MBBS
Year-III

Revised Curriculum (2023)
(Version-II)

National University of Medical Sciences
Pakistan

REVISED CURRICULUM (V-II) APPLICABLE FOR MBBS YEAR-III STUDENTS 2023 ONWARDS

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MBBS Curriculum Year-III (2023)

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MBBS Curriculum Year-III (2023)

1. Preamble

Integration has been accepted as an important educational strategy in medical education. NUMS believes in continuous curriculum revision through regular reviews and feedback of stakeholders. This curriculum has been updated with Correlation as a minimum level of integration in MBBS. This curriculum is outcome based, patient centered, community relevant, promotes health and prevents disease. It has been revised by the faculty of basic and clinical sciences from constituent/affiliated colleges in collaboration with NUMS Academic Directorate and NUMS department of Health Professions Education.

2. Curriculum perspective

NUMS curriculum is evolved taking into consideration constructivist and behaviorist with some element of cognitivist approach. It allows students to construct their own knowledge based on what they already know and to use that knowledge in purposeful activities requiring decision making, problem solving, and judgments.

3. Level of integration

NUMS will follow Correlation i.e level 7 of Harden's level of Integration in first four years. The emphasis remains on disciplines or subjects with subject-based courses taking up most of the curriculum time. Within this framework, an integrated teaching session or course is introduced in addition to the subject-based teaching. This session brings together areas of interest common to each of the subjects. Though the teaching is discipline based, topics are correlated and taught with clinical context for better understanding and application of concepts. However clinical teaching increases gradually with advancing years. MBBS Year V is for clerkships

4. Curricular organization and structure

a. NUMS MBBS curriculum in the first four years shall be delivered in a System Based Modular Format with clinical relevance. However, in year III & IV, students shall get clinical exposure through rotations in the wards and OPDs and in Year V through clerkships
b. There will be three blocks in year III, each will have modules, duration of which depends upon the number and complexity of the objectives to be achieved in that module
c. The curriculum will be delivered by modular teams of multidisciplinary basic science faculty and relevant clinical faculty.
d. The planning and delivery will be coordinated by year coordinators who will guide module coordinators of their respective years for efficient implementation

MBBS Curriculum Year-III (2023)

e. Modular Coordinator- responsible for teaching and assessment during each module. To be appointed by HoDs in coordination with HPE team
f. Clinical Coordinator - responsible for placement, teaching and assessment during clinical rotations
g. All NUMS colleges will provide study guides of each module to the students
h. To attain the integration in MBBS program, teaching shall be done in three spirals followed by Clerkships in final year
i. **Preclinical aspect of Medicine (Spiral II -Years III**) Integration of Pre-Clinical/ Clinical Sciences (General Pathology, Microbiology, Pharmacology, Community Medicine and clinical subjects) into system-based modules. System based modules will link preclinical science knowledge to clinical problems. Students will be taught in an integrated manner so that subjects will be presented as a meaningful whole. Additional chunks of content will be added in a module that exactly does not fit in the central theme of the module.
j. Year III will deal with abnormal structure and function, pharmacological aspects of therapeutics with clinical relevance. Forensic Medicine and Community Medicine will be taught in relevance wherever applicable.
k. Students will go for their clinical rotations in Medicine & Surgery and ward test will be taken at the end of each clinical rotation, which will contribute towards its internal assessment
l. Longitudinal themes (Behavioral Sciences, Research Methodology & EBM and Infection Control) are an integral part of year III
m. Apart from attending daily scheduled sessions, students shall engage in self-directed learning to achieve the desired objectives
n. Students shall be encouraged to participate in community services and extracurricular activities
o. Students shall be encouraged to enroll in elective courses in summer vacations
p. Professional Exams will be discipline based. In third Prof, Pharmacology, General Pathology & Microbiology, and Forensic Medicine will be assessed

5. Competencies The focus of this curriculum is on the roles of a general physician as identified in by PMC. These are skillful, knowledgeable, community health promoter, critical thinker,

MBBS Curriculum Year-III (2023)

professional and role model, researcher, and leader. Generic competencies addressed in year III are:

a. Medical Knowledge
b. Procedural skills
c. Clinical skills
d. Problem solving
e. Communication skills
f. Empathy
g. Professionalism
h. Research

6. Outcomes

By the end of third year, students will be able to:

a. Comprehend the mechanisms behind cell and tissue injury and how the body responds to and repairs injury

   Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention and virulence factors produced by various microbes with their clinical significance
   Apply the fundamental concepts of pharmacokinetics, pharmacodynamics, applied pharmacology and therapeutics in medicine
b. Identify the importance of medico legal aspects in medicine
c. Apply the fundamental concepts of social and behavioural sciences in clinical subjects
d. Apply the knowledge of infection control in clinical settings
e. Finalize a research topic and related literature review
f. Take a detailed relevant history and perform physical examination of common relevant medical and surgical disorders

7. Academic Calendar Year III

Blocks	**VII (12+1=13 weeks)**				**VIII (10+01=11 weeks)**				**IX (11+01=12 weeks)**			
36 wks	06	04	02	1	03	04	03	1	03	04	04	1
Modules	Foundation II	Cardiovascular System II	Genitourinary system II	**EOB**	Haem & Immunology II	Genetics & Neurosciences-II	Respiratory System II	**EOB**	Digestive System & Metabolism II	Multisystem I (Neoplasia)	Multisystem II (Infectious diseases)	**EOB**
***Integration**: Pharmacology, General Pathology, Microbiology, Forensic Medicine, Community Medicine and relevant clinical disciplines*												
***Across the year** : Behavioral Sciences, Research Methodology and Infection Control*												

MBBS Curriculum Year-III (2023)

8. Proposed Contact Hours Distribution Year-III

Teaching & Learning weeks: 36 weeks	
SUBJECTS	**Contact Hours**
Pathology	260
Pharmacology	300
Forensic Medicine	100
Community Medicine	30
Research Methodology & Evidence based Medicine	20
Medicine & Allied	120
Surgery & Allied	120
Obs/ Gynae	35
Paediatrics	35
Infection control	25
*Behavioral Science **(Curriculum separately attached)**	75
Self-Directed Learning	100
Cocurricular activities	40
TOTAL HOURS	**1260**

9. Clinical Rotations in year III – Medicine & Surgery (at least 2.5 hours for 2 days for 18 weeks in each subject).

a. During the clinical rotation in year III, students will be introduced to the outpatients and inpatients clinics of Surgery and Medicine. Aim is to build relevant clinical skills and apply pathological concepts of diseases and behavioral sciences in clinical practice.

b. **Learning Outcomes**: At the end of third year clinical rotation, students will be able to:

1) Identify common symptoms
2) Differentiate between normal and abnormal clinical signs
3) Communicate effectively with the patients, seniors and colleagues
4) Follow the steps of history taking
5) Take detailed relevant history
6) Perform general physical examination and systemic examination
7) Observe/ assist relevant procedures

MBBS Curriculum Year-III (2023)

7) Logbooks will be maintained to keep the record of student performance during the rotation to be countersigned by the faculty supervising the sessions.

c. At the end of each clinical rotation, the whole group will have a clinical exam which will contributes towards the internal assessment in the final year (20 %).

d. Assessment at the end of clinical rotations will focus on application of knowledge, competence in specific clinical skills, and appropriate professional attitude. Satisfactory performance will be required in each of these areas for progress and promotion.

e. Failure in assessment requires the student to repeat the end rotation exam. Passing marks are 50%

f. Attendance of 75% and satisfactory performance in the rotation/clerkship in each year is mandatory.

10. Educational Strategies (These are proposed, but institutes can use other evidence-based teaching methodologies that suit their context)

a. Interactive Lectures
b. Small group discussion
c. Lab practical
d. Skill lab
e. Problem based learning/ Case based learning
f. Case based discussions
g. Bedside teaching
h. Tutorials
i. Integrated sessions using any of the above strategies

11. Resources. To be filled in by the institute

a. Faculty
b. Facilities
c. Administration for Course
d. Administrative structure
e. Communication with students

12. Internal Assessment

Formative assessment (low stake) is at faculty discretion like mid module test and other class tests. There will be three end of blocks and one pre-annual examination, which contributes towards the weighting of internal assessment i.e 20% in 3rd professional MBBS Examination.

13. Annual Professional Examination.

The University will take the third professional Examination as per PMC guidelines at the end of the academic year. Annual Theory & Practical Examination will be of 300 Marks for General

MBBS Curriculum Year-III (2023)

Pathology & Microbiology, 300 marks for Pharmacology and 200 marks of Forensic Medicine. The passing score is 50% in theory and practical separately

14. Evaluation of the Course. To be filled in by the institute.

a. The major goals of the evaluation are to monitor quality of and improve curriculum
b. Student portfolio shall be maintained in the departments in which students will give their feedback either by name or anonymously. Feedback may be taken at the end of module, online and informal student feedback during the running module
c. Faculty suggestions if any, for improvement of training may be incorporated in the next rotation

15. Implementation of curriculum

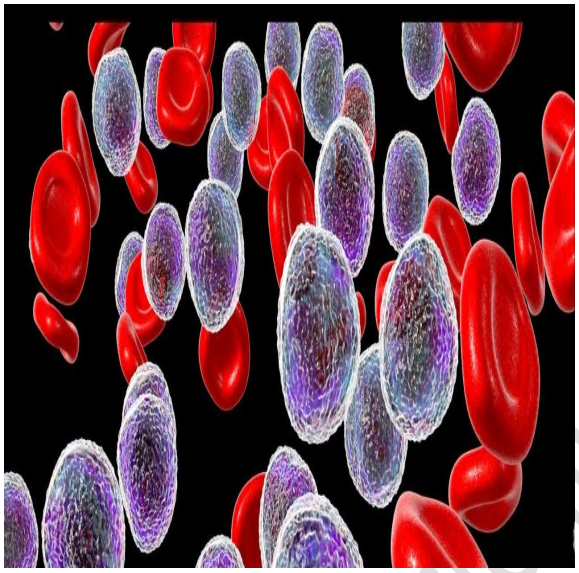
*The university will give details of all content including learning outcomes, assessment blueprints, and table of specifications, distribution of which across the whole years and rotations is upon the discretion of the medical college/institute

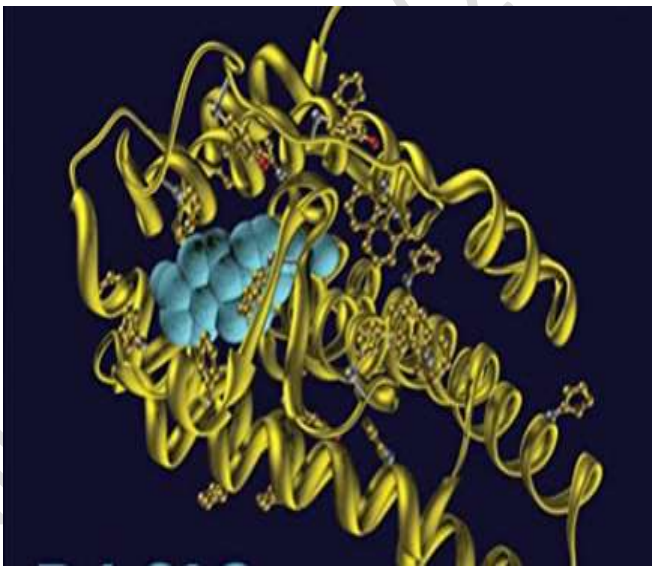
MBBS Curriculum Year-III (2023)

Block - VII

MBBS Curriculum Year-III (2023)

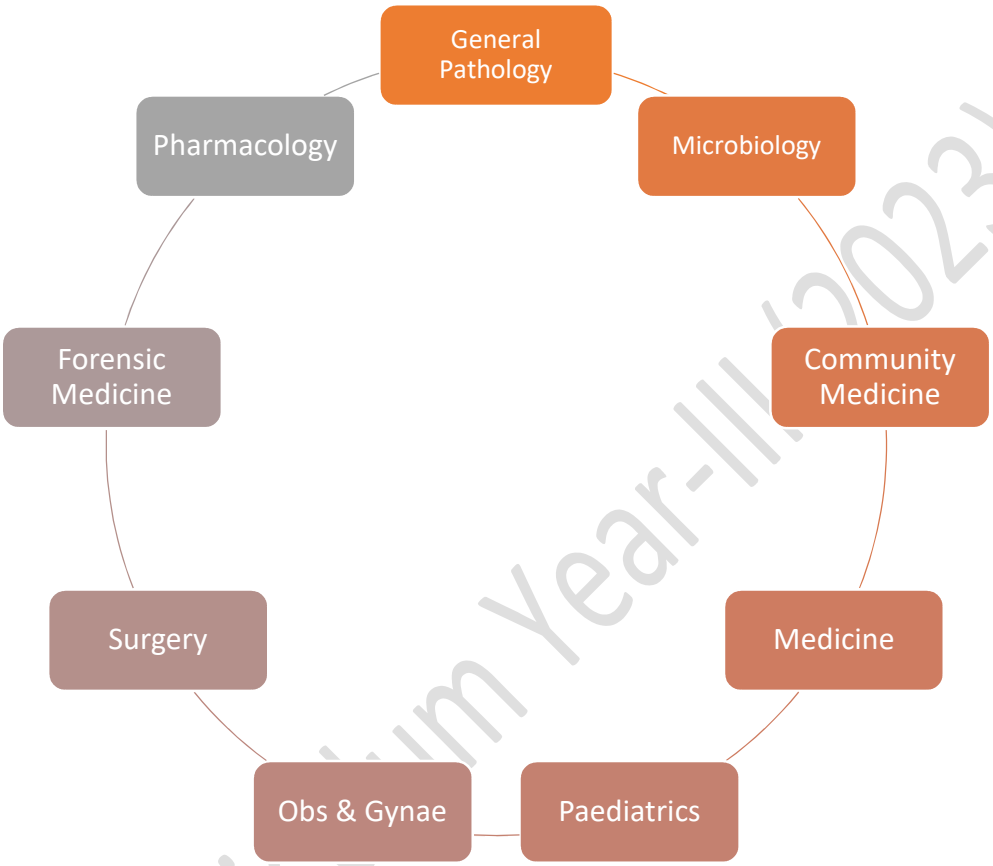
MBBS YEAR – III
BLOCK – VII
MODULE- XIII
Foundation - II Module
Duration: 06 weeks





MBBS Curriculum 2023

Integration of Disciplines in Foundation II Module



MBBS Curriculum Year-III (2023)

MODULE COMMITTEE

Year coordinator	***To be filled by the institutes***
Module Coordinator	
Members	

Preamble

Foundation II is the first module of Year III and therefore is an introduction to all preclinical sciences, the contents of which will be delivered and assessed during this year. This module will introduce the students to basic concepts required for understanding of disease process, its prevention and treatment which in turn will help them to apply these key concepts in future system-based modules. In the 2nd spiral, before students study any organ systems' pathology, it is essential for them to have clear concepts underlying them. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines.

Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Learning outcomes: By the end of this module the students will be able to

1. Comprehend the basic concepts of all preclinical discipline
2. Receive the patients in medical and surgical clinics

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to :	**Learning objectives/ Course content**	**Instructional strategies**	**Assessment Tools**
Cell Injury, Cell death & Adaptations	• Correlate the mechanism of different types of pathological cellular adaptations with the micro and macroscopic structure • Critically analyze the pathological basis of apoptosis • Compare different types of necrosis • Relate the genetic aspects of aging with its current theories • Correlate ischemic changes to its morphology	• Introduction to Pathology • Cellular Adaptations, Cell Injury and Cell Death • Cell Adaptation. Hypertrophy, Hyperplasia, Atrophy, Metaplasia • Definition, causes, Ischemic and hypoxic injury, Free radical injury, Chemical injury • Morphology of reversible and irreversible injury, Necrosis and its types • Reversible injury - Fatty Change, Pigmentation and Calcification • Necrosis & Apoptosis	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year III (2023)

	• Relate different types of cellular accumulations with the pathological basis of disease • Differentiate between reversible and irreversible cell injury. (definition, causes, morphology, mechanism, examples)			
Inflammation and Repair	Differentiate between acute and chronic inflammation on the basis of etiology, pathogenesis and morphology • Summarize the systemic effects of inflammation with the variants of tissue repair	• Acute and Chronic Inflammation & Repair • Definition, Type of inflammation, events of acute inflammation • Chemical mediators of inflammation • Chronic inflammation – events, cells and sequelae	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practical	• Identify following on slides 1. Hyperplasia and Atrophy 2. Metaplasia and Hydropic change 3. Fatty Change 4. Intracellular accumulations (Melanin, Hemosiderin) 5. Coagulative necrosis and caseous necrosis 6. Acute inflammation 7. Chronic inflammation		Practical	OSPE
MICROBIOLOGY				
General Microbiology	• Correlate the basic morphological, • physiological and genetic characteristics of bacteria with their	• Introduction to micro • Bacterial anatomy • Bacterial physiology & growth • Bacterial genetics • Classification of bacteria • Bacterial pathogenesis	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

	pathological mechanism • Match the members of normal flora with their appropriate anatomical • locations • Appraise the concept and different methods of sterilization and disinfection in detail. • Apply the methods of health Professional and patient safety in laboratory and clinical settings. (infection control measures)	• Sterilization • Disinfection • Infection prevention and control • Normal flora • Bacterial and viral vaccines • Specimen collection for microbiological processing's • Lab diagnosis of infectious diseases		
Bacteriology	Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention and virulence factors produced by gram positive cocci with their clinical significance	• Staphylococcus • Streptococcus	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Virology	• Differentiate classes of viruses • Outline the Lab diagnosis • Paraphrase the pathogenesis of diseases caused by viruses	• Classification of viruses with common examples prevalent in Pakistan • Principles of lab diagnosis of viral diseases	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

Parasitology	Classify various Parasites on the basis of their site of pathogenesis	• Introduction to parasitology • Classification of parasites	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Mycology	Classify various fungi on the basis of their morphology and human diseases	• Introduction to Mycology • Classification of fungi	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	• Examine the microscope and discuss its different parts • Perform steps of hand hygiene • Perform donning/ doffing of PPE • Perform Gram Stain and interpret its results • Perform ZN stain and interpret its results • Identify the different types of Culture Media (Blood agar, chocolate agar, Mac Conkey agar, CLED agar, LJ media) and interpret the associated bacterial growth		Practical	OSPE

MBBS Curriculum Year III (2023)

Pharmacology				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
General Pharmacology	• Interpret the different pharmacokinetic patterns, their clinical significance and factors affecting these parameters. • Correlate the concept of molecular mechanistic to the therapeutics. • Identify the genetic principles in drug disposition • Recognize the rational use of drugs	• Pharmacology: Introduction, Historical overview • Branches/division of Pharmacology, • Sources & active principles of drugs • Routes of administration of drugs • Pharmacokinetics: • Absorption of drugs: processes • Factors modifying drug absorption • Distribution &plasma protein binding of drugs • Biotransformation of drugs • Factors modifying biotransformation • Bioavailability: clinical significance & factors affecting • Half-life of drugs: factors affecting &clinical significance • Excretion of drugs: Drug clearance • Pharmacodynamics: Mechanism of drug action • Factors modifying actions & doses of drugs Guideline for rational use of drugs	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Drugs acting on ANS	• Correlate the physiology of autonomic	• A N S: Introduction • Parasympathomimetic or cholinergic Drugs	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

	receptors with the therapeutic application	• Anti-Cholinesterase, Myasthenia gravis • Organophosphate poisoning &Oximes • Cholinergic blockers: Natural alkaloids, Comparison between Hyoscine& Atropine • Catecholamines: Adrenaline., Nor adrenaline, Dopamine & Dobutamine • Non Catecholamines: Ephedrine, Amphetamines α/β2 receptor agonists etc. • Adrenergic Blockers: Alpha-receptor Blockers, Beta receptor Blockers • Central Sympathoplegics • Drug treatment of glaucoma		
AUTOCOIDS	• Rationalize the use of various Prostaglandins in different diseases	• Prostaglandins	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	• Justify the advantages and disadvantages of different routes of administration **and dosage forms of drugs** • Interpret and report the effects of drugs in rabbit's eye			OSPE

MBBS Curriculum Year-III (2023)

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Introduction to Forensic Medical Sciences	Describe the role of Forensic Medicine / Sciences in Crime detection, especially in crimes involving human life & body in national as well as international context.	Role of Forensic Medicine / Sciences in Crime detection, especially in crimes involving human life & body	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Personal Identity	• Distinguish between living and dead, decomposed and mutilated from burnt bodies, skeletal and fragmentary remains by using appropriate parameters of personal identity. • Use different techniques (Dentistry: Radiology, Neutron Activation Analysis etc.) and objective methods of (Osteometry, Dactyloscopy, DNA Technique, Super imposition photography etc.). • Determine the age, sex and race of an individual by various methods with their medico-legal aspects. • Critique on methods to trace the evidence, Lockard's Principle of exchange and its medico-legal significance.	• Parameters of personal identity, methods of identifying living, dead, decomposed, mutilated and burnt bodies, and skeletal and fragmentary remains, • Special techniques (Dentistry: Radiology, Neutron Activation Analysis etc.), and objective methods of identification (Osteomtery, Dactyloscopy, DNA Technique, Super imposition photography etc.). • Methods of determination of age, sex and race by various methods with their medico-legal aspects. • Methods to trace evidence, Locard's Principle of exchange and its medico-legal significance	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year III (2023)

COMMUNITY MEDICINE				
Foundation of public health	Discuss the importance of public health in medicine	• Introduction to public health • Identify history of public health • Evolution of public health as a scientific discipline • Future directions of public health	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Intro to Healthcare system in Pakistan	Differentiate different sectors of health system and functioning	• Health care and health care system • Various levels of health care and referral mechanism	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Infectious disease epidemiology (common terms)	Interpret various terms used in communicating the information related to communicable disease	Introduction of various terms used in communicating the information related to communicable disease	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Dynamics of disease transmission	Identify basic links in the chain of transmission of infection	Dynamics of disease transmission • Source or reservoir • mode of transmission • susceptible host • Disease prevention and control	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

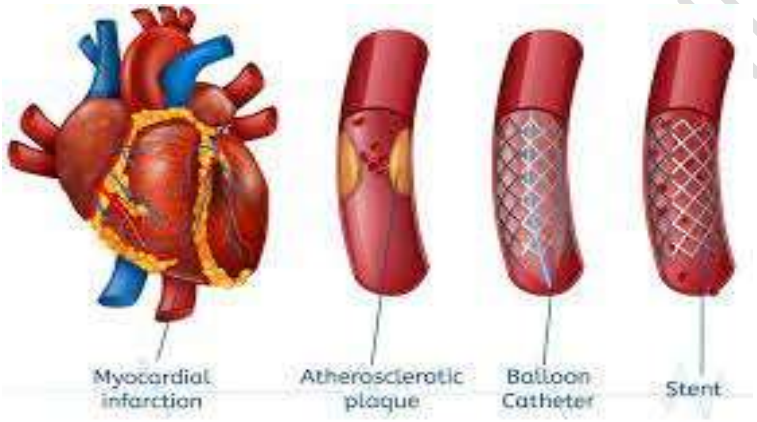
MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Introduction to Medicine	Receive the patients in medical clinics	• History taking • General Physical Examination	CBL	Formative assessment
BLS	Follow the steps of BLS	BLS: Overview	CBL/ Video/Skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment
SURGERY				
Introduction to surgery	Receive the patients in surgical clinics	• History taking • General Physical Examination	CBL	Formative assessment
Wound healing and tissue repair	How to approach a patient with different wounds	Steps of wound examination	CBL	Formative assessment
Procedures	Assist • Antiseptic Dressing (10)		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment
OBS & GYNAE				
Maternal Anatomy/Physiology in Pregnancy and Labor	• Revisit anatomy of pelvis • Compare normal physiological changes of body systems in pregnant and non-pregnant patient. • Compare the important effects in a pregnant woman of estrogen and progesterone and correlate their function • Appraise the factors that are implicated in the onset of labour	• Anatomy of the pelvis • Physiological changes in maternal systems during pregnancy	LGIS, PBL	Formative assessment

MBBS Curriculum Year-III (2023)

Pre-Pregnancy Care	• Comprehend principles of pre-pregnancy care • Demonstrate an understanding of genetic mode of inheritance and common structural abnormalities of fetuses	• Principles of pre-pregnancy care • Genetic mode of inheritance and common structural abnormalities of fetuses resulting from abnormal development	LGIS, PBL	Formative assessment
Antenatal Care	Comprehend principles of antenatal care and concept of preconception care	• Principles of antenatal care • Concept of preconception care	LGIS, PBL	Formative assessment
PAEDIATRICS				
Growth and development	• Recognize growth development and maturation. • Justify use the tools for measuring growth and development. • Identify the genetic, nutritional and environmental factors that can influence child growth and development.	• Developmental Milestones • Anthropometry	LGIS, PBL	Formative assessment

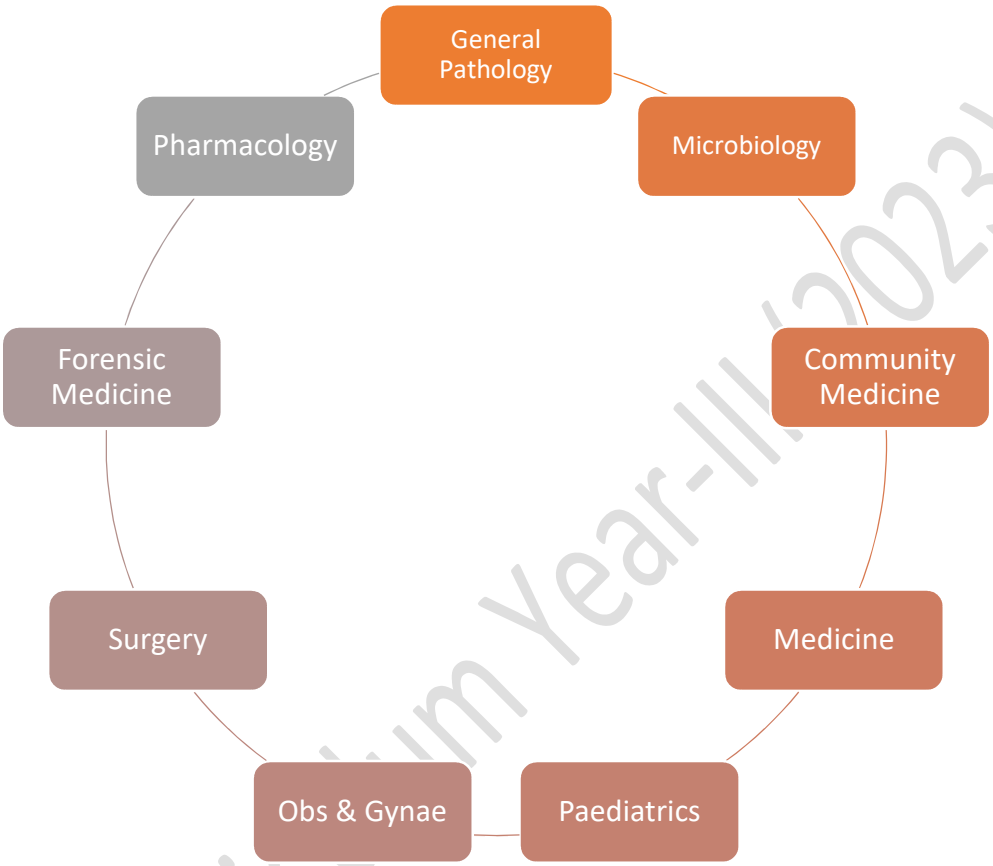
MBBS Curriculum Year III (2023)

MBBS YEAR – III
BLOCK – VII
MODULE – XIV
Cardiovascular System II
Duration: 04 weeks



MBBS Curriculum (V-II) (2023

Integration of Disciplines in CVS II Module



MBBS Curriculum Year-III (2023)

MODULE COMMITTEE

Year coordinator	***To be filled by the institutes***
Module Coordinator	
Members	

Preamble

This module focuses on underlying pathology of various cardiac disorders along with their prevention and treatment options. Relevant topics of forensic medicine are taught side by side for better understanding of the students. Students will have opportunities to relate their knowledge through integrated sessions. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught CVS history taking and physical examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

LEARNING OUTCOMES

By the end of this module, student should be able to:

Cardiovascular System

1. Relate the pathophysiology of heart and vessels to its treatment modalities
2. Interpret various injuries and causes of death and relate them with their medicolegal aspects
3. Perform and interpret the effects of cardiac specific drugs on frog's heart.
4. Evaluate the effect of drugs on blood vessels of frogs
5. Demonstrate all steps of history taking and examination of cardiac patients in medical and surgical clinics

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Chest Pain
Shortness of breath
Pain and swelling in leg
Peripheral Edema

MBBS Curriculum Year-III (2023)

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to :	**Learning objectives/ Course content**	**Instructional strategies**	**Assessment Tools**
Hemodynamic disorders, Thromboembolism	• Assess the hemodynamic disorders including hyperemia, congestion and edema along with the pathogenesis and contributing factors (thrombosis and embolism).	• Edema, hyperemia & congestion • Thrombosis • Embolism • Atherosclerosis	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Infarction	• Describe the pathological factors involved in the process of infarction along with their types.	Infarction	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	1. Interpret report of lipid profile 2. Identify following on slides • Hyperaemia/Congestion • Coronary thrombus • Atherosclerosis • Myocardial Infarction			OSPE
MICROBIOLOGY				
Pathogens causing infections of CVS	Identify bacterial pathogens causing infections of cardiac system and relate them clinically	Overview of pathogens causing infections of CVS with emphasis on Infective endocarditis and Rheumatic heart disease	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	• Identify bacteria based on their biochemical reactions o Motility o Coagulase o Catalase test o Oxidase test o Sugar sets (Indole, TSI, Nitrate reduction and Urease)			OSPE

MBBS Curriculum Year-III (2023)

PHARMACOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Drugs acting on CVS	Relate the pathophysiology of heart and vessels to its treatment modalities	• Physiology of CVS (Rev) • Cardiotonic drugs: Management of cardiotoxicity of cardiac glycosides • Antihypertensive drugs • Drug Treatment of IHD • Antiarrhythmic drugs	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/SKILLS	• Perform and interpret the effects of cardiac specific drugs on frog's heart. • Evaluate the effect of drugs on blood vessels of frogs. • Justify the selection of priority drugs for certain indications of CVS and prescribe medicine accordingly			OSPE

MBBS Curriculum Year-III (2023)

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Thanatology	• Identify the causes, manner, mode, mechanisms, medicolegal aspects and indicators of death. • Correlate between the physicochemical changes occurring in various body tissues after death under different environmental conditions to the medico-legal aspects of sudden and unexpected deaths.	• Scientific concepts regarding death, medico-legal aspect of Brain death, Indicators of Death, medico-legal aspects of Sudden and unexpected deaths, causes, manner, mode and mechanisms of death. Physicochemical changes subsequent to death occurring in various body tissues and organs under various environmental conditions. • To write a Certification of death according to WHO guidelines • Autopsy: Types, objectives, rules, and techniques and describe procedure for post-mortem; Methods for Assessment of Fatal period and post-mortem interval. Post-mortem	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

		artefacts. Risks and Hazards of autopsy, and Autopsy Protocol. Procedure for selection and reservation, labelling and dispatch of Biological and non-Biological materials for laboratory examination; and collect relevant samples. Exhumation procedures, and its value and limitations		
Mechanical Injuries	• Correlate the mechanisms of wound production to their medico-legal aspects. • Identify different ammunitions • Appraise the nomenclature, wound Ballistics and medico-legal aspects of mechanical injuries • List and debate on the laws in relation to causing Bodily harm, Wounding and Homicide • Distinguish between ante-mortem and post-mortem wounds	• **<u>Mechanical Injuries</u>:** ○ Mechanisms of wound production, classification of wounds, wounds produced by conventional weapons and their medico-legal aspects. ○ Firearms, Ammunition, Classification, Nomenclature, wound Ballistics and medico-legal aspects.	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

	• Diagnose the manner of death (suicidal, homicidal and accidental) • Classify wounds • Relate the mechanisms of wound production to their medico-legal aspects. • Classify firearm injuries. • Identify different ammunitions • Appraise the nomenclature, wound Ballistics and medico-legal aspects of mechanical injuries • List and debate on the laws in relation to causing Bodily harm, Wounding and Homicide. • Distinguish between ante-mortem and post-mortem wounds. • Diagnose the manner of death (suicidal, homicidal and accidental)	○ Medico-Legal Considerations: ▪ Suicide, homicide and accident.		
Blast injuries	Interpret injuries caused by blast	**Blast injuries.** Recognition and interpretation of injuries caused by blast	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

COMMUNITY MEDICINE				
Risk factors and prevention	• Relate different risk factors to particular patients and general population • Estimate the extent of damage to individuals and community in terms of morbidity and mortality burden • Suggest preventive measures for these diseases in individuals and populations at-risk	• Coronary heart disease • Hypertension • Stroke • Rheumatic heart disease	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
ECG	Identify common errors in ECG recording.	• Provide physiological basis of the rate, rhythm and axis of ECG. • Compare normal and abnormal ECG.	Lecture/ CBL and bedside teaching	Formative assessment
CAD	• Evaluate patient presenting with angina on the basis of history, examination and investigations • Enlist key management steps	• Identify common symptoms/signs of angina • Perform relevant examination • Interpret relevant investigations • Enlist key management steps	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
CCF	• Relate presentation of CCF with its pathophysiological basis • Diagnose Heart failure. • List complications of Heart failure	Congestive Cardiac failure	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

MBBS Curriculum Year-III (2023)

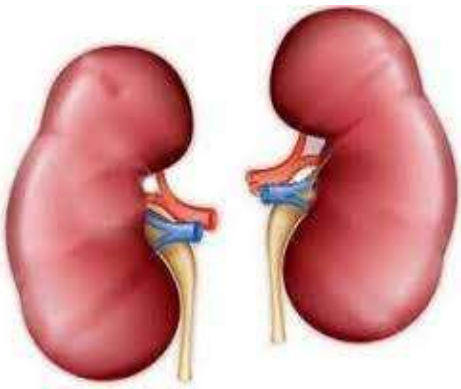
	• Analyze the pharmacological management in the treatment of Heart failure			
PE/DVT	• Elaborate, epidemiology and risk factors and preventive measures for pulmonary embolism/DVT • Recognize the clinical features and presenting symptoms of pulmonary embolism/DVT •	Clinical presentation, history taking and relevant examination of patient	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	Perform ECG		Bed side teaching	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment
SURGERY				
DVT	Receive the patients in surgical clinics	• History taking • General Physical Examination	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Varicose veins	Take detailed history and perform examination of patient with varicose veins	Causes, clinical presentation, history taking and relevant examination of patient with varicose veins	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Gangrene	• Differentiate between dry and wet gangrene • List the principles of diagnosis and its management	Gangrene • Definition • Types • Pathophysiology • Clinical features • Diagnosis Management principles	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

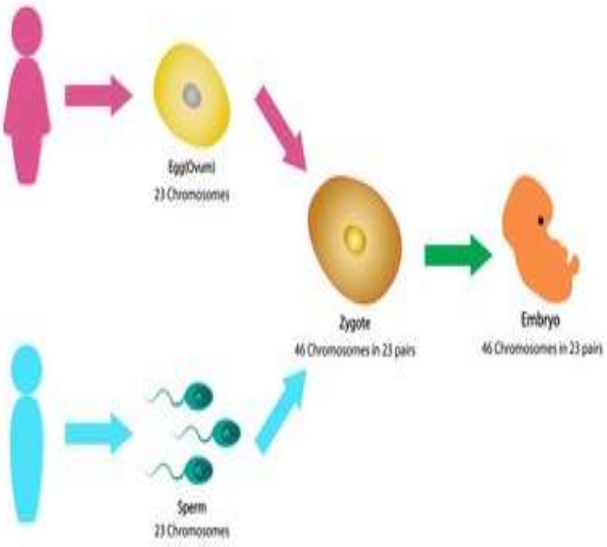
MBBS Curriculum Year-III (2023)

Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment
OBS & GYNAE				
Hypertension in pregnancy	Categorize a hypertensive patient in pregnancy according to standard classification	Hypertension in pregnancy	LGIS, CBL	Formative assessment
Preeclampsia	Recognize the pathogenesis and its clinical features	Preeclampsia	LGIS, CBL	Formative assessment
PAEDIATRICS				
Congenital and Acquired Heart Disease	• Differentiate between cyanotic and acyanotic heart diseases • Correlate pathophysiology of pediatric CCF to its clinical presentation. • Identify common pediatric cardiac failure syndromes • Discuss the treatment of CCF • Identify clinical features of rheumatic heart disease	• Acyanotic Heart Diseases • Cyanotic heart disease • Tetralogy of Fallot • CCF in children • Rheumatic Heart Disease	LGIS, CBL	Formative assessment

MBBS Curriculum Year-III (2023)

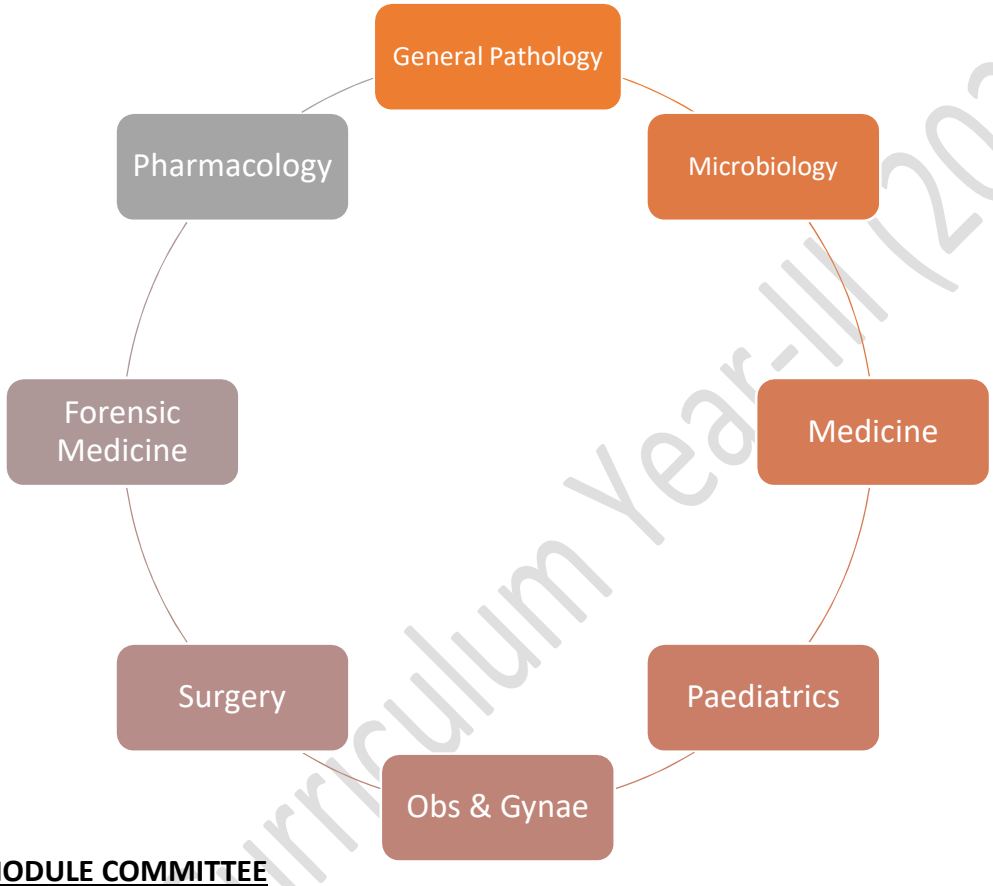
MBBS YEAR - III
BLOCK - VII
MODULE - XV
Genitourinary System
Duration: 02 weeks





MBBS Curriculum-III (2023

Integration of Disciplines in Genitourinary System Module



MODULE COMMITTEE

Year coordinator	***To be filled by the institutes***
Module Coordinator	
Members	

MBBS Curriculum Year-III (2023)

Preamble

This module focuses on underlying pathology of various renal disorders along with their prevention and treatment options. Relevant topics of forensic medicine are taught side by side for better understanding of the students. Students will have opportunities to relate their knowledge through integrated sessions. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught renal history taking and physical examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

LEARNING OUTCOMES

By the end of this module, student should be able to:

Cardiovascular System

1. Relate the pathology of infarction/ shock for understanding different clinical disorders
2. Identify bacterial pathogens causing infections of renal system and relate them clinically
3. Differentiate between therapeutic application of different diuretics
4. Assess the sexual offences and relate with their medicolegal aspects
5. Interpret Urine D/R and Urine C/S
6. Demonstrate all steps of history taking and examination of renal patients in medical and surgical clinics

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Fever with burning micturition
Shock

MBBS Curriculum Year-III (2023)

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to :	**Learning objectives/ Course content**	**Instructional strategies**	**Assessment Tools**
Shock	Describe the pathological factors involved in the process of shock along with their types.	• Shock • Hemorrhage	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	Identify following slide: • Calcification			
MICROBIOLOGY				
Microbiology	Identify bacterial pathogens causing infections of renal system and relate them clinically	Overview of pathogens causing infections of genitourinary system • GPC causing UTIs • Enterobacteriacae • E. Coli • Syphilis • Neisseria gonorrheae • Trichomonas vaginalis • Chlamydia trichomatis	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	• Identify Anaerobic jars used for growth of anaerobic bacteria • Observe steps in management of spill of fluids/blood • Interpret Urine D/R and Urine C/S • Perform and interpret Pregnancy test			OSPE

PHARMACOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Diuretics	• Recollect the anatomical physiological basis of renal system. • Differentiate between therapeutic application of different diuretics	• Diuretics: Thiazide, loop, K sparing, osmotic , Carbonic Anhydrase	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/SKILLS	• Justify the selection of priority drugs for certain indications of renal system and prescribe medicine accordingly			OSPE

MBBS Curriculum Year-III (2023)

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Sexual Offences /Reproduction	• Assess the sexual offences and relate it to relevant Sections of Law (Zina and Hudood Ordinance) • Differentiate between natural and unnatural sexual offences • Address the causes of common sexual perversions • Distinguish between Impotence, Virginity, Pregnancy and criminal acts during delivery (their medico-legal aspects, examination procedure and reporting) • Appraise the procedure of performing clinical l examination of victim and assailant in case of sexual offense, collect specific specimens and write a required certification. • Appraise the relevant sections of law, Medico-legal aspects	• Sexual Offences and Relevant Sections of Law (Zina and Hudood Ordinance) ○ Natural and unnatural sexual offences ○ Medical examination of victim and assailant, collection of specific specimens. ○ Common sexual perversions and their cause. ○ approach to Impotence, determination of Virginity, Pregnancy and criminal processes during delivery, their medico-legal aspects, examination procedure and reporting. ○ Miscarriage: ○ Crime Against New-Born, Infants and Child. • Infanticide and criminal and non-accidental violence or abuse to a newborn, infant or child	LGIS, practical, CBL	MCQs/ SEQs/ / OSPE/ VIVA

MBBS Curriculum Year-III (2023)

	applicable to miscarriage; and be able to. • Crime Against New-Born, Infants and Child. • identify infanticide and criminal and non-accidental violence or abuse to a newborn, infant or child.			

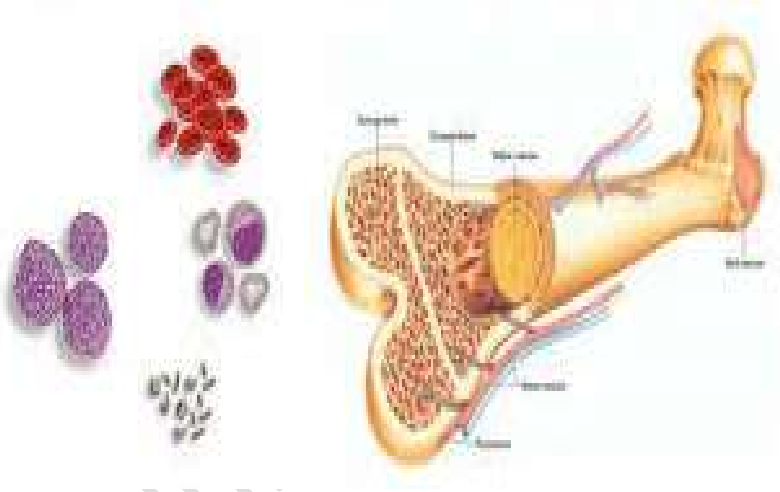
SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Fluid & Electrolyte replacement therapy	Justify the use of fluid & electrolyte replacement therapy	Fluid & Electrolyte replacement therapy	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Urinary tract infection	Recognize different causes of UTI on the basis of presentation and investigation	Causes, clinical presentation, history taking and relevant examination of patient	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedure	Assist Foley's catheterization (10)		Real Patient/ Video clips	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment

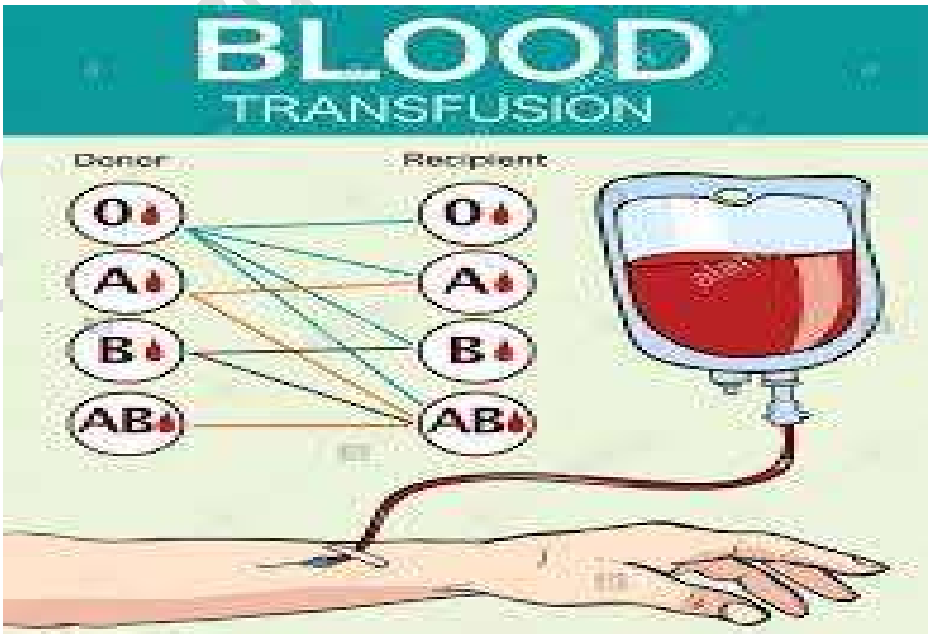
MBBS Curriculum Year-III (2023)

MEDICINE				
Septic shock, **Cardiogenic shock**	Differentiate between types of shocks on the basis of pathogenesis and etiology	Septic shock, Cardiogenic shock	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment
PAEDIATRICS				
Renal Diseases	• Differentiate between nephrotic and nephritic syndromes	Nephrotic and nephritic Syndrome	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
OBS & GYNAE				
Eclampsia	• Compare the principles of management of pre eclampsia with chronic essential hypertension. • Critically appraise the drugs used in the management of pre eclampsia • Identify the maternal and fetal complications of pre eclampsia and eclampsia	Eclampsia	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Sexually transmitted infections	Appraise the management of sexually transmitted infections and sexual dysfunction disorders	• Sexually transmitted infections • Sexual dysfunction disorders	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

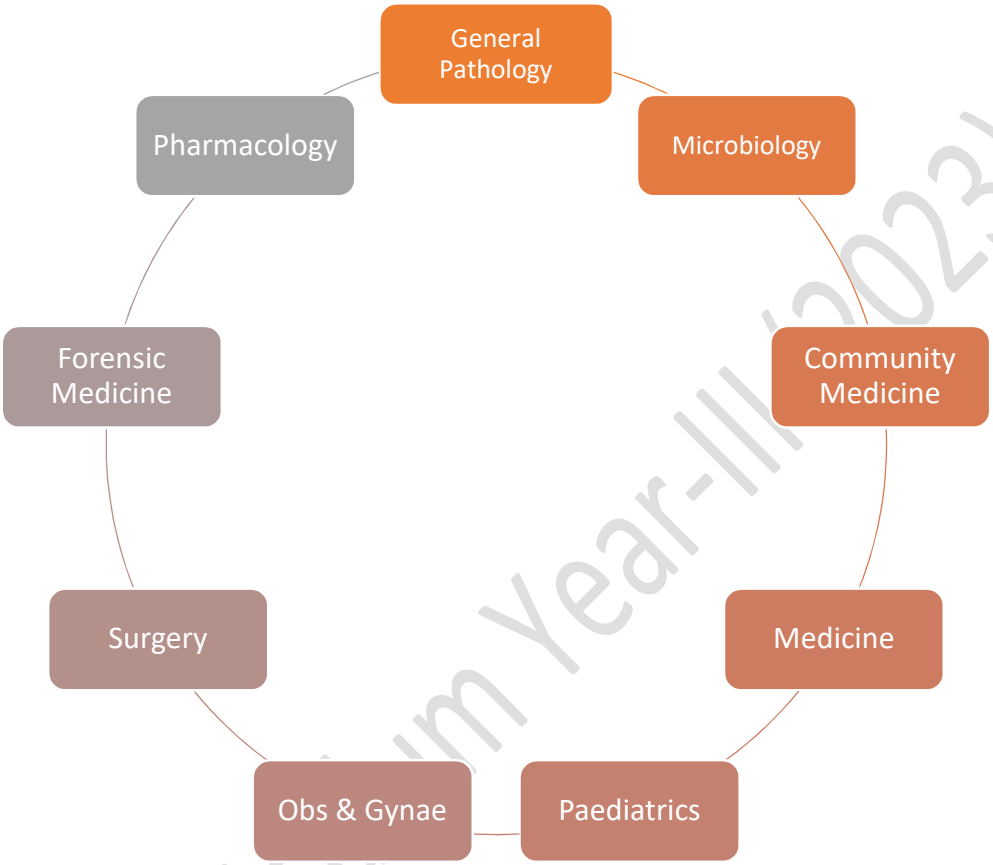
MBBS Curriculum Year-III (2023)

MBBS YEAR - III
BLOCK - VIII
MODULE - XVI
Haematology & Immunology Module
Duration: 03 weeks





Integration of Disciplines in this Module



MBBS Curriculum Year-III (2023)

MODULE COMMITTEE

Year coordinator	***To be filled by the institutes***
Module Coordinator	
Members	

Preamble

The Hematology module of spiral II for 3rd Year MBBS, has been designed to provide an insight of basic concepts required for diagnosis, and outlining the management plan of common disorders of blood and its components. The Hematology module learning objectives take into consideration previously acquired pertinent knowledge in Blood module of MBBS first year. This module encompasses the integration amongst various disciplines like Pathology, Pharmacology, Microbiology and clinical subjects. Students will have opportunities to relate their knowledge through integrated sessions. At least one integrated session in a week will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught history taking and relevant examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Aim

This module will enable students to relate their theoretical learning about haematology through case-based learning, interactive Lectures, integrated sessions and apply this knowledge in relevant clinical scenarios encountered in subsequent years of training and practice

Learning Outcomes:

At the end of this module, student will be able to:

1. Relate the basic pathology of immune system for understanding different clinical disorders
2. Discuss various haemoparasites and their clinical significance
3. Justify the use of drugs in different haematology disorders
4. Comprehend medicolegal importance of biological specimens and toxicology
5. Demonstrate all steps of history taking and examination of patients presenting with haem and immune disorders in medical and surgical clinics

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Pallor (anaemia)
Bleeding disorders
Itching and rash

MBBS Curriculum Year-III (2023)

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to :	**Learning objectives/ Course content**	**Instructional strategies**	**Assessment Tools**
Diseases of immune system	• Categorize and evaluate the components of normal immune system along with various pathological immune response • Evaluate the autoimmune diseases with various types of immunodeficient syndromes	• Immune system – Basic concepts, Cells of immune sytem & Immunoglobulins • Hypersensitivity I & II • Hypersensitivity III & IV • HLA system and Histocompatible antigen • Tissue transplantation, Tolerance and autoimmunity	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Amyloidosis	• Discuss etiology, pathogenesis and morphology of Amyloidosis	• Amyloidosis	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	Interpret blood CP	• Blood CP • Amyloidosis	Practical	
MICROBIOLOGY				
Microbiology	Discuss various haemoparasites and their clinical significance	Overview of pathogens causing infections of blood & immune system • Haemoparasites • Plasmodia • Leishmania • Toxoplasma/ Trypanosomes • Dengue • Congo Haemorrhagic fever	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	Identify the following slides • Malarial parasites • LD bodies			OSPE

MBBS Curriculum Year-III (2023)

PHARMACOLOGY				
Theme/Block	**Learning Outcomes** At the end of this module, student will be able to	**Course Content**	**Instructional strategies**	**Assessment tools**
Blood	Justify the management plan of anemia, coagulation disorders and HIV by correlating it to the patho-physiological basis of disease	• Hematinics • Anticoagulants • Thrombolytic • Anti-platelets • Anti Hyperlipidemics	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
	Justify the use of immunostimulants including probiotics, immunosuppressants, vaccines and sera	• Immunopharmacology: o Immunostimulants including probiotics o Immunosuppressants o Vaccines and sera	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Anti-Malarial Drugs	Justify the use of Malaria	Anti Malarial	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Miscellaneous Topics: • Heavy Metal Poisoning & Antidotes (Chelating Agents) • Drug – Drug interactions	Outline the essential pharmacological principles of toxicology.	• Heavy Metal Poisoning & Antidotes (Chelating Agents) • Drug – Drug interactions	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Drug T/M of Rheumatoid Arthritis	Justify the use of drugs in the treatment of gout	Drug T/M of Rheumatoid Arthritis	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
T/M of Gout	Justify the use of drugs in the treatment of gout	Drugs used in gout	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/ SKILLS	• Calculate different concentrations of drugs or solutions I • Justify the selection of priority drugs for certain indications and prescribe medicine accordingly. • Calculate different concentrations of drugs or solutions II.			OSPE

MBBS Curriculum Year-III (2023)

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Biological Specimens	• Appraise the forensic importance of Biological specimens (Blood, Semen, Salvia, Vomitus, Breath, Urine, Hair). • Collects, preserve, dispatch various human body specimens	• Forensic importance of Biological specimens (Blood, Semen, Salvia, Vomitus, Breath, Urine, Hair). Method of their collection, preservation, dispatch and the common laboratory tests	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
General Toxicology	• Relate the cases of toxicology to its related laws • Manage toxicological cases in acute and chronic exposure • Interpret acute and chronic cases of poisoning in living and dead	• Scope of forensic aspects of toxicology. • Common Toxicants in our environments and their abuse	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
COMMUNITY MEDICINE				
Leishmaniasis	Discuss group of protozoal diseases caused by Leishmania parasites	• Epidemiological determinants • Mode of transmission • Clinical features • Control measures	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Mosquito related diseases	Discuss group of Mosquito related diseases; Dengue, Malaria	• Epidemiological determinants, Mode of transmission, Clinical features	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

		and Control measures of these diseases		
Anemia	• Relate different risk factors to particular patients and general population • Estimate the extent of damage to individuals and community in terms of morbidity and mortality burden • Suggest preventive measures for these diseases in individuals and populations at-risk	• Anemia ○ General population ○ Pregnancy ○ Childhood • Types of anaemia • Hidden hunger	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
General Immunology	• Explain immunology & its components • Describe pre-requisites of vaccination including cold chain, hazards, contra indications & precautions	• Immunizing agents • • The susceptible host; (active and passive • immunization, • chemoprophylaxis) • EPI schedule • Herd immunity • Cold chain • Adverse effects following ➢ immunization and its investigation	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

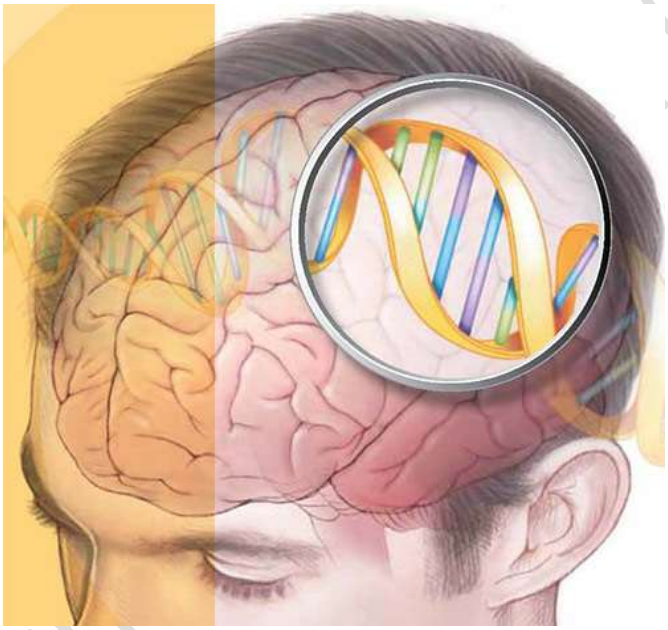
SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Hazards of blood transfusion reaction	Assess the patient for transfusion and its reactions	Transfusion reaction	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
IV cannulation	a. Demonstrate correct method of I/V Cannulation b. Perform under direct supervision • Intravenous Line (10)	• Enlist the equipment needed for the procedure. • Demonstrate the skill proficiently • Identify the correct sites for I/V cannulation	Real Patient/ Skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
MEDICINE				
Anaemia	Differentiate between various types of anaemia	Types of anaemia	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Bleeding disorders	Differentiate between various types of bleeding disorders	Types of bleeding disorders		
Allergic reactions	• Relate the clinical presentation to its pathophysiology • Enlist key management steps in emergency	• Angioedema • HS reactions	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	• Observe and assist • I/V lines/Fluids/Blood/Blood products • Branula, CVP • Bone marrow aspiration/Trephine		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
PAEDIATRICS				

MBBS Curriculum Year-III (2023)

Topic/ Theme	Learning outcomes	Learning Objectives/Contents	Instructional strategies	Assessment tool
Anaemia	• Explain classification and causes of anaemias in children • Discuss management of anemias in children	• IDA • Thalassemia • Hemolytic anemias • G6PD • Hereditary Spherocytosis	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Bleeding disorders	Classify bleeding disorders in children	• Bleeding disorders	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
OBS & GYNAE				
Anaemia in pregnancy	• Discuss effects of anaemia on maternal and fetal outcome • Manage anemic women on the basis of relevant investigations	• Anaemia • Effects of anaemia • Management of anaemia	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

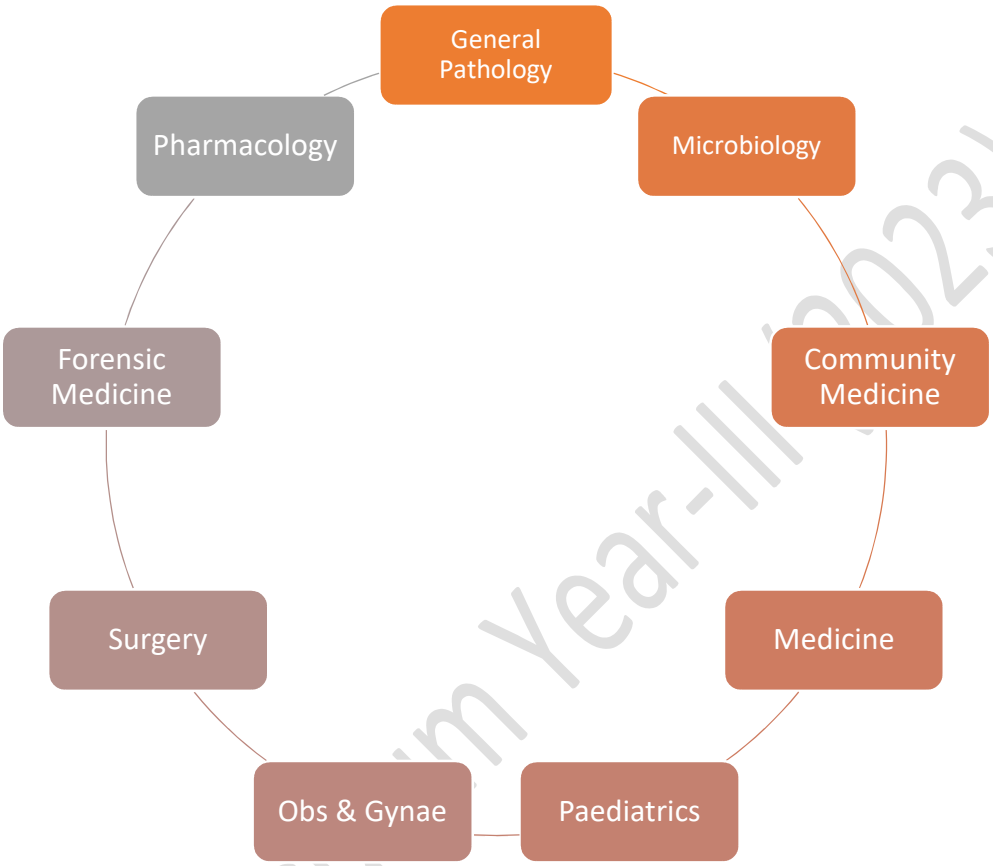
MBBS Curriculum Year-III (2023)

MBBS YEAR - III
BLOCK - VIII
MODULE - XVI
Genetics and Neurosciences-II module
Duration: 03 weeks



MBBS CURRICULUM (2023

Integration of Disciplines



MBBS Curriculum Year-III (2023)

MODULE COMMITTEE

Year coordinator	***To be filled by the institutes***
Module Coordinator	
Members	

reamble

This module will provide students with a multidisciplinary approach to understanding the etiology, morphology and pathogenesis of genetics and neurological disorders with their treatment modalities. Students will have opportunities to relate their knowledge through integrated sessions. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught history taking of CNS complaints and relevant examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Aim

This module will enable students to.

Learning Outcomes:

At the end of this module, student will be able to:

Apply their theoretical learning about genetics and neurosciences in relevant clinical scenarios encountered in subsequent years of training and practice

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Headache
Seizures
Genetic anomalies

MBBS Curriculum Year-III (2023)

ENETICS & NEUROSCIENCES				
Theme/Topic	**Learning Outcomes** At the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
GENERAL PATHOLOGY				
Genetic and pediatric disease	• Evaluate the nature and pattern of inheritance disorders involving single and multiple gene complex. Relate the congenital anomalies infections and syndrome.	• Introduction to genetics, biochemical & molecular basis of Mendelian disorder • Multifactorial disorders Cytogenetic disorders Diagnosis of genetic disorders • DISORDERS ASSOCIATED WITH DEFECTS IN STRUCTURAL PROTEINS a. Marfan b. Ehlers Danlos Syndrome • DISORDERS ASSOCIATED WITH DEFECTS IN RECEPTOR PROTEINS a. Familial Hypercholesterolemia • DISORDERS ASSOCIATED WITH DEFECTS IN ENZYMES a. Lysosomal Storage Diseases b. Glycogen Storage diseases • CHROMOSOMAL DISORDERS a. Normal karyotype & structural abnormalities of chromosomes Cytogenetic abnormalities involving autosome and sex	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

		chromosomes (Down syndrome, Klinefelter syndrome and Turner syndrome) b. Diagnosis of genetic diseases		

MBBS Curriculum Year-III (2023)

MICROBIOLOGY				
Infections of CNS	Describe the important morphological, pathogenic characteristics, laboratory diagnosis and virulence factors produced by pathogens causing infections of CNS	Overview of pathogens causing infections of CNS • Meningitis • Neisseria meningitides • Hemophilus infleunzae • Listeria • Cryptococcus neoformans • Naegleria fowleri • Encephalitis • Polio Rabies	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PHARMACOLOGY				
NSAIDs	Justify the use of NSAIDs in inflammation	• Non-Narcotic Analgesics • Non-steroidal Anti-inflammatory drugs (NSAIDs)	LGIS/ SGD/PBL	MCQs/ SEQs/ / OSPE/ VIVA
Central Nervous System	• Correlate the patho-physiology of psychiatric illnesses to their management • Differentiate between different centrally acting pharmacological agents (LA, GA, opioids) • Justify the use of antiparkinsonian drugs on the basis of pathophysiology of the disease • Analyze the effects of anti-epileptic drugs in relation to neuro-excitatory illnesses • Rationalize the management of migraine • Correlate the effects of substances of abuse (alcohol, opioids, heroin) on body to its plan for aversion	• Central Neurotransmission • Antipsychotic drugs • Anti-depressants • Gen Anesthetics • Local Anesthetics (LA) • Anti-epilepsy drugs • Drug treatment of Migraine • Aliphatic Alcohols • Sedatives/ Anxiolytics & Hypnotics • Opioids • Drug Dependence • Non-Narcotic Analgesics	LGIS,	MCQs/ SEQs/ / OSPE/ VIVA

MBBS Curriculum Year-III (2023)

	therapy • Appraise the pharmacological e • Justify the use of Non-Narcotic Analgesics			
PRACTICALS/ SKILLS	• Interpret and report the effects of CNS stimulants/depressants on frog" • Calculate different concentrations of drugs or solutions II Justify the selection of priority drugs for certain indications and prescribe medicine accordingly			OSPE

MBBS Curriculum Year-III (2023)

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Specific Poisons	Discuss the effects of specific poisons/drugs prevailing in our society along with medico-legal aspects	Study of following poisons/drugs: • Alcohol • Opiates, Opioids and other narcotics • Hypnotics and Sedatives Stimulants (Cocaine), cannabis • Venomous insects (Snakes)	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Forensic Psychiatry	• Distinguish between true and feigned insanity. • Advise on procedure of restraint of the mentally ill. • List limitations to civil and criminal responsibilities of mentally ill.	• True and feigned insanity • Procedure of restraint of the mentally ill • Limitations to civil and criminal responsibilities of mentally ill	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Regional Injuries, of Head (Scalp, Skull, Brain) and Face, Vertebral column and its contents, Neck	• Differentiate among the various possible etiologies of Regional Injuries, of Head (Scalp, Skull, Brain) and Face, Vertebral column and its contents, Neck	Regional Injuries, of Head (Scalp, Skull, Brain) and Face, Vertebral column and its contents, Neck	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
COMMUNITY MEDICINE				
Communicable diseases	• Comprehend modes of disease transmission, interaction of agent host	• Meningitis • Polio	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

	and environment in the pre & pathogenesis phases • Advise about preventive measures to control spread of infections	• Zoonotic infections (rabies, plague, Salmonellosis) • Travel Medicine		
Prevention of Snake bite	Recommend preventive measures against different snake bites in particular situations.	• Snakebite Epidemiology, Personal protection and management • Types of snakes according to toxin production: hemolytic toxins, Musculo-toxins and neurotoxin • Signs/ symptoms of bite by different types of snakes	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Trauma and tissue response	Discuss the response of tissue to trauma	Response of tissue to trauma	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Head injury	Assess the patient with head injury and score as per GCS	• Clinical presentations and clinical findings of patient with head injury • Glasgow Coma Scale	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
MEDICINE				
Movement disorders /tremors	• Differentiate between different types of tremor and movement disorders based on clinical features	• Parkinson's disease, essential tremor, Huntington's disease, tics,	LGIS/ CBL/PBL/ SP/ Real	Formative assessment

MBBS Curriculum Year-III (2023)

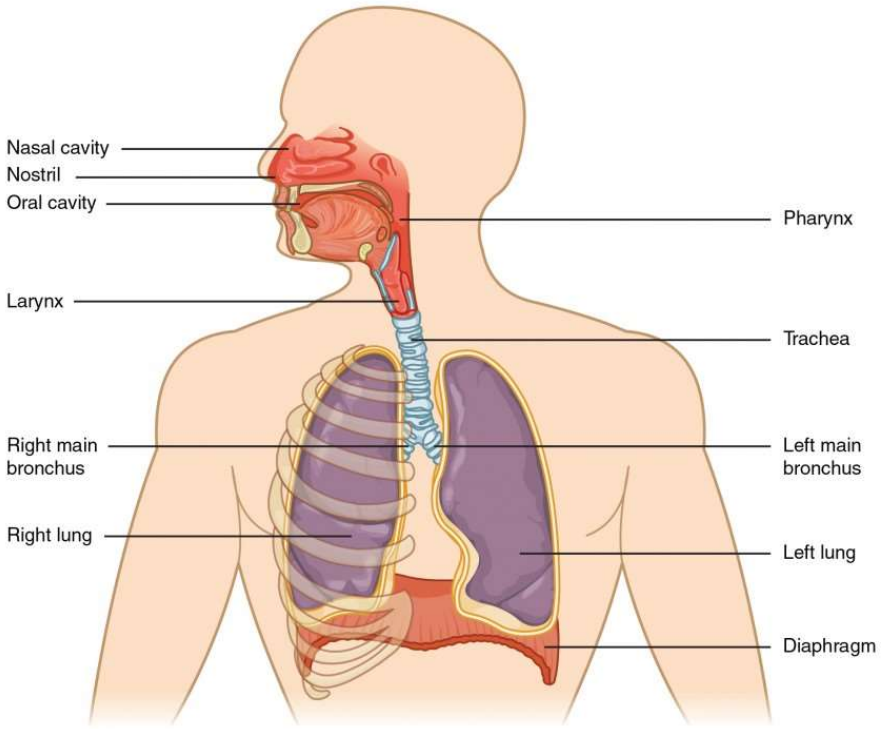
	• Outline the workup and management of patients with gait disorders	medication-induced dyskinesia • Pharmacological treatment for relief of symptoms and its complications • Non Pharmacological treatment including surgery and rehabilitation	Patient/ Video clips	
Headache	• Assess the patient with headache on the basis of etiology and pathophysiology • Differentiate between various types of headache on the basis of clinical presentation • Elaborate pharmacologic treatment for acute condition	• Differential diagnosis of headache, Migraine, cluster, tension, analgesia-overuse, neuralgias, idiopathic intracranial hypertension, temporal arteritis • Presentations and clinical features of various types of headache especially migraine • Etiologies & Pathogenesis of different types of headache	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Seizure disorders	• Differentiate between different types of seizures on the basis of pathophysiology • Identify the cause and trigger factors associated with seizures • Outline the management of Status Epilepticus • List the investigation of a patient with suspected epilepsy	• Epilepsy • various seizure types including adult vs pediatric seizures • Status Epilepticus • Anticonvulsant therapy	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

MBBS Curriculum Year-III (2023)

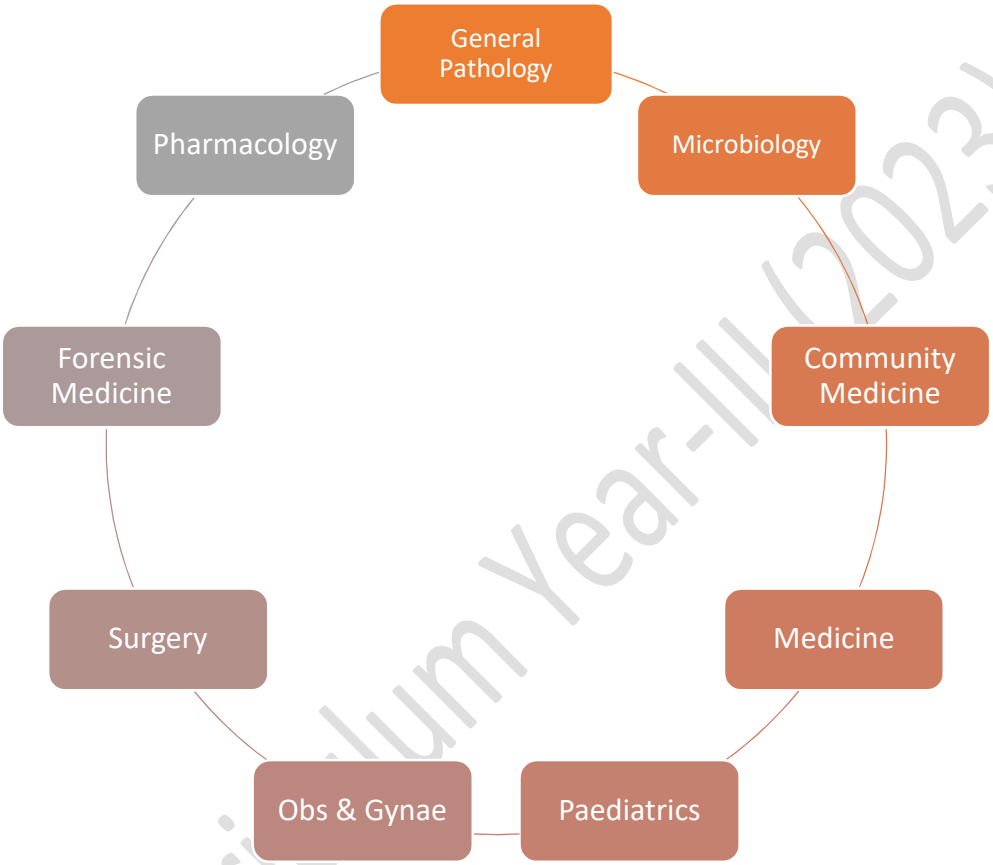
	• Outline the acute and long term management of seizures			
Procedures	Observe and assist • Lumbar puncture		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
PAEDIATRICS				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Common genetic disorder/malformation	• Recall Patterns of inheritance • Diagnose Down Syndrome and common malformations	• Patterns of inheritance • Down syndrome Common genetic disorder/malformation	LGIS, CBL	Formative assessment
Meningitis	Recognize signs of meningitis	Meningitis	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
OBS & GYNAE				
Genetic counselling	Discuss the importance of prenatal counselling about genetic disorders	Importance of prenatal counselling about genetic disorders	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

MBBS Curriculum (Year III 2023)

MBBS YEAR - III
BLOCK – VIII
MODULE – XVIII
Respiratory System Module
Duration: 03 weeks



Integration of Disciplines in CVS II Module



MBBS Curriculum Year-III (2023)

MODULE COMMITTEE

Year coordinator	***To be filled by the institutes***
Module Coordinator	
Members	

Preamble The Respiratory module of spiral II for 3rd Year MBBS, has been designed to provide an insight of basic concepts regarding Respiratory disorders. The pathologies of Respiratory system will be discussed in detail. Moreover, this module encompasses the integration of Respiratory pathologies amongst various disciplines like Pathology, Pharmacology, Forensic Medicine, Community Medicine, Pulmonology, Surgery and radiology. Students will have opportunities to relate their knowledge through PBL sessions. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught history taking of respiratory complaints and chest examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme. Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives
Aim This module will enable students to relate their theoretical learning about respiratory system through case-based learning, interactive Lectures, integrated sessions and
Learning Outcomes: **At the end of this module, student will be able to:** apply the knowledge of this module in relevant clinical scenarios encountered in subsequent years of training and practice

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Cough with sputum, and fever
Wheezy Chest
Shortness of breath

MBBS Curriculum Year-III (2023)

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Environmental diseases	Justify the environmental factors contributing in diseases and effects.	• Harmful effects of smoking and alcohol • Harmful effects of smoking and radiation • Occupational hazards	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	Identify slides • Granuloma			OSPE
MICROBIOLOGY				
Respiratory tract infections	Discuss various microorganisms causing upper and lower respiratory tract infections, their mode of transmission, lab diagnosis, prevention and clinical significance	Overview of pathogens causing infections of respiratory system • Coryneacterium diphtheriae • Bordetella pertussis • Sterptococcus pneumoniae • Bacillus anthracis • Legionella, Mycoplasma • Fungal Respiratory Infections - Aspergillous, Mucor	LGIS, practical, CBL	MCQs/ SEQs/ / OSPE/ VIVA
PHARMACOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Respiratory System	• Develop a management plan for cough and obstructive pulmonary disorders (Asthma, COPD) with justification • Validate the use of antihistamines in various allergic disorders	• Expectorants & Antitussives • Drugs used in Bronchial Asthma • Antihistamines (H1 antagonists)	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/SKILLS	Interpret the dose response curve • Justify the selection of priority drugs for certain indications and prescribe medicine accordingly • Bronchial Asthma • Allergic Rhinitis			OSPE

MBBS Curriculum Year-III (2023)

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** By the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment Tools**
Specific Poisons	Discuss the effects of specific poisons/drugs prevailing in our society along with medico-legal aspects	Study of following poisons/drugs: • Volatile Poisons and corrosives (Carbon monoxide, Hydro carbons, Cyanides, Sulphuric Acid, Oxalic Acid, Carbolic Acid and Alkalis)	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Regional Injuries	Differentiate among the various possible etiologies of Regional Injuries of Chest	Regional Injuries, of Chest	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Heat, Cold, Electrical injuries	Compare and contrast Heat, Cold, Electrical injuries with emphasis on their medicolegal aspects.	Medicolegal aspects of Heat, Cold, Electrical injuries.	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Violent Deaths Due to Asphyxia	Recognize signs of violent death, mechanical, chemical and environmental asphyxia death and their medico legal implications.	Asphyxia	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
COMMUNITY MEDICINE				
Communicable diseases	• Comprehend modes of disease transmission, interaction of agent host and environment in the	• Measles, mumps, rubella, Diphtheria, pertussi • Influenza, SARS, COVID-19 • Tuberculosis • Chickenpox • IMCI guidelines for pneumonia	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

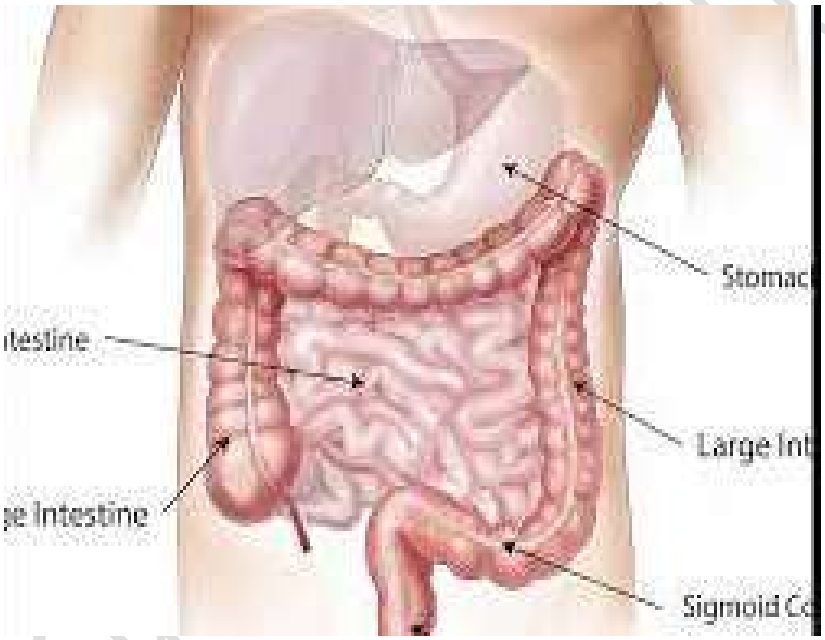
	pre & pathogenesis phases • Advise about preventive measures to control spread of infections			
SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Chest trauma	Differentiate between different types of chest injuries based on mechanism of pathophysiology findings, and management.	• Chest Trauma • Broken ribs • Pneumothorax	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
Role of radiology in respiratory diseases	Identify common radiological abnormalities on chest x-rays	• Discuss the imaging techniques in respiratory disease • Describe the common radiological abnormalities on chest x-rays	CBL/ Video clips	Formative assessment
MEDICINE				
Cough	• Correlate clinical features to etiology in terms of congenital, traumatic, inflammatory, neoplastic or miscellaneous. • Discuss basic pharmacology of drugs being used in a medical unit	• Chronic cough • Dyspnoea / shortness of breath • Fever with cough	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

MBBS Curriculum Year-III (2023)

Dyspnoea / shortness of breath	Identify various causes of dyspnoea		CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Fever with cough	Recognize causes of fever with cough		CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	Observe and assist a. Endotracheal tube placement, Endotracheal suction/maintenance of airway/nursing on side b. Aspiration of fluids (Pleural) c. O2 therapy d. Nebulisation e. ABGs		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of patients with relevant disorders		Bed side teaching/ CBL	OSCE
OBS & GYNAE				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Respiratory diseases in pregnancy	Compare and contrast effects of pregnancy in general on women with Respiratory diseases	Effects of pregnancy in general on women with Respiratory diseases	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
PAEDIATRICS				
Respiratory diseases in children	Discuss the clinical presentation and common etiology of acute respiratory infections.	Acute respiratory infections	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

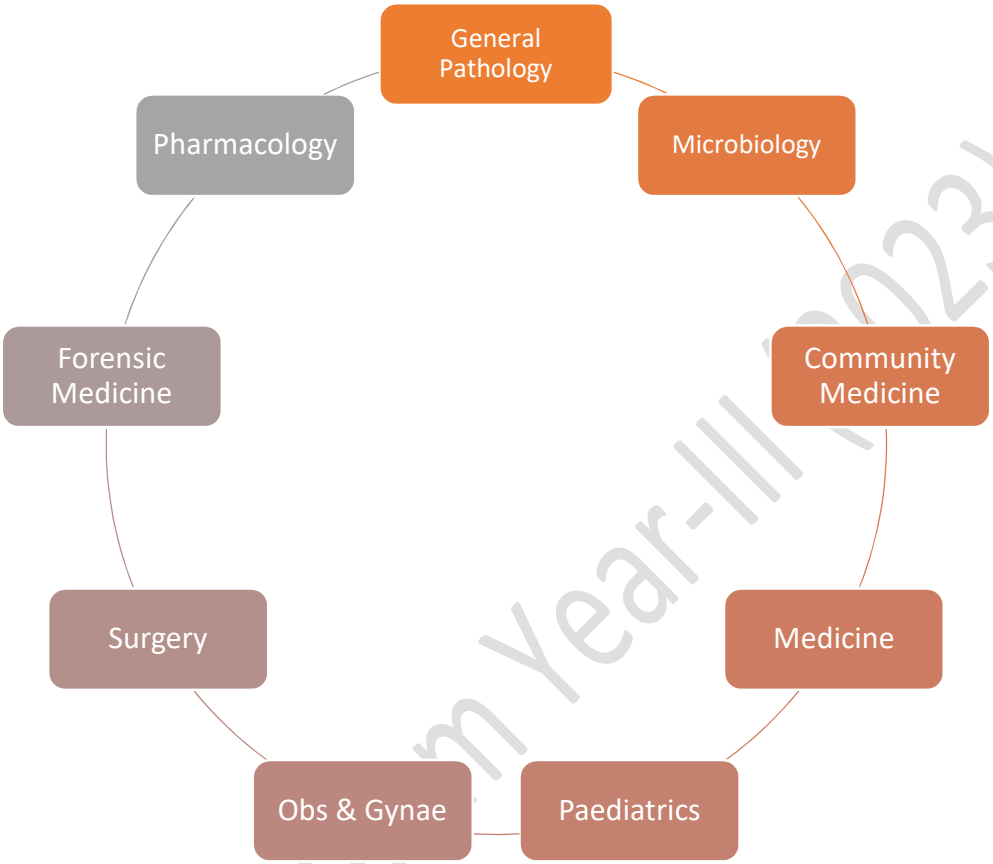
MBBS Curriculum Year III (2023)

MBBS YEAR – III
BLOCK – IX
MODULE - XIX
Digestive System & Metabolism - II Module
Duration: 03 weeks



MBBS Curriculum (2023

Integration of Disciplines in this Module



MBBS Curriculum Year-III (2023)

MODULE COMMITTEE

Year coordinator	***To be filled by the institutes***
Module Coordinator	
Members	

Preamble

This module aims to equip medical undergraduates with the essential knowledge and skills required for dealing with prevalent GI and metabolic disorders in the local context. This module will provide an integrative understanding of the etiology and pathogenesis of gastrointestinal tract, hepatobiliary and metabolic disorders with their treatment modalities. Forensic Medicine and Community Medicine are also taught in relevance where applicable. Students will have opportunities to relate their knowledge through integrated sessions. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines. Students will be taught history taking of GI complaints and relevant examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Aim

This module will enable students to relate their theoretical learning about digestive system through case-based learning, interactive Lectures, integrated sessions and apply this knowledge in relevant clinical scenarios encountered in subsequent years of training and practice.

Learning Outcomes:

At the end of this module, student will be able to:

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Diarrhea
Upper GI bleeding
Abdominal pain

MBBS Curriculum Year-III (2023)

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Nutritional diseases	Justify the nutritional factors contributing in diseases and effects.	Nutritional factors contributing in diseases and effect	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
MICROBIOLOGY				
Pathogens causing infections of digestive system	Overview of pathogens causing infections of digestive system • Diarrhea & Dysentery • Salmonella • Shigella • Vibrio • Amoeba • Helicobacter / campylobacter • Giardia/cryptosporidium • Nematodes I • Nematodes II • Trematodes • Cestodes I • Cestodes II • Viral Hepatitis • Rotavirus	Microorganisms causing GIT infections, their mode of transmission, lab diagnosis, prevention and clinical significance: • Diarrhea & Dysentery • Salmonella • Shigella • Vibrio • Amoeba • Helicobacter / campylobacter • Giardia/cryptosporidium • Nematodes I • Nematodes II • Trematodes • Cestodes I • Cestodes II • Viral Hepatitis • Rotavirus	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/SKILLS	• Identification of ova/ cyst in stool microscopy • Interpret Stool RE report			OSPE
PHARMACOLOGY				
Drugs acting on GIT	Develop and justify the management plan of common disorders of gastrointestinal tract (peptic ulcer, vomiting, constipation, diarrhea and hepatitis).	• Anti-emetics • Antidiarrheals • Purgatives/laxative • Drugs used in Peptic Ulcer	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

Endocrinology	• Justify different treatment modalities for all types of diabetes mellitus • Rationalize the therapeutic uses of thyroid/anti-thyroid drugs, osteoporosis and adrenal hormones in different disorders	• Antidiabetic drugs • Thyroid/Anti-thyroid drugs • Adrenal Hormones • Drug treatment of Osteoporosis	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
	• Justify the clinical use of gonadal hormones in relation to reproductive physiology • Rationalize different treatment modalities for infertility	• Gonadal Hormones: Estrogens &Progestins, Anabolic steroids • Hormonal contraceptives • Oxytocic drugs &Uterine Relaxants • Drug used in treatment of Infertility	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/SKILLS	Justify the selection of priority drugs for certain indications and prescribe medicine accordingly • Type I & II Diabetes • Hyperthyroidism			OSPE
PRACTICALS/SKILLS	• Interpret and report the effects of drugs on isolated rabbit's ileum • Interpret the dose response curve on rabbits ileum • Justify the selection of priority drugs for certain indications and prescribe medicine accordingly			OSPE

FORENSIC MEDICINE

Theme/Topic	Learning Outcomes **By the end of Block II, the students will be able to:**	Course Content	Instructional strategies	Assessment tools
Specific Poisons	Discuss the effects of specific poisons/drugs prevailing in our society along with medico-legal aspects	Study of following poisons/drugs: • Salicylates and paracetamol • Poisonous Plants (Aconite, Belladonna, Hyoscyamus, Stramonium, Digitalis, Ergot, Mushrooms,	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

MBBS Curriculum Year-III (2023)

		Nux Vomica, Oleander, Tobacco) • Inorganic elements, Antimony, Arsenic, lead, Mercury, Phosphorus • Pesticides, Herbicides and Insecticides and others		
COMMUNITY MEDICINE				
Non Communicable diseases	• Relate different risk factors to particular patients and general population • Estimate the extent of damage to individuals and community in terms of morbidity and mortality burden • Suggest preventive measures for these diseases in individuals and populations at-risk	Prevention of diabetes mellitus	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Communicable diseases	• Comprehend modes of disease transmission, interaction of agent host and environment in the pre & pathogenesis phases • Advise about preventive measures to control spread of infections	Prevention of typhoid, cholera, ameobiasis, Giardasis, parasitology, Diarrheal diseases	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

PRACTICALS/SKILLS
EARNING OUTCOMES
At the end of this block, student shall be able to

MBBS Curriculum Year-III (2023)

Perform Autopsy& Medicolegal Examinations
Perform medico-legal Examination of injured
Preserve and dispatch biological and other evidentiary material
Examine mother and aborted material; and send aborted material in proper preservative for examination

MBBS Curriculum Year-III (2023)

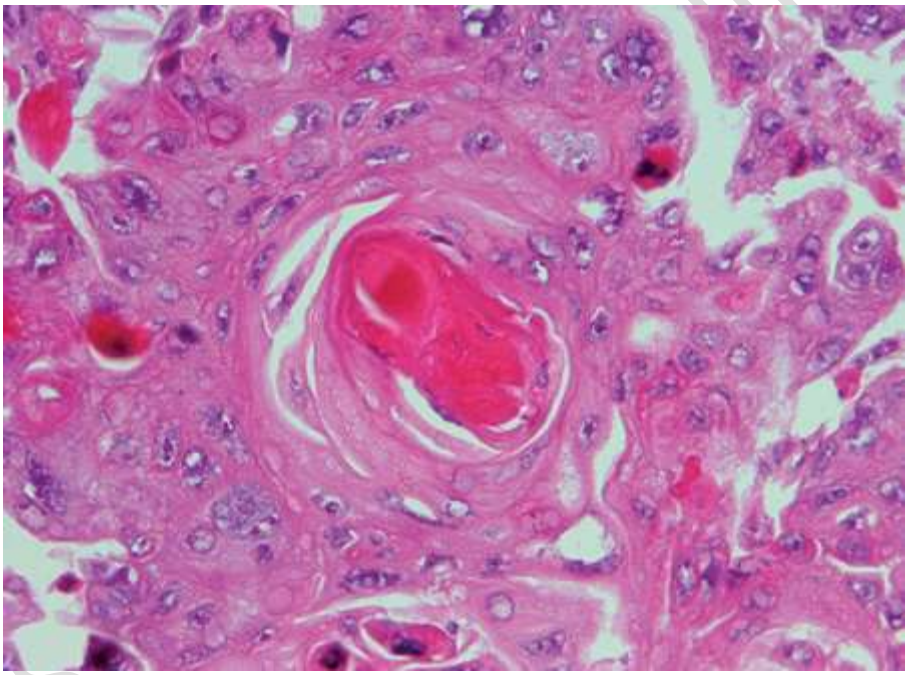
SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Abdominal Injury	• Elaborate upon abdominal/ genitourinary injuries reference to causes, signs, symptoms diagnosis, management predisposing factor, complications and preventions • Discuss various causes of abdominal injury/ genitourinary trauma • Enumerate the most susceptible visceral organs in Abdominal Injury/ genitourinary trauma	• Clinical presentations and clinical findings of patient with head injury • Glasgow Coma Scale	LGIS/CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Acute abdomen	• Describe the symptoms, signs, and differential diagnosis for patients presenting with an acute abdomen.	Causes, Clinical presentations and clinical findings of patient with Acute abdomen	LGIS/CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	Assist Passage of Nasogastric Tube (5)		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
MEDICINE				
Enteric Fever	• Relate the clinical presentation of GI disorders with their etiology and pathogenesis • Elaborate complications and Preventive measures of Enteric fever.	• Enteric fever	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Diarrhea	Describe the symptoms, signs, and differential diagnosis for	• GERD • IBD • Achalasia	CBL/PBL/ SP/ Real	Formative assessment

MBBS Curriculum Year-III (2023)

	patients presenting with diarrhoea	• APD • Acute gastroenteritis • Infectious diarrhea • Chronic diarrhea	Patient/ Video clips	
Procedures	Observe and assist • N/G passing and feeding. • Aspiration of fluids (Peritoneal) • Preparing a patient for endoscopies, upper and lower GIT		Real Patient/ skill lab	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
OBS & GYNAE				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Acute Abdominopelvic pain	• Categorize the causes of acute onset of pelvic pain • Compare and contrast the signs and symptoms of ectopic pregnancy, ovarian cyst accident and first trimester d miscarriage • Appraise the medical and surgical methods of treatment of ectopic pregnancy	Diagnosis and management of acute abdominal pain due to: • Ectopic pregnancy • Ovarian cyst accident • first trimester d miscarriage • Principles of diagnosis and management of chronic pelvic pain	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
PAEDIATRICS				
Enteric Fever	• Relate the clinical presentation of GI disorders with their etiology and pathogenesis • Elaborate complications and Preventive measures of Enteric fever.	Enteric fever	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Diarrhea in children	Describe the symptoms, signs, and differential diagnosis for patients presenting with diarrhoea	Diarrhea	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

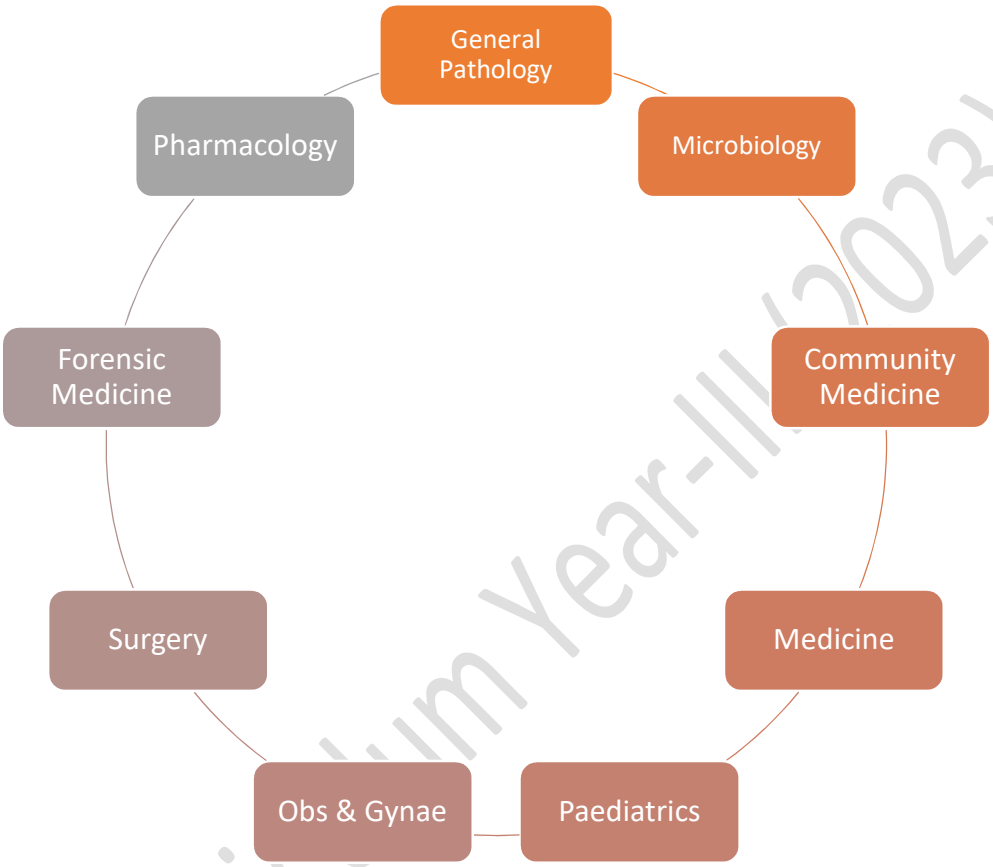
MBBS Curriculum Year-III (2023)

MBBS YEAR - III
BLOCK - IX
MODULE - XX
Multisystem Module – I (Neoplasia)
Duration: 04 weeks



MBBS

Integration of Disciplines in this Module



MBBS Curriculum Year-III (2023)

MODULE COMMITTEE

Year coordinator	***To be filled by the institutes***
Module Coordinator	
Members	

Preamble

This module aims to enhance students' knowledge of etiology, morphology and pathogenesis of neoplasia, build their ability to recognize signs and symptoms and relate with prevention and treatment modalities. Forensic Medicine and Community Medicine are also taught in relevance where applicable. Students will have opportunities to relate their knowledge through integrated sessions. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines.

Students will be taught history taking of and relevant examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Learning Outcomes:

At the end of this module, student will be able to:

1. Relate the nomenclature, characteristic, epidemiology, carcinogenesis, grading and staging, genetic basis, and mechanism of metastasis for understanding clinical presentations of different cancers
2. Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention of infections in immunocompromised patients, Opportunistic bacterial pathogens and HIV/AIDS with their clinical significance
3. Appraise the principles of cancer chemotherapy in relation to its current therapeutic modalities

List of Proposed Themes for integrated sessions (at least one/week)

Theme
Skin swelling/lump
Neoplasm
Fibroid Uterus

MBBS Curriculum Year-III (2023)

GENERAL PATHOLOGY				
Theme/Topic	**Learning Outcomes** At the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Neoplasia	Analyze the nomenclature, characteristic, epidemiology, carcinogenesis, grading and staging, genetic basis, mechanism of metastasis and tumor markers	• Neoplasia – Introduction • Nomenclature of neoplasia • Characteristics of neoplasia Carcinogenesis • Molecular basis of cancer • Biology of tumors • Mechanism of spread of malignant tumors • Tumor markers	LGIS, practical, CBL	MCQs/ SEQs/ / OSPE/ VIVA
Practicals	Identify slides • Lipoma • Leiomyoma • Basal cell carcinoma • Squamous cell Carcinoma			OSPE
MICROBIOLOGY				
Microbiology	Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention with their clinical significance of following: • Infections in immunocompromised patients • Opportunistic bacterial pathogens • HIV/AIDS • Measles, Mumps and Rubella • HSV • HPV • Influenza virus • Corona viruses • Adenovirus	• Infections in immunocompromised patients • Opportunistic bacterial pathogens • HIV/AIDS • Measles, Mumps and Rubella • HSV • HPV • Influenza virus • Corona viruses • Adenovirus EBV and CMV	LGIS/ SGD/PBL	MCQs/ SEQs/ / OSPE/ VIVA

MBBS Curriculum Year-III (2023)

	• EBV and CMV			
PHARMACOLOGY				
Chemotherapy	• Appraise the principles of cancer chemotherapy in relation to its current therapeutic modalities • Outline the radiation therapy • Rationalize the drug therapy in disease states such as renal and hepatic disease	Introduction & General Principles of Chemotherapy Overview of radiation therapy • Drug therapy in disease states such as renal and hepatic disease	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
	• Classify various anti cancerous drugs on the basis of their mode of action	Anti-cancerous drugs	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
PRACTICALS/SKILLS	Calculate different concentrations of drugs or solutions IV			OSPE

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** **By the end of Block II, the students will be able to:**	**Course Content**	**Instructional strategies**	**Assessment tools**
Medical Ethics, consent & negligence	Apply ethical principles of medicine as physicians/ in their clinical clerkships according to national as well as international code of ethics	• Powers and jurisdiction of courts • procedures for inquest, and legal Procedures. • Important Legal terms • Application of relevant Legal sections of the penal code • Role of a medical doctor in the medico-legal system • Medical evidence in courts. • Document information to be prepared by a	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA

MBBS Curriculum Year-III (2023)

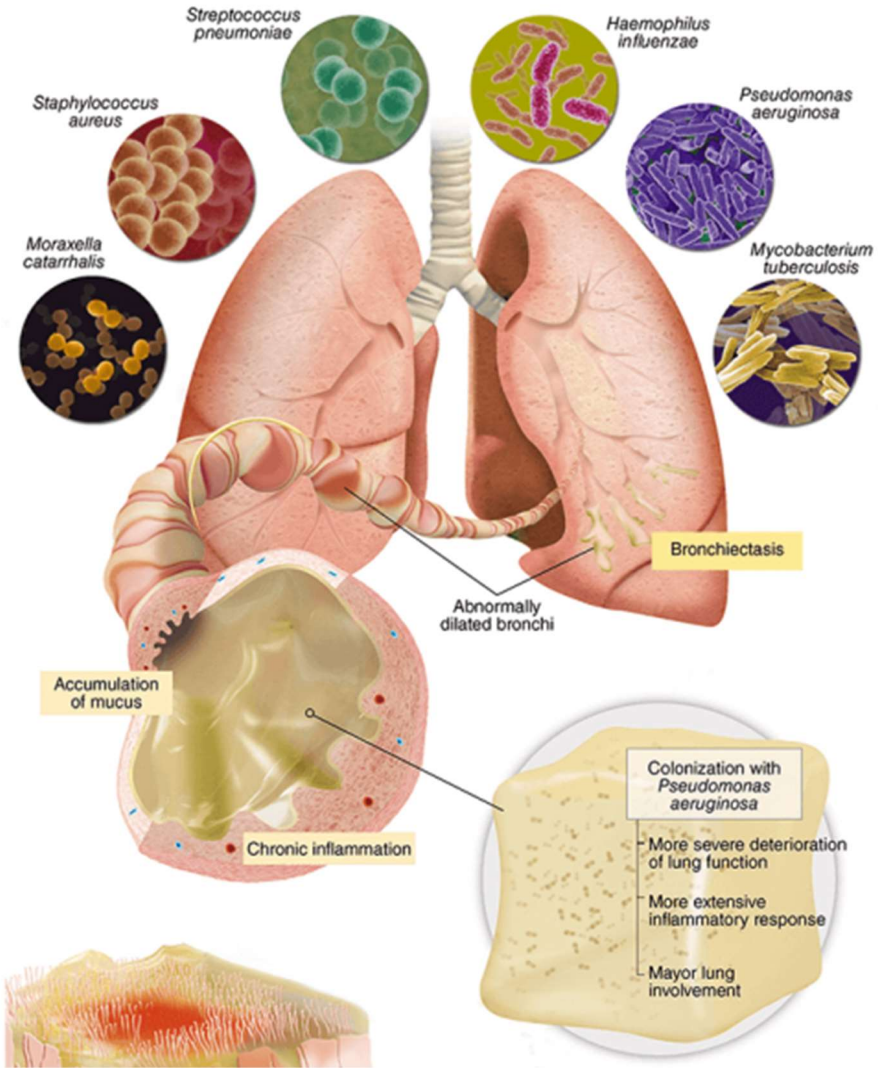
		medical doctor for legal procedures. • Procedure of Court attendance and recording of evidence		
COMMUNITY MEDICINE				
Communicable diseases	• Comprehend modes of disease transmission, interaction of agent host and environment in the pre & pathogenesis phases • Advise about preventive measures to control spread of infections	Opportunistic infections • HIV/ AIDS (Excluded by WAH • However integrated with other subjects)	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
Non Communicable diseases	• Relate different risk factors to particular patients and general population • Estimate the extent of damage to individuals and community in terms of morbidity and mortality burden • Suggest preventive measures for these diseases in individuals and populations at-risk	• Cancer causes and prevention • CA breast & Cervix	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
MEDICINE				
Neoplasia	Analyze the clinical aspects of neoplasia	**Clinical Aspects of Neoplasia** Paraneoplastic syndromes and tumor cachexia.	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Acquired immunodeficiency syndrome	• Relate the pathophysiology of immunodeficiency syndrome to its clinical presentation • Identify the modes of transmission and	**HIV/AIDS**	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

MBBS Curriculum Year-III (2023)

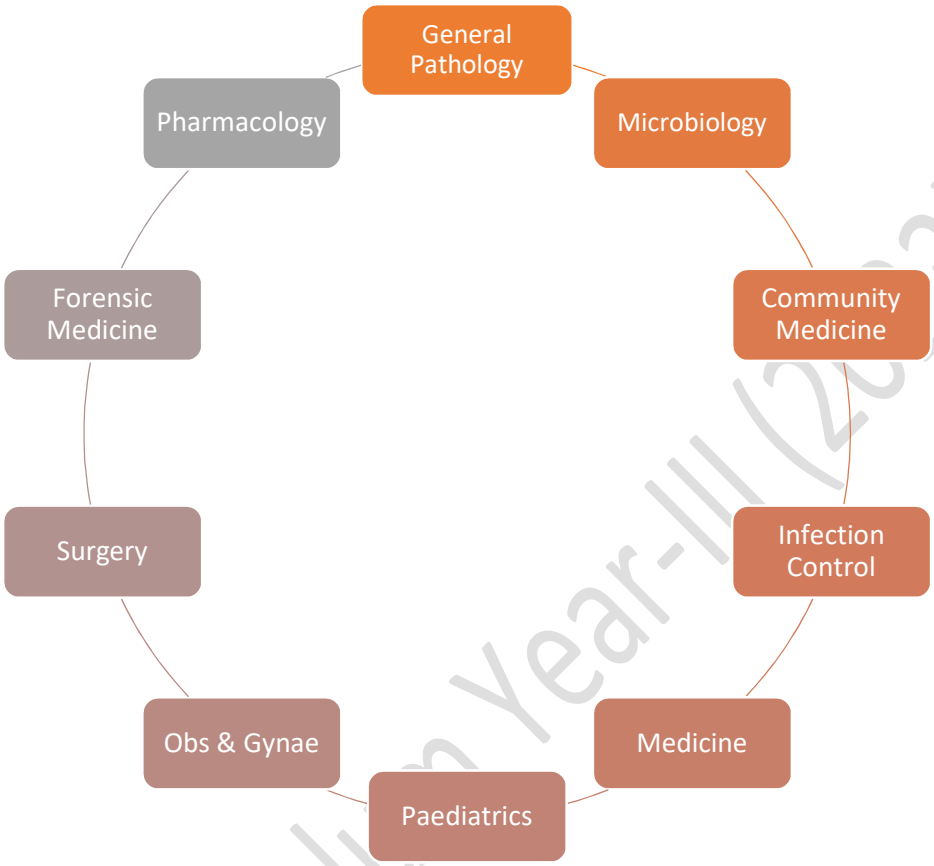
	individuals susceptible to the disease • Evaluate various diagnostic modalities and treatment options.			
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Skin swellings and lumps	• Classify lumps in skin & subcutaneous tissue • Differentiate between benign and malignant tumors • List the principles of diagnosis and management of lumps in skin & subcutaneous tissue.	Cyst, Dermoid, Papilloma, Fibroma, Bursae, ganglion, Neurofibroma, Schwannoma and Basal Cell Carcinoma • Classification • Clinical features • Diagnosis • Management	LGIS, practical, CBL	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
OBS & GYNAE				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Gynecological Benign Tumors	• Appraise the epidemiology, etiology, clinical presentation and principles of management of fibroid uterus. • Classify common benign tumors of ovary along with their clinical presentation and principles of management.	**Benign:** • Fibroid uterus • Benign tumors of Ovary	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

MBBS Curriculum Year-III (2023)

MBBS YEAR - III
BLOCK - IX
MODULE - XXI
Multisystem Module – II (Infectious diseases)
Duration: 04 weeks



Integration of Disciplines in this Module



MBBS Curriculum Year-III (2023)

MODULE COMMITTEE

Year coordinator	***To be filled by the institutes***
Module Coordinator	
Members	

Preamble

This module aims to enhance students' knowledge of etiology, morphology and pathogenesis of the prevalent infectious diseases, build their ability to recognize signs and symptoms and relate with prevention and treatment modalities. Forensic Medicine and Community Medicine are also taught in relevance where applicable. Students will have opportunities to relate their knowledge through integrated sessions. A least one integrated session in a week/ will enable the students to integrate their knowledge acquired from different disciplines.

Students will be taught history taking of and relevant examination in Medicine/Surgery rotations to enhance their clinical examination skills. Research methodology and Behavioral Sciences will be taught as a part of the longitudinal theme.

Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

Aim

This module will enable students to relate their theoretical learning about infectious diseases through case based learning, interactive Lectures, integrated sessions and apply this knowledge in relevant clinical scenarios encountered in subsequent years of training and practice.

Learning Outcomes:

At the end of this module, student will be able to:

1. Relate the pathogenesis of common infectious diseases to justify their treatment modalities
2. Recognize preventive measures of common infectious diseases in community
3. Recognize the common clinical infectious diseases in community
4. Follow steps of history taking and examinations for establishing diagnosis

MBBS Curriculum Year-III (2023)

List of Proposed Themes for PBL/CBL sessions (at least one/week)

Theme
PUO
Fever with chills
Fever with rash

MICROBIOLOGY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Bacteriology	Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention and virulence factors produced by pathogens causing infectious syndromes with their clinical significance	Overview of pathogens causing infectious syndromes **Bacteriology** • Tuberculosis • PUO • Sepsis • Hospital acquired infections (MRSA, VRE) • Clostridia • Zoonotic pathogens- Brucella / Pasteurella / Yersinia • Minor bacterial pathogens including Rickettsia, Actinomyces, Nocardia	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
LIST OF PRACTICALS/ SKILLS	• Identify different types of blood culture bottles • Demonstrate understanding of blood culture collection technique • Identification of different bacteria • Interpret Culture and Sensitivity of selected bacteria • Identification of fungi and yeast • Interpret ELISA report for HIV B & C			OSPE
PHARMACOLOGY				
Antibiotics	• Justify the treatment modalities for various microbes (bacteria, viruses) according to mode of action,	• Mechanism of Resistance • Penicillin • Cephalosporin • Sulfonamides • Macrolides	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA

MBBS Curriculum Year-III (2023)

	resistance patterns and regional current practices	• Tetracyclines • Chloramphenicol • Aminoglycosides • Quinolones • Misc. Drugs: • Clindamycin, Fusidic • acids, vancomycin, • Nitrofurantoin, Linezolid		
Anti-tuberculosis drugs	Justify the management plan of tuberculosis according to mode of action, resistance patterns and regional current practices	Anti- tuberculosis drugs	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
HIV treatment	Justify the use of HIV	HIV treatment	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
• **Anti-Amoebic** • **Antihelmintics**	Justify the use of Anti-Amoebic and Antihelmintics	• Anti-Amoebic • Antihelmintics	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
Treatment of Hepatitis B & C	Develop and justify the management plan of hepatitis B & C.	Treatment of Hepatitis B & C	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
Anti-fungal drugs	Justify the use of antifungal drugs	Anti-fungal drugs	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
Anti-viral drugs	Justify the use of antiviral drugs	Anti-viral drugs	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
Locally Acting Drugs	Justify the use of different dermatological drugs, topical drugs, anti-seborrhoeics, locally acting enzymes. • antiseptics and disinfectants	• Dermatological and topical drugs • Anti-seborrhoeics, locally acting enzymes. • Antiseptics and disinfectants.	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
Practicals	• Analyze the given quantitative data in a statistically significant manner. • Write an appropriate prescription			OSPE

MBBS Curriculum Year-III (2023)

FORENSIC MEDICINE				
Theme/Topic	**Learning Outcomes** At the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Law in relation to medical man	• Identify the principles of inter professional and patient interaction in clinical practice • Correlate the medical ethics while examining patient to medical negligence and professional misconduct • Justify the guarding of professional secrets and privileged communication. • Debate on legal and ethical aspect of organ transplantation Employ the moral and ethical implications of medical procedures (Artificial insemination, Therapeutic abortions, Euthanasia, Biomedical research) in clinical practice	• Law in relation to medical man	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA
COMMUNITY MEDICINE				
Emerging & re-emerging infections/Hospital acquired infection	• Identify factors causing nosocomial infections and control measures	• Hospital acquired infections Emerging and re-emerging infections • Brucellosis • Tsetse fly, sand fly related diseases • Tick and mite related diseases (as suggested by WAH MC)	LGIS/ SGD/PBL	MCQs/ SEQs/ VIVA

MBBS Curriculum Year-III (2023)

MEDICINE				
Approach to fever (Acute febrile illness)	• Discuss the etiology and enumerate the symptoms and signs of the disease • Elaborate modes of transmission and the causative organism • Identify susceptible individuals • Diagnose various stages of disease based on clinical and characteristic features. • Suggest diagnostic modalities and treatment options. • Propose prevention options including vaccination.	• PUO • Malaria • Dengue • Enteric fever • AVH • Meningitis • HIV	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
SURGERY				
Topic/ Theme	**Learning outcomes**	**Learning Objectives/Contents**	**Instructional strategies**	**Assessment tool**
Sinuses and fistulas	List the principles of diagnosis and management of sinuses and fistula on the basis of its etiology.	• Classification • Causes • Clinical features • Diagnosis • Management principles	Lecture /CBL/SDL	Formative assessment
Wound infections	• Identify susceptible individuals • Diagnose various stages of disease based on clinical and characteristic features.		Lecture /CBL/SDL	Formative assessment

MBBS Curriculum Year-III (2023)

	• Suggest diagnostic modalities and treatment options • Propose prevention options			
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
Procedures	Perform under direct supervision • Intramuscular Injection (10) • Subcutaneous Injection (5)		Real Patient/ skill lab	Formative assessment
OBS & GYNAE				
Vaginal Discharge/ Lower genital tract infections	• Classify the causes of vaginal discharge • Summarize methods of diagnosis of various types of vaginal discharge	Concept of etiological factors, clinical diagnosis of: • Vaginal Discharge • Lower genital tract infections	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Upper genital tract infections	Appraise the symptoms, relevant investigations and principles of treatment as well as prevention of PID	Concept of etiological factors, clinical diagnosis and management of: Upper genital tract infections	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
PAEDIATRICS				
Theme/Topic	**Learning Outcomes** At the end of this module, student will be able to:	**Course Content**	**Instructional strategies**	**Assessment tools**
Infections	• Discuss the etiology and enumerate the symptoms and signs of the disease • Elaborate modes of transmission and the causative organism • Identify susceptible individuals • Diagnose various stages of disease based on clinical	• PUO • Measles • Mumps • Chickenpox • Malaria/cerebral malaria	LGIS, CBL	MCQs/ SEQs/ OSPE/VIVA

MBBS Curriculum Year III (2023)

	and characteristic features. • Suggest diagnostic modalities and treatment options • Propose prevention options including vaccination.			

MBBS Curriculum Year-III (2023)

MBBS Year III
Research Methodology

Third Year					
Block I	**Topic/ Theme**	**Learning Outcomes**	**Course Content**	**Instructional strategies**	**Assessment Tool**
1.	Overview of research process	Formulate research question & research objectives Select study design according to research objectives	Formulation of research question/ research objectives Research methodology	LGIS/ SGD	MCQ/ SEQ
2.	Data collection tool	Formulation of data collection tool	Types of data collection tool Types of questions	LGIS/ SGD	MCQ/ SEQ
3.	Validity of research design and data collection tool	Discuss validity of research design and data collection tool	Internal and external validity, validity of tool	LGIS/ SGD	MCQ/ SEQ
4.	Data analysis - Types of data and presentation	Identify types of analysis according to data Display data according to its type	Techniques for descriptive and inferential statistics Data presentation (graphs, charts)	LGIS/ SGD	MCQ/ SEQ
Block II	**Topic/ Theme**	**Learning Outcomes**	**Course Content**	**Instructional strategies**	**Assessment Tool**
5.	Introduction to systematic review and meta-analysis	Able to conduct steps of systematic review Develop an answerable question using PICO Interpret result of meta-analysis	Steps of systematic review Formulation of objectives using PICO framework Interpretation of Meta-analysis	LGIS/ SGD	MCQ/ SEQ
6.	Sampling technique and Sample size estimation Sampling errors	Identify sampling techniques according to research objectives Determine sample size Identify sampling errors	Purpose of sampling Characteristics of good sample Factors effecting sampling process Types of sampling	LGIS/ Group assignment	MCQ/ SEQ

MBBS Curriculum Year-III (2023)

			Approach to sample size determination		
7.	Statistical data analysis SPSS	Enter data in software Describe results Formulation of charts and graphs	Software for data analysis SPSS Processing and displaying of data	Workshop / Group assignment	MCQ/ SEQ
Block III	**Topic/ Theme**	**Learning Outcomes**	**Course Content**	**Instructional strategies**	**Assessment Tool**
8.	Guidelines for medical writing	Able to write manuscript according to guidelines	Journal's guidelines/ Guidelines according to Study designs	LGIS/ Group assignment	MCQ/ SEQ
9.	Reference writing	Able to make a list of references according to recommended style	Styles of references, sources of references, Bibliography, citations	LGIS/	Group assignment
10.	Research ethics	Able to identify research ethics for publications	Publication ethics, authorship criteria Authorship guidelines using ICMJE (international committee of medical journal editor)	LGIS/ SGD	MCQ/ SEQ

MBBS Curriculum Year-III (2023)

INFECTION CONTROL
COURSE OUTLINE

Total contact hours: 25 hours in 3rd year MBBS

Introduction: Infection Control is an important part of quality healthcare and patient safety. Infection control addresses factors related to the spread of infections including prevention, monitoring/ investigation of demonstrated or suspected spread of infection within the particular health care setting, and management. Its aim is to protect the patient and members of hospital team from contracting infections in healthcare settings

Learning Outcomes: At the end of this course, student will be able to:	Topics	Department	Suggested Blocks
Recognize the role of pathogenic microorganisms, their virulence and mode of transmission in relation to source of infection, including health care associated infections.	Basic Microbiology for Infection Prevention & Control	**Pathology/ Microbiology**	**Block I**
Apply the concepts of infection control and prevention in health care settings.	• Introduction to Healthcare associated infections • Standard Precautions • Transmission based precautions • Infection prevention and control aspect of occupational health in healthcare settings • Waste management in healthcare setting • Cleaning, disinfection and sterilization of reusable surgical instruments and medical devices • Investigation of outbreak in Healthcare institutions • Preventing Hospital acquired Pneumonia	**Community Medicine**	**Block III**

MBBS Curriculum Year III (2

	• Preventing maternal and new born infections in Healthcare settings • Preventing healthcare Associated diarrhea • Work practices in healthcare facilities • Environmental cleaning • Managing Food and water services for the prevention of Healthcare associated infections • Structure and oversight of Infections prevention & Control program • Principals of Public Health emergency preparedness and outbreak management for healthcare facilities		
• Implement IPC practices to stop the spread of infections in healthcare settings • Identify risk factors within the patient care environment	• Personal Protective Equipment • Use of personal protective equipment during viral hemorrhagic fever • Injection safety • Preventing intravascular catheter associated blood borne infections	**Medicine**	**Block I, II & III in wards**
Recommend best practices for infection prevention as it relates to bloodstream infections, surgical site infections and catheter related urinary tract infections.	• Hand Hygiene • Sharpe injuries & management of exposure to blood borne pathogens • Prevention of surgical site Infections • Preventing catheter associated Infections • Processing of reusable healthcare clothing	**Surgery**	**Block I, II & III in wards**

Curriculum Year-III (2023)

Proposed Teaching Strategies: Some of the suggested methods of teaching are:

1. Bedside / chair-side teaching
2. Demonstrations and discussions in laboratories, wards, clinics, emergency rooms, operation theatres etc.
3. Independent, guided learning
4. Lectures
5. Practice in Skills Lab (for example as role plays/ simulation)
6. Small group discussions (as case-based learning or reflective writing sessions)
7. Team-based learning
8. Tutorials
9. Workshops (e.g. aseptic techniques)

Proposed Assessment:
Formative assessment: Skill lab, end of rotation tests
Summative assessment:
Theory: assessed with Microbiology & Community Medicine
Practical with clinical subjects
OSCE = 1 x station in Medicine, Surgery, Obs & Gynae and Paediatrics

MBBS Curriculum Year-III (2023)