



LIAQUAT NATIONAL HOSPITAL AND MEDICAL COLLEGE

Institute for Postgraduate Medical Studies & Health Science



FOUNDATION MODULE II

FROM 16th DECEMBER 2024 TO 19th FEBRUARY 2025



STUDY GUIDE FOR FOUNDATION-II MODULE

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Module name: **Foundation-II**Year: **Three**Duration: **10 weeks (Dec – Feb 2025)**

Timetable hours: Lectures, Case-Based Integrated Learning (CBIL), Clinical Rotations, learning experience in LNH outreach centers, Laboratory, Practical, Demonstrations, Skills, Self-Study

MODULE INTEGRATED COMMITTEE

MODULE COORDINATOR:	<ul style="list-style-type: none"> • Prof. Faiza Waseem (Biochemistry)
CO-COORDINATORS:	<ul style="list-style-type: none"> • Dr. Farzana Azam • Dr. Yusra Nasir

DEPARTMENTS' & RESOURCE PERSONS' FACILITATING LEARNING

BASIC HEALTH SCIENCES		
BIOCHEMISTRY		
<ul style="list-style-type: none"> • Professor. Faiza Waseem 		
COMMUNITY MEDICINE		
<ul style="list-style-type: none"> • Dr. Saima Zainab 		
FORENSIC MEDICINE		
<ul style="list-style-type: none"> • Professor Syed Mukkaram Ali 		
PATHOLOGY		
<ul style="list-style-type: none"> • Professor Naveen Faridi 		
MICROBIOLOGY		
<ul style="list-style-type: none"> • Professor Shaheen Sharafat 		
PHARMACOLOGY		
<ul style="list-style-type: none"> • Professor Tabassum Zehra 		
FAMILY MEDICINE		
<ul style="list-style-type: none"> • Dr Rabeeya Saeed 		
Longitudinal Curriculum leads		
<ul style="list-style-type: none"> • Research : Dr. Saima Zainab • Patient Safety : Dr. Sana Anwar • Communication : Dr. Afifa Tabassum 		
DEPARTMENT OF HEALTH PROFESSION EDUCATION		
<ul style="list-style-type: none"> • Prof. Nighat Huda 	<ul style="list-style-type: none"> • Dr. Sobia Ali 	<ul style="list-style-type: none"> • Dr. Afifa Tabassum
<ul style="list-style-type: none"> • Dr. Yusra Nasir 	<ul style="list-style-type: none"> • Dr. Haya Noor 	
LNH&MC MANAGEMENT		
<ul style="list-style-type: none"> • Professor Karimullah Makki, Principal, LNH&MC • Dr. Shaheena Akbani, Director A.A & R.T LNH&MC 		
STUDY GUIDE COMPILED BY: Department of Health Professions Education		

INTRODUCTION**WHAT IS A STUDY GUIDE?**

It is an aid to:

- Inform students how the student learning program of the module has been organized
- Help students organize and manage their studies throughout the module
- Guide students on assessment methods, rules, and regulations

THE STUDY GUIDE:

- Communicates information on the organization and management of the module. This will help the student to contact the right person in case of any difficulty.
- Defines the objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as Interactive Lectures, small group teachings, clinical skills, demonstrations, tutorials, and case-based learning that will be implemented to achieve the module objectives.
- Provides a list of learning resources such as books, computer-assisted learning programs, web- links, and journals, for students to consult to maximize their learning.
- Highlights information on the contribution of continuous and module examinations on the student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's achievement of objectives.
- Focuses on information about examination policy, rules, and regulations.

CURRICULUM FRAMEWORK

Students will experience an integrated curriculum similar to previous modules.

INTEGRATED CURRICULUM comprises system-based modules such as Foundation II, Blood II, Locomotor II, Respiratory system-II, CVS-II, and GIT Liver II which links basic science knowledge to clinical problems. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have a better understanding of basic sciences when they repeatedly learn about clinical examples.

LEARNING EXPERIENCES: Case-based integrated discussions, and skills acquisition in the skills lab. Computer-based assignments, learning experiences in clinics, wards, and outreach centers

INTEGRATING DISCIPLINES OF FOUNDATION MODULE

LEARNING METHODOLOGIES

The following teaching/learning methods are used to promote better understanding:

- Interactive Lectures
- Tutorial
- Case- Based Learning (CBL)
- Clinical Experiences
 - Clinical Rotations
- Skills session
- Self-Directed Learning

INTERACTIVE LECTURES: In a large group, the Interactive Lectures introduce a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

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

CASE-BASED LEARNING (CBL): A small group discussion format where learning is focused on a series of questions based on a clinical scenario. Students discuss and answer the questions by applying relevant knowledge gained previously in clinical and basic health sciences during the module and constructing new knowledge. The CBL will be provided by the concerned department.

- **CLINICAL LEARNING EXPERIENCES:** In small groups, students observe patients with signs and symptoms in hospital wards, clinics, and outreach centers. This helps students relate knowledge of the module's basic and clinical sciences and prepare **CLINICAL ROTATIONS:** In small groups, students rotate in different wards like Medicine, Pediatrics, Surgery, Obs & Gyne, ENT, Eye, Family Medicine clinics, outreach centers & Community Medicine experiences. Here students observe patients, take histories and perform supervised clinical examinations in outpatient and inpatient settings. They also get an opportunity to observe medical personnel working as a team. These rotations help students relate basic medical and clinical knowledge in diverse clinical areas.

SKILLS SESSION: Skills relevant to the respective module are observed and practiced where applicable in the skills laboratory.

SELF-DIRECTED LEARNING Students assume responsibilities for their learning through individual study, sharing and discussing with peers, and seeking information from Learning Resource Center, teachers, and resource persons within and outside the college. Students can utilize the time within the college's scheduled hours of self-study.

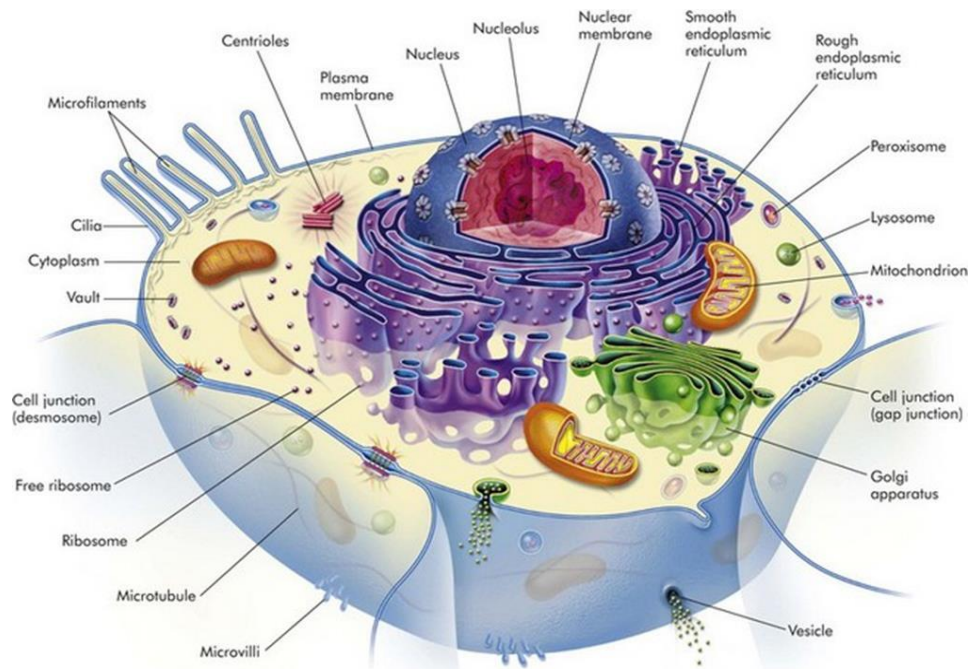
MODULE 1: FOUNDATION-II

INTRODUCTION

This module marks the beginning of transition to more focus on clinical learning. This module will introduce students to key concepts essential for understanding diseases process, their prevention and treatment. Students will be able to apply these key concepts in future, system-based modules to understand the diseases processes and their management.

The course covers the molecular level of cell biology including genetics and its role in microbiology and pathology. In community medicine, health issues and policies on disease control, health systems will be discussed. This module will also include basics of pharmacology and forensic medicine.

Concepts dealt with in this module will be revisited in other modules in the future.



COURSE OBJECTIVES AND STRATEGIES

At the end of the module the students will be able to:

BIOCHEMISTRY

<u>TOPICS & OBJECTIVES</u>	<u>LEARNING STRATEGIES</u>
1.Regulation of gene expression	
• Define the term gene expression	Interactive Lecture
• Explain the mechanism of gene expression in prokaryotes and eukaryotes	
• Justify the need for gene expression	
2. DNA isolation	
• Define DNA Isolation	Tutorial
• Describe the different methods of isolation of DNA	
• Explain the uses of DNA isolation	
3. Recombinant DNA technology	
• Define the term Recombinant DNA technology	Interactive Lecture
• Describe the different types of Recombinant technologies and their uses	
• Explain the significance of Recombinant technology	
4. Hybridization and blotting techniques	
• Define the terms related to Hybridization and blotting techniques	Interactive Lecture
• Explain the types of hybridization and blotting techniques and their methods (Flow chart)	
• Describe the uses and significance of each method	

COMMUNITY MEDICINE

<u>TOPICS & OBJECTIVES</u>	<u>LEARNING STRATEGIES</u>
1. Introduction to public health	
• Define: health, disease, illness and well-being	Interactive Lectures
• Define: Preventive medicine, community medicine, public health, social medicine and	
• List the functions of public health system	
2. Determinants of Disease & iceberg	
• Describe determinants of Health	Interactive Lectures
• Explain health determinants model	

<ul style="list-style-type: none"> Discuss iceberg phenomenon 	
3. Natural history of disease & Levels of prevention	
<ul style="list-style-type: none"> Discuss the phenomenon of natural history of disease Explain different levels of prevention Discuss Population pyramid 	Interactive Lectures
4. Introduction to Epidemiology	
<ul style="list-style-type: none"> Define Epidemiology List the uses of epidemiology Explain theories of disease causation Describe prevalence and incidence and their relationship 	Interactive Lectures
5. International organizations	
<ul style="list-style-type: none"> List regional offices of World Health Organization (WHO) Discuss functions of WHO & UNICEF Discuss UNICEF's GOBI-FFF program Describe the health related non-governmental organizations in Pakistan 	Interactive Lectures
6. Health Care System-1	
<ul style="list-style-type: none"> Describe health system Define district health system Describe the role of district management team Explain health systems development Discuss the health indicators of Pakistan. Discuss the situation analysis by studying health indicators and health needs. 	Interactive Lecture
7. Health Care System-2	
<ul style="list-style-type: none"> Discuss the following 	Interactive Lectures
i. Health system problems of Pakistan	
ii. Public health engineering	
iii. Financial and organizational problems	
iv. Problems of health planning, evaluation and research	
v. Primary aims of Integrated Health	
<ul style="list-style-type: none"> Enumerate the health services and resources Describe major health problems of rural and urban areas of Pakistan. Explain Multi-Sectoral interaction and partnership 	
8. Primary Health Care (PHC)	
<ul style="list-style-type: none"> Define Primary Health Care Explain essential components of Primary Health Care Describe key concepts in PHC planning Describe the steps in PHC planning Differentiate between selective vs comprehensive PHC 	Interactive Lectures
9. Health Management Information System	
<ul style="list-style-type: none"> Define HMIS 	

<ul style="list-style-type: none"> • State the essential elements of HMIS 	Interactive Lectures
<ul style="list-style-type: none"> • List the components of HMIS 	
<ul style="list-style-type: none"> • Describe the important features of HMIS 	
<ul style="list-style-type: none"> • Define disease early warning system (DEWS) 	
10. Leadership in Public Health	
<ul style="list-style-type: none"> • Define leadership 	Interactive Lectures
<ul style="list-style-type: none"> • Describe four styles of leadership 	
<ul style="list-style-type: none"> • Discuss the role of health professionals in community development 	
<ul style="list-style-type: none"> • Explain the basic principles of leadership for community development 	
11. Genomics	
<ul style="list-style-type: none"> • Differentiate between genetics and genomics 	Interactive Lectures
<ul style="list-style-type: none"> • Describe the public health genetics 	
<ul style="list-style-type: none"> • Describe the steps in genetic counseling 	
<ul style="list-style-type: none"> • Explain genetic surveillance 	
<ul style="list-style-type: none"> • Briefly describe the cloning 	
12. Demography & Vital Statistics	
<ul style="list-style-type: none"> • Define demography 	Interactive Lectures
<ul style="list-style-type: none"> • Explain sources of demographic data 	
<ul style="list-style-type: none"> • Describe the types of census 	
<ul style="list-style-type: none"> • Discuss the stages of demographic transition 	
<ul style="list-style-type: none"> • Describe vital statistics. 	
<ul style="list-style-type: none"> • Discuss Population pyramid 	
13. Morbidity & mortality determinants	
<ul style="list-style-type: none"> • Define rate , ratio, proportion 	Tutorial
<ul style="list-style-type: none"> • Explain morbidity measures 	
<ul style="list-style-type: none"> • Describe mortality measures 	
14. Disease Surveillance	
<ul style="list-style-type: none"> • Define surveillance 	Interactive Lectures
<ul style="list-style-type: none"> • Classify the types of surveillance 	
<ul style="list-style-type: none"> • Differentiate between surveillance vs monitoring 	
<ul style="list-style-type: none"> • List of objectives of public health surveillance 	
<ul style="list-style-type: none"> • Describe the sources of data disease surveillance 	
<ul style="list-style-type: none"> • Explain the steps of an epidemic investigation 	
15. Define health promotion	
a. Describe Ottawa Charter for Health Promotion	Tutorial
b. Describe Sustainable Development Goals (SDGs) specifically related to health	
16. Control of infections	
<ul style="list-style-type: none"> • Differentiate between infectious and communicable diseases 	Tutorial
<ul style="list-style-type: none"> • Describe control measures for infectious & communicable diseases 	

<ul style="list-style-type: none"> • Explain the role of immune-prophylaxis & screening in the control of infection 	
17. Emerging & Re-emerging diseases	
<ul style="list-style-type: none"> • Describe emerging & re-emerging diseases 	Tutorial
<ul style="list-style-type: none"> • Enumerate factors contributing to emergence 	
<ul style="list-style-type: none"> • Explain preventive measures for the emergence 	
18. Screening for disease	
<ul style="list-style-type: none"> • Describe Screening and its role in natural history of disease 	Tutorial
<ul style="list-style-type: none"> • Classify the types of screening 	
<ul style="list-style-type: none"> • List criteria of a good screening test 	
<ul style="list-style-type: none"> • Discuss the characteristics of a good screening test 	
<ul style="list-style-type: none"> • Calculate screening measures 	
19. Health Education	
<ul style="list-style-type: none"> • Differentiate between Health Education and health promotion 	Interactive Lectures
<ul style="list-style-type: none"> • Explain the stages of health education 	
<ul style="list-style-type: none"> • Discuss strategies for health education 	
<ul style="list-style-type: none"> • Describe key principles of health education 	
<ul style="list-style-type: none"> • Define Health Information, Education and Communication (IEC) 	
<ul style="list-style-type: none"> • Differentiate between Health Education and health promotion 	
20. Hospital administration	
<ul style="list-style-type: none"> • Define hospital 	Interactive Lectures
<ul style="list-style-type: none"> • Explain the classification of hospitals 	
<ul style="list-style-type: none"> • Describe the indices related to hospitals and population at risk 	
<ul style="list-style-type: none"> • Describe the factors influencing hospital utilization 	
21. Vital statistics	
<ul style="list-style-type: none"> • Describe vital statistics. 	Tutorial
<ul style="list-style-type: none"> • Describe Vital statistics registration in developing countries. 	
<ul style="list-style-type: none"> • Discuss the situation of vital statistics in Pakistan 	
22. Infectious disease epidemiology	
<ul style="list-style-type: none"> ▪ Define the following terms: infection, infestation, contamination, host, infectious disease, contagious disease, communicable disease, epidemic, endemic, pandemic, sporadic, nosocomial infection, opportunistic infection, eradication, elimination 	Tutorial
<ul style="list-style-type: none"> ▪ Explain the chain of infection 	
<ul style="list-style-type: none"> ▪ Describe the modes of transmission 	

FORENSIC MEDICINE

TOPICS & OBJECTIVES	LEARNING STRATEGIE
1. INTRODUCTION TO LEGAL PROCEDURE	
<ul style="list-style-type: none"> • List the reference books for developing a thorough understanding of the subject 	
<ul style="list-style-type: none"> • Describe basics terms related to Forensic Medicine and Toxicology. 	
<ul style="list-style-type: none"> • Enumerate the branches of Forensic Sciences 	
<ul style="list-style-type: none"> • Explain the importance and utility of Forensic Medicine and its branches, in medical, legal and ethical issues 	
<ul style="list-style-type: none"> • Discuss the structure of Legal system and the powers of different courts in Pakistan 	Interactive Lecture
<ul style="list-style-type: none"> • Define important legal terms such as Summons, warrant, perjury, deposition, exhibit, offence, cognizable offence, non-cognizable offence, oath, conduct money, summons case, warrant case, bail, FIR 	
<ul style="list-style-type: none"> • Explain medical evidence and its types (oral, documentary, hearsay, circumstantial) 	
<ul style="list-style-type: none"> • List the documents prepared by a medical man (Postmortem Reports, Medico Legal Reports, Certificates such as birth certificates, death certificates, sickness certificates, certificates of 	
<ul style="list-style-type: none"> • Differentiate Dying declaration and Dying deposition 	
2.LEGAL AND ETHICAL RESPONSIBILITIES OF MEDICAL WITNESS	
<ul style="list-style-type: none"> • Enumerate the types of witnesses 	Interactive Lecture
<ul style="list-style-type: none"> • Explain the procedure of examination in the court 	
<ul style="list-style-type: none"> • List the protocols for the conduct of Doctor in the witness box, during court attendance & recording evidence and volunteering of a statement by the doctor in court of law 	
3.INTRODUCTION TO SCIENTIFIC & MEDICOLEGAL ASPECT TO DEATH	
<ul style="list-style-type: none"> • Explain the scientific concepts regarding death 	Interactive Lecture
<ul style="list-style-type: none"> • Highlight the significance of Medico-legal aspects of brain death 	
<ul style="list-style-type: none"> • Enumerate Howard’s criteria of death 	
<ul style="list-style-type: none"> • Define the terms cause, manner, mode and mechanism of death 	
<ul style="list-style-type: none"> • Explain the scientific concepts regarding death 	
4.IMMEDIATE SIGN OF DEATH	
<ul style="list-style-type: none"> • Explain immediate signs of death with special stress on somatic or clinical death 	Interactive Lecture
<ul style="list-style-type: none"> • Define Suspended animation 	
<ul style="list-style-type: none"> • Summarize postmortem changes in the eyes 	
<ul style="list-style-type: none"> • Describe early changes after death such as Algor Mortis (Cooling of the body) 	
5.EARLY SIGN OF DEATH	
<p>Explain the Physio-chemical changes in various body tissues and organs under various environmental conditions, such as changes in muscular system after death</p>	Interactive Lecture
<p>Describe Postmortem Lividity (Livor mortis, Hypostasis or Suggilation) and its significance</p>	
<ul style="list-style-type: none"> • Enumerate the postmortem changes in the blood, CSF, Vitreous humor and Bone marrow 	
6.LATE SIGN & CERTIFICATION OF DEATH	
<ul style="list-style-type: none"> • Explain late signs of death i.e. Putrefaction, its mechanism, changes and gases of decomposition, forensic entomology, adiapocere formation and mummification 	

<ul style="list-style-type: none"> • Discuss presumption of death presumption of survivor-ship 	
7.INTRODUCTION TO AUTOPSY	Interactive Lecture
<ul style="list-style-type: none"> • Discuss autopsy & its types along with aims and objectives 	
<ul style="list-style-type: none"> • Differentiate between Medico legal and pathological autopsy 	
<ul style="list-style-type: none"> • Explain Autopsy protocols 	
8.EXTERNAL & INTERNAL BODY EXAMINATION	Interactive Lecture
<ul style="list-style-type: none"> • Describe the external body examination criteria • Discuss the types of incisions along with techniques of autopsy 	
<ul style="list-style-type: none"> • Summarize Negative and obscure autopsy 	
<ul style="list-style-type: none"> • Describe the internal examination of different regions and dissection of various organs during autopsy. 	
9.INTRODUCTION TO TRAUMATOLOGY	Interactive Lecture
<ul style="list-style-type: none"> • Define Injury, Hurt, Wound, Assault and Battery 	
<ul style="list-style-type: none"> • Classify Injuries • Describe blunt weapon injuries; Abrasions, Bruises & laceration mechanism of production and medico legal significance 	
10.BLUNT & SHARP INJURIES	
<ul style="list-style-type: none"> • Sharp weapon injuries- Incised wounds, stab wounds with medico legal significance • Summarize Qisas and Diyat Act with interpretation of injuries accordingly 	Interactive Lecture
11.CUSTODIAL DEATHS AND TORTURE	
<ul style="list-style-type: none"> • Enumerate deaths in custody • Define Torture according to World Medical Association (Declaration of Tokyo) • Explain various torture techniques • List the sequelae of torture • Describe the role of Medical practitioner and the ethical issues with relation to torture 	Interactive Lecture
12.INFANTICIDE (PEDIATRIC FORENSIC MEDICINE- I)	
<ul style="list-style-type: none"> • Define infanticide, feticide, still born baby and dead born baby • Discuss Maceration • List the methods of foetal age estimation • Summarize the signs of live birth 	Interactive Lecture
13.BATTERED BABY (PEDIATRIC FORENSIC MEDICINE-II)	
<ul style="list-style-type: none"> • Define precipitate labor/ unconscious delivery • List the criminal causes of death of new born babies i.e. acts of commission and omission • Enumerate the Injuries related to Shaken Baby Syndrome with mechanism • Define COT deaths (Sudden Infant Death Syndrome) and various possibilities of death with postmortem findings, Medico legal importance of SIDS 	Interactive Lecture
14.ANIMAL POISONS- TOXICOLOGY (SNAKES AND SCORPIONS)	
<ul style="list-style-type: none"> • Classify snakes • Differentiate between poisonous and non-poisonous snakes • Differentiate between Colubridae and Viperidae • Summarize the signs and symptoms of bites by cobra and viper 	Interactive Lecture

• Explain the principles of treatment of snake bite and Anti-venom therapy	
• List the medico legal aspects of snakebite	
• Discuss the signs, symptoms and treatment of Scorpion bite	
15.THERMAL INJURIES (BURNS, SCALDS)	
• Classify thermal injuries and burns	Interactive Lecture
• Differentiate the types of burns	
• Calculate the surface area of burns in adults and children	
• List the causes of death, postmortem findings and artifacts due to burns	
• Differentiate ante-mortem and postmortem burning	
• Differentiate burns due to dry heat, moist heat and chemicals for medico legal purposes	
16.GENERAL TOXICOLOGY	
• Explain and Classify poisons based on chief symptoms and medico legal criteria	Tutorial/ Practical
• Discuss the International toxicity rating of poisons	
• Classify and Differentiate between poison and a medicine	
17.DIAGNOSIS OF POISONING	
• Explain routes of administration and excretion of poisons	Tutorial/ Practical
• Explain the diagnosis of poisoning in living & dead	
• List the factors that modify action of poison	
18.MANAGEMENT OF POISONING	
• Duties of a doctor in a case of suspected poisoning	Tutorial/ Practical
• General principles of treatment of poisoning viz. Gastric lavage, Antidote therapy	
19.VISIT to LNH DRUG AND POISON INFORMATION CENTER	
• The role of poisoning Information Centre in treatment of cases of poisoning	Tutorial/ Practical
20.AUTOPSY PRESERVATIVES & HAZARDS	
<ul style="list-style-type: none"> • Describe method of preservation of viscera for chemical and histo-pathological examination • List the preservatives used in mortuary • Preservatives of dead bodies • Explain Exhumation and Postmortem artifacts • Discuss the hazards related to autopsy, and the methods to prevent these hazards 	Tutorial/ Practical
21.Visit to LNH ER	

<ul style="list-style-type: none"> Observe different mechanical injury cases and how to evaluate injured person. Explain the process of Writing medico legal report of an injured person <ul style="list-style-type: none"> Crime scene investigation Trace evidence Locard's principle of exchange & its medico legal importance 	Tutorial/ Practical
22.FORENSIC ELECTROCUTION & LIGHTNING, STARVATION AND NEGLECT	
<ul style="list-style-type: none"> Explain the features of features due to various of types of electrical current List the causes of death due to electrocution Enumerate lightning injuries and lightning deaths Describe the types, signs and symptoms and postmortem findings of starvation 	Tutorial/ Practical
23.ENVIRONMENTAL (COLD/HEAT)TRAUMA	
<ul style="list-style-type: none"> Describe the causes, clinical features and treatment of injuries due to local exposure to cold, frostbite, trench foot, chilblain Explain hypothermia; its causes, clinical exposure to heat viz. heatstroke, exhaustion, cramps; their causes, clinical features and treatment 	Tutorial/ Practical

GENERAL PATHOLOGY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
TOPIC 1: CELLULAR RESPONSES TO STRESS AND TOXIC INSULTS ADAPTATION,INJURY,AND	
1. Introduction to Pathology Overview: Cellular Responses to Stress and Adaptation of cellular growth	
<ul style="list-style-type: none"> Define Pathology and Pathogenesis Briefly discuss cellular responses to the injury and stages of the cellular response to stress and injurious stimuli Define adaptation, hypertrophy, hyperplasia, atrophy, and metaplasia Describe the causes and mechanism of hypertrophy, hyperplasia, atrophy, and metaplasia 	Interactive Lecture
2. Overview of Cell Injury and Cell Death	
<ul style="list-style-type: none"> List causes of cell injury Briefly discuss various types of cell injury Discuss morphological alterations in cell injury including both reversible and irreversible injury 	
3. Necrosis	
<ul style="list-style-type: none"> Define necrosis Discuss the pathological and morphological types of necrosis 	Interactive Lecture/ Tutorial
	Interactive Lecture

4. Mechanism of Cell Injury I	
<ul style="list-style-type: none"> Describe mechanisms of cell injury (with examples) including depletion of ATP, mitochondrial damage, influx of calcium, accumulation of oxygen derived free radicals, defects in membrane permeability, damage to DNA 	Interactive Lecture
<ul style="list-style-type: none"> Discuss properties of the principal free radicals involved in cell injury. 	
5. Mechanism of Cell Injury and examples (II)	
<ul style="list-style-type: none"> Discuss ischemia and reperfusion injury 	
<ul style="list-style-type: none"> Discuss chemical and toxic injury 	
6. Apoptosis	
<ul style="list-style-type: none"> Discuss causes, morphological and biochemical changes, clinic-pathologic correlations in Apoptosis. 	Interactive Lecture
<ul style="list-style-type: none"> Briefly describe the mitochondrial and extrinsic the pathways of apoptosis 	
<ul style="list-style-type: none"> Briefly discuss Necroptosis 	
7. Intracellular Accumulations	
<ul style="list-style-type: none"> Summarize the pathways of abnormal accumulation 	Interactive Lecture
<ul style="list-style-type: none"> Discuss types of pigments (exogenous and endogenous) 	
<ul style="list-style-type: none"> Describe hyaline changes, lipid, protein, and glycogen accumulation 	
<ul style="list-style-type: none"> Discuss briefly pathological classification of intracellular accumulations 	
TOPIC-2: INFLAMMATION AND REPAIR	
8. Introduction to Inflammation & Acute inflammation	
<ul style="list-style-type: none"> Define inflammation 	Interactive Lecture
<ul style="list-style-type: none"> Classify inflammation 	
<ul style="list-style-type: none"> List the causes of inflammation 	
<ul style="list-style-type: none"> Discuss the sequence of events in acute inflammatory process 	
9. Mediators of acute inflammation	
<ul style="list-style-type: none"> Name the main inflammatory mediators 	
<ul style="list-style-type: none"> Describe their role in the inflammatory process 	
10. Morphological pattern & outcomes of acute inflammation& Chronic Inflammation	
<ul style="list-style-type: none"> Explain different morphological pattern of acute inflammation 	
<ul style="list-style-type: none"> List the outcomes of acute inflammation 	
<ul style="list-style-type: none"> Define chronic inflammation 	
<ul style="list-style-type: none"> List the causes and morphological features of chronic inflammation 	
<ul style="list-style-type: none"> Describe the cells and mediators & their role in chronic inflammation 	
<ul style="list-style-type: none"> Describe the systemic effects of acute and chronic inflammation 	
11. Granulomatous Inflammation	
<ul style="list-style-type: none"> Define granulomatous inflammation 	Interactive Lecture
<ul style="list-style-type: none"> Discuss the pathogenesis of granulomatous inflammation 	
<ul style="list-style-type: none"> List the diseases with granulomatous inflammation 	
<ul style="list-style-type: none"> Discuss morphology of granulomatous inflammation 	
12. Tissue repair	
<ul style="list-style-type: none"> Define tissue repair 	Interactive

<ul style="list-style-type: none"> Describe the mechanism involved in tissue regeneration and scar formation List the factors that influence tissue repair 	Lecture
13. Healing by First & Second Intention	
<ul style="list-style-type: none"> Contrast repair by primary and secondary intention Describe the complications in tissue repair 	Interactive Lecture
TOPIC 3: HEMODYNAMICS AND SHOCK	
14. Edema, Effusion, Hyperaemia and Congestion	
<ul style="list-style-type: none"> Define edema, effusion, exudate, transudate, hyperemia and congestion Define various terminologies according to morphology of edema & effusion Discuss the pathophysiologic categories of edema Describe the mechanism & clinical significance of edema at different sites Describe the morphological changes in chronic passive congestion of the lungs & liver 	Interactive Lecture
15. Hemostasis	
<ul style="list-style-type: none"> Define hemostasis Describe the sequence of events involved in primary & secondary hemostasis including the role of platelets, endothelium & coagulation Describe the defects of primary & secondary hemostasis Briefly discuss haemorrhagic disorders 	
16. Thrombosis & Embolism	
<ul style="list-style-type: none"> Define embolus, infarction, thrombosis and Disseminated Intravascular Coagulation Discuss various types of thrombi according to their morphology Describe the factors that predispose to thrombosis Describe the morphologic features of thrombi List the possible fate of thrombus Describe the clinical features of venous, arterial & cardiac thrombosis Define Describe the pathogenesis of DIC 	Interactive Lecture/ Tutorial
17. Embolism & Infarction	
<ul style="list-style-type: none"> Define embolism & infarction Classify infarction List the types of embolism & the factors that influence development of Describe the clinical manifestations & consequences of pulmonary & systemic thromboembolism Discuss the clinical conditions that give rise to fat & marrow embolism, air embolism Describe the morphologic features of red & white infarct 	
18. Shock	
<ul style="list-style-type: none"> Define shock 	Case- Based

• List the three major types of shock & the clinical features of shock	Integrated Learning (CBIL)	
• Describe the mechanism of three major types of shock		
• Discuss the factors involved in the pathophysiology of septic shock		
• Describe the three stages of shock		
TOPIC 4: GENETIC DISORDERS		
19 Introduction to Mendelian Disorders		
• List the examples of Autosomal Dominant Disorders, Autosomal Recessive	Interactive Lecture	
• Discuss the transmission pattern of single gene disorder		
• Discuss the pathogenesis of important autosomal recessive, autosomal dominant, and		
20 Mutation		
• Define mutation		
• Briefly discuss principles relating to the effects of gene mutation		
• Distinguish between types of mutations in the coding and non-coding		
21 Single Gene Disorders I		
• Define single-gene disorders		
• Classify single-gene disorders on the molecular and biochemical basis		
• Discuss disorders associated with defects in structural proteins (Marfans		
22. Single Gene Disorders II		
• Discuss disorders associated with defects in structural proteins (Ehlers-Danlos syndrome)		
• Discuss disorders associated with defects in receptor proteins (Familial		
• Enumerate the types of lysosomal & glycogen storage diseases with their deficient enzymes		
23. Chromosomal Disorders		
• Define normal karyotype and common cytogenetic terminology	Interactive Lecture	
• Discuss structural chromosomal abnormalities		
• Discuss cytogenetic disorders involving autosomes including Trisomy 21: Down		
• Name diseases with deletion of genes at chromosomal locus 22q11.2 (Di George syndrome, Velocardiofacial syndrome)		
• Discuss cytogenetic disorders involving sex chromosomes including Klinefelter syndrome, Turner syndrome		
TOPIC 5: NEOPLASIA		
24 Introduction to Neoplasia		
• Define neoplasia	Interactive Lecture	
• Discuss the nomenclature of benign and malignant tumors with respect to tissues of origin		
• Describe characteristic features of benign & malignant tumors		
25 Gross & Microscopy of Benign & Malignant tumors		

•	Define Anaplasia, Metaplasia, Dysplasia, Metastasis	
•	Define cell differentiation and de-differentiation	
•	Discuss all the components and morphological features of anaplasia	
•	Discuss local invasion of tumors	
•	Discuss pathways of spread of malignant tumors	
•	Compare features of benign and malignant tumors	
26	Epidemiology of Cancer	
•	Define acquired predisposing conditions leading to cancer development	
•	List the environmental factors involved in the pathogenesis of malignancy	
•	Discuss the global impact of cancer	
•	Discuss different types of occupational cancers	
•	Discuss association between chronic inflammatory states and cancer	
•	Discuss the role of genetic predisposition and interactions between environmental and inherited factors in cancer development	
27	Molecular Basis of cancer I	
•	Define oncogenes	
•	List four classes of normal regulatory genes with respect to neoplasia	
•	Discuss stepwise accumulation of driver and passenger mutations	
•	Describe cellular and molecular hallmarks of cancer	
•	Define Proto-oncogenes, and Oncoproteins	
•	Classify oncogenes according to their mode of action and associated tumors	
28	Molecular Basis of cancer II	
•	Define Tumor Suppressor Genes	
•	Classify tumor suppressor genes according to their mode of action and associated tumors	
•	Discuss RB gene with respect to its role in tumor development	
•	Discuss p53 gene with respect to its role in tumor development	
29	Molecular Basis of cancer III	
•	Define the Warburg Effect and angiogenesis & evasion of programmed cell death (Apoptosis)	
•	Discuss the stem cell–like properties of cancer cells	
•	Discuss the effect of angiogenesis on tumor progression	
•	Discuss local Invasion and distant metastasis in neoplastic lesions	
•	Explain the molecular basis of multistep-carcinogenesis	
30	Grading, staging & clinical effects of Neoplasia	
•	Define grading and staging of tumors & cancer cachexia	
•	Classify paraneoplastic syndromes according to their clinical effects and association with various tumors	
•	Discuss different types of laboratory investigations used for diagnosis of cancer	
31	Tumor markers & carcinogenic agents	

• Define chemical carcinogenesis, radiation carcinogenesis, microbial carcinogenesis	Tutorial
• Classify chemical and radiation carcinogens according to their types and modes of action	
• Classify microbial carcinogenesis according to the viral and bacterial involvement	
• Classify Tumor Markers according to types and mode of action	

GENERAL MICROBIOLOGY

TOPICS AND OBJECTIVES		LEARNING STRATEGIES
32	Introduction to Microbiology	Interactive Lecture/ practical
	<ul style="list-style-type: none"> • Define microbiology • Differentiate between prokaryotes and eukaryotes • Discuss the types of microorganisms according to shapes and staining 	
33	Bacterial structure I	
	<ul style="list-style-type: none"> • Discuss the difference between gram-positive and gram-negative bacteria • Discuss the essential components of bacterial structure (cell wall, plasma membrane, cytoplasm, plasmid, transposons, nucleoid, mesosomes, periplasm) • Describe the different shapes & staining procedure for bacteria 	
34	Bacterial structure II and growth cycle	
	<ul style="list-style-type: none"> • Describe the non-essential components of the bacterial structure (capsule, spore, pili, plasmid, flagellum, granules, glycocalyx) • Explain the growth cycle • Differentiate between aerobic and anaerobic growth • Describe obligate intracellular growth, fermentation of sugars, iron metabolism 	
35	Bacterial genetics	
	<ul style="list-style-type: none"> • Discuss mutations • Describe the process of transfer of DNA within and between bacterial cells • Discuss the importance of recombination 	
36	Classification of Bacteria and Normal Human Microbiome	Interactive Lecture
	<ul style="list-style-type: none"> • Discuss the principles of classification. • Classify Bacteria • Discuss the normal microbiota of various areas of the body 	
37	Sterilization and Disinfection	
	<ul style="list-style-type: none"> • Discuss the principles of sterilization and disinfection • Describe the Chemical agents of disinfection • Describe the physical agents of disinfection and autoclaving 	
38	Pathogenesis I	Interactive Lecture/ Practical
	<ul style="list-style-type: none"> • Describe the principles of pathogenesis • List the types of bacterial infection • Explain the stages of bacterial pathogenesis 	

<ul style="list-style-type: none"> Discuss the determinants of bacterial pathogenesis (transmission, adherence, invasion) 	
39 Pathogenesis II	
<ul style="list-style-type: none"> Discuss the determinants of bacterial pathogenesis, (toxin production eg. exotoxin, endotoxin) 	
<ul style="list-style-type: none"> Discuss bacterial infection associated with cancer 	
<ul style="list-style-type: none"> Describe the stages of infectious disease, 	
<ul style="list-style-type: none"> Describe the importance of Koch's postulates 	
40 Host defence	
<ul style="list-style-type: none"> Discuss the principles of host defence, innate immunity (skin and mucous membrane) 	Interactive Lecture
<ul style="list-style-type: none"> Describe the processes of inflammatory response, phagocytosis and adaptive specific immunity 	
41 Bacterial Vaccines	
<ul style="list-style-type: none"> Explain the principles of bacterial vaccines 	Interactive Lecture
<ul style="list-style-type: none"> Discuss bacterial vaccines use for active and passive immunity 	
42 Antimicrobial drugs and Resistance	
<ul style="list-style-type: none"> Discuss the principles of antimicrobial drugs stewardship 	Interactive Lecture
<ul style="list-style-type: none"> Briefly discuss the mechanism of action of various antibiotics and clinical indication of 	
43 Vaccines (Bacterial)	
<ul style="list-style-type: none"> Explain the principles of bacterial vaccines 	
<ul style="list-style-type: none"> Differentiate between active immunity and passive immunity 	
44 Antimicrobial drugs	
<ul style="list-style-type: none"> Discuss the principles of antimicrobial drugs stewardship 	
<ul style="list-style-type: none"> Briefly discuss the mechanism of action of various antibiotics and clinical indication of 	
<ul style="list-style-type: none"> Discuss the concept of chemoprophylaxis and probiotics 	
<ul style="list-style-type: none"> Discuss the principles of antibiotic resistance 	
<ul style="list-style-type: none"> Discuss genetic and non-genetic basis of resistance 	
<ul style="list-style-type: none"> Discuss specific mechanisms of resistance 	
45 Gram positive cocci I	
<ul style="list-style-type: none"> Discuss the diseases and important properties of Staphylococci 	Interactive Lecture
<ul style="list-style-type: none"> Describe the transmission, pathogenesis and clinical findings of Staphylococci 	
<ul style="list-style-type: none"> Briefly discuss the treatment and prevention of Staphylococci 	
46 Gram positive cocci II	
<ul style="list-style-type: none"> Discuss the diseases and important properties of Streptococci 	
<ul style="list-style-type: none"> Describe the transmission, pathogenesis and clinical findings of Streptococci 	
<ul style="list-style-type: none"> Briefly discuss the treatment and prevention of Streptococci 	
TOPIC: VIROLOGY	
47 Basic Virology & Classification	

• Compare viruses and cells	Interactive Lecture
• Classify viruses	
• Discuss symmetry, capsid and envelope of viruses	
• Discuss atypical virus like agents	
• Discuss viral vaccines and their types related to active, passive and herd immunity	
48 Replication	
• Describe viral growth curve	Interactive Lecture
• Describe specific events during the growth cycle	
• Discuss lysogeny and its relationship in bacteria to latency in human cells	
49 Viral Pathogenesis & host defence	
• Describe transmission and portal of entry of virus	
• Differentiate pathogenesis and immunopathogenesis	
• Differentiate nonspecific defences and specific defences	
TOPIC: MYCOLOGY	
50 Basic Mycology	
• Describe the structure and growth of fungi	Practical
• Explain the mechanism of pathogenesis in fungal infections	
• Describe fungal toxins and allergies	
• Explain laboratory diagnoses and treatment of fungal infections	
TOPIC: IMMUNOLOGY	
51 Introduction & Innate immunity	
• Define immunity and its types	Interactive Lecture
• Define Innate immunity	
• Classify types of immunity according to their function especially innate immunity	
• List the components of immune system	
• Discuss the functions of immune system	
• Discuss the role of T cells, B cells, natural killer cells, macrophages in immunity	
• Discuss the specificity of the immune response and properties, component and pattern of recognition receptors	
• Discuss properties, components & pattern recognition receptors.	

52	Adaptive immunity (I)	
	<ul style="list-style-type: none"> Define adaptive immunity Classify T cells according to its types. Discuss the functions of CD4 and CD8 T cells with respect to activation, co- Discuss the effect of superantigens on T cells 	Interactive Lecture
53	Adaptive immunity (II)	
	<ul style="list-style-type: none"> Define adaptive immunity & antibody, primary response and secondary response of antibodies Discuss the mode of activation of B cells Discuss effector functions of B cells Explain the structure of antibody Classify antibodies according to types Discuss the functions of antibodies 	
54	Major Histocompatibility Complex (MHC) & transplantation	
	<ul style="list-style-type: none"> Define Major Histocompatibility Complex (MHC), transplantation & allograft rejection Classify MHC proteins according to its classes Classify types of transplant rejections Discuss the importance of MHC in transplantation Discuss HLA typing in the lab in association with transplantation 	Interactive Lecture
55	Complement System	
	<ul style="list-style-type: none"> Define complement system Discuss complement system with respect to activation and regulation Discuss the role of complement in immunity Explain the clinical aspects of complement system 	
56	Hypersensitivity I & II	
	<ul style="list-style-type: none"> Define Hypersensitivity reaction, desensitization, atopy, drug hypersensitivity Classify hypersensitivity according to its types Discuss the pathogenesis of types I & II hypersensitivity reactions Discuss various clinical presentations of type I & II hypersensitivity reactions Discuss the treatment and prevention of types I & II hypersensitivity 	Interactive Lecture
57	Hypersensitivity III & IV	
	<ul style="list-style-type: none"> Define Arthus reaction, Serum Sickness, Immune Complex Disease Discuss the pathogenesis of type III & IV hypersensitivity Explain various clinical presentations of type III & IV hypersensitivity reactions Describe the treatment and prevention of type III & IV hypersensitivity Discuss diagnostic immunology Discuss briefly agglutination & precipitations reactions, and ELISA Discuss ABO blood groups, transfusion reactions & Rh- incompatibility 	
58	Tolerance and Autoimmune Disease	

<ul style="list-style-type: none"> Define T & B cell tolerance, and autoimmunity Discuss the pathogenesis of autoimmune disease Discuss various clinical presentations of autoimmune diseases 	Interactive Lecture
59 Immunodeficiency	
<ul style="list-style-type: none"> Define immunodeficiency Classify immunodeficiency according to its types Discuss various clinical presentations of immunodeficiency diseases 	

PHARMACOLOGY

TOPICS AND OBJECTIVES	LEARNING STRATEGIES
1. Introduction to Pharmacology	
<ul style="list-style-type: none"> Discuss various branches of pharmacology and therapeutics and their applications Describe the various terminologies used in pharmacology and pharmacokinetics and dynamics 	Interactive Lecture
2. Routes of drugs administration	
<ul style="list-style-type: none"> Classify various routes of drug administration Explain the advantages and disadvantages of different routes of drug administration 	
3. Sources of drugs and their active principles	
<ul style="list-style-type: none"> Discuss various sources of drugs and explain their active principles Explain different types of drug doses and their effects 	Interactive Lecture
4. Drug Absorption and Bioavailability	
<ul style="list-style-type: none"> Discuss various processes of drug permeation through biological membranes Explain drug absorption and bioavailability and factors affecting them 	Interactive Lecture
5. Drug Distribution, Volume of Distribution (Vd) and Drug Clearance	
<ul style="list-style-type: none"> Describe drug distribution and Vd and discuss factors affecting it Discuss plasma protein binding of drugs and its influence on drug distribution 	
6. Biotransformation of drugs I and II	
<ul style="list-style-type: none"> Describe principles of drug biotransformation & metabolic reactions (Phase-I and Phase-II) Describe microsomal mixed function oxidase system and concept of enzyme induction and inhibition Explain various factors which could affect the process of drug biotransformation 	

7. Excretion of drugs, Steady State Concentration (C_{ss}) and Kinetics of Drug Elimination	
<ul style="list-style-type: none"> Define half-life, its calculation and its relationship with drug dosing Describe drug excretion List various routes of drug excretion and factors affecting it Discuss drug clearance and elimination and explain their kinetics Explain C_{ss} and its clinical application 	Interactive Lecture
8. Drug Receptors and mechanisms of drug actions (I & II)	
<ul style="list-style-type: none"> Explain types of drug receptors, their properties Discuss various molecular mechanisms by which therapeutic effect of the drugs are obtained 	Interactive Lecture
9. Dose Response relationship and factors modify it.	
<ul style="list-style-type: none"> Discuss the relationship between drug dosage and its clinical response with the help of graphical representation Describe drug potency, efficacy, therapeutic index and quantal dose-effect curve 	
10. Adverse Drug Reactions	
<ul style="list-style-type: none"> Discuss drug side effects, toxic effects and their types with examples 	Case-Based Integrated Learning (CBIL)
11. Drug-Drug Interactions	
<ul style="list-style-type: none"> Explain types of drug interactions Discuss the pharmacokinetic and pharmacodynamics drug interactions Describe potentiation, synergism, summation, additive effects and drug antagonism with examples 	
12. Introduction to Autonomic Pharmacology	
<ul style="list-style-type: none"> Give a brief overview of organization of Autonomic Nervous System, its innervations, functions, biosynthesis of neurotransmitters and their anatomic Describe autonomic receptor types and their effects caused either by activation or inhibition 	Interactive Lecture
13. Parasympathomimetic Drugs	
<ul style="list-style-type: none"> Give a brief review of cholinergic nerves, characteristics and subtypes of cholinceptors Classify cholinceptor stimulants Describe the mode of action, clinical uses and adverse effects of cholinceptor stimulants 	Small Group Discussion (SGD)/ Interactive Lecture
14. Parasympatholytic Drugs-I	
<ul style="list-style-type: none"> Classify anticholinergic drugs Describe their pharmacokinetics & pharmacodynamics, clinical uses, adverse effects and contraindications 	

15. Parasympatholytic Drugs-II (Skeletal Muscle Relaxants/ Ganglion-Blocking Drugs)	
<ul style="list-style-type: none"> Explain the basic & clinical pharmacology of skeletal muscle relaxants and ganglion-blocking drugs 	
16. Sympathomimetic Drugs	
<ul style="list-style-type: none"> Give a brief review of adrenoceptor types and their subtypes 	Interactive Lecture
<ul style="list-style-type: none"> Classify sympathomimetic drugs 	
<ul style="list-style-type: none"> Discuss their clinical uses, adverse effects and contraindications 	
17. Sympatholytic Drugs- I & II	Interactive Lecture
<ul style="list-style-type: none"> Classify alpha (α) and beta (β)-adrenoceptor antagonists 	
<ul style="list-style-type: none"> Explain pharmacokinetics and pharmacodynamics, clinical uses, adverse effects and contraindications of adrenergic antagonists 	
17. Terms & abbreviations used in pharmacology	
<ul style="list-style-type: none"> Explain the use of metric and apothecary systems of measurement in drug preparation 	Tutorial
<ul style="list-style-type: none"> Discuss various terms & abbreviations and their uses in rationale prescription 	
18. Dosage forms of drugs and Drug dosage calculations	
<ul style="list-style-type: none"> Discuss the classification, clinical usage and properties of different drug dosage forms 	Tutorial
<ul style="list-style-type: none"> Explain the various formulae used to calculate the drug dosages 	
<ul style="list-style-type: none"> Calculate the drug dosage for patients having varying ages and body weights 	
19. Standard format of prescription writing	
<ul style="list-style-type: none"> Discuss the importance and standard format of prescription writing 	Tutorial
20. Absorption, Bioavailability, Distribution and Biotransformation of Drug	
<ul style="list-style-type: none"> Explain the process of drug absorption, bioavailability, drug distribution and biotransformation and factors that could modify them 	Tutorial
21. Parasympathomimetic and Parasympatholytic drugs	
<ul style="list-style-type: none"> Discuss the classification, pharmacokinetics & pharmacodynamics of parasympathomimetic and parasympatholytic drugs 	Tutorial
22. Sympathomimetic and sympatholytic drugs	
<ul style="list-style-type: none"> Discuss the classification, pharmacokinetics and pharmacodynamics of sympathomimetic and sympatholytic drugs 	Tutorial
23. Preparation of Physiological Salt Solutions (Tyrode, Ringer, Kerb`s and De-Jalon`s solution) and Preparation of ORS and 5% dextrose solution	
<ul style="list-style-type: none"> Demonstrate the preparation of various physiological salt solutions listed above 	Practical
<ul style="list-style-type: none"> Describe their composition and experimental uses 	
<ul style="list-style-type: none"> Explain the methods of calculation for solutions preparation of different strengths used experimentally 	

<ul style="list-style-type: none"> Prepare ORS and 5% dextrose solutions along with their composition 	Practical
<ul style="list-style-type: none"> Discuss their uses in clinical practice 	
<ul style="list-style-type: none"> Explain the methods of calculation for solution preparation of different strengths used clinically 	
<ul style="list-style-type: none"> Calculate the deficit and replacement of fluids & electrolytes 	
24. Introduction to Power Lab System	
<ul style="list-style-type: none"> Identify various parts of Power Lab System 	Practical
<ul style="list-style-type: none"> Describe their functions in detail to perform relevant experiments 	
25. Effect of drugs on Rabbit's eye	
<ul style="list-style-type: none"> Demonstrate the effects of atropine, adrenaline, ephedrine and pilocarpine on rabbit's eye 	Practical
26. Effects of Drugs on the Frog's Rectus Abdominis Muscle	
<ul style="list-style-type: none"> Demonstrate effects of drugs on isolated skeletal muscle (Rectus Abdominis muscle of frog) by using Power Lab System 	Practical
<ul style="list-style-type: none"> Explain the effects of Acetylcholine, Carbachol, Methacholine acting as skeletal muscle relaxants 	

FAMILY MEDICINE

TOPICS AND OBJECTIVES	LEARNING STRATEGIES
1. Clinical posting	
<ul style="list-style-type: none"> Explain orientation steps 	Small groups Discussion
<ul style="list-style-type: none"> Explain the procedure of history taking and recording 	

RSDC

TOPICS AND OBJECTIVES	LEARNING STRATEGIES
1. Clinical posting	
<ul style="list-style-type: none"> Bleeding and soft tissue injuries 	Skills Lab
<ul style="list-style-type: none"> Body injuries 	

LONGITUDINAL CURRICULUM

TOPICS AND OBJECTIVES	LEARNING STRATEGIES
1. Research	
Data Collection: Meeting with research supervisors	Demonstration in digital lab followed by Small groups Discussion
<ul style="list-style-type: none"> Discuss various methods of data collection along with their advantages and disadvantages Collect data by using the data collection instrument within the given timeline 	
Types of data	
<ul style="list-style-type: none"> Discuss types of variables and data Identify the main variables and the data types in their research projects 	
Data Entry: Meeting with research supervisors	
Measures of Central Tendency & dispersion	
<ul style="list-style-type: none"> Calculate relevant measures of central tendency and dispersion by using SPSS 	
Summarization and display of data	
2. Patient Safety	
Foundation of Clinical practice : Professionalism & Patient Safety	Small groups Discussion
<ul style="list-style-type: none"> Discuss the importance of patient safety and clinical environment Discuss the importance of ethical practices and their relevance to patient safety List the factors affecting safety in ambulatory case settings 	
Prescription Writing Essentials for Enhanced Patient Safety	
<ul style="list-style-type: none"> Write Prescription according to prescribed protocols 	Small group Discussion
Infection prevention and Control	Skill lab
<ul style="list-style-type: none"> Demonstrate Hand hygiene technique. Demonstrate donning and doffing 	
3. Communication skills	
<ul style="list-style-type: none"> Take history using patient centered interviewing techniques 	Small group Discussion

Apart from attending daily scheduled sessions, students too should engage in self-study to ensure that all the objectives are covered



LEARNING RESOURCES

ASSESSMENT METHODS:

- MCQs (Multiple Choice Questions)
- Objective Structured Practical/Clinical Examination (OSPE or OSCE)
- MCQs and unobserved OSPE will be conducted on the LNH&MC Moodle platform
- Observed OSPE will constitute multiple examiner-based stations

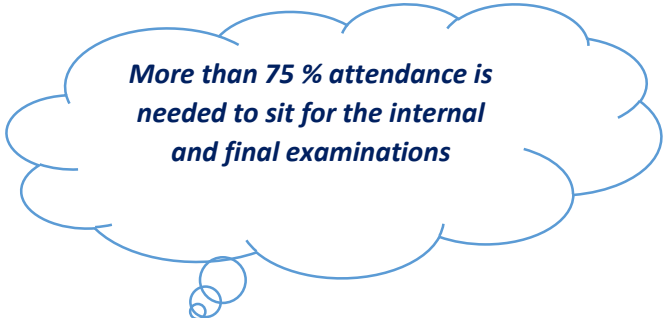
Internal Evaluation

- Students will be assessed comprehensively through multiple methods.
- 20% marks of internal evaluation will be added to JSMU final exam. That 20% includes mid-module & end of module examinations, mid-term & pre-professional examinations.

Formative Assessment

Individual departments may hold quizzes or short answer questions to help students assess their learning. The marks obtained are not included in the internal evaluation.

For JSMU Examination Policy, please consult JSMU website!



More than 75 % attendance is needed to sit for the internal and final examinations

SUBJECT	RESOURCES
COMMUNITY MEDICINE	TEXT BOOKS 1. Community Medicine by Parikh 2. Community Medicine by M Illyas 3. Basic Statistics for the Health Sciences by Jan W Kuzma
FORENSIC MEDICINE	TEXT BOOKS 1. Nasib R. Awan. Principles and practice of Forensic Medicine 1st ed. 2002. 2. Parikh, C.K. Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology. 7th ed.2005. REFERENCE BOOKS 3. Knight B. Simpson's Forensic Medicine. 11th ed.1993. 4. Knight and Pekka. Principles of forensic medicine. 3rd ed. 2004 5. Krishan VIJ. Text book of forensic medicine and toxicology (principles and practice). 4th ed. 2007 6. Dikshit P.C. Text book of forensic medicine and toxicology. 1st ed. 2010 7. Polson. Polson's Essential of Forensic Medicine. 4th edition. 2010. 8. Rao. Atlas of Forensic Medicine (latest edition). 9. Rao. Practical Forensic Medicine 3rd ed ,2007. 10. Knight: Jimpson's Forensic Medicine 10th 1991,11th ed.1993 11. Taylor's Principles and Practice of Medical Jurisprudence. 15 th ed.1999 CDs: 1. Lectures on Forensic Medicine. 2. Atlas of Forensic Medicine. WEBSITES: www.forensicmedicine.co.uk
PATHOLOGY/MICROBIOLOGY	TEXT BOOKS 1. Robbins & Cotran, Pathologic Basis of Disease, 9th edition. 2. Rapid Review Pathology, 4th edition by Edward F. Goljan MD 3. Medical Microbiology Immunology by Warren Levinson 17th edition WEBSITES: 1. http://library.med.utah.edu/WebPath/webpath.html 2. http://www.pathologyatlas.ro/
PHARMACOLOGY	TEXT BOOKS 1. Lippincot Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung

LNH&MC EXAMINATION RULES & REGULATIONS

- Student must report to examination hall/venue, 30 minutes before the exam.
- **Exam will begin sharp at the given time.**
- No student will be allowed to enter the examination hall after 15 minutes of scheduled examination time.
- Students must sit according to their roll numbers mentioned on the seats.
- **Cell phones are strictly not allowed in examination hall.**
- If any student is found with cell phone in any mode (silent, switched off or on) he/she will be not be allowed to continue their exam.
- No students will be allowed to sit in exam without University Admit Card, LNMC College ID Card and Lab Coat
- Student must bring the following stationary items for the exam: Pen, Pencil, Eraser, and Sharpener.
- Indiscipline in the exam hall/venue is not acceptable. Students must not possess any written material or communicate with their fellow students.

SCHEDULE:

3RD YEAR	Weeks
FOUNDATION II MODULE	10 Weeks
BLOOD II MODULE	7 Weeks
Mid Term Examination*	

**Final dates will be announced later*

