WAH MEDICAL COLLEGE

2022-2026

Department of Medical Education

STUDY GUIDE
3rd YEAR MBBS
Y3BVII

2022-2026

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VISION

National University of Medical Sciences envisions a world with a better quality of life for all by enhancing our contribution to healthcare, education, innovation, and research.

MISSION

To produce competent medical professional graduates equipped with sound knowledge & research capabilities based on scientific principles, imbued with ethics and moral values primed to serve the community through the profession and pursue research & advanced training in any branch of medicine".

1. Program Learning Outcomes of WMC MBBS Program:

At the end of our five-year MBBS program, the graduates should be able to:
PLO 1: Independently manage common, non-critical clinical problems.
PLO 2: Assist in the management of critically ill patients & demonstrate competency in life saving procedures.
PLO 3:Exhibit the attributes of an ethical professional.
PLO 4: Conduct research which brings relevance to health care practices.
PLO 5: Act as an efficient community health promoter.
PLO 6: Exhibit scientific knowledge in all professional activities.
PLO 7: Demonstrate clear and efficient written & verbal communication skills.
PLO 8: Exhibit the habits of a lifelong learner.

2. Introduction to the Study Guide:

I. Objectives of the Study Guide

Dear Students,

We, at the Department of Medical Education, Wah Medical College, have developed this study guide especially for you. This study guide aims to:

- Inform you about the organization of learning programs in this block which will help you to contact the right person in case of any difficulty.
- Help you in organizing and managing your studies throughout the block
- Guide you on assessment methods, rules, and regulations.
- Define the outcomes which are expected to be achieved at the end of the block.
- Identify the learning strategies that will be implemented to achieve the block outcomes such as lectures, small group discussions, clinical skills, demonstration, tutorial, and case-based learning
- Provide a list of learning resources such as books, and journals for students to consult to maximize their learning.

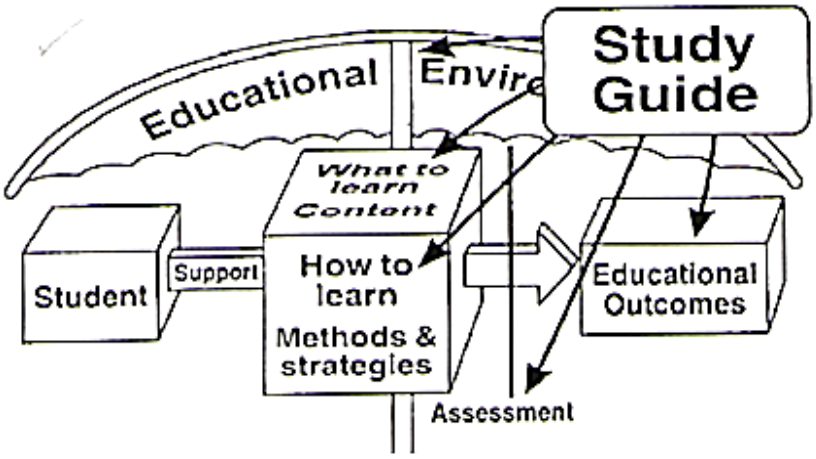


Figure 1. Objectives of the study Guide(HARDEN, J.M. LAIDLAW, E.A. HESKETH, 1999)

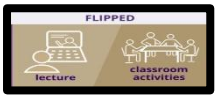
II. Commonly used abbreviations & Logos in the study guide

Learning Outcomes:

Learning outcomes are statements that define the expected goal of your course, lesson, or activity in terms of demonstrable skills or knowledge that will be acquired by you as a result of instruction. In simple words, these are the things that you must be able to tell or do with the required attitude after learning a particular topic.

1. **Educational Strategies:**

   These are the methodologies through which you will be taught by your instructors. These can include.

Abbreviation	Logos
LGIS: Large Group interactive session/Lecture	
Flipped Classroom	
CBL: Case based learning.	
Practicals	
Demonstrations	
SGD: Small group discussions	
BST: BedSide Teaching	
Skill Lab	
Clinical Teaching (OPD/ OT/ IPD	

Large Group Interactive Sessions

In a large group, the lecturer introduces a topic or common clinical condition and explains the underlying phenomena through questions, pictures, videos of patient's interviews, exercises, etc. Students are actively involved in the learning process.

Flipped classroom

A pedagogical approach in which the conventional notion of classroom-based learning is inverted: students are introduced to the learning material before class with classroom time then being used to deepen understanding through discussion with peers and problem-solving activities facilitated by teachers.

Small Group Discussion

This format helps students to clarify concepts, acquired skills or attitudes. Sessions are structured with the help of specific exercises such as patient case, interviews, or discussion topics. Students exchange opinions and apply knowledge gained from lectures, tutorials, and self-study. The facilitator's role is to ask probing questions, summarize, or rephrase to help clarify concepts.

Case-Based Learning

This is a small group discussion format where learning is focused around a series of questions based on a clinical scenario. Specifically designed case scenarios and the learning outcomes to be achieved are shared with the student before the session. Students prepare for the CBL and during class they discuss and answer the questions applying relevant knowledge gained in clinical and basic health sciences during the block. Faculty members are present as a guide and an assessor.

Self-Directed Study

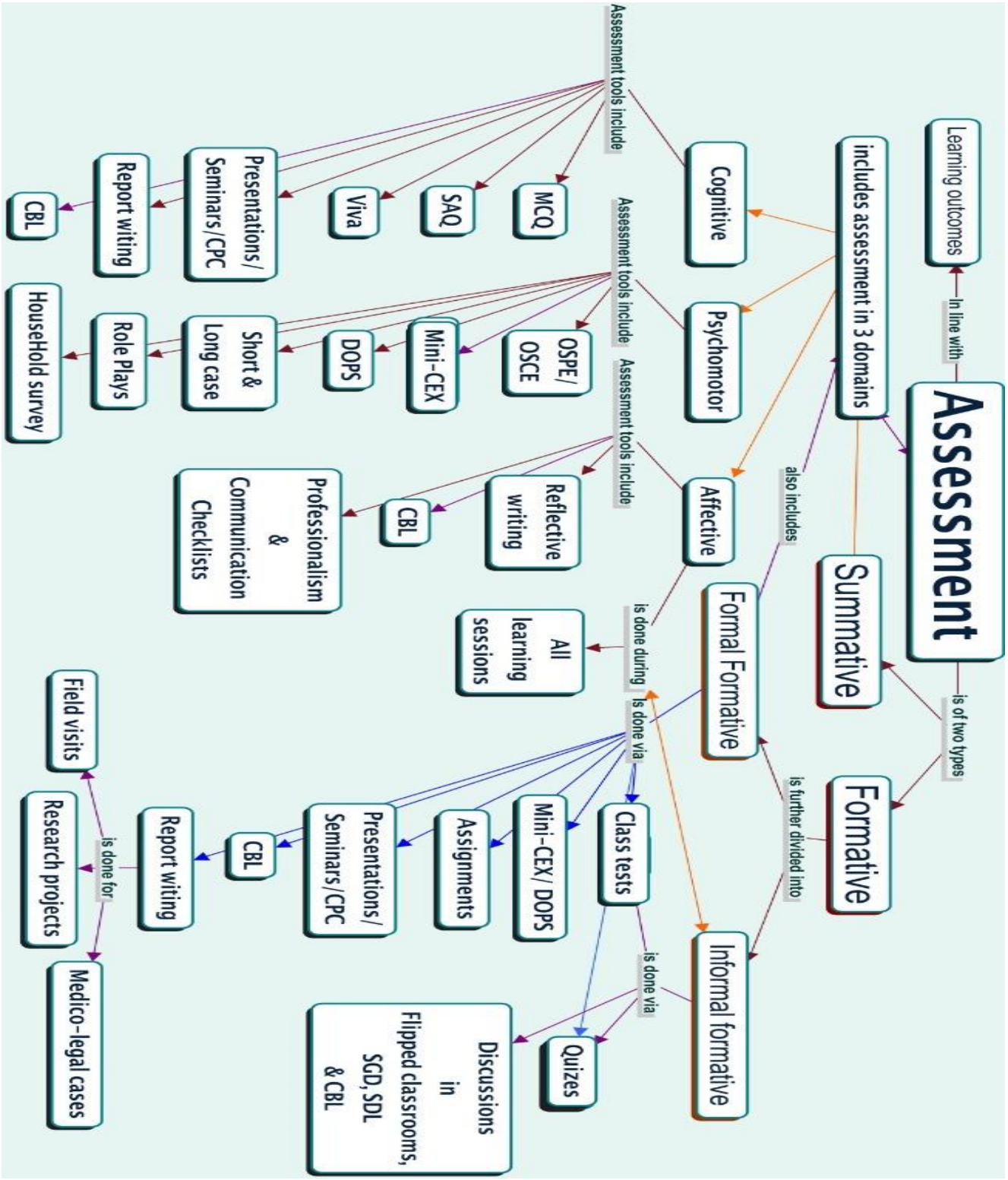
Students assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from learning Resource Center, teachers, and resource persons within and outside the college. Students can utilize the time within the college schedule hours for self-study.

Bedside teaching

Students learn clinical case scenarios/ patient examination firsthand at the patient's bedside with the help of the instructor in case of online teaching, the same cases will be shown to you online with the help of videos and live clinical teaching.

3. Assessment Map & Strategies

Assessment map & strategies should be consulted for detailed format on how assessment take place



Formative assessment

Formative assessments are used in the middle of a lesson or year to determine how students are progressing. During the block, students shall be continually formatively assessed in all three learning domains i.e., Cognitive, Psychomotor & Affective. It will include:

1. Class tests, Assignments, Presentations, Quizzes
2. Assessment of professionalism via checklists provided in logbooks/ practical copies in all learning sessions.
3. Viva
4. Subject-specific & Integrated CBL Assessment
5. Practical Assessment (OSPE)
6. Ward tests (Mini-CEX, DOPS, OSCE)

- Some of these assessments will be used only to inform students where they stand against benchmarks (Informal Formative) and some will be used in the calculation of internal assessment (Formal Formative).

- The scores of all formal formative assessments shall be used for calculation of the **internal assessment** according to NUMS curriculum. The weighting of internal assessment shall be **20%** in 3rd professional MBBS Examination. Internal assessment will be submitted to NUMS examination branch at least two weeks prior to the annual exam.

- The same internal assessment shall be counted both for annual and supplementary examinations. The students who are relegated, however, can improve the internal assessment during subsequent year.

Summative Assessment

- In a summative assessment, success is measured at the end of a checkpoint. They will be in the form of End of the block (EBE) exams; theory & practical / OSPE, OSCE, Ward test, pre-annual and professional exams.
- There shall be **three EBE** and one **pre-annual** examination.
    - To be eligible to sit in the pre-annual exam a student must pass at least **50% of all the formal formative assessments** conducted during the year.
    - The final decision of eligibility to sit in the pre-annual exam for the students failing to meet the requirements will be taken by the respective HODs & the departmental board of studies (dBOS). This decision will be on a case-to-case basis depending upon the student's performance in all 3 learning domains throughout the year.
    - **Logbooks** will be maintained to record students' performance during each clinical subject rotation. The ward test will also contribute towards internal assessment. Failure in clinical assessment will require the student to repeat the end rotation exam.

- The structure of the paper of all the EBE and pre-annual will be the same as that for the annual examination though syllabus will be different.
- The syllabus for EBE will be announced by the department at least 02 weeks prior to examination.
- Pre-annual examination will be from the whole syllabus.
- The date sheet for EBE and pre-annual examinations will be prepared by coordinators of 3rd year while the examinations will be conducted by the respective departments.

Annual Professional Examination:

- A student shall fulfill the following conditions to be eligible to appear in a professional examination:
  - Registered in NUMS and has studied the prescribed courses in the academic year.
  - Have at least **75% cumulative attendance in each subject** at the end of academic year. Students' presence will be marked in all sessions.
  - Paid the prescribed examination fee.
  - Paid all college dues for the current academic year.
  - Have **no major disciplinary case** during the current academic year.
- Annual theory and practical Examination shall be of **300** marks each in Pharmacology & G. Pathology+ Microbiology and **200 i**n Forensic Medicine & Toxicology.
- The weighting of the professional examination will be 80 %, each for theory and practical, which will contribute towards the final scores of the subject.
- An aggregate of **50% in Theory and 50% in Practical** of that subject will be declared pass in that subject.

Marks Distribution will be as follows:

GENERAL PATHOLOGY & MICROBIOLOGY (300) & PHARMACOLOGY (300)

Total Marks Theory MCQs: 60 (40%) + SEQs:60 (40%) + IA:30 (20%) = 150

Paper 1:

a. 80 MCQs of 60 marks (0.75 mark each)
b. Marks of MCQ components shall be rationalized to **40% weightage** out of 150. If a candidate obtains 70 marks in MCQs it will be rationalized as: 70/80*60=52.50
c. Time =80 min

Paper-2:

a. 9x SEQs (7SEQs of 6 Marks each & 2 SEQs of 9 Marks each= 60 Marks
b. Time = 100 min

c. Pass Marks = 75

Internal Assessment

a. 20% = 30 marks.
b. Detail of marks distribution for IA is given in the table below.

FORENSIC MEDICINE (200)

Total Marks of theory = 100 = 40MCQs + 40 SEQs+ 20 IA

Paper-1: 40 x MCQs (1 mark each) = 40 marks

Paper-2: 7x SEQs (5x6 Marks & 2x5 Marks) = 40 marks

Time Allowed= 03 hrs

Internal assessment 20% = 20 marks

Pass Marks= 50 %in Theory & 50 % in Practical each

Internal Assessment -Theory		
	Weighting – 20% of 150 = 30 marks	**Weighting – 20% of 100 = 20 marks**
Items for IA	**Weightings**	**Weightings**
Attendance in Lectures: ≥ 90% = 10 80-89% =7 75-79% = 5	10% of 30 = 3 marks 7% of 30 = 2.1 marks 5% of 30 = 1.5 marks	10% of 20 = 2 marks 7% of 20 = 1.4 marks 5% of 20 = 1 mark
EBE/ Theory exam of clinical rotation	45% of 30 = 13.5 marks	45% of 20 = 9 marks
Continuous assessment: Average score in theory exams (Formal Formative)	20% of 30 = 6 marks	20% of 20 = 4
Pre-annual Exam	25% of 30 = 7.5 marks	25% of 20 = 5
Total	3 + 13.5 + 6 + 7.5 = 30 marks	2 + 9 + 4 + 5 = 20 marks

Internal Assessment -Practical		
	Weighting – 20% of 150 = 30 marks	**Weighting – 20% of 100 = 20 marks**
Items for IA	**Weightings**	**Weightings**
Attendance in Practicals: > 90% = 10 80-89% =7 75-79% = 5	10% of 30 = 3 marks 7% of 30 = 2.1 marks 5% of 30 = 1.5 marks	10% of 20 = 2 marks 7% of 20 = 1.4 marks 5% of 20 = 1 mark
End of Ward rotation (Skill assessment)	45% of 30 = 13.5 marks	45% of 20 = 9 marks
Continuous assessment: Average score in skill assessment (Formal Formative)	20% of 30 = 6	20% of 20 = 4
Pre-annual Exam	25% = 7.5	25% of 20 = 5
Total	3 + 13.5 + 6 + 7.5 = 30 marks	2 + 9 + 4 + 5 = 20 marks

4. Structured Summary of Y3B-VII M-XIII Foundation - II Module

BLOCKS	BLOCK – VII
Module	**MODULE- XIII (Foundation - II Module)**
DURATION	**06 weeks**
Prerequisite Module	2nd Prof. Exam
Pharmacology	• General Pharmacology, Drugs acting on ANS, Autocoids
Pathology	• Pathological processes related to diseases and various techniques used in their diagnosis, cellular responses to stress and toxic insults: adaptation, injury and death, process of inflammation (acute & chronic) and tissue repair. Introduction to General Microbiology
Forensic Medicine	• Introduction to FMT, Medical Ethics in Islam, Personal Identity, Q&D act.
Community Medicine	• Foundation of Public Health, Introduction to Health Care System, General epidemiology, Concept of Health and Disease, Prevention of Sexually Transmitted Infections
Research Methodology	• Measures of Central Tendency and Dispersion, Hypothesis testing, Sample size calculations, Distributions, Tests of Significance, House Hold Survey
Surgery	• Metabolic response to injury • Fluid and electrolytes balance
Gynae	• Maternal anatomy/ physiology in Pregnancy and labour • Antenatal care, Pre-pregnancy care
Peads	• Introduction to Pediatrics ,Growth ,Development

5. Block Development Committee

Chairperson	**Prof. Babar Rashid Chughtai**	
Block In charge	Prof. Muhammad Iqbal	
Members/ Resource persons	**Pharmacology:**	Dr. Abeera Sikandar
	Forensic Medicine:	Dr. Muhammad Iqbal
	Pathology:	Dr. Lubna Ghazal
	Community Medicine:	Dr. Robina Mushtaq Rizvi
	Research Methodology	Dr. Robina Mushtaq Rizvi
	Medicine	Dr. Riffat Omer
	Surgery	Dr. Naeem Akhter
	Pediatrics:	Dr. Saba Mushtaq
	Gynecology	Prof. Humaira Rani
	P-CMILE	Dr. Sumaira Iqbal
Study guide developed By	Department of Medical Education Wah Medical College under Supervision of Prof. Dr. Musarat Ramzan	
Resource person for Study Guide	Dr. Sumaira Iqbal	

6. Course content

Pharmacology

Subject Learning Outcomes (SLO)

After completion of the course of Pharmacology & Therapeutics, the students would be able to:

1. Correlate the core concepts of pharmacokinetic and pharmacodynamic parameters of drugs to their therapeutic relevance. (PLO -1, 2, 6)
2. Rationalize the drug treatment strategies for common diseases in our community. (PLO -1,2,5,6).
3. Identify and report the potential adverse drug reactions (ADR), drug- drug interactions during polypharmacy. (PLO-5,6)
4. Demonstrate the foundation skills for rational prescription writing in a given disease condition. (PLO-1,2,3, 5, 6,7)
5. Counsel the patient effectively on the proper use of prescription drugs. (PLO-1,2, 3, 5, 6,7)
6. Interpret the data of studies designed to observe the effects of various drugs. (PLO-3,6)

Block Learning Outcomes (BLO):

- **BLO-1:** Interpret different pharmacokinetic & pharmacodynamic patterns, their clinical significance and factors affecting these parameters. (SLO-1, 3,6)
- **BLO-2:** Correlate the physiology of autonomic receptors with the therapeutic application of autonomic drugs. (SLO-2, 3, 4, 5,6)

S#	Topic	Educational Strategy	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Introduction to Pharmacology, its branches & Rational drug Therapy & Orientation to the study skills for the subject of Pharmacology**	LGIS	Prof Maj (R) Dr. Khalida Ajmal	Good to Know
Learning Outcomes with Assessment strategy ● Outline the historic review of Pharmacology & its branches (BLO-1) *MCQ (F)* ● Identify criteria for rational selection of drugs. (BLO-1). *MCQ (F)*				
2.	**Sources & Active Principles of Drugs**	LGIS	SL Dr. Ayman Zafar	Good to Know
Learning Outcomes with Assessment strategy ● Identify various natural drug sources & the active principles of crude drugs. (BLO-1) *MCQ (F)(S)* ● Describe the role of rDNA technology in pharmaceutical industry. (BLO-1) *MCQ (F)(S)*				

3.	**Mechanism of Drug Permeation**	LGIS	Assoc. Prof Dr. Ayesha Afzal	Must Know
Learning Outcomes with Assessment strategy ● Describe characteristics of various drug permeation mechanisms. (BLO-1) *MCQ /SEQ/Viva (S)* ● Evaluate the role of ionization in absorption of drugs. (BLO-1) *MCQ /SEQ/Viva (S)*				
4.	**Absorption of drugs (I-II)**	LGIS	Assoc. Prof Dr. Ayesha Afzal	Must Know
Learning Outcomes with Assessment strategy ● Describe the factors that modify absorption of drugs from GIT. (BLO-1) *MCQ /SEQ/Viva (S)* ● Identify the methods that can prolong drug action and the clinical significance of this effect. (BLO-1) *MCQ /SEQ/Viva (S)*				
7.	**Distribution & Volume of distribution (Vd)**	LGIS	Asst. Prof Dr. Abeera Sikandar	Must Know
Learning Outcomes with Assessment strategy ● Correlate the phenomena of drug distribution and volume of distribution (Vd) to duration of drug action & drug dosage regimen. (BLO-1) *MCQ /SEQ/Viva (S)*				
8.	**Biotransformation of drugs**	LGIS	Prof Maj (R) Dr. Khalida Ajmal	Must Know
Learning Outcomes with Assessment strategy ● Discuss Biotransformation of drugs along with its types. (BLO-1) *MCQ /SEQ/Viva (S)* ● Conclude the consequences of enzyme induction & inhibition in patients taking multiple drugs (BLO-1) *MCQ /SEQ/Viva (S)*				
9.	**Factors affecting drug biotransformation**	LGIS	Prof Maj (R) Dr. Khalida Ajmal	Good to Know
Learning Outcomes with Assessment strategy ● Relate the role of genetic and non-genetic factors to drug biotransformation. (BLO-1) *MCQ /SEQ/Viva (S)*				
10.	**Bioavailability of drugs**	LGIS	Assoc. Prof Dr. Ayesha Afzal	Must Know
Learning Outcomes with Assessment strategy ● Analyze the clinical significance of bioavailability. (BLO-1) *MCQ /SEQ/Viva (S)*				
11.	**Excretion & Drug Clearance**	LGIS	Asst. Prof. Dr. Saima	Must Know
Learning Outcomes with Assessment strategy ● Relate the concept of drug excretion to clearance kinetics. (BLO-1) *MCQ /SEQ/Viva (S)*				
12.	**Plasma Half-life of drugs** (I-II)	LGIS	Prof Maj (R) Dr. Khalida Ajmal	Must Know
Learning Outcomes with Assessment strategy ● Predict the clinical importance of plasma half-life ($t_{1/2}$) (BLO-1) *MCQ /SEQ/Viva (S)* ● Discuss the factors affecting plasma half-life ($t_{1/2}$) (BLO-1) *MCQ /SEQ/Viva (S)*				

13.	**Presentations on the topics of Pharmacokinetics**	Seminar	All faculty	-
Learning Outcomes with Assessment strategy ● Apply the skills of critical thinking & problem solving in explaining the concepts of pharmacokinetic principles. *Presentations (F)*				
14.	**Mechanism of drug action-Pharmacodynamics (I-II)**	LGIS	Asst. Prof Dr. Abeera Sikandar	Must Know
Learning Outcomes with Assessment strategy ● Explain different mechanisms of drug action at receptor level. (BLO 1) *MCQ /SEQ/Viva (S)* ● Correlate the concept of drug signaling mechanisms to therapeutics. (BLO 1) *MCQ /SEQ/Viva (S)* ● Describe the phenomena of receptor regulation & spare receptors. (BLO 1) *MCQ/Viva (F)*				
15.	**Dose response curves**	LGIS	Prof Maj (R) Dr. Khalida Ajmal	Must Know
Learning Outcomes with Assessment strategy ● Describe the basis of construction of Graded & Quantal DRC & their uses. (BLO 1) *MCQ /SEQ/Viva (S)*				
16.	**Tolerance & Tachyphylaxis Drug-Drug Antagonism & Synergism (I-II)**	LGIS	Asst. Prof. Dr. Saima	Must Know
Learning Outcomes with Assessment strategy ● Discuss the mechanism of development of Tolerance. (BLO 1) *MCQ /SEQ/Viva (S)* ● Differentiate between Tolerance & Tachyphylaxis. *MCQ /SEQ/Viva (S)* ● Determine the clinical significance of drug-drug antagonism and synergism. *MCQ /SEQ/Viva (S)*				
17.	**Drug Allergy &idiosyncrasy Drug Toxicity**	LGIS	Sr. Lecturer Dr. Ayman Zafar	Must Know
Learning Outcomes with Assessment strategy ● Relate the mechanism of development of drug Allergy/Hypersensitivity to its management. (BLO-1) *MCQ /SEQ/Viva (S)*				
18.	**Factors Affecting Action of Drugs**	Flipped Classroom	Sr. Lecturer Dr. Ayman Zafar	Nice to know
Learning Outcomes with Assessment strategy ● Describe the factors responsible for drug response variability (BLO-1). *MCQ (F)*				
19.	**Chapter Test of General Pharmacology**			
20.	**Introduction to ANS drugs**	Flipped Classroom	Prof Maj (R) Dr. Khalida Ajmal	Must Know
Learning Outcomes with Assessment strategy ● Describe functional organization of ANS activity alone & in the presence of drugs. (BLO-2) *MCQ (F)*				
21.	**Cholinergic Drugs (I-II)**	LGIS	Prof Maj (R) Dr. Khalida Ajmal	Must Know
Learning Outcomes with Assessment strategy				

● Correlate the physiology of cholinergic receptors with their therapeutic applications. BLO-2) *MCQ /SEQ/Viva (S)*				
22.	**Anti-Cholinesterases**	Flipped Classroom	Asst. Prof Dr. Abeera Sikandar	Must Know
Learning Outcomes with Assessment strategy ● Design a management plan for a patient of myasthenia gravis & organophosphate poisoning. (BLO-2) *MCQ /SEQ/Viva (S)*				
23.	**Anti-muscarinic drugs**	LGIS	Asst. Prof Dr. Saima	Must Know
Learning Outcomes with Assessment strategy ● Classify anti-muscarinic drugs according to their therapeutic uses. (BLO-2) *MCQ /SEQ/Viva (S)*				
24.	**Adrenergic receptors**	Flipped Classroom	Assoc. Prof Dr. Ayesha Afzal	Must Know
Learning Outcomes with Assessment strategy ● Identify adrenergic receptors according to their Types, Subtypes, Locations & Molecular MOA. (BLO-2) *MCQ (S)*				
25.	**Catecholamines**	LGIS	Assoc. Prof Dr. Ayesha Afzal	Must Know
Learning Outcomes with Assessment strategy ● Relate the pharmacodynamics of catecholamines to its therapeutics. (BLO-2) *MCQ /SEQ/Viva (S)*				
26.	**Non- Catecholamines**	LGIS	Assoc. Prof Dr. Ayesha Afzal	Must Know
Learning Outcomes with Assessment strategy ● Discuss the pharmacokinetics & pharmacodynamic properties of non- Catecholamines. (BLO-2) *MCQ /SEQ/Viva (S)*				
27.	**Alpha receptor Blockers**	Flipped Classroom	Asst. Prof Dr. Abeera	Must Know
Learning Outcomes with Assessment strategy ● Classify alpha blockers according to their receptor selectivity. (BLO2) *MCQ /SEQ/Viva (S)* ● Rationalize the role of alpha blockers in HTN & other clinical indications. (BLO2) *MCQ /SEQ/Viva (S)*				
28.	**Beta receptor Blockers (I-II)**	Flipped Classroom	Prof Maj (R) Dr. Khalida Ajmal	Must Know
Learning Outcomes with Assessment strategy ● Classify beta blockers according to their receptor selectivity. (BLO2) *MCQ /SEQ/Viva (S)* ● Rationalize the role of beta blockers in HTN & other clinical indications. (BLO2) *MCQ /SEQ/Viva (S)*				
29.	**Ganglion blockers & Ergot alkaloids**	LGIS	SL Dr. Ayman Zafar	Nice to know
Learning Outcomes with Assessment strategy ● Recognize the pharmacological effects of ganglion blockers. (BLO3) *MCQ (F)*				

• Describe the pharmacology of ergot alkaloids (BLO3) *MCQ (F)*				
30.	**Drugs used in glaucoma**	Flipped classroom	SL Dr. Ayman Zafar	Good to Know
Learning Outcomes with Assessment strategy • Summarize the drug treatment of open angle & angle closure glaucoma *MCQ (S)*				
31.	**Autocoids**	LGIS	Asst. Prof Dr. Saima	Good to Know
Learning Outcomes with Assessment strategy • Describe the actions & clinical uses of autocoids in regulating different body functions *MCQ (S)*				
32.	**Chapter Test ANS**			

Practical Work

Block Learning Outcomes:

After completion of block, students should be able to:

- Identify various drug dosage forms and their routes of administration.
- Calculate different pharmacokinetic parameters.
- Interpret the data of studies designed to observe the effects of various drugs.
- Justify the selection of priority drugs for certain indications and prescribe medicine accordingly.

S.#	Topic	Educational Strategy	Instructor	Supervised by	Importance (Must Know Good to Know, Nice to Know)
1.	**Dosage forms & Routes of drug administration**	Mannequin & Video assisted SGD	Asst Prof. Dr. Saima & Dr. Abeera Sr. Lecturer Dr. Ayman & all lecturers	Prof Dr Khalida & Assoc Prof Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy • Identify various dosage forms and their routes of administration. (BLO-1) *Unobserved OSPE (S)* • Identify the advantages and disadvantages of different routes of administration of drugs. *Unobserved OSPE (F)* • Indicate the sites & angles for administration of various injections on mannequin. *Observed OSPE (F & S)*					
2.	• **An overview of pharmacy** • **Abbreviations for dosage forms & prescriptions**	SGD	Asst Prof. Dr. Saima & Dr. Abeera Sr. Lecturer Dr. Ayman & all lecturers	Prof Dr Khalida & Assoc Prof Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy					

• Recognize the abbreviations used for various dosage forms in prescription writing. *Observed & Unobserved OSPE (F & S)*					
3.	• **Introduction to P-drug & prescription writing** • **Composition of a prescription** • **An overview of Essential drugs**	SGD	Asst Prof. Dr. Saima Asst Prof. Dr. Abeera SL Dr. Ayman & All Lecturers	Prof Dr Khalida & Assoc Prof Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy • Review the National Essential Drugs List. *Unobserved OSPE (F)* • Select the P-drug for a given disease based on suitability, cost, efficacy. *Unobserved OSPE (F & S)* • Appraise the different parts of a given prescription. *Unobserved OSPE (F & S)*					
4.	**Pharmacokinetic calculations**	SGD	Asst Prof. Dr. Saima Asst Prof. Dr. Abeera SL Dr. Ayman All Lecturers	Prof Dr Khalida & Assoc Prof Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy • Calculate the different pharmacokinetic parameters for a given data. *Unobserved OSPE (F)*					
5.	**Dose response Curve (DRC)**	Video assisted learning & in-vivo experimental learning in Practical	Dr. Saima Dr. Abeera Dr. Ayman All Lecturers	Prof Dr Khalida & Assoc Prof Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy • Construct a DRC after observing the effects of increasing doses of a drug in an experimental study. *Observed OSPE (F)*					
6.	**Effects of drugs on rabbit's ileum**	Video assisted learning & in-vivo experimental learning in Practical	Dr. Saima Dr. Abeera Dr. Ayman All Lecturers	Prof Dr Khalida & Assoc Prof Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy • Interpret & report the effects of drugs on rabbit's ileum. *Observed OSPE (F & S)*					

7.	**Effects of drugs on rabbit's eye**	Video assisted learning & in-vivo experimental learning in Practical	Dr. Saima Dr. Abeera Dr. Ayman All Lecturers	Prof Dr Khalida & Assoc Prof Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy • Interpret & report the effects of drugs in rabbit's eye. *Observed OSPE (F & S)*					

Case Based Learning (CBLs)

CBL#1

A 26-year-old male patient of Grand mal epilepsy (Generalized tonic/clonic seizures) was prescribed a certain brand of Phenytoin sodium in tablet form by his physician. The dosage was adjusted at 400 mg/day after gradual increments of doses. He did well with the dose of phenytoin and remained free from attacks of epilepsy. After a few months, he returned to his doctor and complained that the brand of phenytoin he was taking was not available in the market. The doctor prescribed him an alternative brand of phenytoin containing the same amount of drug (100mg) per tablet which is continued by the patient. However, a few days later, he experienced an attack of generalized tonic clonic seizures.

Learning Outcomes:

The students should be able to:

Analyze the clinical significance of bioavailability.

CBL#2a

A 35-year-old male suddenly felt tightness in his chest, sweating and difficulty in breathing while working in a field. He was immediately taken to the emergency room of the nearest hospital. GPE revealed watery eyes and drooling of saliva. His vitals recorded were BP:130/86, pulse:60/min, RR: 32/min temp:99ºF, Sat:94% on oxygen at 2L/min. ECG was unremarkable. While in the ER, he also developed complaints of abdominal cramps, diarrhea and increased urinary frequency. History revealed that the field he was working on had been sprayed heavily early in the morning with a pesticide.

Learning Outcomes:

The students should be able to:

- Relate the signs & symptoms of this patient to the mode of action of pesticide sprayed in the fields.
- Design a management plan for this patient while evaluating the role of each drug used.

CBL#2b

A 35-year-old female started complaining of eyelids dropping a month ago. Being a busy housewife, she continued with her daily routine instead of visiting the doctor. However, now she has started to develop difficulty in chewing and swallowing with slurring of speech and weakness of arms. She goes to a neurologist who after detailed physical examination establishes a provisional diagnosis of an autoimmune disease.

Learning Outcomes:

The students should be able to:

- Correlate the pathophysiology of disease with symptoms.
- Summarize approaches for pharmacotherapy of myasthenia gravis.

CBL#3

A 15-year-old girl is brought to a tertiary care ER with complaints of sudden onset of breathlessness and dizziness after receiving an IV injection in a nearby clinic. Her parents give a history of severe throat infection for 2 days for which she has been given a penicillin injection. Her vitals recorded in the ER are B.P: 70/45 mmHg, RR: 34/min and Pulse:120/min. On examination, she has generalized urticaria, severe respiratory distress and cold extremities. An ER consultant immediately starts her treatment.

Learning Outcomes:

The students should be able to:

- Discuss how the pharmacological interventions at various receptor levels are helpful in relieving this patient's condition.

Learning Resources:

Textbook:

- Basic and Clinical Pharmacology by Bertram G Katzung 15th Edition

Reference Books:

- The Pharmacological Basis of Therapeutics by Goodman & Gilman Latest Edition

1. **Online resources:**
   - https://www.youtube.com/
     - Pharmacology lectures by Dr. Najeeb
     - Pharmacology lectures by Kaplan
     - Pharmacology by ninja nerd
2. **Library resources:**
   - Tripathy KD, Essentials of Medical Pharmacology, 7th Edition.
   - Lippincott Illustrated Reviews Pharmacology 7th Edition
   - Current Medical Diagnosis and treatment- latest Edition
   - Oxford Handbook of clinical medicine by J.A. B. Collier-latest edition

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General Pathology

Subject Learning Outcomes (SLO):

- Correlate the etiology and morphological changes of prevalent diseases with pathogenesis.
- Devise appropriate plan of lab investigations based on signs & symptoms of patients.
- Correlate cellular responses to stress and toxic insults with clinical presentation and lab reports.
- Order & Interpret the relevant lab procedures required to diagnose common diseases.

Block Learning Outcomes (BLO):

- Relate pathological processes to diseases and various techniques used in their diagnosis.
- Analyze cellular responses to stress and toxic insults and their outcomes in the form of inflammation and tissue repair.
- Correlate the pathogenesis of hemodynamic disorders with their clinical manifestations.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	• Cellular responses to stress & toxic insults • Cellular adaptations • Ischemic and hypoxic injury • Cellular Aging, Reversible & Irreversible Cell Injury • Necrosis vs apoptosis • Intracellular Accumulations	LGIS/SDL /CBL	Asstt Prof.Dr Fozia Noreen	Must Know
Learning Outcomes: • Correlate the mechanism of different types of pathological cellular adaptations with the micro and macroscopic structure. • Relate ischemic and hypoxic changes of a cell to its morphology. • Identify reversible and irreversible cell injury. (Causes, morphology, mechanism, examples) • Critically analyze the pathological basis of necrosis & apoptosis. • Relate different types of cellular accumulations with the pathological basis of diseases. **Assessment strategy:** ○ MCQ, SEQ/ SAQ, Viva-Voce				
2.	• Inflammation • Acute Inflammation • Chemical mediators of • Inflammation • Chronic inflammation – events, cells and sequelae • Specific types of chronic inflammation	LGIS/SDL /CBL	Prof. Dr Jamila	Must Know

Learning Outcomes: • Recognize acute and chronic inflammation on the basis of etiology, pathogenesis and morphology. ● Justify vascular and cellular events of inflammation. • Identify the pathways for the production of inflammatory mediators. **Assessment strategy:** MCQ, SEQ/ SAQ				
3.	• Cell & Tissue Regeneration ● Scar Formation ● Factors Influencing Tissue Repair Steps in Wound Healing	LGIS/SDL /CBL	Prof Brig (R) Dr.Tariq Masood Malik	Must Know
Learning Outcomes: ● Relate the basic mechanisms of repair to the process of wound healing and scar formation. • Recognize the complications of wound healing and factors influencing tissue repair. **Assessment strategy:** MCQ, SEQ/ SAQ, Viva-Voce				

References/ Learning resources:

- Robbins & Cotran Pathologic Basis of Diseases 10th Edition.
- Robbins Basic Pathology 10th Edition

Microbiology

Block Learning Outcomes:

At the end of first block, the students of 3rd year MBBS should be able to

- Correlate the basic morphological, physiological and genetic characteristics of bacteria with their pathological mechanisms.
- Apply methods of disinfection and sterilization to control and prevent hospital and community acquired infections.
- Correlate the mechanisms of disease production with clinical manifestations, diagnostic modalities, treatment and preventive strategies of important pathogens causing infections of cardiovascular and urogenital systems.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**General Microbiology**	LGIS/SDL/ Practicals/ CBL	Assoc Prof Dr Lubna Ghazal, Asstt Prof Dr Tahira Tehseen, All faculty members	Must Know
Learning Outcomes:				

- Classify medically important pathogens.
- Identify microbiology related biohazards and their management.
- Explain the organization of physical structures of a bacterial cell.
- Describe the functional organization in a bacterium.
- Explain and interpret principles of Gram staining.
- Compare different methods of genetic exchange in bacteria.
- Explain different phases of the bacterial growth curve.
- Interpret the utilization of the various methods used for disinfection and sterilization in a health care center.
- Interpret the situations when normal flora will become pathogenic.

Assessment strategy:

- MCQ, SEQ/ SAQ/OSPE

References/ Learning resources:

- Review of Medical Microbiology and Immunology, Warren Levinson, 15th Edition
- Medical Microbiology, Jawetz, Melnick & Adelberg, 27th Edition

General Pathology Practicals

Learning Outcomes:

Correlate the histopathological features with the pathological process of cell injury and inflammation.

S. #	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Identify the following on slides • Hyperplasia and Atrophy • Metaplasia and Hydropic change • Fatty Change • Calcification • Intracellular accumulations (Melanin, Hemosiderin) • Coagulative and Caseous necrosis	Practical/SGD	All Faculty Members	Must Know
Learning Outcomes: • Correlate the histopathological features with the pathological process of cell injury. **Assessment strategy:** OSPE				
2.	Identify the following on slides • Acute inflammation • Chronic inflammation	Practical/SGD	All Faculty Members	Must Know
Learning Outcomes: • Correlate the histopathological features with the pathological process of inflammation. **Assessment strategy:** OSPE				

References/ Learning resources:

•Robbins & Cotran Pathological Basis of Diseases 10th Edition.

•Robbins Basic Pathology 10th Edition.

Microbiology Practicals

Learning Outcomes:
Order and interpret laboratory diagnostic tests for identification of medically important pathogens.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	• Biohazards in the Pathology laboratory • Microscope	Practical/SGD	All Faculty Members	Must Know
Learning Outcomes: • Identify bio-hazards in the Pathology laboratory and manage these bio-hazards appropriately. • Identify the different components of a microscope, their use and function. **Assessment strategy:** • OSPE				
2.	Gram Staining	Practical/SGD	All Faculty Members	Must Know
Learning Outcomes: • Explain the principle of Gram staining, its procedure and reagents used and interpret the results of Gram staining. • Name the conditions when gram staining is required for diagnosis. **Assessment strategy:** • OSPE				
3.	Culture media	Practical/SGD	All Faculty Members	Must Know
Learning Outcomes: • Identify various types of culture media, classify them, and describe their composition. • Identify the need of sending culture & sensitivity from patient's signs & symptoms. **Assessment strategy:** • OSPE				

Pathology Case-Based Learning

CBL: Apoptosis

Learning Outcomes:

Correlate the etiology, morphology and pathophysiological events with the pathological process of Apoptosis & Necrosis.

Scenario: A 45-year-old patient admitted in an oncology ward receiving radiation therapy for carcinoma thyroid was referred to a dental surgeon with complaints of extremely dry mouth, oral mucosal ulcers and recently developed dental caries. The dentist after detailed history and examination counseled her that these symptoms are the side effects of her neck irradiation. She was managed conservatively with medication and was advised to receive intervention dental therapy after her radiotherapy sessions were over.

Learning Objectives:

1. Explain the pathological cause of this radiotherapy induced damage to her normal oral tissue.
2. Define this type of cell injury.
3. Enlist other physiological and pathological causes of this process. Mention at least five causes for each.
4. Enumerate the morphologic features (best seen with electron microscope) in this lesion.
5. Describe the histological findings of this lesion.
2. Explain the mechanisms involved in this lesion.
3. Differentiate between this lesion and necrosis.

CBL: Calcification

Learning Outcomes:

Correlate the etiology, sites, types and morphological features of calcification with the disease process.

Scenario: A 40-year-old patient was a known case of tuberculosis of cervical lymph nodes. He was partially treated and his disease recurred twice. Ultimately, he was treated and became symptom free. After two years he found stony hard nodules in neck at the place where he had enlarged lymph nodes. Examination and laboratory investigation: BP: 120/80 mmHg. His treating clinician advises X-ray of his neck which showed many calcified lymph nodes. His serum calcium was within normal limits. Treatment: He was assured the benign nature of his condition and no treatment was given.

Learning Objectives:

1. Explain the cause of calcification of his lymph nodes; enlist other sites where such type of calcification can be seen.
2. Define the term “Pathological calcification”.
3. Classify Pathological Calcification. Define each type with examples.
4. Explain the etiology of each type.
5. Describe gross and microscopic features of these lesions.
7. Enumerate special stains used for it.
8. Enlist the complications of the above lesions.

CBL: Inflammation

Learning Outcomes:

Correlate the pathogenesis, types, complications, vascular and cellular events of inflammation with the clinical features of the inflammatory process.

Scenario: A 20 years old male presented with complaints of pain in the right iliac fossa for the last 12 hours. Pain started initially around the umbilicus and then radiated towards the right iliac fossa. Pain was accompanied by low grade fever, nausea and vomiting.

Examination:

- Low grade fever (100℉) • White and furred tongue
- Tenderness in right iliac fossa • Localized guarding over the right iliac fossa
- Blood CP showed Leukocytosis with left shift.

Learning objectives:

1. Identify the lesion from which he is suffering.
2. Describe the type of inflammation.
3. Enumerate and explain the vascular and cellular events involved in this type of inflammation.
4. Enlist and describe different mechanisms which lead to increased vascular permeability.
5. Enumerate cells and chemical mediators of this type of inflammation.
6. Discuss the etiology of such a response.
7. Describe the outcomes of this inflammatory response.
8. Enlist the possible organ involved in the above case and describe the gross and microscopic features of the disease.
9. Define the term "referred pain". Explain the pathogenesis of referred pain in inflammation of this organ.

CBL: Wound Healing

Learning Outcomes:

Correlate the types, steps in wound healing, factors influencing wound healing, squeal and safety measures for wound healing with the disease process.

Case Scenario: The patient had a Road Traffic Accident and got a lacerated wound on right thigh with irregular edges, measuring 5 × 5 x 3 cm, contaminated with soil dust, without any bone fracture, but having soft tissue swelling around the site of wound.

Learning objectives:

1. Enumerate the type of wound.
2. Classify different types of Healing of skin wounds.
3. Enumerate the Healing process which is involved in this wound. Explain the steps involved in this type of healing.
4. Differentiate between two types of wound healing.
5. Enlist the important measures which should be taken for this patient regarding his wound management?
6. Enlist the factors that influence Wound Healing.
7. Explain local factors that can delay Wound Healing in this case.

8. Define the term “wound strength” and describe the process of regaining wound strength.
10. Enumerate complications of wound healing

Learning Resources:

1. **Reference Books**
   a. Greenwood Medical Microbiology, 18th Edition
   b. Manual of Clinical Microbiology, 12th Edition
2. **Online resources**
   www.cdc.gov
3. **Library resources**
   - Foundations in Microbiology 10th edition Kathleen Talaro, Barry Chess

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Forensic Medicine

Subject Learning Outcomes (SLO):

At the end of the academic year the students should be able to:

1. Correlate the given medicolegal with the cause, manner, mode and mechanism of death. (PLO1, PLO2)
2. Relate the relevant laws with the medicolegal practice. (PLO5, PLO7)
3. Infer the given autopsy findings for writing a comprehensive medicolegal report. (PLO6, PLO7)
4. Describe the procedure of collection, preservation and transportation of biological specimens to Forensic Science Laboratory and relevant offices. (PLO6, PLO7)
5. Differentiate the plans of management in acute and chronic toxicological cases. (PLO1, PLO2)
6. Apply ethical principles of Forensic Medicine in the given situation. (PLO3, PLO4)

Block Learning Outcomes (BLO):

At the end of first module, the student of 3rd year MBBS should be able to:

- **BLO: 1** Describe the role of forensic medicine/science in crime detection involving human life in national as well as international context. (SLO2, SLO6)
- **BLO 2**: Distinguish between livings and dead, use different techniques and objective methods of identification with respect to their medico legal importance. (SLO1, SLO 4)

Sr#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Introduction to Forensic Medical Sciences**	LGIS	Dr.Babur Rashid Chughtai	Good to know
Learning Outcomes: ● Describe the basic concepts of forensic medicine and its role in living and non-living. (SEQ) ● Explain the applications of FM in the country's medico legal structure in comparison with the rest of the world. (MCQ)				
2.	**Medical Ethics in Islam, Q &D act**	LGIS	Dr.Babur Rashid Chughtai	Good to Know
Learning Outcomes: ● Apply ethical principles of forensic medicine in Islam and law according to national code of ethics. (MCQ, SEQ)				
3.	**Personal Identity**	LGIS	Dr.Babur Rashid Chughtai	Must Know
Learning Outcomes: ● Describe the parameters of personal identity, methods of identification in living and dead, decomposed, mutilated & burnt bodies with skeleton & fragmentary remains. (MCQ, SEQ)				

- Recognize special techniques and objective methods of identification, determination of age, sex and race. (MCQ, SEQ)

Practical Work

Block Learning Outcomes:

After completion of block, students should be able to:

- Describe the role of forensic medicine/science in crime detection, important points in handling a medico legal case, classification of injuries according to Qisas & Diyat act.
- Write a medicolegal report after observing medico legal examinations.
- Write a medico legal report after observing the clinical examination of victim and assailant in case of sexual offense, and collect specific specimens.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Orientation to FMT Lab & museum.	Demonstration	All faculty	Good to know
Learning Outcomes: ● Describe the role of forensic medicine/science in this era and orientation to Dept of FMT. (VIVA)				
2.	Important points in handling a ML case.	SGD	All faculty	Must Know
Learning Outcomes: ● Discuss important aspects in examination of an injured person.(VIVA)				
3.	Ideal Autopsy room.	SGD	All faculty	Good to know
Learning Outcomes: ● Explain the various parameters of an ideal autopsy room. .(VIVA)				
4.	Q & D act.	SGD	All faculty	Must Know
Learning Outcomes: ● Classify injuries according to Qisas and Diyat act. .(OSPE/VIVA)				
5.	MLC 1 No injury certificate.	Demonstration / Practical	All faculty	Must Know
Learning Outcomes: ● Examine a medico legal case and learn how to write a no injury certificate. . (OSPE)				
6.	MLC 2 Alcohol intake.	Demonstration / Practical	All faculty	Must Know
Learning Outcomes: ● Outline the medico legal aspects of alcohol poisoning in order to write a MLC report for a case of alcohol intoxication. .(OSPE/VIVA)				

Learning Resources:

1. Reference Books

- Parikh's textbook of Forensic medicine and Toxicology Dr C.K parikh.
- Principles and practice of forensic medicine by Prof Dr Naseeb R Awan.
- Simpson's Forensic Medicine Richard Shepherd.

2. Online resources

- https://youtube.com/C/DRJAVEDIQBALKHOKHARLECTURESFORENSICMEDICIN

3. Library resources

- Parikh's textbook of Forensic medicine and Toxicology Dr C.K parikh
- Principles and practice of forensic medicine by Prof Dr Naseeb R Awan
- Simpson's Forensic Medicine Richard Shepherd

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Community Medicine

Community Medicine for 3rd Year Students

Subject Learning Outcomes

1. Apply knowledge of statistics to measure all health problems affecting people at individual and community levels, right from birth to death, considering research and ethical approaches. (PLO 2,3,4,6,7,8).
2. Recommend measures for prevention, protection and education about the common community health problems. (PLO 1,3,5,6,7,8).
3. Evaluate the existing service for its suitability to cater for needs of the people and recommend modifications needed fully. (PLO 6,8).

Block Learning Outcomes

1. Assess health and disease status of the community using indicators to promote health and prevent disease. (SLO1,3,4)
2. Relate the role of public health in providing relevant individual and community healthcare. (SLO1,3,4)
3. Apply epidemiology of common communicable diseases in the global and local context for control and prevention of diseases. (SLO 1, 2)

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Foundation of Public Health**	Flipped Classroom	Prof. Dr. Musarat Ramzan	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Describe the logic behind developing the given training program in the third year of MBBS course. ● Identify the required behaviors and practices in the discipline. ● Follow practice of academic record keeping and nature of assessments. ● Identify how they can form learning teams. ● Compare and contrast Internal medicine and community medicine in terms of their applications. Assessment strategy: SAQ/SEQ				
2.	**Introduction to Health Care System**	Flipped Classroom	Prof. Dr. S Sabah Imran	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Explain the rationale of devolution of power and the problems of health care system in Pakistan ● Identify deficiencies in different health-care facilities ● Differentiate different sectors of health system and functioning ● Recommend improvement in health-care delivery in Pakistan				

Assessment strategy: MCQ, SEQ, OSPE, Viva				
3.	**General epidemiology**	Flipped Classroom	Prof. Dr. Musarat Ramzan	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Calculate various measures of morbidity, mortality and association. ● Describe uses and limitations of various measures of mortality and morbidity. ● Interpret comparison of mortality at different places. Assessment strategy: MCQ, SEQ, OSPE, Viva				

Learning Resources:

1. **Text Books**

- Park's Textbook of Preventive and Social Medicine
- Public Health and Community Medicine (Shah, Ilyas, Ansari, Irfan's)

2. **Reference Books**
    - Lucas, Short Textbook of Public Health Medicine for the Tropics
    - Text book of Preventive and Social Medicine by Sunder Lal, Pankaj
3. **Online resources**

    Measures of morbidity

    Library resources

- Notes/Handouts by Faculty
- G classroom

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Surgery

Learning outcomes:

At the end of the block third year students should be able to:

- Explain the metabolic response to trauma and body changes
- Evaluate fluid and electrolyte and Acid-Base balance
- Recognize different types of shock and hemorrhage and know the principle of resuscitation
- Understand normal wound healing and principles of acute and chronic wound management
- Understand the microbiology of surgical infections, its presentation, treatment and prevention of surgical infections
- Describe urolithiasis and bladder outlet obstruction and their management

Sr No.	Topics	Educational strategies	Name of instructor	Importance (Must Know Good to Know Nice to Know)
1.	Metabolic response to injury	LGIS	Dr. Naeem Akhtar	Should Know
Learning Outcome: **Describe** ● Concept of homeostasis ● Mediators of response to injury ● Physiological and biochemical changes occur during injury ● Changes in body composition in surgical injury **Assessment strategy** **Summative** ● MCQs ● SAQs **Formative** MCQs QUIZ				
2.	Fluid and electrolytes balance	LGIS	Dr. Sadia	Must know
Learning outcomes **Describe** ● The major fluid compartment of the body **Explain** ● what may happen in common conditions (acute blood loss, dehydration, and electrolyte imbalance) ● Recognize the different types of fluid ● Assess the body fluid depletion ● Administer fluid according to age ● Monitor the progression of fluid optimization **Assessment strategy** **Summative** ● MCQs ● SAQs **Formative** MCQs QUIZ				

Learning Resource:

- Bailey & Love's (Short Practice of Surgery 28th Edition)

Reference Books:

- The Washington Manual of Surgery 7th Edition
- S.DAS, A manual on Clinical Surgery
- Browse's introduction to the symptoms & signs of surgical disease

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Gynecology

Subject Learning Outcomes (SLO):

The student of Obstetrics & Gynaecology is expected to achieve these subject learning outcomes at the end of 3 years teaching while demonstrating professionalism and observing the principles of medical ethics in all academic activities;

- Triage /refer women with OBGYN problems to the appropriate facility of care.
- Manage common obstetrics & gynaecological illnesses of women with evidence based care.
- Assist in management of critical obstetric and gynaecological cases as a member of health care team.
- Suggest preventive measures for the common public health problems related to OBGYN.
- Counsel women and families effectively about the related OBGYN condition & its possible management
- taking into account their personal beliefs, socio-economic and cultural background .

Block Learning Outcomes (BLO):

By the end this block students of 3rd Year must have introduction to Gynae/Obs and integration with other subjects.

1. Must recall basic anatomy of maternal pelvis and have an idea of physiological changes of pregnancy in different systems of body.
2. Discuss types of hypertension in pregnancy and must be able to classify hypertension according to standard classification.
3. Identify maternal and fetal complication of pre-eclampsia and eclampsia.
4. Name sexually transmitted diseases and have basic idea of diagnosis and treatment.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Maternal anatomy/ physiology in Pregnancy and labour	LGIS	Dr Ayesha Naz	Must know
Learning Outcomes with Assessment strategy • Recall anatomy of maternal pelvis • Tell the diameters of pelvic inlet/outlet • Identify changes in different systems of the body during normal pregnancy • Outline the role of different hormones in initiation of normal labour. Formative Assessment (End of Block)				
2.	Antenatal care	LGIS	Dr Irum Mushtaq	Good to know
Learning Outcomes with Assessment strategy • Discuss the principles of antenatal care • Enlist investigations in antenatal period				

● Identify the importance of booking visit ● Express how to identify high risk patients Formative Assessment (End of Block)				
3.	Pre-pregnancy care	LGIS	Dr Nazia Naz	Good to know
Learning Outcomes with Assessment strategy ● Discuss the preconception care needed in women with medical disorders ● Explain mode of inheritance of genetic diseases ● Discuss the importance of multidisciplinary approach Formative Assessment (End of Block)				

Learning Resources:

Reference books:

- Obstetrics by ten teachers 20th edition
- Gynaecology by ten teachers 20th edition

Recommended Readings:

- Hacker and Moore's essential obstetrics 6th edition
- High risk pregnancy 5th edition
- Shaw's textbook of gynaecology 17th edition

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7. Structured Summary of Y3B-VII M- XIV Cardiovascular System II

BLOCKS	BLOCK – VII
Module	**MODULE- XIV**
DURATION	**04 weeks**
Prerequisite Module	2nd Prof. Exam
Pharmacology	Cardiotonic drugs: Management of cardiotoxicity of cardiac glycosides • Antihypertensive drugs • Drug Treatment of IHD • Antiarrhythmic drugs
Pathology	Pathological processes in diseases and various techniques used in their diagnosis, Cellular responses to stress and toxic insults and their outcomes in the form of inflammation and tissue repair, Pathogenesis of hemodynamic disorders with their clinical manifestations.
Forensic Medicine	Physicochemical changes occurring in body tissues after death, autopsy protocol and assessment of fatal period and postmortem interval, etiologies of mechanical injuries, nomenclature, wound production and medico legal aspects of firearm injuries. Blast injuries.
Community Medicine	Concept of Health and Disease
Medicine	Congestive cardiac failure, Hypertension, BLS
Surgery	Shock, resuscitation, and monitoring, Acid-base balance, Wound, healing, and tissue repair, Chronic wound and ulcer
Peads	A cyanotic heart diseases in children,Cyanotic heart disease in children, Child with burning micturition
Gynecology	Hypertension in pregnancy, Pre-eclampsia and eclampsia

8. Course content

Pharmacology

Subject Learning Outcomes (SLO)

After completion of the course of Pharmacology & Therapeutics, the students would be able to:

1. Correlate the core concepts of pharmacokinetic and pharmacodynamic parameters of drugs to their therapeutic relevance. (PLO -1, 2, 6)
2. Rationalize the drug treatment strategies for common diseases in our community. (PLO -1,2,5,6).
3. Identify and report the potential adverse drug reactions (ADR), drug- drug interactions during polypharmacy. (PLO-5,6)
4. Demonstrate the foundation skills for rational prescription writing in a given disease condition. (PLO-1,2,3, 5, 6,7)
5. Counsel the patient effectively on the proper use of prescription drugs. (PLO-1,2, 3, 5, 6,7)
6. Interpret the data of studies designed to observe the effects of various drugs. (PLO-3,6)

Block Learning Outcomes (BLO):

BLO-3: Relate the pathophysiology of heart and blood vessels to its treatment modalities. (SLO- 2,3,4,5,6)

S#	Topic	Educational Strategy	Instructor	Importance (Must Know/ Good to Know/ Nice to Know)
1.	**Anti- Hypertensive Drugs (I-III)**	Flipped Classroom and LGIS	Prof. Maj (R) Dr. Khalida Ajmal	Must Know
Learning Outcomes with Assessment strategy ● Classify Anti- Hypertensive drugs. (BLO3) *MCQ/SEQ/Viva (S)* ● Rationalize the use of various groups of drugs in Hypertension. (BLO3) *MCQ/SEQ/Viva (S)* ● Design a management plan for a patient in a Hypertensive Emergency. (BLO3) *MCQ/SEQ/Viva (S)*				
2.	**Anti- Anginal Drugs (I-II)**	LGIS	Assoc. Prof Dr. Ayesha Afzal	Must Know
Learning Outcomes with Assessment strategy ● Discuss the role of various anti-anginal drugs in treatment of different types of angina. (BLO3) *MCQ/SEQ/Viva (S)*				
3.	**Antiarrhythmic Drugs (I-II)**	LGIS	SL Dr. Ayman Zafar	Good to Know

Learning Outcomes with Assessment strategy ● Classify anti-arrhythmic drugs according to their MOA. (BLO3) *MCQ (F)(S)*				
4.	**Drugs Used in Heart Failure (I-II)**	LGIS	Asst. Prof. Dr. Saima	Must Know
Learning Outcomes with Assessment strategy ● Describe the role of cardiotonic drugs in management of acute and chronic heart failure. (BLO3) *MCQ/SEQ/Viva (S)*				

Practical Work

Block Learning Outcomes: After completion of block, students should be able to:

- Interpret the data of studies designed to observe the effects of various drugs.
- Justify the selection of priority drugs for certain indications and prescribe medicine accordingly.

S.#	Topic	Educational Strategy	Instructor	Supervised by	Importance (Must Know/ Good to Know/ Nice to Know)
1.	**Prescription writing on HTN & PIH**	Simulation & Role play in SGD	All Lecturers	Prof Dr Khalida Ajmal & Assoc Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy ● Justify the selection of priority drugs for hypertension and prescribe medicine accordingly. *Observed OSPE (F & S)*					
2.	**Prescription writing on Stable Angina & MI**	Simulation & Role Play in SGD	All Lecturers	Prof Dr Khalida Ajmal & Assoc Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy ● Write a suitable prescription for the management of stable angina & MI. *Observed OSPE (F & S)* ● Counsel the patient regarding the management of stable angina & MI. *Observed OSPE (F & S)*					
3.	**Effect of a vasodilator on blood vessels of an experimental animal**	Video assisted learning / in-vivo experimental learning in Practical	Dr. Saima Dr. Abeera Dr. Ayman All Lecturers	Prof Dr Khalida Ajmal & Assoc Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy ● Interpret the effects of a vasodilator on frog's blood vessels. *Observed OSPE (F & S)*					

4.	**Effects of drugs on heart of an experimental animal**	Video assisted learning / in-vivo experimental learning in Practical	Dr. Saima Dr. Abeera Dr. Ayman All Lecturers	Prof Dr Khalida Ajmal & Assoc Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy ● Interpret the effects of drugs on frog's heart. *Observed OSPE (F & S)*					

Case Based Learning (CBLs)

CBL#1

A 65-year-old male with a history of smoking and ischemic heart disease develops chest pain while climbing up the stairs. The pain is localized to the left side of chest, sudden in onset, dull in character and is radiating to his left arm. He sits down & places a tablet of nitroglycerine under his tongue. His pain is relieved in a few minutes.

Learning Outcomes:

The students should be able to:

- Discuss the pathophysiological mechanism by which nitroglycerine has relieved his symptoms.
- Appraise the significance of sublingual route of drug administration.

CBL#2

A 50-year-old male, know case of type-2-diabetes, is recently diagnosed of hypertension. During OPD visit necessary investigations are done before starting his antihypertensive therapy. All his baseline investigations are unremarkable. His history reveals few episodes of hypoglycemia after insulin therapy and three attacks of acute gout over the last 2 years.

Learning Outcomes:

The students should be able to:

Interpret the role of various anti-hypertensive drugs in this case scenario.

Learning Resources:

Textbook:

- Basic and Clinical Pharmacology by Bertram G Katzung 15th Edition

Reference Books:

- The Pharmacological Basis of Therapeutics by Goodman & Gilman Latest Edition

3. **Online resources:**
   - https://www.youtube.com/
     - Pharmacology lectures by Dr. Najeeb
     - Pharmacology lectures by Kaplan
     - Pharmacology by ninja nerd
4. **Library resources:**
   - Tripathy KD, Essentials of Medical Pharmacology, 7th Edition
   - Lippincott Illustrated Reviews Pharmacology 7th Edition
   - Current Medical Diagnosis and treatment- latest Edition
   - Oxford Handbook of clinical medicine by J.A. B. Collier-latest edition

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General Pathology

Subject Learning Outcomes (SLO):

- Correlate the etiology and morphological changes of prevalent diseases with pathogenesis.
- Devise appropriate plan of lab investigations based on signs &symptoms of patient.
- Correlate cellular responses to stress and toxic insults with clinical presentation and lab reports.
- Perform relevant lab procedures required to diagnose common diseases

Block Learning Outcomes (BLO):

- Relate pathological processes to diseases and various techniques used in their diagnosis.
- Analyze cellular responses to stress and toxic insults and their outcomes in the form of inflammation and tissue repair.
- Corelate the pathogenesis of hemodynamic disorders with their clinical manifestations.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1	• Hemodynamic disorders • Edema, hyperemia & congestion • Thrombosis • Embolism • Atherosclerosis	LGIS/SDL /CBL	Dr Jamila	Must Know
Learning Outcomes • Assess the hemodynamic disorders including hyperemia, congestion and edema along with the pathogenesis and contributing factors. • **Assessment strategy:** MCQ, SEQ/ SAQ, Viva-voce				

References/ Learning resources:

•Robbins & Cotran Pathological Basis of Diseases 10th Edition.

•Robbins Basic Pathology 10th Edition

Microbiology

Block Learning Outcomes:

- Correlate the mechanisms of disease production with clinical manifestations, diagnostic modalities, treatment and preventive strategies of important pathogens causing infections of cardiovascular system.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Gram positive cocci - Staphylococci	LGIS/SDL/ Practicals/ CBL	Asstt Prof Dr Tahira Tehseen,	Must Know

			All faculty members	
Learning Outcomes: ● Describe and classify Gram positive cocci. ● Explain the mechanisms of diseases production by species of staphylococci which causes infections of CVS. ● Identify the diseases, complications and laboratory diagnostic methods caused by above mentioned bacteria. **Assessment strategy:** ● MCQ, SEQ/ SAQ/OSPE				
2.	Gram positive cocci - Streptococci	LGIS/SDL/ Practicals/ CBL	Asstt Prof Dr Tahira Tehseen, All faculty members	Must Know
Learning Outcomes: ● Describe and classify Streptococci. ● Explain the mechanisms of diseases production by species of streptococci which causes infections of CVS. ● Identify the diseases, complications and laboratory diagnostic methods caused by above mentioned bacteria. **Assessment strategy:** ● MCQ, SEQ/ SAQ/OSPE				
3.	Rickettsia, Spirochetes	LGIS/SDL	Assoc Prof Dr Lubna Ghazal Asstt Prof Dr Tahira Tehseen,	Good to Know
Learning Outcomes: ● Describe general characteristics of Rickettsia and spirochetes. ● Explain the mechanisms of diseases production by Rickettsia and spirochetes. ● Identify the diseases, complications and laboratory diagnostic methods caused by Rickettsia and spirochetes **Assessment strategy:** MCQ, SEQ/ SAQ/OSPE				
4.	Candida	LGIS/SDL	Assoc Prof Dr Lubna Ghazal	Must Know

Learning Outcomes:

- Describe general characteristics of fungi.
- Explain the mechanisms of diseases production caused by Candida species.
- Identify the diseases, complications and laboratory diagnostic methods caused by Candida.

Assessment strategy:

MCQ, SEQ/ SAQ/OSPE

References/ Learning resources:

- Review of Medical Microbiology and Immunology, Warren Levinson, 15th Edition
- Medical Microbiology, Jawetz, Melnick & Adelberg, 27th Edition

General Pathology Practical's

Learning Outcomes:

- Correlate the histopathological features with the pathological processes of hemodynamic disorders.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
	Identify the following on slides ● Hyperemia & Congestion ● Coronary Thrombus ● Atherosclerosis ● Myocardial Infarction	Practicals/ SGD	All lecturers	Must Know

Learning Outcomes:

- Correlate the histopathological features with the pathological processes of hemodynamic disorders

Assessment strategy:

- OSPE

References/ Learning resources:

Robbins and Cotran. Pathological Basis of Disease. 9th Edition.

Microbiology Practicals

Learning Outcomes:

Perform and interpret laboratory diagnostic tests for identification of medically important pathogens.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Catalase Test Coagulase Test	Practical	All Lecturers	Must Know

Learning Outcomes:

- Perform and interpret biochemical tests for identification of medically important bacteria.

Assessment strategy:

- OSPE

General Pathology & Microbiology Case-Based Learning

CBL: Infarction

Learning Outcomes:

Correlate the etiology, morphology and factors affecting infarction with the pathological process of infarction.

Scenario: A 57-year-old man presented with 4hr history of chest pain radiating to his neck, with associated diaphoresis and dyspnea. His Troponin T & Myoglobin are mildly elevated, and his ECG shows ST elevation in anterior chest lead. He could not survive and died due to cardiac fibrillation / arrest. His Post – mortem was performed and the gross appearance of the heart shows an area of dark mottling consistent with MI in the anterior surface of the heart.

Learning objectives:

1. Explain the likely cause of dark discoloration of the heart?
2. Describe the type of necrosis of the affected tissue.
3. Enlist the factors that influence development of an infarct?
4. Classify infarcts and enumerate the possible causes of infarction in different tissues?

CBL: Thrombosis

Learning Outcomes:

Correlate the etiology, morphology with the pathophysiological events of thromboembolism

Scenario: A 70-year-old female presented in medical OPD with discomfort and swelling of left leg for the past week. On physical examination, the leg was swollen and painful on palpation. It was difficult to move. **Investigations:** The chest radiograph and ECG was normal. Her blood counts revealed Hb 11.2 g/dl, WBC's 15.7 × 109/l and platelets 365 × 109/l. Doppler ultrasonography of legs revealed deep veins thrombosis in her left leg.

Learning objectives:

1. Define thrombus.
2. Enlist the primary event in Virchow triad.
3. Enumerate the causes in this young patient.
4. Outline the primary (genetic) and secondary causes of hypercoagulability.
5. Describe the characteristic features of arterial and venous thrombus.
6. Differentiate between thrombus from postmortem clot.
7. Explain the cause of his pulmonary symptoms.
8. Outline the pathogenesis of this condition.
9. Enumerate other investigations which should be done.
10. Enlist the fate of thrombus.
11. Outline the long-term management of this patient.

CBL: Embolism

Scenario:

(Young lady with chest pain following caesarean section)

HISTORY: A twenty-six years old lady developed severe chest pain 36 hours after undergoing caesarean section following 37 weeks of gestation. The pain on her left side of chest was worsened by deep inspiration. History revealed that one of her first cousins developed clots in her leg veins during pregnancy. EXAMINATION: Physical examination was unremarkable apart from the reduced air entry in her left lung. She was hypoxemic with 88% O2 saturation on room air (normal >96%).

NVESTIGATIONS: The chest radiograph was normal and the ECG showed a sinus tachycardia. Her blood counts revealed Hb 11.2 g/dl, WBC 15.7 x 109 /l and platelets 365 x 109 /l. The V/Q scan indicated perfusion defects consistent with an embolus in the pulmonary circulation. She was advised Doppler ultrasonography of legs and detailed coagulation profile to find out the source and underlying cause of embolism.

Learning objectives:

1. Define Embolism
12. Describe the cause of these symptoms and signs
13. Explain above symptoms and signs.
14. Describe the pathogenesis and histopathological features of this condition.
15. Enumerate different types of emboli.
16. Enlist other investigations that should be done.

Learning Resources:

1. **Reference Books**
   a. Greenwood Medical Microbiology, 18th Edition
   b. Manual of Clinical Microbiology, 12th Edition
2. **Online resources**
   www.cdc.gov
3. **Library resources**
   - Foundations in Microbiology 10th edition Kathleen Talaro, Barry Chess

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Forensic Medicine

Subject Learning Outcomes (SLO):

At the end of the academic year the students should be able to:

1. Correlate the given medicolegal with the cause, manner, mode and mechanism of death. (PLO1, PLO2)
2. Relate the relevant laws with the medicolegal practice. (PLO5, PLO7)
3. Infer the given autopsy findings for writing a comprehensive medicolegal report. (PLO6, PLO7)
4. Describe the procedure of collection, preservation and transportation of biological specimens to Forensic Science Laboratory and relevant offices. (PLO6, PLO7)
5. Differentiate the plans of management in acute and chronic toxicological cases. (PLO1, PLO2)
6. Apply ethical principles of Forensic Medicine in the given situation. (PLO3, PLO4)

Block Learning Outcomes (BLO):

BLO 1: Differentiate between the physicochemical changes occurring in body tissues after death under different environmental conditions. (SLO1)

BLO 2: Explain the autopsy protocol and assessment of fatal period and postmortem interval. (SLO3, SLO4)

BLO 3: Differentiate among various possible etiologies of mechanical injuries. (SLO1, SLO2)

BLO 4: Appraise the nomenclature, wound production and medico legal aspects of firearm injuries. (SLO1, SLO2)

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Thanatology/ Physicochemical changes**	LGIS	Dr.Babur Rashid Chughtai	Must Know
Learning Outcomes: ● Define Thanatology, scientific concepts regarding death, medico legal aspects of brain death. (MCQ,SEQ) ● Explain indicators of death and medico legal aspects sudden and unexpected deaths, causes, manner, mode and mechanism of death. (MCQ,SEQ)				
2.	**Autopsy**	LGIS/CBL	Dr.Babur Rashid Chughtai	Must Know
Learning Outcomes:				

	• Explain the examination of the dead body, including its methods and to find out the mode, cause, mechanism and manner of death. (SEQ,MCQ) • Enlist the importance of post mortem interval, PM artifacts and hazards of autopsy. (SEQ) • Explain exhumation, its procedure, protocol, limitation & collection of samples, preservation, sealing & dispatch of viscera to FSL.(MCQ,SEQ)			
3.	**Autopsy video**	LGIS, audiovisual aids	Dr.Babur Rashid Chughtai	Must Know
Learning Outcomes: • Summarize the steps involved in postmortem examination.				
4.	**Mechanical injuries**	LGIS/SDL	Dr.Babur Rashid Chughtai	Must Know
Learning Outcomes: • Interpret the mechanisms of wound production, classification of wounds, and their medico legal aspects. (MCQ,SEQ) • Distinguish between Ante-mortem and Post-mortem wounds.(MCQ,SEQ) • Determine the manner of death (suicidal, homicidal and accidental) (SEQ)				
5	**Firearm injuries**	LGIS	Dr.Babur Rashid Chughtai	Must Know
Learning Outcomes: • Identify firearm injuries and different ammunitions.(MCQ,SEQ) • Appraise the nomenclature, wound ballistics and discuss laws in relation to firearm injuries. (MCQ, SEQ)				
6	**Blast injuries**	LGIS	Dr.Babur Rashid Chughtai	Must Know
Learning Outcomes: • Interpret injuries caused by bomb blast.(SEQ,MCQ)				

Forensic Medicine and Toxicology Practicals

Learning Outcomes:

1. Interpret various mechanical/firearm injuries, causes of death and relate them with their medico legal aspects.
2. Learn to perform medico legal examination of injured person and how to write a medico legal report.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know

				Nice to Know)
1.	**MLC 3 Mechanical injuries**.	Demonstration / Practical	All faculty	Must Know
Learning Outcomes: ● Examine an injured person and perform medico legal examination to classify the wounds with regards to their medico legal aspects in order to write a MLC report in correlation with mechanical injuries.(OSPE/VIVA)				
2.	**MLC 4 Mechanical injuries/RTA.**	Demonstration / Practical	All faculty	Must Know
Learning Outcomes: ● Examine an injured person of RTA, perform medico legal examination to classify the wounds. .(OSPE/VIVA)				
3.	**MLC 5 Firearm injuries**	Demonstration / Practical	All faculty	Must Know
Learning Outcomes: ● Examine a person with firearm injuries and medico legal aspects of these injuries in order to write a MLC report.(OSPE/VIVA)				
4.	**MLC 6 Firearm injuries**	Demonstration / Practical	All faculty	Must Know
Learning Outcomes: ● Examine a person with firearm injuries and medico legal aspects of these injuries in order to write a MLC report.(OSPE/VIVA)				

Forensic Medicine and Toxicology CBL/PBL-1

A dead body of middle aged person was recovered from forest and brought to THQ hospital Taxila for autopsy. On examination, rigor mortis was receding, green discoloration was visible over whole abdomen spreading to chest, abdomen was distended with gases and ova of the flies were seen on body parts.

1) What are the requirements of Postmortem examination?
2) Elaborate routine autopsy incisions to start the PM examination?
3) Which routine viscera's are sent to FSL?
4) In Pakistan which type of autopsy protocol is used?
5) What is the Post Mortem interval in this case?

Learning Outcome: To know about requirements regarding autopsy examination, assessment of PM interval, autopsy protocol for selection, reservation and dispatch of viscera's to FSL.

Forensic Medicine and Toxicology CBL/PBL-2

Mechanical Injuries

An 18- year-old male is brought to THQ Hospital by police, for Medico legal examination with history of assault. On general physical examination, he is vitally stable. He has 4x3 cm injury on forehead, 6 cm away from left ear with regular edges, clean cut angles, evenly distributed deeper tissue, with exposure of bone and profuse bleeding.

1. What are the requirements for causation of injury?
2. What is the mechanism of wound production?
3. How would you differentiate whether this is an incised or lacerated wound?
4. How you will classify this injury according to Qisas & Diyat Act?

Learning Outcome:

Correlate the mechanism of wound production to their Medico legal aspects.

Learning Resources:

1. Reference Books

- Parikh's text book of Forensic medicine and Toxicology Dr C.K parikh.
- Principles and practice of forensic medicine by Prof Dr Naseeb R Awan.
- Simpson's Forensic Medicine Richard Shepherd.

2. Online resources

- https://youtube.com/C/DRJAVEDIQBALKHOKHARLECTURESFORENSICMEDICIN

3. Library resources

- Parikh's text book of Forensic medicine and Toxicology Dr C.K parikh
- Principles and practice of forensic medicine by Prof Dr Naseeb R Awan
- Simpson's Forensic Medicine Richard Shepherd

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Community Medicine

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Concept of Health and Disease**	Flipped Classroom	Assoc. Prof Dr. Robina Mushtaq	Must Know

Learning Outcomes with Assessment strategy

The students will be able to:

- Apply concept of causation, natural history and disease spectrum in the given situations
- Calculate health indicators.
- Interpret type of agent, levels of prevention and intervention measures in the given scenarios

Assessment strategy: MCQ, SEQ, OSPE, Viva

Learning Resources:

1. Text Books

- Park's Textbook of Preventive and Social Medicine
- Public Health and Community Medicine (Shah, Ilyas, Ansari, Irfan's)

2. Reference Books

- Lucas, Short Textbook of Public Health Medicine for the Tropics
- Text book of Preventive and Social Medicine by Sunder Lal, Pankaj

2. Online resources

Levels of prevention

Concept of Health and Disease

3. Library resources

- Notes/Handouts by Faculty
- G classroom

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Surgery

Sr No.	Topics	Educational strategies	Name of instructor	Importance (Must Know Good to Know Nice to Know)
1	Shock, resuscitation, and monitoring	LGIS	Dr. Huda Ali	Must Know

Learning outcomes

Describe

- The pathophysiology of shock
- The different types and classification of shock and principal of resuscitation
- Appropriate monitoring and end points of resuscitation

Assess hypovolemia Clinically

Identify patients in need of fluid optimization

Assessment strategy

- MCQs
- SAQs
- TOACS

2.	Hemorrhage	LGIS	Dr. Huda Ali	Must Know

Learning outcomes

Describe

- The pathophysiology of hemorrhage
- The different types and classification of hemorrhage and principal of resuscitation

Assessthe type and severity of hemorrhageclinically / radiologically

Explainthe concept of damage control resuscitation

Assessment strategy

- MCQs
- SAQs
- TOCAS

3.	Acid-base balance	LGIS	Dr. Munawar Latif	Must Know

Learning outcomes

Describe

- The pathophysiology of acid-base balance
- Different types of acid-base balance and their causes

How

- To take ABGs sample
- To interpret ABGs

Assessment strategy

Summative

- MCQs
- SAQs

Formative

MCQs

QUIZ

4.	Wound healing and types of wound healing	LGIS	Dr. Farid Ullah Khan	Should know

Learning outcomes

Describe

- The process and staging of normal wound healing
- Explain different types of wound healing

Identify

- the types of wounds

Explain

- The extrinsic and intrinsic factors affecting wound healing

Assessment strategy

Summative	**Formative**
● MCQs	MCQs
● SAQs	QUIZ

5.	Wounds, Classification, Management	LGIS	Dr. Farid Ullah Khan	Should know

Learning outcomes

Classify

- Surgical wounds

Describe

- Wound management

Explain

- Different types of acute and chronic wounds and their management

Assessment strategy

Summative	**Formative**
● MCQs	MCQs
● SAQs	QUIZ

Learning Resource:

- Bailey & Love's (Short Practice of Surgery 28th Edition)

Reference Books:

- The Washington Manual of Surgery 7th Edition
- S.DAS, A manual on Clinical Surgery
- Browse's introduction to the symptoms & signs of surgical disease

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Pediatrics

Subject Learning Outcomes (SLO):

1. Apply the principles of evidence based medicine for health promotion, disease prevention, infection control management of common diseases in children & neonates.(PLO 1,5)
2. Demonstrate clinical skills of history taking & physical examination of children and neonates.(PLO 1 ,2,6)
3. Perform basic pediatric procedures to handle common pediatric emergencies under supervision. (PLO 2)
4. Display a compassionate and ethical attitude toward the patient and parents (PLO 3,7)

Block Learning Outcomes (BLO):

By the end of Y3B1, students shall be able to:

- Identify common Paediatric problems in Pakistan.
- Differentiate between normal and abnormal physical growth patterns.
- List developmental milestones according to the age.
- Identify signs & symptoms, suggest appropriate investigations and provide provisional and differential diagnosis for
    - cyanotic and acyanotic cardiac diseases
    - UTI.

Sr#	TOPIC	Teaching Strategy	Instructor	Importance (Must Know Should Know Could Know)
1	Introduction to Pediatrics	LGIS	Dr. Tahir Mahmood	Must know
Learning Outcomes: ● Categorize common age divisions ● Identify Common pediatric problems in Pakistan ● Define IMR,NMR				
2	Growth	LGIS	Dr Saba Mushtaq	Should know
Learning Outcomes: ● Define growth and development and differentiate between the two. ● Identify abnormal growth pattern in a child ● Enumerate various anthropometric measures used to assess growth ● Explain uses of growth charts				
3	Development	LGIS	Dr Sobia Noor	Should know
Learning Outcomes: ● Define growth and development and differentiate between the two. ● Describe major domains of growth and developmental analysis. ● Recall major developmental milestones. ● Recognize red flags in the development of a child.				

Learning Resources:

1. Reference Books:
    - Basis of Pediatrics by Parvez Akbar Khan
2. **Online resources:**
   Google class room
3. **Library Resources:**
    - Textbook of Pediatrics by PPA
    - Current Pediatric Diagnosis & Treatment
    - Harriet & Lane Handbook of Pediatrics
    - Pediatrics illustrated text book by Tom Lissauer

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Assessment Strategies (Formative)	Assessment Strategies (Summative)
Quiz, CBL	MCQs

Gynecology

Subject Learning Outcomes (SLO):

The student of Obstetrics & Gynaecology is expected to achieve these subject learning outcomes at the end of 3 years teaching while demonstrating professionalism and observing the principles of medical ethics in all academic activities;

- Triage /refer women with OBGYN problems to the appropriate facility of care.
- Manage common obstetrics & gynaecological illnesses of women with evidence based care.
- Assist in management of critical obstetric and gynaecological cases as a member of health care team.
- Suggest preventive measures for the common public health problems related to OBGYN.
- Counsel women and families effectively about the related OBGYN condition & its possible management
- taking into account their personal beliefs, socio-economic and cultural background .

Block Learning Outcomes (BLO):

By the end this block students of 3rd Year must have introduction to Gynae/Obs and integration with other subjects.

1. Must recall basic anatomy of maternal pelvis and have an idea of physiological changes of pregnancy in different systems of body.
2. Discuss types of hypertension in pregnancy and must be able to classify hypertension according to standard classification.
3. Identify maternal and fetal complication of pre-eclampsia and eclampsia.
4. Name sexually transmitted diseases and have basic idea of diagnosis and treatment.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Hypertension in pregnancy	LGIS	Dr Ruqaiya Azhar	Nice to know
Learning Outcomes with Assessment strategy ● Categories hypertensive diseases in pregnancy ● Classify hypertension according to classification ● Select relevant investigations to differentiate between pregnancy induced hypertension / essential hypertension / and pre-eclampsia. **Formative Assessment (End of Block)**				
2.	Pre-eclampsia and eclampsia	LGIS	Dr. Sidra Khan	Good to know
Learning Outcomes with Assessment strategy ● Identify symptoms and signs of pre-eclampsia and eclampsia ● Explain ABC management of eclampsia				

- Recognize maternal and fetal complications of pre-eclampsia and eclampsia.
- Indicate fetal monitoring and timing of delivery in pre-eclampsia

Formative Assessment (End of Block)

Learning Resources:

Reference books:

- Obstetrics by ten teachers 20th edition
- Gynaecology by ten teachers 20th edition

Recommended Readings:

- Hacker and Moore's essential obstetrics 6th edition
- High risk pregnancy 5th edition
- Shaw's textbook of gynaecology 17th edition

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9. Y3B-VII M- XV Genitourinary System

BLOCKS	BLOCK – VII
Module	**MODULE- XV Genitourinary System**
DURATION	**02 weeks**
Prerequisite Module	2nd Prof. Exam
Pharmacology	Diuretics (I-II)
Pathology	Shock, Enterobacteriaceae, Neisseria gonorrheae , Chlamydia, Treponemes, Human papilloma viruses
Forensic Medicine	Sexual offence/Reproduction
Community Medicine	Prevention of Sexually Transmitted Infections
Research Methodology	Quantitative Data Presentation, Measures of Central Tendency, Measures of Dispersion, Hypothesis testing Sample size calculations, Sampling Errors Distributions, House Hold Survey
Medicine	Risk factors and clinical features of DVT/ Pulmonary embolism ,Septic/Cardiogenic Shock ,Approach to patient with generalized edema
Surgery	Gangrene amputations, urolithiasis, Bladder outlet obstruction
Pediatrics	Child with burning micturition
Gynecology	Sexually transmitted infections
Ophthalmology	Introduction to Ophthalmology, Refractive Errors Eye Lid, Lacrimal System and Tear film Orbit, Conjunctiva
ENT	Introduction / Anatomy of External ear, Anatomy Middle Ear, Anatomy of the Inner Ear, Physiology of the hearing Physiology of the vestibular system
P-CMILE	Infection Control Factors influencing healthcare associated infections

10. Course content

Pharmacology

Subject Learning Outcomes (SLO)

After completion of the course of Pharmacology & Therapeutics, the students would be able to:

1. Correlate the core concepts of pharmacokinetic and pharmacodynamic parameters of drugs to their therapeutic relevance. (PLO -1, 2, 6)
2. Rationalize the drug treatment strategies for common diseases in our community. (PLO -1,2,5,6).
3. Identify and report the potential adverse drug reactions (ADR), drug- drug interactions during polypharmacy. (PLO-5,6)
4. Demonstrate the foundation skills for rational prescription writing in a given disease condition. (PLO-1,2,3, 5, 6,7)
5. Counsel the patient effectively on the proper use of prescription drugs. (PLO-1,2, 3, 5, 6,7)
6. Interpret the data of studies designed to observe the effects of various drugs. (PLO-3,6)

Block Learning Outcomes (BLO):

- **BLO-4:** Analyze the therapeutic applications of different diuretics with respect to their sites & mechanisms of action. (SLO-2,3,4,5)

S.#	Topic	Educational Strategy	Instructor	Importance (Must Know/ Good to Know/ Nice to Know)
1.	**Diuretics (I-II)**	LGIS	Asst Prof Dr. Abeera Sikandar	Must Know
Learning Outcomes with Assessment strategy • Recollect the anatomical physiological basis of renal system. (BLO 4) *MCQ/ SEQ/Viva (S)* • Differentiate between therapeutic application of different diuretics. (BLO 4) *MCQ/ SEQ/ Viva (S)*				

Practical Work

Block Learning Outcomes: After completion of block, students should be able to:

- Justify the selection of priority drugs for certain indications and prescribe medicine accordingly.

S.#	Topic	Educational Strategy	Instructor	Supervised by	Importance (Must Know Good to Know Nice to Know)
1.	**Prescription writing on acute and chronic Heart Failure**	Simulation & Role play in SGD	All lecturers	Prof Dr Khalida Ajmal & Assoc Dr Ayesha	Must Know
Learning Outcomes with Assessment strategy ● Write a suitable prescription for the management of acute & chronic heart failure. *Unbserved OSPE (F & S)* ● Counsel the patient effectively on the proper use of prescription drugs for chronic heart failure. *Observed OSPE (F & S)*					

Case Based Learning (CBLs)

A 68-year-old man with chronic heart failure who is stable on drug treatment, has not been strictly following his low salt diet plan for last 1 week. Recently he developed severe shortness of breath and cough and is admitted to a local hospital emergency department. General physical examination shows raised JVP, ankle edema, cold clammy pale skin, and rapid pulse. Chest auscultation reveals bilateral coarse basal crepts which are suggestive of pulmonary edema.

Learning Outcomes:
The students should be able to:
Appraise the role of various drugs in the management of acute and chronic heart failure.

Learning Resources:

Textbook:

- Basic and Clinical Pharmacology by Bertram G Katzung 15th Edition

Reference Books:

- The Pharmacological Basis of Therapeutics by Goodman & Gilman Latest Edition

1. **Online resources:**
   - https://www.youtube.com/
     - Pharmacology lectures by Dr. Najeeb
     - Pharmacology lectures by Kaplan
     - Pharmacology ninja nerd
2. **Library resources:**
   - Tripathy KD, Essentials of Medical Pharmacology, 7th Edition
   - Lippincott Illustrated Reviews Pharmacology 7th Edition
   - Current Medical Diagnosis and treatment- latest Edition
   - Oxford Handbook of clinical medicine by J.A. B. Collier-latest edition

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General Pathology

Subject Learning Outcomes (SLO):

- Correlate the etiology and morphological changes of prevalent diseases with pathogenesis.
- Devise appropriate plan of lab investigations based on signs &symptoms of patient.
- Correlate cellular responses to stress and toxic insults with clinical presentation and lab reports.
- Perform relevant lab procedures required to diagnose common diseases

Block Learning Outcomes (BLO):

- Relate pathological processes to diseases and various techniques used in their diagnosis.
- Corelate the pathogenesis of hemodynamic disorders with their clinical manifestations.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Shock	LGIS	Prof Dr Jamila	Must Know
Learning Outcomes: • Identify the pathological factors involved in the condition of shock along with their types. **Assessment strategy** ● MCQ, SEQ/ SAQ				

References/ Learning resources:

- Robbins & Cotran Pathological Basis of Diseases 10th Edition.
- Robbins Basic Pathology 10th Edition

Microbiology

Block Learning Outcomes:

At the end of first block, the students of 3rd year MBBS should be able to

- Correlate the mechanisms of disease production with clinical manifestations, diagnostic modalities, treatment and preventive strategies of important pathogens causing infections of urogenital system.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Enterobacteriaceae	LGIS / SDL/ Practicals/CBL	Assoc Prof Dr Lubna Ghazal	Must Know
Learning Outcomes: ● Describe general morphological and metabolic features of Enterobacteriaceae.				

- Contrast Enterobacteriaceae from other Gram-negative bacilli.
- Correlate the mechanisms of disease production of members of Enterobacteriaceae with clinical manifestations, diagnostic modalities, treatment and preventive strategies

Assessment strategy:
MCQ, SEQ/ SAQ/OSPE

2.	Neisseria gonorrheae	LGIS/SDL	Asstt Prof Dr Tahira Tehseen	Must Know

Learning Outcomes:
Correlate the mechanisms of disease production of Neisseria gonorrheae with clinical manifestations, diagnostic modalities, treatment and preventive strategies.

Assessment strategy:
MCQ, SEQ/ SAQ/OSPE

3.	Chlamydia, Treponemes	LGIS/SDL	Asstt Prof Dr Tahira Tehseen	Must Know

Learning Outcomes:
- Describe the general characteristics of Chlamydia and Treponemes
- Explain the mechanisms of diseases production by Chlamydia and Treponemes
- Identify the diseases, complications and laboratory diagnostic methods caused by Chlamydia and Treponemes.

Assessment strategy:
MCQ, SEQ/ SAQ/OSPE

4.	Human papilloma viruses	LGIS/SDL	Asstt Prof Dr Tahira Tehseen	Must Know

Learning Outcomes:
Correlate the mechanisms of disease production of Human papilloma viruses with clinical manifestations, diagnostic modalities, treatment and preventive strategies.

Assessment strategy:
MCQ, SEQ/ SAQ/OSPE

5.	Trichomonas	LGIS/SDL	Assoc Prof Dr Lubna Ghazal	Good to Know

Learning Outcomes:
- Describe general characteristics of protozoa.
- Explain the mechanisms of diseases production caused by Trichomonas
- Identify the diseases, complications and laboratory diagnostic methods caused by Trichomonas.

Assessment strategy:
MCQ, SEQ/ SAQ/OSPE

References/ Learning resources:

- Review of Medical Microbiology and Immunology, Warren Levinson, 15th Edition
- Medical Microbiology, Jawetz, Melnick & Adelberg, 27th Edition

General Pathology Practicals

Learning Outcomes:

- Identify the histopathological features with the relevant pathological process.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Congestion and Hyperemia	Practical/SGD	All lecturers	Must Know

Learning Outcomes:

- Identify the histopathological features with the pathological processes of hemodynamic disorders.

Assessment strategy:

- OSPE

References/ Learning resources:

Robbins and Cotran. Pathological Basis of Disease. 9th Edition.

Microbiology Practicals

Learning Outcomes:

Perform and interpret laboratory diagnostic tests for identification of medically important pathogens.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	Oxidase Test, Motility, Urease Test	Practicals/ SGD	All lecturers	Must Know

Learning Outcomes:

- Perform and interpret biochemical tests for identification of medically important bacteria.

Assessment strategy: OSPE

Learning Resources:

1. **Reference Books**
   a. Greenwood Medical Microbiology, 18th Edition
   b. Manual of Clinical Microbiology, 12th Edition
2. **Online resources**
   www.cdc.gov
3. **Library resources**
   - Foundations in Microbiology 10th edition Kathleen Talaro, Barry Chess

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Forensic Medicine

Subject Learning Outcomes (SLO):

At the end of the academic year the students should be able to:

1. Correlate the given medicolegal with the cause, manner, mode and mechanism of death. (PLO1, PLO2)
2. Relate the relevant laws with the medicolegal practice. (PLO5, PLO7)
3. Infer the given autopsy findings for writing a comprehensive medicolegal report. (PLO6, PLO7)
4. Describe the procedure of collection, preservation and transportation of biological specimens to Forensic Science Laboratory and relevant offices. (PLO6, PLO7)
5. Differentiate the plans of management in acute and chronic toxicological cases. (PLO1, PLO2)
6. Apply ethical principles of Forensic Medicine in the given situation. (PLO3, PLO4)

Block Learning Outcomes (BLO):

- Assess the sexual offences and relate to relevant sections of law and medico legal aspects of law. (SLO1, SLO2, SLO6)

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Sexual offence/Reproduction**	LGIS	Dr.Babur Rashid Chughtai	Must Know
Learning Outcomes: ● Describe sexual offence & relevant sections of law (zina & hudood ordinance), natural & unnatural sexual offences & its examinations. (MCQ,SEQ) ● Describe impotence, virginity, pregnancy, criminal acts during delivery, their medico legal aspects, examination procedure and reporting.(MCQ,SEQ) ● Identify Infanticide, live and still birth, domestic violence.(MCQ,SEQ)				

Forensic Medicine and Toxicology Practicals

Learning Outcomes:

Appraise the procedure of performing clinical examination of victim and assailant in case of sexual offense, collect specific specimens and write a required certificate.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	MLC 7 SFM.	Demonstration / Practical	All faculty	Must Know
Learning Outcomes:				

● Assess the sexual offenses and learn how to examine victim and assailant in case of sexual offence, collection of specific specimens and write a medico legal report. (OSPE/ VIVA)				
2.	SFM.	SGD	All faculty	Must Know
Learning Outcomes: ● Differentiate between natural and unnatural sexual offences. ● Distinguish between impotence, virginity, pregnancy and sterility. ● Determination of virginity and their medico legal aspects, examination procedure as well as reporting. .(VIVA)				

Learning Resources:

1. **Reference Books**
   - Parikh's text book of Forensic medicine and Toxicology Dr C.K parikh.
   - Principles and practice of forensic medicine by Prof Dr Naseeb R Awan.
   - Simpson's Forensic Medicine Richard Shepherd.
2. **Online resources**
   - https://youtube.com/C/DRJAVEDIQBALKHOKHARLECTURESFORENSICMEDICIN
3. **Library resources**
   - Parikh's text book of Forensic medicine and Toxicology Dr C.K parikh
   - Principles and practice of forensic medicine by Prof Dr Naseeb R Awan
   - Simpson's Forensic Medicine Richard Shepherd

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Community Medicine/Research Module

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Prevention of Sexually Transmitted Infections**	LGIS	Assist. Prof Dr. Sadia Nadeem	Must Know

Learning Outcomes with Assessment strategy

The students will be able to:

- Compare and contrast the epidemiological determinants, mode of transmission, spectrum, clinical presentations and investigations of sexually transmitted infections.
- Suggest strategies for disease control and prevention for every specific disease and in different scenarios.

Assessment strategy: MCQ, SEQ, OSPE, Viva

Learning Resources:

1. Text Books

- Park's Textbook of Preventive and Social Medicine
- Public Health and Community Medicine (Shah, Ilyas, Ansari, Irfan's)

2. Reference Books

- Lucas, Short Textbook of Public Health Medicine for the Tropics
- Text book of Preventive and Social Medicine by Sunder Lal, Pankaj

3. Online resources

STIs

2. Library resources

- Notes/Handouts by Faculty
- G classroom

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Research Module/Evidence-Based Medicine

Learning Outcomes for 3rd Year Students

Subject Learning Outcomes

- Apply relevant statistics to conduct a household survey and a mini research project. (PLO 3,4,6,7,8)

Block Learning Outcomes

- Apply relevant statistics to conduct a house hold survey. (SLO 4,5)

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Measures of Central Tendency**	LGIS	Assoc. Prof Dr. Robina Mushtaq	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Define the measures of central tendency ● Identify the best measure of central tendency for the given data sets ● Calculate measures of central tendency Assessment strategy: MCQ/SEQ/OSPE/Viva				
2.	**Measures of Dispersion**	LGIS	Prof. Dr. S Sabah Imran	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Define the measures of dispersion ● Identify the best measure of dispersion for the given data sets ● Calculate measures of dispersion Assessment strategy: MCQ/SEQ/OSPE/Viva				
3.	**Hypothesis testing**	LGIS	Prof. Dr. S Sabah Imran	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Differentiate between null and alternate hypothesis, ● Describe steps of hypothesis testing ● Indicate probable errors in hypothesis testing Assessment strategy: MCQ/SEQ/OSPE/Viva				
4.	**Sample size calculations**	LGIS	Prof. Dr. S Sabah Imran	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Determine appropriate sample size for research project Assessment strategy: MCQ/SEQ/OSPE				
5.	**Distributions**	LGIS	Prof. Dr. S Sabah Imran	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Identify different types of distributions				

● Illustrate distribution for the given data Assessment strategy: MCQ/SEQ/OSPE/Viva				
6.	**Tests of Significance**	LGIS	Assoc. Prof Dr. Robina Mushtaq	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Apply appropriate test of significance for the given scenario ● Interpret results/p-value Assessment strategy: MCQ/SEQ/OSPE/Viva				
7.	**House Hold Survey**	SGD	All Faculty	Must Know
Learning Outcomes with Assessment strategy The students will be able to: ● Collect data independently maintaining confidentiality and exhibiting good communication skills. ● Complete the household survey booklet accurately & independently provided by the department Assessment strategy: Report writing				

Learning Resources:

Text Books

- Park's Textbook of Preventive and Social Medicine
- Public Health and Community Medicine (Shah, Ilyas, Ansari, Irfan's)

Reference Books

- Basic Methods of Medical Research (Indrayan)
- Basic statistics for the Health Sciences (Jan. W. Kuzma)
- How to design & evaluate research in education (Jack R. Fraenkel)

3. Online resources

Measures of central tendency and dispersion
Hypothesis testing
Tests of significance

4. Library resources

- Notes/Handouts by Faculty
- G classroom

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Medicine

Subject Learning Outcomes:(SLO)

- Diagnose common Medical conditions, suggest and formulate appropriate investigations, rationalize treatment plan and if appropriate, refer patient for specialist opinion/ management. (PLO1)
- Suggest preventive measure for the common Public Health Problem in the community. (PLO5)
- Perform relevant bedside procedures. (PLO2)
- Convey relevant information and explanations accurately to patients, families, colleagues and other professionals. (PLO7)
- Understand medical ethics and its application pertaining to medicine and maintain the confidentiality of the patient. (PLO3)
- Adapt research findings appropriately to the individual patient situation or relevant patient population. (PLO4 ,6)

Block Learning outcomes:

At the end of block, third year student should be able to

- Take detailed history and ask relevant questions in logical order. (SLO1)
- Explain steps of Basic life support. (SLO2, SLO3)
- Interpret 12 lead Electrocardiogram to determine rate, rhythm, axis and acute ischemic changes. (SLO1)
- Evaluate patient presenting with angina and Enlist key management steps of angina. (SLO1)
- Diagnose heart failure on basis of presenting symptoms and clinical examination. (SLO1)
- Define diagnostic criteria of hypertension and choose appropriate antihypertensive drugs for treatment. (SLO1)
- Recognize the clinical features and presenting symptoms of DVT/pulmonary embolism(SLO1)
- Differentiate between types of shocks on the basis of pathogenesis and etiology. (SLO1)

Sr No.	Topics	Educational strategies	Name of instructor	Importance (Must know Should know Could know)
At the end of lecture, third year student should be able to :				
1.	Introduction to medicine and History taking	LGIS	Prof. Muzamil Jamil	Must know
Learning outcomes: • Receive the patients in medical clinics.				

- Introduce himself/ herself to patient in proper way.
- Document patient profile and presenting complaints in chronological order.
- Take history of present illness in detail.
- Take past medical and surgical history.
- Take drug history, personal history, socioeconomic history and family history.

Mode of Assessment:

MCQs/SEQs

2.	BLS	LGIS	Dr. Turab Fatima	Must Know

Learning outcomes:

- Define Basic life support.
- Know when to start Basic life support of a patient.
- Explain steps of Basic life support

Mode of Assessment:

MCQs/SEQs

3.	Basic ECG interpretation	LGIS	Dr. Raafy Iqbal	Must Know

Learning outcomes:

- Review the electrophysiology of the heart as it relates to the ECG.
- Interpret 12 lead Electrocardiogram to determine the rate, rhythm, axis, intervals and acute ischemic changes.
- Compare normal and abnormal ECG.

Mode of Assessment:

MCQs/SEQs

4.	Approach to patient with chest pain	LGIS	Dr. Abdul Raheem	Must know

Learning outcomes:

- Correlate clinical findings to anatomical structures.
- Correlate clinical features to etiology in terms of congenital, traumatic, inflammatory, neoplastic or miscellaneous.
- Develop differential diagnosis of chest pain.
- Discuss basic pharmacology of drugs being used in chest pain.
- Enlist the investigations

Mode of Assessment:

MCQs/SEQs

5.	Approach to patient with CAD/Angina	LGIS	Dr. Raafy Iqbal	Must Know

Learning outcomes:

- Identify common symptoms/signs of angina
- Evaluate patient presenting with angina on basis of history, examinations and investigations
- Enlist key management steps.

Mode of Assessment:

MCQs/SEQs

6.	Approach to patient with palpitations	LGIS	Dr. Abdul Raheem	Should know

Learning outcomes:

- Correlate clinical findings to anatomical structures.
- Interpret he ECG changes in patient with palpitations.
- Discuss basic pharmacology of drugs being used in palpitations.
- Enlist the investigations in given case

Mode of Assessment:
MCQs/SEQs

7.	Approach to patient with Shortness of breath	LGIS	Dr. Rifat Yasmin	Must know

Learning outcomes:
- Correlate clinical findings to anatomical structures.
- Correlate clinical features to etiology of shortness of breath.
- Develop differential diagnosis of dyspnea.
- Enlist the investigations.
- Discuss basic pharmacology of drugs being used in dyspnea.

Mode of Assessment:
MCQs/SEQs

8.	Congestive cardiac failure	LGIS	Dr. Abdul Rasheed Khan	Should know

Learning outcomes:
- Correlate the presentation of CCF with its pathophysiological basis
- Diagnose heart failure on basis of presenting symptoms and clinical examination
- List complications of heart failure.
- Analyze the pharmacological management in the treatment of heart failure.

Mode of Assessment:
MCQs/SEQs

9.	Hypertension	LGIS	Dr. Abdul Rasheed Khan	Must Know

Learning outcomes:
- Define diagnostic criteria of hypertension.
- Provide pathophysiological basis of hypertension.
- Rationalize the need for achieving recommended BP goals in treatment of hypertension
- Choose appropriate antihypertensive drugs considering their indications for use.

Mode of Assessment:
MCQs/SEQs

10.	Risk factors and clinical features of DVT/ Pulmonary embolism	LGIS	Dr. Wajahat Sultan Baig	Should Know

Learning outcomes:
- Elaborate epidemiology and risk factors and preventive measures for DVT/pulmonary embolism
- Recognize the clinical features and presenting symptoms of DVT/pulmonary embolism

Mode of Assessment:
MCQs/SEQs

11.	Septic/Cardiogenic Shock	LGIS	Dr. Ayesha Rani	Should Know

Learning outcomes: • Identify the clinical features of shock • Differentiate between types of shocks on the basis of pathogenesis and etiology **Mode of Assessment:** MCQs/SEQs				
12.	Approach to patient with generalized edema	LGIS	Dr. Rifat Yasmin	Should know
Learning outcomes: • Correlate clinical findings to anatomical structures. • Correlate clinical features to its etiology. • Develop differential diagnosis of generalized edema. • Discuss basic pharmacology of drugs being used for generalized edema. • Enlist the investigations **Mode of Assessment:** MCQs/SEQs				
12.	**End of Block Exam**			**MCQs/SEQs**

Learning resources:

1. **Reference Books**
   - Davidson's Principles and practice of Medicine
   - Kumar and Clarks Clinical Medicine
   - Macleod' Clinical Examination
   - Hutchison's clinical methods
2. **Online resources**
   - www.Medscape.com
3. **Library resources**
   - Harrison's Principals of Internal Medicine 20th Edition (2018). McGraw Hill Education

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Surgery

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Surgical Infections**	**LGIS**	**Dr. Samreen Siddique**	**Must know**

Learning outcomes

Describe.

- Microbiology of surgical infections
- Presentation of surgical infections

Assessment strategy

	Summative	**Formative**
●	MCQs	MCQs
●	SAQs	QUIZ

2.	**Surgical Infections**	**LGIS**	**Dr. Samreen Siddique**	**Must know**

Learning outcomes

Describe.

- Prevention of surgical infections
- Antimicrobial treatment of surgical infections

Assessment strategy

	Summative	**Formative**
●	MCQs	MCQs
●	SAQs	QUIZ

3.	**Urolithiasis**	**LGIS**	**Dr. Abdullah**	**Should know**

Learning outcomes

Explain

- The pathophysiology of renal stone formation
- The Difference between stones at different levels of the urinary tract based on history, clinical features, and diagnostic modalities

Discuss

- The appropriate investigations leading to a definite diagnosis

Plan

- Management of urinary tract calculi

Assessment strategy

	Summative	**Formative**
●	MCQs	MCQs
●	SAQs	QUIZ

4.	**Bladder outlet obstruction**	**LGIS**	**Dr. Abdullah**	**Should Know**

Learning outcomes

Differentiate

- Between obstruction at a different level of bladder outlet based on history clinical examination and diagnostic modalities

Discuss

● The presenting features, signs, and symptoms of bladder outlet obstruction ● The appropriate investigations leading to a definite diagnosis **Devise** ● A management plan according to clinical presentation **Assessment strategy** ● **Summative** MCQs SAQs **Formative** MCQs QUIZ				
5.	End of block test	All instructors	MCQs, SAQs	12

Learning Resource:

- Bailey & Love's (Short Practice of Surgery 28th Edition)

Reference Books:

- The Washington Manual of Surgery 7th Edition
- S.DAS, A manual on Clinical Surgery
- Browse's introduction to the symptoms & signs of surgical disease

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Pediatrics

Subject Learning Outcomes (SLO):

1. Apply the principles of evidence-based medicine for health promotion, disease prevention, infection control management of common diseases in children & neonates. (PLO 1,5)
2. Demonstrate clinical skills of history taking & physical examination of children and neonates. (PLO 1 ,2,6)
3. Perform basic pediatric procedures to handle common pediatric emergencies under supervision. (PLO 2)
4. Display a compassionate and ethical attitude toward the patient and parents (PLO 3,7)

Block Learning Outcomes:

By the end of Y3B1, students shall be able to:

- Identify common Paediatric problems in Pakistan.
- Differentiate between normal and abnormal physical growth patterns.
- List developmental milestones according to the age.
- Identify signs & symptoms, suggest appropriate investigations and provide provisional and differential diagnosis for
    - cyanotic and acyanotic cardiac diseases
    - UTI.

Sr#	TOPIC	Teaching Strategy	Instructor	Importance (Must Know Should Know Could Know)
1	Acyanotic heart diseases in children	LGIS	Dr. Sohail Ashraf	Must Know
Learning Outcomes: ● List common congenital heart defects. ● Describe the clinical features of lesions producing acynotic heart diseases. ● Outline investigations, enumerate management steps and prognosis				
2	Cyanotic heart disease in children	LGIS	Prof. Dr. Munazza Saleem	Must Know
Learning Outcomes: ● List common congenital heart defects causing cyanosis. ● Describe the evaluation through history, physical examination and investigations ● Explain the management options for different cyanotic heart diseases and their prognosis.				

Learning Resources:

1. Reference Books:
    - Basis of Pediatrics by Parvez Akbar Khan
2. **Online resources:**
   Google class room
3. **Library Resources:**
    - Textbook of Pediatrics by PPA

- Current Pediatric Diagnosis & Treatment
- Harriet & Lane Handbook of Pediatrics
- Pediatrics illustrated text book by Tom Lissauer

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Assessment Strategies (Formative)	Assessment Strategies (Summative)
Quiz, CBL	MCQs

Gynecology

Subject Learning Outcomes (SLO):

The student of Obstetrics & Gynaecology is expected to achieve these subject learning outcomes at the end of 3 years teaching while demonstrating professionalism and observing the principles of medical ethics in all academic activities;

- Triage /refer women with OBGYN problems to the appropriate facility of care.
- Manage common obstetrics & gynaecological illnesses of women with evidence based care.
- Assist in management of critical obstetric and gynaecological cases as a member of health care team.
- Suggest preventive measures for the common public health problems related to OBGYN.
- Counsel women and families effectively about the related OBGYN condition & its possible management
- taking into account their personal beliefs, socio-economic and cultural background .

Block Learning Outcomes (BLO):

By the end this block students of 3rd Year must have introduction to Gynae/Obs and integration with other subjects.

- Must recall basic anatomy of maternal pelvis and have an idea of physiological changes of pregnancy in different systems of body.
- Discuss types of hypertension in pregnancy and must be able to classify hypertension according to standard classification.
- Identify maternal and fetal complication of pre-eclampsia and eclampsia.
- Name sexually transmitted diseases and have basic idea of diagnosis and treatment.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
6.	Sexually transmitted infections	LGIS	Dr. Gulwish Hameed	Nice to know
Learning Outcomes with Assessment strategy ● Name the disease transmitted sexual contact ● Outline investigations and diagnostic criteria ● Recognize its complications ● Discuss treatment of sexually transmitted infections ● Discuss prevention **Formative Assessment (End of Block)**				

Learning Resources:

Reference books:

- Obstetrics by ten teachers 20th edition
- Gynaecology by ten teachers 20th edition

Recommended Readings:

- Hacker and Moore's essential obstetrics 6th edition
- High risk pregnancy 5th edition
- Shaw's textbook of gynaecology 17th edition

Teaching faculty:

Name	Email address
Dr Khair-un-Nisa	Khairunasif5@gmail.com
Dr Irum Mushtaq	irmushtaq80@gmail.com
Dr Maimoona Riaz	drmamoonariaz@yahoo.com
Dr Ruqiya Azhar	ruqaeya@yahoo.com
Dr Sidra Khan	doctorsidrakhan@gmail.com
Dr Gulwish Hameed	gulwishhameed@gmail.com

Behavioral Sciences

Subject Learning Outcomes (SLO):

- Develop an understanding of influence and potential implications of culture and community on health behaviors, perceptions and beliefs.
- A physician will be able to integrate this knowledge into patient care
- Take detailed, accurate and relevant patient history by taking into account self-awareness and reflective writing using social and behavioral sciences approach
- Provide patient centered behavioral guidance and interventions
- Comprehend how social determinants of health influence health outcomes and how physician can use this knowledge in patient care
- Practice professionalism and leadership qualities
- Integrate their knowledge and skills gained throughout five years into clinical practice

Block Learning Outcomes (BLO):

- Understand human thought, behaviour and interactions by health and disease Situations influenced by Psychological factors. (SLO 1, 4)
- Discuss and Demonstrate Psycho-social Aspects of Health and Disease (SLO 1, 4, 5)
- Recognize the Factors Contributing towards a state of psychological and social well-being of human in clinical practice. (SLO 4)
- Understand the complex interplay of Brain and Behaviour (SLO 2, 7)
- Discuss and Demonstrate Psycho-social Aspects of Health and Disease (SLO 1, 2, 5)

Sr. No.	Topics	Educational Strategies	Name of instructor	Importance (Must Know Should Know Could Know)
1.	Role of Psychology in Medical Practice	LGIS	Zunaira Naveed	Should Know
Learning Outcomes: • Understand human thought, behaviour and interactions by health and disease Situations influenced by Psychological factors.				
2.	Role of psychological factors in the management of illnesses	(LGIS)/Interactive Video Vignettes/ Case Discussions	Zunaira Naveed	Should Know
Learning Outcomes: • Understand human thought, behaviour and interactions by health and disease Situations influenced by Psychological factors.				

3.	Role of psychological and social factors in diseases causing disability. Handicap and stigma	(LGIS) Interactive Video Vignettes/ Case Discussions	Zunaira Naveed	Should Know
Learning Outcomes: • Understand human thought, behaviour and interactions by health and disease Situations influenced by Psychological factors				
4.	Role of psychological factors in patients reactions to illness	(LGIS) Interactive Video Vignettes/ Case Discussions	Zunaira Naveed	Should know
Learning Outcomes: • Understand human thought, behaviour and interactions by health and disease Situations influenced by Psychological factors.				
5.	Medically Unexplained Physical Symptoms (MUPS)	(LGIS)/ Interactive Video Vignettes/ Case Discussions	Zunaira Naveed	Must know
Learning Outcomes: • Understand human thought, behaviour and interactions by health and disease Situations influenced by Psychological factors.				
6.	Discuss and Demonstrate Psycho-social Aspects of Health and Disease	LGIS	Zunaira Naveed	Should know
Learning Outcomes: • Discuss and Demonstrate Psycho-social Aspects of Health and Disease				
7.	Defence Mechanisms	LGIS	Zunaira Naveed	Must know
Learning Outcomes: • Discuss and Demonstrate Psycho-social Aspects of Health and Disease				
8.	Psycho-social Assessment in Health Care	Interactive Video Vignettes/ Case Discussions	Zunaira Naveed	Must know
Learning Outcomes: • Recognize the Factors Contributing towards a state of psychological and social well-being of human in clinical practice.				
9.	Clinical Situations Demanding a Comprehensive Psycho-social Assessment	Interactive Video Vignettes/ Case Discussions	Zunaira Naveed	Must know
Learning Outcomes: • Recognize the Factors Contributing towards a state of psychological and social well-being of human in clinical practice.				
10.	Psychological reactions to Illness and Hospitalization	Interactive Video Vignettes/ Case Discussions	Zunaira Naveed	Should know
Learning Outcomes: • Understand and Demonstrate Psycho-social Aspects of Health and Disease				

11.	Describe Neurobiological Basis of Behaviour	Interactive Video Vignettes/ case Discussions	Zunaira Naveed	Should know
Learning Outcomes: Understand the complex interplay of Brain and Behaviour				
12.	1. Arousal 2. Sleep 3. Consciousness	Lectures/ Presentations Interactive Video Vignettes/ Group Project	Zunaira Naveed	Should know

Learning Resources:

- Handouts prepared by faculty
- Online resources
- Lecture notes

Reference books:

- Handbook of Behavioural Sciences by Mowadat H Rana

Teaching faculty:

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Assessment formats:

Assessment Strategies (Formative)	Assessment Strategies (Summative)
• Directly observed behaviors, • Small group discussions, • Reflective writing Portfolios • MCQs, Home assignments, SAQs/SEQs	• Assignments, • Case studies, • Quiz, Presentations • MCQs, SAQs/SEQs, OSPE, Viva

P-CMILE

Subject Learning Outcome

At the end of content, the student will be able to:

1. Identify factors associated with Infection transmission in healthcare.

S.#	Topic	Educational Strategies	Instructor	Importance (Must Know Good to Know Nice to Know)
1.	**Infection Control Factors influencing healthcare associated infections**	LGIS	Dr. Sadia Nadeem	Must know
Learning Outcomes with Assessment strategy The students will be able to: ● Define the term Healthcare Associated Infection (HCAI). ● Describe different types of Factors Influencing Healthcare Associated Infections on the basis of their modes of transmission. ● Outline the chain of transmission of infection. ● Assessment strategy: MCQ/SEQ/OSPE/Viva				
2.	**Conflict of Interest**	LGIS	Dr. Khola Waheed Khan	Nice to know
Learning Outcomes with Assessment strategy The students will be able to: ● Describe conflict of interest and its type. ● Recommend measures to avoid conflict of interest. Assessment strategy: SAQ/SEQ				

Learning Resources:

Online resources

https://www.nih.org.pk/wp-content/uploads/2020/04/Complete_IPC_Guideliens.pdf

Teaching Faculty:

Name	Email address
Dr. Sadia Nadeem	sadianadeem@wahmedicalcollege.edu.pk
Dr. Khola Waheed	kholawaheed@wahmedicalcollege.edu.pk

11. Rules & regulations:

i.Student's code of conduct

The Student Code of Conduct sets out the standards of conduct expected of students. It holds individuals and groups responsible for the consequences of their actions. Failure to fulfill these responsibilities may result in the withdrawal of privileges or the imposition of sanctions.

Wah Medical College is a community of students, faculty and staff involved in learning, teaching, research and other activities. All members of WMC community are expected to conduct themselves in a manner that contributes positively to an environment in which respect, civility, diversity, opportunity and inclusiveness are valued, so as to assure the success of both the individual and the community. The Student Code of Conduct reflects a concern for these values and tries to ensure that members of the WMC can make use of and enjoy the activities, facilities and benefits of WMC without undue interference from others.

WMC STUDENT CODE OF CONDUCT

- Discipline
- Decent dress
- Good Manners
- Smart Turn Out
- Healthy Activities
- No smoking
- No Abusive Language
- Cooperative Attitude
- Respect for All

ii. Attendance policy

a. Students are required to mark attendance for every class.

b. The attendance is compiled by respective department and submitted to student affairs by the 10th of each month.

c. Students Affair Department will compile the absent report and fine of Rs. 500/- for a lecture or for the whole day will be imposed on absent students. It is pertinent to mention here that fine is imposed on students to compel them to attend classes regularly and not to generate the funds.

d. A compiled attendance state of all students along with those having attendance less than 75% duly highlighted will be submitted to the Students Affairs Department on monthly as well as quarterly basis by the concerned departments.

e. At the end of academic year, a consolidated state of attendance of students will be submitted to Students Affair Department.

f. Departments will submit the list of those students having attendance less than 75% at the end of academic year.

g. Admission forms of students having attendance less than 75% will NOT be submitted to NUMS for appearing in Annual University Exams.

12. Study tips

Dear Students,

Becoming a doctor is a tough job, but you can make it easier for yourself by adopting some time-tested techniques or habits. It's never too early – or too late – to develop good study habits. The sooner you get into a good self-study pattern, the easier everything will be and the more your chances of getting good marks will improve. Here are our top tips for getting the most out of your self-directed study time. And remember **Perseverance is the Key to Success!**

Review the material regularly, create a study schedule

Write it down

Test yourself

Find an effective learning environment with limited distractions and some fresh air

Improve memorization with Mnemonics

Incorporate auditory methods; use online podcasts

Use visuals, images, concept maps & illustration charts

Consider forming a study group or find an accountability buddy

Take strategic breaks

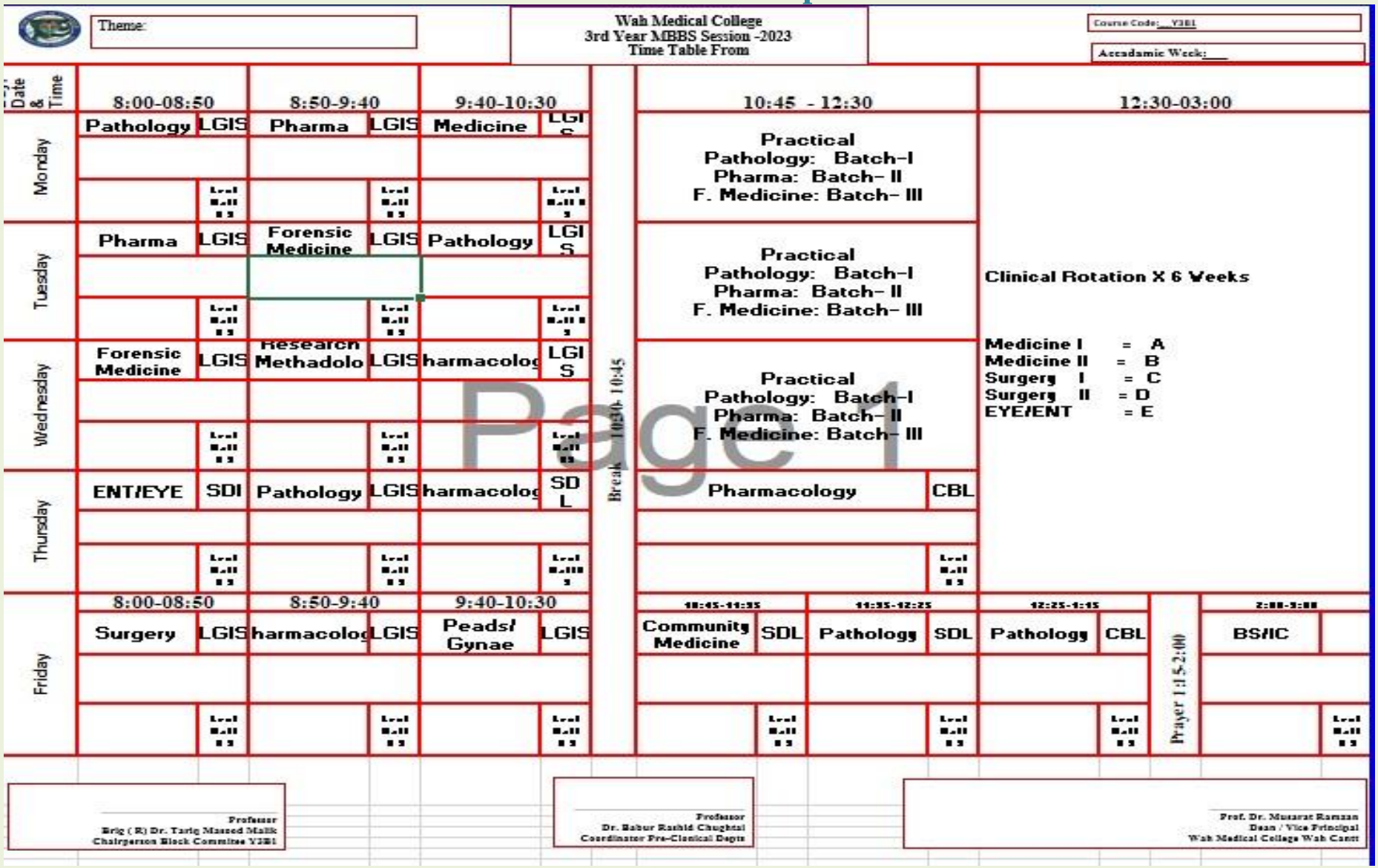
13. Feedback on the Study Guide

We value your feedback and will use it for improvement of this Study guide. Kindly provide feedback for this study guide. At the email: dme@wahmedicalcollege.edu.pk dmewahmedicalcollege@gmail.com

14. References:

HARDEN, J.M. LAIDLAW, E.A. HESKETH, R. M. (1999). AMEE Medical Education Guide No 16: Study guides-their use and preparation. *Medical Teacher*, *21*(3), 248–265. https://doi.org/10.1080/01421599979491.

15. Time Table Template:



Theme:

Wah Medical College
3rd Year MBBS Session -2023
Time Table From

Course Code: Y3B1

Accadamic Week:

Date & Time	8:00-08:50		8:50-9:40		9:40-10:30		Break 10:30-10:45	10:45 - 12:30		12:30-03:00
Monday	Pathology	LGIS	Pharma	LGIS	Medicine	LGIS		Practical Pathology: Batch-I Pharma: Batch- II F. Medicine: Batch- III		
Tuesday	Pharma	LGIS	Forensic Medicine	LGIS	Pathology	LGIS		Practical Pathology: Batch-I Pharma: Batch- II F. Medicine: Batch- III		Clinical Rotation X 6 Weeks
Wednesday	Forensic Medicine	LGIS	Research Methadolo	LGIS	harmacolog	LGIS		Practical Pathology: Batch-I Pharma: Batch- II F. Medicine: Batch- III		Medicine I = A Medicine II = B Surgery I = C Surgery II = D EYE/ENT = E
Thursday	ENT/EYE	SDL	Pathology	LGIS	harmacolog	SDL		Pharmacology	CBL	
Friday	8:00-08:50		8:50-9:40		9:40-10:30			10:45-11:35	11:35-12:25	12:25-1:15
	Surgery	LGIS	harmacolog	LGIS	Peads/ Gynae	LGIS		Community Medicine SDL	Pathology SDL	Pathology CBL
										Prayer 1:15-2:00
										2:00-3:00 BS/IC

Professor
Brig (R) Dr. Tariq Masood Malik
Chairperson Block Committee Y3B1

Professor
Dr. Babur Rashid Chughtai
Coordinator Pre-Clinical Depts

Prof. Dr. Musarat Ramzan
Dean / Vice Principal
Wah Medical College Wah Cantt