# Dow University of Health Sciences


# INFECTIOUS DISEASE MODULE

**4 weeks**

**Third Year MBBS**

# 5 YEAR CURRICULAR ORGANIZATION

<table>
<tr><th>Spiral</th><th>year</th><th colspan="5">Modules</th></tr>
<tr><td rowspan="3">First Spiral</td><td rowspan="2">I</td><td colspan="2">FND1- Foundation<br>Cell, Genetics & Cell Death<br>(Basics of Anatomy, Physiology, Biochemistry, Gen. Pathology, Gen. Pharmacology, Community Medicine & Behavioral Sciences)<br>6 Weeks</td><td>Foundation Sub Module<br>Genetics, Microbiology, Bioethics<br>2 Weeks</td><td colspan="2">HEM1- Blood Module<br>Immunity, Inflammation, Tissue repair, Antimicrobials & Neoplasia<br>8 Week</td></tr>
<tr><td colspan="3">LCM1- Locomotion<br>Bones, Joints, Nerves & Muscles, 8 weeks</td><td>RSP1- Respiratory System 4</td><td>CVS1- Cardiovascular System 4 weeks</td></tr>
<tr><td>II</td><td colspan="3">NEU1- Nervous System<br>8 weeks</td><td>HNN1- Head & Neck & Special</td><td>END1- Endocrinology 4 weeks</td></tr>
<tr><td rowspan="4">Second Spiral</td><td rowspan="2">III</td><td colspan="3">GIL 1-GIT and Liver<br>8 weeks</td><td>EXC1- Renal and Excretory System</td><td>REP1- Reproductive System 4 weeks</td></tr>
<tr><td>IDD 1- Infectious diseases 4 weeks</td><td colspan="2">HEM2- Hematology<br>4 weeks</td><td>RSP2- Respiratory System 4 weeks</td><td>CVS2- Cardiovascular System 4 weeks</td></tr>
<tr><td colspan="3">GIL 2-GIT and Liver (including Nutritional Disorders)<br>8weeks</td><td>EXC2- Renal & Excretory</td><td>END2- Endocrinology 4 weeks</td></tr>
<tr><td rowspan="2">IV</td><td colspan="2">ORT2 Orthopedics, Rheumatology, Trauma, 6 weeks<br>PMR-</td><td>Physical Medicine & Rehabilitation 2 weeks</td><td colspan="2">REP2- Reproductive System<br>8 Weeks</td></tr>
<tr><td>DPS- Dermatology Plastic Surgery / Burns 2 weeks</td><td>GEN- Genetics 1 week</td><td>NEU2- Neurosciences and Psychiatry 8 weeks</td><td>OPH / ENT* 3 week</td><td>ENT/OPH * 3 week</td></tr>
<tr><td rowspan="3">Third Spiral</td><td rowspan="3">V</td><td colspan="5">Half of the class will cover Medicine & Allied and the other half will cover Surgery & Allied modules in first half of teaching session. The two halves will exchange in latter half of year.</td></tr>
<tr><td colspan="3">Clinical Rotation 8:30 to 1:00 (with Ambulatory, Emergency, Intensive care)<br>In Medicine, Pediatrics, Cardiology and Neurology units<br>▪ Lecture on problem based approach, twice a week<br>▪ Ward tutorial twice a week<br>▪ Student research presentation once a week</td><td colspan="2">Clinical Rotation 8:30 to 1:00 (Inpatient, Ambulatory, Emergency, Intensive care and Operation Theatres)<br>In Surgery, Gynae & Obstetrics, Orthopedics and Neurosurgery.<br>▪ Lecture on problem based approach, twice a week<br>▪ Ward tutorial twice a week<br>▪ Student research presentation once a week</td></tr>
<tr><td colspan="5">PARALLEL THEMES:<br>The following themes are not part of any individual module but shall run concurrently:<br>Communication Skills, Clinical Skills, Writing and Presentation Skills, Article Writing, Ethics</td></tr>
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## RATIONALE:

Infectious diseases are the most common problems of our community. In the under developed countries, like Pakistan, infectious diseases along with malnutrition are the commonest causes of mortality. Most of the diseases are identifiable and curable if recognized early. It is important for medical graduates to have sound understanding of microbiology of the organisms and the diseases that they cause. Students should also understand the rationale of the investigations to diagnose these diseases. They should also know the pharmacology of the various drugs used to treat infectious disease and the rationale to treat the common diseases.

## TERMINAL OBJECTIVE:

Medical student, after completion of this module, should be able to:

- Describe pathogenesis & clinical presentations of common bacterial, viral, fungal & microbial infections.
- Recognize the clinical presentation of common infectious diseases in community.
- Take history & formulate appropriate plan of investigations for attaining differential diagnosis.
- Analyze findings of history, examinations & investigations for diagnosis.
- Practice basic principles of management of infectious diseases.
- Recognize preventive measures & prognosis for counseling the patients.
- Be aware of the prognosis and be able to counsel their patients accordingly.

# MODULE OBJECTIVES:

- Revisit pathophysiology and pharmacology of common infectious disorder
- Take detailed history, general physical examination and specific examination of patients with infectious diseases (Temp, Pulse, RR, rash, lymph nodes, Respiratory, GIT, CVS and CNS)
- Know the basic pathophysiology of fever, microbiology and pharmacology of common infectious diseases
- Understand the signs & symptoms of malaria, the relevant diagnostic test and their interpretation. Identify the complication of malaria (e.g. ARF, ARDS, sepsis and cerebral malaria etc.). Give appropriate treatment and should know the various drugs of malaria.
- Enlist relevant investigation their interpretation of data to reach the diagnosis. should be able to counsel and treat the patient and devise a protocol of follow up and explain the outcome to the patient. (Approach to the patient with fever - Demonstration)
- Define sepsis and SIRS and enlist its causes, describe various presentations and complications of sepsis. Approach to the patient with sepsis.
- Define fever with rash and know about different types of rash and devise some investigation and interpret the result. They should be able to treat and counsel the patient and arrange for follow up if necessary. Approach to the patient with sepsis
- Define diarrhea, types of diarrhea (acute and chronic). Enumerate various causes of both. Able to understand the basic pathophysiology causing diarrhea. (pathology) Take history and relevant examination in patients with diarrhea, utilize labs and its interpretation and able to use the drugs used in diarrhea. Define Dysentery, various organisms causing it and able to identify each on clinical grounds, and can manage by appropriate drugs to prevent it.
- Understand the life cycle of Echinococcus granulosus causing Hydatid cyst disease, its clinical features and complications and various drugs used to treat this.
- Define and describe STDs (Sexually transmitted disease) and to know about different STDs. They should be able to take relevant history and perform physical examination, enlist lab investigation, to reach the diagnosis they should be able to counsel and arrange the follow up if necessary.
- Define and describe Rabies and its clinical types. They should be able to take relevant history and perform physical examination. Enlist investigation and interpret the data for treatment and diagnosis. He should be able to counsel the attendants and explain the grave prognosis.
- Define and describe leprosy and its types, should be able to take relevant history and perform physical examination. They should be able to plan treatment and subsequent follow up. They should be able to counsel the patient and attendant because of prolonged course.
- Take history of patient with various viral hemorrhagic fevers including dengue feve and understand the severity of disease, its clinical examination. Suggest appropriate Also counsel the patient and their relatives about the course & prognosis of diseases.
- Take the history of patients which are suspected cases of HIV (Inquire about sexual &travel history etc.) understand the various types & stages of HIV. List the specific lab tests of HIV and make proper diagnosis. Treat the HIV Patient according to the current guideline and do the proper counseling.
- To Understand Basics of Forensic Medicine and Toxicology.
- To Know Various branches of Forensic Sciences and their importance and utility in civilized society, Basics of Legal system in Pakistan,Role of Forensic Medicine in crime detection and other medical, legal and ethical issues,Courts in Pakistan and their Powers

# MODULE CONTENTS:

## PHARMACOLOGY

- Antimicrobials
- Anti protozoal drugs (Malaria)
- Drug Used For Typhoid Fever
- Anti-Diarrheal & Anti-Microbial Drugs I
- Protein Synthesis Inhibitors
- Anti-Diarrheal & Anti-Microbial Drugs Ii
- Amoebic Diarrhea
- Anti viral drugs (HIV)
- Anti mycobacterial drugs ( Leprosy)
- Anti Helmintic Drugs
- Clinical uses of anti microbials (STDs)
- Typhoid Fever Management

## PATHOLOGY

- Acute & Chronic Inflammation.
- Epidemiology And Pathology Of Malaria
- Pathophysiology Of Sepsis / Sirs
- List The Specific Lab Tests Of HIV To Make Proper Diagnosis
- Leprosy
- HIv Structure And Pathogenesis
- Common Microorganisms In Relation To Fever
- Diarrhea And Dysentery: Agents Causing Diarrhea Bacterial Parasitic And Viruses (Part 1)
- Diarrhea And Dysentery: Agents Causing Diarrhea Bacterial Parasitic And Viruses (Part 2)
- Tetanus & Clostridia
- Microorganism Causing Fever With Rash: Varicella Zoster, Measles,Rubella
- Vhf & Dengue
- Worm Infestation
- Leishmaniasis, Cystisercosis
- Micro-Organisms Causing STDs
- Bacteriology Culture Techniques Pcr, Serology (P-1)/ Stool
- Diagnosis Of Pathogens On Blood Culture
- Pathogenesis Of Sepsis/ SIRS

## FORENSIC MEDICINE

- Introductory Class:
- Forensic Medicine & Sciences, Various Branches & Their Importance And Utility In Civilized Society
- Law Related To Medical Men I
- Law Related To Medical Men II
- Law Related To Medical Men III

- Organ Transplant, Euthanasia And Its Ethical Aspect
- Legal Procedure I
- Legal Procedure II
- Common medico legal cases during general practice

**COMMUNITY MEDICINE**

- Introduction Of Module
- Epidemiology Related To Infectious Diseases
- Prevention Of Typhoid, Malaria And Other All Febrile Illnesses
- Prevention And Control Of Aids And STDs
- Prevention And Control Of Vhf, Dengue, And Fever With Rash
- Prevention Of Infectious Diarrhea And Worm Infestations

**MEDICINE**

- Clinical Features, Diagnosis, Management And Complications Of STDs
- Approach To Patient With Infectious Diarrhea & Dysentery
- Diarrhea, Dysentery In Adults
- Clinical Features, Diagnosis, Management And Complications Of HIV
- Mumps, Chickenpox, Rubella, Measles
- Clinical Features, Diagnosis Management And Complications Of Sepsis/ Sirs
- Clinical Features, Diagnosis, Management And Complication Of Malaria
- Tetanus And Clostridia Infections

**PAEDIATRICS**

- Assess & Classification of the sick child & management with Diarrhea, dysentery & worm infestation
- Fever with rash and IMNCI: EPI, MMR

# TEACHING STRATIGIES

**LARGE CLASS FORMATS**

- Lectures

**SMALL GROUP DISCUSSION**

- Demonstrations
- Tutorial
- Practical
- Skill labs
- Case based learning sessions

# LEARNING OBJECTIVES OF SKILL LAB

1. **History taking skills**

**INTRODUCTION/RATIONALE:**

This is an interview with the patient / attendant with the aim of obtaining information useful in formulating a diagnosis and providing appropriate medical care to the patient.

**LEARNING OBJECTIVES:**

At the end of the session students should be able to:

Demonstrate correct method of history taking of three specific symptoms fever, diarrhea and cough.

# ASSESSMENT PLAN

# INFECTIOUS DISEASE MODULE

| | WEIGHTAGE |
|---|---|
| ANNUAL EXAM | 80% |
| MODULE EXAM<br>INTERNAL EVALUATION | |
| THEORY | 10% |
| PRACTICAL | 10% |

| CONTACT HOURS (DISCIPLINE WISE) | |
|---|---|
| **Discipline** | **Contact Hours** |
| **Pathology** | **10** |
| **Microbiology** | **9** |
| **Pharmacology** | **13** |
| **Forensic Medicine** | **8.5** |
| **Community Medicine** | **5** |
| **Paediatrics** | **2** |
| **Skill Lab** | **1.5** |
| **Medicine** | **14** |

# BOOKS

## PATHOLOGY

- Robbins Basic Pathology Kumar & Abbas 9th Edition
- Robbins & Cotran Pathologic Basis Of Disease Kumar & Abbas & Aster 9th Edition

## COMMUNITY MEDICINE

- Public Health And Community Medicine Shah, Ilyas, Ansari 7th Edition

## PHARMACOLOGY

- Lippincott's Illustrated Review Pharmacology Karen Whalen 6th Or Latest Edition
- Basic And Clinical Pharmacology Bertram G. Katzung 11th Edition

## FORENSIC MEDICINE

- Principles And Practice Of Forensic Medicine Nasib R.Awan 1 St Edition

## MEDICINE

- Principles & Practice Of Medicine Davidson's 22nd Or Latest Edition
- Essentials Of Kumar And Clark's Clinical Medicine Kumar & Clark 9th Or Latest Edition
- Macleod's Clinical Examination Douglas & Nicol & Robertson13th Or Latest Edition
- Hutchison's Clinical Methods William M Drake & Michael Glynn 23rd Or Latest Edition

## PAEDIATRICS

- Nelsons's Essentials Of Pediatrics Marcdante & Kliegman 7th Or Latest Edition

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