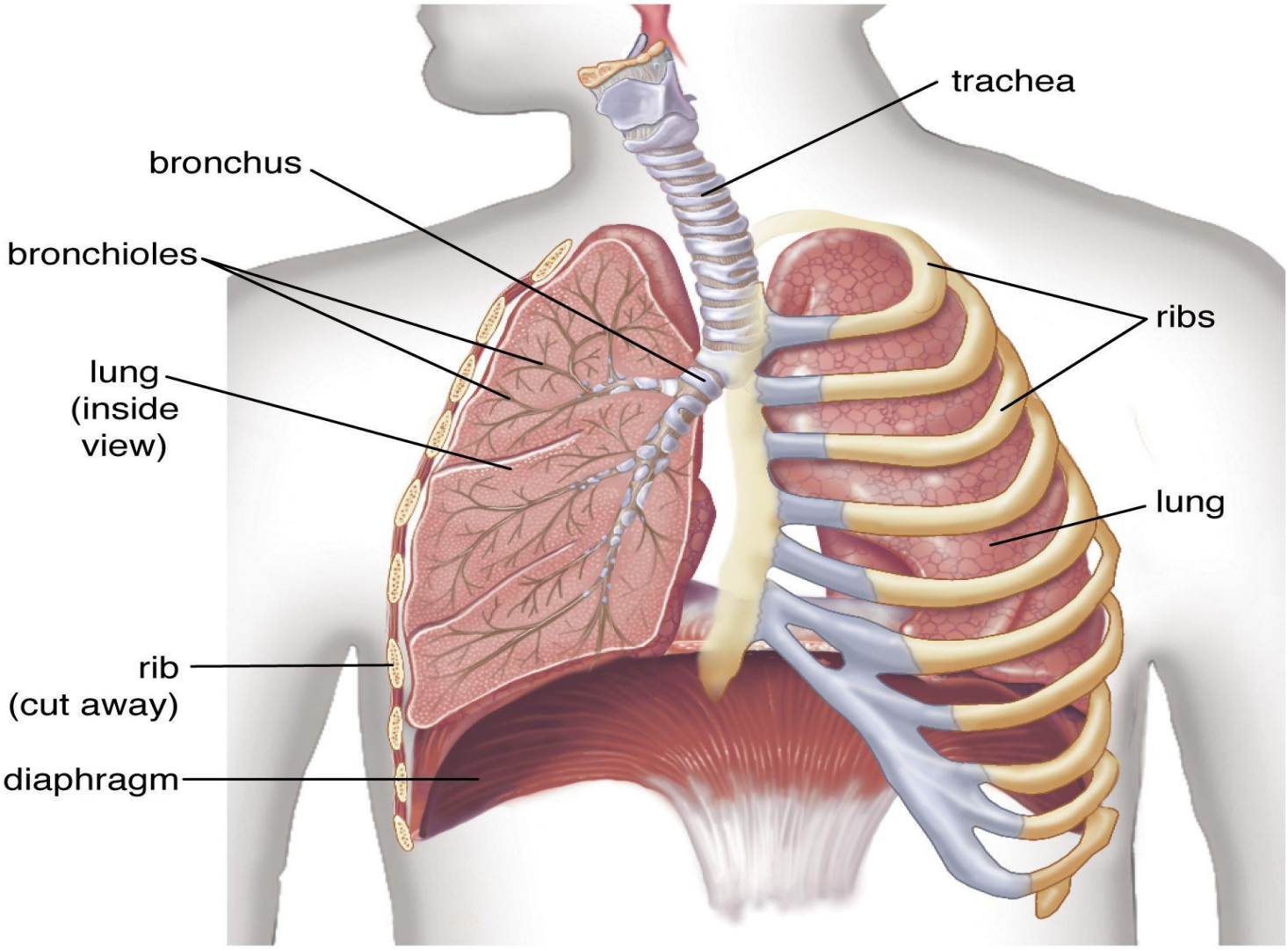
LIAQUAT NATIONAL HOSPITAL AND MEDICAL COLLEGE
Institute for Postgraduate Medical Studies & Health Science

RESPIRATORY II MODULE
29th July 2024 TO 24th August 2024



STUDY GUIDE FOR RESPIRATORY II MODULE

Module name: **Respiratory II** *Year:* ***Three*** *Duration:****4 weeks (Jul–Aug 2024)***

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

MODULE INTEGRATED COMMITTEE

MODULE COORDINATOR:	• Prof. Syed Mukkaram Ali (**Forensic Medicine**)
CO-COORDINATORS:	• Dr. Aitmaud-Ud-Daula (**Pharmacology**) • Dr. Afifa Tabassum (**DHPE**)

DEPARTMENTS & RESOURCE PERSONS

BASIC HEALTH SCIENCES
COMMUNITY MEDICINE Dr. Saima Zainab
FORENSIC MEDICINE Professor. Syed Mukkaram Ali
MICROBIOLOGY Professor Shaheen Sharafat
PATHOLOGY Professor Naveen Faridi
PHARMACOLOGY Professor Tabassum Zehra
DEPARTMENT of HEALTH PROFESSIONS EDUCATION • Professor Nighat Huda • Professor Sobia Ali • Dr. Afifa Tabassum • Dr. Yusra Nasir
LNH&MC MANAGEMENT Professor K.U. 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.
- Define 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.
- Provide 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**.**

INTEGRATED CURRICULUM comprises system-based modules such as the Locomotor system, Respiratory System, and Cardiovascular system 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 concerning clinical examples.

Case-based discussions, computer-based assignments, early exposure to clinics, wards, and skills acquisition in skills lab are characteristics of integrated teaching programs.

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 CBIL 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 to relate knowledge of basic and clinical sciences of the module and prepare for future practice.

- **CLINICAL ROTATIONS:** In small groups, students rotate in different wards like Medicine, Pediatrics, Surgery, Obs, and, 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.

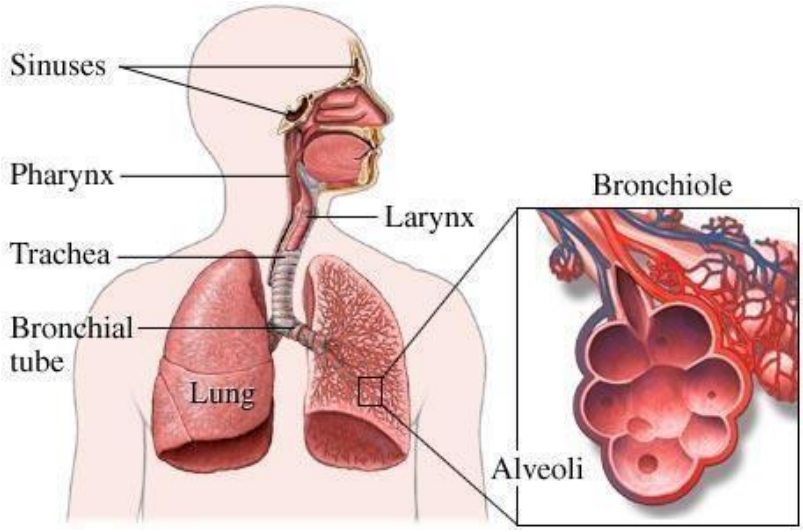
MODULE 4: RESPIRATORY II

RATIONALE

The Respiratory System II (RES II) module is designed to consolidate, and build on the First year Respiratory I module which covered basic medical sciences concepts for understanding the causes and treatment of diseases.

Tuberculosis is considered to be a major cause of ill health in Pakistan. The annual incidence rate of infectious Tuberculosis cases is estimated to be between 85-100/100,000 persons.[1]The exact prevalence of COPD in Pakistan is not known, but a large number of patients attend outpatient and emergency departments across most of the country. The socio economic burden of COPD is considerable. A part from smoking, urban air pollution is an important cause of COPD.[2]Pakistan at present falls in to a low risk lung cancer region in females and a moderate risk region for males and the highest registered increase between 1995 and 2002 was observed in the older age groups (65+).[3]

RES (II) will focus on the respiratory system, its associated diseases, treatment options, and prevention of the diseases such as obstructive lung diseases, hypersensitivity related diseases, pulmonary infections, respiratory failure and restrictive lung diseases. The community medicine learning will aim at sessions on preventive medicine and various program such as TB, DOTS and National tuberculosis control program of Pakistan. The module will enable students to relate their theoretical knowledge to real practice through common clinical presentations, case-based discussions, interactive lectures, patient interactions and simulated-based learning.



1. DeMuynck A, Siddiqi S, Ghaffar A, Sadiq H. Tuberculosis control in Pakistan: critical analysis of its implementation. J Pak Med Assoc. 2001 Jan;51(1):41-7.

2. Anwar SK, Mehmood N, Nasim N, Khurshid M, Khurshid B. Sweeper's lung disease: a cross-sectional study of an overlooked illness among sweepers of Pakistan. International journal of chronic obstructive pulmonary disease. 2013; 8:193

3. Bhurgri Y, Bhurgri A, Usman A, Sheikh N, Faridi N, Malik J, Ahmed R, Kayani N, Pervez S, Hasan SH. Patho-epidemiology of lung cancer in Karachi (1995-2002). Asian Pacific journal of cancer prevention. 2006 Jan 25;7(1):60.

COURSE OBJECTIVES AND STRATEGIES

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

COMMUNITY MEDICINE

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Introduction to Occupational health & Diseases	Tutorial
• Describe occupational health	
• Classify occupational health diseases	
• Discuss measures for prevention and control of occupational health diseases	
• Describe Lead poisoning	
2. Pneumoconioses and its prevention	
• Define pneumoconioses	
• List pneumoconioses diseases	
• Discuss the control and prevention of pneumoconioses	
3. Pulmonary tuberculosis and its prevention	
• Discuss the causative organism of tuberculosis	
• Explain why Tuberculosis remains a world-wide problem	
• List Epidemiological Indices of tuberculosis	
• Explain TB-DOTS Therapy	
• Discuss Tuberculosis situation in Pakistan	
• Discuss the control and prevention of tuberculosis	
4. Asthma and its prevention	Interactive Lecture
• Describe Asthma	
• Explain the clinical features & diagnosis criteria of Asthma	
• Discuss the control and prevention of Asthma	
5. Chicken pox and its prevention	
• Describe Chicken pox disease	
• Describe the epidemiology, clinical features and diagnosis criteria of Chicken pox	
• Discuss the control and prevention of Chicken pox	
6. Influenza and its prevention	
• Describe influenza	
• Discuss the history of Spanish flu pandemic	
• Describe the epidemiology, clinical features and diagnosis criteria of influenza	
• Discuss the control and prevention of influenza	
7. Diphtheria and its prevention	
• Discuss the epidemiology of Diphtheria	
• Explain the risk factors, consequences & clinical features of Diphtheria	
• Discuss the control and prevention of Diphtheria	
8. Measles and its prevention	
• Describe the etiology, epidemiology and clinical features of measles	

• Explain the diagnostic criteria of measles	
• Discuss the control and prevention of measles	
9. Pertussis and its prevention	
• Describe the etiology, epidemiology and clinical features of pertussis	
• Explain the diagnostic criteria of pertussis	
sedative• Discuss the control and prevention of pertussis	
10. Air Pollution	
• Discuss the situation of air pollution	
• List the sources of air pollution	
• Explain the effects of air pollution on health	
• Discuss the concept of greenhouse effects	
• Describe the concept of global warming and ozone depletion	
• Discuss the methods to control air pollution	
11. Pneumonia, SARS & COVID-19	Tutorial
• Define pneumonia	
• Classify different types of pneumonia	
• Explain the mode of transmission and predisposing factors of pneumonia	
• Describe the measures for control and prevention of Pneumonia and SARS	
• Describe COVID-19	
• Discuss the epidemiology of COVID-19	
• Explain clinical features of COVID-19	
• Describe the measures for control and prevention of COVID-19	

FORENSIC MEDICINE

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Asphyxia I	Interactive Lecture
• Define asphyxia	
• Summarize the etiology, pathophysiology and classic signs of asphyxia	
• Enumerate the different types of asphyxia and violent asphyxial deaths	
• Classify tissue anoxia according to Gordon's classification	
• List the different types of hanging	
• Explain the autopsy findings and medicolegal importance of hanging	
• Differentiate between ante-mortem and post-mortem hanging	
2. Asphyxia II	
• Diagnose strangulation, throttling, suffocation, smothering, gagging and choking based on scenarios	
• Discuss the mechanism, diagnostic features, and autopsy findings of traumatic asphyxia	
3. Asphyxia III	
• Define the types, mechanism and postmortem findings of drowning	
• Describe the causes of death due to drowning	
• Highlight the importance of diatoms in deaths by drowning	
• Define Sexual asphyxia (auto-erotic hanging)	

4. Toxicology– Organophosphate insecticides poisoning	
• List commonly used insecticides	
• Classify organophosphate compounds	
• Describe the mode of action, signs and symptoms, treatment, postmortem findings and medico legal importance of organophosphate and Carbamate poisoning	
5. Toxicology- Chloro group of insecticides (D.D.T.)	
• Describe the mode of action, signs, symptoms, treatment and postmortem findings of DDT Poisoning	
6. Spinal Poisons	Tutorial
• Describe the mode of action, signs and symptoms, treatment, postmortem findings and medico legal aspects of poisoning by Strychnine and other spinal poisons	
7. Barbiturates and tranquilizers	Interactive Lecture
• Describe the mode of action, signs and symptoms depending upon concentration in blood, treatment and postmortem findings of poisoning by Barbiturates and tranquilizers (therapeutic poisons)	
8. Toxicology- Irrespirable /Asphyxiants gases I (CO2 & Sewer gas poisoning)	Tutorial
• Describe the mode of action, signs and symptoms, treatment, postmortem findings and medico legal aspects of CO2 & sewer gas poisoning	
9. Toxicology- Irrespirable/Asphyxiants gases II (Carbon monoxide, Hydrogen sulphide and War gases poisoning)	
• List the sources of Carbon monoxide	
• Describe the mode of action, signs and symptoms, treatment, postmortem findings and medico legal aspects of Carbon monoxide and hydrogen Sulphide poisoning	
• Classify war gases	
• Describe lacrimators and their treatment	
10. Toxicology-Aluminum Phosphide & Paraquat poisoning	
• List the sources of Aluminum phosphide and Paraquat	
• Describe the mode of action, signs, symptoms, treatment, postmortem findings and medico legal aspects of Aluminum phosphide and Paraquat poisoning	
11. Toxicology Naphthalene Poisoning	
• Describe the mode of action, signs, symptoms, treatment, postmortem findings and medico legal aspects of Naphthalene poisoning	

PATHOLOGY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Congenital Anomalies of respiratory system, Atelectasis, Pulmonary edema	Interactive Lecture
• Define Atelectasis and Pulmonary edema	
• List the types of congenital anomalies, Atelectasis and Pulmonary edema	
• Describe the embryologic pathology, microscopic and clinical features of Congenital anomalies of Respiratory system	
• Discuss the classification, pathogenesis, morphology, causes and clinical features of Atelectasis and Pulmonary edema	
• Differentiate between pathogenesis of hemodynamic and micro vascular alveolar injury	

2. Acute lung injury (ALI) and acute respiratory distress syndrome (ARDS)
• Define ARDS and ALI
• List the conditions associated with development of ARDS
• Discuss pathogenesis, morphological and clinical features of ARDS / ALI
3. Obstructive lung diseases I (emphysema, chronic bronchitis)
• Define emphysema and chronic bronchitis
• Classify emphysema
• Describe the various clinical forms of emphysema.
• Discuss the etiology, pathogenesis, morphology and clinical features of emphysema and chronic bronchitis
4. Obstructive lung diseases II (asthma, and bronchiectasis)
• Define asthma and bronchiectasis
• Classify asthma
• List the causes of asthma and bronchiectasis
• Discuss the etiology, pathogenesis, morphology and clinical features of asthma and bronchiectasis
5. Chronic Interstitial restrictive lung diseases
• Define restrictive diseases of lung (idiopathic pulmonary fibrosis, Nonspecific Interstitial Pneumonia, Cryptogenic Organizing Pneumonia, pneumoconioses and Pulmonary Involvement in Autoimmune Diseases)
• Classify restrictive diseases of lung
• Discuss the etiopathogenesis, morphology and clinical features of Chronic Interstitial restrictive lung diseases (idiopathic pulmonary fibrosis, Nonspecific Interstitial Pneumonia, Cryptogenic Organizing Pneumonia, pneumoconioses and Pulmonary Involvement in Autoimmune Diseases)
6. Pneumoconioses
• Define Pneumoconioses
• List the causative agents of Pneumoconioses
• Discuss the pathogenesis, morphology and clinical features of Pneumoconioses
7. Granulomatous diseases (Sarcoidosis, hypersensitivity pneumonitis, pulmonary eosinophilia, Smoking related interstitial diseases)
• Define granulomatous diseases (Sarcoidosis)
• Classify granulomatous diseases (Sarcoidosis)
• Discuss the pathogenesis, morphology and clinical features of Granulomatous diseases
8. Pulmonary Infections (Pneumonia)
• Define pneumonia
• Classify pneumonia. (community acquired pneumonia, hospital acquired pneumonia, healthcare associated pneumonia, aspiration pneumonia, chronic pneumonia, necrotizing pneumonia and pneumonia in the immunocompromised host)
• Discuss the morphology, pathogenesis, clinical features and diagnosis of Pulmonary Infections (Pneumonia)
• Discuss briefly aspiration pneumonia and lung abscess
9. Pulmonary tuberculosis
• Define Pulmonary tuberculosis
• Discuss the morphology, pathogenesis, clinical features (primary, secondary latent and miliary) laboratory investigations of pulmonary tuberculosis

10. Lung Tumors	
• Describe lung tumors (Squamous cell carcinoma, small cell carcinoma, adenocarcinoma, large cell carcinoma)	
• Classify lung tumors according to WHO	
• Discuss the risk factors, pathogenesis, morphology, clinical features of lung tumors	
• Discuss briefly the staging & grading of carcinoma	
11. Pleural pathology (pleural effusion, Pneumothorax, pleural tumors)	Interactive Lecture/ Tutorial
• Discuss briefly pleural effusion and pneumothorax	
• Discuss the pathogenesis, morphology and clinical course of pleural tumors	
12. Pulmonary vascular diseases	Interactive Lecture
• Define pulmonary vascular diseases (pulmonary embolisms, hemorrhage, infarction, hypertension and diffuse pulmonary hemorrhage syndrome)	
• List the risk factors of pulmonary vascular disease	
• Discuss the pathogenesis, morphology and clinical features of pulmonary vascular disease	
13. Histopathology of Chronic Obstructive Pulmonary Disease (COPD)	Practical
• Discuss the histopathology of Chronic Obstructive Pulmonary Disease	
14. Histopathology of pneumonia	
• Discuss the etiology and morphology of pneumonia.	
15. Histopathology of Pulmonary Tuberculosis	
• Discuss detailed morphology and pathogenesis of Pulmonary Tuberculosis	
16. Pathology of lung tumors	
• Discuss the etiology, morphology and manifestations of lung tumors.	
17. Types of Hemolysis	
• Discuss the types of hemolysis on blood agar	
18. Acid Fast Staining	
• Discuss the principle, procedure and result of acid fast staining	

MICROBIOLOGY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Classification of streptococci and Streptococcus Pneumoniae	Interactive Lecture
• Discuss the classification of streptococci and important properties, transmission, epidemiology, & pathogenesis of Streptococcus pneumoniae	
• Describe clinical findings and laboratory diagnosis of Streptococcus pneumoniae infection	
• Discuss treatment and prevention of Streptococcus pneumoniae infection	
2. Fungi Causing Pneumonia (Coccidioides, Histoplasma, Blastomyces, Paracoccidioides, Aspergillus, Pneumocystis, Mucor and Rhizopus)	
• Discuss the properties of fungi causing systemic fungal diseases	
• Discuss the process of transmission, pathogenesis, and clinical findings of these fungal infections	
• Discuss the epidemiology of these fungal infections	
• Discuss the laboratory diagnosis, treatment and prevention of fungi causing pneumonia	

3. Mycobacterium Tuberculosis
• Discuss the important properties, transmission, epidemiology, & pathogenesis of Mycobacterium Tuberculosis and Mycobacterium Leprae
• Describe clinical findings and laboratory diagnosis of M. Tuberculosis and M. Leprae
• Discuss treatment and prevention of M. Tuberculosis and M. Leprae
4. Mycobacterium Leprae and Atypical Mycobacteria
• Discuss the important properties, transmission, epidemiology, & pathogenesis of Mycobacterium Leprae
• Describe clinical findings and laboratory diagnosis of M. Leprae
• Discuss treatment and prevention of M. Leprae
• Describe briefly Atypical Mycobacteria
5. Gram positive rods ((Corynebacterium diphtheriae and Listeria monocytogenes, Bacillus and Clostridium)
• Discuss the important properties, transmission, epidemiology, & pathogenesis of (Corynebacterium diphtheriae and Listeria monocytogenes, Bacillus and Clostridium
• Describe the clinical findings and laboratory diagnosis of infections caused by these bacteria
• Discuss treatment and prevention of Corynebacterium diphtheriae and Listeria monocytogenes, Bacillus and clostridium
6. Gram negative rods (Haemophilus, Bordetella, Legionella)
• Discuss the important properties, transmission, epidemiology, & pathogenesis of Gram negative rods
• Describe clinical findings and laboratory diagnosis of Gram negative rods
• Discuss treatment and prevention of Gram negative rods
7. Respiratory viruses (Influenza and Parainfluenza, Respiratory Syncytial virus Coxsackie, Adenoviruses, SARS AND SARS II COVID 19)
• Discuss the important properties, transmission, epidemiology, & pathogenesis of respiratory virus.
• Describe replication cycle, clinical findings and laboratory diagnosis of respiratory virus
• Discuss treatment and prevention of respiratory virus
• Discuss SARS & SARS II (COVID 19)
8. Childhood viruses (Measles, Mumps, Rubella)
• Discuss the important properties, transmission, epidemiology, & pathogenesis of childhood viruses
• Describe replication cycle, clinical findings and laboratory diagnosis of childhood viruses
• Discuss treatment and prevention of childhood viruses
9. Respiratory virus Parainfluenza (adeno, Corona, rhino)
• Discuss the important properties, transmission, epidemiology, & pathogenesis of Parainfluenza virus
• Describe replication cycle, clinical findings and laboratory diagnosis of parainfluenza virus
• Discuss treatment and prevention of parainfluenza virus
10. Bacteria causing atypical pneumonia (nocardia, actinomycetes and mycoplasma)
• Define atypical pneumonia
• Discuss the important properties, pathogenesis of Actinomycetes and Mycoplasma
• Describe clinical findings and laboratory diagnosis of Actinomycetes and Mycoplasma
• Discuss treatment and prevention of Actinomycetes and Mycoplasma

PHARMACOLOGY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Drugs used in the treatment of Bronchial Asthma & COPD	Interactive Lecture/ Tutorial
• Classify drugs used in the treatment and prevention of bronchial asthma and COPD	
• Discuss the treatment of bronchial asthma and COPD.	
• Discuss the basic and clinical pharmacology of drugs used in the treatment of bronchial asthma	
2. Drug used in the treatment of Tuberculosis and Leprosy	
• Classify anti-tuberculosis and anti-leprosy drugs	
• Discuss the therapeutic classification of Anti-Tuberculosis Therapy (ATT) according to WHO	
• Describe mode of action, toxicity and contraindications of ATT	
• Describe the drugs used in multi-drug resistant tuberculosis	
• Explain the drug management of extensive multi-drug resistant tuberculosis	
• Describe the mode of action, pharmacokinetics, toxicity, contraindications and drug-drug interactions of anti-leprosy drugs	
• Discuss anti-tuberculosis and anti-leprosy drugs with regards to their basic and clinical pharmacology	
3. Histamine & Anti-Histamines	
• Discuss the properties and role of histamine	
• Classify anti-histamines	
• Discuss their basic & clinical pharmacology	
4. Anti-Tussives & Mucolytics (Expectorants)	
• Describe the anti-tussives & mucolytic drugs	
• Discuss their basic and clinical pharmacology	
• Explain the role of anti-tussives and mucolytic drugs in respiratory tract diseases.	
• Discuss the basic and clinical pharmacology of anti-tussives and mucolytic drugs	
5. Methods of Administration of drugs in treatment of bronchial Asthma	Practical
• Demonstrate the different methods of administration of drugs used in the treatment of bronchial asthma	
• Discuss their clinical importance	
6. Effects of Histamine and Anti-histamine/Salbutamol on isolated trachea of Rabbit	
• Demonstrate the pharmacological action of histamine and anti-histamine drugs on isolated trachea of Rabbit	
• Compare these actions with Salbutamol by using Power Lab System	

LEARNING RESOURCES

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'sTextbook of Medical Juris prudence, Forensic Medicine and Toxicology. 7th ed.2005. **REFERENCE BOOKS** 3. Knight B. Simpson's Forensic Medicine. 11thed.1993. 4. KnightandPekka.Principlesofforensicmedicine.3rded.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'sEssentialofForensicMedicine.4thedition. 2010. 8. Rao. Atlas of Forensic Medicine (latest edition). 9. Rao. Practical Forensic Medicine 3rd ed ,2007. 10. Knight:Jimpson'sForensicMedicine10th1991,11thed.1993 11. Taylor's Principles and Practice of Medical Jurisprudence. 15th 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 **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

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

LNMC EXAMINATION RULES & REGULATIONS

- Students must report to the examination hall/venue, 30 minutes before the exam.
- The exam will begin sharply at the given time.
- No student will be allowed to enter the examination hall after 15 minutes of the scheduled examination time.
- Students must sit according to their roll numbers mentioned on the seats.
- Cell phones are strictly not allowed in the examination hall.
- If any student is found with a cell phone in any mode (silent, switched off, or on) he/she will not be allowed to continue their exam.
- No students will be allowed to sit in exams without University Admit Card, LNMC College ID Card, and Lab Coat.
- Students 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:

WEEKS	3RD YEAR	MONTH
4 WEEKS	RESPIRATORY II MODULE	29th July 2024
		24th August 2024
5 WEEKS	GIT II MODULE	26th August 2024
		28th September 2024
PRE PROF. EXAMINATION*		

*Final dates will be announced later