



STUDY GUIDE 2025
3rd Year MBBS

Contents

Vision of National University of Medical Sciences.....	4
Mission of National University of Medical Sciences.....	4
Vision of CMH Lahore Medical College and Institute of Dentistry.....	4
Mission of CMH Lahore Medical College and Institute of Dentistry	4
Rationale of Curriculum	5
Curriculum Perspective	5
Introduction to Curricular Framework.....	5
Five-year Scheme of Studies / Curricular Framework	6
Undergraduate Competencies.....	8
Yearly Outcomes.....	8
Subjects in 3 rd Year MBBS	9
Contact Hours Distribution Year-III	9
Assessment Plan	11
Internal Assessment (Theory) – MBBS Year III.....	11
Online Learning & Assessment	12
System Maintenance & Confidentiality	13
Roles and Responsibilities.....	14
Academic Calendar - 3 rd Year MBBS Session (2024-25).....	15
Yearly Curriculum Committee 3rd Year MBBS 2024-25	18
Cardiovascular System II.....	32
Genitourinary System	43
Hematology & Immunology Module.....	50
Genetics and Neurosciences module.....	59
Respiratory System Module.....	69
Digestive System & Metabolism - II Module	76
Multisystem Module – I (Neoplasia)	85
Multisystem Module – II (Infectious diseases)	92
Research Methodology	100
Infection control	102
Clinical Skills.....	105

Introduction to Study Guide

This study guide is designed for medical undergraduates through a collaborative effort of institutional faculty members and students' representatives to provide medical students of CMH Lahore Medical College a resource material for sharing important aspects of the curriculum, as proposed by Pakistan Medical & Dental Council and National University of Medical Sciences. The study guide aims to promote self-regulated and lifelong learning among students by empowering them to have complete information about their educational journey and its significance.

The overarching curricular aspects such as undergraduate competencies, exit outcomes, subject specific learning outcomes, assessment methods, curricular framework, academic calendar, online learning, relevant policies, and names of curriculum coordinators are all included in this guidebook. Horizontal integration across the pre-clinical years has been implemented for better conceptual understanding while vertical integration has been incorporated by early clinical exposure through addition of lectures and integrated seminars.

CMH Lahore Medical College aims to improve health indicators of the community and society at large by training students and doctors in preventive healthcare services, and health education by community outreach programs. The MBBS curriculum at CMH Lahore Medical College also offers learning of medical education, leadership and management via dedicated teaching hours in the academic calendar.

Since curriculum is a living and a dynamic document therefore, the aim is to improve it on yearly basis, using faculty & students' feedback sought after every block examination by program evaluation unit (L-QEC).

School of Health Professions Education

CMH LMC & IOD

Vision of National University of Medical Sciences

To be the best medical university by conducting world-class bio-medical research and creative research activities that develop knowledge and contribute to improve the health care system and social advancement for the people of Pakistan and benefit humanity as a whole with a standard of excellence.

Mission of National University of Medical Sciences

Our mission is to emphasize rigorous research fundamentals while stimulating innovation and providing talented students and faculty with the high standard research facilities in the colleges/institutions of NUMS, necessary to achieve excellence in bio-medical research to contribute toward best care for our individuals and communities, embraces the challenges of health disparities and improve health care system up to international standards.

Vision of CMH Lahore Medical College and Institute of Dentistry

To be a leading institute in medical education that provides an inclusive and conducive environment to foster excellence in teaching, learning, acquisition of clinical skills, research, and innovation to improve future health indicators within our region and beyond.

Mission of CMH Lahore Medical College and Institute of Dentistry

To improve healthcare by:

1. Providing quality medical education that prepares healthcare professionals according to internationally accepted benchmarks for empathy, social accountability, lifelong learning, critical thinking, and sound clinical acumen.
2. Ensuring a conducive and equitable learning environment in research and continuous professional development for students and faculty respectively, enabling their success in national and international licensure examinations and opportunities.
3. Fostering evidence-based and patient-centered care to efficiently address global healthcare challenges, focusing on prevention and community health improvement.

Rationale of Curriculum

This curriculum has been designed by NUMS to address both local and international needs. The curriculum is focused to prepare future doctors to treat local patients efficiently and safely employing best evidence clinical practice. There are many embedded opportunities for students to learn leadership in order to prepare them for their future role as a leader in a healthcare team. There are numerous opportunities for students to learn and practice leadership skills by participating in integrated seminars, CPCs, clinical rotations and co-curricular activities. In order to give medical students requisite evidence-based practices health education, research module, research day and elective in preventive health education are added in the curriculum to ensure their holistic growth.

Curriculum Perspective

Curriculum has been developed in light of behaviorism, cognitivism and constructivism. These curricular flavors provide opportunities to students to have structured learning and practice session along with information orientated feedback, small group learning, critical thinking, decision making and problem-solving opportunities.

Introduction to Curricular Framework

The implemented curriculum is at the 7th level in the integration ladder where basic sciences' facts are correlated with clinical sciences through student led integrated seminars.

1. **PHASE 1 (Year 1 and 2):** Includes basic sciences namely, Anatomy, Physiology, Biochemistry with horizontal integration within the basic sciences and vertical integration through integrated seminars and interactive lectures in Surgery, Medicine and Behavioral Sciences.
2. **PHASE 2 (Year 3, 4 & 5):** Includes paraclinical and clinical sciences namely, Pharmacology, General Pathology, Special Pathology, Community Medicine, Forensic Medicine, Behavioral Sciences, Eye, ENT, Medicine, Psychiatry, Pediatrics, Surgery, and OBGYN, Internal Medicine, Gastroenterology, Rheumatology, Dermatology, Pulmonology, Cardiology, Nephrology, Endocrinology, General Surgery, Orthopedics and Urology. This phase comprises of interactive lectures, small group discussions, tutorials, CPCs and clinical rotations.

Five-year Scheme of Studies / Curricular Framework.

Year	Subjects	Teaching Method	Additional Subjects	Teaching Method	Additional Components
1 st Year	Anatomy (including Histology, Embryology & General Anatomy)	Interactive Lectures. SGDs, Tutorials, DH & Practical	Islamiyat	Interactive Lectures	Student led Integrated Seminar
	Physiology	Interactive Lectures. SGDs, Tutorials, & Practical	Quran Kareem		
	Biochemistry		Introduction to Computer		
	Surgery & Allied	Interactive Lectures	Expository English		
	Medicine & Allied		Basics of Radiology		
	Behavioral Sciences				
2 nd Year	Anatomy (including Histology & Embryology)	Interactive Lectures. SGDs, Tutorials, DH & Practical	Pakistan Studies	Interactive Lectures	Student led Integrated Seminar
	Physiology	Interactive Lectures. SGDs, Tutorials, & Practical	Quran Kareem		
	Biochemistry				
	Surgery & Allied	Interactive Lectures	Basics of Radiology		
	Medicine & Allied				
	Behavioral Sciences				
3 rd Year	Pharmacology & Therapeutics	Interactive Lectures. SGDs, Tutorials, & Practical's	Research Methodology & EBM		
	General Pathology				
	Forensic Medicine				
	Behavioral Sciences (includes communication skills, leadership, management, professionalism)	Interactive Lectures. SGDs, & Tutorials.			

Year	Subjects	Teaching Method	Additional Subjects	Teaching Method	Additional Components
	Community Medicine	Interactive Lecture, Case Based Learning & Clinical Rotation			
	Surgery & Allied				
	Medicine & Allied				
	Gynae & Obs				
	Pediatric Medicine & Neonatology	Clinical Rotation			
4 th Year	Special Pathology	Interactive Lectures, SGDs, & Tutorials.	Research Methodology & EBM		Seminar/CPC
	Community Medicine	Interactive Lectures, Clerkship & Community Visits			
	ENT	Interactive Lecture, Case Based learning & Clinical Rotation All clinical rotations will include patient safety.			
	Eye				
	Surgery & Allied				
	Medicine & Allied				
	Gynae & Obs				
Pediatric Medicine & Neonatology					
Final Year	Surgery & Allied	Interactive Lecture, Case Based Learning & Clinical Rotation			Seminar/CPC
	Medicine & Allied				
	Gynae & Obs				
	Pediatric Medicine & Neonatology				

Undergraduate Competencies

CMH Lahore Medical College and Institute of Dentistry envisions to produce graduates who are proficient in following competencies:

- Medical Expert
- Communicator
- Collaborator
- Scholar
- Professional
- Evidence based Practitioner Providing Holistic Care
- Empathetic
- Community Service Provider
- Critical Thinker
- Self-regulated Learner

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

Subjects in 3rd Year MBBS

Core Subjects

Following are the core subjects for 3rd year MBBS for which professional examination will be held at the end of the academic year:

1. Pharmacology
2. Pathology
3. Forensic Medicine
4. Behavioral Sciences

Integrated Subjects

Following are the integrated clinical subjects for which regular periodic assessment will be done throughout the academic year and their attendance would be carried forward towards the year of examination of that clinical subject

1. Medicine & Allied
2. Surgery & Allied
3. Gynae & Obs
4. Pediatrics

Contact Hours Distribution Year-III

Teaching & Learning weeks: 38 weeks		
SUBJECTS	Contact Hours	Self-Directed Learning
Pathology	260	25
Pharmacology & Therapeutics	300	25
Forensic Medicine & Toxicology	100	20
Community Medicine & Public Health	30	-
Research Methodology & EBM	20	-
Medicine & Allied	150	15
Surgery & Allied	150	15
Obs/ Gynae	25	-
Paediatrics	25	-
Infection control	25	-
Behavioral Science	75	-
Co-curricular activities/ Sports	40	-
GRAND TOTAL	1300 Hours	

Teaching and Learning Methods

The teaching-learning will be through diverse methods and will include

1. Large group interactive sessions (LGIS)
2. Flipped Classroom
3. Small group discussions (SGD) including tutorials and demonstrations
4. Practical sessions/hands on training (Laboratory work)
5. Skill lab
6. Bedside teaching
7. Ambulatory Care teaching
7. Sessions of self-directed learning (SDL). This is the time during which students are expected to revise what they have learnt in the class, clear their confusions by consulting different texts and reference books.

Clinical Rotations in year III – Medicine, Surgery, Gynae Obs & Pediatrics

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.

a. **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

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

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

Assessment Plan

The assessment plan comprises 2-3 term tests, 1 send-up, and 1 professional examination. Examination consists of one-best multiple-choice questions and short essay type questions along with OSPE/OSCE. All exams except for University's exam/professional exam contribute towards internal assessment of the respective subjects according to the institutional policy. The assessment schedule is given below

Type of Assessment	Weightage	Frequency and Time	Methods/ Tools for Assessment
Formative	-	Informally during and after the session.	Class tests (MCQs, SEQs), Class presentations, Assignments, Tutorials, Case Based Discussions, Team based learning, Portfolios
Summative	Internal assessment	20%	2-3 term tests (quarterly), Send up (before the professional exam) (80%) Attitude/ behavior/ attendance/ assignments/ achievements (throughout the year) (20%)
	University exam	80%	Once at the end of academic year

Internal Assessment (Theory) – MBBS Year III

General pathology/Microbiology, Pharmacology, Forensic medicine			
BLOCKS/ PAPER	Percentage	I / II	III
<ul style="list-style-type: none"> Continuous assessment: (Average score of class tests/ quizzes etc) 	03 %	Marks obtained* 3 / Total Marks	
<ul style="list-style-type: none"> EOB Exam; For each discipline; 	05 %	Marks obtained* 5 / Total Marks	
<ul style="list-style-type: none"> Attendance 	02 %	> 95 % = 02, 90- 94 % = 01	
<ul style="list-style-type: none"> Pre annual Exam: Paper I, II & III 	10 %	Marks obtained*10 /40	Marks obtained*15 /40
<ul style="list-style-type: none"> Final IA 	20%		

BLOCKS	Percentage	I / II	III
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▪ Continuous assessment (03%): (EOB)	03%	Marks obtained * 3/Total Marks	
▪ Attendance (02 %)	02 %	> 95 % = 02, 90- 94 % = 01	
▪ Practical books/Logbooks (02%)	02%	Obtained marks * 02 / Total marks	
▪ Discipline/Attitude, Responsibility and Teamwork		Obtained marks* 03 / Total marks	
▪ Pre annual papers	20%	Paper I (10 %) Marks obtained* 10 /40	Paper III (10 % + 03%) Marks obtained* 13 /40
▪ Final IA	20%		

Annual Professional Examination

The University will take the third professional Examination as per PMDC guidelines at the end of the academic year. Annual Theory & Practical Examination will be of 300 Marks for General Pathology & Microbiology, 300 marks for Pharmacology and 200 marks of Forensic Medicine. The passing score is 50% in theory and practical separately.

Evaluation of the Course

The major goals of the evaluation are to monitor quality of teaching and assessment and improve the implemented curricula.

- a. Feedback through CMS will be taken at the end of block from students and faculty members.
- b. LQEC receives recommendation from Evaluation Committee comprising of
 - Head of QEC: Dr. Rizwana Kamran (Associate Professor SHaPE)
 - Officer 1: Dr. Bushra Riaz (Demonstrator SHaPE)
 - Medical Educationist: Dr. Khizar Ansar Malik (Assistant Professor SHaPE)
 - Any one student from each academic year.
 - Representation from each academic year.
- c. LQEC generates reports to be shared with the yearly curriculum and institutional curricular committee for implementation of recommendation from students and faculty members.

Online Learning & Assessment

The COVID-19 pandemic has transformed education, introduced new challenges while fostered innovation catering for the unforeseen situations: Now institutions within Pakistan and across the world are expected to be ready to resume online learning and assessment in times of emergency. The Learning Management System (LMS) at CMH LMC & IOD ensures that online education is standardized,

interactive, and aligned with academic and professional requirements.

Switch over to online learning will be notified a day before or on the same day before the first academic session depending upon the nature of national emergency situation.

The LMS combines **Moodle** and **Zoom**, designed to meet the needs of students. Key features include:

- **Access to Courses:** Students can view recorded lectures, access course materials, and engage with faculty.
- **Attendance Verification:** Attendance is tracked using a dual system:
 1. Moodle login records.
 2. Mandatory quizzes after each lecture (not-graded).
- **Progress Monitoring:** Regular assessments such as quizzes and assignments track students' performance.

Feedback Mechanisms: Integrated evaluation forms enable students and faculty to provide input for continuous improvement.

To ensure privacy and security:

- Students: Receive personalized logins to access course materials.
- Faculty: Have permissions to upload content, grade assignments, and track student progress.
- SHaPE & QEC: Monitor and evaluate LMS activities to monitor quality.
- IT Support: Manage user accounts, system updates, and security.

Special access requests are managed through the CE Secretariat in consultation with the IT department.

Assessments are designed to support learning and maintain academic rigor:

- Formative Assessments: Quizzes and assignments contribute to assessment for learning but do not count toward final grades.
- Summative Assessments: Online term exams and send-ups.
- Feedback and Quality Assurance: Student evaluations collected through QEC proformas ensure ongoing improvement of online teaching practices.

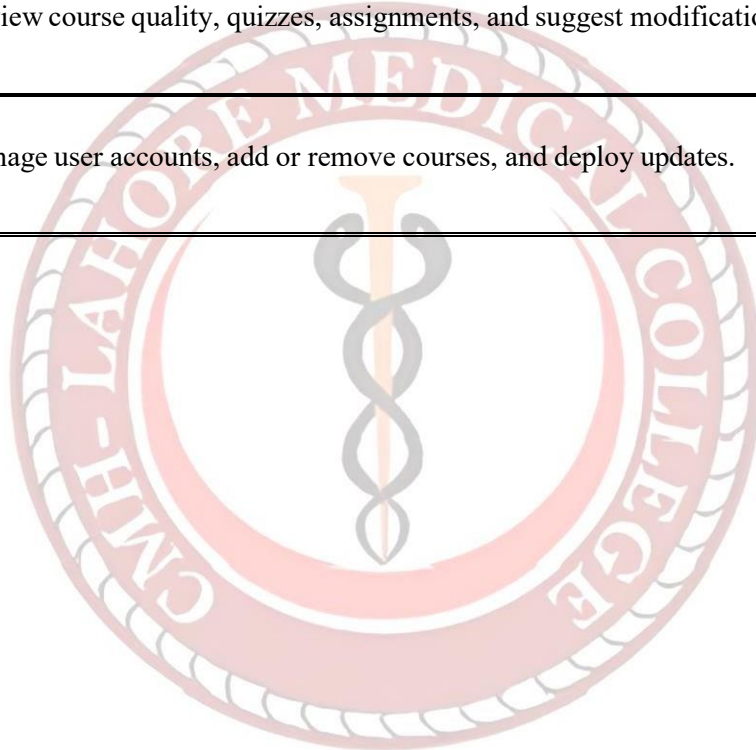
System Maintenance & Confidentiality

- Planned Outages: The IT department notifies users in advance of any maintenance.

- Privacy Policies: All users are accordingly notified to must comply with institutional and PMDC regulations to protect intellectual property and personal information.
- Security: The IT team monitors and manages unauthorized access or inappropriate behaviors.

Roles and Responsibilities

User Role	Permissions
Students	Access lectures, take quizzes, and submit assignments.
Instructors	Upload course content, grade assignments, and track students' performance.
SHaPE & QEC	Review course quality, quizzes, assignments, and suggest modifications accordingly.
IT Department	Manage user accounts, add or remove courses, and deploy updates.



Academic Calendar - 3rd Year MBBS Session (2024-25)

Weeks	Details	Dates	
		From	To
1-6	Start of New Class	11 Nov 2024	
	Academic Classes Block I (06 Weeks)	11 Nov 2024	20 Dec 2024
7	Winter Vacations	23 Dec 2024	27 Dec 2024
8-12	Block I (05 Weeks)	30 Dec 2024	31 Jan 2025
13	Block I Exam (1 Week)	03 Feb 2025	06 Feb 2025
	Pharmacology	03 Feb 2025 (Mon)	
	Forensic Medicine	04 Feb 2025 (Tue)	
	Pathology	06 Feb 2025 (Thu)	
	Behavioral Sciences	07 Feb 2025 (Fri)	
	Kashmir Day	05 Feb	
14-20	Academic Classes Block II (07 Weeks)	10 Feb 2025	28 Mar 2025
	Olympiad Day 1	14 Feb	
	Annual Play	18 Feb	
	Annual Sports Day	20 Feb	
21	Spring Vacations Eid ul Fitr (Tentative)	31 Mar 2025	04 Apr 2025
22-25	Academic Classes Block II Block II (04 Weeks)	07 Apr 2025	02 May 2025
	Trifecta	11 Apr	
	Qiraat & Naat Competition	17 Apr	
	Annual Research Day	28 Apr	
	Labour Day	01 May	
	Block II Exam (1 Week)	05 May 2025	08 May 2025
	26	Pharmacology	05 May 2025 (Mon)
Behavioral Sciences		06 May 2025 (Tue)	
Pathology		07 May 2025 (Wed)	
Forensic Medicine		08 May 2025 (Thu)	
Mushaira & Bait Bazi (Literary Festival)		07 May	
27-30	Academic Classes Block III (04 Weeks)	09 May 2025	06 June 2025
	General Knowledge Quiz	15 May	
	Eid Ul Azha (Tentative)	07 June 2025	
31-34	Summer Vacations (4x Weeks)	09 June 2025	06 July 2025
35-41	Academic Classes Block III (7 weeks)	07 July 2025	22 Aug 2025
42	Prep Leaves for pre- Annual / Send up Exam	23 Aug 2025	31 Aug 2025
43-44	Pre-Annual / Send-up Exam (Theory) (2 Weeks)	01 Sep 2025	12 Sep 2025

45-46	Pharmacology Behavioral Sciences Forensic Medicine Pathology Pre-Annual / Send-up Exam (OSPE)	01 Sep 2025 (Mon) 03 Sep 2025 (Wed) 05 Sep 2025 (Fri) 08 Sep 2025 (Mon) 09 Sep, 10 Sep, 11 Sep & 12 Sep 2025	
	Prep Leave Annual Exam (24 days)	13 Sep 2025	6 Oct 2025
	NUMS Annual Professional Exam	07 Oct 2025	

Clinical Rotation Plan -3rd Year MBBS 2024-25

We eks	Dates	Batch-A	Batch-B	Batch-C	Batch-D	Batch-E	Batch-F	Batch-G	Batch-H	Batch-J
1-4	11 Nov 2024 - 06 Dec 2024	MED I	MED II	MED III	SURG I	SURG II	SURG III	GYNAE - OPD	PAEDS	MATE RNITY WARD
5-6	09 Dec 2024 - 20 Dec 2024	MED II	MED III	MED I	SURG II	SURG III	SURG I	MATE RNITY WARD	GYNAE - OPD	PAEDS
7	23 Dec 2024 - 27 Dec 2024	Winter Vacation								
8-9	30 Dec 2024 - 10 Jan 2025	MED II	MED III	MED I	SURG II	SURG III	SURG I	MATE RNITY WARD	GYNAE - OPD	PAEDS
10-12	13 Jan 2025 - 31 Jan 2025	MED III	MED I	MED II	SURG III	SURG I	SURG II	PAEDS	MATE RNITY WARD	GYNAE - OPD
13	03 Feb 2025- 07 Feb 2025	Block I Exam								
		Kashmir Day (05 Feb 2024)								
14-17	10 Feb 2025 - 07 Mar 2025	GYNAE - OPD	PAEDS	MATE RNITY WARD	MED I	MED II	MED III	SURG I	SURG II	SURG III
18-20	10 Mar 2025-28 Mar 2025	MATERNITY WARD	GYNAE - OPD	PAEDS	MED II	MED III	MED I	SURG II	SURG III	SURG I
21	31 Mar 2025 - 04 Apr 2025	Spring Vacation								
22	07 Apr 2025 - 11 Apr 2025	MATERNITY WARD	GYNAE - OPD	PAEDS	MED II	MED III	MED I	SURG II	SURG III	SURG I

23-25	14 Apr 2025 - 02 May 2025	PAEDS	MATER NITY WARD	GYNA E - OPD	MED III	MED I	MED II	SURG III	SURG I	SURG II	
		Labour Day (1 May 2024)									
26	05 May 2025 - 08 May 2025	Block II Exam									
27-30	09 May 2025 - 06 Jun 2025	SURG I	SURG II	SURG III	GYNA E - OPD	PAEDS	MATE RNITY WARD	MED I	MED II	MED III	
	07 June 2025	Eid ul Adha (Tentative)									
31-34	09 Jun 2025 - 06 Jul 2025	Summer Vacation									
35-38	07 Jul 2025 - 1 Aug 2025	SURG II	SURG III	SURG I	MATE RNITY WARD	GYNA E - OPD	PAEDS	MED II	MED III	MED I	
39-41	4 Aug 2025 - 22 Aug 2025	SURG III	SURG I	SURG II	PAEDS	MATE RNITY WARD	GYNA E - OPD	MED III	MED I	MED II	
42	23 Aug 2025 - 31 Aug 2025	Prep Leaves for pre - Annual / Send-up Exam									
43-44	01 Sep 2025 - 12 Sep 2025	Pre - Annual / Send-up Exam (Theory)									
	13 Sep 2025 - 6 Oct 2025	Prep Leave Annual Exam									
	07 Oct 2025	NUMS Annual Professional Exam									

1. MED-I includes Internal Medicine, Pulmonology, Gastroenterology and Neurology.

2. MED-II includes Internal Medicine, ICU, Nephrology and Oncology.

Yearly Curriculum Committee 3rd Year MBBS 2024-25

Name	Department	Extension no	Designation
Prof. Dr. Imran Hameed Daula	Surgery	453	Convener 3rd year MBBS & Professor
Prof. Sadaf Nadir	Forensic Medicine	478	Professor
Dr. Waqar Ahmad Siddiqi	Pharmacology	465	HOD & Associate Professor
Dr. Afia	Pathology	489	Associate Professor
Dr. Irum Mansoor	Behavioral Sciences	446	Associate Professor
Dr. Qurat ul ain	Gynae & Obs	366	Associate Professor
Dr. Saba Saif	Medicine	471	Assistant Professor
Dr. Khizar Ansar Malik	SHaPE	436	Assistant Professor
Student representation			CR, GR & MCR

CMH Lahore Medical College - Policies

- Attendance and disciplinary policy <https://cmhlahore.edu.pk/wp-content/uploads/2024/10/std-policy.pdf>
- Policy for Steering Committee for the Selection of Class Representatives (BR and GR) Based on Student Feedback <https://cmhlahore.edu.pk/wp-content/uploads/2025/01/Steering-committee.pdf>
- Social Media Policy for Faculty, Staff, and Students <https://cmhlahore.edu.pk/wp-content/uploads/2024/02/Social-Media-Policy-for-students-02-08-2023.pdf>
- Code of Conduct <https://cmhlahore.edu.pk/wp-content/uploads/2024/02/SOP-Code-of-Conduct-27-02-24.pdf>
- Internet Usage Policy <https://www.cmhlahore.edu.pk/wp-content/uploads/2023/09/CMH-Internet-Usage-Policy-02-08-2023.pdf>
- Healthcare Facility <https://www.cmhlahore.edu.pk/wp-content/uploads/2023/09/Health-Care-Facility.pdf>
- Complaint Cell <https://www.cmhlahore.edu.pk/wp-content/uploads/2023/09/Complaint-Cell-CMH-LMC-IOD.pdf>
- Retake Policy (For Internal Assessment Only) <https://www.cmhlahore.edu.pk/wp-content/uploads/2023/05/ion-Updated-Retake-Policy-2.pdf>
- Drug and tobacco abuse/smoking <https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/SOP-Drug-and-Tobacco.pdf>
- Sexual harassment <https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/Sexual-Hars-policy.pdf>
- Disciplinary Committee Policy <https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/Disciplinary-Committe-Policy.pdf>
- Co-curricular Activities <https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/Co-curricular-privacy-policy.pdf>
- Electives Policy <https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/electives-policy.pdf>
- CMH LMC Formative Assessment and Feedback Policy <https://www.cmhlahore.edu.pk/wp-content/uploads/2022/11/CMH-LMC-Formative-Assessment-and-Feedback-Policy.pdf>

Block - VII

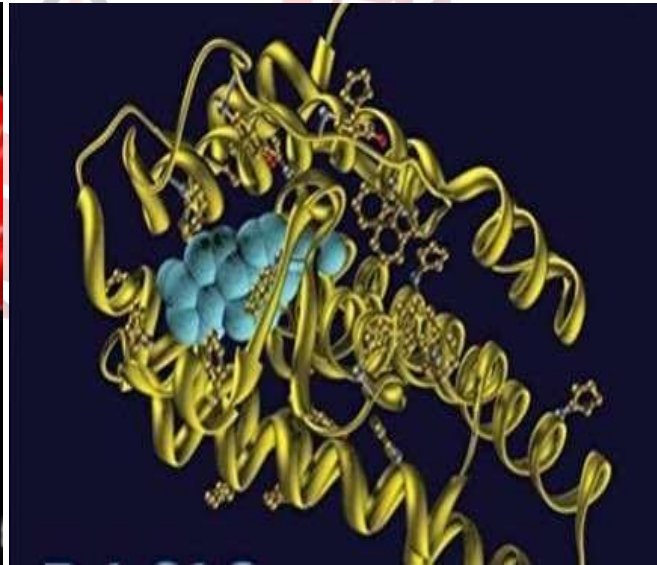
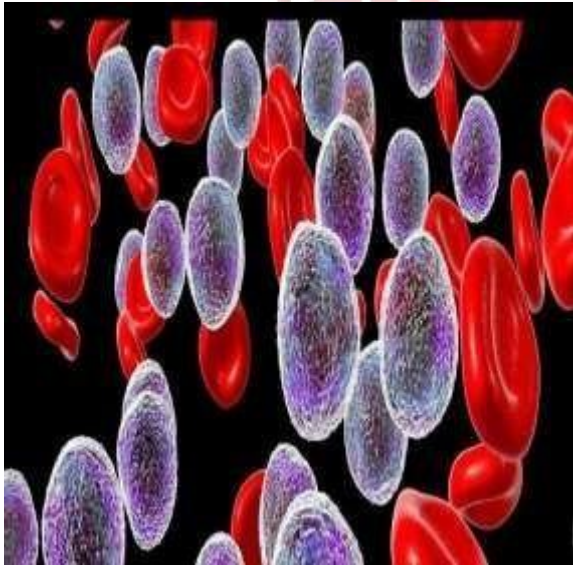
MBBS YEAR – III

BLOCK – VII

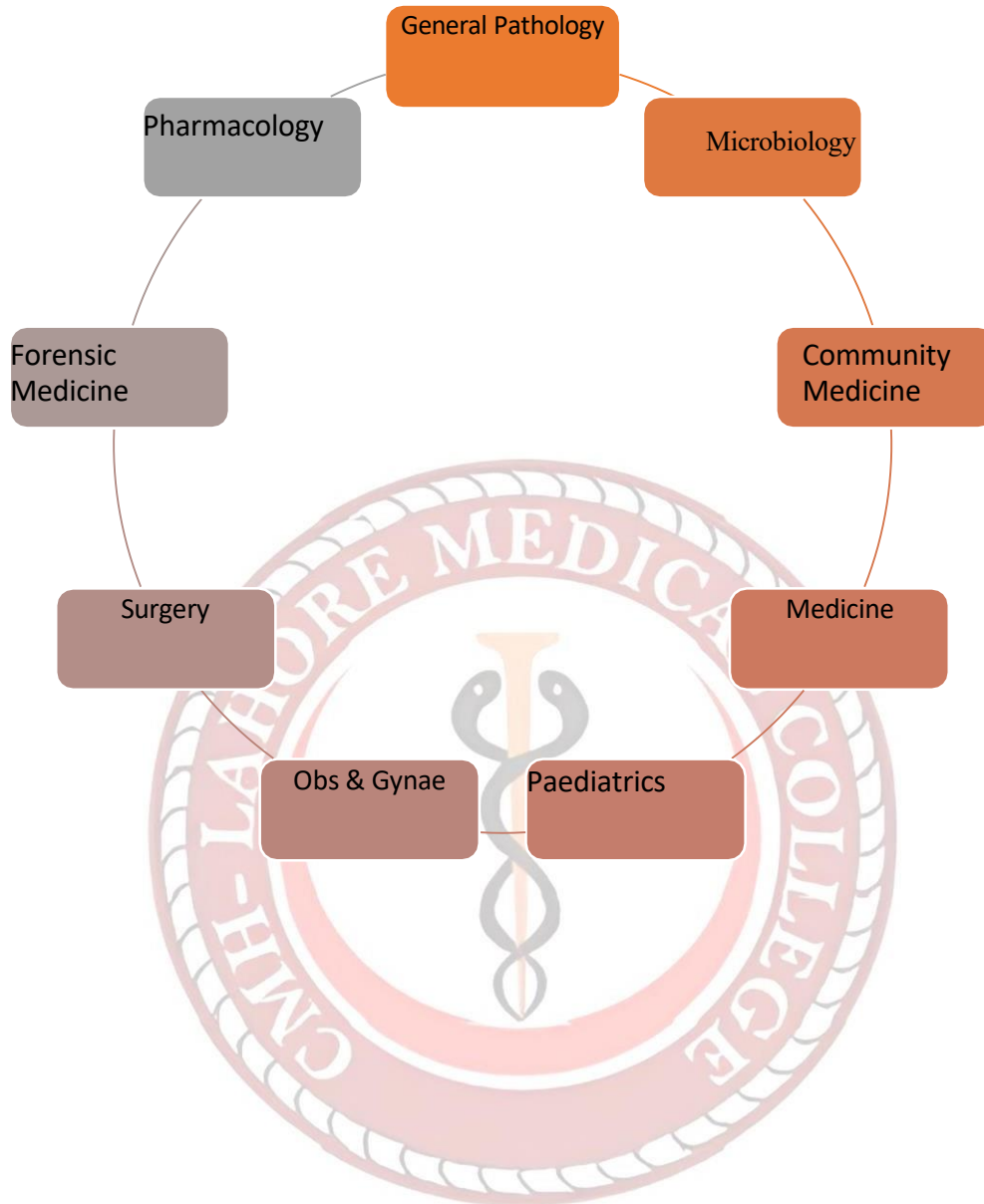
MODULE- XIII

Foundation - II Module

Duration: 06 weeks



Integration of Disciplines in Foundation II Module



Preamble

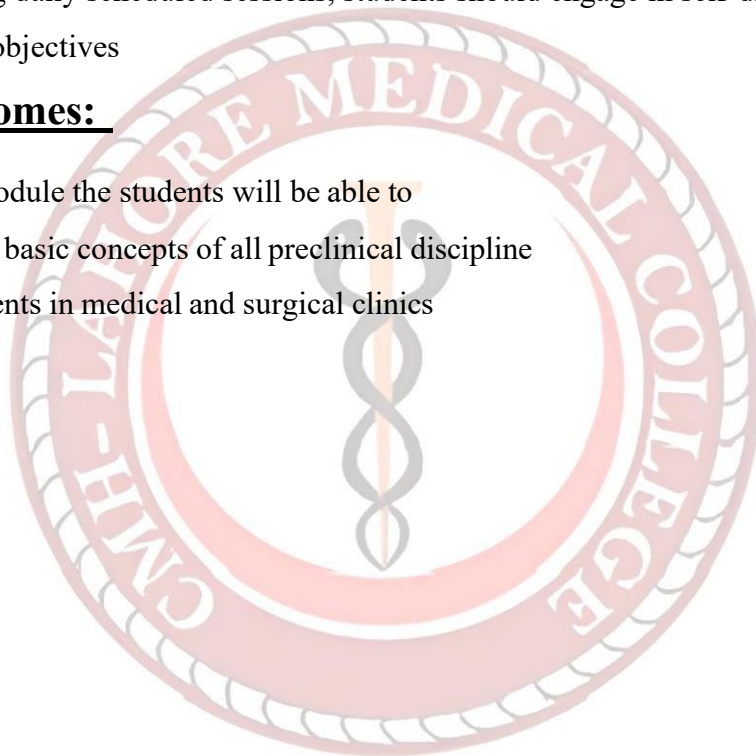
Foundation II is the first module of Year III and therefore is an introduction to all preclinical sciences, the contents of which will be delivered and assessed during this year. This module will introduce the students to basic concepts required for understanding of disease process, its prevention and 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	<ul style="list-style-type: none"> ● 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 ● Relate different types of cellular accumulations with the pathological basis of disease ● Differentiate between reversible and irreversible cell injury. (definition, causes, morphology, mechanism, examples) 	<ul style="list-style-type: none"> ● 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
Inflammation and Repair	<p>Differentiate between acute and chronic inflammation on the basis of etiology, pathogenesis and morphology</p> <ul style="list-style-type: none"> ● Summarize the systemic effects of inflammation with the variants of tissue repair 	<ul style="list-style-type: none"> ● 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

Theme/Topic	Learning Outcomes By the end of this module, student will be able to:		Learning objectives/ Course content	Instructional strategies
Practical	<ul style="list-style-type: none"> ● Identify following on slides <ol style="list-style-type: none"> 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	<ul style="list-style-type: none"> ● Correlate the basic morphological, ● physiological and genetic characteristics of bacteria with their 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. <p>(infection control measures)</p>	<ul style="list-style-type: none"> ● Introduction to micro ● Bacterial anatomy ● Bacterial physiology & growth ● Bacterial genetics ● Classification of bacteria ● Bacterial pathogenesis ● Sterilization ● Disinfection ● Infection prevention and control ● Normal flora ● Bacterial and viral vaccines ● Specimen collection for microbiological processing's ● Lab diagnosis of infectious diseases 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Bacteriology	Correlate the important morphological and pathogenic characteristics, laboratory diagnosis, prevention and virulence factors produced by gram positive cocci with their clinical significance	<ul style="list-style-type: none"> ● Staphylococcus ● Streptococcus 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

Theme/Topic	Learning Outcomes	Learning objectives/ Course content	Instructional strategies	
Virology	<ul style="list-style-type: none"> ● By the end of this module, student will be able to: <ul style="list-style-type: none"> ● Differentiate classes of viruses ● Outline the Lab diagnosis ● Paraphrase the pathogenesis of diseases caused by viruses 	<ul style="list-style-type: none"> ● Classification of viruses with common examples prevalent in Pakistan ● Principles of lab diagnosis of viral diseases 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Parasitology	Classify various Parasites on the basis of their site of pathogenesis	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Introduction to Mycology ● Classification of fungi 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	<ul style="list-style-type: none"> ● 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

Pharmacology				
Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
General Pharmacology	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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 <p>Guideline for rational use of drugs</p>	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Drugs acting on ANS	<ul style="list-style-type: none"> ● Correlate the physiology of autonomic receptors with the therapeutic application 	<ul style="list-style-type: none"> ● ANS: Introduction ● Parasympathomimetic or cholinergic Drugs ● Anti-Cholinesterase, Myasthenia gravis ● Organophosphate poisoning & Oximes 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
		<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Rationalize the use of various Prostaglandins in different diseases 	<ul style="list-style-type: none"> ● Prostaglandins 	LGIS, SGD, PBL	MCQs/SEQs/VIVA
Practical's	<ul style="list-style-type: none"> ● 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

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	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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 (Osteometry, 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

COMMUNITY MEDICINE				
Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
Foundation of public health	Discuss the importance of public health in medicine	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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 <ul style="list-style-type: none"> ● Source or reservoir ● mode of transmission ● susceptible host ● Disease prevention and control 	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
Introduction to Medicine	Receive the patients in medical clinics	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Anatomy of the pelvis Physiological changes in maternal systems during pregnancy 	LGIS, PBL	Formative assessment

Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
Pre-Pregnancy Care	<ul style="list-style-type: none"> ● Comprehend principles of pre-pregnancy care ● Demonstrate an understanding of genetic mode of inheritance and common structural abnormalities of fetuses 	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Principles of antenatal care ● Concept of preconception care 	LGIS, PBL	Formative assessment
PAEDIATRICS				
Growth and development	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● Developmental Milestones ● Anthropometry 	LGIS, PBL	Formative assessment

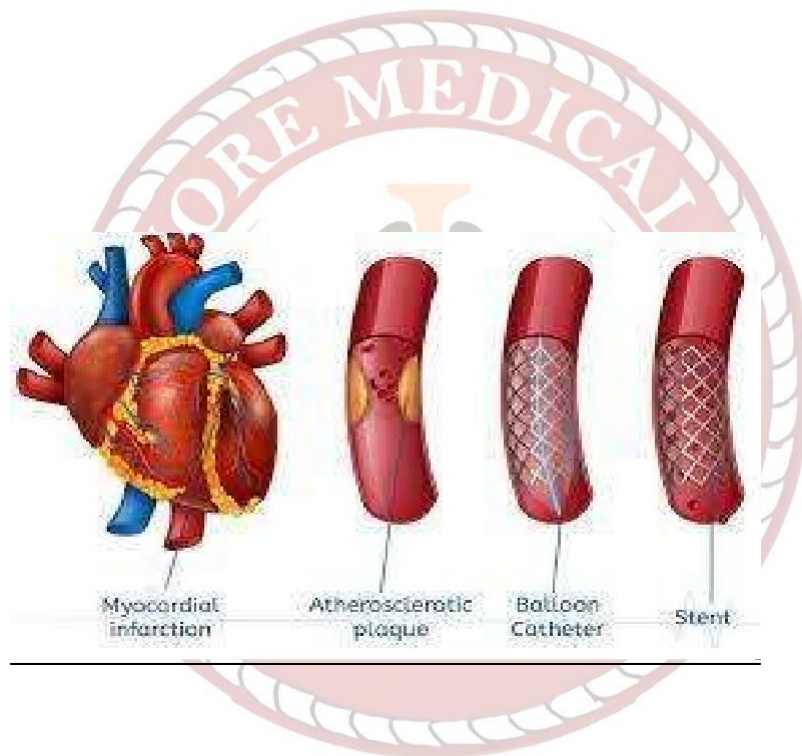
MBBS YEAR – III

BLOCK – VII

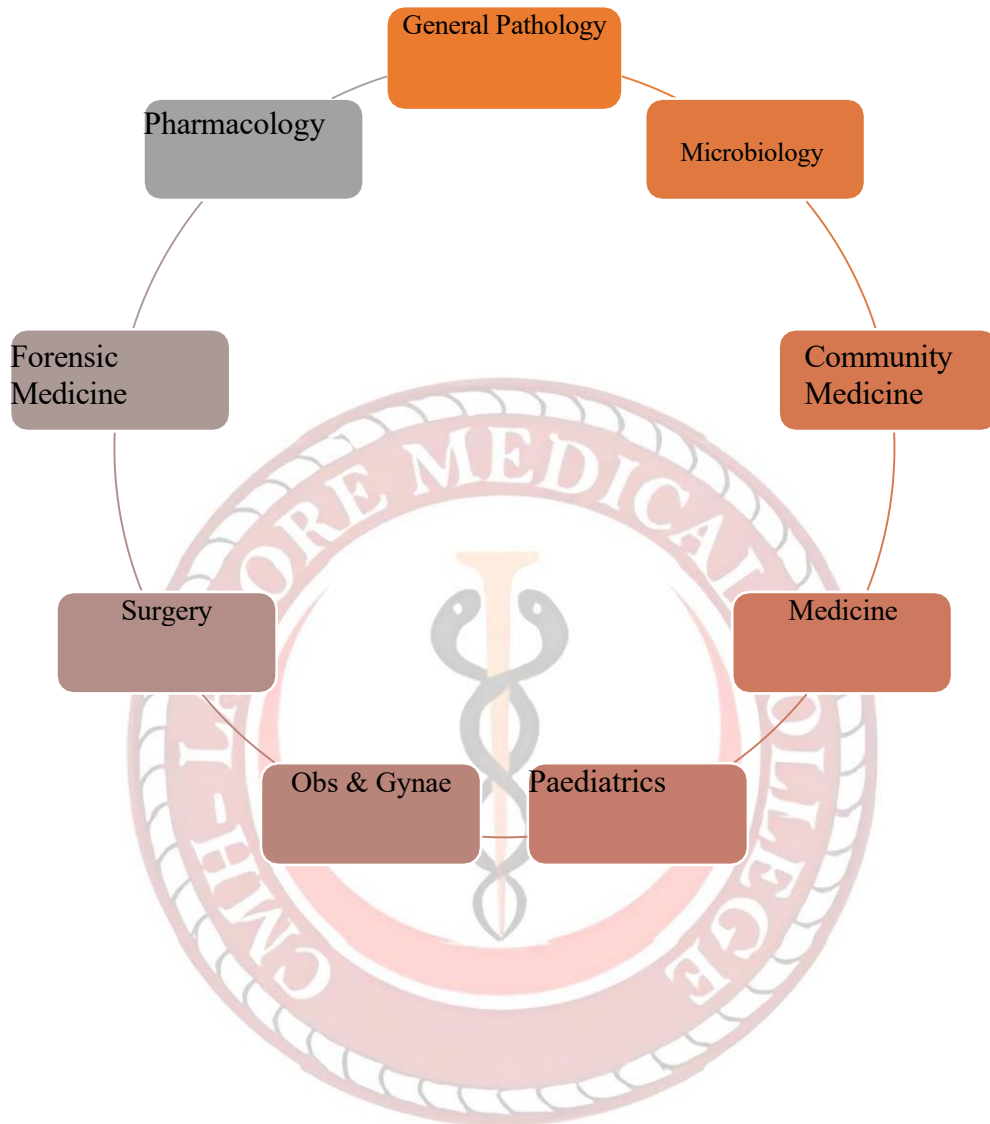
MODULE – XIV

Cardiovascular System II

Duration: 04 weeks



Integration of Disciplines in CVS II Module



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

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	<ul style="list-style-type: none"> Assess the hemodynamic disorders including hyperemia, congestion and edema along with the pathogenesis and contributing factors (thrombosis and embolism). 	<ul style="list-style-type: none"> Edema, hyperemia & congestion Thrombosis Embolism Atherosclerosis 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Infarction	<ul style="list-style-type: none"> Describe the pathological factors involved in the process of infarction along with their types. 	Infarction	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	<ol style="list-style-type: none"> Interpret report of lipid profile Identify following on slides <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Identify bacteria based on their biochemical reactions <ul style="list-style-type: none"> Motility Coagulase Catalase test Oxidase test Sugar sets (Indole, TSI, Nitrate reduction and Urease) 			OSPE

PHARMACOLOGY

Theme/Topic	Learning Outcomes At the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment tools
<i>Drugs acting on CVS</i>	Relate the pathophysiology of heart and vessels to its treatment modalities	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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

FORENSIC MEDICINE

Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
Thanatology	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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 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 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
Mechanical Injuries	<ul style="list-style-type: none"> ● Correlate the mechanisms of wound production to their medico-legal aspects. ● Identify different ammunition ● 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) ● Classify wounds ● Relate the mechanisms of wound production to their medico-legal aspects. ● Classify firearm injuries. ● Identify different ammunition 	<ul style="list-style-type: none"> ● <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. ○ Medico-Legal Considerations: Suicide, homicide and accident. 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

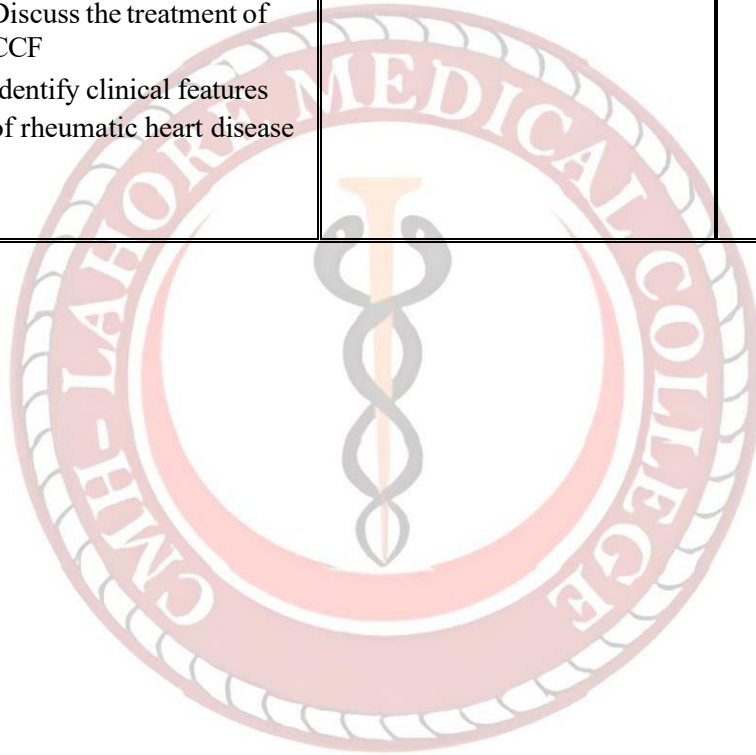
	<ul style="list-style-type: none"> ons Appraise the nomenclature, wound Ballistics and medico- legal aspects of mechanical injuries List and debate on the laws in relation to causing Bodily harm, Wounding and Homicide. Distinguish between ante-mortem and post-mortem wounds. <p>Diagnose the manner of death (suicidal, homicidal and accidental)</p>			
Blast injuries	Interpret injuries caused by blast	Blast injuries. Recognition and interpretation of injuries caused by blast	LGIS, SGD, PBL	MCQs/SEQs/VIVA
COMMUNITY MEDICINE				
Risk factors and prevention	<ul style="list-style-type: none"> Relate different risk factors to particular patients and general population 	<ul style="list-style-type: none"> Coronary heart disease Hypertension Stroke Rheumatic heart disease 	LGIS, SGD, PBL	MCQs/SEQs/VIVA
	<p>Estimate the extent of damage to individuals and community in terms of morbidity and mortality burden</p> <ul style="list-style-type: none"> Suggest preventive measures for these diseases in individuals and populations at-risk 			

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.	<ul style="list-style-type: none"> ● Provide physiological basis of the rate, rhythm and axis of ECG. ● Compare normal and abnormal ECG. 	Lecture/ CBL and bedside teaching	Formative assessment
CAD	<ul style="list-style-type: none"> ● Evaluate patient presenting with angina on the basis of history, examination and investigations ● Enlist key management steps 	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Relate presentation of CCF with its pathophysiological basis ● Diagnose Heart failure. ● List complications of Heart failure ● Analyze the Pharmacological management in the treatment of Heart failure 	Congestive Cardiac failure	Lecture/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
PE/DVT	<ul style="list-style-type: none"> ● Elaborate, epidemiology and risk factors and preventive measures for pulmonary embolism/DVT 	Clinical presentation, history taking and relevant examination of patient	Lecture/ CBL/PBL/ SP/ Real Patient/	Formative assessment
	<ul style="list-style-type: none"> ● Recognize the clinical features and presenting symptoms of pulmonary embolism/DVT 		Video clips	
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				
Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
DVT	Receive the patients in surgical clinics	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Differentiate between dry and wet gangrene List the principles of diagnosis and its management 	Gangrene <ul style="list-style-type: none"> Definition Types Pathophysiology Clinical features Diagnosis 	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
		Management principles		
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

Theme/Topic	Learning Outcomes	Course Content	Instructional strategies	Assessment Tools
Congenital and Acquired Heart Disease	<ul style="list-style-type: none"> ● By the end of this module, student will be able to: ● 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 	<ul style="list-style-type: none"> ● Acyanotic Heart Diseases ● Cyanotic heart disease ● Tetralogy of Fallot ● CCF in children ● Rheumatic Heart Disease 	LGIS, CBL	Formative assessment



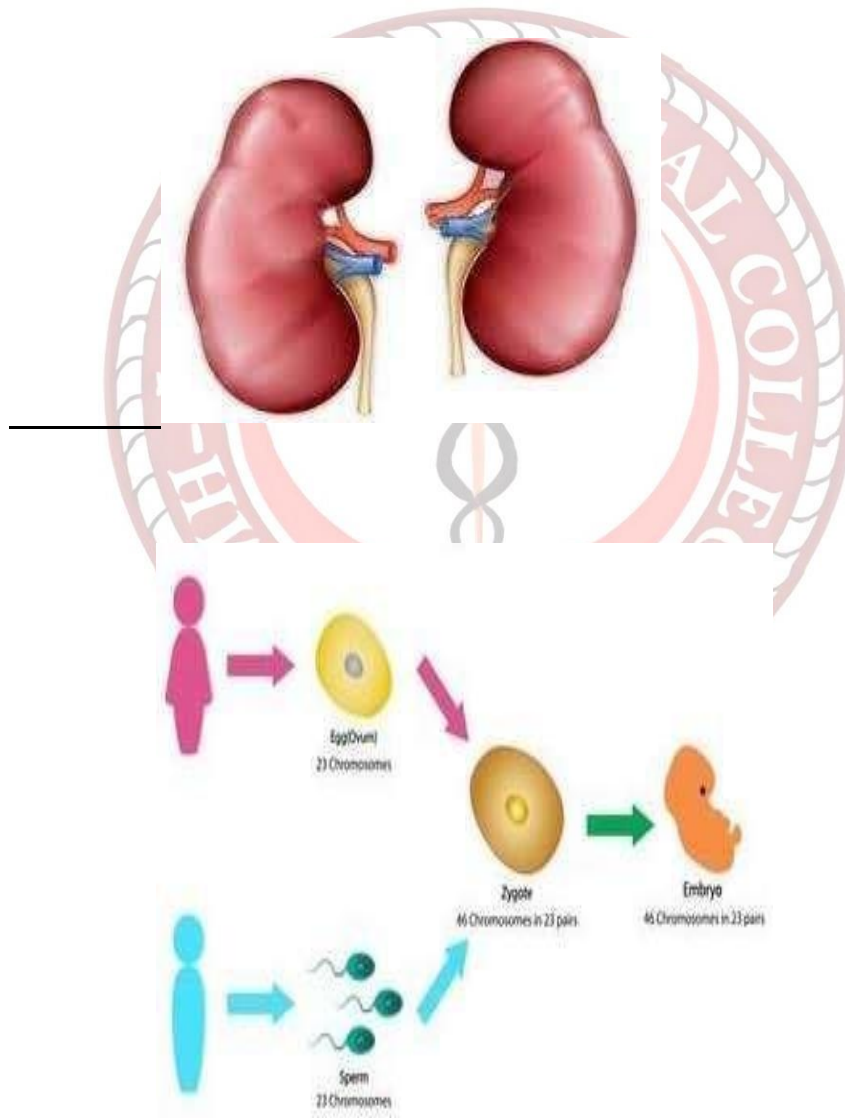
MBBS YEAR – III

BLOCK – VII

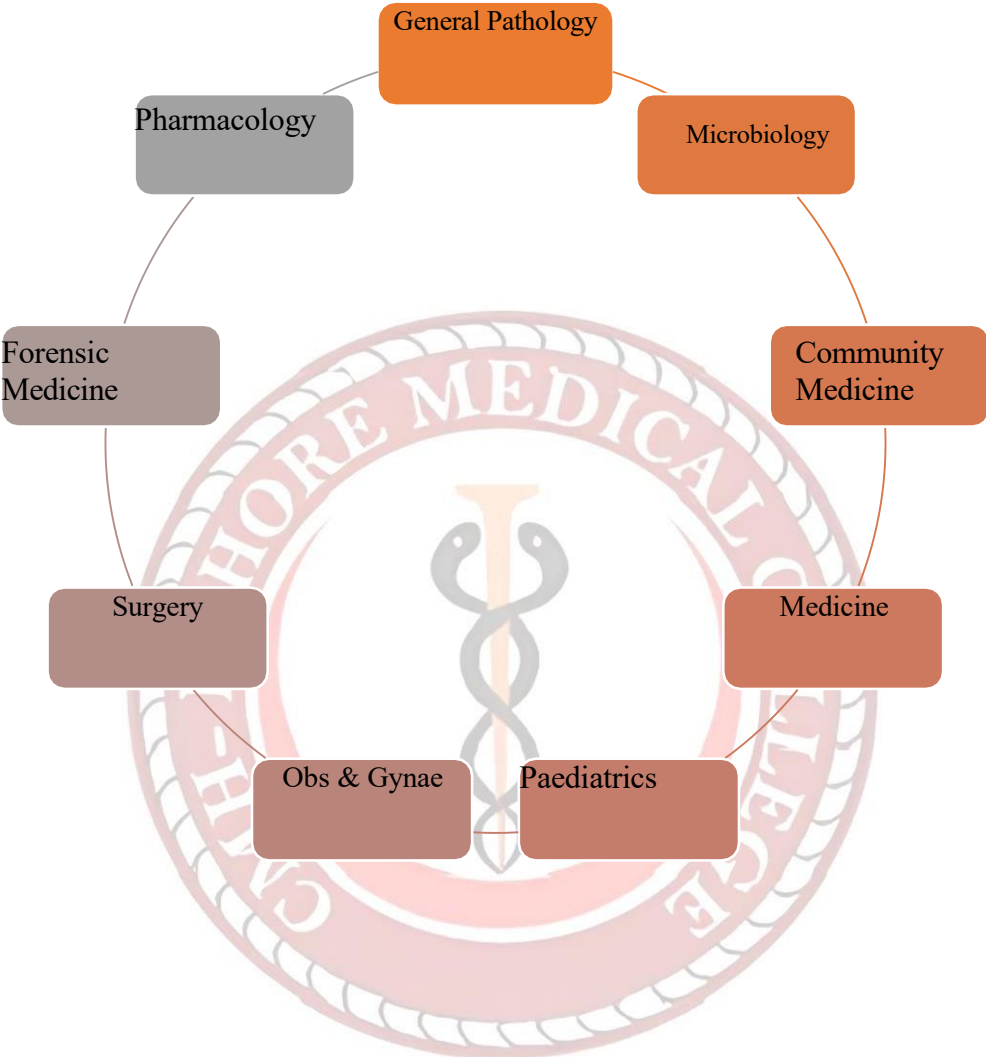
MODULE - XV

Genitourinary System

Duration: 02 weeks



Integration of Disciplines in Genitourinary System Module



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)

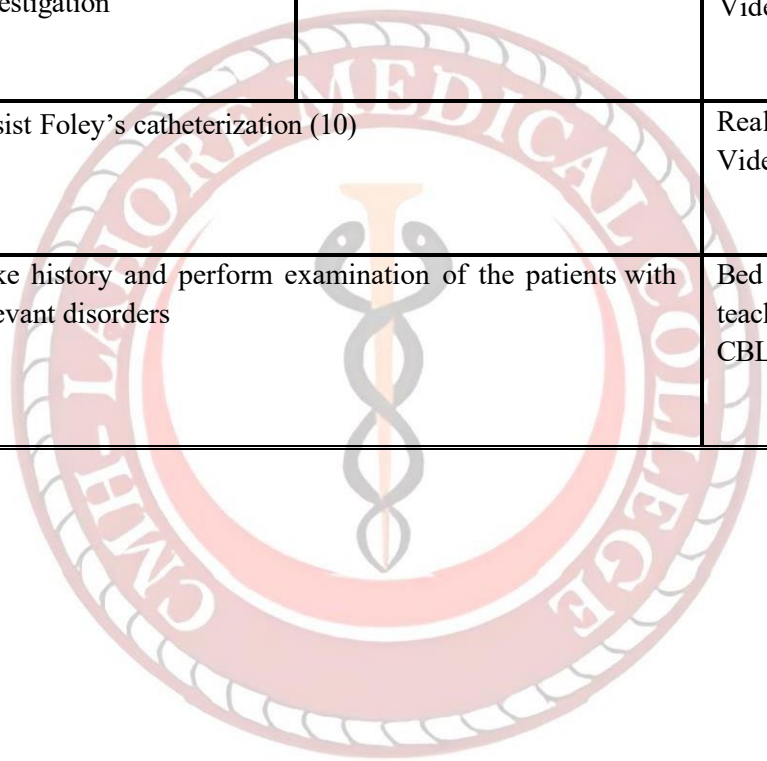
Theme
Fever with burning micturition
Shock

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.	<ul style="list-style-type: none"> ● Shock ● Hemorrhage 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	Identify following slide: <ul style="list-style-type: none"> ● Calcification 			
MICROBIOLOGY				
Microbiology	Identify bacterial pathogens causing infections of renal system and relate them clinically	Overview of pathogens causing infections of genitourinary system <ul style="list-style-type: none"> ● GPC causing UTIs ● Enterobacteriaceae ● E. Coli ● Syphilis ● Neisseria gonorrhoeae ● Trichomonas vaginalis ● Chlamydia trichomatis 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	<ul style="list-style-type: none"> ● 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
<i>Diuretics</i>	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Justify the selection of priority drugs for certain indications of renal system and prescribe medicine accordingly 			OSPE
FORENSIC MEDICINE				
Sexual Offences /Reproduction	<ul style="list-style-type: none"> ● 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, Virginit, Pregnancy and criminal acts during delivery (their medico-legal aspects, examination procedure and reporting) ● Appraise the procedure of performing clinical I 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. 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. 	<ul style="list-style-type: none"> ● Sexual Offences and Relevant Sections of Law (Zina and Hudood Ordinance) <ul style="list-style-type: none"> ○ 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 Virginit, 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	

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



MEDICINE				
Topic/ Theme	Learning outcomes	Learning Objectives/Contents	Instructional strategies	Assessment tool
Septic 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
Cardiogenic shock				
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	Formative assessment
PAEDIATRICS				
Renal Diseases	<ul style="list-style-type: none"> Differentiate between nephrotic and nephritic syndromes 	Nephrotic and nephritic Syndrome	LGIS/ CBL/PBL/SP/ Real Patient/ Video clips	Formative assessment
OBS & GYNAE				
Eclampsia	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Sexually transmitted infections Sexual dysfunction disorders 	LGIS/ CBL/PBL/SP/ Real Patient/ Video clips	Formative assessment

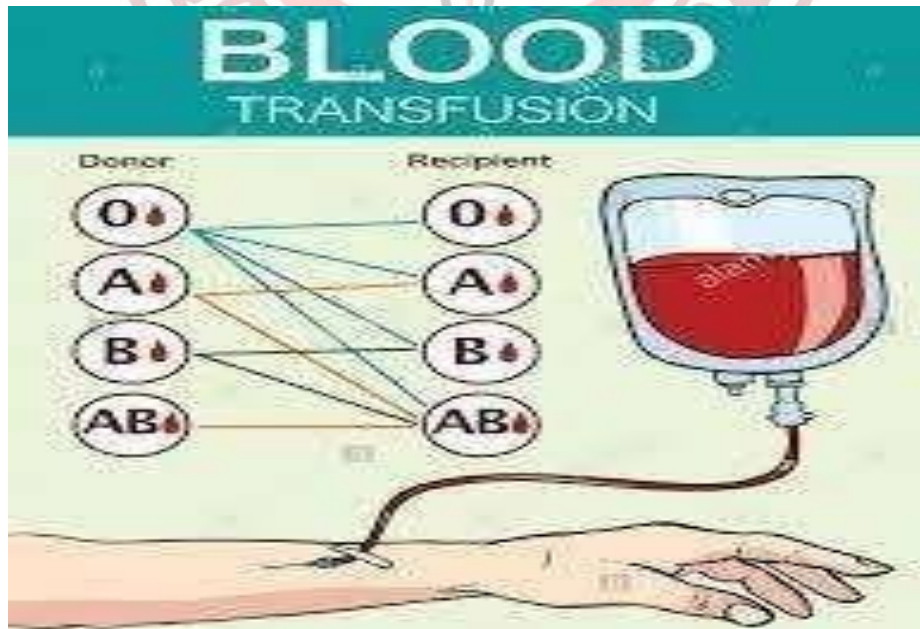
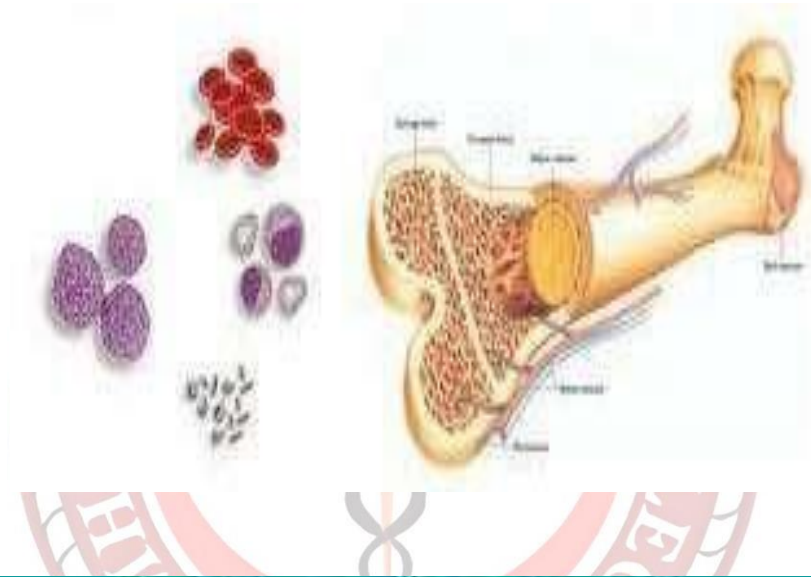
MBBS YEAR - III

BLOCK – VIII

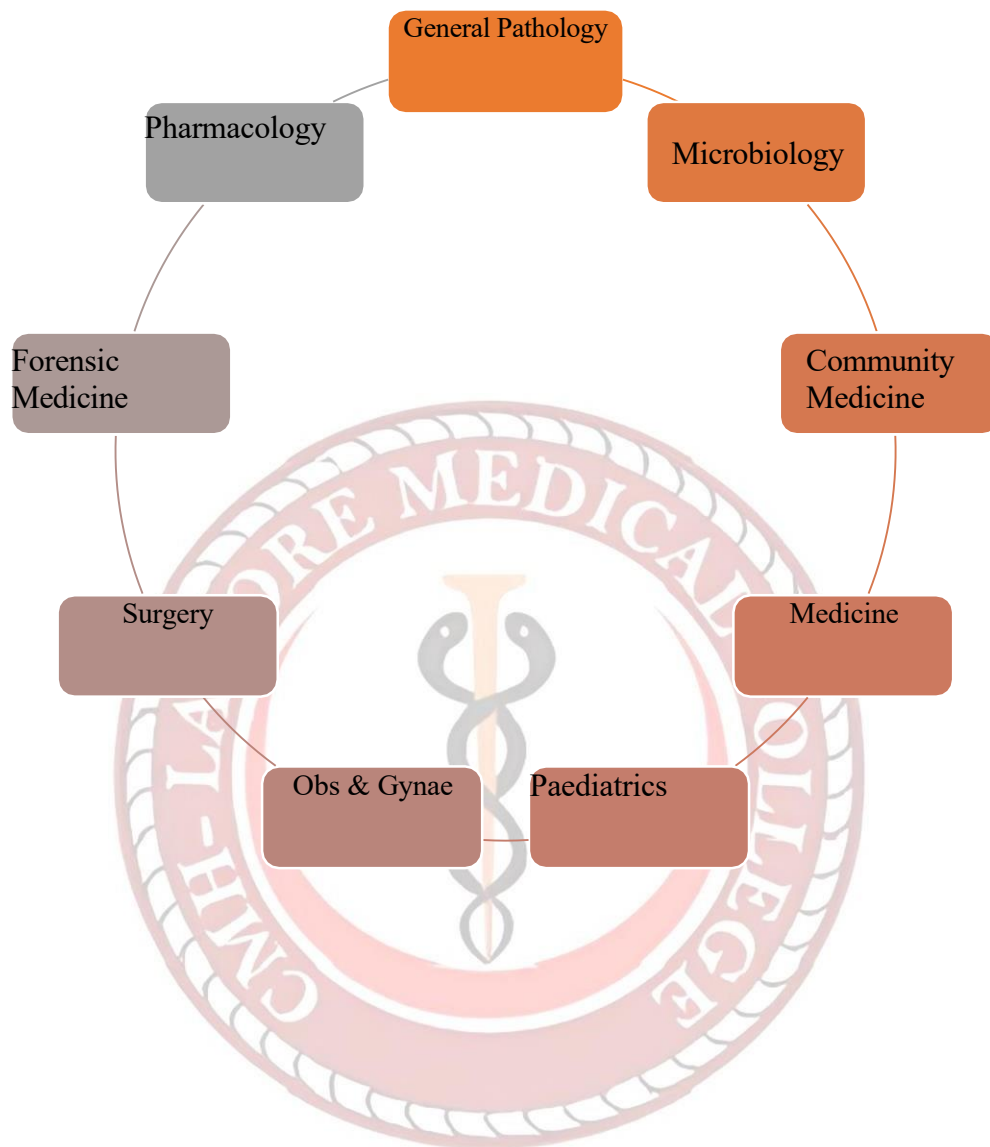
MODULE - XVI

Hematology & Immunology Module

Duration: 03 weeks



Integration of Disciplines in Hematology & Immunology Module



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

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	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Discuss etiology, pathogenesis and morphology of Amyloidosis 	<ul style="list-style-type: none"> ● Amyloidosis 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	Interpret blood CP	<ul style="list-style-type: none"> ● Blood CP ● Amyloidosis 	Practical	
MICROBIOLOGY				
Microbiology	Discuss various haemoparasites and their clinical significance	Overview of pathogens causing infections of blood & immune system <ul style="list-style-type: none"> ● Haemoparasites ● Plasmodia ● Leishmania ● Toxoplasma/ Trypanosomes ● Dengue ● Congo Haemorrhagic fever 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	Identify the following slides <ul style="list-style-type: none"> ● Malarial parasites ● LD bodies 			OSPE

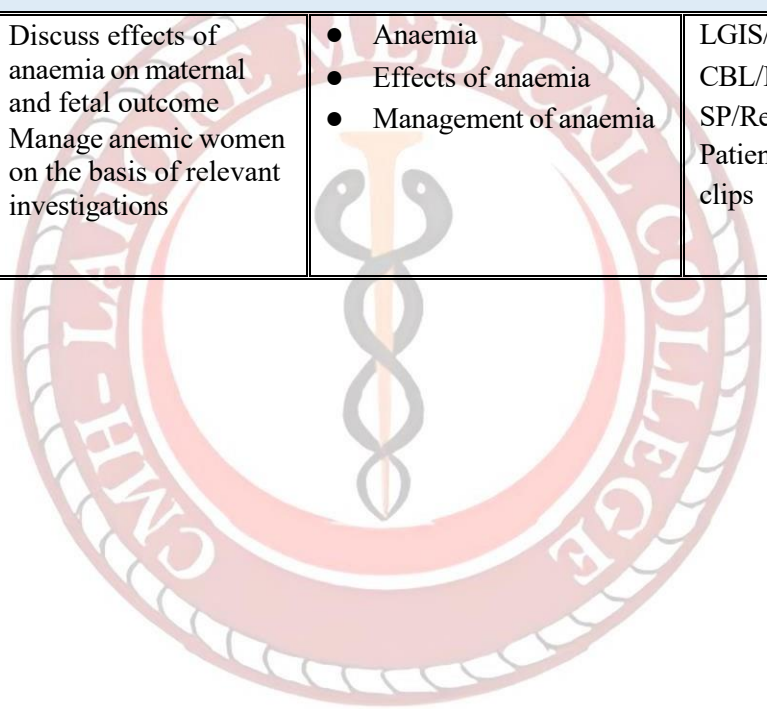
PHARMACOLOGY				
Theme/Block	Learning Outcomes At the end of this module, student will be able to	Course Content	Instructional strategies	Assessment tools
Blood	Justify the management plan of anemia, coagulation disorders and HIV by correlating it to the patho-physiological basis of disease	<ul style="list-style-type: none"> ● Hematinics ● Anticoagulants ● Thrombolytic ● Anti-platelets ● Anti Hyperlipidemics 	LGIS, SGD, PBL	MCQs/SEQs/VIVA
	Justify the use of immunostimulants including probiotics, immunosuppressants, vaccines and sera	<ul style="list-style-type: none"> ● Immunopharmacology: <ul style="list-style-type: none"> ○ Immunostimulants including probiotics ○ Immunosuppressants ○ 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: <ul style="list-style-type: none"> ● Heavy Metal Poisoning & Antidotes (Chelating Agents) ● Drug – Drug interactions 	Outline the essential pharmacological principles of toxicology.	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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

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	<ul style="list-style-type: none"> Appraise the forensic importance of biological specimens (Blood, Semen, Salvia, Vomitus, Breath, Urine, Hair). Collects, preserve, dispatch various human body specimens 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Epidemiological determinants, Mode of transmission, Clinical features and Control measures of these diseases 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA

Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
Anemia	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● Anemia <ul style="list-style-type: none"> ○ General population ○ Pregnancy ○ Childhood ● Types of anaemia ● Hidden hunger 	LGIS, SGD, PBL	MCQs/SEQs/VIVA
General Immunology	<ul style="list-style-type: none"> ● Explain immunology & its components ● Describe pre-requisites of vaccination including cold chain, hazards, contra indications & precautions 	<ul style="list-style-type: none"> ● 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

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 <ul style="list-style-type: none"> ● Intravenous Line (10) 	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Relate the clinical presentation to its pathophysiology ● Enlist key management steps in emergency 	<ul style="list-style-type: none"> ● Angioedema ● HS reactions 	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	<ul style="list-style-type: none"> ● 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				
Topic/ Theme	Learning outcomes	Learning Objectives/Contents	Instructional strategies	Assessment tool
Anaemia	<ul style="list-style-type: none"> ● Explain classification and causes of anaemias in children ● Discuss management of anemias in children 	<ul style="list-style-type: none"> ● IDA ● Thalassemia ● Hemolytic anemias ● G6PD ● Hereditary Spherocytosis 	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Bleeding disorders	Classify bleeding disorders in children	<ul style="list-style-type: none"> ● Bleeding disorders 	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
OBS & GYNAE				
Anaemia in pregnancy	<ul style="list-style-type: none"> ● Discuss effects of anaemia on maternal and fetal outcome ● Manage anemic women on the basis of relevant investigations 	<ul style="list-style-type: none"> ● Anaemia ● Effects of anaemia ● Management of anaemia 	LGIS/ CBL/PBL/ SP/Real Patient/Video clips	Formative assessment



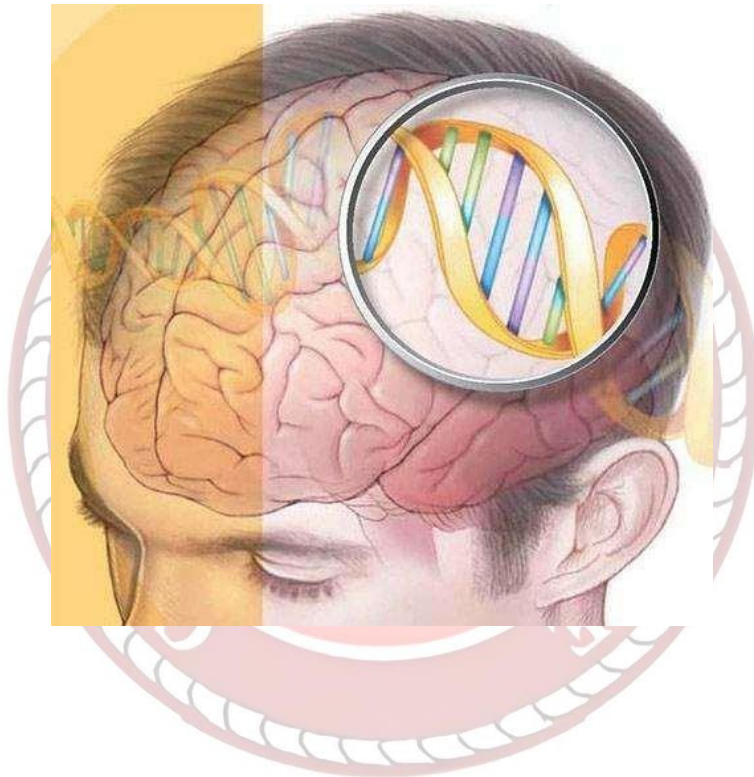
MBBS YEAR - III

BLOCK - VIII

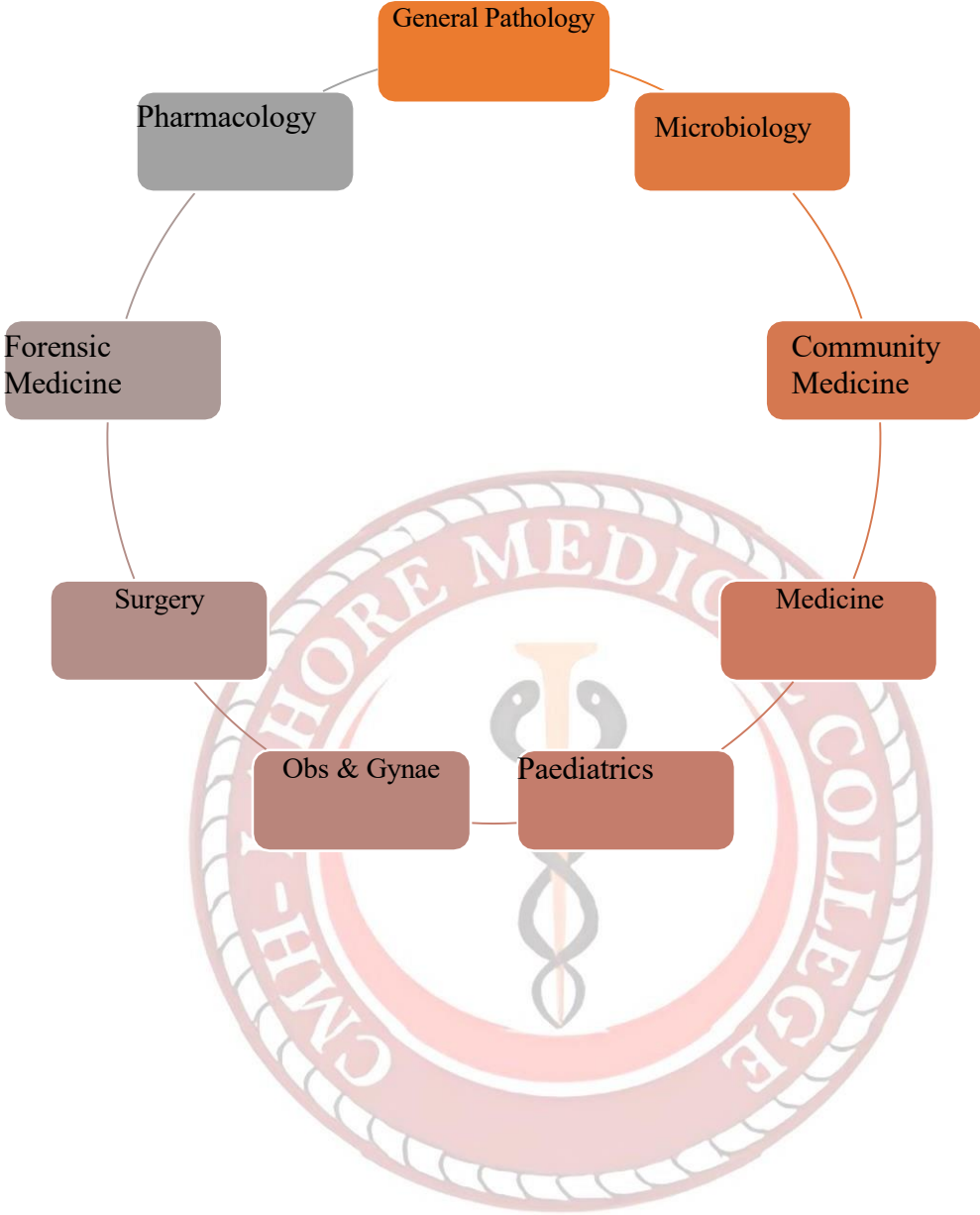
MODULE - XVI

Genetics and Neurosciences module

Duration: 03 weeks



Integration of Disciplines in Genetics and Neurosciences module



Preamble

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)

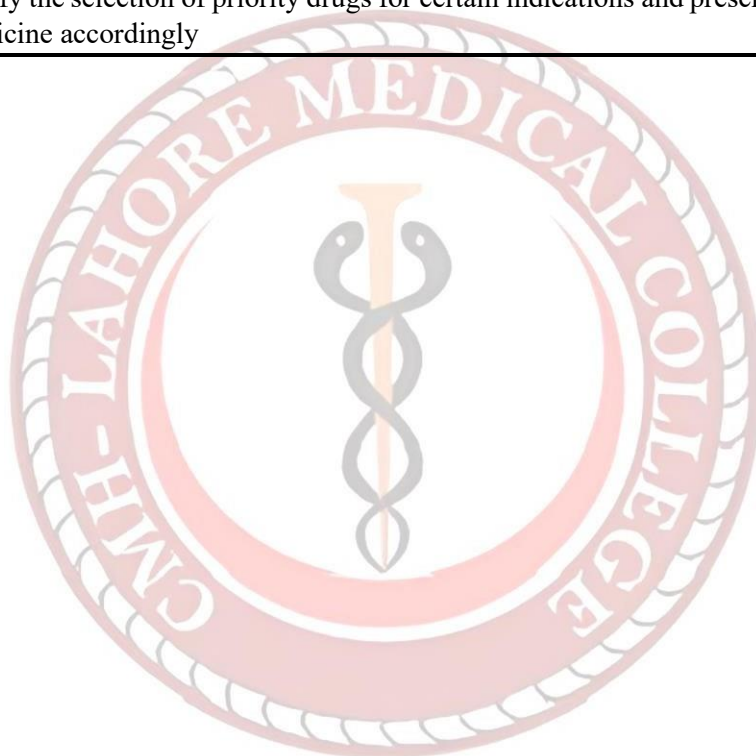
Theme
Headache
Seizures
Genetic anomalies

GENETICS & 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	<ul style="list-style-type: none"> ● Evaluate the nature and pattern of inheritance disorders involving single and multiple gene complex. ● Relate the congenital anomalies infections and syndrome. 	<ul style="list-style-type: none"> ● Introduction to genetics, biochemical & molecular basis of Mendelian disorder ● Multifactorial disorders Cytogenetic disorders Diagnosis of genetic disorders ● DISORDERS ASSOCIATED WITH DEFECTS IN STRUCTURAL PROTEINS <ul style="list-style-type: none"> a. Marfan b. Ehlers Danlos Syndrome ● DISORDERS ASSOCIATED WITH DEFECTS IN RECEPTOR PROTEINS <ul style="list-style-type: none"> a. Familial Hypercholesterolemia ● DISORDERS ASSOCIATED WITH DEFECTS IN ENZYMES <ul style="list-style-type: none"> a. Lysosomal Storage Diseases b. Glycogen Storage diseases ● CHROMOSOMAL DISORDERS <ul style="list-style-type: none"> a. Normal karyotype & structural abnormalities of chromosomes Cytogenetic abnormalities involving autosome and sex chromosomes (Down syndrome, Klinefelter syndrome and Turner syndrome) b. Diagnosis of genetic diseases 	LGIS, SGD, PBL	MCQs/SEQs/ VIVA

MICROBIOLOGY				
Theme/Topic	Learning Outcomes At the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment tools
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 <ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Non-Narcotic Analgesics ● Non-steroidal Anti-inflammatory drugs (NSAIDs) 	LGIS/SGD/PBL	MCQs/SEQs/ / OSPE/ VIVA
Central Nervous System	<ul style="list-style-type: none"> ● Correlate the pathophysiology 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 	<ul style="list-style-type: none"> ● Central Neurotransmission ● Antipsychotic drugs ● Anti-depressants ● Gen Anesthetics ● Local Anesthetics (LA)Drugs used in Parkinsonism ● Anti-epilepsy drugs ● Drug treatment of Migraine ● Aliphatic Alcohols ● Sedatives/ Anxiolytics & Hypnotics ● Opioids ● Drug DependenceSkeletal Muscle relaxants ● Non-Narcotic Analgesics 	LGIS,	MCQs/SEQs/ / OSPE/ VIVA

	<ul style="list-style-type: none"> ● Correlate the effects of substances of abuse (alcohol, opioids, heroin) on body to its plan for aversion therapy ● Appraise the pharmacological effects of sedative/Hypnotics Justify the use of Non-Narcotic Analgesics 			
PRACTICALS/ SKILLS	<ul style="list-style-type: none"> ● 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



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: <ul style="list-style-type: none"> Alcohol Opiates, Opioids and other narcotics Hypnotics and Sedatives Stimulants (Cocaine), cannabis Venomous insects (Snakes) 	LGIS, SGD, PBL	MCQs/SEQs/VIVA
Forensic Psychiatry	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	Differentiate among the various possible etiologies	Regional Injuries, of Head (Scalp, Skull, Brain) and Face,	LGIS, SGD, PBL	MCQs/SEQs/VIVA
(Scalp, Skull,	of Regional Injuries, of Head	Vertebral column and its		
Brain) and Face,	(Scalp, Skull, Brain) and	contents, Neck		
Vertebral	Face, Vertebral column and			
column and its	its contents, Neck			
contents, Neck				
COMMUNITY MEDICINE				
Communicable diseases	<ul style="list-style-type: none"> Comprehend modes of disease transmission, interaction of agent host and environment in the 	<ul style="list-style-type: none"> Meningitis Polio Zoonotic infections (rabies, plague, Salmonellosis) 	LGIS, SGD, PBL	MCQs/SEQs/VIVA

Theme/Topic	Learning Outcomes By the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment Tools
	<p>pre & pathogenesis phases</p> <ul style="list-style-type: none"> Advise about preventive measures to control spread of infections 	<ul style="list-style-type: none"> Travel Medicine 		
Prevention of Snake bite	Recommend preventive measures against different snake bites in particular situations.	<ul style="list-style-type: none"> 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				
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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Differentiate between different types of tremor and movement disorders based on clinical features 	<ul style="list-style-type: none"> Parkinson's disease, essential tremor, Huntington's disease, tics, medication-induced dyskinesia 	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

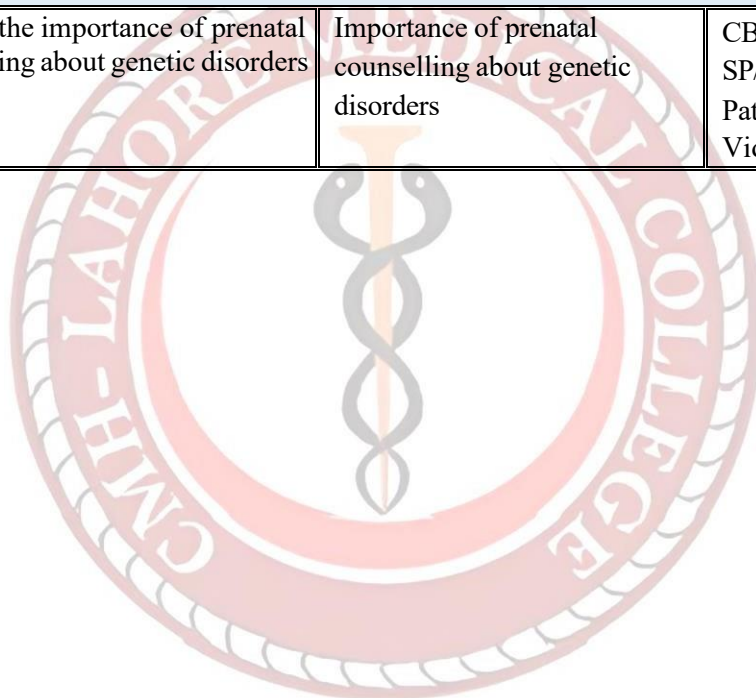
Topic/ Theme	• Learning outcomes	• Learning Objectives/Contents	Instructional strategies	Assessment tool
	<ul style="list-style-type: none"> Outline the workup and management of patients with gait disorders 	<ul style="list-style-type: none"> Pharmacological treatment for relief of symptoms and its complications Non-Pharmacological treatment including surgery and rehabilitation 		
Headache	<ul style="list-style-type: none"> Assess the patient with headache on the basis of etiology and pathophysiology Differentiate between various types of headaches on the basis of clinical presentation Elaborate pharmacologic treatment for acute condition 	<ul style="list-style-type: none"> Differential diagnosis of headache, Migraine, cluster, tension, analgesia-overuse, neuralgias, idiopathic intracranial hypertension, temporal arteritis Presentations and clinical features of various types of headaches especially migraine Etiologies & Pathogenesis of different types of headaches 	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Seizure disorders	<ul style="list-style-type: none"> 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 Outline the acute and long-term management of seizures 	<ul style="list-style-type: none"> Epilepsy various seizure types including adult vs pediatric seizures Status Epilepticus Anticonvulsant therapy 	LGIS/ CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
Procedures	Observe and assist <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Recall Patterns of inheritance Diagnose Down Syndrome and common malformations 	<ul style="list-style-type: none"> 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
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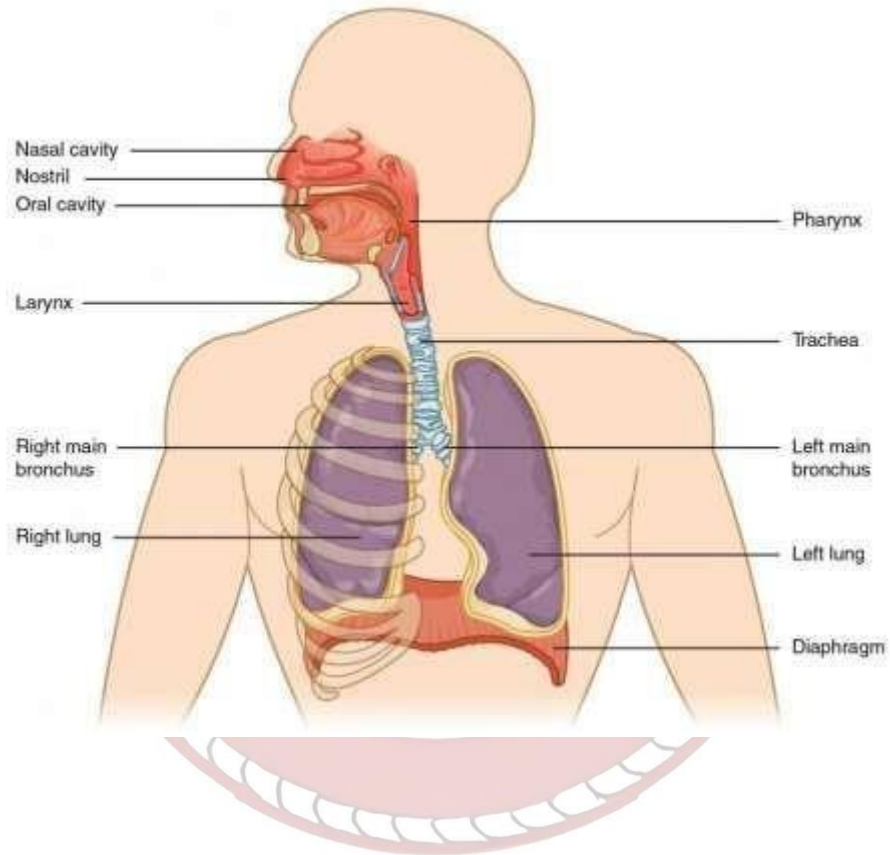
MBBS YEAR – III

BLOCK – VIII

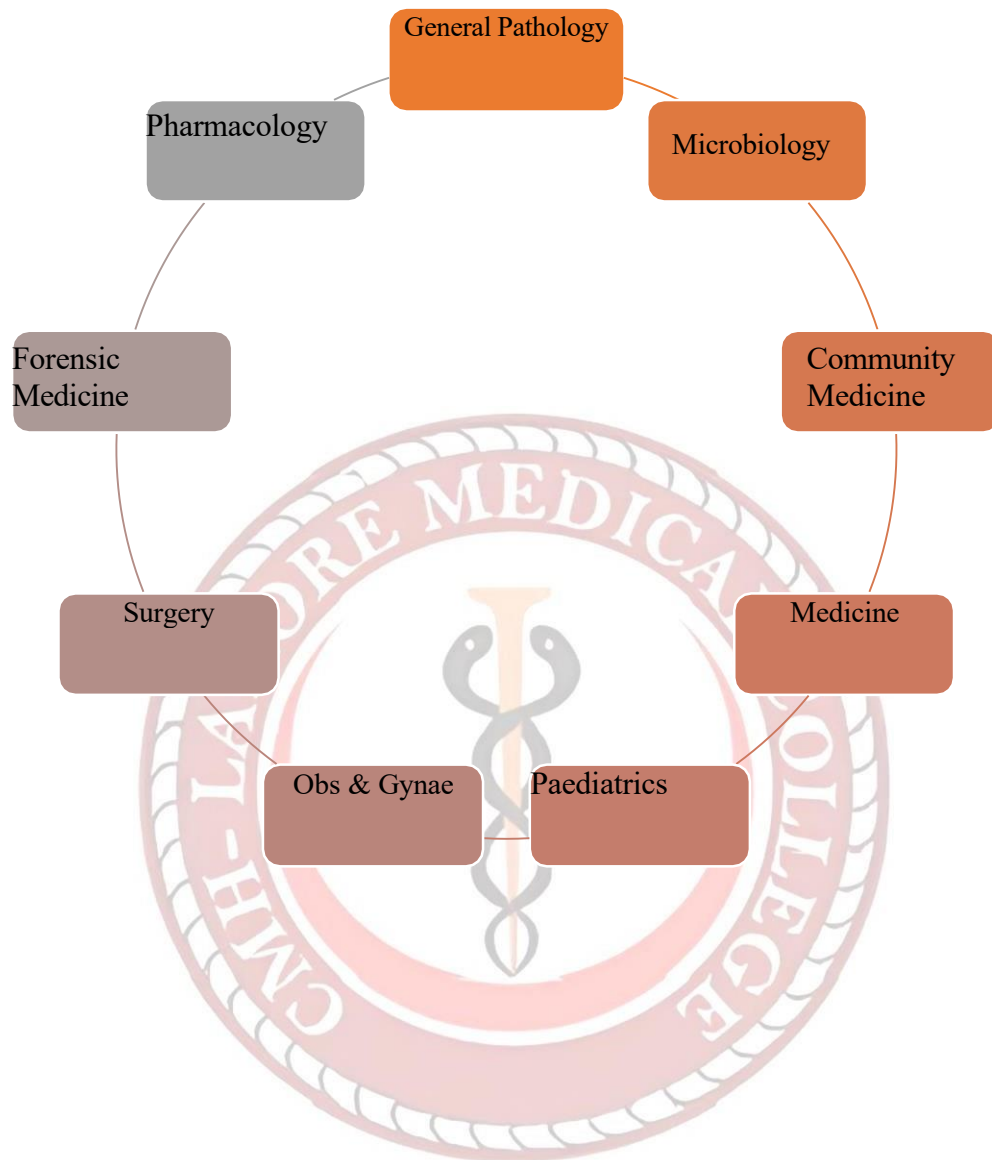
MODULE – XVIII

Respiratory System Module

Duration: 03 weeks



Integration of Disciplines in CVS II Module



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

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.	<ul style="list-style-type: none"> ● Harmful effects of smoking and alcohol ● Harmful effects of smoking and radiation ● Occupational hazards 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
Practicals	Identify slides <ul style="list-style-type: none"> ● 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 <ul style="list-style-type: none"> ● Corynebacterium diphtheriae ● Bordetella pertussis ● Streptococcus pneumoniae ● Bacillus anthracis ● Legionella, Mycoplasma ● Fungal Respiratory Infections - Aspergillus, Mucor 	LGIS, practical, CBL	MCQs/ SEQs/ / OSPE/ VIVA
PHARMACOLOGY				
Respiratory System	<ul style="list-style-type: none"> ● Develop a management plan for cough and obstructive pulmonary disorders (Asthma, COPD) with justification ● Validate the use of antihistamines in various allergic disorders 	<ul style="list-style-type: none"> ● Expectorants & Antitussives ● Drugs used in Bronchial Asthma ● Antihistamines (H1 antagonists) 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
PRACTICALS/SKILLS	Interpret the dose response curve <ul style="list-style-type: none"> ● Justify the selection of priority drugs for certain indications and prescribe medicine accordingly ● Bronchial Asthma ● Allergic Rhinitis 			OSPE

FORENSIC MEDICINE				
Theme/Topic	Learning Outcomes	Course Content	Instructional strategies	Assessment Tools
	By the end of this module, student will be able to:			
Specific Poisons	Discuss the effects of specific poisons/drugs prevailing in our society along with medico-legal aspects	Study of following poisons/drugs: <ul style="list-style-type: none"> • 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				
Theme/Topic	Learning Outcomes	Course Content	Instructional strategies	Assessment Tools
Communicable diseases	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Measles, mumps, rubella, Diphtheria, pertussi Influenza, SARS, COVID-19 Tuberculosis Chickenpox IMCI guidelines for pneumonia 	LGIS, SGD, PBL	MCQs/ SEQs/VIVA
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.	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Discuss the imaging techniques in respiratory disease Describe the common radiological abnormalities on chest x-rays 	CBL/ Video clips	Formative assessment

MEDICINE				
Theme/Topic	Learning Outcomes	Course Content	Instructional strategies	Assessment Tools
Cough	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Chronic cough Dyspnoea / shortness of breath Fever with cough 	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
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

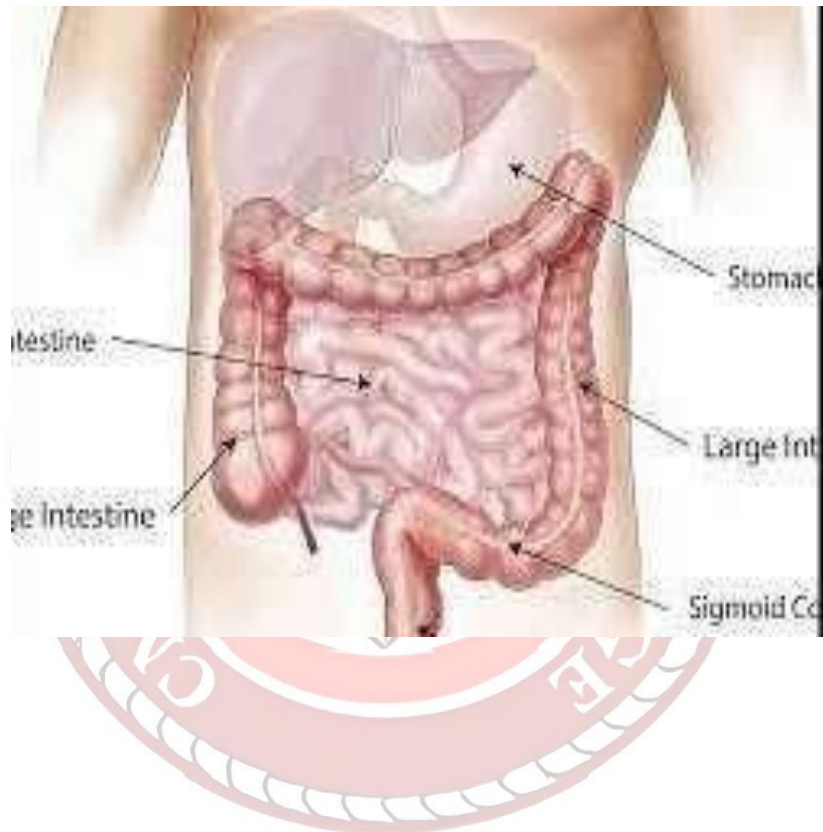
MBBS YEAR – III

BLOCK – IX

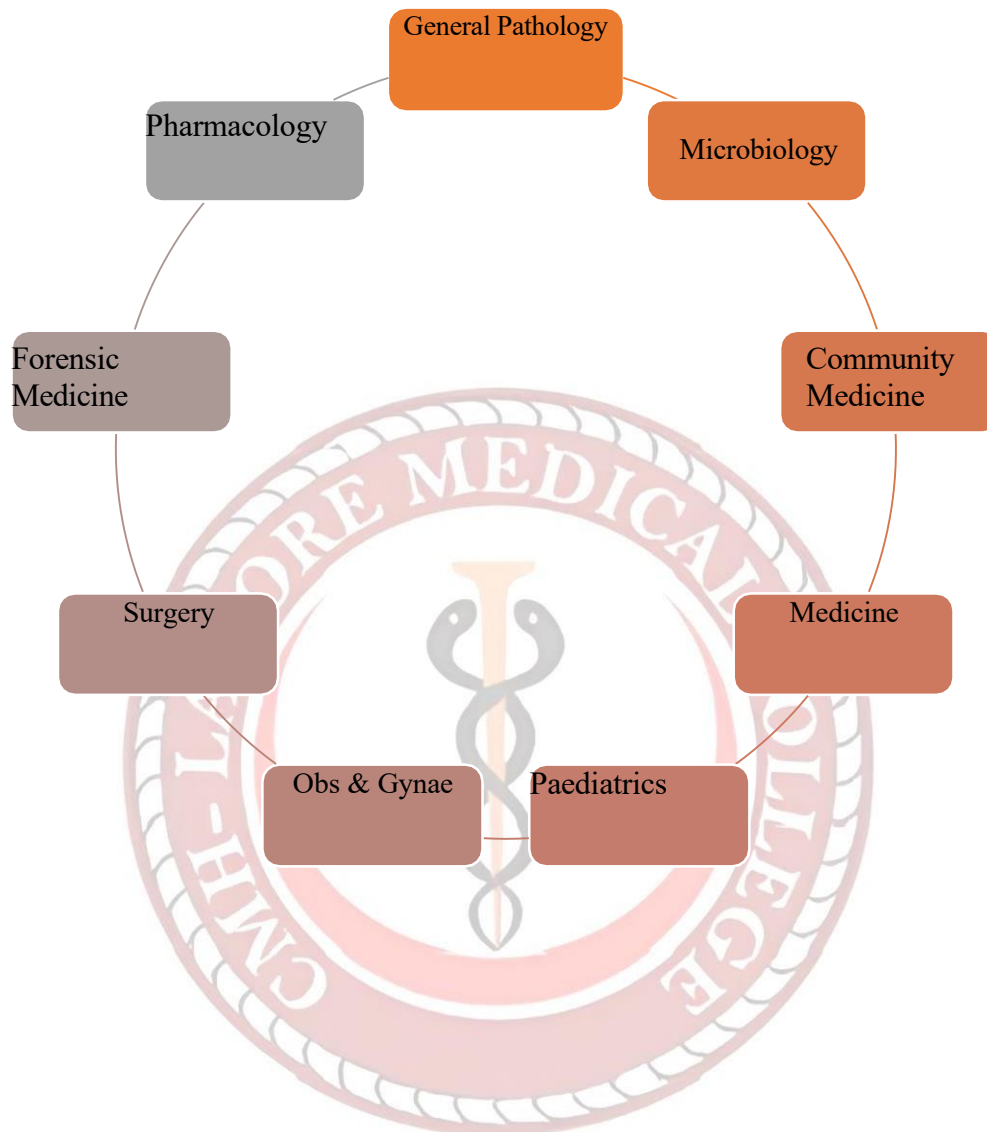
MODULE - XIX

Digestive System & Metabolism - II Module

Duration: 03 weeks



Integration of Disciplines in Digestive System & Metabolism - II Module



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)

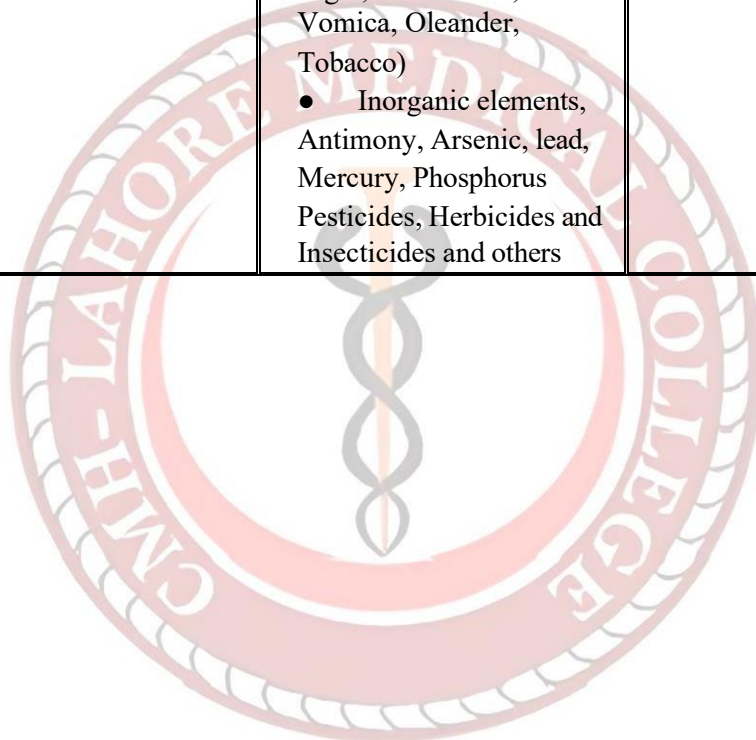
Theme
Diarrhea
Upper GI bleeding
Abdominal pain

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 <ul style="list-style-type: none"> ● 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: <ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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).	<ul style="list-style-type: none"> ● Anti-emetics ● Antidiarrheals ● Purgatives/laxative ● Drugs used in Peptic Ulcer 	LGIS, SGD, PBL	MCQs/SEQs/VIVA
Endocrinology	<ul style="list-style-type: none"> ● Justify different treatment modalities 	<ul style="list-style-type: none"> ● Antidiabetic drugs ● Thyroid/Anti-thyroid drugs 	LGIS, SGD, PBL	MCQs/SEQs/VIVA

Theme/Topic	Learning Outcomes At the end of this module, student will be able to:	● Course Content	Instructional strategies	Assessment tools
	for all types of diabetes mellitus ● Rationalize the therapeutic uses of thyroid/anti-thyroid drugs, osteoporosis and adrenal hormones in different disorders	● Adrenal Hormones ● Drug treatment of Osteoporosis		
	● 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	Course Content	Instructional strategies	Assessment tools
	By the end of Block II, the students will be able to:			
Specific Poisons	Discuss the effects of specific poisons/drugs prevailing in our society along with medico-legal aspects	Study of following poisons/drugs: <ul style="list-style-type: none"> ● Salicylates and paracetamol ● Poisonous Plants (Aconite, Belladonna, Hyoscyamus, Stramonium, Digitalis, Ergot, Mushrooms, Nux Vomica, Oleander, Tobacco) ● Inorganic elements, Antimony, Arsenic, lead, Mercury, Phosphorus Pesticides, Herbicides and Insecticides and others 	LGIS, SGD, PBL	MCQs/SEQs/VIVA



COMMUNITY MEDICINE

<p>Non-Communicable diseases</p>	<ul style="list-style-type: none"> ● 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 	<p>Prevention of diabetes mellitus</p>	<p>LGIS, SGD, PBL</p>	<p>MCQs/SEQs/VIVA</p>
<p>Communicable diseases</p>	<ul style="list-style-type: none"> ● 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 	<p>Prevention of typhoid, cholera, amoebiasis, Giardiasis, Parasitology, Diarrheal diseases</p>	<p>LGIS, SGD, PBL</p>	<p>MCQs/SEQs/VIVA</p>

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

SURGERY				
Topic/ Theme	Learning outcomes	Learning Objectives/Contents	Instructional strategies	Assessment tool
Abdominal Injury	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 patients presenting with diarrhoea	<ul style="list-style-type: none"> GERD IBD Achalasia APD Acute gastroenteritis 	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment
		<ul style="list-style-type: none"> Infectious diarrhea Chronic diarrhea 		

Procedures	Observe and assist <ul style="list-style-type: none"> ● 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	Bedside teaching/ CBL	OSCE
OBS & GYNAE			
Acute Abdominopelvic pain	<ul style="list-style-type: none"> ● 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: <ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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 YEAR - III

BLOCK - IX

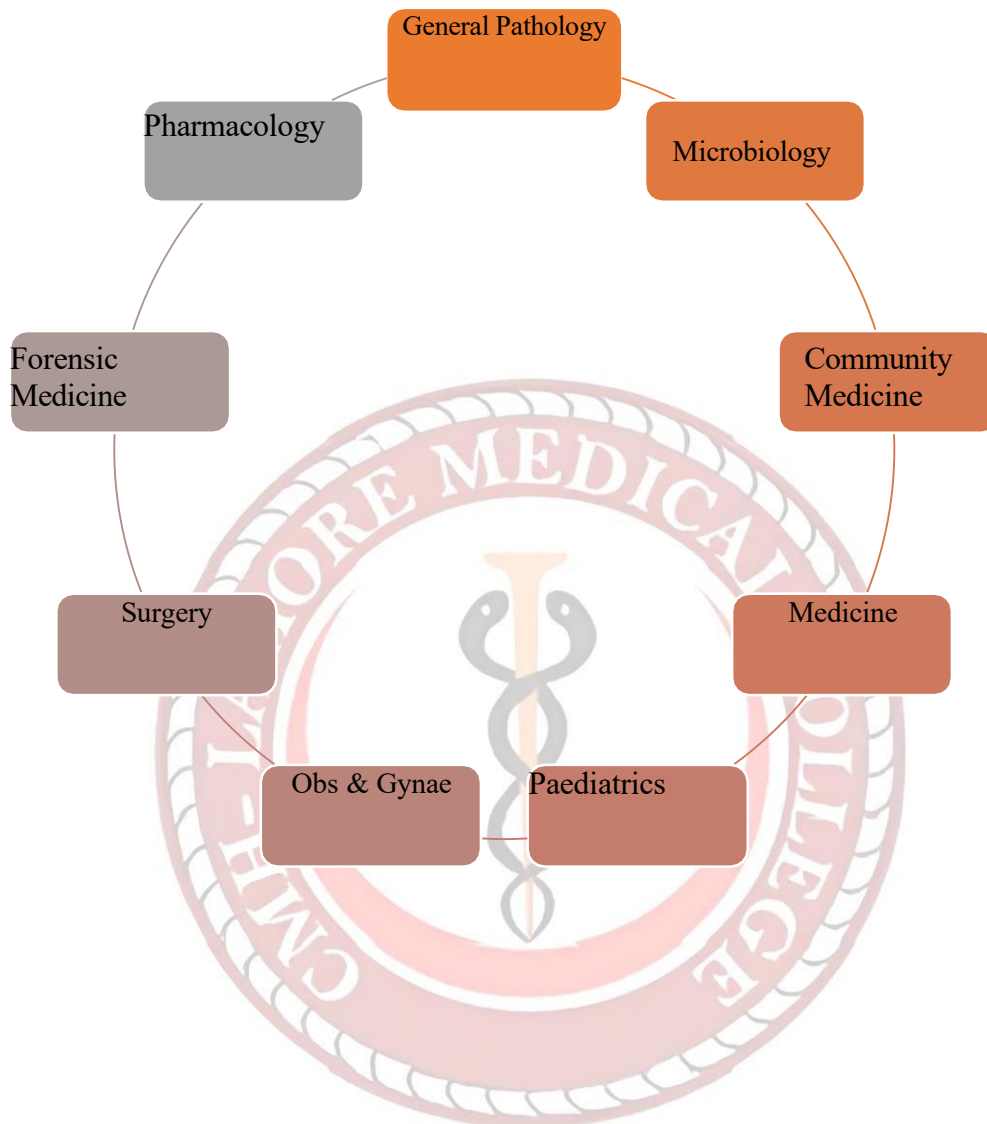
MODULE - XX

Multisystem Module – I (Neoplasia)

Duration: 04 weeks



Integration of Disciplines in Multisystem Module – I (Neoplasia) Module



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

GENERAL PATHOLOGY				
Theme/Topic	Learning Outcomes	Course Content	Instructional strategies	Assessment tools
Neoplasia	At the end of this module, student will be able to: Analyze the nomenclature, characteristic, epidemiology, carcinogenesis, grading and staging, genetic basis, mechanism of metastasis and tumor markers	<ul style="list-style-type: none"> ● 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 <ul style="list-style-type: none"> ● 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: <ul style="list-style-type: none"> ● Infections in immunocompromised patients 	<ul style="list-style-type: none"> ● Infections in immunocompromised patients ● Opportunistic bacterial pathogens ● HIV/AIDS ● Measles, Mumps and Rubella ● HSV ● HPV 	LGIS/ SGD/PBL	MCQs/ SEQs/ / OSPE/ VIVA

Theme/Topic	● Learning Outcomes At the end of this module, student will be able to:	● Course Content	Instructional strategies	Assessment tools
	<ul style="list-style-type: none"> ● Opportunistic bacterial pathogens ● HIV/AIDS ● Measles, Mumps and Rubella ● HSV ● HPV ● Influenza virus ● Corona viruses ● Adenovirus ● EBV and CMV 	<ul style="list-style-type: none"> ● Influenza virus ● Corona viruses ● Adenovirus EBV and CMV 		
PHARMACOLOGY				
Chemotherapy	<ul style="list-style-type: none"> ● 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 <ul style="list-style-type: none"> ● Drug therapy in disease states such as renal and hepatic disease 	LGIS/SGD/PBL	MCQs/ SEQs/ VIVA
	<ul style="list-style-type: none"> ● 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				
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	<ul style="list-style-type: none"> ● 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 	LGIS/SGD/PBL	MCQs/ SEQs/ VIVA

Theme/Topic	Learning Outcomes At the end of this module, student will be able to:	● Course Content	Instructional strategies	Assessment tools
		<ul style="list-style-type: none"> ● Medical evidence in courts. ● Document information to be prepared by a medical doctor for legal procedures. ● Procedure of Court attendance and recording of evidence 		
COMMUNITY MEDICINE				
Communicable diseases	<ul style="list-style-type: none"> ● 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 <ul style="list-style-type: none"> ● HIV/ AIDS (Excluded by WAH) ● However, integrated with other subjects) 	LGIS/SGD/PBL	MCQs/SEQs/ VIVA
Non-Communicable diseases	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Relate the pathophysiology of immunodeficiency syndrome to its clinical presentation 	HIV/AIDS	LGIS/ CBL/PBL/SP/ Real Patient/ Video clips	Formative assessment

Theme/Topic	Learning Outcomes At the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment tools
	<ul style="list-style-type: none"> Identify the modes of transmission and 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	<ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> 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				
Gynecological Benign Tumors	<ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> Fibroid uterus Benign tumors of Ovary 	CBL/PBL/ SP/ Real Patient/ Video clips	Formative assessment

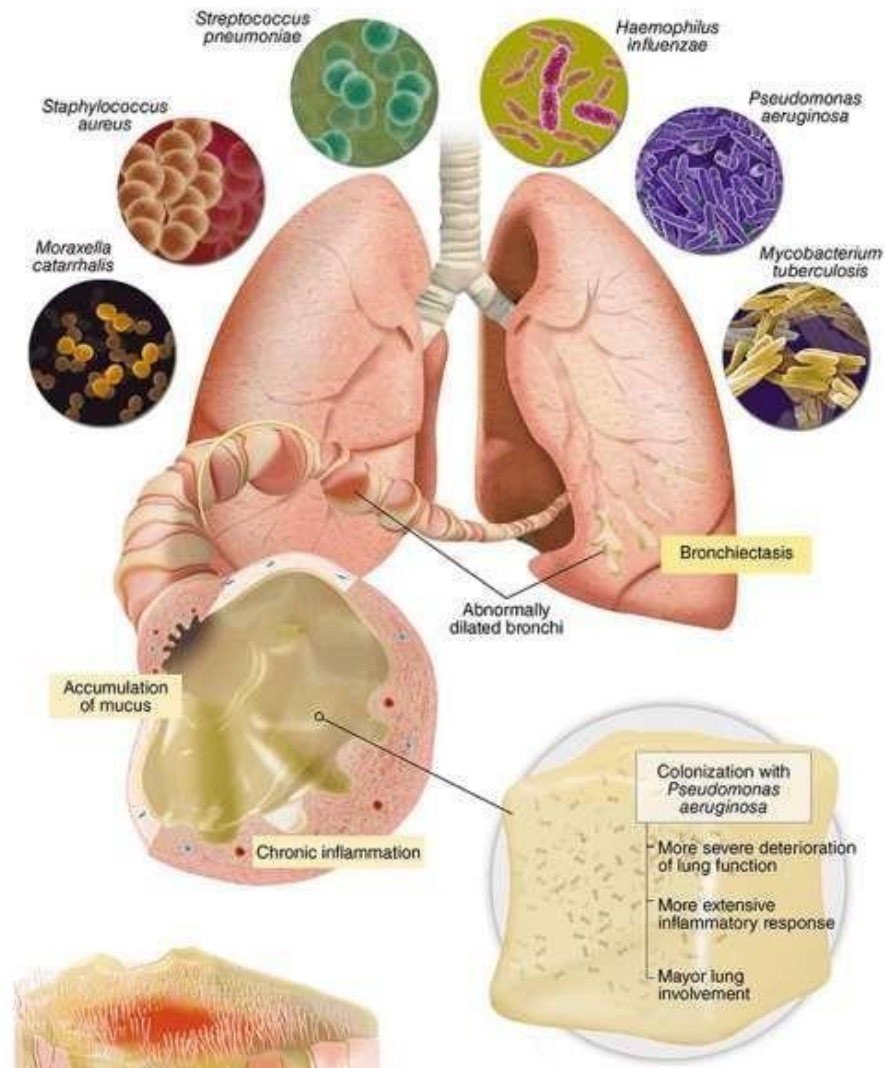
MBBS YEAR - III

BLOCK - IX

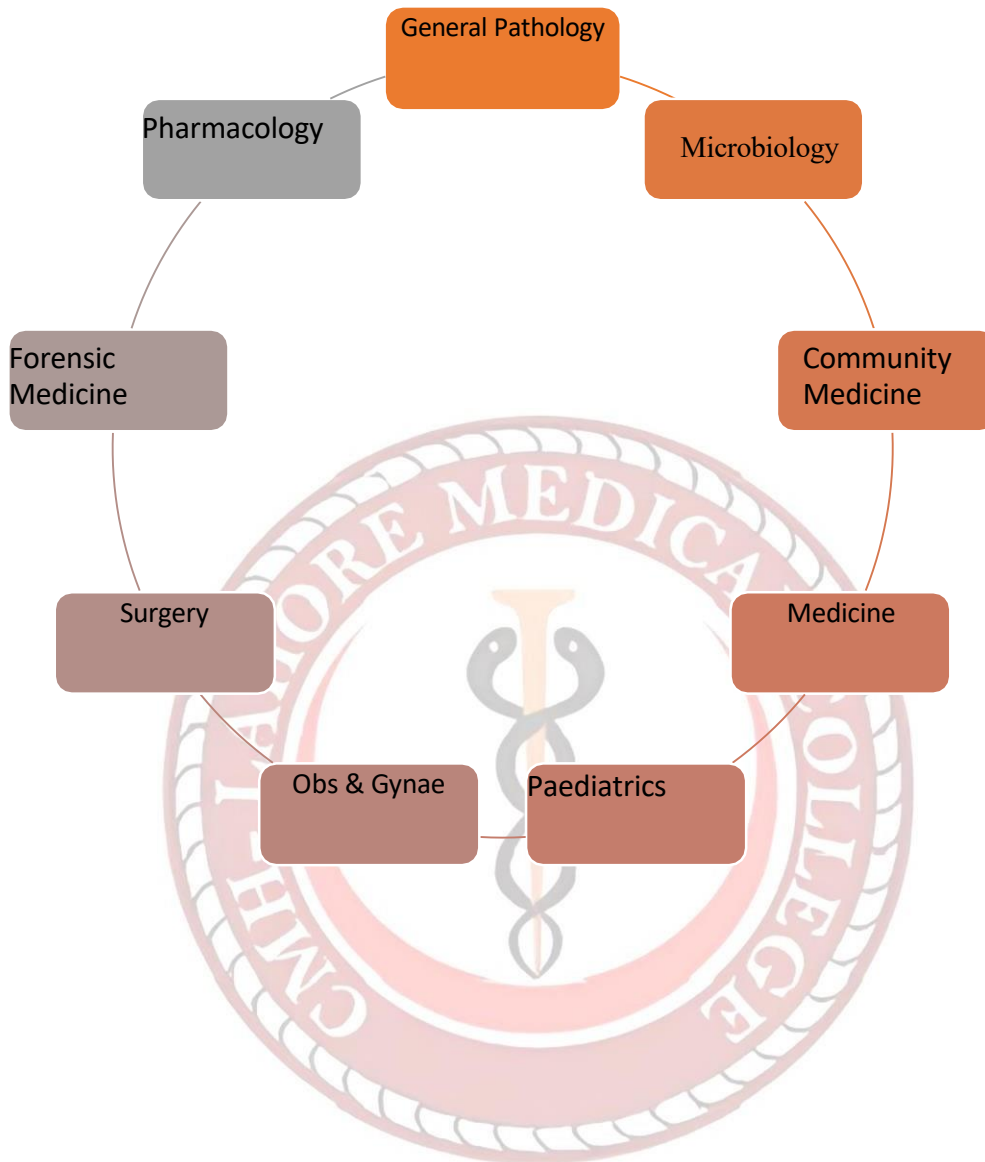
MODULE - XXI

Multisystem Module – II (Infectious diseases)

Duration: 04 weeks



Integration of Disciplines in Multisystem Module – II (Infectious diseases) Module



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

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 <ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● Justify the treatment modalities for various microbes (bacteria, viruses) according to mode of action, resistance patterns and 	<ul style="list-style-type: none"> ● Mechanism of Resistance ● Penicillin ● Cephalosporin ● Sulfonamides ● Macrolides ● Tetracyclines 	LGIS/SGD/PBL	MCQs/ SEQs/ VIVA

Theme/Topic	Learning Outcomes At the end of this module, student will be able to:	● Course Content	Instructional strategies	Assessment tools
	regional current practices	<ul style="list-style-type: none"> ● 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
<ul style="list-style-type: none"> ● Anti-Amoebic ● Anthelmintics 	Justify the use of Anti-Amoebic and Anthelmintics	<ul style="list-style-type: none"> ● Anti-Amoebic ● Anthelmintics 	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. <ul style="list-style-type: none"> ● antiseptics and disinfectants 	<ul style="list-style-type: none"> ● Dermatological and topical drugs ● Anti-seborrhoeics, locally acting enzymes. ● Antiseptics and disinfectants. 	LGIS/SGD/PBL	MCQs/SEQs/ VIVA
Practicals	<ul style="list-style-type: none"> ● Analyze the given quantitative data in a statistically significant manner. ● Write an appropriate prescription 			OSPE

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	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● 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	<ul style="list-style-type: none"> ● 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

MEDICINE				
Theme/Topic	● Learning Outcomes At the end of this module, student will be able to:	● Course Content	Instructional strategies	Assessment tools
Approach to fever (Acute febrile illness)	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● 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				
Sinuses and fistulas	List the principles of diagnosis and management of sinuses and fistula on the basis of its etiology.	<ul style="list-style-type: none"> ● Classification ● Causes ● Clinical features ● Diagnosis ● Management principles 	Lecture /CBL/SDL	Formative assessment
Wound infections	<ul style="list-style-type: none"> ● Identify susceptible individuals ● Diagnose various stages of disease based on clinical and characteristic features. ● Suggest diagnostic modalities and treatment options ● Propose prevention options 		Lecture /CBL/SDL	Formative assessment
Ward visits	Take history and perform examination of the patients with relevant disorders		Bed side teaching/ CBL	OSCE
Procedures	Perform under direct supervision <ul style="list-style-type: none"> ● Intramuscular Injection (10) ● Subcutaneous Injection (5) 		Real Patient/ skill lab	Formative assessment

OBS & GYNAE				
Theme/Topic	● Learning Outcomes At the end of this module, student will be able to:	Course Content	Instructional strategies	Assessment tools
Vaginal Discharge/ Lower genital tract infections	<ul style="list-style-type: none"> ● Classify the causes of vaginal discharge ● Summarize methods of diagnosis of various types of vaginal discharge 	Concept of etiological factors, clinical diagnosis of: <ul style="list-style-type: none"> ● 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				
Infections	<ul style="list-style-type: none"> ● 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. 	<ul style="list-style-type: none"> ● PUO ● Measles ● Mumps ● Chickenpox ● Malaria/cerebral malaria 	LGIS, CBL	MCQs/ SEQs/ OSPE/VIVA

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

Block I	Topic/ Theme	Learning Outcomes	Course Content	Instructional strategies	Assessment Tool
			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

INFECTION CONTROL

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.	<ul style="list-style-type: none"> ● 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 ● Preventing maternal and new born infections in Healthcare settings 	Community Medicine	Block III

Learning Outcomes: At the end of this course, student will be able to:	<ul style="list-style-type: none"> ● Topics 	Department	Suggested Blocks
	<ul style="list-style-type: none"> ● 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 		
<ul style="list-style-type: none"> ● Implement IPC practices to stop the spread of infections in healthcare settings ● Identify risk factors within the patient care environment 	<ul style="list-style-type: none"> ● 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
<ul style="list-style-type: none"> ● Recommend best practices for infection prevention as it relates to bloodstream infections, surgical site infections and catheter related urinary tract infections. 	<ul style="list-style-type: none"> ● 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

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

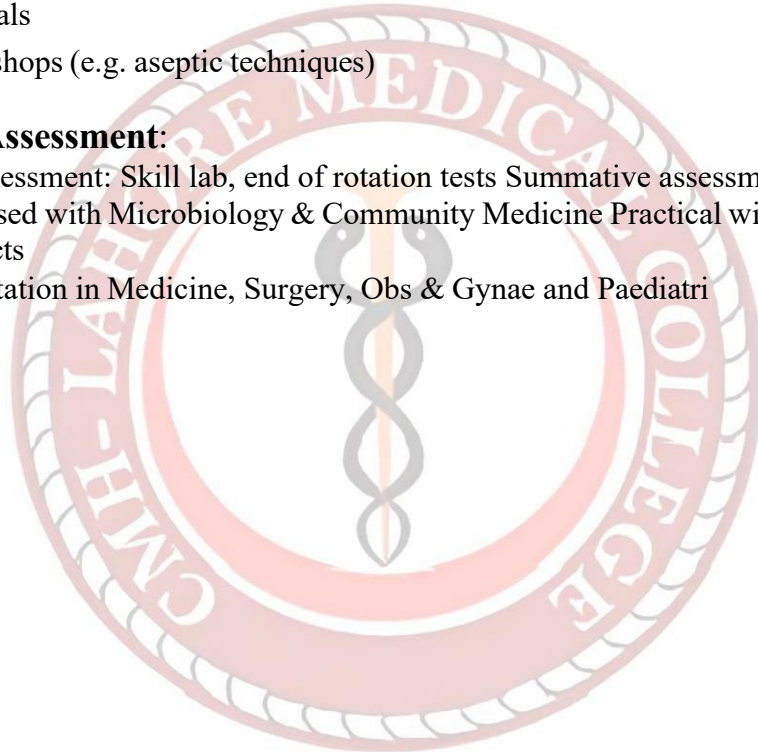
1. Bedside / chair-side teaching
2. Demonstrations and discussions in laboratories, wards, clinics, emergency rooms, operation theatres etc.
3. Independent, guided learning
4. Lectures
5. Practice in Skills Lab (for example as role plays/ simulation)
6. Small group discussions (as case-based learning 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 Paediatric



Clinical Skills
in Medicine & Allied
3rd Year MBBS

Levels of Student Engagement in Clinical Procedures:

- Observer status (O)
- Assistant status (A)
- Perform under supervision (PS)
- Perform independently (PI)

Sr #	Clinical Skills	Level 3 rd Year MBBS
1.	Course Title: CARDIOLOGY	
	CVS examination Systemic & relevant general physical	PS
	ECG	O
	How to apply cardiac monitor	PS
2.	Course Title: Endocrinology & Metabolic Disorders	
	Systemic & relevant general physical Examination	PS
	BP recording	PI
	Glucometer Use	PS
	Insulin Injection Technique	PS
3.	Course Title Pulmonology	
	Respiratory system examination	PI

	Systemic & relevant General physical	
	Inhaler Technique & Peak Flow Meter	PS
	Nebulization	O
	Use of pulse oximeter	PS
4.	Course Title: Nephrology	
	Relevant Systemic & General Physical examination	PI
5.	Course Title: GASTROENTROLOGY	
	GIT Systemic & Relevant General Physical Examination	PI
	Nasogastric tube placement	O
6.	Course Title: NEUROLOGY	
	CNS Examination Systemic	PI
	Relevant General Physical	PS
7.	Course Title: RHEUMATOLOGY	
	Locomotor system examination & Relevant General Physical Examination	PI
8.	Course Title: INFECTIOUS DISEASES	
	Relevant General & Systemic Physical Examination	PI

	Injection I/V, I/M, S/C, intradermal	PS
	Urinary catheterization - collection of samples	O
	Collection of blood samples/ blood film preparation	O
	Branula	PS
9.	Course Title: HAEMATOLOGY	
	Systemic & relevant general physical Examination	PI
	Injection I/V, I/M, S/C, intradermal	PS
	Collection of samples of blood/blood film preparation	O
	Placing I/V lines/fluids/blood/blood products, direct branula	PS
10.	Course Title: DERMATOLOGY	
	Systemic & relevant general physical	PI
	Examination to identify specific skin lesions	PS
11.	Course Title: PSYCHIATRY	
	Systemic & relevant general physical	PI
	Examination to identify mental state	PS

Clinical Procedures / Skills in Surgery & Allied

(NUMS MBBS Curriculum 2025)

3rd Year MBBS

Levels of Student Engagement in Clinical Procedures:

- Observer status (O)
- Assistant status (A)
- Perform under supervision (PS)
- Perform independently (PI)

Sr#	Skill / Procedure	Level of student engagement	Notes / Remarks
1.	Wound Dressing	O	Supervised in
2	Urinary catheterization	O	Skill lab
3.	Passing NG Tube	O	Skill lab
4	Placement of IV Canula, Intramuscular & Subcutaneous Injection	O & A	Skill lab

Pediatrics bed side skills for 3rd Year MBBS

S/No	Clinical Learning Activity	Level			
		O	A	PS	PI
1	Patient Safety	✓			
2	Subcutaneous Injection	✓			
3	Intra-muscular Injection	✓			
4	Blood Sampling	✓			
5	Use of Glucometer	✓			
6	Use of Inhalers Nebulizer	✓			

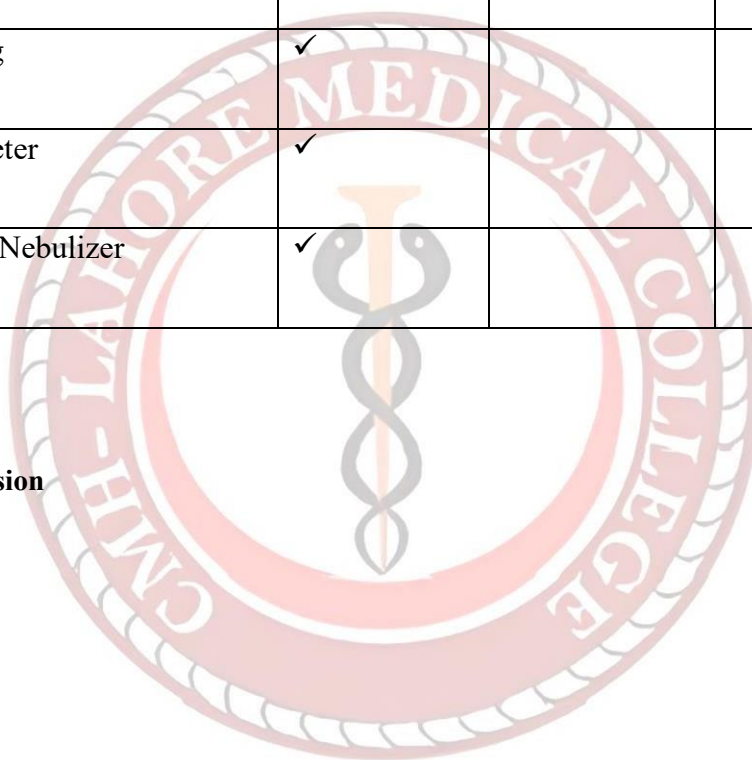
Levels

O-Observer Status

A-Assistant Status

P-S Performed Under Supervision

P-I Performed Independently



Procedural skills to be acquired in Gynae & Obs clinical training:

Level of Competency	Procedure
Observe	Female Urinary catheterization
Observe	Surgical Dressing
Observe	Preparation of iron sucrose solution
Observe	Removal of sutures
Observe	Intra Muscular Injection
Observe	Subcutaneous Injection
Observe	Obstetrical examination



