bite, scorpion sting, bee and wasp sting and spider bite | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy | Written/ Viva voce | |
| FM13.20 | Describe features and management of abuse/poisoning of Tobacco, cannabis, amphetamines, cocaine, hallucinogens, designer drugs & solvent, Mushroom Poisoning, Food Poisoning | K | K/KH | Y | LGT, SGT/ Practicals / Seminars, Autopsy | Written/ Viva voce | |
| FM13.21 | Describe toxic pollution of environment, its medico-legal aspects & toxic hazards of occupation and industry | K | K/KH | N | SDL | Written/ Viva voce | |

| Topic 14: Skills in forensic medicine & toxicology | | Number of competencies: (20) | | | Number of competencies that require certification: (5) | | |
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| FM14.1 | Examine and prepare Medico-legal report of an injured person with different etiologies in a simulated/ supervised environment | S | SH/P | Y | Bedside clinic (ward/casualty), SGT/ Practicals / Seminars | Log book/ Skill station/Viva voce / OSCE | 3 |
| FM14.2 | Demonstrate the correct technique of clinical examination in a suspected case of poisoning & prepare medico-legal report in a simulated/ supervised environment | S | SH | Y | Bedside clinic (ward/casualty), SGT/ Practicals / Seminars | Log book/ Skill station/Viva voce / OSCE | |
| FM14.3 | Assist and demonstrate the proper technique in collecting, preserving and dispatch of the exhibits in a suspected case of poisoning, along with clinical examination | S | SH | Y | Bedside clinic, SGT/ Practicals / Seminars, DOAP | Skill lab/ Viva voce | |
| FM14.4 | Conduct and prepare report of estimation of age of a person for medico-legal and other purposes & prepare medico-legal report in a simulated/ supervised environments | S | KH | Y | SGT/ Practicals / Seminars, Demonstration | Log book/ Skill station/Viva voce / OSCE | |
| FM14.5 | Examine and prepare Medical Certificate Of Cause Of Death (MCCD)in a simulated/ supervised environment | S | SH/P | Y | Bedside clinic (ward/casualty), SGT/ Practicals / Seminars | Log book/ Skill station/Viva voce / OSCE | 3 |
| FM14.6 | Conduct & prepare post-mortem examination report of varied etiologies (at least 15) in a simulated/ supervised environment | S | KH | Y | SGT/ Practicals / Seminars, Autopsy, DOAP | Log book/ Skill station/Viva voce / OSCE | 3 |
| FM14.7 | Demonstrate the correct technique to perform and identify ABO &RH blood group of a person | S | SH | Y | SGT/ Practicals / Seminars, DOAP | Log book/Skill station/Viva voce | |
| FM14.8 | Demonstrate examination of & present an opinion after examination of skeletal remains in a simulated/ supervised environment | S | SH | Y | SGT/ Practicals / Seminars, DOAP | Log book/Skill station/Viva voce | |
| FM14.9 | Demonstrate ability to identify & prepare medico legal inference from specimens obtained from various types of injuries e.g. contusion, abrasion, laceration, firearm wounds, burns, head injury and fracture of bone | S | KH | Y | SGT/ Practicals / Seminars, DOAP | Log book/Skill station/Viva voce/ OSPE | |

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| FM14.10 | To identify & describe weapons of medico legal importance which are commonly used e.g. lathi, knife, kripa, axe, gandasa, gupta, farsha, dagger, bhalla, razor & stick. Able to prepare report of the weapons brought by police and to give opinion regarding injuries present on the person as described in injury report/ PM report so as to connect weapon with the injuries. (Prepare injury report/ PM report must be provided to connect the weapon with the injuries) | S | KH | Y | SGT/ Practicals / Seminars, DOAP | Log book/Skill station/Viva voce/ OSPE | |
| FM14.11 | Describe the contents and structure of bullet and cartridges used & to provide medico- legal interpretation from these | S | KH | Y | SGT/ Practicals / Seminars, DOAP | Log book/ Skill | |
| FM14.12 | To estimate the age of foetus by post-mortem examination | S | KH | Y | SGT/ Practicals / Seminars, DOAP | Theory/ Clinical assessment/ Viva voce | |
| FM14.13 | To examine & prepare report of an alleged accused person in cases of various sexual offences in a simulated/ supervised | S | KH | Y | SGT/ Practicals / Seminars, DOAP | Log book/ Skill station/Viva voce / | 3 |

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| | environment. Demonstrate an understanding of framing the opinion, preservation and dispatch of trace evidences in such cases. Describe and discuss personal opinions and their impact on such examinations and the need for objectivity/ neutrality to avoid prejudice influencing the case. | | | | | OSCE | |
| FM14.14 | To examine & prepare medico-legal report on an alleged victim/ survivor of various sexual offences in a simulated/ supervised environment. (Guidelines and protocols of Medico Legal Care for Survivors/ Victims of sexual violence; Ministry of Health and Family Welfare, GOI- with latest modifications if any). Demonstrate an understanding of framing the opinion, preservation and dispatch of trace evidences in such cases. Describe and discuss sympathetic/ empathetic examination and interview of victims/ survivors of sexual assault, including presence of trusted adult figure (person) in cases of minor victims/ survivors. | S | KH | Y | SGT/ Practicals / Seminars, DOAP | Log book/ Skill station/Viva voce / OSCE | 3 |
| FM14.15 | To examine & prepare medico-legal report of drunk person in a simulated/ supervised environment | S | KH | Y | SGT/ Practicals / Seminars, Bed side clinic, DOAP | Log book/ Skill station/Viva voce / OSCE | |

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|---------|---|---|----|---|--|--|--|
| FM14.16 | To identify & draw medico-legal inference from common poisons e.g. dhatura, castor, cannabis, opium, aconite copper sulphate, pesticides compounds, marking nut, oleander, Nux vomica, abrus seeds, Snakes, capsicum, calotropis, lead compounds & tobacco. | S | KH | Y | SGT/ Practicals / Seminars, DOAP | Log book/ Viva voce | |
| FM14.17 | To examine & prepare medico-legal report of a person in police, judicial custody or referred by Court of Law and violation of human rights as requirement of NHRC, who has been brought for medical examination | S | KH | Y | SGT/ Practicals / Seminars, DOAP | Log book/ Skill station/Viva voce / OSCE | |
| FM14.18 | To record and certify dying declaration in a simulated/ supervised environment | S | KH | Y | SGT/ Practicals / Seminars, Role Play, Bed side clinic DOAP | Log book/ Skill station/Viva voce /OSCE | |
| FM14.19 | To collect, preserve, seal and dispatch exhibits for DNA-Fingerprinting using various formats of different laboratories. | S | KH | Y | LGT , SGT/ Practicals / Seminars, | Log book/ Skill station/Viva voce | |
| FM14.20 | To give expert medical/ medico-legal evidence in Court of law | S | KH | Y | LGT, SGT/ Practicals / Seminars, DOAP, role play, Court Visits | Log book/ Viva voce/OSCE | |

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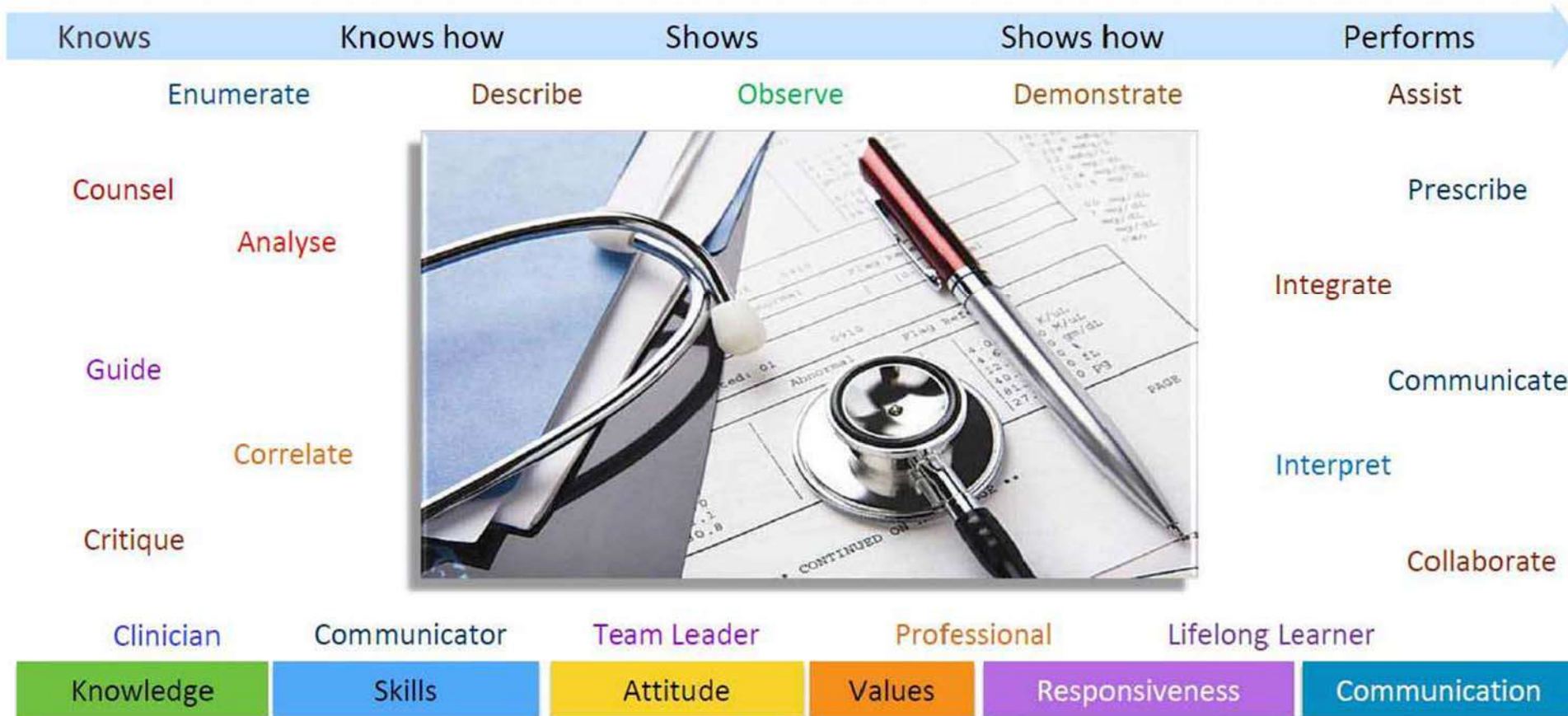
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NATIONAL MEDICAL COMMISSION COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE



Volume II-2024

**COMPETENCY BASED UNDERGRADUATE CURRICULUM
FOR THE
INDIAN MEDICAL GRADUATE**

2024



**National Medical Commission
Pocket-14, Sector- 8, Dwarka
New Delhi 110 077**



राष्ट्रीय आयुर्विज्ञान आयोग National Medical Commission



FOREWORD

The National Medical Commission (NMC) was created on 24th September, 2020 by the Act of Parliament replacing the erstwhile Medical Council of India and Board of Governors. The foundation for making of an Indian Medical Graduate ('Doctor') depends on building a sound base of medical education. In the year 2019, a committed team appointed by erstwhile MCI revolutionized the age-old didactic teaching system in Indian medical colleges by bringing in Competency Based Medical Education (CBME). This unique approach has raised the level of medical education with respect to quality, versatility and horizontal- vertical alignment of all subjects. The mandate of NMC to see that the first line of health care leaders who reach out to the common masses empathizing with the problems of the rural populace are being met with. The two-pronged approach of increasing the quantity and improving the quality of medical education is being tackled with this approach.

Education has now become student-centric and patient-centric instead of pedagogic system. The first batch of students have now completed their training under CBME implemented in 2019. It was a demand from actively involved academia to revisit the curriculum and modify it so as to keep abreast at international level. Interim years of covid pandemic also were 'a good teaching academy' for all. Increasing influence of artificial intelligence on student community, matched with rising cost of medical education and competitiveness, instead of accommodative, helping and balanced approach, has led to increasing risk of losing social intelligence and humane approach amidst the emerging doctors. The risk of creating overqualified clerks looms large on our medical system.

A national team of experienced as well as emerging empathetic and talented teachers engaged as full-time faculty in various medical institutions were invited by the Undergraduate Education Board (UGMEB) of the NMC to invest their extra energy and hours to assess the curricula, examinations, AETCOM, vertical and horizontal integration of various subjects and bring in modifications. Each subject had committee of five persons on an average, from different parts of the country. Totally 93 experts have given their valuable time and energy in framing this new curriculum and all three volumes, prepared by their predecessors in 2019. The hard work done by them was the base on which this edifice has further been refined.

We are sure that fraternity and students are going to have an educational journey that will be full of fun, knowledge and experience sharing. UGMEB of the NMC acknowledges each and every one involved in the process, named and unsung heroes who have been the part of this exercise of bringing the document to the readers.

**Dr. Aruna V. Vanikar, President,
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How to use the Manual

This Manual is intended for curriculum planners in an institution to design learning and assessment experiences for the MBBS student. Contents created by subject experts have been curated to provide guidance for the curriculum planners, leaders and teachers in medical schools. The manual must be used with reference to and in the context of the Regulations.

Section 1

Competencies for the Indian Medical Graduate

Section 1 - provides the Roles (global competencies) extracted from the Competency Based Medical Education (CBME) Guidelines, 2024. The global competencies identified as defining the roles of the Indian Medical Graduate are the broad competencies that the learner must aspire to achieve, teachers and curriculum planners must ensure that the learning experiences are aligned to this Manual.

Extract from the Competency Based Medical Education (CBME) Guidelines, 2024

2. Objectives of the Indian Graduate Medical Training Programme

The undergraduate medical education program is designed with a goal to create an "Indian Medical Graduate" (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training program are hereby advocated. The first contact physician needs to be skillful to perform duties of primary care physician and have requisite skills for promotive, preventative, rehabilitative, palliative care & referral services.

2.1 National Goals

At the end of undergraduate program, the Indian Medical Graduate should be able to:

- a. Recognize "health for all" as a national goal and health right of all citizens and by undergoing training for medical profession to fulfill his social obligations towards realization of this goal.
- b. Learn key aspects of National policies on health and devote himself to its practical implementation.
- c. Achieve competence in the practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- d. Develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- e. Become an exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

2.2 Institutional Goals

In consonance with the national goals, each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.

- a. Be competent for working in the health care team from Phase I MBBS to Compulsory rotatory medical internship (CRMI) in a gradual manner with increasing complexity in an integrated multi-department involvement.
- b. Be competent to practice preventive, promotive, curative, palliative and rehabilitative medicine in respect to the commonly encountered health problems.
- c. Appreciate rationale for different therapeutic modalities; be familiar with the administration of the "essential medicines" and their common adverse effects.

- d. Appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.
- e. Possess the attitude for continued self-learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- f. Be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:
 - i. Family Welfare and Maternal and Child Health (MCH);
 - ii. Sanitation and water supply;
 - iii. Prevention and control of communicable and non-communicable diseases;
 - iv. Immunization;
 - v. Health Education and advocacy;
 - vi. Indian Public Health Standards (IPHS) at various level of service delivery;
 - vii. Bio-medical waste disposal;
 - viii. Organizational and or institutional arrangements.
- g. Acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, general and hospital management, principal inventory skills and counselling.
- h. Be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures with maximum community participation.

- i. Be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
- j. Be competent to work in a variety of health care settings.
- k. Have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility, dependability, and ability to relate to or
- l. show concern for other individuals.

All efforts must be made to equip the medical graduates to acquire certifiable skills as given in comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) Indian Medical Graduate, as given in the Graduate Medical Education Regulations.

2.3 Goals for the Learner

In order to fulfil these goals, the Indian Medical Graduate must be able to function in the following roles appropriately and effectively:-

- a. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- b. Leader and member of the health care team and system with capabilities to collect, analyse, synthesize and communicate health data appropriately.
- c. Communicate with patients, families, colleagues, community and community in a methodological and skillful way using various approaches in family visits, family adoption program, clinic-social cases, clinical cases and AETCOM training programs.
- d. Lifelong learner committed to continuous improvement of skills and knowledge.

- e. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community, profession, and society. Training of humanities and social sciences will be useful for this training.

3. Competency Based Training Programme of the Indian Medical Graduate

Competency based learning would include designing and implementing medical education. curriculum that focuses on the desired and observable activity in real life situations. In order to effectively fulfill the roles, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

3.1 Clinician, who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.

- 3.1.1 Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
- 3.1.2 Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
- 3.1.3 Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence healthcare.
- 3.1.4 Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
- 3.1.5 Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion.

- 3.1.6 Demonstrate ability to elicit and record from the patient, and other relevant sources. including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- 3.1.7 Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.8 Demonstrate ability to perform a physical examination that is contextual to gender, social and economic status, patient preferences and values.
- 3.1.9 Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- 3.1.10 Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- 3.1.11 Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- 3.1.12 Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmes and policies for the following:
 - a. Disease prevention,
 - b. Health promotion and cure,
 - c. Pain and distress alleviation, and
 - d. Rehabilitation and palliation.

3.1.13 Demonstrate ability to provide a continuum of care at the primary (including home care) and/or secondary level that addresses chronicity, mental and physical disability,

3.1.14 Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.

3.1.15 Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

3.2 Leader and member of the health care team and system

3.2.1 Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.

3.2.2 Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.

3.2.3 Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.

3.2.4 Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyse and utilize health data.

3.2.5 Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.

3.2.6 Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

3.3 Communicator with patients, families, colleagues and community

3.3.1 Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients, families, colleagues and community in a

language that patients, families, colleagues and community understands and in a manner that will improve patient patients, families, colleagues and community satisfaction and health care outcomes.

- 3.3.2 Demonstrate ability to establish professional relationships with patients, families, colleagues and community that are positive, understanding, humane, ethical, empathetic, and trustworthy.
- 3.3.3 Demonstrate ability to communicate with patients, families, colleagues and community in a manner respectful of patient's preferences, values, prior experience, beliefs, confidentiality and privacy.
- 3.3.4 Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision- making and overcoming hesitancy towards health initiatives.

3.4 Lifelong learner committed to continuous improvement of skills and knowledge

- 3.4.1 Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.
- 3.4.2 Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.
- 3.4.3 Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.
- 3.4.4 Demonstrate ability to search (including through electronic means), and critically re- evaluate the medical literature and apply the information in the care of the patient.
- 3.4.5 Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

3.5 Professional who is committed to excellence, is ethical, responsive and accountable to patients, the profession and community.

- 3.5.1 Practice selflessness, integrity, responsibility, accountability and respect.

- 3.5.2 Respect and maintain professional boundaries between patients, colleagues and society.
- 3.5.3 Demonstrate ability to recognize and manage ethical and professional conflicts.
- 3.5.4 Abide by prescribed ethical and legal codes of conduct and practice.
- 3.5.5 Demonstrate commitment to the growth of the medical profession as a whole.

Section 2

Subject-wise competencies

Section 2 contains subject-wise competencies that must be achieved at the end of instruction in that subject. These are organised in tables.

Competencies (Outcomes) in each subject are grouped according to topics number-wise. It is important to review the individual competencies in the light of the topic outcomes as a whole. For each competency outlined - the learning domains (Knowledge, Skill, Attitude, Communication) are identified. The expected level of achievement in that subject is identified as – [knows (K), knows how (KH), shows how (SH), perform (P)]. As a rule, ‘perform’ indicates independent performance without supervision and is required rarely in the pre-internship period. The competency is a core (Y - must achieve) or a non-core (N - desirable) outcome. Suggested learning and assessment methods (these are suggestions) and explanation of the terms used are given under this section “definitions used in this document”. The suggested number of times a skill must be performed independently for certification in the learner’s logbook is also given.

The number of topics and competencies in each subject are given below:

Topics and competencies in Phase 1 & Phase 2 subjects (Volume I)

| Sr. No. | Subjects | Number of topics | Number of competencies |
|----------------|-------------------|-------------------------|-------------------------------|
| 1. | Anatomy | 82 | 413 |
| 2. | Physiology | 12 | 136 |
| 3. | Biochemistry | 14 | 84 |
| 4. | Pharmacology | 10 | 92 |
| 5. | Pathology | 35 | 182 |
| 6. | Microbiology | 11 | 74 |
| 7. | Forensic Medicine | 14 | 158 |
| | Total | 178 | 1139 |

Topics and competencies in Medicine and Allied subjects (Volume II)

| Sr. No. | Subjects | Number of topics | Number of competencies |
|----------------|---|-------------------------|-------------------------------|
| 1. | Community Medicine | 20 | 136 |
| 2. | General Medicine | 29 | 525 |
| 3. | Paediatrics | 35 | 406 |
| 4. | Psychiatry | 13 | 17 |
| 5. | Dermatology, Venereology & Leprosy | 15 | 48 |
| | Total | 112 | 1132 |

Topics and competencies in Surgery and Allied subjects (Volume III)

| Sr. No. | Subjects | Number of topics | Number of competencies |
|----------------|-----------------------------|-------------------------|-------------------------------|
| 1. | General Surgery | 30 | 133 |
| 2. | Ophthalmology | 10 | 60 |
| 3. | Otorhinolaryngology | 04 | 63 |
| 4. | Obstetrics & Gynaecology | 38 | 141 |
| 5. | Orthopaedics | 14 | 40 |
| 6. | Anesthesiology | 11 | 52 |
| 7. | Radiodiagnosis & Toxicology | 07 | 21 |
| | Total | 114 | 510 |

Deriving learning objectives from competencies

| | | |
|----|---|--|
| K | Knows | A knowledge attribute – Usually enumerates or describes |
| KH | Knows how | A higher level of knowledge – is able to discuss or analyse |
| S | Shows | A skill attribute: is able to identify or demonstrate the steps |
| SH | Shows how | A skill attribute: is able to interpret / demonstrate a complex procedure requiring thought, knowledge and behaviour |
| P | Performs (under supervision or independently) | Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results |

Competency: An observable ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

| | | | | |
|---------|---|-----|----|---|
| PA42.3* | Identify the etiology of meningitis based on given CSF parameters | K/S | SH | Y |
|---------|---|-----|----|---|

| | | |
|------|--|---|
| LO 1 | At the end of the session the phase II student must be able to enumerate the most common causes of meningitis correctly | <u>Audience</u> - who will do the behavior |
| LO 2 | At the end of the session the phase II student must be able to enumerate the components of CSF analysis correctly | <u>Behavior</u> - What should the learner be able to do? |
| LO 3 | At the end of the session the phase II student must be able to describe the CSF features for a given etiology of meningitis accurately | <u>Condition</u> - Under what conditions should the learner be able to do it? |
| LO 4 | At the end of the session the phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters | <u>Degree</u> - How well must it be done |

Learning Objective (LO): Statement of what a learner should be able to do at the end of a specific learning experience

*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

Deriving learning methods from competencies

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

| | | | | |
|---------|---|------|----|---|
| PA34.3* | Identify the etiology of meningitis based on given CSF parameters | K, S | SH | Y |
|---------|---|------|----|---|

Objective: Statement of what a learner should be able to do at the end of a specific learning experience

| | | |
|------|--|---|
| LO 1 | At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly | <p>Large or small group teaching</p> <p>Small group teaching, practical session</p> |
| LO 2 | At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly | |
| LO 3 | At the end of the session the Phase II student must be able to describe the CSF features for a given etiologic of meningitis accurately | |
| LO 4 | At the end of the session the Phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters | |

*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

Deriving assessment methods from competencies

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

| | | | | |
|---------|---|------|----|---|
| PA34.3* | Identify the etiology of meningitis based on given CSF parameters | K, S | SH | Y |
|---------|---|------|----|---|

Objective: Statement of what a learner should be able to do at the end of a specific learning experience

| | | |
|------|--|---|
| LO 1 | At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly | Written/SAQ: Enumerate 5 causes of meningitis based on their prevalence in India |
| LO 2 | At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly | Short note or part of structured essay: Enumerate the components tested in a CSF analysis |
| LO 3 | At the end of the session the Phase II student must be able to describe the CSF features for a given aetiology of meningitis accurately | Short note or part of structured essay: Describe the CSF findings that are characteristic of tuberculous meningitis |
| LO 4 | At the end of the session the Phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters | Short note / part of the structured essay/ Direct observation/OSPE/ Viva voce Review the CSF findings in the following patient and identify (write or vocalize) the most likely etiology |

* Numbers given are for illustrative purposes only and should not be compared with numbers in the curriculum document

Definitions used in the Manual

1. **Goal:** A projected state of affairs that a person or system plans to achieve.

In other words: Where do you want to go? Or What do you want to become?

2. **Competency:** The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and

Reflection in daily practice for the benefit of the individual and community being served.

In other words: What should you have? Or What should have changed?

3. **Objective:** Statement of what a learner should be able to do at the end of a specific learning experience. In other words:

What the Indian Medical Graduate should know, do, or behave.

Action Verbs used in this manual

| Knowledge | Skill | Attitude/communicate |
|---------------|---------------------------|------------------------------|
| Enumerate | Identify | Counsel |
| List | Demonstrate | Inform |
| Describe | Perform under supervision | Demonstrate understanding of |
| Discuss | Perform independently | Communicate |
| Differentiate | Document | |
| Define | Present | |
| Classify | Record | |
| Choose | Elicit | |
| Interpret | | |
| Report | | |

Note:

1. Specified essential competencies only will be required to be performed independently at the end of the final year MBBS.
2. The word 'perform' or 'do' is used ONLY if the task has to be done on patients or in laboratory practical in the first/ second phases.
3. Most tasks that require performance during undergraduate years will be performed under supervision.
4. If a certification to perform independently has been done, then the number of times the task has to be performed undersupervision will be indicated in the last column.

Explanation of terms used in this manual

| | |
|---|---|
| LGT (LGT) | Any instructional large group method including interactive lecture |
| SGT (SGT) | Any instructional method involving small groups of students in an appropriate learning context |
| DOAP (Demonstration-Observation-Assistance-Performance) | A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently |
| Skill assessment/ Direct observation | A session that assesses the skill of the student including those in the practical laboratory, skills- lab,skills- station that uses mannequins /papercase/ simulated patients/ real patients as the context demands |
| DOPS (Directly observed procedural skills) | DOPS is a method of assessment for assessing competency of the students in which the examiner directly observes the student performing procedure |
| Core | A competency that is necessary in order to complete the requirements of the subject (traditional - must know) |
| Non-Core | A competency that is optional in order to complete the requirements of the subject (traditional- nice (good) to know/ desirable to know) |
| National Guidelines | Health programs as relevant to the competency that are part of the National Health Program |

Domains of learning

| | |
|---|---------------|
| K | Knowledge |
| S | Skill |
| A | Attitude |
| C | Communication |

Levels of competency

| | | |
|----|---|---|
| K | Knows | Aknowledge attribute-Usually enumerates or describes |
| KH | Knows how | A higher level of knowledge-isabletodiscussoranalyze |
| SH | Shows how | A skill attribute: is able to interpret/ demonstrate a complex procedure requiring thought, knowledge and behavior |
| P | Performs (under supervision or independently) | Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results |

Note:

In the table of competency - the highest level of competency acquired is specified and implies that the lower levels have been acquired already. Therefore, when a student is able to SH - Show how- an informed consent is obtained - it is presumed that the preceding steps - the knowledge, the analytical skills, the skill of communicating have all been obtained.

It may also be noted that attainment of the highest level of competency may be obtained through steps spread over several subjects or phases and not necessarily in the subject or the phase in which the competency has been identified.

Volume II
Competency based Undergraduate Curriculum
in
Medicine & Allied subjects

COMMUNITY MEDICINE (CODE: CM)

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|---|--|-------------------|---------------------|-------------|--|--|------------------------------------|
| COMMUNITY MEDICINE (Topics:20 Competencies: 136) | | | | | | | |
| Topic 1: Concept of Health and Disease Number of competencies:(10) Number of competencies that require certification :(NIL) | | | | | | | |
| CM1.1 | Define and describe the concept of Public Health | K | KH | Y | LGT, SGT | Written/Viva-voce | |
| CM1.2 | Define health; describe the concept of holistic health including concept of spiritual health and the relativeness & determinants of health | K | KH | Y | LGT, SGT | Written/Viva-voce | |
| CM1.3 | Describe the characteristics of agent, host and environmental factors in health and disease and the multifactorial etiology of disease | K | KH | Y | LGT, SGT | Written/Viva-voce | |
| CM1.4 | Describe and discuss the natural history of disease | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM1.5 | Describe the application of interventions at various levels of prevention | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM1.6 | Describe and discuss the concepts, the principles of Health promotion and Education, IEC and Behavioral change communication (BCC) | K | KH | Y | LGT, SGT | Written/viva-voce | |
| CM1.7 | Enumerate and describe health indicators | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM1.8 | Describe the Demographic profile of India and discuss its Impact on health | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM1.9 | Demonstrate the role of effective Communication skills in health in a simulated environment | S | SH | Y | DOAP, FAP Clinical posting | Skill assessment /OSCE | |
| CM1.10 | Demonstrate the Important aspects of the doctor patient relationship in a simulated environment | S | SH | Y | DOAP, FAP Clinical posting | Skill assessment /OSCE | |
| Topic 2: Relationship of social and behavioural to health and diseaseNumber of competencies:(5) Number of competencies that require certification:(2) | | | | | | | |
| CM2.1 | Describe the steps and perform clinico socio-cultural and demographic assessment of the individual, family and community | S | SH | Y | LGT,SGT, DOAP FAP Clinical posting | Written/Vova voce/ Skill assessment | 5 |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|---|--|------------------------------------|---------------------|--|--|--|------------------------------------|
| CM2.2 | Describe the socio-cultural factors, family (types), its role in health and disease & demonstrate in a simulated environment the correct assessment of socio-economic status | S | SH | Y | LGT,SGT, DOAP FAP Clinical posting | Written/Vova voce/ Skill assessment /OSCE | 5 |
| CM2.3 | Describe and demonstrate in a simulated environment the assessment of barriers to good health and health seeking behavior | S | SH | Y | LGT,SGT, DOAP FAP Clinical posting | Written/Vova voce/ Skill assessment /OSCE | |
| CM2.4 | Describe social psychology, community behaviour and community relationship and their impact on health and disease | K | KH | Y | LGT,SGT,FAP Clinical posting | Written/Vova voce | |
| CM2.5 | Describe poverty and social security measures and its relationship to health and disease | K | KH | Y | LGT,SGT,FAP Clinical posting | Written/Vova voce | |
| Topic 3: Environmental Health Problems | | Number of competencies:(08) | | Number of competencies that require certification:(NIL) | | | |
| CM3.1 | Describe the health hazards of air, water, noise, radiation and pollution | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM3.2 | Describe concepts of safe and wholesome water, sanitary sources of water, water purification processes, water quality standards, concepts of water conservation and rainwater harvesting | K | KH | Y | LGT,SGT, DOAPFAP Clinical posting | Written/Vova voce | |
| CM3.3 | Describe the aetiology and basis of water borne diseases /jaundice /hepatitis /diarrheal diseases | K | KH | Y | LGT,SGT, DOAPFAP Clinical posting | Written/Vova voce | |
| CM3.4 | Describe the concept of solid waste, human excreta and sewage disposal | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM3.5 | Describe the standards of housing and the effect of housing on health | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM3.6 | Describe the role of vectors in the causation of diseases. Also discuss National Vector Borne disease Control Program | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM3.7 | Identify and describe the identifying features and life cycles of vectors of Public Health Importance and their control measures | S | SH | Y | LGT,SGT, DOAPFAP Clinical posting | Written/Vova voce/ Skill assessment/OSCE | |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|--|---|-------------------|---------------------|-------------|--|--|------------------------------------|
| CM3.8 | Describe the mode of action, application cycle of commonly used insecticides and rodenticides | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| Topic 4: Principles of health promotion and education Number of competencies:(4) Number of competencies that require certification:(01) | | | | | | | |
| CM4.1 | Describe various methods of health education with their advantages and limitations | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM4.2 | Describe the methods of organizing health promotion and education and counselling activities at individual family and community settings | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM4.3 | Demonstrate and describe the steps in evaluation of health promotion and education program | S | SH | Y | SGT, DOAPFAP Clinical posting | Written/Vova voce/ Skill assessment /OSCE | |
| CM 4.4 | Conduct a health education session for community awareness in a simulated environment/FAP/clinical posting | S | SH | Y | SGT, DOAPFAP Clinical posting | Written/Vova voce/ Skill assessment /OSCE | 1 |
| Topic 5: Nutrition Number of competencies:(22) Number of competencies that require certification:(5) | | | | | | | |
| CM5.1 | Describe the common sources of various nutrients and special nutritional requirements according to age, sex, activity, physiological Conditions | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM5.2 | Describe and demonstrate the correct method of performing a nutritional assessment of individuals, families and the community by using the appropriate method | S | SH | Y | DOAP, FAP Clinical posting | Skill assessment /OSCE | |
| CM5.3 | Define and describe common nutrition related health disorders (including macro-PEM, Micro-iron, Zn, iodine, Vit.A), their control and management | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM5.4 | Plan and recommend a suitable diet for the individuals and families based on local availability of foods and economic status, etc in a simulated environment | S | SH | Y | DOAP, FAP Clinical posting | Skill assessment /OSCE | |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|---------|--|-------------------|---------------------|-------------|--|--|------------------------------------|
| CM5.5 | Describe the methods of nutritional surveillance principles nutritional education and rehabilitation in the context of socio-cultural factors. | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM5.6 | Enumerate and discuss the National Nutrition Policy, important national nutritional Programs including the Integrated Child Development Services Scheme (ICDS) etc | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM5.7 | Describe food hygiene | K | KH | Y | LGT, SGT FAP Clinical posting | Written/Vova voce FAP Clinical posting | |
| CM5.8 | Describe and discuss the importance and methods of food fortification and effects of additives and adulteration | K | KH | Y | LGT, SGT FAP Clinical posting | Written/Vova voce | |
| CM5.9 | Perform nutritional assessment of individual, family and community using appropriate method and plan a diet for health promotion based on the assessment | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | 5 |
| CM 5.10 | Recommend a dietary plan for a person with DM/ HTN/ Obesity in a simulated environment/FAP/Clinical posting | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | 5 |
| CM5.11 | Plan a diet for an adult which meets the protein (macro nutrients) requirements as per latest RDA-NIN guidelines for vegetarian/ ovo-vegetarian/non-vegetarian | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | 5 |
| CM5.12 | Demonstrate different types of breastfeeding holds, latching, manual expression of breast milk using a baby model and breast model. | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | 5 |
| CM 5.13 | Counsel a mother about complementary feeding for different age groups of the child covering the 8 dietary diversity food groups, quantity, frequency, consistency of the food. | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | 5 |
| CM 5.14 | Demonstrate an awareness of their own personal health and nutrition | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| CM 5.15 | Demonstrate knowledge of the role of nutrition in health promotion and disease prevention | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| CM 5.16 | Have knowledge of breast feeding and complementary feeding Practices | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|---|--|------------------------------------|---------------------|-------------|--|---|------------------------------------|
| CM 5.17 | Ability to counsel mothers on breast feeding with focus on attachment to breast and correct position of the newborn | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| CM 5.18 | Ability to counsel mothers on complementary feeding using National guidelines while being sensitive of cultural and socioeconomic influences | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| CM 5.19 | Assess the nutritional content of processed foods learning to understand labels, and empower patients to make informed nutritional decisions. | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| CM 5.20 | Counsel for diet modification for a diabetic/ hypertensive/obese individual | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| CM 5.21 | Plan and conduct a health education session on nutrition in NCD clinic / in community | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| CM 5.22 | Counsel mother on breast feeding and complementary feeding | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| Topic 6: Basic statistics and its applications | | Number of competencies:(06) | | | Number of competencies that require certification:(1) | | |
| CM6.1 | Formulate research question for a study | K | KH | Y | SGT, LGT, DOAP | Written/Vova voce/ Skill assessment | |
| CM6.2 | Describe and discuss the principles and demonstrate the methods of collection, classification, analysis, interpretation and presentation of statistical data | S | SH | Y | SGT, LGT, DOAP | Written/Vova voce/ Skill assessment/OSCE | |
| CM6.3 | Describe, discuss and demonstrate the application of elementary statistical methods including test of significance in various study designs | S | SH | Y | SGT, LGT, DOAP | Written/Vova voce/ Skill assessment/OSCE | |
| CM6.4 | Enumerate, discuss and demonstrate Common sampling techniques, simple statistical methods, frequency distribution, measures of central tendency and dispersion | S | SH | Y | SGT, LGT, DOAP | Written/Vova voce/ Skill assessment/OSCE | |
| CM 6.5 | Able to understand use of statistical software for the data analysis | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| CM 6.6 | Perform descriptive statistics of a given data-set and interpret | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | 5 |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|---|---|------------------------------------|---------------------|-------------|--|---------------------------------|------------------------------------|
| Topic 7: Epidemiology | | Number of competencies:(11) | | | Number of competencies that require certification: (01) | | |
| CM7.1 | Define Epidemiology and describe and enumerate the principles, concepts and uses | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM7.2 | Enumerate, describe and discuss the modes of transmission and measures for prevention and control of communicable and non-communicable diseases | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM7.3 | Enumerate, describe and discuss the sources of epidemiological data | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM7.4 | Define, calculate and interpret morbidity and mortality indicators based on given set of data | S | SH | Y | SGT,DOAP | Written/Skill assessment, OSCE | 5 |
| CM7.5 | Enumerate, define, describe and discuss epidemiological study designs | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM7.6 | Enumerate and evaluate the need of screening tests | S | SH | Y | SGT,DOAP | Written/Skill Assessment | |
| CM7.7 | Describe and demonstrate the steps in the Investigation of an epidemic of communicable disease and describe the principles of control measures | S | SH | Y | SGT,DOAP | Written/Skill assessment /OSCE | |
| CM7.8 | Describe the principles of association, causation and biases in epidemiological studies | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM7.9 | Describe and demonstrate the application of computers in epidemiology | S | KH | Y | SGT,DOAP | Written | |
| CM 7.10 | Able to demonstrate development of research proposal | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| CM 7.11 | Able to demonstrate the skills for critically appraise the research articles or research data | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| Topic 8: Epidemiology of communicable and non- communicable diseases | | Number of competencies:(07) | | | Number of competencies that require certification:(NIL) | | |
| CM8.1 | Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|---|---|------------------------------------|---------------------|--|--|---------------------------------|------------------------------------|
| CM8.2 | Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Non-Communicable diseases (diabetes, Hypertension, Stroke, obesity and cancer etc.) | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM8.3 | Enumerate and describe disease specific National Health Programs including their prevention and treatment of a case | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM8.4 | Describe the principles and enumerate the measures to control a disease epidemic | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM8.5 | Describe and discuss the principles of planning, Implementing and evaluating control measures for disease at community level bearing in mind the public health importance of the disease | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM8.6 | Educate and train health workers in disease surveillance, control & treatment and health education | S | SH | Y | DOAP FAP Clinical posting | Skill assessment /OSCE | |
| CM8.7 | Describe the principles of management of information systems | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| Topic 9: Demography and vital statistics | | Number of competencies:(07) | | Number of competencies that require certification:(NIL) | | | |
| CM9.1 | Define and describe the principles of Demography, Demographic cycle, Vital statistics | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM9.2 | Define, calculate and interpret demographic indices including birth rate, death rate, fertility rates | S | SH | Y | LGT,SGT, DOAP | Skill assessment /OSCE | |
| CM9.3 | Enumerate and describe the causes of declining sex-ratio and its social and health Implications | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM9.4 | Enumerate and describe the causes and consequences of population explosion and population dynamics of India. | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM9.5 | Describe the methods of population control | K | KH | Y | SGT, LGT | Written/Vova voce | |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|---|---|------------------------------------|---------------------|--|--|--|------------------------------------|
| CM9.6 | Describe the National Population Policy | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM9.7 | Enumerate the sources of vital statistics including census, SRS, NFHS, NSSO etc | K | KH | Y | SGT, LGT | Written/Vova voce | |
| Topic 10: Reproductive maternal and child health | | Number of competencies:(10) | | Number of competencies that require certification:(NIL) | | | |
| CM10.1 | Describe the current status of Reproductive, maternal, newborn and Child Health | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM10.2 | Enumerate and describe the methods of screening high-risk groups and common health problems | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM10.3 | Describe local customs and practices during pregnancy, child birth, lactation and child feeding practices | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM10.4 | Describe the reproductive, maternal, newborn & child health (RMCH); child survival and safe motherhood interventions | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM10.5 | Describe Universal Immunization Program; Integrated Management of Neonatal and Childhood Illness (GMNCI) and other existing Programs. | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM10.6 | Enumerate and describe various family planning methods, their advantages and shortcomings | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM10.7 | Enumerate and describe the basis and principles of the Family Welfare Program including the organization, technical and operational aspects | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM10.8 | Describe the physiology, clinical management and principles of adolescent health including ARSH | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce FAP Clinical posting | |
| CM10.9 | Describe and discuss gender issues and women empowerment | K | KH | Y | SGT, LGT FAP Clinical posting | Written/Vova voce | |
| CM 10.10 | Able to manage the health care services for reproductive and child care services under supervision | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| Topic 11: Occupational Health | | Number of competencies:(06) | | Number of competencies that require certification:(NIL) | | | |
| CM11.1 | Enumerate and describe the presenting features of patients with occupational illness including agriculture | K | KH | Y | SGT, LGT | Written/Vova voce | |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|-------------------------------------|---|--|---------------------|--|--|---------------------------------|------------------------------------|
| CM11.2 | Describe the role, benefits and functioning of the employees state insurance scheme | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM11.3 | Enumerate and describe specific occupational health hazards, their risk factors and preventive measures | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM11.4 | Describe the principles of ergonomics in health preservation | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM11.5 | Describe occupational disorders of health professionals and their prevention & management | K | KH | Y | SGT, LGT | Written/Vova voce | |
| CM 11.6 | Able to manage the occupational health services at factory or industry level in a simulated environment | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| Topic 12: Geriatric services | | Number ofcompetencies:(05) | | Number of competencies that require certification:(NIL) | | | |
| CM12.1 | Define and describe the concept of Geriatric services | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM12.2 | Describe health problems of aged population | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM12.3 | Describe the prevention of health problems of aged population | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM12.4 | Describe National program for elderly | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM 12.5 | Able to identify the health needs to elderly individuals at the earliest | S | SH | Y | LGT, SGT FAP Clinical posting | Written/Vova voce/OSCE | |
| Topic 13: | | Disaster Management Number of competencies:(05) | | Number of competencies that require certification:(NIL) | | | |
| CM13.1 | Define and describe the concept of Disaster management | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM13.2 | Describe disaster management cycle | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM13.3 | Describe man-made disasters in terworld And in India | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM13.4 | Describe the details ofthe National Disaster management Authority | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM 13.5 | Able to understand the management of handing a disaster in a simulated environment | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|---|---|-------------------|---------------------|-------------|--|---------------------------------|------------------------------------|
| Topic 14: Hospitalwaste management Number ofcompetencies:(04) Number of competencies that require certification:(NIL) | | | | | | | |
| CM14.1 | Define and classify hospital waste | K | KH | Y | LGT,SGT, visit to hospital | Written/Vova voce | |
| CM14.2 | Describe various methods of treatment of hospital waste | K | KH | Y | LGT,SGT,visit to hospital | Written/Vova voce | |
| CM14.3 | Describe laws related to hospital waste management | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM 14.4 | Able to segregate the various hospital waste | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| Topic 15: Mental Health Number of competencies:(04) Number of competencies that require certification: (NIL) | | | | | | | |
| CM15.1 | Define and describe the concept of mental Health | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM15.2 | Describe warning signals of mental health disorder | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM15.3 | Describe National Mental Health program | K | KH | Y | LGT,SGT FAP Clinical posting | Written/Vova voce | |
| CM 15.4 | Able to recognise the mental issues among individuals, families and communities at the earlier stages | S | SH | Y | LGT, SGT FAP Clinical posting | Written/Vova voce/OSCE | |
| Topic 16: Health planning and management Number of competencies:(05) Number of competencies that require certification:(NIL) | | | | | | | |
| CM16.1 | Define anddescribe theconcept ofHealthplanning | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM16.2 | Describeplanningcycle | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM16.3 | Describe Healthmanagement techniques | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM16.4 | Describe health planning in India and National policies related to health and health planning | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM 16.5 | Demonstrate understanding of concepts of Health planning in India, various health care economics analysis | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| Topic 17: Health care of the community Number of competencies:(06) Number of competencies that require certification: (NIL) | | | | | | | |
| CM17.1 | Define and describe the concept of health care to community | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM17.2 | Describe community diagnosis | K | KH | Y | LGT,SGT | Written/Vova voce | |

| Number | COMPETENCY The student should be able to | Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching learning methods | Suggested Assessment methods | Number required to certify P |
|--|--|------------------------------------|---------------------|--|--|---------------------------------|------------------------------------|
| CM17.3 | Describe primary health care, its components and principles | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM17.4 | Describe National policies related to health and health planning and millennium development goals | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM17.5 | Describe healthcare delivery in India | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM 17.6 | Demonstrate understanding of health system functioning in India | S | SH | Y | LGT, SGT, FAP Clinical posting | Written/Vova voce/OSCE | |
| Topic 18: International Health | | Number of competencies:(3) | | Number of competencies that require certification (NIL) | | | |
| CM18.1 | Define and describe the concept of International health | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM18.2 | Describe roles of various international health agencies | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM 18.3 | Demonstrate understanding role of various international and national agencies in health & disease with prevention of emergence and re-emergence of diseases and prevention of pandemic and handling the Pandemic | S | SH | Y | LGT, SGT | Written/Vova voce/OSCE | |
| Topic 19: Essential Medicine | | Number of competencies:(04) | | Number of competencies that require certification:(NIL) | | | |
| CM19.1 | Define and describe the concept of Essential Medicine List (EML) | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM19.2 | Describe roles of essential medicine in primary health care | K | KH | Y | LGT,SGT | Written/Vova voce | |
| CM19.3 | Describe counterfeit medicine and its prevention | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM19.4 | Demonstrate understanding of mechanism of identifying and calculation of requirements of various medicines and essential medicine at primary health care | S | SH | Y | LGT, SGT FAP Clinical posting | Written/Vova voce/OSCE | |
| Topic 20: Recent advances in Community Medicine | | Number of competencies:(04) | | Number of competencies that require certification:(NIL) | | | |
| CM20.1 | List Important public health events of last five years | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM20.2 | Describe various issues during outbreaks and their prevention | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM 20.3 | Describe any event important to Health of the Community | K | KH | Y | LGT, SGT | Written/Vova voce | |
| CM 20.4 | Demonstrate awareness about laws pertaining to practice of community medicine | K | KH | Y | LGT, SGT | Written/Vova voce | |

GENERAL MEDICINE (CODE: GM)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------|------------------------|---------------|------------------------------------|---|------------------------------|
| GENERAL MEDICINE (Topics=29,Competencies=525) | | | | | | | |
| Topic 1: Heart failure Number of competencies: (27) Number of competencies that require certification : (3) | | | | | | | |
| GM 1.1 | Describe and discuss the epidemiology, genetic basis ,pathogenesis clinical evolution and course of common causes of heart disease including: rheumatic/ valvular, ischemic, hypertrophic inflammatory | K | KH | Y | LGT / SGT | Application based question/ Viva voice | |
| GM 1.2 | Describe and discuss the aetiology, microbiology, pathogenesis Clinical evolution, criteria, recognition and management of rheumatic fever, and rheumatic valvular heart disease, penicillin prophylaxis and its complications including infective endocarditis | K | KH | Y | LGT / SGT | Application based question/ Viva voice | |
| GM 1.3 | Define and Stage heart failure | K | KH | Y | LGT / SGT | Application based question/ Viva voice | |
| GM 1.4 | Describe, discuss, and differentiate the processes involved in Right Vs Left heart failure, systolic vs diastolic failure | K | KH | Y | LGT / SGT | Application based question/ Viva voice | |
| GM 1.5 | Describe and discuss the compensatory mechanisms involved in heart failure including cardiac remodelling and neurohormonal adaptations | K | KH | Y | LGT / SGT | Application based question/ Viva voice | |
| GM 1.6 | Enumerate, describe and discuss the factors that exacerbate heart failure including ischemia, arrhythmias, anaemia, thyrotoxicosis, dietary factors drugs etc. | K | KH | Y | LGT / SGT | Application based question/ Viva voice | |
| GM 1.7 | Describe and discuss the pathogenesis and development of common arrhythmias involved in heart failure particularly atrial fibrillation | K | KH | Y | LGT / SGT | Application based question/ Viva voice | |
| GM 1.8 | Elicit document and present an appropriate history that will establish the diagnosis, cause and severity of heart failure including: presenting complaints, precipitating and exacerbating factors, risk factors exercise tolerance, changes in sleep patterns, features suggestive of infective endocarditis | S | SH | Y | Bedside clinic | Long case /Short case Skill assessment OSCE | |
| GM 1.9 | Perform and demonstrate a systematic examination based on the history that will help establish the diagnosis and Estimate its | S | SH | Y | Bed side clinic, DOAP | Long case /Short case | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|---|-------------------------------|------------------------|---------------|------------------------------------|---|------------------------------|
| | severity including: measurement of pulse, blood pressure and respiratory rate, jugular venous pulses, peripheral pulses, conjunctiva and fundus, lung, cardiac examination including palpation and auscultation with identification of heart sounds and murmurs, abdominal distension and splenic palpation | | | | | Skill assessment OSCE | |
| GM 1.10 | Demonstrate peripheral pulse, volume, character, quality and variation in various causes of heart failure | S | SH | Y | Bed side clinic, DOAP | Long case / Short case, Skill assessment, OSCE | |
| GM 1.11 | Measure the blood pressure accurately, recognise and discuss alterations in blood pressure in valvular heart disease and other causes of heart failure and cardiac tamponade | S | SH | Y | Bed side clinic, DOAP | Long case /Short case, Skill assessment, OSCE | |
| GM 1.12 | Demonstrate and measure jugular venous distension | S | SH | Y | Bed side clinic, DOAP | Long case /Short case, Skill assessment, OSCE | 3 |
| GM 1.13 | Identify and describe the Timing, pitch quality conduction and significance of precordial murmurs ,their variations , use of dynamic auscultation | S | SH | Y | Bed side clinic, DOAP | Long case /Short case, Skill assessment, OSCE | 3 |
| GM 1.14 | Generate a differential diagnosis based on the clinical presentation of various heart diseases and prioritise it based on the most likely diagnosis | S | SH | Y | Bed side clinic, DOAP | Long case /Short case, Skill assessment, OSCE | |
| GM 1.15 | Order and interpret diagnostic testing based on the clinical diagnosis including 12 lead ECG, Chest radiograph, blood cultures | S | SH | Y | Bed side clinic, DOAP | Long case /Short case, Skill assessment, OSCE | |
| GM 1.16 | Perform and interpret a 12 lead ECG | S | SH | Y | Bed side clinic DOAP | Skill assessment OSCE | |
| GM 1.17 | Enumerate the indications for and describe the findings of heart failure with the following investigations including: 2D echocardiography, brain natriuretic peptide, exercise testing, nuclear medicine testing and coronary angiogram | K | KH | N | LGT, SGT, Bed side clinic | Application based question/ Viva voice | |
| GM 1.18 | Discuss the severity of valvular heart disease based on the clinical and laboratory and Imaging features and describe the level of intervention required including surgery | K S | KH/ SH | Y | LGT, SGT, Bed side clinic | Application based question, Long case /short | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|---|-------------------------------|------------------------|---------------|------------------------------------|--|------------------------------|
| | | | | | | case, Skill assessment, OSCE Viva voce | |
| GM 1.19 | Describe and discuss and identify the clinical features of acute and sub-acute endocarditis, echocardiographic findings, blood culture and sensitivity and therapy | K S | KH/ SH | Y | LGT, SGT, Bed side clinic | Application based question, Long case /short case, Skill assessment, OSCE, Viva voce | |
| GM 1.20 | Assist and demonstrate the proper technique in collecting specimen for blood culture | S | SH | Y | DOAP Skills lab | Skill assessment OSCE | |
| GM 1.21 | Describe, prescribe and communicate non pharmacologic management of heart failure including sodium restriction, physical activity and limitations | K S/C | K SH | Y | LGT, SGT, Role play | Application based question, Skill assessment OSCE | |
| GM 1.22 | Describe and discuss the pharmacology of drugs including indications, contraindications in the management of heart failure including diuretics, ACE inhibitors, Beta blockers, aldosterone antagonists and cardiac glycosides | K | KH | | LGT, SGT | Application based question, /Viva voce | |
| GM 1.23 | Enumerate the indications for valvuloplasty, valvotomy, coronary revascularization and cardiac transplantation | K | KH | Y | LGT, SGT, Bedside clinic | Application based question,/Viva | |
| GM 1.24 | Develop document and present a management plan for patients with heart failure based on type of failure, underlying aetiology | S | SH | Y | SGT, Bedside clinic | Application based question, Long case /Short case, Skill assessment, OSCE | |
| GM 1.25 | Enumerate the causes of adult presentations of congenital heart disease and describe the distinguishing features between cyanotic and acyanotic heart disease | K | KH | Y | SGT, Bedside clinic | Application based question Viva voce | |
| GM 1.26 | Elicit document and present an appropriate history, demonstrate correctly general examination, relevant clinical findings and | S | SH | | SGT, Bedside clinic | Long case /Short case | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|-------------------------------------|------------------------|--|------------------------------------|---------------------------------------|------------------------------|
| | formulate document and present a management plan for an adult patient presenting with a common form of congenital heart disease | | | | | Skill assessment OSCE, Viva voce | |
| GM 1.27 | Administer an intramuscular injection with an appropriate communication to the patient | S | SH | Y | Bedside clinic Skills lab | Skill assessment OSCE Log book | 2 |
| Topic 2: Acute Myocardial Infarction / IHD | | Number of competencies: (24) | | Number of competencies that require certification : (03) | | | |
| GM 2.1 | Discuss and describe the epidemiology, antecedents and risk factors for atherosclerosis and ischemic heart disease | K | KH | Y | LGT / SGT | Application based question /Viva voce | |
| GM 2.2 | Discuss the aetiology of risk factors both modifiable and non modifiable of atherosclerosis and IHD | K | KH | Y | LGT / SGT | Application based question /Viva voce | |
| GM 2.3 | Discuss and describe the lipid cycle and the role of dyslipidemia in the pathogenesis of atherosclerosis | K | KH | Y | LGT / SGT | Application based question /Viva voce | |
| GM 2.4 | Discuss and describe the pathogenesis natural history, evolution and complications of atherosclerosis and IHD | K | KH | Y | LGT / SGT | Application based question /Viva voce | |
| GM 2.5 | Define the various acute coronary syndromes and describe their evolution, natural history and outcomes | K | KH | Y | LGT / SGT | Application based question /Viva voce | |
| GM 2.6 | Elicit document and present an appropriate history that includes onset evolution, presentation risk factors, family history, comorbid conditions, complications, medication, history of atherosclerosis, IHD and coronary syndromes | S | SH | Y | Bedside clinic/DOAP | Skill assessment | |
| GM 2.7 | Perform, demonstrate and document a physical examination including a vascular and cardiac examination that is appropriate for the clinical presentation | S | SH | Y | Bedside clinic/DOAP | Skill assessment | |
| GM 2.8 | Generate document and present a differential diagnosis based on the clinical presentation and prioritise based on “cannot miss”, most likely diagnosis and severity | S | SH | y | SGT/Bedside clinic | Skill assessment | |
| GM 2.9 | Distinguish and differentiate between stable and unstable angina and AMI based on the clinical presentation | S | SH | y | Bedside clinic/DOAP | Skill assessment | |
| GM 2.10 | Order, perform and interpret an ECG | S | SH | y | Bedside clinic/DOAP | Skill assessment | 3 |
| GM 2.11 | Order and interpret a Chest X-ray and markers of acute myocardial | S | SH | | Bedside clinic/DOAP | Skill assessment | 3 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|------------------------|---------------|------------------------------------|-----------------------------|------------------------------|
| | Infarction | | | | | | |
| GM 2.12 | Choose and interpret a lipid profile and identify the desirable lipid profile in the clinical context | S | SH | | Bedside clinic/DOAP | Skill assessment | |
| GM 2.13 | Discuss and enumerate the indications for and findings on echocardiogram, stress testing and coronary angiogram | K | KH | Y | LGT / SGT | Written/Viva voce | |
| GM 2.14 | Discuss and describe the indications for admission to a coronary care unit and supportive therapy for a patient with acute coronary Syndrome | K | KH | Y | LGT / SGT | Written/Viva voce | |
| GM 2.15 | Discuss and describe the medications used in patients with an acute coronary syndrome based on the clinical presentation | K | KH | Y | LGT / SGT | Written/Viva voce | |
| GM 2.16 | Discuss and describe the indications for acute thrombolysis, PTCA and CABG | K | KH | Y | LGT / SGT | Written/Viva voce | |
| GM 2.17 | Discuss and describe the indications and methods of cardiac Rehabilitation | K | KH | Y | LGT / SGT | Written/Viva voce | |
| GM 2.18 | Discuss and describe the indications, formulations, doses, side effects and monitoring for drugs used in the management of Dyslipidemia | K | KH | Y | LGT / SGT | Written/Viva voce | |
| GM 2.19 | Discuss and describe the pathogenesis, recognition and management of complications of acute coronary syndromes including arrhythmias, shock, LV dysfunction, papillary muscle rupture and pericarditis | K | KH | Y | LGT / SGT | Written/Viva voce | |
| GM 2.20 | Discuss and describe the assessment and relief of pain in acute coronary syndromes | K | KH | Y | LGT / SGT | Written/Viva voce | |
| GM 2.21 | Observe and participate in a controlled environment of ACLS Program | S | SH | Y | DOAP | Skill assessment | |
| GM 2.22 | Perform and demonstrate in a mannequin BLS | S | P | Y | DOAP | Skill assessment(WPBA) | 3 |
| GM 2.23 | Describe and discuss the indications for nitrates, anti-platelet agents, gpIIb IIIa inhibitors, beta blockers, ACE inhibitors etc in the management of coronary syndromes | K | KH | Y | LGT / SGT | Written /Viva | |
| GM 2.24 | Counsel and communicate to patients with empathy lifestyle | C/A | SH | Y | DOAP,Role play | Skill | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------------------------|---|-------------------------------------|------------------------|--|------------------------------------|---|------------------------------|
| | changes in atherosclerosis / post coronary syndromes | | | | | assessment(WPBA) | |
| Topic 3: Pneumonia | | Number of competencies: (22) | | Number of competencies that require certification : (04) | | | |
| GM3.1 | Define, discuss, describe and distinguish community acquired pneumonia nosocomial pneumonia and aspiration pneumonia. | K | KH | Y | LGT, SGT | Application Based Questions / Viva voce | |
| GM3.2 | Discuss and describe the aetiologies of various kinds of pneumonia and their microbiology depending on the setting and Immune status of the host | K | KH | Y | LGT, SGT | Application Based Questions / Viva voce | |
| GM3.3 | Discuss and describe the pathogenesis, presentation, natural history and complications of pneumonia | K | KH | Y | LGT, SGT | Application Based Questions / Viva voce | |
| GM3.4 | Elicit document and present an appropriate history including the evolution, risk factors including Immune status and occupational Risk | S | SH | Y | Bedside clinic, DOAP | Long/short case/OSCE | |
| GM3.5 | Perform, document and demonstrate a physical examination including general examination and appropriate examination of the lungs that establishes the diagnosis, complications and severity of Disease | S | SH | Y | Bedside clinic, DOAP | Long/short case/OSCE | 3 |
| GM3.6 | Generate document and present a differential diagnosis based on the clinical features, and prioritize the diagnosis based on the Presentation | K | KH | Y | Bedside clinic, DOAP | Long/short case | |
| GM3.7 | Order and interpret diagnostic tests based on the clinical presentation including: CBC, Chest X ray PA view, Mantoux, sputum gram stain, sputum culture and sensitivity, pleural fluid examination and culture, HIV testing and ABG | S | SH | Y | Bedside clinic, DOAP, Tutorial | Skill assessment OSCE/ viva Voce | |
| GM3.8 | Demonstrate on a mannequin, correct technique of collection of blood sample for an arterial blood gas examination | S | SH | Y | DOAP | Skill assessment OSCE | |
| GM3.9 | Interpret results of arterial blood gas examination report | K | KH | Y | Bedside clinic, SGT | Viva voce | 2 |
| GM3.10 | Demonstrate on a mannequin, correct technique of pleural fluid Aspiration | S | SH | Y | DOAP | Skill assessment OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|------------------------|---------------|------------------------------------|--|------------------------------|
| GM3.11 | Outline the correct tests that require to be performed and interpret results of pleural fluid aspiration report | K S | KH SH | Y | Bedside clinic, SGT | Skill assessment OSCE Viva voce | 2 |
| GM3.12 | Demonstrate on a mannequin, the correct technique of collection of blood for culture | S | SH | Y | DOAP, | Skill assessment OSCE | |
| GM 3.13 | Interpret results of blood culture report. | K | KH | Y | Bedside clinic, SGT | Viva voce | |
| GM3.14 | Describe and enumerate the indications for further testing including HRCT, Viral cultures, PCR and specialized testing | K | KH | Y | Bedside clinic, Tutorial | Viva voce | |
| GM3.15 | Select, describe and prescribe based on the most likely aetiology, an appropriate empirical antimicrobial based on the pharmacology and ant Microbial spectrum | S | SH | Y | Bedside clinic, Tutorial | OSCE Viva voce | 2 |
| GM3.16 | Select, describe and prescribe based on culture and sensitivity appropriate empirical Antimicrobial based on the pharmacology and antimicrobial spectrum. | S | SH | Y | Bedside clinic, SGT | OSCE Viva voce | |
| GM3.17 | Describe and enumerate the indications for hospitalization in patients with pneumonia | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM3.18 | Describe and enumerate the indications for isolation and barrier nursing in patients with pneumonia | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM 3.19 | Describe and discuss the supportive therapy in patients with pneumonia including oxygen use and indications for ventilation | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM 3.20 | Communicate and counsel patient on family on the diagnosis and therapy of pneumonia | C/A | SH | Y | Bedside clinic, DOAP | Skill assessment OSCE | |
| GM 3.21 | Discuss, describe, enumerate the indications for pneumococcal and influenza vaccines | K | KH | Y | LGT / SGT | Application based questions/ Viva voce | |
| GM 3.22 | Communicate and counsel patient for pneumococcal and influenza Vaccines | S/C | SH | Y | Bedside clinic / DOAP | OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|------------------------|--|------------------------------------|---|------------------------------|
| Topic 4: Fever and febrile syndromes | | Number of competencies: (20) | | Number of competencies that require certification : (01) | | | |
| GM4.1 | Describe and discuss the febrile response and the influence of host Immune status, risk factors, special populations (elderly, Immunosuppressed, malignancy, neutropenia HIV and travel) and comorbidities on the febrile response | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM 4.2 | Describe and discuss the patho-physiology and differences between fever and hyperthermia. | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM 4.3 | Enumerate various common causes of fever and hyperthermia in various regions in India. | K | K | Y | LGT, SGT | MCQs/ Written, Viva voce | |
| GM4.4 | Describe and discuss the pathophysiology and manifestations of inflammatory causes of fever | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM4.5 | Describe and discuss the pathophysiology and manifestations of malignant causes of fever including hematologic and lymph node Malignancies | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM4.6 | Discuss the approach to the patient with Acute Febrile Illness. | K | KH | Y | LGT, SGT | Application based question, , Viva voce | |
| GM4.7 | Discuss and describe the pathophysiology and manifestations of the sepsis syndrome | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM4.8 | Describe and discuss the pathophysiology, clinical features and management of heat related illness (heat cramps, heat exhaustion and heat stroke). | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM4.9 | Discuss and describe the pathophysiology, aetiology and clinical manifestations of fever of unknown origin (FUO) including in a normal host neutropenic host nosocomial host and a host with HIV Disease | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM4.10 | Elicit document and present a medical history that helps delineate the aetiology of fever that includes the evolution and pattern of fever, associated symptoms, Immune status, comorbidities, risk factors, exposure through occupation, travel and environment and | S | SH | Y | Bedside clinic, DOAP | Long/short case/OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|---|-------------------------------|------------------------|---------------|------------------------------------|---------------------------------------|------------------------------|
| | medication use | | | | | | |
| GM4.11 | Perform a systematic examination that establishes the diagnosis and severity of presentation that includes: general skin mucosal and lymph node examination, chest and abdominal examination (including examination of the liver and spleen) | S | SH | Y | Bedside clinic, DOAP | Long/short case or OSCE | 2 |
| GM4.12 | Generate a differential diagnosis and prioritise based on clinical features that help distinguish between infective, inflammatory, malignant and rheumatologic causes | K | SH | Y | Bedside clinic, SGT | Long/short case | |
| GM4.13 | Order and interpret diagnostic tests based on the differential diagnosis including: CBC with differential, peripheral smear, urinary analysis with sediment, Chest X ray and other Imaging, blood and urine cultures, sputum gram stain and cultures, sputum AFB and cultures, CSF analysis, pleural and body fluid analysis, stool routine and culture, serology, FNAC, biopsy, bone marrow examination and QBC. | K | SH | Y | Bedside clinic, SGT, Tutorial | Skill assessment (OSCE/ viva Voce) | |
| GM4.14 | Enumerate in a patient with prolonged fever, the indications for various tests and describe the findings in tests of inflammation and specific rheumatologic tests, serologic testing for pathogens including HIV, bone marrow aspiration and biopsy | K | KH | N | LGT, SGT | Viva voce | |
| GM4.15 | Observe and assist in the performance of a bone marrow aspiration and biopsy in a simulated environment | S | SH | N | Skills lab-DOAP | Log book/documentation | |
| GM4.16 | Enumerate the indications for use of Imaging in the diagnosis of febrile syndromes | K | K | N | LGT, SGT | MCQ/ Written, Viva voce | |
| GM4.17 | Interpret a PPD (Mantoux) in a given patient | S | SH | Y | DOAP | Logbook Documentation/OSCE | |
| GM4.18 | Develop and present an appropriate diagnostic plan for patient with prolonged fever based on the clinical presentation, most likely diagnosis in a prioritised and cost-effective manner | K | KH | Y | Bedside clinic SGT | Application based question/ Viva voce | |
| GM4.19 | Develop an appropriate empiric treatment plan based on the patient's clinical and Immune status pending definitive diagnosis | S | SH | Y | SGT Tutorial | Skill assessment OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------------------------|---|-------------------------------------|------------------------|--|------------------------------------|--|------------------------------|
| GM4.20 | Communicate to the patient and family the diagnosis and treatment in a case of prolonged fever | C | SH | Y | Bedside clinic, DOAP | Skill assessment OSCE | |
| Topic 5: Liver disease | | Number of competencies: (17) | | Number of competencies that require certification : (02) | | | |
| GM 5.1 | Describe and discuss the physiologic and biochemical basis of hyperbilirubinemia | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 5.2 | Describe and discuss the etiology and pathophysiology of various types of liver diseases. | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 5.3 | Describe and discuss the epidemiology, microbiology, Immunology and clinical evolution of infective (viral) hepatitis | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 5.4 | Describe and discuss the pathophysiology and clinical evolution of alcoholic liver disease | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 5.5 | Describe and discuss the pathophysiology, clinical evolution and complications of cirrhosis of liver and portal hypertension including ascites, spontaneous bacterial peritonitis, hepato-renal syndrome, hepatic encephalopathy, acute GI bleed and hepatocellular Carcinoma | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 5.6 | Enumerate and describe the causes and pathophysiology of drug induced liver injury | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 5.7 | Describe and discuss the pathophysiology, clinical evolution and complications Cholelithiasis and cholecystitis | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 5.8 | Elicit document and present a medical history that helps delineate the aetiology of the current presentation and includes clinical presentation, risk factors, drug use, sexual history, vaccination history and family history in patients with liver disease | S | SH | Y | Bedside clinic, DOAP session | (Long/short case/OSCE) Documentation in Journal | |
| GM 5.9 | Perform a systematic examination that establishes the diagnosis | S | SH | Y | Bedside clinic, DOAP | (Long/short case or | 2 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------------------|--|-------------------------------------|------------------------|---------------|---|--|------------------------------|
| | and severity that includes nutritional status, mental status, jaundice, abdominal distension ascites, features of porto-systemic hypertension and hepatic encephalopathy | | | | session | OSCE) Documentation in Journal | |
| GM 5.10 | Generate a differential diagnosis and prioritize based on clinical features that suggest a specific aetiology for the presenting symptom in patient with liver disease | K S | KH SH | Y | Bedside clinic, SGT | (Long/short case) Documentation in Journal | |
| GM 5.11 | Choose and interpret appropriate diagnostic tests including: CBC, bilirubin, liver function tests, Hepatitis serology and ascitic fluid examination in patient with liver diseases | S | SH | Y | Bedside clinic, SGT Tutorial | (OSCE/ viva Voce) | |
| GM 5.12 | Enumerate the indications for ultrasound and other Imaging studies including MRCP and ERCP and describe the findings in liver disease | K | KH | Y | Bedside clinic, SGT Tutorial | Application based question / Viva voce | |
| GM 5.13 | Outline a diagnostic approach to liver disease based on hyperbilirubinemia, liver function changes and hepatitis serology | K | KH | Y | LGT/ Bedside clinic/ SGT Tutorial | Application based question / Viva voce | |
| GM 5.14 | Assist in the performance and interpret the findings of an ascitic fluid analysis | S | SH | Y | Bedside, DOAP, Skills Lab | Documentation in Logbook / Viva voce, OSCE | 2 |
| GM 5.15 | Describe and discuss the management of hepatitis, cirrhosis, portal hypertension, ascites spontaneous, bacterial peritonitis, acute GI Bleed , hepatic encephalopathy and hepatocellular carcinoma | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 5.16 | Enumerate the indications, precautions and counsel patients on vaccination for hepatitis | K /C | KH SH | Y | LGT, SGT Bedside clinic Role play | Application based questions / Viva voce/ OSCE | |
| GM 5.17 | Enumerate the indications for hepatic transplantation | K | K | Y | LGT, SGT | Application based questions / Viva voce | |
| Topic 6: HIV | | Number of competencies: (22) | | | Number of competencies that require certification : (01) | | |
| GM6.1 | Describe and discuss the symptoms and signs of acute HIV sero-conversion | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM6.2 | Define and classify HIV AIDS based on the CDC criteria | K | K | Y | LGT, SGT | MCQ/Written | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--------|---|-------------------------------|------------------------|---------------|------------------------------------|---------------------------------------|------------------------------|
| | | | | | | Viva voce | |
| GM6.3 | Describe and discuss the relationship between CD4 count and the risk of opportunistic infections | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM6.4 | Describe and discuss the pathogenesis, evolution and clinical features of common HIV related opportunistic infections | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM6.5 | Describe and discuss the pathogenesis, evolution and clinical features of common HIV related malignancies | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM6.6 | Describe and discuss the pathogenesis, evolution and clinical features of common HIV related skin and oral lesions | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM6.7 | Elicit document and present a medical history that helps delineate the aetiology of the current presentation and includes risk factors for HIV, mode of infection, other sexually transmitted diseases, risks for opportunistic infections and nutritional status | S | SH | Y | Bedside clinic, DOAP | Short case/OSCE | |
| GM6.8 | Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology for the presenting symptom | S | SH | Y | Bedside clinic, DOAP,SGT | Short case/OSCE | |
| GM6.9 | Choose and interpret appropriate diagnostic tests to diagnose and classify the severity of HIV-AIDS including specific tests of HIV, CDC | S | SH | Y | Bedside clinic, SGT Tutorial | Skill assessment (OSCE/ viva Voce) | |
| GM6.10 | Choose and interpret appropriate diagnostic tests to diagnose opportunistic infections including CBC, sputum examination and cultures, blood cultures, stool analysis, CSF analysis, Chest radiographs. | S | KH | Y | Bedside clinic, SGT Tutorial | Skill assessment (OSCE/ viva Voce) | |
| GM6.11 | Enumerate the indications and describe the findings for CT of the chest, brain and MRI Brain in a patient with opportunistic infections | K | KH | N | Bedside clinic SGT, Tutorial | Application based question, Viva voce | |
| GM6.12 | Enumerate the indications for and interpret the results of: Pulse oximetry, ABG, Chest Radiograph in a patient with opportunistic infections | K | K, KH | Y | Bedside clinic, SGT Tutorial | Written/MCQ, Viva voce | |
| GM6.13 | Describe and enumerate the indications and side effects of drugs for bacterial, viral and other types of diarrhea in a patient suffering from HIV/AIDS | K | K, KH | Y | LGT, SGT | Written/MCQ, Viva voce | |
| GM6.14 | Discuss and describe the principles of HAART, the classes of | K | KH | Y | LGT, | Application based | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------------|------------------------|---------------|---|---------------------------------------|------------------------------|
| | antiretroviral used, adverse reactions and interactions in a patient suffering from HIV/AIDS | | | | SGT | question, Viva voce | |
| GM 6.15 | Discuss and describe the pathogenesis of IRIS and its management. | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM6.16 | Discuss and describe the principles and regimens used in post exposure prophylaxis | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM6.17 | Enumerate the indications and discuss prophylactic drugs used to prevent HIV related opportunistic infections | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM6.18 | Counsel patients on prevention of HIV transmission. | C/S | SH | Y | Bedside clinic DOAP | Skills assessment - OSCE | 3 |
| GM6.19 | Communicate diagnosis, treatment plan and subsequent follow up plan to patients with HIV/AIDS | C/S | SH | Y | Bedside clinic DOAP | Skills assessment - OSCE | |
| GM6.20 | Communicate with patients with HIV/AIDS on the importance of medication adherence | C/S | SH | Y | Bedside clinic DOAP | Skills assessment - OSCE | |
| GM6.21 | Demonstrate understanding of ethical and legal issues regarding patient confidentiality and disclosure in patients with HIV/AIDS | K/A | SH | Y | Bedside clinic DOAP, SGT | Skills assessment - OSCE Viva voce | |
| GM6.22 | Demonstrate a non- judgmental attitude to patients with HIV/AIDS and to their lifestyles including gender orientation | A | SH | Y | Bedside clinic DOAP SGT | Skills assessment - OSCE | |
| Topic 7: Rheumatologic problems | | Number of competencies: (22) | | | Number of competencies that require certification : (NIL) | | |
| GM7.1 | Describe the pathophysiology and genetic basis of autoimmune disease | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM7.2 | Classify cause of joint pain based on the pathophysiology | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM7.3 | Develop a systematic clinical approach to joint pain based on The pathophysiology | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM7.4 | Describe and discriminate acute, subacute and chronic causes Of joint pain | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM7.5 | Discriminate, describe and discuss arthralgia from arthritis, articular from periarticular complaints and Mechanical from inflammatory causes of joint pain | K | KH | Y | LGT, SGT | Written/ Vivavoce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| GM7.6 | Describe the common signs and symptoms of Articular and periarticular diseases | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM7.7 | Describe the systemic manifestations of rheumatologic disease | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM7.8 | Elicit document and present a medical history that will differentiate the aetiologies of disease | S | SH | Y | Bedside clinic,DOAP | Skill assessment/OSCE | |
| GM7.9 | Perform a systematic examination of all joints, muscle and skin That will establish the diagnosis andseverity of disease | S | SH | Y | Bedside clinic,DOAP | Skill assessment | |
| GM7.10 | Generate a differential diagnosis and prioritise based on Clinical features that suggest a specific aetiology | K/S | KH | Y | Bedside clinic, SGT | Skill assessment/Written | |
| GM7.11 | Describe the appropriate diagnostic work up based on the presumed aetiology and Enumerate the indications for and interpret the results of : CBC, anti-CCP,RA, ANA,DNA andother tests Of autoimmunity | K | KH | Y | Bedside clinic, SGT | Skill assessment/Written /OSCE | |
| GM7.12 | Enumerate the indications for arthrocentesis | K | K | Y | SGT,LGT | Written/ Vivavoce/log book | |
| GM7.13 | Enumerate the indications and interpret plain radiographs of joints | K | SH | Y | Bedside clinic, SGT | Skill assessment/OSCE | |
| GM7.14 | Communicate diagnosis, treatment plan and subsequent follow Up plan to patients | C | SH | Y | DOAP | Skill Assessment /OSCE | |
| GM7.15 | Develop an appropriate treatment plan for patients with rheumatologic diseases | K | KH | Y | Bedside clinic, SGT | Application Based questions/Skil l assessment/Written | |
| GM7.16 | Select, prescribe and communicate appropriate medications for relief of joint pain and preventive therapy for crystalline arthropathies | K/C | SH | Y | DOAP | Application based questions/Skill assessment/Written | |
| GM7.17 | Select, prescribe and communicate treatment option for systemic rheumatologic conditions | K/C | SH | Y | DOAP | Skill assessment/OSCE | |
| GM7.18 | Describe the basis for biologic and disease modifying therapy in rheumatologic diseases | K | KH | Y | Bedside clinic, SGT | Skill assessment/Written //OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| GM7.19 | Communicate and incorporate patient preferences in the choice Of therapy | C/A | SH | Y | DOAP | Skill assessment//OSCE | |
| GM7.20 | Develop and communicate appropriate follow up and monitoring plans for patients with rheumatologic conditions | C | SH | Y | DOAP | Application based questions/Skill assessment//OSCE | |
| GM7.21 | Demonstrate an understanding of the impact of Rheumatologic conditions on quality of life, well-being, work and family | A | SH | Y | DOAP | Skill assessment/OSCE | |
| GM7.22 | Determine the need for specialist consultation | K | K | Y | SGT,LGT | Vivavoce | |
| Topic 8: Hypertension | | Number of competencies: (19) | | Number of competencies that require certification : (NIL) | | | |
| GM 8.1 | Describe and discuss the epidemiology, genetic basis aetiology and the prevalence of primary and secondary hypertension | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.2 | Describe and discuss the pathophysiology of hypertension | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.3 | Define and classify hypertension | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.4 | Describe and discuss the differences between primary and secondary hypertension | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.5 | Define, describe and discuss and recognise hypertensive urgency and emergency | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.6 | Describe and discuss the clinical manifestations of the various aetiologies of secondary causes of hypertension | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.7 | Describe, discuss and identify target organ damage due to Hypertension | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.8 | Elicit document and present a medical history that includes: duration and levels, symptoms, comorbidities, lifestyle, risk factors, family history, psychosocial and environmental factors, dietary assessment, previous and concomitant therapy | S | SH | Y | Bedside clinic, DOAP | Skill assessment | |
| GM 8.10 | Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology | S | SH | Y | Bedside clinic, DOAP | Skill assessment | |

| | | | | | | | |
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| GM 8.11 | Describe the appropriate diagnostic work up based on the presumed aetiology | K | KH | Y | SGT | Written / Viva | |
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| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|---|-------------------------------|------------------------|---------------|------------------------------------|-----------------------------|------------------------------|
| GM 8.12 | Enumerate the indications for and interpret the results of : CBC, Urine routine, BUN, Cr, Electrolytes, Uric acid, ECG | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.13 | Develop an appropriate treatment plan for essential hypertension | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.14 | Recognise, prioritise and manage hypertensive emergencies | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 8.15 | Develop and communicate to the patient lifestyle modification including weight reduction, moderation of alcohol intake, physical activity and sodium intake | C | SH | Y | DOAP | SELF ASSESSMENT | |
| GM 8.16 | Perform and interpret a 12 lead ECG | S | P | Y | DOAP | Log Book/Skills Station | |
| GM 8.17 | Counsel a patient and incorporate patient preferences in the management of HTN | A/C | SH | Y | DOAP | Skill assessment | |
| GM 8.18 | Demonstrate understanding of the impact of Hypertension on quality of life, well being, work and family | A | SH | Y | Bed Side Clinic/DOAP | Faculty Observation | |
| GM 8.19 | Determine the need for specialist consultation | K | KH | Y | LGT/SGT | Written / Viva | |

Topic 9: Anaemia

Number of competencies: (21)

Number of competencies that require certification : (NIL)

| | | | | | | | |
|-------|---|---|----|---|-----------------------|--------------------------|--|
| GM9.1 | Define, describe and classify anemia based on red blood cell size and reticulocyte count | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM9.2 | Describe and discuss the morphological characteristics, aetiology and prevalence of each of the causes of anemia | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM9.3 | Elicit document and present a medical history that includes symptoms, risk factors including GI bleeding, prior history, medications, menstrual history, and family history | S | SH | Y | Bed side clinic, DOAP | Skill assessment | |
| GM9.4 | Perform a systematic examination that includes : general examination for pallor, oral examination, DOAP of Hyperdynamic circulation, lymph node and splenic examination | S | SH | Y | Bedside clinic | Skill assessment/OSCE | |
| GM9.5 | Generate a differential diagnosis and prioritise based on Clinical features that suggest a specific aetiology | S | SH | Y | Bedside clinic, DOAP | Skill assessment/Written | |

| | | | | | | | |
|--|--|-------------------------------------|----|---|---|--------------------------------------|--|
| GM9.6 | Describe the appropriate diagnostic work up based on The presumed aetiology | S | SH | Y | Bedside clinic, DOAP | Skill assessment/Written | |
| GM9.7 | Describe and discuss the meaning and utility of components of the | K | KH | Y | LGT, SGT | Written/ Viva voce/ | |
| | hemogram, various tests for iron deficiency, red cell indices, reticulocyte count, iron studies, peripheral smear, B12 and folate levels | | | | | Skill assessment | |
| GM9.8 | Describe the indications and interpret the results of a bone marrow aspirations and biopsy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| GM9.8 | Describe the indications and interpret the results of a bone marrow aspirations and biopsy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| GM9.9 | Describe, develop a diagnostic plan to determine the aetiology Of anemia | K | KH | Y | LGT, SGT | Written/ Viva voce/ Skill assessment | |
| GM9.10 | Prescribe replacement therapy with iron, B12, folate | S | SH | Y | Bedside clinic, DOAP | Skill assessment/Written | |
| GM9.11 | Describe the national programs for anemia prevention | K | KH | Y | LGT, SGT | Written/Vivavoce | |
| GM9.12 | Communicate the diagnosis and treatment appropriately to patients | C | SH | Y | DOAP | Skill assessment/OSCE | |
| GM9.13 | Incorporate patient preferences in the management of anemia | C | SH | Y | DOAP | Skill assessment/OSCE | |
| GM9.14 | Describe the indications for blood transfusion and the Appropriate use of blood components | K | KH | Y | LGT, SGT | Written/ Viva voce/ Skill assessment | |
| GM9.15 | Describe the precautions required necessary when performing A blood transfusion | K | KH | Y | LGT, SGT | Written/ Viva voce/ Skill assessment | |
| GM9.16 | Communicate and counsel patients with methods to prevent nutritional Anemia | C | SH | Y | DOAP | Skill assessment/OSCE | |
| GM9.17 | Determine the need for specialist consultation | K | KH | Y | LGT, SGT | Written/OSCE | |
| Topic 10: Acute Kidney Injury and Chronic renal failure | | Number of competencies: (24) | | | Number of competencies that require certification : (01) | | |
| GM10.1 | Define, describe, classify, differentiate between the pathophysiologic causes of acute and chronic renal failure | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.2 | Describe the pathophysiology and causes of pre renal ARF, Renal and post-renal ARF | K | KH | Y | LGT, SGT | Written/ Vivavoce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---------|--|-------------------------------|------------------------|---------------|------------------------------------|-------------------------------------|------------------------------|
| GM10.3 | Describe the evolution, natural history and treatment of ARF | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.4 | Describe and discuss the aetiology and staging ofCKD | K | KH | Y | LGT,SGT | Written/ Vivavoce | |
| GM10.5 | Describe and discuss the pathophysiology and clinical findings Of uraemia | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.6 | Classify, describe and discuss the significance ofproteinuria in CKD | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.7 | Describe and discuss the pathophysiology of anemia and hyperparathyroidismin CKD | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.8 | Describe and discuss the association between CKD glycemia And hypertension | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.9 | Elicit document and present a medical history that will differentiate the aetiologies of disease, distinguish acute and chronic disease, identify predisposing conditions, nephrotoxic drugs and Systemic causes | S | SH | Y | Bedside clinic, DOAP | Skill assessment | |
| GM10.10 | Perform a systematic examination that establishes the diagnosis and severity including determination of volume status, presence of edema and heart failure, features of uraemia and Associated systemic disease | S | SH | Y | Bedside clinic, DOAP | Skill assessment | |
| GM10.11 | Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology | K | KH | Y | DOAP, SGT | Skill assessment/Written / Vivavoce | |
| GM10.12 | Describe the appropriate diagnostic work up based on the presumed aetiology | K | SH | Y | DOAP, SGT | Skill assessment/Written / Vivavoce | |
| GM10.13 | Enumerate the indications for and interpret the results of : renal function tests, calcium, phosphorus, PTH, urine electrolytes, osmolality, Anion gap, FENa (Fractional Excretion of Sodium),CrCl (Creatinine Clearance) and renal ultrasound | K | KH | Y | DOAP, SGT | Skill assessment/Written / Vivavoce | 2 |
| GM10.14 | Identify the ECG findings in hyperkalemia | S | SH | Y | DOAP, SGT | Skill assessment/Written / Vivavoce | |
| GM10.15 | Describe and discuss the indications to perform arterial blood | S | P | Y | DOAP | documentation in | |

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| | gasanalysis: interpret the data | | | | | logbook | |
| GM10.16 | Describe and discuss the indications for and insert a Peripheral intravenous catheter | S | P | Y | DOAP,Bedside clinic | documentation inlogbook | |
| GM10.17 | Communicate diagnosis, treatment plan and subsequent follow up plan to patients | C | SH | Y | DOAP | Skill assessment/OSCE | |
| GM10.18 | Counsel patients on a renal diet | K | SH | Y | DOAP | Skillassessment/OSCE | |
| GM10.19 | Identify and describe the priorities in the management of ARFincluding diet, volume management, alteration in doses of drugs, monitoring and indicationsfor dialysis | K/C | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.20 | Describe and discuss supportive therapy in CKD including diet, anti-hypertensives, glycemic therapy, dyslipidemia, anemia, hyperkalemia, hyperphosphatemia and Secondary hyperparathyroidism | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.21 | Describe and discuss the indications for renal dialysis | C/A | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.22 | Describe and discuss the indications for renal replacement therapy | C | KH | Y | LGT,SGT | Written/ Vivavoce//OSCE | |
| GM10.23 | Describe discuss and communicate the ethical and legal Issues involved in renal replacement therapy | C/A | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM10.24 | Recognise the Impact of CKD on patient's quality of life, well- being, work and family and Incorporate patient preferences into the care of CKD | A/C | KH | Y | LGT, SGT,Bedside clinic | observationbyfaculty/OSCE | |
| Topic 11: Diabetes Mellitus | | Number of competencies: (24) | | | Number of competencies that require certification : (01) | | |
| GM 11.1 | Define and classify diabetes | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.2 | Describe and discuss the epidemiology and pathogenesis and risk factors and clinical evolution of type 1 diabetes | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.3 | Describe and discuss the epidemiology and pathogenesis and risk factors economic Impact and clinical evolution of type 2 diabetes | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.4 | Describe and discuss the genetic background and the influence of the environment on diabetes | K | KH | Y | LGT, SGT | Written/Viva voce | |

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| GM 11.5 | Describe and discuss the pathogenesis and temporal evolution of microvascular and macrovascular complications of diabetes | | | | | | |
| GM 11.6 | Describe and discuss the pathogenesis and precipitating factors, recognition and management of diabetic emergencies | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.7 | Elicit document and present a medical history that will differentiate the aetiologies of diabetes including risk factors, precipitating factors, lifestyle, nutritional history, family history, medication history, co-morbidities and target organ disease | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.8 | Perform a systematic examination that establishes the diagnosis and severity that includes skin, peripheral pulses, blood pressure measurement, fundus examination, detailed examination of the foot (pulses, nervous and deformities and injuries) | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.9 | Describe and recognise the clinical features of patients who present with a diabetic emergency | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.10 | Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.11 | Order and interpret laboratory tests to diagnose diabetes and its complications including: glucoses, glucose tolerance test, glycosylated hemoglobin, urinary micro albumin, ECG, electrolytes, ABG, ketones, renal function tests and lipid profile | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.12 | Perform and interpret a capillary blood glucose test | K | KH | Y | LGT, SGT | Written/Viva voce | 2 |
| GM 11.13 | Perform and interpret a urinary ketone estimation with a dipstick | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.14 | Recognise the presentation of hypoglycaemia and outline the principles on its therapy | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.15 | Recognise the presentation of diabetic emergencies and outline the principles of therapy | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.16 | Discuss and describe the pharmacologic therapies for diabetes their indications, contraindications, adverse reactions and interactions | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.17 | Outline a therapeutic approach to therapy of T2Diabetes based on presentation, severity and complications in a cost-effective manner | K | KH | Y | LGT, SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| GM 11.18 | Describe and discuss the pharmacology, indications, adverse reactions and interactions of drugs used in the prevention and treatment of target organ damage and complications of Type II Diabetes including neuropathy, nephropathy, retinopathy, hypertension, dyslipidemia and cardiovascular disease | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.19 | Demonstrate and counsel patients on the correct technique to administer insulin | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM11.20 | Demonstrate to and counsel patients correct technique on the of self-monitoring of blood glucoses | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM11.21 | Recognise the Importance of patient preference while selecting therapy for diabetes | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.22 | Enumerate the causes of hypoglycaemia and describe the counter hormone response and the initial approach and treatment | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.23 | Describe the precipitating causes, pathophysiology, recognition, clinical features, diagnosis, stabilisation and management of diabetic ketoacidosis | K | KH | Y | LGT, SGT | Written/Viva voce | |
| GM 11.24 | Describe the precipitating causes, pathophysiology, recognition, clinical features, diagnosis, stabilisation and management of Hyperosmolar non ketotic state | K | KH | Y | LGT, SGT | Written/Viva voce | |
| Topic 12: Thyroid Dysfunction | | Number of competencies: (14) | | | Number of competencies that require certification : (01) | | |
| GM 12.1 | Describe the epidemiology, genetic basis and pathogenesis of hypothyroidism and hyperthyroidism including the influence of iodine deficiency and autoimmunity in the pathogenesis of thyroid disease | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 12.2 | Describe and discuss the physiology of the hypothalamopituitary - thyroid axis, principles of thyroid function testing and alterations in physiologic function | K | K | Y | LGT,SGT | Written | |
| GM 12.3 | Describe and discuss the principles of radio iodine uptake in the diagnosis of thyroid disorders | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 12.4 | Elicit document and present an appropriate history that will establish the diagnosis cause of thyroid dysfunction and its severity | S | SH | Y | Bedside clinic, Skill Lab | Skills assessment | |

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| GM 12.5 | Perform and demonstrate a systematic examination based on the history that will help establish the diagnosis and severity including systemic signs of thyrotoxicosis and hypothyroidism, palpation of the rhythm abnormalities neck palpation of the thyroid and lymph nodes and cardiovascular findings | S | SH | Y | Bedside clinic, Skill Lab | Skills assessment | |
| GM 12.6 | Demonstrate the correct technique to palpate the thyroid | S | SH | Y | Bedside clinic,DOAP | Skill assessment | |
| GM 12.7 | Generate a differential diagnosis based on the clinical presentation and prioritise it based on the most likely diagnosis | K | KH | Y | Bedside clinic,SGT | Written | |
| GM 12.8 | Order and interpret diagnostic testing based on the clinical diagnosis including CBC, thyroid function tests and ECG and radio iodine uptake and scan | S | SH | Y | Bedside clinic,DOAP | Skill assessment | |
| GM 12.9 | Identify atrial fibrillation, pericardial effusion and bradycardia on ECG | S | SH | Y | Bedside clinic,DOAP | Skill assessment | |
| GM 12.10 | Interpret thyroid function tests in hypo and hyperthyroidism | K | KH | Y | LGT,SGT | Written/Viva voce | 2 |
| GM 12.11 | Describe and discuss the iodisation programs of the government of India | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 12.12 | Describe the pharmacology, indications, adverse reaction, interactions of thyroxine and antithyroid drugs | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 12.13 | Write and communicate to the patient appropriately a prescription for thyroxine based on age, sex, and clinical and biochemical status | S/C | SH | Y | Skill Lab | Skill assessment | |
| GM 12.14 | Describe and discuss the indications of thionamide therapy, radio iodine therapy and surgery in the management of thyrotoxicosis | K | KH | Y | Bedside clinic | Written/Viva voce | |
| Topic 13: Common Malignancies / Oncology | | Number of competencies: (19) | | Number of competencies that require certification : (NIL) | | | |
| GM 13.1 | Describe the clinical epidemiology and inherited & modifiable risk factors for common malignancies in India | K | K | Y | LGT,SGT | Short note/Viva Voice | |
| GM 13.2 | Describe the genetic basis of selected cancers | K | K | Y | LGT,SGT | Short note/Viva Voice | |
| GM 13.3 | Describe the relationship between infection and cancers | K | K | Y | LGT,SGT | Short note/Viva Voice | |
| GM 13.4 | Describe the natural history, presentation, course, complications | K | K | N | LGT,SGT | Short note/Viva | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| | and cause of death for common cancers | | | | | Voice | |
| GM 13.5 | Describe the common issues encountered in patients at the end of life and principles of management of end-of-life care. | K | K | N | LGT,SGT | Short note/Viva Voice | |
| GM13.6 | Describe and distinguish the difference between curative and palliative care in patients with cancer | K | K | N | LGT,SGT | Short note/Viva voice | |
| GM 13.7 | Elicit document and present a history that will help establish the aetiology of cancer and includes the appropriate risk factors, duration and evolution | S | K | Y | Bedside clinic | Skill assessment/Short Case | |
| GM13.8 | Perform and demonstrate a physical examination that includes an appropriate general and local examination that leads to the diagnosis, extent spread and complications of cancer | S | SH | Y | Bedside clinic | Skill assessment/Short case | |
| GM13.9 | Demonstrate in a mannequin the correct technique for performing breast exam rectal examination and cervical examination and pap smear | S | K | Y | Bedside clinic | Skill assessment/Short Case | |
| GM13.10 | Generate a differential diagnosis based on the presenting symptoms and clinical features in a cancer patient and identify the most likely diagnosis | S | K | Y | Bedside clinic | Skill assessment / Short Case | |
| GM13.11 | Order and interpret diagnostic testing based on the clinical diagnosis in a cancer patient. Including CBC and stool occult blood and prostate specific antigen | S | K | K | Bedside clinic | Skill assessment/ Short case | |
| GM13.12 | Describe the indications and interpret the results of Chest X Ray, mammogram, skin and tissue biopsies and tumor markers used in common cancers | K | KH | Y | Bedside clinic,SGT | Short note/Viva voice | |
| GM13.13 | Describe and assess pain and suffering objectively in a patient with cancer | K | KH | Y | Bedside clinic,SGT | Short note/Vivavoice | |
| GM13.14 | Describe the indications for surgery, radiation and chemotherapy for common malignancies | K | KH | Y | Bedside clinic,SGT | Short note/Viva Voice | |
| GM13.15 | Describe the need, tests involved, their utility in the prevention of common malignancies | K | KH | Y | Bedside clinic,SGT | Short note/Viva Voice | |
| GM13.16 | Demonstrate an understanding of needs and preferences of patients when choosing curative and palliative therapy | A/C | KH | Y | Bedside clinic,SGT | Short note/Viva voice | |

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| GM13.17 | Describe and enumerate the indications, use, side effects of narcotics in pain alleviation in patients with cancer | K | KH | Y | Bedside clinic,SGT | Short note/Viva Voice | |
| GM13.18 | Describe and discuss the ethical and the medico legal issues involved in end-of-life care | K | KH | Y | Bedside clinic,SGT | Short note/Viva Voice | |
| GM13.19 | Describe the therapies used in alleviating suffering in patients at the end of life | K | KH | Y | Bedside clinic,SGT | Short note/Viva Voice | |
| Topic 14: Obesity | | Number of competencies: (14) | | Number of competencies that require certification : (NIL) | | | |
| GM 14.1 | Define and measure obesity as it relates to the Indian population | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 14.2 | Describe and discuss the aetiology of obesity including modifiable and non-modifiable risk factors and secondary causes | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 14.1 | Define and measure obesity as it relates to the Indian population | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 14.2 | Describe and discuss the aetiology of obesity including modifiable and non-modifiable risk factors and secondary causes | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 14.3 | Describe and discuss the monogenic forms of obesity | K | KH | Y | LGT,SGT | Written/Viva voce | |
| GM 14.4 | Describe and discuss the impact of environmental factors including eating habits, food, work, environment and physical activity on the incidence of obesity | K | K | Y | LGT,SGT | Written/Viva voce | |
| GM 14.5 | Describe and discuss the natural history of obesity and its complications | K | K | Y | LGT,SGT | Written/Viva voce | |
| GM 14.6 | Elicit and document and present an appropriate history that includes the natural history, dietary history, modifiable risk factors, family history clues for secondary causes and motivation to lose weight | S | SH | Y | Bedside clinic, Skill Lab | Skills assessment | |
| GM 14.7 | Perform, document and demonstrate a physical examination based on the history that includes general examination, measurement of abdominal obesity, signs of secondary causes and comorbidities | S | SH | Y | Bedside clinic, Skill Lab | Skills assessment | |
| GM 14.8 | Generate a differential diagnosis based on the presenting symptoms and clinical features and prioritise based on the most likely diagnosis | S | SH | Y | Bedside clinic, Skill Lab | Skills assessment | |
| GM 14.9 | Order and interpret diagnostic tests based on the clinical diagnosis | S | SH | Y | Bedside clinic, Skill Lab | Skills assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| | including blood glucose, lipids, thyroid function tests etc. | | | | | | |
| GM 14.10 | Describe the indications and interpret the results of tests for secondary causes of obesity | S | SH | Y | Bedside clinic, Skill Lab | Skills assessment | |
| GM 14.11 | Communicate and counsel patient on behavioural, dietary and lifestyle modifications | C | SH | Y | Bedside clinic, Skill Lab | Skills assessment | |
| GM 14.12 | Demonstrate an understanding of patient's inability to adhere to lifestyle instructions and counsel them in a non - judgemental way | A/C | SH | Y | Bedside clinic, Skill Lab | Skills assessment | |
| GM 14.13 | Describe and enumerate the indications, pharmacology, and side effects of pharmacotherapy for obesity and describe and enumerate indications and side effects bariatric surgery | K | K | Y | LGT,SGT | Written/Viva voce | |
| GM 14.14 | Describe and enumerate and educate patients, health care workers and the public on measures to prevent obesity and promote a healthy lifestyle | K | K | Y | LGT,SGT | Written/Viva voce | |
| Topic 15: GI Bleeding | | Number of competencies: (18) | | Number of competencies that require certification : (01) | | | |
| GM 15.1 | Enumerate, describe and discuss the aetiology of upper and lower GI bleeding | K | KH | Y | LGT, SGT (SGT) | Application based questions / Viva voce | |
| GM 15.2 | Enumerate, describe and discuss the evaluation and steps involved in stabilizing a patient who presents with acute volume loss and GI bleed | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 15.3 | Describe and discuss the patho-physiological effects of acute blood and volume loss | K | KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 15.4 | Elicit and document and present an appropriate history that identifies the route of bleeding, quantity, grade, volume loss, duration, etiology, comorbid illnesses and risk factors | S | SH | Y | Bedside clinic / Tutorial | Skills assessment - Short case/ OSCE/ Documentation in Journal | |
| GM 15.5 | Perform, demonstrate and document a physical examination based on the history that includes general examination, volume assessment and appropriate abdominal examination | S | SH | Y | Bedside clinic / Tutorial | Skills assessment - Short case/OSCE Documentation in | |

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| | | | | | | Journal | |
| GM 15.6 | Distinguish between upper and lower gastrointestinal bleeding based on the clinical features | K | KH | Y | LGT, SGT | Application based questions Viva voce | |
| GM 15.7 | Demonstrate the correct technique to perform an anal and rectal examination in a mannequin or equivalent | S | SH | Y | DOAP in skills lab | Skills assessment – OSCE on mannequin | |
| GM 15.8 | Generate a differential diagnosis based on the presenting symptoms and clinical features and prioritize based on the most likely diagnosis | K | KH | Y | LGT, SGT/ Bedside clinic | Application based questions / Viva voce/ Short Case | |
| GM 15.9 | Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, PT and PTT, stool examination, occult blood, liver function tests, H. Pylori test. | S | SH | Y | Bedside clinic, SGT Tutorial | Skill assessment OSCE/ viva Voce) | |
| GM 15.10 | Enumerate the indications for endoscopy, colonoscopy and other Imagingcompetencies in the investigation of Upper GI bleeding | K | KH | Y | Bedside clinic, SGT Tutorial | Application based questions / Viva voce/ | |
| GM 15.11 | Develop, document and present a treatment plan that includes fluid resuscitation, blood and blood component transfusion, and specific therapy for arresting blood loss | K | KH | Y | LGT, SGT/ Tutorial | Application based questions / Viva voce | |
| GM 15.12 | Enumerate the indications for whole blood, component and platelet transfusion and describe the clinical features and management of a mismatched transfusion | K | KH | Y | LGT, SGT/ Tutorial | Application based questions / Viva voce | |
| GM 15.13 | Observe cross matching and blood / blood component transfusion | S | SH | Y | Bedside clinic, Direct observation in elective/ emergency Situation | Skill assessment (OSCE/ viva Voce) | 2 |
| GM 15.14 | Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of vasopressors used in the treatment of Upper GI bleed | K | KH | Y | LGT, SGT/ Tutorial | Application based questions / Viva voce | |
| GM 15.15 | Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy of acid peptic disease including Helicobacter pylori | K | K, KH | Y | LGT, SGT | Application based questions / Viva voce | |

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| GM 15.16 | Enumerate the indications for endoscopic interventions and Surgery in patient with GI Bleeding | K | K, KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 15.17 | Determine appropriate level of specialist consultation as per clinical, hemodynamic status of the patient with GI bleed | K | K | Y | SGT | Application based questions / Viva voce | |
| GM 15.18 | Counsel the family and patient with GI Bleeding on the diagnosis and therapeutic options in an empathetic non-judgmental manner | S C | SH | Y | Bedside clinic, DOAP Role play | Skills assessment - OSCE | |
| Topic 16: Diarrheal Disorders | | Number of competencies: (17) | | Number of competencies that require certification : (NIL) | | | |
| GM 16.1 | Describe and discuss the aetiology of acute and chronic diarrhea including infectious and non- infectious causes | K | K KH | Y | LGT, SGT | Application based questions / Viva voce | |
| GM 16.2 | Describe and discuss the acute systemic consequences of diarrhea including its impact on fluid balance | K | K KH | Y | LGT SGT | Application based questions / Viva voce | |
| GM 16.3 | Describe and discuss the chronic effects of diarrhea including malabsorption | K | K KH | Y | LGT SGT | Application based questions / Viva voce | |
| GM 16.4 | Elicit and document and present an appropriate history that includes the natural history, dietary history, travel, sexual history and other concomitant illnesses in a patient with Diarrhea | S | SH | Y | Bedside clinic, SGT | Skill assessment (Short case or OSCE) | |
| GM 16.5 | Perform, document and demonstrate a physical examination based on the history that includes general examination, including an appropriate abdominal examination | S | SH | Y | Bedside clinic, DOAP session | Skill assessment (Short case / OSCE) | |
| GM 16.6 | Distinguish between diarrhea and dysentery based on clinical features | K | KH | Y | Bedside clinic, SGT | Skill assessment (Short case / OSCE) Viva Voce | |
| GM 16.7 | Generate a differential diagnosis based on the presenting symptoms and clinical features and prioritize based on the most likely diagnosis | K | KH | Y | Bedside clinic, SGT | Skill assessment (Long/short case) Viva voce | |

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| GM 16.8 | Choose and interpret diagnostic tests based on the clinical diagnosis including complete blood count, and stool examination in a patient with acute/chronic diarrhea | S | SH | Y | Bedside clinic, SGT Tutorial | Skill assessment (OSCE/ viva Voce) | |
| GM 16.9 | Identify common parasitic causes of diarrhea under the microscope in a stool specimen | S | SH | Y | DOAP | Skill assessment OSCE | |
| GM 16.10 | Identify vibrio cholera in a hanging drop specimen | S | SH | Y | DOAP | Skill assessment OSCE | |
| GM 16.11 | Enumerate the indications for stool cultures and blood cultures in patients with acute diarrhea | K | KH | Y | LGT SGT | Application based questions / Viva voce | |
| GM 16.12 | Enumerate and discuss the indications for further investigations including antibodies, colonoscopy, diagnostic Imaging and biopsy in the diagnosis of chronic diarrhea | K | KH | Y | LGT SGT | Application based questions / Viva voce | |
| GM 16.13 | Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for parasitic causes of diarrhea | K | KH | Y | LGT SGT | Application based questions / Viva voce | |
| GM 16.14 | Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy for bacterial and viral diarrhea | K | KH | Y | LGT SGT | Application based questions / Viva voce | |
| GM 16.15 | Distinguish based on the clinical presentation Crohn's disease from Ulcerative Colitis | K | KH | Y | LGT SGT | Application based questions / Viva voce | |
| GM 16.16 | Describe and enumerate the indications, pharmacology and side effects of pharmacotherapy including Immunotherapy in a patient with chronic diarrhea | K | KH | Y | LGT SGT | Application based questions / Viva voce | |
| GM 16.17 | Describe and enumerate the indications for surgery in inflammatory bowel disease | K | KH | Y | LGT SGT | Application based questions / Viva voce | |
| Topic 17: Headache | | Number of competencies: (14) | | Number of competencies that require certification : (01) | | | |
| GM 17.1 | Define and classify headache and describe the presenting features, | K | KH | Y | LGT | Application based | |

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| | precipitating factors, aggravating and relieving factors of various kinds of headache | | | | SGT | question/ Viva voice | |
| GM 17.2 | Elicit and document and present an appropriate history including aura, precipitating aggravating and relieving factors, associated symptoms that help identify the cause of headaches | S | SH | Y | Bedside clinic SGT | Skill assessment OSCE | |
| GM 17.3 | Classify migraine and describe the distinguishing features between classical and non-classical forms of migraine | K | KH | Y | LGT SGT | Application based question/ Viva voice | |
| GM 17.4 | Demonstrate a detailed neurologic examination in a patient of headache and raised intracranial tension including signs of meningitis | S | SH | Y | Bedside clinic SGT | Long case/ Short case Skill assessment, OSCE | |
| GM 17.5 | Generate, document and present a differential diagnosis based on clinical features in a patient with headache. | S | SH | Y | Bedside clinic SGT | Long case/ Short case Skill assessment, OSCE | |
| GM 17.6 | Choose and interpret diagnostic testing including Imaging based on clinical diagnosis in a patient with headache | S | SH | Y | Bedside clinic SGT | Skill assessment OSCE Viva voce | |
| GM17.7 | Enumerate the indication of lumbar puncture and describe the findings in CSF in different types of meningitis. | K | KH | Y | LGT SGT | Application based question/ Viva voice | |
| GM17.8 | Demonstrate in a mannequin or equivalent the correct technique for performing a lumbar puncture | S | SH | Y | DOAP Skills lab | Skill assessment OSCE | |
| GM17.9 | Interpret the CSF findings with various parameters in a given CSF fluid analysis report | S | SH | Y | Bedside clinic SGT | Skill assessment OSCE, Viva voce | 2 |
| GM17.10 | Enumerate the indications for emergency care admission and describe Immediate supportive care in patients with headache | K | KH | Y | LGT SGT | Application based question/ Viva voice | |
| GM17.11 | Describe the indications, pharmacology, dose, side effects of abortive therapy in migraine | K | KH | Y | LGT SGT | Application based question/ Viva voice | |
| GM17.12 | Describe the indications, pharmacology, dose, side effects of prophylactic therapy in migraine | K | KH | Y | LGT SGT | Application based question/ Viva voice | |
| GM17.13 | Describe the pharmacology, dose, adverse reactions and regimens of drugs used in the treatment of bacterial, tubercular and viral meningitis | K | KH | Y | LGT SGT | Application based question/ Viva voice | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|--------------------------------------|------------------------|---|------------------------------------|--|------------------------------|
| GM17.14 | Counsel patients with migraine and tension headache on lifestyle changes and need for prophylactic therapy | A/C | SH | Y | Bedside clinic DOAP | Skill assessment OSCE | |
| Topic 18 : Cerebrovascular Accident | | Number of competencies: (16) | | Number of competencies that require certification : (01) | | | |
| GM 18.1 | Describe the functional and the vascular anatomy of the brain | K | KH | Y | LGT, SGT | Application based question /Viva voce | |
| GM 18.2 | Classify cerebrovascular accidents and describe the aetiology, predisposing genetic and acquired risk factors and pathogenesis of haemorrhagic and non-haemorrhagic stroke | K | KH | Y | LGT, SGT | Application based question /Viva voce | |
| GM 18.3 | Elicit and document and present an appropriate history in a cerebrovascular patient including onset, progression, precipitating and aggravating relieving factors, associated symptoms that help identify the cause of the cerebrovascular accidents | S | SH | Y | Bedside clinic, SGT | Long case /Short case Skills assessment OSCE | |
| GM 18.4 | Perform, demonstrate & document physical examination that includes general and a detailed neurologic examination as appropriate, based on the history in a stroke patient | S | SH | Y | Bedside clinic, DOAP | Long case /Short case Skills assessment OSCE | 3 |
| GM 18.5 | Distinguish the lesion based on upper versus lower motor neuron, side, site and most probable nature of the lesion in a given patient with neurological symptoms/signs | K S | KH SH | Y | LGT Bedside clinic, DOAP | Application based question Long case /Short case, Skills assessment, OSCE | |
| GM 18.6 | Elicit, document and present clinical examination of a stroke patient with speech disorder. Enumerate and describe the points for distinguishing the various disorders of speech based on site of lesion. | K S | KH SH | Y | Bedside clinic, DOAP | Application based question Long case /Short case, Skills assessment, OSCE | |
| GM18.7 | Describe and distinguish, based on the clinical presentation, the types of bladder dysfunction seen in neurological diseases | K | KH | Y | LGT Bedside clinic, SGT | Application based question /Viva voce | |
| GM18.8 | Choose and interpret the appropriate Imaging tests that will identify the anatomical site, type and etiology of the lesion in stroke patient | S | SH | Y | Bedside clinic, SGT | Skill assessment OSCE, Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------------------------------|--|-------------------------------------|------------------------|---------------|---|--|------------------------------|
| GM18.9 | Choose and interpret the appropriate diagnostic testing in young patients with a cerebrovascular accident (CVA) | S | SH | Y | Bedside clinic, SGT | Skill assessment OSCE Viva voce | |
| GM 18.10 | Describe the initial supportive management of a patient presenting with a cerebrovascular accident (CVA) | K | KH | Y | LGT SGT | Application based question /Viva voce | |
| GM 18.11 | Describe management of non-haemorrhagic stroke including use of thrombolytic agents. Enumerate the indications and contraindications of thrombolytic agents in a stroke patient | K | KH | Y | LGT SGT | Application based question /Viva voce | |
| GM 18.12 | Enumerate the indications and contraindications of antiplatelet agents in non-haemorrhagic stroke. Describe the role of antiplatelet agents in stroke patients. | K | KH | Y | LGT SGT | Application based question /Viva voce | |
| GM 18.13 | Describe the management of a patient with haemorrhagic stroke. | K | KH | Y | LGT SGT | Application based question /Viva voce | |
| GM 18.14 | Enumerate the indications for surgery in a haemorrhagic stroke | K | K | Y | LGT SGT | Written /Viva voce | |
| GM 18.15 | Enumerate and describe the indications and modalities of multidisciplinary rehabilitation of patients with a CVA | K | KH | Y | LGT ,SGT, Bedside clinic | Application based question /Viva voce | |
| GM 18.16 | Counsel regarding diagnosis, therapy, prognosis and outcome to patient with stroke and his/her family members in an empathetic manner | A/C | SH | Y | Bedside clinic DOAP | Skill assessment OSCE | |
| Topic 19: Movement Disorders | | Number of competencies: (09) | | | Number of competencies that require certification : (NIL) | | |
| GM 19.1 | Describe the functional neuro-anatomy of the locomotor system of the brain | K | KH | Y | LGT, SGT | Application based question /Viva voce | |
| GM 19.2 | Classify movement disorders of the brain based on distribution, rhythm, repetition, exacerbating and relieving factor | K | KH | Y | LGT, SGT | Application based question /Viva voce | |
| GM 19.3 | Elicit and document and present an appropriate history including onset, progression precipitating, aggravating and relieving factors, associated symptoms that help identify the cause of the movement | S | SH | Y | Bedside clinic SGT | Short case Skill assessment OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|------------------------------------|---|-------------------------------------|------------------------|--|------------------------------------|---|------------------------------|
| | disorder | | | | | | |
| GM 19.4 | Perform, demonstrate and document a physical examination that includes a general examination and a detailed neurologic examination using standard movement rating scales | S | SH | Y | Bedside clinic SGT | Short case Skill assessment OSCE | |
| GM 19.5 | Generate, document and present a differential diagnosis based on the history and physical examination in a patient with movement disorder | S | SH | Y | Bedside clinic SGT | Short case Skill assessment OSCE | |
| GM 19.6 | Document and describe clinical diagnosis regarding the anatomical location, nature and cause of the lesion based on the clinical presentation and physical examination in a patient with movement disorder | S | SH | Y | Bedside clinic SGT | Short case Skill assessment OSCE | |
| GM 19.7 | Choose and interpret diagnostic Imaging tests in the diagnosis of movement disorder | S | SH | Y | Bedside clinic SGT | Short case Skill assessment OSCE, Viva voce | |
| GM 19.8 | Discuss and describe the pharmacology, their dose, side effects and interactions of the drugs used in the management of Parkinson's syndrome | K | KH | Y | LGT, SGT | Application based question /Viva voce | |
| GM 19.9 | Enumerate the indications for use of surgery and botulinum toxin in the treatment of movement disorders | K | KH | Y | LGT, SGT | Written/Viva voce | |
| Topic 20: Seizure Disorders | | Number of competencies: (05) | | Number of competencies that require certification : (NIL) | | | |
| GM 20.1 | Define and differentiate between seizures, convulsions and epilepsy. | K | K | Y | LGT SGT | Application based question, Viva voce | |
| GM 20.2 | Enumerate the etiological classification of epilepsy. Discuss the pathophysiology, clinical evaluation and diagnosis of epilepsy including description of how to recognize different types of epilepsy. Enumerate and discuss the diagnostic tests in epilepsy. | K | KH | Y | LGT SGT | Application based question, Viva voce | |
| GM20.3 | Discuss the management of epilepsy including various antiepileptic medications, their usage and drug interactions. | K | KH | Y | LGT SGT | Application based question, Viva voce | |
| GM 20.4 | Counsel the patient and relatives regarding the safety precautions to be taken during and after an episode of seizure. Demonstrate | S/A/C | SH | Y | Bedside clinic DOAP | Skills assessment OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------------------------|---|-------------------------------------|------------------------|---|------------------------------------|---|------------------------------|
| | patient education on lifestyle modifications including sleep patterns, stress management, alcohol or drug avoidance. | | | | Role play | | |
| GM 20.5 | Discuss acute management of seizure episode | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| Topic 21: Envenomation | | Number of competencies: (09) | | Number of competencies that require certification : (NIL) | | | |
| GM21.1 | Enumerate the local poisonous snakes and describe the distinguishing marks of each | K | K/ KH | Y | LGT SGT | MCQ/Written/ Viva voce | |
| GM21.2 | Describe and demonstrate in a volunteer or a mannequin and educate (to other health care workers/patients) the correct initial management of patient with a snake bite in the field | K S | KH SH | Y | LGT SGT DOAP | Skill assessment OSCE Viva voce | |
| GM21.3 | Describe the initial approach to the stabilisation of the patient who presents with snake bite | K | KH | Y | LGT SGT | Application based question / Viva voce | |
| GM21.4 | Elicit and document and present an appropriate history, the circumstances, time, kind of snake, evolution of symptoms in a patient with snake bite | S | SH | Y | Bedside clinic, DOAP | Skill assessment OSCE Viva voce | |
| GM21.5 | Perform a systematic examination, document and present a physical examination that includes general examination, local examination, appropriate cardiac and neurologic examination in a patient with snake bite | S | SH | Y | Bedside clinic, DOAP | Skill assessment OSCE Viva voce | |
| GM21.6 | Choose and interpret the appropriate diagnostic tests in patients with snake bite | S | SH | Y | Bedside clinic SGT | Skill assessment OSCE / Viva voce | |
| GM21.7 | Enumerate the indications and describe the pharmacology, dose, adverse reactions, hypersensitivity reactions of anti-snake venom | K | KH | Y | LGTSGT | Written/MCQ / Viva voce | |
| GM21.8 | Describe the diagnosis, initial approach, stabilisation and therapy of scorpion envenomation | K | KH | Y | LGTSGT | Written/MCQ / Viva voce | |
| GM21.9 | Describe the diagnosis, initial approach, stabilisation and therapy of bee sting and other envenomation | K | KH | N | LGTSGT | Written/ MCQ / Viva voce | |
| Topic 22: Poisoning | | Number of competencies: (13) | | Number of competencies that require certification : (NIL) | | | |
| GM22.1 | Describe the initial approach to the stabilisation of the patient who presents with poisoning | K | KH | Y | LGT, SGT | Application based question, Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------------|------------------------|--|------------------------------------|---------------------------------------|------------------------------|
| GM22.2 | Enumerate the common plant poisons seen in your area and describe their toxicology, clinical features, prognosis and specific approach to detoxification | K | K KH | Y | LGT, SGT | MCQ/Written, Viva voce | |
| GM 22.3 | Enumerate the common corrosives used in your area and describe their toxicology, clinical features, prognosis and approach to therapy | K | KH | Y | LGT, SGT | MCQ/Written, Viva voce | |
| GM 22.4 | Enumerate the commonly observed drug overdose in your area and describe their toxicology, clinical features, prognosis and approach to therapy | K | KH | Y | LGT, SGT | MCQ/ Written, Viva voce | |
| GM22.5 | Identify and describe a pathophysiologic pattern or toxic syndrome (toxidrome) based on the observed findings | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM22.6 | Describe and discuss the toxicology, clinical features, complications, prognosis and specific approach to management of common insecticide poisoning (Organophosphate and carbamate poisoning). | K | KH | Y | LGT, SGT | MCQ/Written, Viva voce | |
| GM22.7 | Describe and discuss the clinical features, prognosis and management of aluminium phosphide and zinc phosphide poisoning. | K | KH | Y | LGT, SGT | MCQ/Written, Viva voce | |
| GM22.8 | Describe and discuss the clinical features, prognosis and management of Methanol and Ethylene glycol poisoning | K | KH | Y | LGT, SGT | MCQ/Written, Viva voce | |
| GM22.9 | Observe and describe the functions and role of a poison centre in suspected poisoning | K | KH | Y | Centre visit - SGT | Log book documentation Viva voce | |
| GM22.10 | Describe the medico legal aspects of suspected suicidal or homicidal poisoning | K | KH | Y | LGT, SGT, | Written Viva voce | |
| GM22.11 | Demonstrate the correct procedure to write a medico legal report on a suspected poisoning | S | SH | Y | DOAP SGT | Skill assessment OSCE | |
| GM22.12 | Counsel family members of a patient with suspected poisoning about the clinical and medico legal aspects with empathy | A/C | SH | Y | DOAP | Skill assessment OSCE | |
| GM22.13 | Enumerate the indications for psychiatric consultation and describe the precautions to be taken in a patient with suspected suicidal ideation / gesture | K | KH | Y | SGT | MCQ/Written Viva voce | |
| Topic 23: Mineral, Fluid Electrolyte and Acid base Disorder | | Number of competencies: (12) | | Number of competencies that require certification : (NIL) | | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|------------------------|---------------|---|--|------------------------------|
| GM 23.1 | Enumerate the causes of hypercalcemia and distinguish the features of PTH vs non PTH mediated hypercalcemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| GM 23.2 | Describe the aetiology, clinical manifestations, diagnosis and clinical approach to primary hyperparathyroidism | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| GM 23.3 | Describe the approach to the management of hypercalcemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| GM 23.4 | Enumerate the causes and describe the clinical features and the correct approach to the diagnosis and management for a patient with hyponatremia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| GM 23.5 | Enumerate the causes and describe the clinical and laboratory features and the correct approach to the diagnosis and management of the patient t with hyponatremia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| GM 23.6 | Enumerate the causes and describe the clinical and laboratory features and the correct approach to the diagnosis and management of the patient with hypokalemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| GM 23.7 | Enumerate the causes and describe the clinical and laboratory features and the correct approach to the diagnosis and management of the patient with hyperkalemia | K | KH | Y | LGT, SGT | Written/ Viva voce/application based questions | |
| GM 23.8 | Enumerate the causes and describe the clinical and laboratory features of metabolic acidosis | K | KH | Y | LGT, SGT | Written/ Viva voce/application based questions | |
| GM 23.9 | Enumerate the causes and describe the clinical and laboratory features of metabolic alkalosis | K | KH | Y | LGT, SGT | Written/ Viva voce/MCQ | |
| GM 23.10 | Enumerate the causes and describe the clinical and laboratory features of respiratory acidosis | K | KH | Y | LGT, SGT | Written/ Viva voce/MCQ | |
| GM 23.11 | Enumerate the causes and describe the clinical and laboratory features of respiratory alkalosis | K | KH | Y | LGT, SGT | Written/ Viva voce/MCQ | |
| GM 23.12 | Identify the underlying acid-based disorder based on an ABG report and interpret it in the context of clinical situation | K | KH | Y | LGT, SGT | Written/ Viva voce/MCQ | |
| Topic: 24 Nutritional and Vitamin Deficiencies | | Number of competencies: (05) | | | Number of competencies that require certification : (NIL) | | |
| GM 24.1 | Discuss and describe the methods of nutritional assessment in | K | KH | Y | LGT, SGT | Application | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| | an adult and calculation of caloric requirements during illnesses | | | | | based questions/Written/Vivavoce | |
| GM 24.2 | Discuss and describe the causes and consequences of protein-caloric malnutrition in the hospital | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM 24.3 | Discuss and describe the aetiology, causes, clinical manifestations, complications, diagnosis and management of common vitamin deficiencies | K | KH | Y | LGT, SGT | Application based questions/Written/Vivavoce | |
| GM 24.4 | Enumerate the indications for enteral and parenteral nutrition in critically ill patients | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| GM 24.5 | Counsel and communicate to patients in a simulated environment on an appropriate balanced diet | S | SH | Y | DOAP | Skill assessment/OSCE | |
| Topic 25: Geriatrics | | Number of competencies: (22) | | Number of competencies that require certification : (NIL) | | | |
| GM 25.1 | Describe and discuss the epidemiology, pathogenesis, clinical evolution, presentation and course of common diseases in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM 25.2 | Describe the multidimensional geriatric assessments that includes medical, psycho-social and functional components | K | K | Y | Bedside clinic, DOAP | Skill assessment /OSCE | |
| GM 25.3 | Describe and discuss the etiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of acute confusional states | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM 25.4 | Describe and discuss the etiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of vascular events in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM 25.5 | Describe and discuss the etiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of depression in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM 25.6 | Describe the etiopathogenesis and clinical presentation of dementia in the elderly. Describe the acute care, stabilization, management and rehabilitation of dementia in elderly | K | KH | Y | LGT, SGT | Written/viva voice | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
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| GM25.7 | Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of personality changes in the Elderly | K | KH | N | LGT, SGT | Written/viva voice | |
| GM25.8 | Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of osteoporosis in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.9 | Describe and discuss the aetiopathogenesis clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of CVA in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.10 | Describe and discuss the etiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of COPD in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.11 | Describe and discuss the functional changes, acute care, stabilization, management and rehabilitation of the elderly undergoing surgery | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.12 | Describe and discuss the etiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of degenerative joint disease | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.13 | Describe and discuss the etiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of falls in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.14 | Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of common fractures in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.15 | Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of vision abnormalities and visual loss in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.16 | Describe and discuss the principles of physical and social rehabilitation, functional assessment, role of physiotherapy and occupational therapy in the management of disability in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |

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| GM25.17 | Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of hearing loss in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.18 | Describe the Impact of the demographic changes in ageing on the population | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.19 | Enumerate and describe the social problems in the elderly including isolation, abuse, change in family structure and their impact on Health | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.20 | Enumerate and describe social interventions in the care of elderly including domiciliary services, rehabilitation facilities, old age homes and state interventions | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.21 | Enumerate and describe ethical issues in the care of the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| GM25.22 | Describe and discuss the aetiopathogenesis, clinical presentation, complications, assessment and management of nutritional disorders in the elderly | K | KH | Y | LGT, SGT | Written/viva voice | |
| Topic 26: Infectious Diseases | | Number of competencies: (35) | | | Number of competencies that require certification : (NIL) | | |
| GM 26.1 | Describe and discuss the molecular mechanisms of microbial pathogenesis. | K | KH | Y | LGT SGT | Application based question, Viva voce | |
| GM26.2 | Discuss the approach to a patient with an Infectious Disease. | K | KH | Y | LGT SGT | Application based question Viva voce | |
| GM 26.3 | Elicit document and present a medical history that helps delineate the aetiology of infectious diseases that includes the evolution and pattern of symptoms, risk factors, exposure through occupation and Travel | S | SH | Y | Bedside clinic, DOAP | Skill assessment OSCE | |
| GM 26.4 | Perform a systematic examination that establishes the diagnosis and severity of presentation that includes: general skin, mucosal and lymph node examination, chest and abdominal examination (including examination of the liver and spleen) | S | SH | Y | Bedside clinic, DOAP | Skill assessment OSCE | |

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| GM 26.5 | Order and interpret diagnostic tests based on the differential diagnosis including: CBC with differential, blood biochemistry, peripheral smear, urinary analysis with sediment, Chest X ray, blood and urine cultures, sputum gram stain and cultures, sputum AFB and cultures, CSF analysis, pleural and body fluid analysis, stool | K | KH | Y | LGT Bedside clinic, DOAP | Skill assessment OSCE | |
| GM 26.6 | Enumerate and describe the indications for use of newer techniques in the diagnosis of these infections | K | K KH | Y | LGT, SGT | MCQ/Written / Viva voce | |
| GM 26.7 | Discuss the approach to the Acutely Ill Infected Febrile Patient | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM 26.8 | Describe and discuss the common causes, clinical features and management of infections of the Skin, Muscles and Soft Tissues. | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM 26.9 | Describe and discuss the common causes, clinical features and management of liver and other Visceral abscesses. | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM 26.10 | Describe and discuss the common causes, clinical features and management of acute infectious diarrheal diseases and bacterial food poisoning. | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM 26.11 | Describe and discuss the common causes, clinical features and management of Urinary Tract Infections, Pyelonephritis, and Prostatitis. | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM 26.12 | Describe and discuss the common causes, clinical features and management of encephalitis and meningitis. | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM 26.13 | Describe and discuss the etiology, pathogenesis, clinical features and management of Clostridial infections like tetanus, botulism and gas gangrene. | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM26.14 | Describe and discuss the common causes, clinical features and management OF diseases caused by Gram-Negative Enteric Bacilli. | K | KH | N | LGT, SGT | Application based question / Viva voce | |
| GM26.15 | Describe and discuss the etiopathogenesis, clinical features, complications and management of Helicobacter pylori Infections. | K | KH | Y | LGT, SGT | Application based question / Viva voce | |

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|---------|--|-------------------------------|------------------------|---------------|------------------------------------|--|------------------------------|
| GM26.16 | Describe and discuss the clinical features, complications and management OF infections due to Pseudomonas and Burkholderia Species. | K | KH | N | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.17 | Describe and discuss the etiopathogenesis, clinical features, complications and management of enteric fever. | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM26.18 | Describe and discuss the common causes, etiopathogenesis, clinical features and management of bacterial zoonotic diseases like Leptospirosis, Brucellosis, Plague and Anthrax. | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM26.19 | Describe and discuss the pathogenesis, clinical features and management of common diseases caused by Actinomyces and Nocardia. | K | KH | Y | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.20 | Describe and discuss the pathogenesis, clinical features and management of Rickettsial diseases especially of typhus group (Scrub typhus, epidemic typhus and endemic typhus). | K | KH | N | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.21 | Describe and discuss the etiopathogenesis, clinical features, complications and management of Herpes Simplex Virus Infections. | K | KH | Y | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.22 | Describe and discuss the etiopathogenesis, clinical features, complications and management of Varicella-Zoster Virus Infections | K | KH | Y | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.23 | Describe and discuss the etiopathogenesis, clinical features, complications and management of Common Viral Respiratory Infections, Including COVID-19, SARS, Influenza. | K | KH | Y | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.24 | Describe and discuss the etiopathogenesis, clinical features, management and prevention of Rabies. | K | KH | Y | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.25 | Describe and discuss the etiopathogenesis, clinical features, complications and management of Dengue. | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM26.26 | Describe and discuss the etiopathogenesis, clinical features and management of candidiasis. | K | KH | N | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.27 | Describe and discuss the etiopathogenesis, clinical features, and management of Aspergillosis | K | KH | N | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.28 | Describe and discuss the etiopathogenesis, clinical features, complications and management of Amebiasis. | K | KH | Y | LGT, SGT | Application based question | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------------------------|--|-------------------------------------|------------------------|---------------|---|---|------------------------------|
| | | | | | | / Viva voce | |
| GM26.29 | Describe and discuss the etiopathogenesis, clinical features, complications and management of Malaria | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM26.30 | Prescribe drugs for malaria based on the species identified, prevalence of drug resistance and national programs. | K | KH | Y | SGT | Sill assessment | |
| GM26.31 | Describe and discuss the etiopathogenesis, clinical features and management of Leishmaniasis. | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM 26.32 | Describe and discuss the etiopathogenesis, clinical features and management of Filarial disease. | K | KH | Y | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.33 | Describe and discuss the etiopathogenesis, clinical features, complications and management of Cysticercosis. | K | KH | N | LGT, SGT | MCQ/Written / Viva voce | |
| GM26.34 | Communicate to the patient and family the diagnosis and treatment of identified infection | C | SH | Y | Bedside clinic DOAP | Skill assessment OSCE | |
| GM26.35 | Counsel the patient and family on prevention of various infections due to environmental issues | C | SH | Y | Bedside clinic DOAP | Skill assessment OSCE | |
| Topic 27: Tuberculosis | | Number of competencies: (15) | | | Number of competencies that require certification : (01) | | |
| GM 27.1 | Describe and discuss the epidemiology of tuberculosis and its impact on the work, life and economy of India | K | KH | Y | LGT, SGT | Application based question, Viva voce | |
| GM 27.2 | Describe and discuss the microbiology of tubercle bacillus, mode of transmission, pathogenesis, clinical evolution and natural history of pulmonary and extra pulmonary forms (including lymph node, bone and CNS) | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM 27.3 | Discuss and describe the impact of co-infection with HIV and other co-morbid conditions such as diabetes on the natural history of tuberculosis | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM 27.4 | Describe the epidemiology, the predisposing factors, microbial and therapeutic factors that determine resistance to anti-tubercular drugs | K | KH | Y | LGT, SGT | Application based question / Viva voce | |
| GM 27.5 | Elicit, document and present an appropriate medical history that includes risk factor, contacts, symptoms including cough, fever, | S | SH | Y | Bed side clinic, DOAP session | Short/long case , Skill assessment - | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|----------|---|-------------------------------|------------------------|---------------|--|--|------------------------------|
| | anorexia, weight loss, hemoptysis and symptoms of extra-pulmonary manifestations | | | | | OSCE | |
| GM 27.6 | Demonstrate and perform a systematic examination that establishes the diagnosis based on the clinical presentation that includes a a) general examination, b) examination of the chest and lung including loss of volume, mediastinal shift, percussion and auscultation of lung sounds and added sounds c) examination of the lymphatic system and d) relevant CNS examination | S | SH | Y | Bed side clinic, DOAP session | Short/long case Skill assessment – OSCE | |
| GM 27.7 | Interpret a PPD (Mantoux Test) and describe and discuss the indications and pitfalls of the test | K | KH | Y | Bedside clinic, SGT | MCQ/Written Viva voce | |
| GM 27.8 | Generate a differential diagnosis based on the clinical history and evolution of the disease that prioritizes the most likely diagnosis in patient with history/ examination findings suggestive of Tuberculosis | S | SH | Y | Bedside clinic, Small group discussion | Long case /short case, Skill assessment, OSCE | |
| GM 27.9 | Order and interpret diagnostic tests based on the clinical presentation in patient with history/ examination findings suggestive of Tuberculosis including: CBC, Chest X ray PA view, Mantoux Test, sputum smear, culture and sensitivity, pleural fluid examination and culture, HIV testing | K S | KH SH | Y | Bedside clinic, DOAP session | Long case /short case Skill assessment – OSCE, Viva voce | |
| GM 27.10 | Interpret a sputum gram stain and AFB with antibiotic sensitivity test from a given report | S | SH | Y | DOAP Tutorial | Skill assessment OSCE | |
| GM 27.11 | Enumerate and describe the indications for tests including: serology, special cultures, Polymerase Chain Reaction and anti-tubercular drug sensitivity testing | K | KH | Y | SGT, LGT | Short note/ Viva voce | |
| GM 27.12 | Describe and discuss the origin, indications, technique of administration, efficacy and complications of the BCG vaccine | K | KH | Y | LGT, SGT discussion | Short note/ Viva Voce | |
| GM 27.13 | Describe and discuss the pharmacology of various anti-tuberculous agents, their indications, contraindications, interactions and adverse reactions | K | KH | Y | LGT, SGT discussion | Short note/ Viva voce | |
| GM 27.14 | Prescribe an appropriate anti-tuberculosis Regimen based on the location of disease, smear positivity and negativity and comorbidities based on current national guidelines including | K S | KH SH | Y | LGT Bedside clinic, SGT, | Application based question Skill assessment- | 2 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|---|-------------------------------------|------------------------|--|------------------------------------|--|------------------------------|
| | directly observed tuberculosis therapy (DOTS) | | | | | OSCE, Viva voce | |
| GM 27.15 | Describe the appropriate precautions, screening, testing and indications for chemoprophylaxis for contacts and exposed health care workers | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM 27.16 | Define criteria for the cure of Tuberculosis; describe and recognize the features of drug-resistant tuberculosis, prevention and therapeutic regimens | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM 27.17 | Educate health care workers on National Program of Tuberculosis and administering and monitoring the DOTS program | K C/S | KH SH | Y | DOAP | Skill assessment OSCE Viva voce | |
| GM 27.18 | Communicate with patients and family in an empathetic manner about the diagnosis and therapy of tuberculosis. | S | SH | Y | Bedside clinic DOAP | Skill assessment OSCE | |
| Topic 28: Obstructive Airway Diseases | | Number of competencies: (26) | | Number of competencies that require certification : (01) | | | |
| GM 28.1 | Define and classify obstructive airway disease | K | K | Y | LGT, SGT | MCQs/Written/ Viva Voce | |
| GM 28.2 | Describe and discuss the epidemiology, risk factors and evolution of obstructive airway disease | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM 28.3 | Enumerate and describe the causes of acute episodes in patients with obstructive airway disease | K | KH | Y | LGT, SGT | MCQ/ Application based question/ Viva voce | |
| GM 28.4 | Describe and discuss the physiology and pathophysiology of hypoxia and hypercapnia | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM 28.5 | Describe and discuss the genetics of alpha 1 antitrypsin deficiency in emphysema | K | KH | N | LGT, SGT | Application based question/ Viva voce | |
| GM 28.6 | Describe the role of the environment in the cause and exacerbation of obstructive airway disease | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM 28.7 | Describe and discuss allergic and non-allergic precipitants of obstructive airway disease | K | KH | Y | LGT, SGT | Application based question/ Viva voce | |
| GM 28.8 | Elicit document and present a medical history that will differentiate the aetiologies of obstructive airway disease, severity and precipitants | S | SH | Y | Bed side clinic, DOAP | Long case/ short case Skill assessment, OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|----------|---|-------------------------------|------------------------|---------------|------------------------------------|--|------------------------------|
| GM 28.9 | Perform a systematic examination that establishes the diagnosis and severity that includes measurement of respiratory rate, level of respiratory distress, effort tolerance, breath sounds, added sounds, identification of signs of consolidation, pleural effusion and pneumothorax | S | SH | Y | Bed side clinic, DOAP | Long case/ short case Skill assessment OSCE | |
| GM 28.10 | Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology | S | SH | Y | Bed side clinic, DOAP session | Long case/ short case, Skill assessment OSCE | |
| GM 28.11 | Describe, discuss and interpret pulmonary function tests | K S | KH SH | Y | Bed side clinic, DOAP session | MCQ/Written Skill assessment OSCE | 2 |
| GM 28.12 | Perform and interpret peak expiratory flow rate | S | P | Y | Bed side clinic, DOAP session | Documentation in logbook Skill assessment OSCE | |
| GM 28.13 | Describe the appropriate diagnostic work up based on the presumed aetiology in patient with Obstructive Airway Disease | S | SH | Y | Bed side clinic, DOAP session | Long case/ short case, Skill assessment Viva voce, OSCE | |
| GM 28.14 | Enumerate the indications for and interpret the results of : Pulse Oximetry, ABG, Chest Radiograph | K | KH | Y | Bed side clinic, SGT DOAP Session | MCQ/ Written Skill assessment Viva voce OSCE | |
| GM 28.15 | Discuss and describe therapies for OAD including bronchodilators, leukotriene inhibitors, mast cell stabilizers, theophylline, inhaled and systemic steroids, oxygen and immunotherapy | K | KH | Y | LGT, SGT | MCQ/ Written Viva voce | |
| GM 28.16 | Describe and discuss the indications for vaccinations in OAD | K | KH | Y | LGT, SGT | MCQ/ Written Viva voce | |
| GM 28.17 | Develop a therapeutic plan including use of bronchodilators and inhaled corticosteroids | K S | KH SH | Y | Bed side clinic, SGT DOAP Session | MCQ/ Written Skill assessment Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-------------------------------------|------------------------|---------------|---|---|------------------------------|
| | | | | | | OSCE | |
| GM 28.18 | Develop a management plan for acute exacerbations including bronchodilators, systemic steroids, Antimicrobial therapy | K S | KH SH | Y | Bed side clinic, SGT DOAP Session | MCQ/ Written Skill assessment Viva voce OSCE | |
| GM 28.19 | Describe and discuss the principles and use of oxygen therapy in the hospital and at home | K | KH | Y | LGT, SGT | MCQ/ Written Viva voce | |
| GM 28.20 | Describe discuss and counsel patients appropriately on smoking cessation | K C | KH SH | Y | DOAP Role play | Viva voce Skills assessment OSCE | |
| GM 28.21 | Demonstrate and counsel patient on the correct use of inhalers | S C | SH | Y | DOAP Role play | Skill assessment OSCE | |
| GM 28.22 | Communicate diagnosis, treatment plan and subsequent follow up plan to patients | S C | SH | Y | DOAP Role play | Skill assessment OSCE | |
| GM 28.23 | Discuss and describe the impact of OAD on patient's quality of life, wellbeing, work, family, society and workplace | K | KH | Y | LGT, SGT discussion | Application based question/ Viva voce | |
| GM 28.24 | Discuss and describe preventive measures to reduce OAD in workplaces | K | KH | Y | LGT, SGT discussion | Application based question/ Viva voce | |
| GM 28.25 | Demonstrate an understanding of patient's inability to change working, living and environmental factors that influence progression of airway disease | A C | SH | Y | SGT, Bedside clinics Role play | Observation by faculty OSCE | |
| GM 28.26 | Demonstrate an understanding for the difficulties faced by patients during smoking cessation | A C | SH | Y | SGT, Bedside clinics Role play | Observation by faculty OSCE | |
| Topic 29: The role of the physician in the community | | Number of competencies: (26) | | | Number of competencies that require certification : (NIL) | | |
| GM 29.1 | Describe and discuss the role of non-maleficence as a guiding principle in patient care | K | KH | Y | Bedside clinic, SGT | Application based questions/ Viva Voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|----------|---|-------------------------------|------------------------|---------------|---|--|------------------------------|
| GM 29.2 | Describe and discuss the role of autonomy and shared responsibility as a guiding principle in patient care | K | KH | Y | Bedside clinic, SGT | Application based questions/ Viva Voce | |
| GM 29.3 | Describe and discuss the role of beneficence of a guiding principle in patient care | K | KH | Y | Bedside clinic, SGT | Application based questions/ Viva Voce | |
| GM 29.4 | Identify, discuss and defend medico-legal, sociocultural, economic and ethical issues as it pertains to rights, equity and justice in access to health care | K | KH | Y | Bedside clinic, SGT | Application based questions/ Viva Voce | |
| GM 29.5 | Identify, discuss and defend medico-legal, socio-cultural and ethical issues as it pertains to decision making in health care including advanced directives and surrogate decision making | K | KH | Y | SGT | Application based questions/ Viva Voce | |
| GM 29.6 | Identify, discuss and defend medico-legal, socio-cultural and ethical issues as it pertains to decision making in emergency care including situations where patients do not have the capability or capacity to give consent | K | KH | Y | Bedside clinic, SGT | Application based questions/ Viva Voce | |
| GM 29.7 | Identify, discuss and defend medico-legal, socio-cultural and ethical issues as it pertains to research in study participants | K | KH | Y | SGT | Application based questions/ Viva Voce | |
| GM 29.8 | Demonstrate ability to work in a team of peers and superiors | S | SH | Y | Bedside clinic, SGT – Role Play | Skill assessment (Formative) | |
| GM 29.9 | Demonstrate respect to patient privacy | S | SH | Y | Bedside clinic, SGT – Role play | Skill assessment OSCE | |
| GM 29.10 | Demonstrate ability to maintain confidentiality in patient care | S | SH | Y | Bedside clinic, SGT – Role play | Skill assessment OSCE | |
| GM 29.11 | Demonstrate a commitment to continued learning | S | SH | Y | Bedside clinic, SGT Reflections writing | Skill assessment (Formative)/ Viva voce | |
| GM 29.12 | Demonstrate responsibility and work ethics while working in the health care team | S | SH | Y | Bedside clinic, DOAP, Role play | Skill assessment (Formative)/ Viva voce | |
| GM 29.13 | Demonstrate ability to maintain required documentation in health care (including correct use of medical records) | S | SH | Y | SGT | Skill assessment (Formative) / Viva voce | |
| GM 29.14 | Demonstrate personal grooming that is adequate and appropriate for health care responsibilities | S | SH | Y | SGT Role play | Skill assessment (Formative) | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|----------|---|-------------------------------|------------------------|---------------|-------------------------------------|---|------------------------------|
| GM 29.15 | Demonstrate adequate knowledge and use of information technology that permits appropriate patient care and continued learning | S | SH | Y | SGT | Skill assessment Formative)/ Viva voce | |
| GM 29.16 | Demonstrate awareness of limitations and seeks help and consultations appropriately | S | SH | Y | Bedside clinic, DOAP Role play | Skill assessment Formative/ Viva voce | |
| GM 29.17 | Demonstrate ability to balance personal and professional priorities | S | SH | N | SGT Role plays Role modelling | Skill assessment Formative / Viva voce | |
| GM 29.18 | Demonstrate ability to manage time appropriately | S | SH | Y | SGT Role plays | Skill assessment Formative / Viva voce | |
| GM 29.19 | Demonstrate ability to form and function in appropriate professional networks | S | SH | N | SGT | Skill assessment Formative/ Viva voce | |
| GM 29.20 | Demonstrate ability to pursue and seek career advancement | S | SH | N | SGT | Skill assessment Formative / Viva voce | |
| GM 29.21 | Demonstrate ability to follow risk management and medical error reduction practices where appropriate | S | SH | N | SGT Role play | Skill assessment Formative / Viva voce | |
| GM 29.22 | Demonstrate ability to work in a mentoring relationship with junior colleagues | S | SH | N | SGT | Skill assessment Formative / Viva voce | |
| GM 29.23 | Demonstrate commitment to learning and scholarship | S | SH | N | SGT | Skill assessment Formative / Viva voce | |
| GM 29.24 | Identify, discuss and defend medico-legal, socio-cultural professional and ethical issues in dealing with Impaired physicians | K | KH | N | SGT | Application based questions/ Viva Voce | |
| GM 29.25 | Demonstrate altruism | S | SH | Y | SGT Role play Role modelling | Skill assessment, OSCE | |
| GM 29.26 | Administer informed consent and appropriately address patient queries to a patient being enrolled in a research protocol in a simulated environment | S | SH | Y | Bedside clinic, DOAP Role play | Skill assessment OSCE | |

PEDIATRICS (CODE: PE)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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PEDIATRICS (Topics:35, Competencies: 406)

Topic 1: Normal Growth and Development **Number of competencies: (03)** **Number of competencies that require certification: (NIL)**

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|-------|---|---|----|---|---------|------------------|--|
| PE1.1 | Define the terminologies Growth and development and describe the factors affecting normal growth. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
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| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE1.2 | Describe the methods of assessment of growth including use of WHO and Indian national standards. Enumerate the parameters used for assessment of physical growth in infants, children and adolescents and Perform Anthropometric measurements, document in growth-charts and interpret. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
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|-------|---|---|----|---|---------|------------------|--|
| PE1.3 | Define development and Describe the normal developmental milestones with respect to motor, behaviour, social, adaptive and language. Discuss the factors affecting development and describe the assessment methods of development. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
|-------|---|---|----|---|---------|------------------|--|

Topic2: Common problems related to Growth **Number of competencies:(03)** **Number of competencies that require certification: (NIL)**

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| PE2.1 | Discuss the etio-pathogenesis, clinical features, assessment and management of a child who fails to thrive | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE2.2 | Counselling the parent of a child with failure to thrive. | A/C | SH | Y | OSPE | Document in Logbook | |

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| PE2.3 | Discuss the etio-pathogenesis, clinical features and management of a child with short stature. Assessment of a child with short stature. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| Topic 3: Common problems related to Development-1 (Developmental delay, Cerebral palsy) Number of competencies:(04) Number of competencies that require certification:(NIL) | | | | | | | |
| PE3.1 | Define developmental delay. Describe the causes of developmental delay and disability including intellectual disability in children | K | K | Y | LGT,SGT | Written/Vivavoce | |
| PE3.2 | Explain the approach to a child with developmental delay | S | SH | Y | Bedside clinics, Skills lab | Skill assessment | |
| PE3.3 | Counsel a parent of a child with developmental delay | S+C | SH | Y | DOAP | Document in Log Book | |
| PE3.4 | Visit a Child Developmental Unit and observe its functioning | S | KH | Y | LGT, SGT | Logbook Entry | |
| Topic 4: Common problems related to Development-2 (Autism, ADHD) Number of competencies: (02) Number of competencies that require certification: (NIL) | | | | | | | |
| PE4.1 | Describe the etiology, clinical features, diagnosis and management of a child with Attention Deficit Hyperactivity Disorder (ADHD) | K | K | N | LGT,SGT | Written | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE4.2 | Describe the etiology, clinical features, diagnosis and management of a child with Autism | K | K | N | LGT,SGT | Written | |
| Topic 5: Common problems related to behavior Number of competencies: (04) Number of competencies that require certification: (NIL) | | | | | | | |
| PE5.1 | Describe the clinical features, diagnosis and management of Feeding problems | K | K | N | LGT,SGT | Written | |
| PE5.2 | Describe the clinical features, diagnosis and management of Breath Holding spells | K | K | N | LGT,SGT | Written/Vivavoce | |
| PE5.3 | Describe the clinical features, diagnosis and management of temper tantrums and Pica | K | K | N | LGT,SGT | Written/Vivavoce | |
| PE5.4 | Explain the etiology, clinical features and management of Enuresis | K | K | N | LGT,SGT | Written/Vivavoce | |
| Topic 6: Adolescent Health & common problems related to Adolescent Health Number of competencies: (12) Number of competencies that require certification: (NIL) | | | | | | | |
| PE6.1 | Define Adolescence and Describe the stages of adolescence | K | K | Y | LGT,SGT | Written/Vivavoce | |

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|-------|---|---|----|---|-----------------|----------------------|--|
| PE6.2 | Describe the physical, physiological and psychological changes during adolescence (Puberty) | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE6.3 | Describe the general health problems during adolescence | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE6.4 | Describe adolescent sexuality and common problems related to it | K | KH | N | LGT,SGT | Written/Vivavoce | |
| PE6.5 | Describe the common Adolescent eating disorders (Anorexia Nervosa, Bulimia) | K | KH | N | LGT,SGT | Written/Vivavoce | |
| PE6.6 | Describe the common mental health problems during adolescence | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE6.7 | Respecting patient privacy and maintaining confidentiality while dealing with adolescence | A | SH | Y | Bedside clinics | Document in log book | |
| PE6.8 | Perform routine Adolescent Health check up including eliciting history, performing examination including SMR (Sex Maturity Rating), growth assessments (using Growth charts) and systemic exam including thyroid and Breast exam and the HEADSS screening | S | SH | Y | Bedside clinics | Skills station | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE6.9 | Explain the objectives and functions of AFHS (Adolescent Friendly Health Services) and the referral criteria | K | K | N | LGT,SGT | Written/Viva voce | |
| PE6.10 | Visit to the Adolescent Clinic | S | KH | Y | DOAP | Document in Log Book | |
| PE6.11 | Enumerate the importance of obesity and other NCD in adolescents | K | K | Y | LGT,SGT | Written/Viva voce | |
| PE6.12 | Enumerate the prevalence and importance of recognition of sexual abuse and drug abuse in adolescents and children | K | K | N | LGT,SGT | Written/Viva voce | |
| Topic 7: To promote and support optimal Breast feeding for Infants | | Number of competencies: (08) | | | Number of competencies that require certification: (01) | | |
| PE7.1 | Awareness on the cultural beliefs and practices of breastfeeding and explain physiology of lactation | K | K | N | LGT,SGT | Viva | |
| PE7.2 | Describe the composition and types of breast milk and discuss the differences between cow's milk and Human milk | K | KH | Y | LGT,debate | Written/Vivavoce | |
| PE7.3 | Describe the advantages of breast milk | K | KH | Y | LGT,SGT | Written/Vivavoce | |

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| PE7.4 | Observe the correct technique of breastfeeding and distinguish right from wrong techniques | S | P | Y | Bedside clinics, Skills lab | Skill assessment | 3 |
| PE7.5 | Enumerate the baby friendly hospital initiatives | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE7.6 | Describe the principles of IYCF (Infant and Young Child Feeding) | K | KH | N | SGT | Viva voce | |
| PE7.7 | Participate in World Breastfeeding Week (WBW) celebration at your institute | K,S,C | SH,P | N | Outreach activities | | |
| PE7.8 | Describe the structure and functioning of human milk bank and visit the nearest human milk bank | K,C | KH | N | SGT | Viva voce | |
| Topic 8: Complementary Feeding | | Number of competencies : (05) | | | Number of competencies that require certification: (NIL) | | |
| PE8.1 | Define the term Complementary Feeding | K | K | Y | LGT,SGT | Written/Vivavoce | |
| PE8.2 | Explain the principles, the initiation, attributes, frequency, techniques and hygiene related to Complementary Feeding. | K | KH | Y | LGT,SGT | Written/Vivavoce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE8.3 | Enumerate the common complementary foods | K | K | Y | LGT,SGT | Written/Vivavoce | |
| PE8.4 | Elicit history on the Complementary Feeding habits | S | SH | Y | Bedside clinics, Skills lab | Skill assessment | |
| PE8.5 | Counsel and educate mothers on the best practices in Complementary Feeding | A/C | SH | Y | DOAP | Document in Log Book | |
| Topic 9: Normal nutrition, assessment and monitoring | | Number of competencies : (07) | | | Number of competencies that require certification: (NIL) | | |
| PE9.1 | Describe age-related nutritional needs of infants, children and adolescents including micronutrients and vitamins | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE9.2 | Describe the tools and methods for assessment and classification of nutritional status of infants, children and adolescents | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE9.3 | Explain the Calorific value of common Indian foods | K | K | Y | LGT,SGT | Written/Vivavoce | |
| PE9.4 | Elicit document and present an appropriate nutritional history and perform a dietary recall | S | SH | Y | Bedside clinic, Skills lab | Skill assessment | |

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|---|---|-------------------------------------|----|---|---|---------------------|--|
| PE9.5 | Calculate the age-related calorie requirement in Health and Disease, and identify gap | S | SH | Y | Bedside clinics,SGT | Skill assessment | |
| PE9.6 | Assess and classify the nutrition status of infants, children and adolescents and recognize deviations | S | SH | Y | Bedside clinic,SGT | Skill assessment | |
| PE9.7 | Plan an appropriate diet in health and disease | S | SH | N | Bedside clinic,SGT | Document in logbook | |
| Topic 10: Provide nutritional support, assessment and monitoring for common nutritional problems | | Number of competencies: (06) | | | Number of competencies that require certification: (NIL) | | |
| PE10.1 | Define and describe the etio-pathogenesis, classify including WHO classification, clinical features, complication and management of Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM) | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE10.2 | Outline the clinical approach to a child with SAM and MAM | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE10.3 | Assessment of a patient with SAM and MAM, diagnosis, classification and planning management including hospital and community based intervention, rehabilitation and prevention | S | SH | Y | Bedside clinics, Skills lab | Skill station | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
|--------------------------------------|--|-------------------------------------|---------------------|-------------|--|------------------------------|---------------------------------|
| PE10.4 | Counsel parents of children with SAM and MAM | S | SH | Y | Bedside clinic, Skills Station | Document in Logbook | |
| PE10.5 | Enumerate the role of locally prepared therapeutic diets and ready to use therapeutic diets | K | K | N | LGT,SGT | Written/Vivavoce | |
| PE10.6 | Explain the Adolescent Nutrition and common nutritional problems | K | KH | Y | LGT, SGT | Written/ Vivavoce | |
| Topic 11: Obesity in children | | Number of competencies: (04) | | | Number of competencies that require certification: (01) | | |
| PE11.1 | Describe the etiology, clinical features and management of obesity in children | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE11.2 | Describe the risk approach for obesity and discuss the prevention strategies | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE11.3 | Assessment of a child with obesity with regard to eliciting history including physical activity, charting and dietary recall | S | SH | Y | Bedside clinics, Standardized patients | Document in log book | |

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| PE11.4 | Examination including calculation of BMI, measurement of waist-hip ratio, identifying external markers like acanthosis, striae, pseudogynaecomastia etc | S | SH | Y | Bedside clinics, Standardized patients, Videos | SkillsStation | |
| Topic 12: Micronutrients in Health and disease-1 (Vitamins ADEK, B Complex and C) | | Number of competencies: (08) | | Number of competencies that require certification: (NIL) | | | |
| PE12.1 | Describe the RDA, dietary sources of Vitamin A, its metabolism. | K | K | Y | LGT,SGT | Written/Vivavoce | |
| PE12.2 | Describe the causes, clinical features, classification, diagnosis and management of Deficiency/excess of Vitamin A | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE12.3 | Describe the causes, clinical features, diagnosis and management of Deficiency/excess of Vitamin D (Rickets and Hypervitaminosis D) | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE12.4 | Describe the causes, clinical features, diagnosis and management of deficiency of Vitamin E | K | KH | N | LGT,SGT | Written/Vivavoce | |
| PE12.5 | Describe the RDA, dietary sources of Vitamin K and their role in health and disease | K | K | N | LGT,SGT | Written/Vivavoce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE12.6 | Describe the causes, clinical features, diagnosis, management and prevention of deficiency of Vitamin K | K | KH | N | LGT,SGT | Written/Viva voce | |
| PE12.7 | Describe the causes, clinical features, diagnosis and management of deficiency of B complex Vitamins | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE12.8 | Describe the RDA, dietary sources of Vitamin C and their role in Health and disease, clinical features of deficiency and management | K | KH | N | LGT,SGT | Written/Viva voce | |
| Topic 13: Micronutrients in Health and disease -2: Iron, Iodine, Calcium, Magnesium | | Number of competencies: (04) | | Number of competencies that require certification: (NIL) | | | |
| PE13.1 | Describe the RDA, dietary sources of Iron and their role in health and disease, clinical features of iron deficiency, and management | K | K | Y | LGT,SGT | Written/Viva voce | |
| PE13.2 | Describe the National anaemia control program and its recommendations | K | K | Y | LGT,SGT | Written/Viva voce | |

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| PE13.3 | Describe the RDA, dietary sources of Iodine and their role in Health and disease, deficiency, and Goiter control program | K | K | Y | LGT,SGT | Written/Viva voce | |
| PE13.4 | Describe the RDA, dietary sources of Calcium and Magnesium and their role in health and disease, clinical features and management of deficiency states. | K | K | Y | LGT,SGT | Written/Viva voce | |
| Topic 14: Poisoning | | Number of competencies: (03) | | | Number of competencies that require certification (NIL) | | |
| PE14.1 | Explain the risk factors, clinical features, diagnosis and management of Kerosene ingestion | K | KH | N | LGT,SGT | Written/Viva voce | |
| PE14.2 | Explain the risk factors, clinical features, diagnosis and management of Organophosphorus poisoning | K | KH | N | LGT,SGT | Written/Viva voce | |
| PE14.3 | Describe the risk factors, clinical features, diagnosis and management of paracetamol poisoning | K | KH | N | LGT,SGT | Written/Vivavoce | |
| Topic 15: Fluid and electrolyte balance | | Number of competencies:(04) | | | Number of competencies that require certification:(NIL) | | |
| PE15.1 | Describe the fluid and electrolyte requirement in health and disease | K | KH | Y | LGT,SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE15.2 | Interpret electrolyte report and describe the management of sodium and potassium imbalance | S | SH | Y | Bedside clinics,SGT | Skill assessment | |
| PE15.3 | Demonstrate the steps of inserting an IV cannula in a model | S | SH | Y | Skills Lab | mannequin | |
| PE15.4 | Demonstrate the steps of inserting an interosseous line in a mannequin | S | SH | Y | Skills Lab | mannequin | |
| Topic 16: Integrated Management of Neonatal and Childhood Illnesses (IMNCI) Guideline | | Number of competencies:(06) | | | Number of competencies that require certification: (NIL) | | |
| PE16.1 | Explain the components of Integrated Management of Neonatal and Childhood Illnesses (IMNCI) guidelines and method of Risk stratification | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE16.2 | Assess children <2 months using IMNCI Guidelines | S | SH | Y | DOAP | Document in log Book | |
| PE16.3 | Assess children 2 months to 5 years using IMNCI guidelines and Stratify Risk | S | SH | Y | DOAP | Document in log Book | |

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| PE16.4 | Identify children with undernutrition as per IMNCI criteria and plan referral | S | SH | Y | DOAP | Document in log book | |
| PE16.5 | Identify and stratify risk in a sick neonate using IMNCI guidelines | S | SH | Y | DOAP | Document in Log Book | |
| PE16.6 | Apply the IMNCI guidelines in risk stratification of children with diarrheal dehydration and refer | S | SH | Y | Bedside clinics, Skillslab | Document in Log book | |

Topic 17: The National Health programs, NHM **Number of competencies:(01)** **Number of competencies that require certification: (NIL)**

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| PE17.1 | Describe the vision and outline the goals, strategies and plan of action of NHM and other important national programs pertaining to maternal and child health including RCH, RMNCH A+, RBSK, RSKS, JSSK mission Indradhanush and ICDS | K | KH | Y | LGT,SGT | Written/Viva voce | |
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Topic 18: National Programs, RCH - Universal Immunizations program **Number of competencies: (14)** **Number of competencies that require certification: (01)**

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| PE18.1 | Explain the components of the Universal Immunization Program and the National Immunization Program | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE18.2 | Explain the epidemiology of Vaccine preventable diseases | K | KH | Y | LGT,SGT | Written/Vivavoce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
|--------|--|-------------------------------|---------------------|-------------|-------------------------------------|------------------------------|---------------------------------|
| PE18.3 | Describe Vaccine with regards to classification of vaccines, strain used, dose, route, schedule, risks, benefits and side effects, indications and Contraindications | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE18.4 | Define cold-chain and discuss the methods of safe storage and handling of vaccines | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE18.5 | Describe immunization in special situations – HIV positive children, immunodeficiency, pre-term, organ transplants, those who received blood and blood products, splenectomised children, adolescents, travelers | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE18.6 | Assess patient for fitness for immunization and prescribe an age-appropriate immunization schedule | S | P | Y | Out Patient clinics Skills lab | Skill assessment | 5 |

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| PE18.7 | Educate and counsel apparent for immunization | A/C | SH | Y | DOAP | Document in Log Book | |
| PE18.8 | Describe the components of safe vaccine practice – Patient education/ counselling; adverse events following immunization, safe injection practices, documentation and Medico-legal implications | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE18.9 | Observe the handling and storing of vaccines | S | SH | Y | DOAP | Written/Vivavoce | |
| PE18.10 | Document Immunization in an immunization record | S | SH | Y | Out Patient clinics, Skills lab | Skill assessment | |
| PE18.11 | Observe the administration of UIP vaccines | S | SH | Y | DOAP | Document in Log Book | |
| PE18.12 | Demonstrate the correct administration of different vaccines in a mannequin | S | SH | Y | DOAP | Document in Log Book | |
| PE18.13 | Explain the term implied consent in Immunization services | K | K | Y | SGT | Written/Viva voce | |
| PE18.14 | Enumerate available newer vaccines and their indications including pentavalent pneumococcal, rotavirus, JE, Hepatitis A, Influenza, COVID, typhoid, IPV & HPV | K | K | N | LGT, SGT | Written/Viva voce | |
| Topic 19: Care of the Normal New born, and High risk New born | | Number of competencies: (17) | | | Number of competencies that require certification: (NIL) | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
|--------|---|-------------------------------|---------------------|-------------|-------------------------------------|-------------------------------|---------------------------------|
| PE19.1 | Define the common neonatal nomenclatures including the classification new born and describe the characteristics of a Normal Term Neonate and High-Risk Neonates, Explain the care of a normal neonate | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.2 | Perform Neonatal resuscitation on a manikin | S | SH | Y | DOAP | Log book entry of Performance | |
| PE19.3 | Assessment of a normal neonate. Explain the follow up care for neonates including Breast Feeding, Temperature maintenance, immunization, importance of growth monitoring and red flags | S | SH | Y | Bedside clinics, Skills lab | Skill assessment | |
| PE19.4 | Describe the etiology, clinical features and management of Birth asphyxia | K | KH | Y | LGT,SGT | Written/Viva voce | |

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| PE19.5 | Describe the etiology, clinical features and management of Respiratory distress in New-born including meconium aspiration and transient tachypnoea of newborn | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.6 | Explain the etiology, clinical features and management of Birth injuries | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.7 | Explain the etiology, clinical features and management of Hemorrhagic disease of Newborn | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.8 | Describe the clinical characteristics, complications and management of Low birth weight (preterm and Small for gestation) | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| PE19.9 | Describe the temperature regulation in neonates, clinical features and management of Neonatal Hypothermia | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.10 | Describe the temperature regulation in neonates, clinical features and management of Neonatal Hypoglycemia | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.11 | Explain the etiology, clinical features and management of Neonatal hypocalcemia | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.12 | Describe the etiology, clinical features and management of Neonatal seizures | K | KH | Y | LGT,SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
|---------------|---|---------------------------------------|-----------------------------|---------------------|--|-------------------------------------|---|
| PE19.13 | Explain the etiology, clinical features and management of Neonatal Sepsis | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.14 | Describe the etiology, clinical features and management of Perinatal infections | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.15 | Describe the etiology, clinical features and management of Neonatal hyperbilirubinemia | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE19.16 | Identify clinical presentations of common surgical conditions in the newborn including TEF, esophageal atresia, anal atresia, cleft lip and palate, congenital diaphragmatic hernia and causes of acute abdomen | K | KH | Y | LGT,SGT | Written/Viva voce | |

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| PE19.17 | Describe the riskfactors, clinical features, diagnosis and management of Oxygen toxicity | K | KH | N | LGT, SGT | Written/ Viva voce | |
| Topic20: Genito-Urinary system | | Number of competencies (09) | | | Number of competencies that require certification: (NIL) | | |
| PE20.1 | Enumerate the etio-pathogenesis, clinical features, complications and management of Urinary Tract infection in children | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE20.2 | Enumerate the etio-pathogenesis, clinical features, complications and management of Acute Post-Streptococcal Glomerulonephritis in Children | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE20.3 | Describe the approach and referral criteria to a child with Proteinuria | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE20.4 | Describe the approach and referral criteria to a child with Hematuria | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE20.5 | Enumerate the etio-pathogenesis, clinical features, complications and management of Acute Renal Failure in children | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE20.6 | Enumerate the etio-pathogenesis, clinical features, complications and management of Chronic Renal Failure in Children | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE20.7 | Enumerate the etio-pathogenesis, clinical features, complications and management of Wilms Tumor | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE20.8 | Perform and interpret the common analytes in a Urine examination | S | SH | Y | Bedside clinics, Skills lab | Skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE20.9 | Interpret report of Plain XRay of KUB | S | SH | Y | Bedside clinics, Skills lab | Log book | |
| Topic 21: Approach to and recognition of a child with possible Rheumatologic problem | | Number of competencies: (050) | | | Number of competencies that require certification:(NIL) | | |
| PE21.1 | Enumerate the common Rheumatological problems in children. Discuss the clinical approach to recognition and referral of a child with Rheumatological problem | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE21.2 | Describe the etiopathogenesis, diagnosis and management of Henoch Schoenlein Purpura. | K | K | N | LGT,SGT | Written/Viva voce | |

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| PE21.3 | Describe the etiopathogenesis, diagnosis and management of Kawasaki Disease | K | K | N | LGT,SGT | Written/Viva voce | |
| PE21.4 | Describe the etiopathogenesis, diagnosis and management of SLE | K | K | N | LGT,SGT | Written/Viva voce | |
| PE21.5 | Describe the etiopathogenesis, diagnosis and management of JIA | K | K | N | LGT,SGT | Written/Viva voce | |
| Topic 22: Cardiovascular system- Heart Diseases | | Number of competencies: (11) | | Number of competencies that require certification:(NIL) | | | |
| PE22.1 | Describe the Hemodynamic changes, clinical presentation, complications and management of Acyanotic Heart Diseases | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE22.2 | Describe the Hemodynamic changes, clinical presentation, complications and management of Cyanotic Heart Diseases | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE22.3 | Explain the etio-pathogenesis, clinical presentation and management of cardiac failure in infant and children | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE22.4 | Explain the etio-pathogenesis, clinical presentation and management of Acute Rheumatic Fever in children | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE22.5 | Describe the etio-pathogenesis, clinical features and management of Infective endocarditis in children | K | KH | Y | LGT,SGT | Written/Viva voce | |
| PE22.6 | Describe the etiopathogenesis, grading, clinical features and management of hypertension in children | K | KH | Y | LGT,SGT | Short notes | |
| PE22.7 | Record pulse, blood pressure, temperature and respiratory rate and interpret as per the age | S | SH | Y | Bedside clinics, Skills lab | Skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE22.8 | Perform independently examination of the cardiovascular system– look for precordial bulge, pulsations in the precordium, JVP and its significance in children and infants, relevance of percussion in Pediatric examination, Auscultation and other system examination and document | S | SH | Y | Bedside clinics, Skills lab | Skill station | |
| PE22.9 | Interpret a chest X-ray and recognize cardiomegaly | S | SH | Y | Bedside clinics, Skills lab | Log book entry | |
| PE22.10 | Interpret Pediatric ECG | S | SH | Y | Bedside clinics, Skills lab | Log book entry | |

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| PE22.11 | Demonstrate empathy while dealing with children with cardiac diseases in every patient encounter | A | SH | Y | SGT | Document in Log Book | |
| Topic 23: GIT and Hepatobiliary system | | Number of competencies: (21) | | | Number of competencies that require certification:(02) | | |
| PE 23.1 | Define vomiting, discuss causes, evaluation & management of vomiting in children | K | KH | y | LGT, SGT | Written/ Viva voce | |
| PE23.2 | Define constipation discuss causes, evaluation & management of constipation in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE23.3 | Discuss the causes, evaluation and management of abdominal pain in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE23.4 | Define diarrhea (acute diarrhea, chronic diarrhea, persistent diarrhea). Discuss etiology, risk factors, clinical features, complications, investigations and treatment (according to WHO guidelines) of acute gastroenteritis. | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE23.5 | Discuss the causes, clinical presentation and management of dysentery in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE23.6 | Discuss the physiological basis of ORT, types of ORS and the composition of various types of ORS. Discuss composition of fluids used in management of diarrhea. Discuss the role of antibiotics, antispasmodics, anti-secretory drugs, probiotics, anti-emetics in acute diarrheal diseases | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE23.7 | Elicit history pertaining to diarrheal diseases. Assess for signs & symptoms of dehydration, shock, prerenal AKI, electrolyte disturbances, document and present. | S | SH | Y | Bedside clinics, Skills lab | Skill assessment | |
| PE23.8 | Perform and interpret stool examination including Hanging Drop, Interpret RFT and electrolyte report In the context of diarrhea | S | SH | N | Bedside clinics, Skills | lab Log book | |
| PE23.9 | Perform NG tube insertion in a manikin | S | P | Y | DOAP | Document in Log book | |

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| PE23.10 | Perform IV cannulation in a model | S | P | Y | DOAP | Document in Log book | |
| PE23.11 | Perform Interosseous insertion model | S | P | Y | DOAP | Document in Log book | 2 |
| PE23.12 | Discuss the etio-pathogenesis, clinical presentation and management of Malabsorption in Children and its causes including celiac disease | K | KH | N | LGT, SGT | Written/ Viva voce | 2 |
| PE23.13 | Discuss the etio-pathogenesis, clinical features and management of acute hepatitis in children | K | KH | Y | LGT,SGT activity | Written/Viva voce | |
| PE23.14 | Discuss the etio-pathogenesis, clinical features and management of Fulminant Hepatic Failure in children | K | KH | Y | LGT,SGT activity | Written/Viva voce | |
| PE23.15 | Discuss the etio-pathogenesis, clinical features and management of chronic liver diseases in children | K | KH | Y | LGT,SGT activity | Written/Viva voce | |
| PE23.16 | Discuss the etio-pathogenesis, clinical features and management of Portal Hypertension in children | K | KH | Y | LGT,SGT activity | Written/Viva voce | |
| PE23.17 | Elicit, document and present the history related to diseases of Gastrointestinal system | S | SH | Y | Bedside clinics,Skills lab | Skills Station | |
| PE23.18 | Identify external markers for GI and Liver disorders e.g. Jaundice, Pallor, Gynecomastia, Spider angioma, Palmar erythema, Ichthyosis, Caput medusa, Clubbing, failing to thrive, Vitamin A and D deficiency | S | SH | Y | Bedside clinics,Skills lab | Skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE23.19 | Perform examination of the abdomen, demonstrate organomegaly, ascites etc. | S | SH | Y | Bedside clinics,Skills lab | Skill assessment | |
| PE23.20 | Interpret Liver Function Tests, viral markers, ultra-sonogram report | S | SH | Y | Bedside clinics,Skills lab | Skill assessment | |
| PE23.21 | Enumerate the indications for Upper GI endoscopy | K | K | N | SGT | Viva voce | |
| Topic: 24 Pediatric Emergencies – Common Pediatric Emergencies | | Number of competencies: (23) | | | Number of competencies that require certification:(10) | | |
| PE24.1 | Describe the etio-pathogenesis, clinical approach and management of cardio-respiratory arrest in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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| PE24.2 | Describe the etio-pathogenesis and management of respiratory distress in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE24.3 | Describe the etio-pathogenesis, clinical approach and management of Shock in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE24.4 | Describe the etio-pathogenesis, clinical approach and management of Status epilepticus | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE24.5 | Describe the etio-pathogenesis, clinical approach and management of an unconscious child | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE24.6 | Explain oxygen therapy, in Pediatric emergencies and modes of administration | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE24.7 | Observe the various methods of administering Oxygen | S | KH | Y | Demonstration | Document in log book | |
| PE24.8 | Assess airway and breathing: recognise signs of severe respiratory distress. Check for cyanosis, severe chest in drawing, Grunting | S | P | Y | DOAP, Skills lab | Skills Assessment | 3 |
| PE24.9 | Assess airway and breathing. Demonstrate the method of positioning of an infant & child to open airway in a Simulated environment | S | P | Y | DOAP, Skills Lab | Skills Assessment | 3 |
| PE24.10 | Assess airway and breathing: administer oxygen using correct technique and appropriate flow rate | S | P | Y | DOAP, Skills Lab | Skills Assessment | 3 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE24.11 | Assess airway and breathing perform assisted ventilation by Bag and mask in a simulated environment | S | P | Y | DOAP, Skills lab | Skills Assessment | 3 |
| PE24.12 | Check for signs of shock i.e. pulse, Blood pressure, CRT | S | P | Y | DOAP, Skills Lab | Skills Assessment | 3 |
| PE24.13 | Secure an IV access in a simulated environment | S | P | Y | DOAP, Skills Lab | Skills Assessment | 3 |

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| PE24.14 | Choose the type of fluid and calculate the fluid requirement in shock | S | P | Y | DOAP, SGT activity | Skills Assessment | 3 |
| PE24.15 | Assess level of consciousness & provide emergency treatment to a child with convulsions/coma position an unconscious child. Position a child with suspected trauma. Administer IV/per rectal Diazepam for a convulsing child in a simulated environment. | S | P | Y | DOAP, Skills Lab | Skills Assessment | 3 |
| PE24.16 | Assess for signs of severe dehydration | S | P | Y | Bedside clinics, Skills lab | Skill station | 3 |
| PE24.17 | Monitoring and maintaining temperature: define hypothermia. Describe the clinical features, complications and management of Hypothermia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE24.18 | Describe the advantages and correct method of keeping an infant warm by skin- to- skin contact | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE24.19 | Describe the environmental measures to maintain temperature | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE24.20 | Assess for hypothermia and maintain temperature | S | SH | Y | Skillslab | Skills Assessment | |
| PE24.21 | Provide BLS for children in manikin | S | P | Y | SkillsLab | Skills Assessment | 3 |
| PE24.22 | Counsel parents of dangerously ill/ terminally ill child to break a bad news | S | SH | Y | DOAP | Document in Log book | |
| PE24.23 | Obtain Informed Consent | S | SH | Y | DOAP | Document in Log book | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
|-------------------------------------|--|-------------------------------------|---------------------|---|-------------------------------------|------------------------------|---------------------------------|
| Topic 25: Respiratory system | | Number of competencies: (06) | | Number of competencies that require certification: (NIL) | | | |
| PE25.1 | Describe the etio-pathogenesis, clinical features and management of Acute Otitis Media (AOM) | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE25.2 | Describe the etio-pathogenesis, clinical features and management of Epiglottitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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| PE25.3 | Explain the etio-pathogenesis, clinical features and management of Acute laryngo- tracheo-bronchitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE25.4 | Describe the etiology, clinical features and management of Stridor in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE25.5 | Describe the types, clinical presentation, and management of foreign body aspiration in infants and children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE25.6 | Describe the etio-pathogenesis, diagnosis, clinical features, management and prevention of lower respiratory infections including bronchiolitis, wheeze associated LRTI Pneumonia and empyema | S | SH | Y | Bedside clinics, SGT,LGT | Skill assessment /Written /Viva voce | |

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| Topic 26: Anemia and other Hemato-oncologic disorders in children | | Number of competencies: (17). | | | Number of competencies that require certification: (NIL) | | |
| PE26.1 | Explain the etio-pathogenesis, clinical features, classification and approach to a child with anaemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE26.2 | Describe the etio-pathogenesis, clinical features and management of Iron Deficiency anaemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE26.3 | Describe the etiopathogenesis, clinical features and management of VITB12, Folate deficiency anaemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE26.4 | Explain the etio-pathogenesis, clinical features and management of Hemolytic anemia, Thalassemia Major, Sickle cell anaemia, Hereditary spherocytosis, Auto-immune hemolytic | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| | anaemia and hemolytic uremic syndrome | | | | | | |
| PE26.5 | Describe the National Anaemia Control Program | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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| PE26.6 | Describe the cause of thrombocytopenia in children: describe the clinical features and management of Idiopathic Thrombocytopenic Purpura (ITP) | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PE26.7 | Explain the etiology, classification, pathogenesis and clinical features of Hemophilia in children | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PE26.8 | Explain the etiology, clinical presentation and management of Acute Lymphoblastic Leukemia in children | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PE26.9 | Explain the etiology, clinical presentation and management of lymphoma in children | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PE26.10 | Perform examination of the abdomen, demonstrate organomegaly | S | SH | Y | Bedside clinics, Skills lab | Skill assessment | |
| PE26.11 | Interpret CBC, LFT | S | SH | Y | Bedside clinics, Skills lab | Skill assessment | |
| PE26.12 | Perform and interpret peripheral smear | S | SH | Y | DOAP | Document in log book | |
| PE26.13 | Explain the indications for Hemoglobin electrophoresis and interpret report | K | K | N | SGT | Viva voce | |
| PE26.14 | Demonstrate, performance of bone marrow aspiration in manikin | S | SH | Y | Skillslab | Document in log Book | |
| PE26.15 | Enumerate the referral criteria for Hematological conditions | S | SH | Y | Bedside clinics, SGT | Viva voce | |
| PE26.16 | Counsel and educate patients about prevention and treatment of anemia | A/C | SH | Y | Bedside clinics, Skills lab | Document in log book | |
| PE26.17 | Enumerate the indications for splenectomy and precautions | K | K | N | SGT Activity | Viva voce | |
| Topic 27: Systemic Pediatrics-Central Nervous system | | Number of competencies: (14) | | | Number of competencies that require certification:(NIL) | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
|--------|---|-------------------------------|---------------------|-------------|-------------------------------------|------------------------------|---------------------------------|
| PE27.1 | Explain the etio-pathogenesis, clinical features, complications, management, and prevention of acute bacterial Meningitis in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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| PE27.2 | Describe the etio-pathogenesis, clinical features, complications, management and prevention of tuberculous meningitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.3 | Distinguish bacterial, viral and tuberculous meningitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.4 | Explain the etio-pathogenesis, classification, clinical features, complication and management of Hydrocephalus in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.5 | Explain the etio-pathogenesis, clinical features, and management of Infantile hemiplegia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.6 | Explain the etio-pathogenesis, clinical features, complications and management of Febrile seizures in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.7 | Define epilepsy. Discuss the pathogenesis, clinical types, presentation and management of Epilepsy in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.8 | Define status Epilepticus. Discuss the clinical presentation and management | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.9 | Describe the etio-pathogenesis, clinical features and management of Mental retardation in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.10 | Describe the etio-pathogenesis, clinical features and management of children with cerebral palsy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.11 | Enumerate the causes of floppiness in an infant and discuss the clinical features, differential diagnosis and management | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE27.12 | Explain the etio-pathogenesis, clinical features and management of Duchene muscular dystrophy | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
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| PE27.13 | Interpret and explain the findings in a CSF analysis | S | SH | Y | SGT | Logbook | |

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| PE27.14 | Perform in a mannequin lumbar puncture. Discuss the indications, contraindication of the procedure | S | SH | Y | Bedside clinics, Skills lab | Skill assessment | |
| Topic 28: Allergic Rhinitis, Atopic Dermatitis, Bronchial Asthma | | Number of competencies: (05) | | Number of competencies that require certification: (NIL) | | | |
| PE28.1 | Describe the etio-pathogenesis, clinical signs, management and prevention of Allergic Rhinitis in Children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE28.2 | Explain the etio-pathogenesis, clinical types, presentations, management and prevention of childhood Asthma | K | KH | Y | | Written/ Viva voce | |
| PE28.3 | Develop a treatment plan for Asthma appropriate to clinical presentation & severity | S | SH | Y | | Skill assessment | |
| PE28.4 | Enumerate the indications for PFT | K | K | N | | Viva voce | |
| PE28.5 | Observe administration of Nebulization | S | SH | Y | | Document in log book | |
| Topic 29: Chromosomal Abnormalities | | Number of competencies: (05) | | Number of competencies that require certification: (NIL) | | | |
| PE29.1 | Describe the genetic basis, risk factors, clinical features, complications, prenatal diagnosis, management and genetic counselling in Down Syndrome. | K | KH | Y | | Written/ Viva voce | |
| PE29.2 | Interpret normal Karyotype and recognize Trisomy 21 | S | SH | Y | Bedside clinics, Skills lab | Log book | |
| PE29.3 | Counsel parents regarding -1. Present child, 2. Risk in the next pregnancy | A/C | SH | N | Bedside clinics, Skills lab | Log book | |
| PE29.4 | Describe the genetic basis, risk factors, clinical features, complications, prenatal diagnosis, management and genetic counselling in Turner's Syndrome | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PE29.5 | Describe the genetic basis, risk factors, clinical features, complications, prenatal diagnosis, management and genetic counselling in Klinefelter Syndrome | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |

| Topic 30: Endocrinology | | Number of competencies: (07) | | | Number of competencies that require certification: (01) | | |
|---|---|-------------------------------------|----|---|---|--------------------|---|
| PE30.1 | Describe the etiology (congenital & acquired), clinical features, management of Hypothyroidism in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE30.2 | Interpret and explain neonatal thyroid screening report | S | SH | Y | Bedside clinics, SGT | Skill assessment | |
| PE30.3 | Describe the etiology, clinical types, clinical features, diagnostic criteria, complications and management of Diabetes mellitus in children | K | KH | Y | LGT, SGTs | Written/ Viva voce | |
| PE30.4 | Recognize clinical features DKA, Perform and interpret Urine Dip Stick for Sugar & Ketone bodies & refer | S | P | Y | DOAP | Skill assessment | 3 |
| PE30.5 | Perform genital examination and recognize Ambiguous Genitalia, counsel and refer | S | SH | Y | Bedside clinicSkills lab | Skill assessment | |
| PE30.6 | Define precocious and delayed Puberty, Perform Sexual Maturity Rating (SMR), Recognize precocious and delayed Puberty and refer | K, S | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE30.7 | Identify deviations in growth and plan appropriate referral | S | P | Y | Bedside clinics,Skills Lab | Skill assessment | |
| Topic 31:Vaccine preventable Diseases – Tuberculosis | | Number of competencies: (14) | | | Number of competencies that require certification: (NIL) | | |
| PE31.1 | Describe the epidemiology, clinical features, clinical types, complications of Tuberculosis in Children and Adolescents | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE31.2 | Describe the various diagnostic tools for childhood tuberculosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE31.3 | Describe the various regimens for management of Tuberculosis as per National Guidelines | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE31.4 | Describe the preventive strategies adopted and the objectives and outcome of the National Tuberculosis Control Program | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE31.5 | Elicit, document and present history of contact with tuberculosis in every patient encounter, Identify BCG scar and interpret a Mantoux test. | S | SH | Y | Bedside clinics, Skilllab | Skill assessment | |
| PE31.6 | Interpret blood tests in the context of laboratory evidence for tuberculosis | S | SH | N | Bedside clinics, SGT | Log book | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ SH/P | Core Y/N | Suggested Teaching Learning methods | Suggested Assessment methods | Number required to certify P |
|---|---|-------------------------------------|---------------------|--|-------------------------------------|------------------------------|---------------------------------|
| PE31.7 | Describe the various samples for demonstrating the organism e.g. Gastric Aspirate, Sputum, CSF, FNAC | K | KH | Y | Bedside clinics, SGT | Written/ Viva voce | |
| PE31.8 | Enumerate the indications, discuss the limitations of methods of culturing M. Tuberculosis and the newer diagnostic tools for Tuberculosis including BACTEC CBNAAT and their indications | K | KH | Y | SGT | Written/ Viva voce | |
| PE31.9 | Enumerate the common causes of fever and describe the etiopathogenesis, clinical features, complications and management of fever in children | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE31.10 | Enumerate the common causes of fever and describe the etiopathogenesis, clinical features, complications and management of child with exanthematous illnesses like Measles, Mumps, Rubella & Chicken pox | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE31.11 | Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of child with Diphtheria, Pertussis, Tetanus. | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE31.12 | Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of child with Typhoid | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE31.13 | Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of child with Dengue, Chikungunya and other vectorborne diseases | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PE31.14 | Enumerate the common causes of fever and discuss the etiopathogenesis, clinical features, complications and management of children with Common Parasitic infections, malaria, leishmaniasis, filariasis, helminthic infestations, amebiasis, giardiasis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Topic 32: The role of the physician in the community | | Number of competencies: (01) | | Number of competencies that require certification : (NIL) | | | |
| PE32.1 | Identify, Describe and Defend medicolegal, socio-cultural and ethical issues as they pertain to health care in children (including Parental rights and right to refuse treatment) | K | KH | Y | SGT | Written/ Viva voce | |

PSYCHIATRY (CODE: PS)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|--|--|-----------------------------------|------------------------|---------------|--|--|---------------------------------|
| PSYCHIATRY (Topics=13, Competencies=17) | | | | | | | |
| Topic 1: Introduction to Psychiatry | | Number of competencies:03 | | | Number of competencies that require certification : (NIL) | | |
| PS 1.1 | Describe the classification of psychiatric disorders and its basis (neurotic vs psychotic; organic vs non-organic/functional) | K | KH | N | LGT/SDL | Written/ Tutorial | |
| PS1.2 | Elicit history in patient presenting with psychiatric disorder(s) | S | SH | Y | Bedside clinic, DOAP session | Direct Observation | |
| PS1.3 | Perform mental status examination (MSE) in patients presenting with psychiatric disorder(s) | S | SH | Y | Bedside clinic, DOAP session | Direct Observation | |
| Topic 2: Organic Psychiatric Disorders | | Number of competencies:01 | | | Number of competencies that require certification : (NIL) | | |
| PS 2.1* | Describe common Organic Psychiatric Disorders with emphasis on Delirium & Dementia | K | KH | Y | LGT/Flipped classroom | Written, Tutorial | |
| Topic 3: Psychoactive Substance Use Disorders and other addiction disorders | | Number of competencies: 01 | | | Number of competencies that require certification : (NIL) | | |
| PS 3.1 | Describe and identify clinical presentation of abuse of alcohol, nicotine and other psychoactive substances prevalent in your area and their management. | S, K | SH, KH | Y | Bedside clinic, DOAP | Direct observation, OSCE | |
| Topic 4: Schizophrenia and other Psychotic disorders | | Number of competencies: 01 | | | Number of competencies that require certification : (NIL) | | |
| PS 4.1 | Diagnose and manage a case of Schizophrenia at primary care level | S,K | KH | Y | Bedside teaching | Direct observation, OSCE | |
| Topic 5: Depressive disorders | | Number of competencies: 02 | | | Number of competencies that require certification : 1 | | |
| PS 5.1 | Diagnose and manage case of depression at primary care level | S | SH | Y | Bedside teaching, role-play, DOAP | OSCE, Checklist based Skill assessment | 1 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|--|-----------------------------------|------------------------|--|------------------------------------|--|------------------------------|
| PS 5.2 | Identify red flag signs of depression and refer to a specialist | S | KH/ SH | Y | Role play, Cine-education | Checklist based Skill assessment | |
| Topic 6: Bipolar disorders | | Number of competencies: 01 | | Number of competencies that require certification : (NIL) | | | |
| PS 6.1 | Diagnose and manage an episode of Mania at primary care level | S | SH | N | Bedside teaching | Short answer, viva-voce | |
| Topic 7: Anxiety Disorders (including OCD) | | Number of competencies: 01 | | Number of competencies that require certification : (NIL) | | | |
| PS 7.1 | Diagnose and manage anxiety disorders at primary care level | S | SH | Y | Bedside teaching, role-play, DOAP | OSCE, Checklist based Skill assessment | |
| Topic 8: Stress related disorders | | Number of competencies:01 | | Number of competencies that require certification : (NIL) | | | |
| PS8.1 | Diagnose stress related disorders (Acute Stress Disorder and Adjustment Disorders) and make appropriate referral | K | SH | Y | Bedside clinic, Role play | Skill assessment | |
| Topic 9: Psychosexual and Gender Identity Disorders | | Number of competencies:02 | | Number of competencies that require certification : (NIL) | | | |
| PS 9.1 | Describe common psychosexual disorders | K | K | N | LGT | MCQ, Written, Viva voce | |
| PS9.2 | Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles on dealing with LGBTQA+ community. | K | K | Y | LGT/SDL | MCQ, Written Viva voce | |
| Topic 10: Psychiatric Disorders in Childhood and Adolescence | | Number of competencies:01 | | Number of competencies that require certification : (NIL) | | | |
| PS 10.1 | Classify and describe disorders commonly seen in childhood and adolescence with emphasis on ADHD and Autism Spectrum Disorders | K | KH | Y | LGT | MCQ, Written Viva voce | |
| Topic 11: Intellectual Disability Disorder | | Number of competencies: 01 | | Number of competencies that require certification : (NIL) | | | |
| PS11.1 | Describe Intellectual Disability Disorder | K | KH | Y | LGT | MCQ, Written Viva voce | |
| Topic 12: Psychiatric Emergencies | | Number of Competencies: 01 | | Number of competencies that require certification : 1 | | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|-------------------------------|--|-----------------------------------|------------------------|--|-------------------------------------|-----------------------------|------------------------------|
| PS12.1 | Perform suicide risk assessment | S | SH | Y | Role play, bedside teaching | Skill assessment | 01 |
| Topic 13: Therapeutics | | Number of Competencies: 01 | | Number of competencies that require certification : (NIL) | | | |
| PS 13.1 | Describe the process of modified ECT and identify misconceptions associated with ECT | K | KH | Y | SGT observation & discussion, Video | Written/ Viva voce | |

DERMATOLOGY, VENEREOLOGY & LEPROSY (CODE: DR)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|--|-------------------------------------|------------------------|---|---|--|---------------------------------|
| DERMATOLOGY, VENEREOLOGY & LEPROSY (Topics=15,Competencies=48) | | | | | | | |
| Topic 1: Acne | | Number of competencies: (02) | | Number of competencies that require certification: (NIL) | | | |
| DR1.1 | Recognize a patient with acne vulgaris including the risk factors, etiology and clinical grading | K/S/A | KH/SH | Y | LGT, SGT , Bed side teaching, Demonstration | Written, Tutorials, Direct Observation, OSCE | |
| DR1.2 | Device a management plan of a patient with acne | K | KH | Y | LGT, SGT, Bed side teaching | Written, Tutorials, Direct Observation, OSCE, Prescription writing | |
| Topic 2: Vitiligo | | Number of competencies: (01) | | Number of competencies that require certification: (NIL) | | | |
| DR 2.1 | Identify and differentiate vitiligo from other causes of hypo pigmented lesions and present a treatment plan | K/S | KH/SH | Y | SGT, Bedside teaching, Demonstration | Written, OSCE, Picture based MCQs | |
| Topic 3: Papulosquamous disorders | | Number of competencies:(03) | | Number of competencies that require certification: (NIL) | | | |
| DR 3.1 | Identify and distinguish psoriatic lesions from other causes | K/S | KH/SH | Y | SGT, Bedside teaching, Demonstration | Written, OSCE, Picture based MCQs | |
| DR3.2 | Demonstrate the Grattage test | S | SH | Y | Bedside teaching, Demonstration, DOAP | Direct Observation, OSCE | |
| DR3.3 | Devise a treatment plan for a patient with psoriasis and counsel the patient regarding various treatment options and chronicity of disease | K/S/A/C | SH | Y | SGT, Bedside teaching, Role Play | Mini CEX, Case Based Discussion, OSCE | |
| Topic 4: Lichen Planus | | Number of competencies:(01) | | Number of competencies that require certification: (NIL) | | | |
| DR 4.1 | Identify and manage a case of lichen planus | K/S | KH/SH | Y | SGT, Bedside teaching, | Written, OSCE, | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|---|------------------------------------|------------------------|---|---|--|---------------------------------|
| | | | | | Demonstration | Picture based MCQs | |
| Topic 5: Scabies | | Number of competencies:(01) | | Number of competencies that require certification: (NIL) | | | |
| DR5.1 | Devise a treatment plan for management of scabies including adverse drug reactions | K | KH | Y | SGT, Bedside teaching | Written, Case Based Discussion, OSCE | |
| Topic 6: Pediculosis | | Number of competencies:(01) | | Number of competencies that require certification: (NIL) | | | |
| DR 6.1 | Describe the pathogenesis, diagnostic features and management of pediculosis in adults and children | K | KH | Y | LGT, SGT, Seminar, Flipped Classroom | Written, Tutorials | |
| Topic 7: Fungal Infections | | Number of competencies:(02) | | Number of competencies that require certification: (NIL) | | | |
| DR7.1 | Demonstrate candida/dermatophytes in fungal scrapings on KOH mount | S | SH | Y | Bedside teaching, DOAP | DOPS, OSCE | |
| DR7.2 | Manage a case of fungal infections | K | KH | Y | LGT, SGT | Written, Case based discussion | |
| Topic 8: Common Viral Infections | | Number of competencies:(05) | | Number of competencies that require certification: (NIL) | | | |
| DR8.1 | Describe the aetiology, microbiology, pathogenesis, clinical presentations and management of common viral infections of the skin in adults and children | K | KH | Y | LGT, SGT, Bed side teaching, Self-Directed Learning (SDL) | Written, Tutorials, Direct Observation | |
| DR8.2 | Identify and distinguish herpes simplex and herpes labialis from other skin lesions | K/S | KH/SH | Y | SGT, Bedside teaching, Demonstration | Written, OSCE, Picture based MCQs | |
| DR8.3 | Identify and distinguish herpes zoster and varicella from other skin lesions | K/S | KH/SH | Y | SGT, Bedside teaching, Demonstration | Written, OSCE, Picture based MCQs | |
| DR8.4 | Identify and distinguish viral warts from other skin lesions | K/S | KH/SH | Y | SGT, Bedside teaching, Demonstration | Written, OSCE, Picture based MCQs | |
| DR8.5 | Identify and distinguish molluscum contagiosum from other skin | K/S | KH/SH | Y | SGT, Bedside teaching, | Written, OSCE, | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|---|------------------------------------|------------------------|---|--|--|---------------------------------|
| | lesions | | | | Demonstration | Picture based, MCQs | |
| Topic 9: Leprosy | | Number of competencies:(06) | | Number of competencies that require certification: (1) | | | |
| DR9.1 | Describe the epidemiology, clinical features and classification of Leprosy | K | KH | Y | LGT, SGT, Seminar, Flipped Classroom | Written, Tutorials | |
| DR9.2 | Demonstrate an appropriate neurologic examination in Leprosy | S | SH | Y | Bedside teaching, DOAP | DOPS, OSCE | 2 |
| DR9.3 | Enumerate the indications and observe the performance of a slit skin smear in patients with leprosy | K | KH | Y | SGT, Bedside teaching | Written, Tutorials | |
| DR9.4 | Effectively treat a case of Lepra Reaction | K/S/A/C | KH/SH | Y | LGT, SGT, Bed Side teaching | Case Based Discussion, Prescription Writing, Direct Observation | |
| DR9.5 | Effectively manage a case of Leprosy based on National Guidelines and WHO Guidelines | K/S/C | KH/SH | Y | LGT, SGT, Bed Side teaching, SDL | Written, Case Based Discussion, Direct Observation, Prescription Writing | |
| DR9.6 | Effectively manage complications of Leprosy and counsel regarding disability and stigma | K/S/A/C | KH/SH | Y | LGT, SGT, Bed Side teaching, Simulations | Written, Case Based Discussion, OSCE | |
| Topic 10: Sexually Transmitted Diseases | | Number of competencies:(11) | | Number of competencies that require certification: (NIL) | | | |
| DR10.1 | Understand the rationale and Effectively use Syndromic case management for patients presenting with sexually transmitted diseases | K | KH | Y | SGT, Bedside teaching | Written, Tutorials, OSCE | |
| DR10.2 | Describe the clinical features, stages, and appropriate use of diagnostic tests for diagnosis of Syphilis | K | KH | Y | LGT, SGT, Bedside teaching | Written, Tutorials, OSCE | |
| DR10.3 | Describe the clinical features, stages, and appropriate use of diagnostic tests for diagnosis of non-syphilitic genital ulcer namely chancroid and herpes genitalis | K | KH | Y | LGT, SGT, Bedside teaching Clinic, SDL | Written, Tutorials, OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|--|-------------------------------|------------------------|---------------|------------------------------------|---|---------------------------------|
| DR10.4 | Conduct a proper examination in a patient with GUD ensuring privacy, confidentiality in presence of chaperone | S/C | SH | Y | Bedside teaching, DOAP | Written, Tutorials, Direct observation, Case based discussion | |
| DR10.5 | Effectively take sexual history and provide patient education on safe sexual behaviours including pretest counselling for HIV | C | SH | Y | Role play, Simulations | OSCE, Rating scale, Direct observation and feedback | |
| DR10.6 | Effectively manage syphilis and genital ulcer disease based on clinical features and serological tests including in pregnancy and neonates and advise as per syndromic case management | K/S/A/C | SH | Y | SGT, Bedside teaching, Role Play | Case Based Discussion, OSCE, Prescription writing | |
| DR10.7 | Recognize a patient with LGV and Donovanosis based on clinical findings and provide appropriate therapy using syndromic case management | K/S | KH/SH | Y | LGT, SGT, Bedside teaching | Written, OSCE, Direct Observation, Picture based MCQs, Prescription writing | |
| DR10.8 | Describe the etiology, diagnostic and clinical features and management of gonococcal and non-gonococcal urethritis | K | KH | Y | LGT, SGT, Flipped Classroom, SDL | Written, Tutorials | |
| DR10.9 | Effectively manage a patient with urethral discharge and counsel regarding prevention as per syndrome case management guidelines | K/S/A/C | SH | Y | SGT, Bedside teaching, Role Play | Case Based Discussion, OSCE, Prescription writing | |
| DR10.10 | Diagnose and manage a patient presenting with vaginal discharge as per syndrome case management guidelines | K/S/C | SH | Y | SGT, Bedside teaching | Written, Case Based Discussion, OSCE | |
| DR 10.11 | Diagnose and treat a patient with genital warts and provide patient education | K/S/A/C | SH | Y | LGT, Bedside teaching, Simulations | Written, OSCE, Case based discussion | |
| Topic 11:HIV Number of competencies:(02) Number of competencies that require certification: (NIL) | | | | | | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P | | |
|--|--|-------------------------------|------------------------|---------------|---|--|---------------------------------|---|--|
| DR11.1 | Diagnose and manage common dermatologic manifestations of HIV including opportunistic infections(OI) based on clinical features and appropriate lab tests | K, S | KH | Y | LGT, Bedside teaching, SDL | Written, Tutorials, Case based discussion, Written, OSCE, Direct Observation, Picture based MCQs | | | |
| DR11.2 | Recognize common dermatological manifestations of ART drugs and initiate primary management appropriately | K, C | KH | Y | LGT, SGT, Bedside teaching, Flipped Classroom | Written, Tutorials, OSCE, Written, OSCE, Direct Observation, Picture based MCQs | | | |
| Topic 12 : Eczemas, Erythroderma and cutaneous adverse drug reactions | | | | | Number of competencies:(5) | | | Number of competencies that require certification: (NIL) | |
| DR12.1 | Identify common types of eczema (both endogenous and exogenous based on clinical features and history | K/S | KH/SH | Y | LGT, SGT, Bedside teaching, Flipped Classroom | Written, Case Based Discussion, OSCE, Picture based MCQs | | | |
| DR12.2 | Provide basic management for common eczemas including topical and systemic therapy | K/S | KH/SH | Y | SGT, Bedside teaching, SDL | Written, Case Based Discussion, OSCE, Prescription writing | | | |
| DR12.3 | Diagnose Erythroderma, including medical complications and provide appropriate primary care to stabilize a patient before referral | K,S | KH/SH | Y | SGT, Bedside teaching, SDL | Written, Tutorials, Case based discussion | | | |
| DR12.4 | Distinguish adverse drug reactions like Fixed drug eruption, Drug Hypersensitivity syndrome and Steven Johnson syndrome/ Toxic epidermal necrolysis from other skin conditions | K/S | KH/SH | Y | LGT, Bedside teaching, Demonstrations, SDL | Written, Tutorials, Case based discussion, OSCE | | | |
| DR12.5 | Provide primary care in patients with Adverse drug reactions | K/S/A/C | KH/SH | Y | SGT, Bedside teaching, Video LGTs | Written, Viva Voce, Case based discussion | | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|---|-------------------------------------|------------------------|---|---|---|---------------------------------|
| Topic 13: Vesiculo- bullous Lesions | | Number of competencies: (02) | | Number of competencies that require certification: (NIL) | | | |
| DR13.1 | Diagnose common auto Immune vesiculo- bullous disorders like pemphigus and bullous pemphigoid based on clinical features and appropriate use of Nikolsky's sign and Bulla spread sign | K/S | KH/SH | Y | LGT, SGT, Bedside teaching, Demonstration | Written, Tutorials , Case based discussion, OSCE, Direct Observation, Picture based MCQs | |
| DR 13.2 | Provide primary management for a patient with vesiculo-bullous disorder before referral | K/S/A/C | KH/SH | Y | Bedside teaching, SGT | Written, Tutorials, Case Based Discussion, Prescription writing | |
| Topic 14 : Urticaria Angioedema | | Number of competencies: (03) | | Number of competencies that require certification : (01) | | | |
| DR14.1 | Classify urticaria and angioedema and describe etio-pathogenesis, clinical features and precipitating factors | K | KH | Y | LGT,SGT, Symposium | Written (Short notes, part of structured essay), Tutorials, Problem solving exercises, OSCE | |
| DR14.2 | Identify and distinguish urticaria and angioedema from other skin lesions and provide basic management | K/S | KH/SH | Y | SGT, Bedside teaching, Video LGT | Written examination, Tutorials, OSCE, Picture based MCQs | |
| DR14.3 | Demonstrate Dermographism | S | SH | Y | Bedside teaching, DOAP | DOPS | 2 |
| Topic 15: Pyoderma | | Number of competencies: (03) | | Number of competencies that require certification: (NIL) | | | |
| DR15.1 | Identify the clinical presentation of various types of cutaneous bacterial infections | K/S | KH/SH | Y | Bedside teaching, Video LGT, SGT | Written, Tutorials, Picture based MCQs, OSCE | |
| DR15.2 | Enumerate the indications and adverse reactions of topical and systemic drugs used in the treatment of pyoderma | K | KH | Y | LGT, SGT, Symposium, Flipped Classroom | Written, Tutorials, Prescription | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--------|--|-------------------------------|------------------------|---------------|-------------------------------------|--|---------------------------------|
| | | | | | | writing, Problem solving exercises | |
| DR15.3 | Recognize the need for surgical referral in pyoderma | K | KH | Y | Video LGT, Bedside teaching, SGT | Written, Tutorials, OSCE | |

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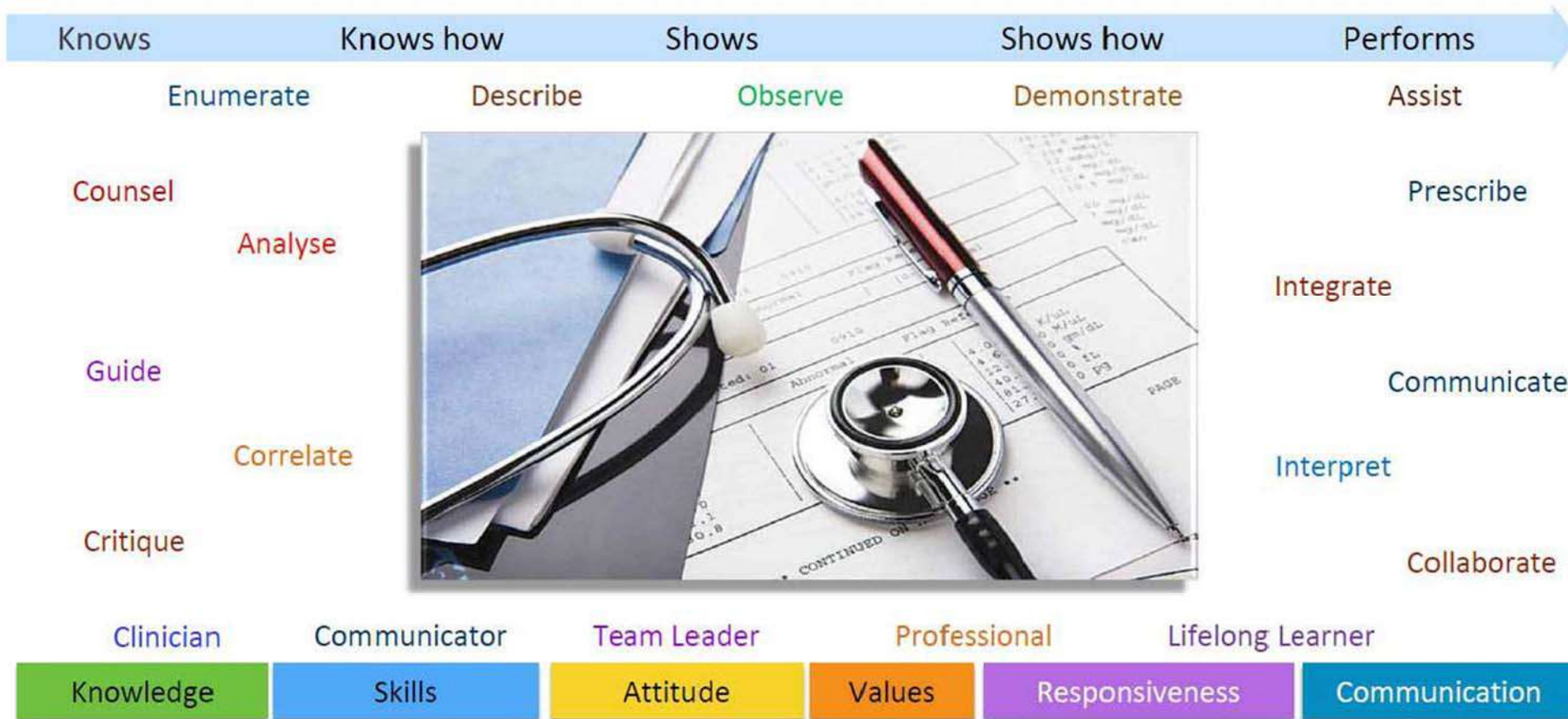
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NATIONAL MEDICAL COMMISSION COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE



Volume III-2024

**COMPETENCY BASED UNDERGRADUATE CURRICULUM
FOR THE
INDIAN MEDICAL GRADUATE**

2024



**National Medical Commission
Pocket-14, Sector- 8, Dwarka
New Delhi 110 077**



राष्ट्रीय आयुर्विज्ञान आयोग National Medical Commission



FOREWORD

The National Medical Commission (NMC) was created on 24th September, 2020 by the Act of Parliament replacing the erstwhile Medical Council of India and Board of Governors. The foundation for making of an Indian Medical Graduate (‘Doctor’) depends on building a sound base of medical education. In the year 2019, a committed team appointed by erstwhile MCI revolutionized the age-old didactic teaching system in Indian medical colleges by bringing in Competency Based Medical Education (CBME). This unique approach has raised the level of medical education with respect to quality, versatility and horizontal- vertical alignment of all subjects. The mandate of NMC to see that the first line of health care leaders who reach out to the common masses empathizing with the problems of the rural populace are being met with. The two-pronged approach of increasing the quantity and improving the quality of medical education is being tackled with this approach.

Education has now become student-centric and patient-centric instead of pedagogic system. The first batch of students have now completed their training under CBME implemented in 2019. It was a demand from actively involved academia to revisit the curriculum and modify it so as to keep abreast at international level. Interim years of covid pandemic also were ‘a good teaching academy’ for all. Increasing influence of artificial

intelligence on student community, matched with rising cost of medical education and competitiveness, instead of accommodative, helping and balanced approach, has led to increasing risk of losing social intelligence and humane approach amidst the emerging doctors. The risk of creating overqualified clerks looms large on our medical system.

A national team of experienced as well as emerging empathetic and talented teachers engaged as full-time faculty in various medical institutions were invited by the Undergraduate Education Board (UGMEB) of the NMC to invest their extra energy and hours to assess the curricula, examinations, AETCOM, vertical and horizontal integration of various subjects and bring in modifications. Each subject had committee of five persons on an average, from different parts of the country. Totally 93 experts have given their valuable time and energy in framing this new curriculum and all three volumes, prepared by their predecessors in 2019. The hard work done by them was the base on which this edifice has further been refined.

We are sure that fraternity and students are going to have an educational journey that will be full of fun, knowledge and experience sharing. UGMEB of the NMC acknowledges each and every one involved in the process, named and unsung heroes who have been the part of this exercise of bringing the document to the readers.

**Dr. Aruna V. Vanikar, President,
Dr. Vijayendra Kumar, Member,
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| (iv) | List of contributing subject experts | | 91 |

How to use the Manual

This Manual is intended for curriculum planners in an institution to design learning and assessment experiences for the MBBS student. Contents created by subject experts have been curated to provide guidance for the curriculum planners, leaders and teachers in medical schools. The manual must be used with reference to and in the context of the Regulations.

Section 1

Competencies for the Indian Medical Graduate

Section 1 - provides the Roles (global competencies) extracted from the Competency Based Medical Education (CBME) Guidelines, 2024. The global competencies identified as defining the roles of the Indian Medical Graduate are the broad competencies that the learner must aspire to achieve, teachers and curriculum planners must ensure that the learning experiences are aligned to this Manual.

Extract from the Competency Based Medical Education (CBME) Guidelines, 2024

2. Objectives of the Indian Graduate Medical Training Programme

The undergraduate medical education program is designed with a goal to create an "Indian Medical Graduate" (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training program are hereby advocated. The first contact physician needs to be skilful to perform duties of primary care physician and have requisite skills for promotive, preventative, rehabilitative, palliative care & referral services.

2.1 National Goals

At the end of undergraduate program, the Indian Medical Graduate should be able to:

- a. Recognize "health for all" as a national goal and health right of all citizens and by undergoing training for medical profession to fulfill his social obligations towards realization of this goal.
- b. Learn key aspects of National policies on health and devote himself to its practical implementation.
- c. Achieve competence in the practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- d. Develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- e. Become an exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

2.2 Institutional Goals

In consonance with the national goals, each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.

- a. Be competent for working in the health care team from Phase I MBBS to Compulsory rotatory medical internship (CRMI) in a gradual manner with increasing complexity in an integrated multi-department involvement.
- b. Be competent to practice preventive, promotive, curative, palliative and rehabilitative medicine in respect to the commonly encountered health problems.
- c. Appreciate rationale for different therapeutic modalities; be familiar with the administration of the "essential medicines" and their common adverse effects.

- d. Appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.
- e. Possess the attitude for continued self-learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- f. Be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:
- i. Family Welfare and Maternal and Child Health (MCH);
 - ii. Sanitation and water supply;
 - iii. Prevention and control of communicable and non-communicable diseases;
 - iv. Immunization;
 - v. Health Education and advocacy;
 - vi. Indian Public Health Standards (IPHS) at various level of service delivery;
 - vii. Bio-medical waste disposal;
 - viii. Organizational and or institutional arrangements.
- g. Acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, general and hospital management, principal inventory skills and counselling.
- h. Be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such

measures with maximum community participation.

- i. Be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
- j. Be competent to work in a variety of health care settings.
- k. Have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility, dependability, and ability to relate to or show concern for other individuals.

All efforts must be made to equip the medical graduates to acquire certifiable skills as given in comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) Indian Medical Graduate, as given in the Graduate Medical Education Regulations.

2.3 Goals for the Learner

In order to fulfil these goals, the Indian Medical Graduate must be able to function in the following roles appropriately and effectively:-

- a. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- b. Leader and member of the health care team and system with capabilities to collect, analyse, synthesize and communicate health data appropriately.
- c. Communicate with patients, families, colleagues, community and community in a methodological and skilful way using various approaches in family visits, family adoption program, clinic-social cases, clinical cases and AETCOM training programs.
- d. Lifelong learner committed to continuous improvement of skills and knowledge.
- e. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community, profession, and society. Training of humanities and social sciences will be useful for this training.

3. Competency Based Training Programme of the Indian Medical Graduate

Competency based learning would include designing and implementing medical education. Curriculum that focuses on the desired and observable activity in real life situations. In order to effectively fulfil the roles, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

3.1 Clinician, who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.

- 3.1.1 Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
- 3.1.2 Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
- 3.1.3 Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence healthcare.
- 3.1.4 Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
- 3.1.5 Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.6 Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- 3.1.7 Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.

- 3.1.8 Demonstrate ability to perform a physical examination that is contextual to gender, social and economic status, patient preferences and values.
- 3.1.9 Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- 3.1.10 Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- 3.1.11 Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- 3.1.12 Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmes and policies for the following:
- i. Disease prevention,
 - ii. Health promotion and cure,
 - iii. Pain and distress alleviation, and
 - iv. Rehabilitation and palliation.
- 3.1.13 Demonstrate ability to provide a continuum of care at the primary (including home care) and/or secondary level that addresses chronicity, mental and physical disability,
- 3.1.14 Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.
- 3.1.15 Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

3.2 Leader and member of the health care team and system

- 3.2.1 Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
- 3.2.2 Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.
- 3.2.3 Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
- 3.2.4 Access and utilize components of the health care system and health delivery in a_ manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyse and utilize health data.
- 3.2.5 Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
- 3.2.6 Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

3.3 Communicator with patients, families, colleagues and community

- 3.3.1 Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients, families, colleagues and community in a language that patients, families, colleagues and community understands and in a manner that will improve patient patients, families, colleagues and community satisfaction and health care outcomes.
- 3.3.2 Demonstrate ability to establish professional relationships with patients, families, colleagues and community that are positive, understanding, humane, ethical, empathetic, and trustworthy.
- 3.3.3 Demonstrate ability to communicate with patients, families, colleagues and community in a manner respectful of patient's preferences, values, prior

experience, beliefs, confidentiality and privacy.

- 3.3.4 Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision- making and overcoming hesitancy towards health initiatives.

3.4 Lifelong learner committed to continuous improvement of skills and knowledge

- 3.4.1 Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.
- 3.4.2 Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.
- 3.4.3 Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.
- 3.4.4 Demonstrate ability to search (including through electronic means), and critically re- evaluate the medical literature and apply the information in the care of the patient.
- 3.4.5 Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

3.5 Professional who is committed to excellence, is ethical, responsive and accountable to patients, the profession and community.

- 3.5.1 Practice selflessness, integrity, responsibility, accountability and respect.
- 3.5.2 Respect and maintain professional boundaries between patients, colleagues and society.
- 3.5.3 Demonstrate ability to recognize and manage ethical and professional conflicts.
- 3.5.4 Abide by prescribed ethical and legal codes of conduct and practice.
- 3.5.5 Demonstrate commitment to the growth of the medical profession as a whole.

Section 2

Subject-wise competencies

Section 2 contains subject-wise competencies that must be achieved at the end of instruction in that subject. These are organised in tables.

Competencies (Outcomes) in each subject are grouped according to topics number-wise. It is important to review the individual competencies in the light of the topic outcomes as a whole. For each competency outlined - the learning domains (Knowledge, Skill, Attitude, Communication) are identified. The expected level of achievement in that subject is identified as – [knows (K), knows how (KH), shows how (SH), perform (P)]. As a rule, 'perform' indicates independent performance without supervision and is required rarely in the pre-internship period. The competency is a core (Y - must achieve) or non-core (N - desirable) outcome. Suggested learning and assessment methods (these are suggestions) and explanation of the terms used are given under the section "definitions used in this document". The suggested number of times a skill must be performed independently for certification in the learner's logbook is also given.

The number of topics and competencies in each subject are given below:

Topics and competencies in Phase 1 & Phase 2 subjects (Volume I)

| Sr. No. | Subjects | Number of topics | Number of competencies |
|----------------|-------------------|-------------------------|-------------------------------|
| 1. | Anatomy | 82 | 413 |
| 2. | Physiology | 12 | 136 |
| 3. | Biochemistry | 14 | 84 |
| 4. | Pharmacology | 10 | 92 |
| 5. | Pathology | 35 | 182 |
| 6. | Microbiology | 11 | 74 |
| 7. | Forensic Medicine | 14 | 158 |
| | Total | 178 | 1139 |

Topics and competencies in Medicine and Allied subjects (Volume II)

| Sr. No. | Subjects | Number of topics | Number of competencies |
|----------------|------------------------------------|-------------------------|-------------------------------|
| 1. | Community Medicine | 20 | 136 |
| 2. | General Medicine | 29 | 525 |
| 3. | Paediatrics | 35 | 406 |
| 4. | Psychiatry | 13 | 17 |
| 5. | Dermatology, Venereology & Leprosy | 15 | 48 |
| | Total | 112 | 1132 |

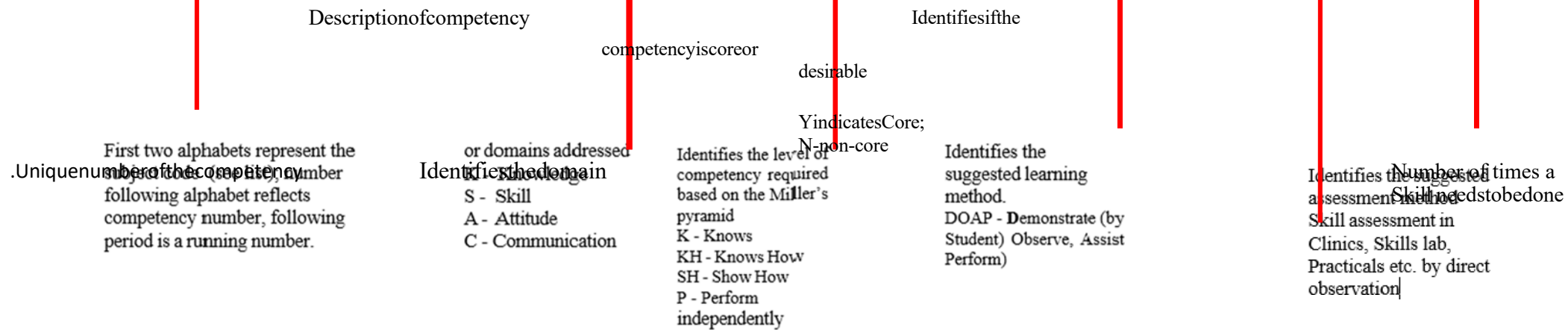
Topics and competencies in Surgery and Allied subjects (Volume III)

| Sr. No. | Subjects | Number of topics | Number of competencies |
|----------------|--------------------------|-------------------------|-------------------------------|
| 1. | General Surgery | 30 | 133 |
| 2. | Ophthalmology | 10 | 60 |
| 3. | Otorhinolaryngology | 04 | 63 |
| 4. | Obstetrics & Gynaecology | 38 | 141 |
| 5. | Orthopaedics' | 14 | 40 |
| 6. | Anaesthesiology | 11 | 52 |
| 7. | Radiodiagnosis | 07 | 21 |
| | Total | 114 | 510 |

Understanding the competencies table

Understanding the competency stable

| A | B | C | D | E | F | G | H |
|---------------------|---|--------|-----------|------|------------------------------------|-----------------------------|-----------------------------|
| No. | Competencies | Domain | K/KH/SH/P | Core | Suggested Teaching Learning Method | Suggested Assessment method | No. required to certify (P) |
| Physiology PY1.1 | Describe the structure and functions of a | K | KH | Y | LGT, SGT | Written/Viva | |
| IM 4.10 | Elicit <i>document</i> and present medical history that helps delineate the | S | SH | Y | Bed Side clinic, DOAP | OSCE, Direct observation | 3 |



LGT-Large group teaching; SGT-Small group teaching; OSCE-Objective structured clinical examination; P- indicate how many competencies/competencies must be done independently under observation for Certification. *Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents;

Deriving learning objectives from competencies

Deriving learning objectives from competencies

| | | |
|----|---|--|
| K | Knows | A knowledge attribute – Usually enumerates or describes |
| KH | Knows how | A higher level of knowledge – is able to discuss or analyse |
| S | Shows | A skill attribute: is able to identify or demonstrate the steps |
| SH | Shows how | A skill attribute: is able to interpret / demonstrate a complex procedure requiring thought, knowledge and behaviour |
| P | Performs (under supervision or independently) | Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results |

Competency: An observable ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

| | | | | |
|---------|---|-----|----|---|
| PA42.3* | Identify the etiology of meningitis based on given CSF parameters | K/S | SH | Y |
|---------|---|-----|----|---|

| | | |
|------|--|---|
| LO 1 | At the end of the session the phase II student must be able to enumerate the most common causes of meningitis correctly | <u>Audience</u> - who will do the behavior |
| LO 2 | At the end of the session the phase II student must be able to enumerate the components of CSF analysis correctly | <u>Behavior</u> - What should the learner be able to do? |
| LO 3 | At the end of the session the phase II student must be able to describe the CSF features for a given etiology of meningitis accurately | <u>Condition</u> - Under what conditions should the learner be able to do it? |
| LO 4 | At the end of the session the phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters | <u>Degree</u> - How well must it be done |

Learning Objective (LO): Statement of what a learner should be able to do at the end of a specific learning experience

*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

Deriving learning methods from competencies

Deriving learning methods from competencies

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

| | | | | |
|---------|---|------|----|---|
| PA34.3* | Identify the etiology of meningitis based on given CSF parameters | K, S | SH | Y |
|---------|---|------|----|---|

Objective: Statement of what a learner should be able to do at the end of a specific learning experience

| | | |
|------|--|--|
| LO 1 | At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly | |
| LO 2 | At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly | |
| LO 3 | At the end of the session the Phase II student must be able to describe the CSF features for a given etiologic of meningitis accurately | |
| LO 4 | At the end of the session the Phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters | |

*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

Deriving assessment methods from competencies

Deriving assessment methods from competencies

Competency: An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

| | | | | |
|---------|---|------|----|---|
| PA34.3* | Identify the etiology of meningitis based on given CSF parameters | K, S | SH | Y |
|---------|---|------|----|---|

Objective: Statement of what a learner should be able to do at the end of a specific learning experience

| | | |
|------|--|---|
| LO 1 | At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly | Written/SAQ: Enumerate 5 causes of meningitis based on their prevalence in India |
| LO 2 | At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly | Short note or part of structured essay: Enumerate the components tested in a CSF analysis |
| LO 3 | At the end of the session the Phase II student must be able to describe the CSF features for a given aetiology of meningitis accurately | Short note or part of structured essay: Describe the CSF findings that are characteristic of tuberculous meningitis |
| LO 4 | At the end of the session the Phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters | Short note / part of the structured essay/ Direct observation/OSPE/ Viva voce Review the CSF findings in the following patient and identify (write or vocalize) the most likely etiology |

* Numbers given are for illustrative purposes only and should not be compared with numbers in the curriculum document

Definitions used in the Manual

1. **Goal:** A projected state of affairs that a person or system plans to achieve.

In other words: Where do you want to go? or What do you want to become?

2. **Competency:** The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served.

In other words: What should you have? Or What should have changed?

3. **Objective:** Statement of what a learner should be able to do at the end of a specific learning experience. In other words: What the Indian Medical Graduate should know, do, or behave.

Action Verbs used in this manual

| Knowledge | Skill | Attitude/communicate |
|---------------|---------------------------|------------------------------|
| Enumerate | Identify | Counsel |
| List | Demonstrate | Inform |
| Describe | Perform under supervision | Demonstrate understanding of |
| Discuss | Perform independently | Communicate |
| Differentiate | Document | |
| Define | Present | |
| Classify | Record | |
| Choose | Elicit | |
| Interpret | | |
| Report | | |

Note:

1. Specified essential competencies only will be required to be performed independently at the end of the final year M BBS.
2. The word 'perform' or 'do' is used ONLY if the task has to be done on patients or in laboratory practical in the pre/para-clinical phases.
3. Most tasks that require performance during undergraduate years will be performed under supervision.
4. If a certification to perform independently has been done, then the number of times the task has to be performed under supervision will be indicated in the last column.

Explanation of terms used in this manual

| | |
|---|--|
| LGT (LGT) | Any instructional large group method including interactive lecture |
| SGT (SGT) | Any instructional method involving small groups of students in an appropriate learning context |
| DOAP (Demonstration-Observation-Assistance-Performance) | A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently |
| Skill assessment/ Direct observation | A session that assesses the skill of the student including those in the practical laboratory, skillslab, skills station that uses mannequins/papercase/simulated patients/real patients as the context demands |
| DOPS (Directly observed procedural skills) | DOPS is a method of assessment for assessing competency of the students in which the examiner directly observes the student performing procedure |
| Core | A competency that is necessary in order to complete the requirements of the subject (traditional must know) |
| Non-Core | A competency that is optional in order to complete the requirements of the subject (traditional nice (good) to know/ desirable to know) |
| National Guidelines | Health programs as relevant to the competency that are part of the National Health Program |

Domains of learning

| | |
|---|---------------|
| K | Knowledge |
| S | Skill |
| A | Attitude |
| C | Communication |

Levels of competency

| | | |
|----|---|--|
| K | Knows | Acknowledge attribute-Usually enumerates or describes |
| KH | Knows how | A higher level of knowledge-is able to discuss or analyze |
| SH | Show show | A skill attribute is able to interpret/demonstrate a complex procedure requiring thought, knowledge and behavior |
| P | Performs (under supervision or independently) | Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results |

Note:

In the table of competency - the highest level of competency acquired is specified and implies that the lower levels have been acquired already. Therefore, when a student is able to SH - Show how- an informed consent is obtained - it is presumed that the preceding steps - the knowledge, the analytical skills, the skill of communicating have all been obtained.

It may also be noted that attainment of the highest level of competency may be obtained through steps spread over several subjects or phases and not necessarily in the subject or the phase in which the competency has been identified.

Volume III
Competency based Undergraduate Curriculum
in
Surgery & Allied subjects

GENERAL SURGERY (CODE:SU)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|---|--------------------------------------|------------------------|---------------|---|-------------------------------|---------------------------------|
| GENERAL SURGERY (Topics:30, Competencies: 133) | | | | | | | |
| Topic1: Metabolic response to injury | | Number of competencies: (03) | | | Number of competencies that require certification: (NIL) | | |
| SU1.1 | Describe Basic concepts of homeo stasis, enumerate the metabolic changes in injury and their mediators. | K | KH | Y | LGT, Bed side clinic, SGT | Written/Vivavoce | |
| SU1.2 | Describe the factors that affect the metabolic response to injury. | K | KH | Y | LGT, Bed side clinic,SGT | Written/Vivavoce | |
| SU1.3 | Describe basic concepts of perioperative care. | K | KH | Y | LGT, Bed side clinic,SGT | Written/Vivavoce | |
| Topic 2: Shock | | Number of competencies: (03) | | | Number of competencies that require certification: (NIL) | | |
| SU2.1 | Describe Pathophysiology of shock, types of shock & principles of resuscitation including fluid replacement and monitoring. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU2.2 | Describe the clinical features of shock and its appropriate treatment. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU2.3 | Communicate and counsel patients and families about the treatment and prognosis of shock demonstrating empathy and care | A/C | SH | Y | DOAP | Skillassessment | |
| Topic 3: Blood and blood components | | Number of competencies: (03) | | | Number of competencies that require certification: (NIL) | | |
| SU3.1 | Describe the Indications and appropriate use of blood and blood products and complications of blood transfusion. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU3.2 | Observe blood transfusions. | S | SH | Y | SGT,DOAP | Skillsassessment, Log book | |
| SU3.3 | Counsel patients and family/friends for blood transfusion and blood donation. | A/C | SH | Y | DOAP | Skillsassessment | |
| Topic 4: Burns | | Number of competencies: (04) | | | Number of competencies that require certification: (NIL) | | |
| SU4.1 | Elicit document and present history in a case of Burns and perform physical examination. Describe Pathophysiology of Burns. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU4.2 | Describe Clinical features, Diagnose type and extent of burns and plan appropriate treatment. | K | KH | Y | LGT,SGT | Written/Vivavoce | |

| | | | | | | | |
|--|--|-----|----|---|---------------------------------|---------------------------------------|---|
| SU4.3 | Discuss the Medico legal aspects in burn injuries. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU4.4 | Communicate and counsel patients and families on the outcome and rehabilitation demonstrating empathy and care. | A/C | SH | Y | SGT,Roleplay, Skills assessment | Vivavoce | |
| Topic 5: Wound healing and wound care Number of competencies: (04) Number of competencies that require certification: (NIL) | | | | | | | |
| SU5.1 | Describe normal wound healing and factors affecting healing. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU5.2 | Elicit, document and present a history in a patient presenting with wounds. | C | SH | Y | LGT,SGT | Written/Vivavoce | |
| SU5.3 | Differentiate the various types of wounds,plan and observe management of wounds. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU5.4 | Discuss medico legal aspects of wounds | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| Topic 6: Surgical infections Number of competencies: (02) Number of competencies that require certification: (NIL) | | | | | | | |
| SU6.1 | Define and describe the aetiology and pathogenesis of surgical Infections | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU6.2 | Enumerate Prophylactic and therapeutic antibiotics Plan appropriate management | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| Topic 7: Surgical Audit and Research Number of competencies: (02) Number of competencies that require certification: (NIL) | | | | | | | |
| SU7.1 | Describe the Planning and conduct of Surgical audit | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU7.2 | Describe the principles and steps of clinical research in General Surgery | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| Topic 8: Ethics Number of competencies: (03) Number of competencies that require certification: (NIL) | | | | | | | |
| SU8.1 | Describe the principles of Ethics as it pertains to General Surgery | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skill assessment | - |
| SU8.2 | Demonstrate Professionalism and empathy to the patient undergoing General Surgery | A/C | SH | Y | LGT,SGT, DOAP | Written/Vivavoce/ Skill assessment | |
| SU8.3 | Discuss Medico-legal issues in surgical practice | A/C | KH | Y | LGT,SGT | Written/Vivavoce/ Skill assessment | |
| Topic 9: Investigation of surgical patient Number of competencies (03) Number of competencies that require certification: (NIL) | | | | | | | |
| SU9.1 | Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient | C | KH | Y | LGT,SGT | Written/Vivavoce | |

| | | | | | | | |
|---|---|-------|----|---|-------------------------|--------------------------|--|
| SU9.2 | Biological basis for early detection of cancer and multi disciplinary approach in management of cancer | C | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU9.3 | Communicate the results of surgical investigations and counsel the patient appropriately | C | SH | Y | DOAP | Skillassessment | |
| Topic 10: Pre, intra and post- operative management. Number of competencies: (04) Number of competencies that require certification: (NIL) | | | | | | | |
| SU10.1 | Describe the principles of perioperative management of common surgical competencies | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU10.2 | Describe the steps and obtain informed consent in a simulated environment | S/A/C | SH | Y | DOAP | Skillassessment/Log book | |
| SU10.3 | Observe common surgical competencies and assist in minor surgical competencies; Observe emergency lifesaving surgical competencies. | S | KH | Y | DOAPs | Logbook | |
| SU10.4 | Perform basic surgical Skills such as First aid including suturing and minor surgical competencies in simulated environment | S | P | Y | DOAP | Skillassessment | |
| Topic 11: Anaesthesia and pain management Number of competencies: (06) Number of competencies that require certification: (NIL) | | | | | | | |
| SU11.1 | Describe principles of Preoperative assessment. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU11.2 | Enumerate the principles of general, regional, and local Anaesthesia. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU11.3 | Demonstrate maintenance of an airway in a mannequin or equivalent | S | SH | Y | DOAP | Skillassessment | |
| SU11.4 | Enumerate the indications and principles of daycare General Surgery | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU11.5 | Describe principles of providing post-operative pain relief and management of chronic pain. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU11.6 | Describe Principles of safe General Surgery | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| Topic 12: Nutrition and fluid therapy Number of competencies: (03) Number of competencies that require certification: (NIL) | | | | | | | |
| SU12.1 | Enumerate the causes and consequences of malnutrition in the surgical patient | K | KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce | |
| SU12.2 | Describe and discuss the methods of estimation and replacement of the fluid and electrolyte requirements in the surgical patient | K | KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce | |
| SU12.3 | Discuss the nutritional requirements of surgical patients, the methods of providing nutritional support and their complications | K | KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce | |

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| Topic 13: Transplantation Number of competencies: (04) Number of competencies that require certification: (NIL) | | | | | | | |
| SU13.1 | Describe the immunological basis of organ transplantation | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU13.2 | Discuss the Principles of immunosuppressive therapy. Enumerate Indications, describe surgical principles, management of organ Transplantation | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU13.3 | Discuss the legal and ethical issues concerning organ donation | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU13.4 | Counsel patients and relatives on organ donation in a simulated environment | S | SH | Y | DOAP | Skillassessment | |
| Topic 14: Basic Surgical Skills Number of competencies: (04) Number of competencies that require certification: (NIL) | | | | | | | |
| SU14.1 | Describe Aseptic techniques, sterilization and disinfection. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU14.2 | Describe Surgical approaches,incisions and the use of appropriate instruments in Surgery in general. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU14.3 | Describe the materials and methods used for surgical wound closure and anastomosis (sutures, knots and needles) | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU14.4 | Demonstrate the techniques of asepsis and suturing in a simulated environment | S | SH | Y | DOAP | Skillassessment/Log book | |
| Topic 15: Biohazard disposal Number of competencies: (01) Number of competencies that require certification: (NIL) | | | | | | | |
| SU15.1 | Describe classification of hospital waste and appropriate methods of disposal. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| Topic 16: Minimally invasive General Surgery Number of competencies: (01) Number of competencies that require certification: (NIL) | | | | | | | |
| SU16.1 | Minimally invasive General Surgery: Describe indications advantages and disadvantages of Minimally invasive General Surgery | K | K | Y | LGT, Demonstration, Bedside clinic, Discussion | Theory/ Practical / Orals/Written/Viva voce | |
| Topic 17: Trauma Number of competencies: (10) Number of competencies that require certification: (NIL) | | | | | | | |
| SU17.1 | Describe the Principles of FIRST AID | S | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU17.2 | Demonstrate the steps in Basic Life Support. Transport of injured patient in a simulated environment | S | SH | Y | DOAP | Skill assessment | |

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| SU17.3 | Describe the Principles in management of mass casualties | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU17.4 | Describe Pathophysiology, mechanism of head injuries | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU17.5 | Describe clinical features for neurological assessment and GCS in head injuries | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU17.6 | Chose appropriate investigations and discuss the principles of management of head injuries | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU17.7 | Describe the clinical features of soft tissue injuries. Chose appropriate investigations and discuss the principles of management. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU17.8 | Describe the pathophysiology of chest injuries. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU17.9 | Describe the clinical features and principles of management of chest injuries. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU17.10 | Demonstrate Airway maintenance. Recognizeand manage tension pneumothorax, hemothorax and flailchest in simulated environment. | S | SH | Y | DOAP | Skill assessment/Log book | |
| Topic 18: Skin and subcutaneous tissue Number of competencies: (03) Number of competencies that require certification: (NIL) | | | | | | | |
| SU18.1 | Describe the pathogenesis, clinical features and management of various cutaneous and subcutaneous infections. | K | KH | Y | LGT,Small group Discussion | Written/Vivavoce | |
| SU18.2 | Classify skin tumors Differentiate different skin tumors and discuss their management. | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skill assessment | |
| SU18.3 | Describe and demonstrate the clinical examination of surgical patient including swelling and order relevant investigation for diagnosis. Describe and discuss appropriate treatment plan. | S | SH | Y | Bedside clinic,SGT, DOAP | Skillassessment | |
| Topic 19: Developmental anomalies of face, mouth and jaws Number of competencies: (02) Number of competencies that require certification: (NIL) | | | | | | | |
| SU19.1 | Describe the etiology and classification of cleftlip and palate | K | KH | Y | LGT,Small group Discussion | Written/Vivavoce | |
| SU19.2 | Describe the Principles of reconstruction of cleftlip and palate | K | KH | Y | LGT,Small group Discussion | Written/Vivavoce | |
| Topic 20: Oropharyngeal cancer Number of competencies: (02) Number of competencies that require certification: (NIL) | | | | | | | |
| SU20.1 | Describe etiopathogenesis of oral cancer symptoms and signs of oropharyngeal cancer. | K | KH | Y | LGT,SGT | Written/Vivavoce | |

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| SU20.2 | Enumerate the appropriate investigations and discuss the Principles of treatment. | K | K | Y | LGT,SGT | Written/Vivavoce | |
| Topic 21: Disorders of salivary glands Number of competencies: (02) Number of competencies that require certification: (NIL) | | | | | | | |
| SU21.1 | Describe surgical anatomy of the salivary glands, pathology, and clinical presentation of disorders of salivary glands | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU21.2 | Enumerate the appropriate investigations and describe the Principles of treatment of disorders of salivary glands | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| Topic 22: Endocrine General Surgery: Thyroid and parathyroid Number of competencies: (06) Number of competencies that require certification: (NIL) | | | | | | | |
| SU22.1 | Describe the applied anatomy and physiology of thyroid | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU22.2 | Describe the etiopathogenesis of thyroidal swellings | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU22.3 | Demonstrate and document the correct clinical examination of thyroid swellings and discuss the differential diagnosis and their Management | S | SH | Y | Bedsideclinic | Skillassessment | |
| SU22.4 | Describe the clinical features, classification and principles of management of thyroid cancer | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU22.5 | Describe the applied anatomy of parathyroid | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU22.6 | Describe and discuss the clinical features of hypo - and Hyperparathyroidism and the principles of their management | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| Topic 23: Adrenal glands Number of competencies: (03) Number of competencies that require certification: (NIL) | | | | | | | |
| SU23.1 | Describe the applied anatomy of adrenal glands | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU23.2 | Describe the etiology, clinical features and principles of management of disorders of adrenal gland | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU23.3 | Describe the clinical features, principles of investigation and management of Adrenal tumors | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce | |
| SU24.1 | Describe the clinical features, principles of investigation, prognosis and management of pancreatitis. | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU24.2 | Describe the clinical features, principles of investigation, prognosis and management of pancreatic endocrine tumours | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce | |

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| SU24.3 | Describe the principles of investigation and management of Pancreatic disorders including pancreatitis and endocrine tumors. | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| Topic 25: Breast | | Number of competencies: (05) | | | Number of competencies that require certification: (NIL) | | |
| SU25.1 | Describe applied anatomy and appropriate investigations for breast disease | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skill assessment | |
| SU25.2 | Describe the etiopathogenesis, clinical features and principles of management of benign breast disease including infections of the Breast | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skillassessment | |
| SU25.3 | Describe the etiopathogenesis, clinical features, Investigations and principles of treatment of benign and malignant tumours of breast. | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU25.4 | Counsel the patient and obtain informed consent for treatment of malignant conditions of the breast | A/C | SH | Y | DOAP | Skillassessment | |
| SU25.5 | Demonstrate the correct technique to palpate the breast for breast swelling in a mannequin or equivalent | S | SH | Y | DOAP | Skillassessment | |
| Topic 26: Cardio-thoracic General Surgery- Chest - Heart and Lungs | | Number of competencies: (04) | | | Number of competencies that require certification: (NIL) | | |
| SU26.1 | Outline the role of surgery in the management of coronary heart disease, valvular heart diseases and congenital heart diseases | K | K | Y | LGT,SGT | Written/Vivavoce | |
| SU26.3 | Describe the clinical features of mediastinal diseases and the principles of management | K | K | Y | LGT,SGT | Written/Vivavoce | |
| SU26.4 | Describe the etiology, pathogenesis, clinical features of tumors of lung and the principles of management | K | K | Y | LGT,SGT | Written/Vivavoce | |
| SU27.1 | Describe the etiopathogenesis, clinical features, investigations and principles of treatment of occlusive arterial disease. | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skillassessment | |
| SU27.2 | Demonstrate the correct examination of the vascular system and enumerate and describe the investigation of vascular disease | S | SH | Y | DOAP | Skillassessment | |
| SU27.3 | Describe clinical features, investigations and principles of management of vasospastic disorders | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU27.4 | Describe the types of gangrene and principles of amputation | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skill assessment | |
| SU27.5 | Describe the applied anatomy of venous system of lower limb | K | K | Y | LGT,SGT | Written/Vivavoce | |

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| SU27.6 | Describe pathophysiology, clinical features, Investigations and principles of management of DVT and Varicose veins | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU27.7 | Describe pathophysiology, clinical features, investigations and principles of management of Lymphedema, lymphangitis and Lymphomas | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skill assessment | |
| SU27.8 | Demonstrate the correct examination of the lymphatic system | S | SH | Y | DOAP, Bedside clinic | Skillassessment | |
| Topic 28: Abdomen Number of competencies: (18) Number of competencies that require certification: (NIL) | | | | | | | |
| SU28.1 | Describe pathophysiology, clinical features, Investigations and principles of management of Hernias | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skill assessment | |
| SU28.2 | Demonstrate the correct technique to examine the patient with hernia and identify different types of hernias. | S | SH | Y | DOAP, Bedside clinic | Skillassessment | |
| SU28.3 | Describe causes, clinical features, complications and principles of management of peritonitis | K | K | Y | LGT,SGT, Bedsideclinic | Written/Vivavoce | |
| SU28.4 | Describe pathophysiology, clinical features, investigations and principles of management of Intra-abdominal abscess, mesenteric cyst, and retroperitoneal tumors | K | K | Y | LGT,SGT, Demonstration | Written/Vivavoce | |
| SU28.5 | Describe the applied Anatomy and physiology of esophagus | K | K | Y | LGT,SGT, Demonstration | Written/Vivavoce | |
| SU28.6 | Describe the clinical features, investigations and principles of management of benign and malignant disorders of esophagus | K | K | Y | LGT,SGT, Demonstration | Written/Vivavoce | |
| SU28.7 | Describe the applied anatomy and physiology of stomach | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU28.8 | Describe and discuss the aetiology, the clinical features, investigations and principles of management of congenital hypertrophicpyloricstenosis, Peptic ulcer disease, Carcinoma stomach | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skill assessment | |
| SU28.9 | Demonstrate the correct technique of examination of a patient with disorders of the stomach | S | SH | Y | DOAP, Bedside clinic | Skillassessment | |
| SU28.10 | Describe the applied anatomy of liver. Describe the clinical features, Investigations and principles of management of liver abscess, hydatid disease, injuries and tumors of the liver | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce | |
| SU28.11 | Describe the applied anatomy of spleen. Describe the clinical features, investigations and principles of management of splenic injuries. Describe the post-splenectomy sepsis - prophylaxis | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce | |

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| SU28.12 | Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce | |
| SU28.13 | Describe the applied anatomy of small and large intestine | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce | |
| SU28.14 | Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce | |
| SU28.15 | Describe the clinical features, investigations and principles of management of diseases of Appendix including appendicitis and its complications. | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU28.16 | Describe applied anatomy including congenital anomalies of the rectum and anal canal | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU28.17 | Describe the clinical features, investigations and principles of management of common anorectal diseases | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU28.18 | Describe and demonstrate clinical examination of abdomen. Order relevant investigations. Describe and discuss appropriate treatment plan | S | SH | Y | Bedside clinic, DOAP, SGT | Skill assessment | |
| Topic 29: Urinary System Number of competencies: (11) Number of competencies that require certification: (NIL) | | | | | | | |
| SU29.1 | Describe the causes, investigations and principles of management of Hematuria | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU29.2 | Describe the clinical features, investigations and principles of management of congenital anomalies of genito urinary system | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU29.3 | Describe the Clinical features, Investigations and principles of management of urinary tract infections | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU29.4 | Describe the clinical features, investigations and principles of management of hydronephrosis | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU29.5 | Describe the clinical features, investigations and principles of management of renal calculi | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU29.6 | Describe the clinical features, investigations and principles of management of renal tumours | K | KH | Y | LGT,SGT | Written/Vivavoce | |

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| SU29.7 | Describe the principles of management of acute and chronic retention of urine | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU29.8 | Describe the clinical features, investigations and principles of management of bladder cancer | K | KH | Y | LGT,SGT | Written/Vivavoce | |
| SU29.9 | Describe the clinical features, investigations and principles of management of disorders of prostate | K | KH | Y | LGT,SGT | Written/Vivavoce/ Skill assessment | |
| SU29.10 | Demonstrate a digital rectal examination of the prostateina mannequin or equivalent | S | SH | Y | DOAP | Skillassessment | |
| SU29.11 | Describe clinical features, investigations and management of urethral strictures | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| Topic 30: Penis, Testis and scrotum | | | | | | | |
| | | Number of competencies: (06) | | | Number of competencies that require certification: (NIL) | | |
| SU30.1 | Describe the clinical features, investigations and principles of management of phimosis, paraphimosis and carcinoma penis. | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU30.2 | Describe the applied anatomy clinical features, investigations and principles of management of undescended testis. | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU30.3 | Describe the applied anatomy clinical features, investigations and principles of management of epidydimo-orchitis | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU30.4 | Describe the applied anatomy clinical features, investigations and principles of management of varicocele | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU30.5 | Describe the applied anatomy, clinical features, investigations and principles of management of Hydrocele | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |
| SU30.6 | Describe classification, clinical features, investigations and principles of management of tumours of testis | K | KH | Y | LGT,SGT, Demonstration | Written/Vivavoce/ Skill assessment | |

OPHTHALMOLOGY(CODE:OP)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
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| OPHTHALMOLOGY (Topics:10, Competencies: 60) | | | | | | | |
| Topic 1: Visual Acuity Assessment | | Number of Competencies: (05) Number of competencies that require certification : (NIL) | | | | | |
| OP1.1 | Describe the physiology of vision, optics of eye and anatomy of visual pathway. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP1.2 | Define,classify and describe the types and methods of correcting refractive errors. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP1.3 | Demonstrate the steps in performing the visualacuity assessment for distance vision ,near vision, colour vision,the pinhole test and the menace and blink reflexes | S | SH | Y | DOAP, LGT | Skillassessment / Logbook | |
| OP1.4 | Enumerate the indications and describe the principlesofrefractive surgery | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP1.5 | Define Amblyopia, enumerate the types of Amblyopia and describe the prevention and treatment of refractive Amblyopia. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| Topic 2: Lids and Adnexa, Orbit | | Number of Competencies: (08) Number of competencies that require certification: (NIL) | | | | | |
| OP2.1 | Describe and discuss the aetiology and clinical features, investigations and treatment of HordeolumexternumHordeoluminternum, Ectropion, Entropion, Lagophthalmos, Blepharitis, Preseptal cellulitis. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP2.2 | Demonstrate under supervision, the clinical procedure performed- Bell's phenomenon, Ptosis evaluation, Massage technique in Congenital Dacryocystitis, Epilation. | S | SH | Y | DOAP | Skillassessment | |
| OP2.3 | Describe the aetiology, clinical presentation, complications and management of Thyroid eye disease | K | KH | Y | DOAP, LGT | Skillassessment | |
| OP2.4 | Describe the aetiology, clinical presentation. Discuss the complications and management of orbital cellulitis | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP2.5 | Describe theclinical features onocular examination and management of a patient with cavernous sinus thrombosis | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP2.6 | Enumerate the causes and describe the differentiating features, and clinical features and management of proptosis | K | KH | Y | LGT,SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
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| OP2.7 | Classification and clinical presentation of various types of orbital tumours | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP2.8 | Describe the investigations, management, indications for referral of Orbital tumours. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| Topic 3: Conjunctiva Number of Competencies (07) Number of competencies that require certification: (NIL) | | | | | | | |
| OP3.1 | Demonstrate history taking in a patient with 'Red eye', Enumerate the causes for red eye. | S | SH | Y | DOAP | SkillAssessment | |
| OP3.2 | Describe the etiopathogenesis, clinical features and treatment of acute bacterial and viral conjunctivitis. | K | KH | Y | LGT, SGT | SkillAssessment | |
| OP3.3 | Enumerate the causes for chronic conjunctivitis. Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of trachoma. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP3.4 | Enumerate the causes for allergic conjunctivitis. Describe the aetiology pathophysiology, ocular features, complications and management of vernal catarrh. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP3.5 | Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of pterygium | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP3.6 | Demonstrate correct technique of removal of foreign body from the eye in a simulated environment | S | SH | Y | DOAP Session | Skill assessment | |
| OP3.7 | Demonstrate under supervision the technique of instillation of eye drops and counselling of patients you put on topical ocular medications | S | SH | Y | DOAP | Skill assessment | |
| Topic 4: Corneas Number of Competencies: (10) Number of competencies that require certification: (NIL) | | | | | | | |
| OP4.1 | Describe the applied anatomy and physiology of cornea and the factors maintaining corneal transparency | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP4.2 | Enumerate various congenital anomalies and inflammations of cornea. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP4.3 | Enumerate the differential diagnosis of corneal ulcer (infective Keratitis) and describe the etiopathogenesis, clinical features and management of each type of infective keratitis. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP4.4 | Identify corneal opacity and different grades of corneal opacity. Enumerate various management modalities of corneal opacity. | K | KH | Y | LGT,SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
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| OP4.5 | Describe tear film. Enumerate the causes of dry eyes and describe the clinical features and management of dry eyes | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP4.6 | Define blindness. Enumerate the causes of corneal blindness | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP4.7 | Enumerate the types and the indications of Keratoplasty. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP4.8 | Describe the importance of eye donation and eye banking and enumerate the various protocols involved in eye donation and eye banking. | S | SH | Y | DOAP | Skillassessment | |
| OP4.9 | Identify corneal foreign body and demonstrate techniques of removal of corneal foreign body in simulated environment. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP4.10 | Counsel patients and family in a simulated environment about eye donation and teach them how to preserve the eye in the deceased till enucleation is done. | A/C | SH | Y | DOAP | Skillassessment | |
| Topic 5: Sclera | | Number of competencies: (02) | | Number of competencies that require certification : (NIL) | | | |
| OP5.1 | Describe the etiopathogenesis, classification, clinical features, complications and management of episcleritis. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP5.2 | Enumerate the systemic conditions associated with episcleritis and scleritis, indications for their referral. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| Topic 6: Iris and Anterior chamber | | Number of Competencies (4) | | Number of competencies that require certification: (NIL) | | | |
| OP6.1 | Define Uveitis. Describe the anatomical classification of Uveitis. Describe the clinical features of Iridocyclitis. Distinguish granulomatous iridocyclitis from non-granulomatous iridocyclitis. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP6.2 | Describe the complication of iridocyclitis, investigations and treatment of iridocyclitis. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP6.3 | Distinguish Hyphema from Hypopyon clinically and enumerate their causes. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP6.4 | Enumerate systemic conditions associated with Uveitis. Counsel the patients with uveitis in a simulated environment | K, A/C | KH/SH | Y | LGT,SGT, DOAP | Written/Viva voce | |
| Topic 7: Glaucoma | | Number of Competencies: (05) | | Number of competencies that require certification: (NIL) | | | |
| OP7.1 | Describe the etiopathogenesis, clinical features and management of congenital glaucoma. | K | KH | Y | LGT,SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---------------------------------------|--|------------------------------------|------------------------|--|------------------------------------|--|---------------------------------|
| OP7.2 | Describe the etiopathogenesis , clinical features and management of primary open angle glaucoma. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP7.3 | Describe the etiopathogenesis , clinical features and management of primary angle closure glaucoma. | S | SH | Y | DOAP | Skillassessment | |
| OP7.4 | Enumerate the causes of secondary glaucoma. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP7.5 | Counsel the patient with glaucoma regarding the treatment modalities complications with treatment and prognosis in a simulated environment. | A/c | SH | Y | DOAP | Skillassessment | |
| Topic 8: Lens | | Number of Competencies (06) | | Number of competencies that require certification : (NIL) | | | |
| OP8.1 | Describe the surgical anatomy of lens | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP8.2 | Describe the etiopathogenesis, etiological classification, stages of maturation and complications of cataract. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP8.3 | Demonstrate the pre operative evaluation and counselling of a patient posted for cataract surgery. | S | SH | Y | DOAP | Skill assessment | |
| OP8.4 | Enumerate the different types of cataract surgery. Enumerate the different ocular anaesthesia techniques. Describe the steps of extra capsular cataract surgery, enumerate the intra operative and post operative complications of ECCE, discuss the post operative treatment. | S | KH | Y | LGT,SGT | Written/Viva voce | |
| OP8.5 | Elicit history and clinical signs in a case of aphakia. Discuss the management of aphakia | K | SH | Y | LGT,SGT, DOAP | Skill Assessment/ Logbook documentation Viva Voce | |
| OP8.6 | Participation of IMG in the team for cataract surgery | S | SH | Y | DOAP | Skill assessment | |
| Topic 9: Retina&opticNerve | | NumberofCompetencies(05) | | Numberofcompetenciesthatrequirecertification:(NIL) | | | |
| OP9.1 | Demonstrate the technique of direct and indirect ophthalmoscopy. Describe the fundoscopic features of normal retina. | S | SH | Y | LGT,SGT,DOAP | Written/Viva voce, Skill assessment | |
| OP9.2 | Describe the etiopathogenesis, clinical features, management and screening protocol for Diabetic Retinopathy. | K | KH | Y | LGT,SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|-------------------------------|---|---------------------------------|------------------------|---------------|--|------------------------------------|------------------------------|
| OP9.3 | Discuss the etiopathogenesis, clinical features and management of vascular occlusions of retina. | K | KH | Y | LGT,SGT | Written/ Viva Voce | |
| OP9.4 | Discuss the etiopathogenesis, clinical features and management of Hypertensive retinopathy, retinopathy of prematurity, Eales disease , retinal detachment, central serous retinopathy, cystoid macular edema, age related macular degeneration, retinitis pigmentosa and Retinoblastoma. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP9.5 | Describe and discuss the correlative anatomy,aetiology,clinical manifestations, diagnostic tests, imaging and treatment of diseases of the optic nerve and visual pathway | K | KH | Y | LGT,SGT | Written/Viva voce | |
| Topic 10:Miscellaneous | | NumberofCompetencies(07) | | | Numberofcompetenciesthatrequirecertification:(01) | | |
| OP10.1 | Demonstrate the correct technique to examine extraocular movements (Unocular & Binocular) | S | P | Y | DOAP | SkillAssessment | 5 |
| OP10.2 | Classify, enumerate the types, methods of diagnosis and indications for referral in a patient with heterotropia/ strabismus | K | KH | Y | LGT,SGT | Written/Vivavoce/ skill assessment | |
| OP10.3 | Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP10.4 | Describe the classifications, causes, ocular manifestations and management of vitamin A deficiency. Indications for referral. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP10.5 | Enumerate the indications for enucleation, evisceration and exenteration. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP10.6 | Classify ocular injuries, describe their primary management. Indications for referral. | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OP10.7 | Enumerate the causes of Blindness and Vision impairment. Discuss National Program for Control of Blindness (NPCB, including vision 2020) | K | KH | Y | LGT,SGT | Written/Viva voce | |

OTORHINOLARYNGOLOGY (ENT) (CODE: EN)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|--|-------------------------------|------------------------|---------------|------------------------------------|---|---------------------------------|
| OTORHINOLARYNGOLOGY (ENT) (Topics:4, Competencies: 63) | | | | | | | |
| Topic 1: Anatomy and Physiology of ear, nose, throat, head & neck Number of competencies:(02) Number of competencies that require certification:(Nil) | | | | | | | |
| EN1.1 | Describe the Anatomy & physiology of ear, nose, throat, head & neck | K | KH | Y | LGT, SGT. | Written/ Viva voce | |
| EN1.2 | Describe the pathophysiology of common diseases in ENT like Chronic Otitis Media,,Otosclerosis, Adeno tonsillitis ,Nasal polyposis . | K | KH | Y | LGT, SGT. | Written/ Viva voce | |
| Topic 2: Clinical Skills Number of competencies: (12) Number of competencies that require certification:(5) | | | | | | | |
| EN2.1 | Elicit document and present an appropriate history in a patient presenting with an ENT complaint | K/S/A/C | SH | Y | LGT, SGT, Demonstration | Skill assessment | |
| EN2.2 | Demonstrate the correct use of conventional methods including head lamp in the examination of ear, nose and throat, the correct technique of examination of the nose & paranasal sinuses including the use of nasal speculum, examination of the throat including the use of a tongue depressor, examination of neck including elicitation of laryngeal crepitus | S | SH | Y | DOAP | Skill assessment/ OSCE | 3 |
| EN2.3 | Demonstrate the correct technique of examination of the ear including Otoscopy and demonstrate the correct technique of performance and interpretation of tuning fork tests . | K/S/A | SH | Y | DOAP, Bedside clinic | Skill assessment/ OSCE | 3 |
| EN 2.4 | Describe the correct technique to perform and interpret pure tone audiogram & impedance audiogram | K/S | SH | Y | Clinical demonstration. | Skill assessment | 3 |
| EN 2.5 | Demonstrate the correct technique of otoscopy , to hold visualize and assess the mobility of the tympanic membrane , interpret and diagrammatically represent the findings. | K/S/A | SH | Y | Clinical, Demonstration | Written/ Viva voce/ Skill assessment | 3 |
| EN 2.6 | Choose correctly and interpret radiological, microbiological & histological investigations relevant to the ENT disorders | K/S | SH | Y | LGT, SGT, Demonstration. | Written/ Viva voce/ Skill assessment | |
| EN 2.7 | Identify and describe the use of common instruments used in ENT surgery. Nose: FESS, Septoplasty, Nasal Bone Reduction Ear Tympanoplasty, mastoidectomy, Myringotomy Throat: Adenotonsillectomy, Foreign Body Removal from Airway and Food passage, Tracheostomy | K | SH | Y | Demonstration, Bedside clinic . | Skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|---|--|------------------------|---------------|------------------------------------|---|---------------------------------|
| EN 2.8 | Enumerate suspect high-risk patients and risk factors associated with and identify by clinical examination malignant & pre- malignant Ent diseases | K/S | SH | Y | LGT, SGT, Demonstration | Written/ Viva voce/ Skill assessment | |
| EN 2.9 | Counsel and administer informed consent to patients and their families in a simulated environment for Ear: Tympanoplasty, mastoidectomy, Myringotomy Nose: FESS, Septoplasty, Nasal Bone Reduction Throat: Adenotonsillectomy, Foreign Body Removal from Airway and Food passage, Tracheostomy. | S/A/C | SH | Y | DOAP, Bedside clinic | Skill assessment | |
| EN 2.10 | Identify, resuscitate and manage ENT emergencies in a simulated environment (including tracheostomy, anterior nasal packing, removal of foreign bodies in ear, nose, throat, upper respiratory tract and food passages). | K/S/A | SH | Y | DOAP, Bedside clinic | Skill assessment | 3 |
| EN 2.11 | Demonstrate the correct technique to instill topical medications into the ear, nose and throat in a simulated environment. | K/S | SH | Y | DOAP, Bedside clinic | Skill assessment. | |
| EN 2.12 | Describe the national programs for prevention of deafness, cancer, noise & environmental pollution and participate actively in deafness week and world hearing day | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| Topic 3: Diagnostic and Therapeutic competencies in ENT | | Number of competencies:(01) Number of competencies that require certification:(Nil) | | | | | |
| EN3.1 | Observe and describe the indications for and steps involved in the performance of Oto-microscopic examination. | S | KH | N | LGT, SGT, Demonstration | Written/ Viva voce | |
| EN3.2 | Observe and describe the indications for and steps involved in the performance of Diagnostic Nasal Endoscopy. | S | KH | N | LGT, SGT, Demonstration | Written/ Viva voce | |
| EN3.3 | Observe and describe the indications for and steps involved in the performance of Rigid/Flexible Laryngoscopy | K/S | KH | N | LGT, SGT, Demonstration | Written/ Viva voce | |
| Topic 4: Management of Diseases of Ear, nose and throat | | Number of competencies:(46) Number of procedures that require certification:(01) | | | | | |
| EN 4.1 | Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Otagia. | K/S | SH | Y | LGT, SGT,DOAP, Bedside clinic | Written/ Viva voce/ Skill assessment | |

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|--------|---|-----|----|---|--------------------------------|---|--|
| EN 4.2 | Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of diseases of the external Ear. | K/S | SH | Y | LGT, SGT, DOAP, Bedside clinic | Written/ Viva voce/ Skill assessment | |
|--------|---|-----|----|---|--------------------------------|---|--|

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---------|---|-------------------------------|------------------------|---------------|------------------------------------|---|------------------------------|
| EN 4.3 | Elicit document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of ASOM | K/S | SH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.4 | Elicit document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of OME | K/S | SH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.5 | Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of ear discharge. | K/S | SH | Y | LGT, SGT, DOAP, Bedside clinic | Written/ Viva voce/ Skill assessment | |
| EN 4.6 | Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of mucosal type of CSOM. | K/S | SH | Y | LGT, SGT, DOAP, Bedside clinic | Written/ Viva voce/ Skill assessment | |
| EN 4.7 | Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of CSOM. | K/S | SH | Y | LGT, SGT, DOAP, Bedside clinic | Written/ Viva voce/ Skill assessment | |
| EN 4.8 | Describe the clinical features, choose the correct investigations and the principles of management of complications of CSOM. | K/S | SH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.9 | Demonstrate the correct technique for wax removal from the ear in a simulated environment | S | SH | Y | Clinical demonstration / DOAP | Skill assessment | 3 |
| EN 4.10 | Observe and describe the indications for and steps involved in myringotomy and tympanoplasty | S | KH | Y | Clinical , demonstration | Written/ Viva voce | |
| EN 4.11 | Observe and describe the indications for and steps involved in mastoidectomy | S | KH | Y | Clinical, demonstration | Written/ Viva voce | |
| EN 4.12 | Describe the clinical features, investigations and principles of management of Acoustic neuroma | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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| EN 4.13 | Describe the clinical features, investigations and principles of management of Otosclerosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
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| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---------|--|-------------------------------|------------------------|---------------|------------------------------------|---|---------------------------------|
| EN 4.14 | Describe the clinical features, investigations, and principles of management of Conductive Hearing Loss and Sensorineural hearing loss including Sudden Sensorineural Hearing Loss and Noise Induced Hearing Loss. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| EN 4.15 | Describe the anatomy of eustachian tube and discuss the clinical features, investigations, and management of Eustachian tube disorders. | K | KH | Y | LGT, SGT /Flipped class room | Written/Viva voce | |
| EN 4.16 | Describe the clinical features, investigations, and principles of management of Facial Nerve palsy | K | KH | Y | LGT, SGT, Demonstration | Written/Viva voce/Skill assessment | |
| EN 4.17 | Describe the clinical features, investigations and management of Vertigo and assessment of vestibular functions. | K | KH | Y | LGT, SGT, Demonstration | Written/Viva voce/Skill assessment | |
| EN 4.18 | Describe the clinical features, investigations, and principles of management of Meniere's Disease | K | KH | N | LGT, SGT | Written/Viva voce | |
| EN 4.19 | Describe the clinical features, investigations, and management of Tinnitus. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| EN 4.20 | Describe the clinical features, investigations, and management of Deaf child. | K/S | KH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.21 | Elicit document and present a correct history demonstrate and describe the Causes, choose the correct investigations and describe the principles of management of Nasal Obstruction. | K/S | SH | Y | LGT, SGT, Demonstration | Written/ Viva voce/ Skill assessment | |
| EN 4.22 | Describe the clinical features, investigations and management of DNS and observe and discuss the indications for the steps in septoplasty. | K/S | KH | Y | Clinical demonstration | Written/ Viva voce | |
| EN 4.23 | Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Adenoids | K/S | SH | Y | LGT, SGT, DOAP, Bedside clinic | Written/ Viva voce/ Skill assessment | |

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| EN 4.24 | Elicit document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of Allergic Rhinitis | K/S | SH | Y | LGT, SGT, Demonstration | Written/ Viva voce /skill assessment | |
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| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---------|--|-------------------------------|------------------------|---------------|------------------------------------|--------------------------------------|------------------------------|
| EN 4.25 | Elicit document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of Vasomotor Rhinitis | K/S | SH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.26 | Elicit, document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of Acute & Chronic Rhinitis | K/S | SH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.27 | Elicit, document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of Nasal Polyps | K/S | SH | Y | LGT, SGT, Demonstration | Written/ Viva voce /skill assessment | |
| EN 4.28 | Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Epistaxis | K/S | SH | Y | LGT, SGT, DOAP, Bedside clinic | Written/ Viva voce/ Skill assessment | |
| EN 4.29 | Describe the clinical features, choose the correct investigations and describe the principles of management of OBSTRUCTIVE SLEEP APNEA. | K/S | SH | N | LGT, SGT | Written/ Viva voce/ | |
| EN 4.30 | Describe the clinical features, investigations and principles of management of Head and Neck trauma. | K/S | KH | N | LGT, SGT. | Written/ Viva voce | |
| EN 4.31 | Describe the clinical features, investigations and principles of management of nasopharyngeal Angiofibroma | K | KH | Y | LGT, SGT. | Written/ Viva voce | |
| EN 4.32 | Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Acute & Chronic Sinusitis and its Complications | K/S | SH | Y | LGT, SGT, Demonstration | Written/ Viva voce/ Skill assessment | |
| EN 4.33 | Describe the clinical features, investigations and principles of management of Tumours of Nose, Nasopharynx and para nasal sinus | K | KH | Y | LGT, SGT, | Written/ Viva voce | |
| EN 4.34 | Describe the clinical features, investigation and management of granulomatous diseases of nose | K | KH | N | LGT, SGT | Written/ viva voce | |

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| EN 4.35 | Describe the clinical features, investigations and principles of management of diseases of the Salivary glands | K | KH | N | LGT, SGT | Written/ Viva voce | |
| EN 4.36 | Describe the clinical features, investigations and principles of management of Deep Neck space Infection | K | KH | Y | LGT, SGT | Written/ Viva voce. | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---------------|---|---------------------------------------|---------------------------------|-----------------------|---|-------------------------------------|---|
| EN 4.37 | Elicit document and present a correct history describe the clinical features, choose the correct investigations and describe the principles of management of dysphagia | K/S | SH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.38 | Elicit document and present a correct history, describe the clinical features, choose the correct investigations , complications and describe the principles of management of Acute & Chronic Tonsillitis | K/S | SH | Y | LGT, SGT, Bedside clinic | Written/ Viva voce/Skill assessment | |
| EN 4.39 | Observe and describe the indications for and steps involved in a tonsillectomy / adenoidectomy and its complications | S | KH | Y | Clinical, demonstration | Written/ Viva voce | |
| EN 4.40 | Elicit, document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of hoarseness of voice | K/S | SH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.41 | Describe the clinical features, investigations and principles of management of Benign lesion of larynx, Acute & Chronic inflammation of larynx, laryngeal paralysis. | K/S | KH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.42 | Describe the clinical features, investigations and principles of management of Malignancy of the Larynx & Hypopharynx. | K | KH | Y | LGT, SGT /Flipped classroom | Written/ Viva voce | |
| EN 4.43 | Describe the clinical features, investigations and principles of management of Stridor | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| EN 4.44 | Observe and describe the indications for and steps involved in tracheostomy and the care of the patient with a tracheostomy | K | KH | Y | Clinical, Demonstration | Written/ Viva voce | |
| EN 4.45 | Describe the Clinical features, Investigations and principles of management of diseases of Oesophagus | K | KH | N | LGT, SGT | Written/ Viva voce | |
| EN 4.46 | Describe the clinical features, investigations and principles of management of HIV manifestations of the ENT | K | KH | N | LGT, SGT /Flipped classroom | Written/ Viva voce | |

OBSTETRICS&GYNAECOLOGY(CODE:OG)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|---|------------------------------------|------------------------|---------------|--|-----------------------------|---------------------------------|
| OBSTETRICS & GYNAECOLOGY (Topics:38, Competencies: 141) | | | | | | | |
| Topic 1: Demographic and Vital Statistics | | Number of competencies:(05) | | | Number of competencies that require certification:(NIL) | | |
| OG1.1 | Define and discuss birthrate, maternal mortality and morbidity and maternal near miss | K | KH | Y | LGT,SGT | Written | |
| OG1.2 | Define and discuss perinatal mortality and morbidity including perinatal and neonatal mortality and morbidity audit | K | KH | Y | LGT,SGT | Written | |
| OG1.3 | Define and discuss still birth and abortion | K | KH | Y | LGT,SGT | Written | |
| OG1.4 | Define and discuss caesarean audit according to modified Robsons classification | K | KH | Y | LGT,SGT | Written | |
| OG 1.5 | Describe and discuss the national programs relevant to Obstetrics & Gynaecology including JSY, JSSK, birth & death registration, anaemia mukt bharat, SUMAN | K | KH | Y | LGT,SGT | Written | |
| Topic 2:Anatomy of the female reproductive tract (Basic anatomy and embryology) | | Number of competencies:(01) | | | Number of competencies that require certification:(NIL) | | |
| OG2.1 | Describe and discuss the development and anatomy of the female reproductive tract, relationship to other pelvic organs, applied anatomy as related to Obstetrics and Gynaecology. | K | KH | Y | LGT,SGT, SDL | Written/Skill station | |
| Topic 3:Physiology of conception | | Number of competencies:(01) | | | Numberofcompetenciesthatrequirecertification:(NIL) | | |
| OG3.1 | Describe the physiology of ovulation,menstruation,fertilization,implantation and gametogenesis. | K | K | Y | LGT,seminars, SDL | Written | |
| Topic 4:Development of the fetus and the placenta | | Number of competencies:(01) | | | Number of competencies that require certification:(NIL) | | |
| OG4.1 | Describe and discuss the basic embryology of fetus, factors influencing fetal growth and development, anatomy and physiology of placenta | K | K | Y | LGT,SGT, SDL | Written | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|--|------------------------------------|------------------------|--|------------------------------------|---|---------------------------------|
| Topic 5:Preconception counselling | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| OG5.1 | Describe, discuss and identify pre-existing medical disorders and discuss their management DM, HT, renal disorders, SLE, obesity, epilepsy & heart disease | K/S | SH | Y | LGT, Bedsideclinics | Written/ clinicalassessment | |
| OG5.2 | Determine maternal high risk factors and verify immunization status | K/S | SH | Y | LGT, Bedsideclinics, SDL | Written/ clinicalassessment | |
| Topic 6:Diagnosis of pregnancy | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OG6.1 | Describe, discuss and demonstrate the clinical features of pregnancy, derive and discuss its differential diagnosis,elaborate the principles underlying and interpret pregnancy tests. | S | SH | Y | LGT,SGT, Bedsideclinics | Written/ Clinical assessment/Vivavoce | |
| Topic 7:Maternal Changes in pregnancy | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OG7.1 | Describe and discuss the changes in the genital tract, breast, cardiovascular system, respiratory, haematology, renal and gastro intestinal system in pregnancy | K | KH | Y | LGT,seminars, SDL | Written | |
| Topic 8:Antenatal Care | | Number of competencies:(10) | | Number of competencies that require certification:(NIL) | | | |
| OG8.1 | Enumerate, describe and discuss the objectives of antenatal care, assessment of period of gestation; screening for high-risk factors and concept of inverted pyramid of care | K | KH | Y | SGT, Bedsideclinics,LGT | Written/Vivavoce/S killassessment | |
| OG8.2 | Elicit document and present an obstetric history including menstrual history , last menstrual period, previous obstetric history, Comorbid conditions, past medical history and surgical history | K/S | SH | Y | SGT, Bedsideclinics,LGT | Written/Vivavoce/S killassessment | |

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| OG8.3 | Describe, demonstrate, document and perform an obstetrical examination including a general and abdominal examination (symphysis- fundal height & abdominal girth) and clinical monitoring of maternal and fetal well-being | K/S | SH | Y | Bed-side clinic, DOAP | Skill assessment | |
|-------|--|-----|----|---|-----------------------|------------------|--|

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--------|---|-------------------------------|------------------------|---------------|------------------------------------|-------------------------------------|------------------------------|
| OG8.4 | Describe and demonstrate clinical monitoring of maternal and fetal well- being including weight gain, DFMC, NST & BPP | K/S | SH | Y | Bedside clinic, DOAP, SGT | Skill assessment/Written /Viva voce | |
| OG8.5 | Describe and demonstrate pelvic assessment & evaluation of CPD in a model | K/S | SH | Y | DOAP | Skill assessment | |
| OG8.6 | Assess and counsel a patient in a simulated environment regarding appropriate nutrition in pregnancy | K/S | SH | Y | DOAP, Bedside clinic | Skill assessment | |
| OG8.7 | Enumerate the indications for and types of vaccination in pregnancy | K | KH | Y | LGT,SGT, SDL | Written/Viva voce | |
| OG8.8 | Enumerate the indications and describe the investigations including the use of ultrasound in the initial assessment and monitoring in pregnancy | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OG 8.9 | Describe and discuss causes of still births and their management | K | KH | Y | LGT, small group discussion | Written, viva voce, practical case | |
| OG8.10 | Describe and discuss cases of post caesarean pregnancy and their management | K | KH | Y | LGT, small group discussion | Written, viva voce, practical case | |

Topic 9: Complications in early pregnancy

Number of competencies:(06)

Number of competencies that require certification:(NIL)

| | | | | | | | |
|--------|---|---|----|---|----------------------|-------------------|--|
| OG9.1 | Classify, define and discusses the aetiology and management of abortions including threatened, incomplete, inevitable, missed and Septic abortion | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OG 9.2 | Classify, define and discusses the aetiology and management of Recurrent pregnancy loss | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OG9.3 | Describe the steps and observe/ assist in the performance of an MTP evacuation (medical abortion, eva& MVA) | S | SH | Y | DOAP, Bedside clinic | Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|---|------------------------------------|------------------------|--|------------------------------------|---|---------------------------------|
| OG9.4 | Discuss the aetiology, clinical features, differential diagnosis of acute abdomen in early pregnancy (with a focus on ectopic pregnancy) and enumerate the principles of medical and surgical management | K | KH | Y | LGT, SGT | Written/Viva voce | |
| OG9.5 | Discuss the clinical features, laboratory investigations, ultrasonography, differential diagnosis, principles of management and follow-up of gestational trophoblastic neoplasms | K | KH | Y | LGT, SGT | Written/Viva voce | |
| OG9.6 | Describe the etiopathology, impact on maternal and fetal health and principles of management of hyperemesis gravidarum | K | KH | Y | LGT,SGT | Written/Viva voce | |
| Topic 10: Antepartum haemorrhage | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| OG10.1 | Define, classify and describe the aetiology, pathogenesis, clinical features, ultrasonography, differential diagnosis and management of antepartum haemorrhage in pregnancy | K | KH | Y | LGT,SGT, Bedside clinic | Written/Viva voce, clinical exam | |
| OG10.2 | Enumerate the indications and describe the appropriate use of blood and blood products, their complications and management. | K | KH | Y | LGT,SGT, SDL | Written/Viva voce | |
| Topic 11: Multiple pregnancies | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OG11.1 | Describe the etiopathology, clinical features; diagnosis and investigations, complications, principles of management of multiple pregnancies | K | KH | Y | LGT, SGT, Bedside clinics | Written/ OSCE/Clinical assessment/Viva voce | |
| Topic 12: Medical Disorders in pregnancy | | Number of competencies:(11) | | Number of competencies that require certification:(NIL) | | | |
| OG12.1 | Define, classify and describe the etiology and pathophysiology, early detection, investigations; principles of management of hypertensive disorders of pregnancy and eclampsia, complications of eclampsia. | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce/ Skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|----------|--|-------------------------------|------------------------|---------------|------------------------------------|--|---------------------------------|
| OG12.2 | Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, adverse effects on the mother and foetus and management during pregnancy and labor, and complications of anemia in pregnancy | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce/ Skill assessment | |
| OG12.3 | Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, criteria, adverse effects on mother and foetus and the management during pregnancy and labor, and complications of diabetes in pregnancy | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce/ Skill assessment | |
| OG12.4 | Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, criteria, adverse effects on mother and foetus and the management during pregnancy and labor, and complications of heart diseases in pregnancy | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce/ Skill assessment | |
| OG12.5 | Describe the clinical features, detection, effect of pregnancy on the disease and impact of the disease on pregnancy complications and management of urinary tract infections in pregnancy | K | KH | Y | LGT,SGT, Bedside clinics | Skill assessment/ Skill assessment | |
| OG12.6 | Describe the clinical features, detection, effect of pregnancy on disease and impact of the disease on pregnancy complications and management of liver disease in pregnancy | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce/ Skill assessment | |
| OG12.7 | Describe and discuss screening, risk factors, management of mother and new born with HIV | K | KH | Y | LGT,SGT, Bedside clinics, SDL | Skill assessment | |
| OG12.8 | Describe the mechanism, prophylaxis, fetal complications, diagnosis and management of iso-immunization in pregnancy | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce/ Skill assessment | |
| OG 12.9 | Describe the mechanism, prophylaxis, fetal complications, diagnosis and management of thyroid disorders in pregnancy | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce | |
| OG 12.10 | Describe the mechanism, prophylaxis, fetal complications, diagnosis and management of gynaecological & surgical disorders in pregnancy | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|------------------------|--|------------------------------------|------------------------|---------------|---|--|---------------------------------|
| OG12.11 | Describe and discuss causes, clinical features, diagnosis, investigations; monitoring of fetal well- being, including ultrasound and fetal Doppler; principles of management; prevention and counselling in intrauterine growth retardation | K,S | KH | Y | LGT,SGT, Bedsideclinics | Written/ skill assessment/ Viva voce | |
| Topic 13:Labour | | | | | | | |
| | | Number of competencies:(08) | | | Number of competencies that require certification:(01) | | |
| OG 13.1 | Enumerate and discuss the diameters of maternal pelvis and types | K | KH | Y | LGT,SGT, DOAP, Bedside clinic | Written/Viva voce/ Skill assessment | |
| OG 13.2 | Discuss the mechanism of normal labor | K/S | SH | Y | SGT, skill lab | OSCE | |
| OG13.3 | Enumerate and discuss the physiology of normal labor, mechanism of labor in occipito-anterior presentation; monitoring of labor including partogram and labour care guide; conduct of labor, pain relief; principles of induction and acceleration of labor; management of third stage of labor. | K/S | KH | Y | LGT, SGT (with models /videos/AV aids, etc.) | Written/Clinical assessment/viva voce | |
| OG13.4 | Define, describe the causes, pathophysiology, diagnosis, investigations and management of preterm labor, PROM and post-dated pregnancy | K/S | KH | Y | LGT, SGT, Bedside clinics | Written/ OSCE/ Clinical assessment /Viva voce | |
| OG13.5 | Observe/assist in the performance of an artificial rupture of membranes | S | SH | N | DOAP, Bedside clinic | Skill assessment | |
| OG13.6 | Demonstrate the stages of normal labor in a simulated environment /mannequin | S | SH | Y | DOAP | Skillassessment | |
| OG13.7 | Observe and assist the conduct of a normal vaginal delivery | S | P | Y | DOAP | Logbook | 10 |
| OG 13.8 | Discuss and describe components of respectful maternity care | K/S | KH | Y | LGT, SGT, Bedsideclinics | Written/ OSCE/Clinical assessment/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|---|------------------------------------|------------------------|--|------------------------------------|--|---------------------------------|
| Topic 14: Abnormal Labour | | Number of competencies:(03) | | Number of competencies that need certification:(NIL) | | | |
| OG14.1 | Define and describe obstructed labor, its clinical features; prevention; and management | K | KH | Y | LGT,SGT, DOAP, Bedside clinic | Written/Viva voce/ Skill assessment | |
| OG14.2 | Describe and discuss rupture uterus, causes, diagnosis and management. | K | KH | Y | LGT,SGT, DOAP, Bedside clinic | Written/Viva voce/ Skill assessment | |
| OG14.3 | Describe and discuss the classification; diagnosis; management of abnormal labor (occipitoposterior position, breech, face, transverse lie) | K | KH | Y | LGT, SGT, Bedside clinics | Written/ skill assessment | |
| Topic 15: Operative obstetrics | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| OG15.1 | Enumerate and describe the indications and steps of common obstetric competencies, technique and complications: Episiotomy, vacuum extraction; low forceps; Caesarean section, assisted breech delivery; external cephalic version; cervical cerclage | S | KH | Y | LGT, SGT, seminars | Written/ skill assessment | |
| OG15.2 | Observe and assist in the performance of an episiotomy and demonstrate the correct suturing technique of an episiotomy in a simulated environment. Observe /Assist in operative obstetrics cases –including-CS, Forceps, vacuum extraction, and breech delivery | S | SH | Y | DOAP, Bedside clinic | Skill assessment | |
| Topic 16: Complications of the third stage | | Number of competencies:(04) | | Number of competencies that require certification: (01) | | | |
| OG16.1 | Enumerate and discuss causes, prevention, diagnosis, management, appropriate use of blood and blood products in post-partum haemorrhage | K/S | KH SH | Y | LGT,SGT, Bedside clinics | Written/ skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|---|-------------------------------|------------------------|---------------|------------------------------------|---|---------------------------------|
| OG 16.2 | Describe and demonstrate different techniques used to manage PPH including bimanual and aortic compression, intrauterine balloon tamponade, non-pneumatic anti shock garment Application | K/S | P | Y | SGT, skill lab | Written/ skill assessment | 3 |
| OG16.3 | Describe and discuss uterine inversion– causes, prevention, diagnosis and management. | K | KH | Y | LGT, SGT, Bedside clinics | Written/Viva voce | |
| OG16.4 | Describe and discuss causes, clinical features, diagnosis, investigations; monitoring of fetal well- being, including ultrasound and fetal Doppler; principles of management; prevention and counselling in intrauterine growth retardation | K/S | KH | Y | LGT,SGT, Bedside clinics, SDL | Written/ skill assessment/ Viva voce | |
| Topic 17: Lactation Number of competencies:(03) Number of competencies that require certification:(NIL) | | | | | | | |
| OG17.1 | Describe and discuss the physiology of lactation & discuss baby friendly hospital initiatives | K | KH | Y | LGT,SGT | Written/Viva voce | |
| OG17.2 | Counsel in a simulated environment, care of the breast, importance and the technique of breast-feeding | S/A/C | SH | Y | DOAP | Skill assessment | |
| OG17.3 | Describe and discuss the clinical features, diagnosis and management of mastitis and breast abscess | K | KH | Y | LGT,SGT | Written/Viva voce | |
| Topic 18:Care of the newborn Number of competencies:(04) Number of competencies that require certification:(NIL) | | | | | | | |
| OG18.1 | Describe and discuss the assessment of maturity of the newborn, diagnosis of birth asphyxia, principles of resuscitation, common problems. | K | KH | Y | LGT, SGT | Written/Viva voce | |
| OG18.2 | Demonstrate the steps of neonatal resuscitation in a simulated environment | S | SH | Y | DOAP | Skill assessment | |
| OG18.3 | Describe and discuss the diagnosis of birth asphyxia | K | KH | Y | LGT, SGT | Written/Viva voce | |
| OG18.4 | Describe the principles of resuscitation of the new-born and enumerate the common problems encountered | K | KH | Y | LGT, SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|---|-------------------------------------|------------------------|--|------------------------------------|--|---------------------------------|
| Topic 19: Normal and abnormal puerperium | | Number of competencies: (04) | | Number of competencies that require certification:(01) | | | |
| OG19.1 | Describe and discuss the physiology of puerperium, its complications, diagnosis and management; counselling for contraception, puerperal sterilization | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce | |
| OG19.2 | Counsel in a simulated environment, contraception and puerperal Sterilisation | S/A/C | SH | Y | DOAP | Skill assessment | 2 |
| OG19.3 | Observe/assist in the performance of tubal ligation | S | KH | Y | DOAP, intraoperative | Skill assessment | |
| OG19.4 | Describe & discuss PPIUCD programme | K | K/KH | Y | LGT, SGT | Written/Viva voce | |
| Topic 20: Medical termination of pregnancy | | Number of competencies:(03) | | Number of competencies that require certification:(NIL) | | | |
| OG20.1 | Enumerate the indications and describe and discuss the legal aspects, indications, methods for first and second trimester MTP; complications and management of complications of Medical Termination of Pregnancy | K | KH | Y | LGT, SGT, SDL | Written/Viva voce | |
| OG20.2 | In a simulated environment administer informed consent to a person wishing to undergo Medical Termination of Pregnancy | S/A/C | SH | Y | DOAP | Skill assessment | |
| OG20.3 | DiscussPre- conception and PreNatal Diagnostic Techniques (PC & PNNT) Act 1994 & its amendments | K | K/KH | Y | LGT, SGT, SDL | Written/Viva voce | |
| Topic 21: Contraception | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| OG21.1 | Describe and discuss the temporary and permanent methods of contraception, indications, technique and complications; selection of patients, side effects and failure rate including OCs, male contraception, emergency contraception and IUCD | K | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce/ Skill assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|---|-------------------------------------|------------------------|---|------------------------------------|--|---------------------------------|
| OG21.2 | Enumerate the indications for, describe the steps in and insert and remove an intrauterine device in a simulated environment | S | SH | Y | DOAP | Skill assessment | |
| Topic: Vaginal discharge | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| OG22.1 | Describe the clinical characteristics of physiological vaginal discharge. | K | KH | Y | LGT, SDL | Written | |
| OG22.2 | Describe and discuss the etiology (with special emphasis on Candida, T. vaginalis, bacterial vaginosis), characteristics, clinical diagnosis, investigations, genital hygiene, management of common causes and the syndromic management | K | KH | Y | LGT, Bedside clinics, SDL | Written/Viva voce/ Skill assessment | |
| Topic 23: Normal and abnormal puberty | | Number of competencies:(03) | | Number of competencies that require certification:(NIL) | | | |
| OG23.1 | Describe and discuss the physiology of puberty, features of abnormal puberty, common problems and their management | K | KH | Y | LGT, SGT, Bedside clinics, SDL | Written/Viva voce | |
| OG23.2 | Enumerate the causes of delayed puberty. Describe the investigation and management of common causes | K | KH | Y | LGT, SGT | Written/Viva voce | |
| OG23.3 | Enumerate the causes of precocious puberty | K | K | N | LGT, SGT | Written/Viva voce | |
| Topic 24: Abnormal uterine bleeding | | Number of competencies:(01) | | Number of competencies that require certification: (NIL) | | | |
| OG24.1 | Define, classify and discuss abnormal uterine bleeding, its aetiology, clinical features, investigations, diagnosis and management | K | KH | Y | LGT, SGT | Written/Viva voce | |
| Topic 25: Amenorrhea | | Number of competencies: (01) | | Number of competencies that require certification:(NIL) | | | |
| OG25.1 | Describe and discuss the causes of primary and secondary amenorrhea, its investigation and the principles of management. | K | KH | Y | LGT, SGT | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|--|------------------------------------|------------------------|--|-------------------------------------|-----------------------------|---------------------------------|
| Topic 26: Genital injuries and fistulae | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| OG26.1 | Describe the causes, prevention, clinical features, principles of management of genital injuries and fistulae | K | KH | N | LGT, SGT | Written/Viva voce | |
| OG26.2 | Describe the causes, prevention, clinical features, principles of management of genital injuries and fistulae | K | KH | N | LGT, SGT | Written/Viva voce | |
| Topic 27: Genital infections | | Number of competencies:(03) | | Number of competencies that require certification:(NIL) | | | |
| OG27.1 | Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long term implications of sexually transmitted infections (concept of syndromic management) | K | KH | Y | LGT, SGT, SDL | Written/Viva voce | |
| OG27.2 | Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long-term implications of genital tuberculosis | K | KH | Y | LGT, SGT | Written/Viva voce | |
| OG27.3 | Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long term implications of Pelvic Inflammatory Disease | K | KH | Y | LGT, SGT | Written/Viva voce | |
| Topic 28: Infertility | | Number of competencies:(04) | | Number of competencies that require certification:(NIL) | | | |
| OG28.1 | Describe and discuss the common causes, pathogenesis, clinical features, differential diagnosis; investigations; principles of management of infertility – methods of tubal patency, Ovulation induction, assisted reproductive techniques | K | KH | Y | LGT, seminars, Bedside clinics, SDL | Written/Viva voce | |
| OG28.2 | Enumerate the assessment and restoration of tubal patency | K | K | N | LGT, seminars, Bedside clinics, SDL | Written/Viva voce | |
| OG28.3 | Describe the principles of ovulation induction | K | KH | Y | LGT, seminars, Bedside clinics, SDL | Written/Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|-------------------------------------|--|-------------------------------------|------------------------|--|--|--|---------------------------------|
| OG28.4 | Enumerate the various Assisted Reproduction Techniques | K | K | N | LGT, seminars, Bedside clinics, SDL | Written/Viva voce | |
| Topic 29: Uterine fibroids | | Number of competencies: (01) | | Number of competencies that require certification:(NIL) | | | |
| OG29.1 | Describe and discuss the etiology; pathology; clinical features; differential diagnosis; investigations; principles of management, complications of fibroid uterus | K | KH | Y | LGT, Bedside clinics | Written/ O SCE/ Clinical Assessment /Viva voce | |
| Topic 30: PCOS and hirsutism | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| OG 30.1 | Describe and discuss the etiopathogenesis; clinical features; differential diagnosis; investigations; management, complications of PCOS | K/A/C | KH | Y | LGT, bedside clinic, SDL | Written/ OSCE / Clinical Assessment /Viva voce | |
| OG30.2 | Enumerate the causes and describe the investigations and management of hyper-androgenism | K | KH | N | LGT | Written/ OSCE/ Clinical Assessment/Viva voce | |
| Topic 31: Uterine prolapse | | Number of competencies: (01) | | Number of competencies that require certification:(NIL) | | | |
| OG31.1 | Describe and discuss the etiology, classification, clinical features, diagnosis, investigations, principles of management and preventive aspects of prolapse of uterus | K/S | KH | Y | LGT, small group discussion, Bedside clinics | Written/Viva voce/ Skill assessment | |
| Topic 32: Menopause | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| OG32.1 | Describe and discuss the physiology of menopause, symptoms, prevention, management and the role of hormone replacement therapy. | K | KH | Y | LGT, small group discussion, Bedside clinics | Written/Viva voce | |
| OG32.2 | Enumerate the causes of post-menopausal bleeding and describe its management | K | KH | Y | LGT, small group discussion Bedside clinics | Written/Viva voce/ clinical assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|--|--|------------------------|--|------------------------------------|--|---------------------------------|
| Topic 33: Benign, Pre-malignant (CIN) and Malignant Lesions of the Cervix | | Number of competencies that require certification: (0 1) | | | | | |
| Number of competencies:(05) | | | | | | | |
| OG33.1 | Classify, describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations and staging of cervical cancer | K/S | KH | Y | LGT,SGT, Bedside clinics | Written/Viva voce/ Skill assessment | |
| OG33.2 | Describe the principles of management including surgery and radiotherapy of and Malignant Lesions of the Cervix | K | KH | Y | LGT, SGT, Bedside clinics, SDL | Written/Viva voce/ Skill assessment | |
| OG33.3 | Describe and demonstrate the screening for cervical cancer in a simulated environment | K/S | SH | Y | DOAP, SDL | Skill assessment | |
| OG33.4 | Enumerate the methods to prevent cancer of cervix including visual inspection with acetic acid (VIA), visual inspection of cervix with Lugol's iodine(VILI),pap smear and colposcopy | K/S | K SH | Y | LGT, SGT, Bedside clinics, SDL | Vivavoce/Written/Skill assessment | 3 |
| OG 33.5 | Describe the principles of management of benign and premalignant lesions of cervix (Cryotherapy, thermal ablation & LEEP) | K | KH | Y | LGT, small group discussion | Written, viva voce, OSCE | |
| Topic 34: Benign and malignant diseases of uterus and ovaries. | | Number of competencies:(06) | | Number of competencies that require certification:(NIL) | | | |
| OG34.1 | Describe and discuss aetiology, pathology, staging clinical features, differential diagnosis, investigations, staging laparotomy and principles of management of endometrial cancer | K | KH | Y | LGT, Bedside clinics | Viva voce/Written | |
| OG34.2 | Describe and discuss etiology, pathology, classification, staging of ovarian cancer, clinical features, differential diagnosis, investigations, principal of management including staging laparotomy | K/S | KH | Y | LGT, bedside clinic | Written/OSCE/clinical assessment/ Viva voce | |
| OG34.3 | Describe and discuss etiology, pathology, classification, staging, clinical features, differential diagnosis, investigations and management of gestational trophoblastic disease | K | KH | Y | LGT | Written/OSCE/clinical Assessment/ | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|---|-------------------------------|------------------------|---------------|--|--------------------------------------|---------------------------------|
| OG34.4 | Operative Gynaecology : Understand and describe the technique and complications:Dilatation & Curettage (D&C); EA- ECC;cervical biopsy; | K/S | SH | Y | Videos on manikins, observe competencies and surgeries in OR | Viva voce/ OSCE | |
| OG34.5 | Operative Gynaecology : Understand and describe the technique and complications of abdominal hysterectomy; myomectomy; surgery for ovarian tumours; staging laparotomy;vaginal hysterectomy including pelvic floor repair; Fothergill's operation, Laparoscopy; hysteroscopy; management of postoperative complications | K/S | KH | Y | Videos on manikins, observe competencies and surgeries in OR | Viva voce, theory | |
| OG 34.6 | Describe and discuss the etiopathogenesis, clinical features; investigation and implications on health and fertility and management of endometriosis and adenomyosis | K/S | KH | Y | LGT,SGT | Written/Viva voce | |
| Topic 35: Obstetrics & Gynecological skills-I Number of competencies:(20) Number of competencies that require certification:(12) | | | | | | | |
| OG35.1 | Obtain a logical sequence of history, and perform a humane and thorough clinical examination, excluding internal examinations (per-rectal and per-vaginal) | K/S | SH | Y | Bedside clinics | Clinical assessment / Viva voce | 5 |
| OG35.2 | Arrive at a logical provisional diagnosis after examination. | K/S | SH | Y | Bedside clinics | Clinical assessment / Viva voce | 5 |
| OG35.3 | Recognize situations, which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment. | K/S | SH | Y | Bedside clinics | Clinical assessment/ Viva voce | |
| OG35.4 | Describe, discuss and demonstrate examination, differential diagnosis and management of a case of suprapubic lump in abdomen | K/S | SH | Y | Bedside clinics | Clinical assessment/ Viva voce | |
| OG 35.5 | Describe, discuss and demonstrate examination, differential diagnosis and management of a case of vaginal discharge | K/S | SH | Y | Bedside clinics | Clinical assessment / Viva voce | |
| OG35.6 | Describe, discuss and demonstrate examination, differential diagnosis and management of a case of genital ulcers | K/S | SH | Y | Bedside clinics | Clinical assessment/ Viva voce | |
| OG35.7 | Demonstrate inter-personal and communication skills befitting a physician in order to discuss illness and its outcome with patient and family | A/C | SH | Y | Bedside clinics | Clinical assessment/ Viva voce/ OSCE | 2 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|--|------------------------------------|------------------------|---------------|--|--------------------------------------|---------------------------------|
| OG35.8 | Determine gestational age, EDD and obstetric formula | K/S | SH | Y | Bedside clinics | Clinical assessment/ Viva voce, OSCE | 5 |
| OG35.9 | Demonstrate ethical behavior in all aspects of medical practice. | A/C | SH | Y | Bedside clinics | Clinical assessment / Viva voce | |
| OG35.10 | Obtain informed consent for any examination /procedure | S | SH | Y | Bedside clinics | Clinical assessment / Viva voce | |
| OG35.11 | Write a complete case record with all necessary details | S | SH | Y | Bedside clinics | Clinical assessment / Viva voce | 5 |
| OG35.12 | Write a proper discharge summary with all relevant information | S | SH | Y | Bedside clinics | Clinical assessment | 2 |
| OG35.13 | Write a proper referral note to secondary or tertiary centres or to other physicians with all necessary details. | S | SH | Y | Bedside clinics | Clinical assessment / Viva voce | 2 |
| OG35.14 | Demonstrate the correct use of appropriate universal precautions for self-protection against HIV and hepatitis and counsel patients | S | SH | Y | DOAP | Skill assessment | 2 |
| OG35.15 | Obtain a PAP smear in a stimulated environment | S | SH | Y | DOAP | Skill assessment | 3 |
| OG35.16 | Demonstrate the correct technique to perform artificial rupture of membranes In a simulated/ supervised environment | S | SH | Y | DOAP | Skill assessment | 2 |
| OG35.17 | Demonstrate the correct technique to perform and suture episiotomies in a simulated/ supervised environment | S | SH | Y | DOAP | Skill assessment | 2 |
| OG35.18 | Demonstrate the correct technique to insert and remove an IUD in a simulated /supervised environment | S | SH | Y | DOAP | Skill assessment | |
| OG35.19 | Diagnose and provide emergency management of antepartum and postpartum hemorrhage in a simulated /guided environment | K/S | SH | Y | DOAP | Skill assessment | |
| OG35.20 | Demonstrate the correct technique of urinary catheterisation in a simulated/ supervised environment | S | SH | Y | DOAP | Skill assessment | 3 |
| Topic 36: Obstetrics & Gynecological skills-II | | | | | | | |
| | | Number of competencies:(03) | | | Number of competencies that require certification:(NIL) | | |
| OG36.1 | Plan and institute a line of treatment, which is need based, cost-effective and appropriate for common conditions taking in to consideration (a) Patient (b) Disease (c) Socio-economic status (d) Institution/ Governmental guidelines. | K/S | SH | Y | Bedside clinics,SGT | Clinical assessment/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|---|------------------------------------|------------------------|--|------------------------------------|------------------------------------|---------------------------------|
| OG36.2 | Organise antenatal, post-natal, and family welfare clinics | K/S | KH | Y | Bedsideclinics | Clinical Assessment/ Viva voce | |
| OG36.3 | Demonstrate the correct technique of punch biopsy of cervix in a simulated /supervised environment | S | SH | Y | Bedsideclinics | Clinical assessment/ Viva voce | |
| Topic 37: Obstetrics & Gynecological skills-III | | Number of competencies:(07) | | Number of competencies that require certification:(NIL) | | | |
| OG37.1 | Observe and assist in the performance of a Caesarean section | K/S/A/C | SH | Y | Bedside clinics,SGT | Logbook | |
| OG37.2 | Observe and assist in the performance of Laparotomy | K/S/A/C | SH | Y | Bedside clinics,SGT | Clinical assessment / Vivavoce | |
| OG37.3 | Observe and assist in the performance of Hysterectomy– abdominal/ vaginal | K/S/A/C | SH | Y | Bedside clinics,SGT | Clinical assessment/ Viva voce | |
| OG37.4 | Observe and assist in the performance of Dilatation & Curettage (D&C) | K/S/A/C | SH | Y | Bedside clinics,SGT | Clinical assessment/ Viva voce | |
| OG37.5 | Observe and assist in the performance of Endometrial aspiration- endocervical curettage (EA-ECC) | K/S/A/C | SH | Y | Bedside clinics, SGT | Viva voce | |
| OG37.6 | Observe and assist in the performance of outlet forceps application of vacuum and breech delivery | K/S/A/C | SH | Y | Bedside clinics, SGT | Log book | |
| OG37.7 | Observe and assist in the performance of MTP in the first trimester and evacuation in incomplete abortion | K/S/A/C | SH | Y | Bedside clinics, SGT | Clinical assessment / Viva voce | |
| Topic 38:Should observe | | Number of competencies:(04) | | Number of competencies that require certification:(NIL) | | | |
| OG38.1 | Laparoscopy | K/S/A/C | KH | Y | Bedside clinic, SGT | Clinical assessment/ Viva voce | |
| OG38.2 | Hysteroscopy | K/S/A/C | KH | Y | Bedside clinics, SGT | Clinical assessment/ Viva voce | |
| OG38.3 | Lap sterilization | K/S/A/C | KH | Y | Bedside clinics, SGT | Clinical assessment/ Viva voce | |
| OG38.4 | Assess the need for And issue proper medical certificates to patients for various purposes | K/S/A/C | KH | Y | Bedside clinics, SGT | Clinical assessment/ Viva voce | |

ORTHOPEDICS(CODE:OR)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|--|---|------------------------|---------------|------------------------------------|---------------------------------------|---------------------------------|
| ORTHOPEDICS (Topics:14, Competencies: 40) | | | | | | | |
| Topic 1: Skeletal Trauma, Poly trauma | | Number of competencies : (06) Number of competencies that require certification: (NIL) | | | | | |
| OR1.1 | Describe and discuss the Principles of pre-hospital care and Emergency room management of a trauma victim including principles of triage and advance trauma life support. | K/S/A/C | K/KH | Y | LGT with video, SGT | Written/Vivavoce/ OSCE/ Simulation | |
| OR1.2 | Describe and discuss the etiopathogenesis, clinical features, investigations, and principles of management of shock | K/S | K/KH | Y | LGT | Written/Vivavoce/ OSCE/ Simulation | |
| OR1.3 | Describe and discuss the etiopathogenesis, clinical features, investigations, and principles of management of soft tissue injuries | K | KH/SH | Y | LGT,SGT | Written/OSCE | |
| OR1.4 | Describe and discuss the etiopathogenesis, clinical features, investigations, and principles of management of dislocation of common joints, shoulder, knee, hip and fingers. | K | K/KH | Y | LGT,SGT,Bedside clinic | Written/Vivavoce/ OSCE/ Simulation | |
| OR1.5 | Participate as a member in the team for closed reduction of shoulder dislocation / hip dislocation / knee dislocation and dislocation of finger joints, | K/S/A/C | SH | Y | Simulation,DOAP | OSCE/Simulation | |
| OR1.6 | Discuss the recent advances in the management of various orthopaedic conditions like trauma, sports injuries, arthroplasty and spine pathologies. | K | K/KH | N | SGT,bedside clinic | Viva voce/OSCE | |
| Topic 2: Fractures | | Number of competencies : (16) Number of competencies that require certification: (NIL) | | | | | |
| OR2.1 | Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fracture of clavicle | K/S | KH/SH | Y | LGT,SGT,Bedside clinic | Written/Viva voce/ OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---------|---|-------------------------------|------------------------|---------------|------------------------------------|-----------------------------|---------------------------------|
| OR2.2 | Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fractures of proximal humerus | K | K/KH/SH | Y | LGT,SGT,Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.3 | Select, prescribe and communicate appropriate medications for relief of joint pain | K | KH/SH | Y | LGT,SGT,Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.4 | Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of fracture of shaft of humerus and intercondylar fracture humerus with emphasis on neurovascular deficit | K/S | K/KH | Y | LGT,SGT,Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.5 | Describe and discuss the aetiopathogenesis, clinical features, mechanism of injury, investigation & principles of management of fractures of both bones forearm and Galeazzi and Monteggia injury | K | K/KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.6 | Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of distal radius | K | KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.7 | Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of pelvic Pelvi-Acetabular injuries with emphasis on hemodynamic instability | K | K/KH/SH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.8 | Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of spine injuries with emphasis on mobilisation of the patient | K | K/KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.2.9 | Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of proximal femur including neck of femur and intertrochanteric fractures. | K/S/A/C | KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---------|---|-------------------------------|------------------------|---------------|------------------------------------|-----------------------------|---------------------------------|
| OR2.10 | Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of (a) Fracture patella (b)Fracture distal femur(c)Fracture proximal tibia with special focus on neurovascular injury and compartment syndrome | K | K/KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.11 | Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Fracture shaft of femur in all age groups and the recognition and management of fat embolism as a complication | K | K/KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR 2.12 | Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of: (a) Fracture both bones leg (b) Calcaneus (c) Small bones of foot (d) Lisfranc fracture dislocation | K | K/KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.13 | Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of ankle fractures | K/S/C | K/KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR 2.14 | Plan and interpret the investigations to diagnose complications of fractures like malunion, non-union and infection. | K/S | SH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR 2.15 | Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of open fractures with focus on secondary infection prevention and management. | K | K/KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| OR2.16 | Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of following orthopaedic injuries in children: a) Fracture supracondylar humerus with emphasis on neurovascular injury and compartment syndrome. b) Forearm and distal end radius fractures, pulled elbow. c) Epiphyseal injuries | K | K/KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|--|--------------------------------------|------------------------|--|------------------------------------|----------------------------------|---------------------------------|
| | d) Fracture shaft femur, tibia/ both bones of the leg e) Non-accidental injuries / child abuse | | | | | | |
| Topic 3: Musculoskeletal Infection | | Number of competencies:(03) | | Number of Procedures that require certification:(NIL) | | | |
| OR3.1 | Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Septic arthritis & HIV infection d) Chronic osteomyelitis | K/S | K/KH/ SH | Y | LGT,SGT,Video assistedlecture | Written/Vivavoce/ OSCE | |
| OR3.2 | Participate as a member in team for aspiration of joints under supervision | K/S/A/C | SH | Y | Small group Discussion.DOAP | Vivavoce/OSCE/ Skills assessment | |
| OR3.3 | Participateasamemberinteamforcompetencieslikedrainageof abscess, sequestrectomy/ saucerisation and arthrotomy | K/S/A/C | SH | Y | DOAP,Video demonstration | Vivavoce/OSCE/ Skills assessment | |
| Topic 4: Skeletal Tuberculosis | | Number of competencies : (01) | | Number of competencies that require certification: NIL | | | |
| OR4.1 | Describe and discuss the clinical features, Investigation and principlesofmanagementofTuberculosisaffectingmajorjoints (Hip, Knee) including cold abscess and caries spine | K | K/KH | Y | LGT,SGT,Case discussion | Written/Vivavoce/ OSCE | |
| Topic 5:Rheumatoid Arthritis and associated inflammatory disorders | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OR5.1 | Describe how to approach to a case of poly arthritis discuss the aetiopathogenesis, clinical features, investigations and principles of management of various inflammatory disorder of joints like rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis. | K | K/KH | Y | LGT,SGT, Bedside clinic | Written/Vivavoce/ OSCE | |
| Topic 6: Degenerative disorders | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|--|------------------------------------|------------------------|--|---|-----------------------------|---------------------------------|
| OR6.1 | Enumerate the causes of low back pain, Describe and discuss the clinical features, investigations and principles of management of degenerative condition of spine (Cervical Spondylosis, Lumbar Spondylosis, PID) | K | K/KH | Y | LGT,SGT,Case discussion | Written/Vivavoce/ OSCE | |
| Topic 7: Metabolic bone disorders | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OR7.1 | Describe and discuss the aetiopathogenesis, clinical features, investigation and principles of management of metabolic bone disorders in particular osteoporosis, osteomalacia, rickets, Paget's disease. Discuss the deformities in rickets and their management. | K | K/KH | Y | LGT,SGT, Case discussion | Written/Vivavoce/ OSCE | |
| Topic 8: Poliomyelitis | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OR8.1 | Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management a patient with Post-Polio Residual Paralysis | K | K/KH | Y | LGT,SGT, Case discussion | Written/Vivavoce/ OSCE | |
| Topic 9: Cerebral Palsy | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OR9.1 | Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management of Cerebral palsy patient | K | K/KH | Y | LGT,SGT | Written/Vivavoce/ OSCE | |
| Topic 10: Bone Tumors | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OR10.1 | Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of benign and malignant bone tumors and pathological fractures | K | K/KH | Y | LGT,SGT, Video assisted interactive lecture | Written/Vivavoce/ OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|--|------------------------------------|------------------------|--|--|--------------------------------------|---------------------------------|
| Topic 11:Peripheral nerve injuries | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OR11.1 | Describe the aetiopathogenesis, clinical features, investigations and principles of management of peripheral nerve injuries. Discuss the management of Radial, Ulnar, Median, Lateral Popliteal and Sciatic Nerve injuries. Demonstrate splints used in footdrop, wristdrop and clawhand. | K | K/H | Y | LGT,SGT, case discussion | Written/Vivavoce/ OSCE | |
| Topic 12: Congenital lesions | | Number of competencies:(01) | | Number of competencies that require certification:(NIL) | | | |
| OR12.1 | Describe and discuss the clinical features, investigations and principles of management of Congenital and acquired malformations and deformities of: a. Limbs and spine-Scoliosis and spinal bifida b. Congenital dislocation of Hip, Torticollis, c. Congenital talipes equinovarus | K | KH | Y | LGT,SGT | Written/Vivavoce/ OSCE | |
| Topic 13:Procedural Skills | | Number of competencies:(02) | | Number of competencies that require certification:(NIL) | | | |
| OR13.1 | Participate in a team for competencies in patients and demonstrating the ability to perform on mannequins / simulated patients in the following: i. Above elbow plaster ii. Below knee plaster iii. Above knee plaster iv. Thomas splint v. Splinting for long bone fractures vi. Strapping for shoulder and clavicle trauma | S/A | KH/ SH | Y | Case discussion,Video assisted LGT,SGT, Teaching, Skill lab sessions | OSCE withSimulation based assessment | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|--|-------------------------------|------------------------|---------------|---|---------------------------------------|---------------------------------|
| OR13.2 | Participate as a member in team for Resuscitation of Polytrauma victim by doing all of the following: (a) I.V. access central-peripheral (b) Bladder catheterization (c) Endotracheal intubation (d) Splintage | S/A | KH/ SH | Y | Case discussion, Video assisted LGT,SGT, Teaching, Skill lab sessions | OSCE with Simulation based assessment | |
| Topic 14: CounsellingSkills Number of competencies:(03) Number of competencies that require certification:(NIL) | | | | | | | |
| OR14.1 | Demonstrate the ability to counsel patients regarding prognosis in patients with various orthopedic illnesses like a. Fractures with disabilities b. Fractures that require prolonged bed stay c. Bone tumors d. Congenital disabilities | K/S/A/C | KH/ SH | Y | Case discussion, Video assisted lecture, SGT, Teaching, Skills lab sessions | OSCE withSimulation based assessment | |
| OR14.2 | Demonstrate the ability to counsel patients to obtain consent for various orthopedic competencies like limb amputation, permanent fixations etc.. | K/S/A/C | KH/ SH | Y | Case discussion, Video assisted LGT,SGT, Teaching, Skills lab sessions | OSCE with Simulation based assessment | |
| OR14.3 | Demonstrate the ability to convince the patient for referral to a higher center in various orthopedic illnesses like acute osteomyelitis, septic arthritis, neurovascular injuries and low back pain with red flags, based on the detection of warning signals and need for appropriate management | K/S/A/C | KH/ SH | Y | Case discussion, Video assistedLGT,SGT, Teaching, Skills lab sessions | OSCE with Simulation based assessment | |
| OR14.4 | Describe various amputations of the lower limb. Discuss the ideal stump and various prosthesis used in rehabilitation of patient with below knee amputation. | K/A | K/KH | Y | LGT, small group discussion/bed side clinic | OSCE, Clinical case presentation | |

ANAESTHESIOLOGY (CODE: AS)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|--|-------------------------------------|------------------------|---|------------------------------------|-----------------------------|---------------------------------|
| ANAESTHESIOLOGY (Topics:11, Competencies: 52) | | | | | | | |
| Topic 1: Anaesthesiology as a specialty | | Number of competencies: (04) | | Number of competencies that require certification: (NIL) | | | |
| AS1.1 | Describe the evolution of Anaesthesiology as a modern specialty | K | K | N | LGT | Written/ Viva voce | |
| AS1.2 | Describe the roles of Anaesthesiologist in the medical profession (including as a peri-operative physician, in the intensive care and high dependency units, in the management of acute and chronic pain, including labour analgesia, in the resuscitation of acutely ill) | K | K | N | LGT | Written/ Viva voce | |
| AS1.3 | Enumerate and describe the principle of ethics as it relates to Anaesthesiology | K | K | N | LGT | Written/ Viva voce | |
| AS1.4 | Describe the prospects of Anaesthesiology as a career | K | K | N | LGT | Written/ Viva voce | |
| Topic 2: Cardiopulmonary resuscitation | | Number of competencies: (02) | | Number of competencies that require certification : (02) | | | |
| AS2.1 | Enumerate the indications, describe the steps and demonstrate in a simulated environment, Basic Life Support in adults, children and neonates | K/S | SH | N | DOAP | Skill assessment | 2 |
| AS2.2 | Enumerate the indications, describe the steps and demonstrate in a simulated environment, Advanced Life Support in adults and children | S | SH | N | DOAP | Skill assessment | 2 |
| Topic 3: Preoperative evaluation and medication | | Number of competencies: (06) | | Number of competencies that require certification : (02) | | | |
| AS3.1 | Describe the principles of preoperative evaluation | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| AS3.2 | Elicit, present and document an appropriate history including medication history in a patient undergoing Surgery as it pertains to a preoperative anaesthetic evaluation | S | SH | Y | DOAP, Bedside clinic | Skill station | 2 |
| AS3.3 | Demonstrate and document an appropriate clinical examination in a patient undergoing General Surgery | S | SH | Y | DOAP, Bedside clinic | Skill station | 2 |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--------------------------------------|--|------------------------------------|------------------------|--|------------------------------------|-----------------------------|---------------------------------|
| AS3.4 | Choose and interpret appropriate testing for patients undergoing Surgery | S | SH | Y | DOAP, Bedside clinic | Skill station | |
| AS3.5 | Determine the readiness for General Surgery in a patient based on the preoperative evaluation | S | SH | Y | DOAP, Bedside clinic | Skill station | |
| AS3.6 | Choose and write a prescription for appropriate premedications for patients undergoing surgery | S | SH | Y | DOAP, Bedside clinic | Skill station | |
| Topic 4: General Anaesthesia | | Number of competencies:(07) | | Number of competencies that require certification : (NIL) | | | |
| AS4.1 | Describe and discuss the pharmacology of drugs used in induction and maintenance of general anaesthesia (including intravenous and inhalation induction agents, opiate and non-opiate analgesics, depolarising and non depolarising muscle relaxants, anticholinesterases) | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| AS4.2 | Describe the anatomy of the airway and its implications for general Anaesthesia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| AS4.3 | Observe and describe the principles and the practical aspects of induction and maintenance of anaesthesia | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS4.4 | Observe and describe the principles and the steps/ techniques in maintenance of vital organ functions in patients undergoing surgical competencies | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS4.5 | Observe and describe the principles and the steps/ techniques in monitoring patients during anaesthesia | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS4.6 | Observe and describe the principles and the steps/ techniques involved in day care anaesthesia | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS4.7 | Observe and describe the principles and the steps/ techniques involved in anaesthesia outside the operating room | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| Topic 5: Regional anaesthesia | | Numberof competencies:(06) | | Number of competencies that require certification: (NIL) | | | |
| AS5.1 | Enumerate the indications for and describe the principles of regional anaesthesia (including spinal, epidural and combined) | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|---|--|-------------------------------------|------------------------|---|------------------------------------|-----------------------------|---------------------------------|
| AS5.2 | Describe the correlative anatomy of the brachial plexus, subarachnoid and epidural spaces | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| AS5.3 | Observe and describe the principles and steps/ techniques involved in peripheral nerve blocks | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS5.4 | Observe and describe the pharmacology and correct use of commonly used drugs and adjuvant agents in regional anesthesia | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS5.5 | Observe and describe the principles and steps/ techniques involved in caudal epidural in adults and children | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS5.6 | Observe and describe the principles and steps/ techniques involved in common blocks used in surgery (including brachial plexus blocks) | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| Topic 6: Post-anaesthesia recovery | | Number of competencies: (03) | | Number of competencies that require certification: (NIL) | | | |
| AS6.1 | Describe the principles of monitoring and resuscitation in the recovery room | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS6.2 | Observe and enumerate the contents of the crash cart and describe the equipment used in the recovery room | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS6.3 | Describe the common complications encountered by patients in the recovery room, their recognition and principles of management | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| Topic 7: Intensive Care Management | | Number of competencies: (05) | | Number of competencies that require certification: (NIL) | | | |
| AS7.1 | Visit, enumerate and describe the functions of an Intensive Care Unit | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS7.2 | Enumerate and describe the criteria for admission and discharge of a patient to an ICU | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS7.3 | Observe and describe the management of an unconscious patient | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS7.4 | Observe and describe the basic setup process of a ventilator | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS7.5 | Observe and describe the principles of monitoring in an ICU | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| Topic 8: Pain and its management | | Number of competencies: (05) | | Number of competencies that require certification: (NIL) | | | |
| AS8.1 | Describe the anatomical correlates and physiologic principles of Pain | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS8.2 | Elicit and determine the level, quality and quantity of pain and its tolerance in patient or surrogate | S | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--|---|-------------------------------------|------------------------|---|------------------------------------|-----------------------------|---------------------------------|
| AS8.3 | Describe the pharmacology and use of drugs in the management of pain | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS8.4 | Describe the principles of pain management in palliative care | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS8.5 | Describe the principles of pain management in the terminally ill | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| Topic 9: Fluids | | Number of competencies: (04) | | Number of competencies that require certification: (NIL) | | | |
| AS9.1 | Establish intravenous access in a simulated environment | S | KH | Y | SGT, DOAP | Skill assessment | |
| AS9.2 | Establish central venous access in a simulated environment | S | KH | Y | SGT, DOAP | Skill assessment | |
| AS9.3 | Describe the principles of fluid therapy in the preoperative period | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS9.4 | Enumerate blood products and describe the use of blood products in the preoperative period | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| Topic 10: Patient safety | | Number of competencies:(04) | | Number of competencies that require certification: (NIL) | | | |
| AS10.1 | Enumerate the hazards of incorrect patient positioning | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS10.2 | Enumerate the hazards encountered in the perioperative period and steps/techniques taken to prevent them | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS10.3 | Describe the role of communication in patient safety | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| AS10.4 | Define and describe common medical and medication errors in anaesthesia | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce | |
| Topic 11: Oxygen Delivery Devices, Oxygen Therapy and Airway Management | | Number of Competencies: 06 | | Number of competencies that require certification:0 6 | | | |
| AS11.1 | Describe oxygen delivery devices - nasal cannulas, simple face masks, Venturi masks non-rebreathing masks, BVM, and HFNC. Understand the indications in accordance with clinical scenarios. Demonstrate correct setup and usage of oxygen delivery devices ensuring patient safety and device efficiency. | K | KH | Y | LGT, SGT, DOAP | Written/ Viva voce, OSCE | |
| AS11.2 | Describe the principles of oxygen therapy, importance of FiO2, flow rate adjustment, monitoring and safety precautions during oxygen therapy. | S | SH | Y | LGT, SGT, DOAP | Written/ Viva voce OSCE | |
| AS11.3 | Describe and demonstrate the techniques of opening the airway (head tilt, chin lift, jaw thrust) in a simulated environment. | S | SH | Y | LGT, SGT, DOAP | Written/ Viva voce OSCE | |
| AS11.4 | Observe and demonstrate correct insertion of oropharyngeal and nasopharyngeal airways. | S | SH | Y | LGT, SGT, DOAP | Written/ Viva voce OSCE | |
| AS11.5 | Enumerate the indications of advanced airway management. Describe the steps and demonstrate in a simulated environment - | S | SH | Y | LGT, SGT, DOAP | Written/ Viva voce, OSCE | |

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P |
|--------|---|----------------------------------|------------------------|---------------|---------------------------------------|-----------------------------------|---------------------------------------|
| | manual ventilation by BVM, Endotracheal intubation, and LMA insertion. | | | | | | |
| AS11.6 | Ventilation Techniques Explain the principle and settings of mechanical ventilation. | S | SH | Y | LGT, SGT, DOAP | Written/ Viva voce, OSCE | |

RADIODIAGNOSIS (CODE: RD)

| Number | COMPETENCY The student should be able to | Predominant Domain K/S/A/C | Level K/KH/S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number Required to certify P | | | | |
|---|--|-------------------------------|------------------------|------------------------------------|--|-----------------------------|---------------------------------|---|--|--|--|
| RADIODIAGNOSIS (Topics:7, Competencies: 21) | | | | | | | | | | | |
| Topic 1: General principles of imaging equipment | | | | Number of competencies:(01) | | | | Number of competencies that require certification: (NIL) | | | |
| RD1.1 | Knowledgeable about the general principles of functioning of imaging modalities such as Plain Xray, Fluoroscopy, CT, Ultrasound, Nuclear medicine modalities (bone scan, PET) and MRI, to the extent that they would be able to (a) exhibit mindful behavior regarding the potential hazards associated with each imaging modality (b) make rational choices about the appropriateness of the modality for a particular purpose, such as what will be seen better in which modality (E.g.: air containing structures would be imaged better in x-ray than in ultrasound) | K,A | SH | Y | Hospital rounds demonstrating equipment and signages, Case based interactive lecture or case-based discussion for modality selection | Written, viva voce | | | | | |
| Topic 2: Rational choice of modality for a patient | | | | Number of competencies:(02) | | | | Number of competencies that require certification: (NIL) | | | |
| RD2.1 | Obtain relevant clinical history to select patients for imaging modalities, in order to determine suitability for radiation exposure/contrast administration/exposure to magnetic fields (including allergies, renal function, pregnancy, implanted devices) | K,C | SH | Y | Case scenario-based discussions in lecture, SGT for history taking | Direct observation, OSCE | | | | | |
| RD2.2 | Select the correct imaging modality and procedure for broad pathology type (infections, tumour, trauma, congenital), body part/system (CNS, head and neck, chest, abdomen and extremities) in adults, children and pregnancy women, mindful of unique needs of pediatric patients with respect to radiation and sedation. | K,A | SH | Y | Case scenario-based discussion in lecture, SGT | Written, viva voce | | | | | |
| Topic 3: Safety and legal requirements | | | | Number of competencies:(04) | | | | Number of competencies that require certification: (NIL) | | | |
| RD3.1 | Awareness of different types of radiation and the stochastic and | K,A | K | Y | Flipped classroom, SDL | Written, viva voce | | | | | |

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|---|---|------------------------------------|----|---|---|--------------------------|--|
| | non-stochastic hazards of radiation in human beings (acute and long-term) | | | | | | |
| RD3.2 | Knowledgeable about best practices (time, distance and shielding) and provisions to keep x-ray exposure ALARA (as low as reasonably achievable) in clinical practice of radiology and general principles to be followed as per AERB regulatory guidelines | K,A | KH | Y | LGT | Written, viva voce | |
| RD3.3 | Knowledgeable about monitoring radiation exposure in health care workers with dosimeter such as thermoluminescent dosimeter and awareness of the units to measure radiation exposure in human Beings | K,A | K | N | Demonstration of TLD badge, SDL | Written, viva voce | |
| RD3.4 | Knowledgeable about the purpose and components of the PC-PNDT act relevant to a primary care physician | K,A | K | Y | LGT | Viva voce | |
| Topic 4: Interdisciplinary communication and interaction | | Number of competencies:(03) | | | Number of competencies that require certification: (NIL) | | |
| RD4.1 | Collaborate with imaging specialists for optimum patient care - provide relevant and clear clinical information in requisitions for imaging, convey appropriate clinical urgency to facilitate correct scheduling of patients for imaging, clarify from imaging specialists when in doubt about appropriateness of imaging procedure | K,A,C | SH | Y | SGT | Written, viva voce | |
| RD4.2 | Apply appropriate safety measures when transporting critically ill patients for imaging competencies such as checking adequacy of oxygen cylinder, following correct precautions in MRI room. | K,A | SH | Y | SGT | Viva voce, Written | |
| RD4.3 | For diseases that can be encountered by primary care physician such as osteoarthritis (x-ray), deep vein thrombosis, cholecystitis, apply anatomical-radiological-pathophysiology correlations as a basis of clinical reasoning and inter-disciplinary communication | K,C | KH | N | SGT | Viva voce | |
| Topic 5: Image interpretation | | Number of competencies:(04) | | | Number of competencies that require certification: (NIL) | | |
| RD5.1 | Interpretation of normal X-ray images of the Chest, Abdomen, Musculoskeletal system by identifying normal structures in Chest X-ray, Abdominal X-ray, Musculoskeletal X-ray (upper limbs, lower limbs, spine), PNS – Water’s view in adults; normal neonatal Chest x-ray (thymic shadow identification); normal joint x-ray in children (epiphysis and growth plate identification) | K | P | Y | Image based LGT | Written, OSCE | |
| RD5.2 | Age estimation from X-rays by selecting and using appropriate reference standards | K | SH | Y | SDL | Written, OSCE | |
| RD5.3 | Image interpretation of emergency conditions in Chest Xray, Abdominal Xray and skeletal X-rays such as pneumoperitoneum, | K | P | Y | SGT, Clinics | Written, viva voce, OSCE | |

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|--|--|------------------------------------|----|---|--------------------------|---------------------------------|--|
| | acute fracture, differentiating acute from chronic fracture etc. | | | | | | |
| RD5.4 | Image interpretation of normal/abnormal position of devices in the Chest X-ray of adult and pediatric ICU patients | K | P | Y | SGT, Clinics | Written, OSCE/OSPE | |
| Topic 6: Patient preparation for imaging competencies | | Number of competencies (01) | | Number of competencies that require certification: (NIL) | | | |
| RD6.1 | Ability to provide written and verbal instructions tailored to the patient and imaging procedure such as fasting requirement, medication adjustments, bowel preparation | K,C,A | SH | Y | LGT, SGT | Viva voce, case-based questions | |
| Topic 7: Role of imaging in hospital specialties | | Number of competencies:(06) | | Number of competencies that require certification: (NIL) | | | |
| RD7.1 | Integrate provided imaging findings and description of appearances in the management of PCOD, ectopic pregnancy, evaluation of infertility in the Obstetrics and Gynecology Department | K | KH | Y | SGT with images, Clinics | Written, OSCE/OSPE | |
| RD7.2 | Integrate provided imaging findings and description of appearances in the management of ASOM/CSOM, evaluation of sensorineural hearing loss in the ENT Department | K | KH | Y | SGT with images, Clinics | Written, OSCE/OSPE | |
| RD7.3 | Integrate provided imaging findings and description of appearances in the management of stroke (CT brain), pulmonary embolism, findings associated with cardiac failure and liver parenchymal diseases in the Internal Medicine Department | K | KH | Y | SGT with images, Clinics | Written, OSCE/OSPE | |
| RD7.4 | Integrate provided imaging findings and description of appearances in the management of head injuries, hernia with strangulation, appendicitis and intestinal obstruction in the Surgery Department | K | KH | Y | SGT with images, Clinics | Written, OSCE/OSPE | |
| RD7.5 | Integrate provided imaging findings and description of appearances in the management chest infections, foreign body aspiration, Urinary Tract Infection in the Paediatrics Department | K | KH | Y | SGT with images, Clinics | Written, OSCE/OSPE | |
| RD7.6 | Integrate provided imaging findings and description of appearances in the screening for breast cancer and management of breast cancer patients. | K | KH | Y | SGT with images, Clinics | Written, OSCE/OSPE | |

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