
# ST JOSEPH UNIVERSITY

**KANYAKUMARI MEDICAL MISSION RESEARCH CENTRE**

**ST. DEVA SAHAYAM NAGAR, MUTTOM,**

**KANYAKUMARI DIST – 629202**

## *Syllabus for*

## MBBS

## BACHELOR OF MEDICINE AND BACHELOR OF SURGERY

## PHASE-II

ACADEMIC CALENDAR

Time distribution of MBBS Teaching & Examination Schedule

| **Academic calendar for admission batch 2024-2025** | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |
| Adm year | | | | | | | | | | 1 14 Oct | 2 | 3 |
| Phase 1 exam | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 Phase 1 exam, result | 13 Phase 2 starts | 14 | 15 |
| Phase 2 exam | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 Phase 2 exam, result | 25 Phase 3 part 1 starts | 26 | 27 |
| Phase 3 part I exam | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 Phase 3 Part 1 exam, result | 37 Phase 3 part 2 starts | 38 | 39 |
| | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 |
| Phase 3 part II exam | 52 | 53 | 54 Proposed NExT step1 | 1 CRMI | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Internship | 10 | 11 | 12 Proposed NExT step2 | | | | | | | | | |

# PATHOLOGY, PHARMACOLOGY & MICROBIOLOGY

**Distribution of Subject Wise Teaching Hours for Phase -1I MBBS**

| Subjects | Large group teaching | SGT/ Practicals/ Tutorials/ Seminars | Clinical Postings* | SDL | Total |
|---|---|---|---|---|---|
| Pathology | 80 | 170 | - | 10 | 260 |
| Pharmacology | 80 | 170 | - | 10 | 260 |
| Microbiology | 75 | 143 | - | 10 | 228 |
| Community Medicine | 25 | 0 | 0 | 10 | 35 |
| FAP | 0 | 0 | 24 | | 24 |
| Forensic Medicine and Toxicology | 12 | 25 | - | 08 | 45 |
| Clinical Subjects | 60 | | 540 | - | 600 |
| AETCOM | - | 29 | - | 8 | 37 |
| Sports, Yoga & extra-curricular activities | - | - | - | 32 | 32 |
| **Final total** | **332** | **537** | **564** | **88** | **1521** |

SGT: Small group teaching ,SDL: Self-directed learning

**Pl. note: *Clinical postings shall be for 3 hours per day, Monday to Friday.**

***There will be 15 hours per week for all clinical postings.***

# Volume I-2024

# COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE

# 2024

**National Medical Commission**
**Pocket-14, Sector- 8, Dwarka**
**New Delhi 110 077**

# Contents Volume I

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N ) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| | **PATHOLOGY** **(Topics = 35, Competencies = 182)** | | | | | | |
| | **Topic 1: Introduction to Pathology** | **Number of competencies: (3)** | | | **Number of competencies that require certification : (NIL)** | | |
| PA1.1 | Describe the role of a pathologist in diagnosis and management of disease | K | K | Y | LGT | Written/ Viva voce | |
| PA1.2 | Enumerate common definitions and terms used in Pathology and Describe the history and evolution of Pathology | K | K | Y | LGT, SGT | Written/ Viva voce | |
| PA1.3 | Describe proliferation and cell cycle and concept of regenerative medicine along with role of stem cells. | K | K | Y | LGT, SGT | Written/ Viva voce | |
| | **Topic 2: Cell Injury and Adaptation** | **Number of competencies: (08)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA2.1 | Describe the causes, mechanisms, types and effects of cell injury and their clinical significance | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.2 | Describe the etiology of cell injury. Distinguish between reversible-irreversible injury: mechanisms; morphology of cell injury | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.3 | Describe morphological changes in intracellular accumulation of fats, proteins, carbohydrates, pigments | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.4 | Describe and explain Cell death- types, mechanisms, necrosis, apoptosis (basic as contrasted with necrosis), autolysis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.5 | Describe types and pathology of calcifications and gangrene | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.6 | Describe cellular adaptations: atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia and carcinoma in situ | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA2.7 | Describe the mechanisms of cellular aging and apoptosis | K | KH | N | LGT, SGT | Written/ Viva voce | |

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|---|---|---|---|---|---|---|---|
| PA2.8 | Identify and describe various forms of cell injuries with their manifestations and consequences in gross and microscopic specimens | S | SH | Y | DOAP | Viva voce | |
| | **Topic: 3 Inflammation** | **Number of competencies:(04)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA3.1 | Define and describe the general features of acute and chronic inflammation including stimuli, vascular and cellular events | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA3.2 | Enumerate and describe the mediators of acute inflammation | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA3.3 | Define and describe chronic inflammation including causes, types non-specific and granulomatous and enumerate examples of each | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA3.4 | Identify and describe acute and chronic inflammation in gross and microscopic specimens | S | SH | Y | DOAP | Viva voce | |
| | **Topic 4: Healing and repair** | **Number of competencies: (01)** | | | **Number of competencies that require certification:(NIL)** | | |
| PA4.1 | Define and describe the process of repair and regeneration including wound healing and its types | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| | **Topic 5: Hemodynamic disorders** | **Number of competencies: (06)** | | | **Number of competencies that require certification :(NIL)** | | |
| PA5.1 | Define and describe edema, its types, pathogenesis and clinical correlations | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA5.2 | Define and describe hyperemia, congestion, hemorrhage | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA5.3 | Define and describe shock, its pathogenesis and its stage | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA5.4 | Define and describe normal haemostasis and the etiopathogenesis and consequences of thrombosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA5.5 | Define and describe Ischemia/infarction, embolism its types, etiology, morphologic changes and clinical effects | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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|---|---|---|---|---|---|---|---|
| PA5.6 | Identify and describe the gross and microscopic features of infarction in a pathologic specimen | S | SH | Y | DOAP | Viva voce | |
| | **Topic 6: Neoplastic disorders** | **Number of competencies: (07)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA6.1 | Define and classify neoplasia. Describe the characteristics of neoplasia including gross, microscopy, Biological, behavior and spread. Differentiate between benign from malignant neoplasms | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.2 | Describe the molecular basis of cancer, role of genetic and epigenetic alterations with special emphasis on common cancers like breast/ colon | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.3 | Define and classify the carcinogens and describe the process of different types of carcinogenesis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.4 | Describe the effects of tumor on the host including para neoplastic syndrome | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.5 | Describe laboratory diagnosis of cancer including molecular profiles of tumors, tumors markers and future of cancer diagnostics | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA6.6 | Describe immunology and the immune response to cancer with its clinical significance – Immunotherapy | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA6.7 | Identify and describe the gross and microscopic features of Benign and malignant neoplasm in a pathologic specimen | S | SH | Y | DOAP | Viva voce | |
| | **Topic 7: Basic diagnostic cytology** | **Number of competencies:(01)** | | | **Number of competencies that require certification:(NIL)** | | |
| PA7.1 | Describe the techniques of cytology, staining & diagnostic role of cytology and its application in clinical care | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| | **Topic 8: Immunopathology and AIDS** | **Number of competencies : (06)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA8.1 | Describe the principles and mechanisms involved in immunity | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA8.2 | Describe the mechanism of hypersensitivity reaction | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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|---|---|---|---|---|---|---|---|
| PA8.3 | Describe the HLA system and the immune principles involved in transplant and mechanism of transplant rejection | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA8.4 | Define autoimmunity. Enumerate autoimmune disorder and describe the pathogenesis of common autoimmune diseases | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA8.5 | Define and describe the pathogenesis of systemic Lupus Erythematosus | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA8.6 | Define and describe the pathogenesis and pathology of HIV and AIDS | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| | **Topic 9: Amyloidosis** | **Number of competencies: (02)** | | | **Number of competencies that require certification:(NIL)** | | |
| PA9.1 | Describe the pathogenesis and pathology of amyloidosis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA9.2 | Identify and describe various forms of amyloidosis with their manifestations and consequences in gross and microscopic specimens | S | SH | Y | DOAP | Viva voce | |
| | **Topic 10: Infections and Infestations** | **Number of competencies: (05)** | | | **Number of competencies that require certification:(NIL)** | | |
| PA10.1 | Define and describe the pathogenesis and pathology of malaria | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA10.2 | Define and describe the pathogenesis and pathology of cysticercosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA10.3 | Define and describe the pathogenesis and pathology of leprosy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA10.4 | Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA10.5 | Define and describe the pathogenesis and pathology and laboratory findings in COVID | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| | **Topic 11: Genetic and pediatric diseases** | **Number of competencies: (03)** | | | **Number of competencies that require certification :(NIL)** | | |
| PA11.1 | Describe the pathogenesis and features of common cytogenetic abnormalities and mutations in with diagnostic modalities in childhood | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA11.2 | Describe the pathogenesis and pathology of tumor and tumor like conditions in infancy and childhood | K | KH | N | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N ) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| PA11.3 | Describe the pathogenesis of common storage disorders in infancy and childhood | K | KH | N | LGT, SGT | Written/ Viva voce | |
| **Topic 12: Environmental and nutritional diseases** | | **Number of competencies:(03)** | | | **Number of competencies that require certification:(NIL)** | | |
| PA12.1 | Enumerate and describe the pathogenesis of disorders caused by air pollution, tobacco, alcohol and noise | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA12.2 | Describe the pathogenesis of disorders caused by protein calorie malnutrition, vitamins and starvation | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA12.3 | Describe the pathogenesis of obesity and its consequences with special emphasis on metabolic syndrome | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| **Topic 13: Introduction to hematology** | | **Number of competencies: (04)** | | | **Number of competencies that require certification:(1)** | | |
| PA13.1 | Describe hematopoiesis and extra medullary hematopoiesis and the role of anticoagulants in hematology | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA13.2 | Define and classify anemia Enumerate and describe the investigation of anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA13.3 | Describe collection of specimens and identify coagulants and anticoagulant bulbs, instruments | S | SH` | Y | DEMO | Viva voce / OSPE | |
| PA13.4 | Perform common haematological tests – Hb, RBC count, WBC count and DLC | S | SH` | Y | DEMO | Viva voce / OSPE | 4 |
| **Topic 14: Microcytic anemia** | | **Number of competencies: (02)** | | | **Number of competencies that require certification:(1)** | | |
| PA14.1 | Describe iron metabolism and Describe the etiology, investigations and differential diagnosis of microcytic hypochromic anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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|---|---|---|---|---|---|---|---|
| PA14.2 | Identify and describe the peripheral smear in microcytic Anemia | S | SH` | Y | DEMO | Viva voce / OSPE | 1 |
| | **Topic 15: Macrocytic anemia** | **Number of competencies: (03)** | | | **Number of competencies that require certification: (1)** | | |
| PA15.1 | Describe the metabolism of Vitamin B12 and the etiology and pathogenesis of B12 deficiency and describe laboratory investigations of macrocytic anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| **Number** | **COMPETENCY**<br>**The student should be able to** | **Predominant Domain K/S/A/C** | **Level K/KH/ S H/P** | **Core (Y/N )** | **Suggested Teaching Learning method** | **Suggested Assessment method** | **Number required to certify P** |
|---|---|---|---|---|---|---|---|
| PA15.2 | Enumerate the differences and describe the etiology, laboratory features of megaloblastic anemia and distinguishing features of megaloblastic and non-megaloblastic macrocytic anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA15.3 | Identify and describe the peripheral blood picture of macrocytic Anemia | S | SH` | Y | DEMO | Viva voce / OSPE | 1 |
| | **Topic 16: Hemolytic anemia** | **Number of competencies: (03)** | | | **Number of competencies that require certification: (01)** | | |
| PA16.1 | Define and classify hemolytic anemia and describe the pathogenesis and clinical features and hematologic indices of hemolytic anemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA16.2 | Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anemia and thalassemia | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | 1 |
| PA16.3 | Describe the etiology, pathogenesis, hematologic indices and peripheral blood picture of Acquired hemolytic anemia and different hemolytic Anemia's | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | |
| | **Topic 17: Aplastic anemia** | **Number of competencies: (01)** | | | **Number of competencies that require certification:(NIL)** | | |

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|---|---|---|---|---|---|---|---|
| PA 17.1 | Describe the etiology, pathogenesis and findings in aplastic Anemia and Enumerate the indications and describe the findings in bone marrow aspiration and biopsy | K | K | N | LGT, SGT | Written/ Viva voce | |
| | **Topic 18: Leukocyte disorders** | **Number of competencies: (02)** | | | **Number of competencies that require certification:(NIL)** | | |
| PA18.1 | Enumerate and describe the causes of leukocytosis leucopenia lymphocytosis and leukemoid reactions | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA 18.2 | Describe the etiology, genetics, pathogenesis classification, features, hematologic features of acute and chronic leukemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| | **Topic 19: Lymph node and spleen** | **Number of competencies: (06)** | | | **Number of competencies that require certification:(NIL)** | | |
| PA19.1 | Enumerate the causes and describe the differentiating features of lymphadenopathy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA19.2 | Describe the pathogenesis and pathology of tuberculous Lymphadenitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| **Number** | **COMPETENCY**<br>**The student should be able to** | **Predominant Domain K/S/A/C** | **Level K/KH/ S H/P** | **Core (Y/N )** | **Suggested Teaching Learning method** | **Suggested Assessment method** | **Number required to certify P** |
|---|---|---|---|---|---|---|---|
| PA19.3 | Describe and discuss the pathogenesis, pathology and the differentiating features of Hodgkin's and non-Hodgkin's lymphoma | S | SH | Y | DOAP | Skill assessment | |
| PA19.4 | Enumerate and differentiate the causes of splenomegaly | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA19.5 | Identify and describe the features of tuberculous lymphadenitis in a gross and microscopic specimen | S | SH | Y | DOAP | Viva voce | |
| PA19.6 | Identify and describe the features of Hodgkin's lymphoma in a gross and microscopic specimen | S | SH | Y | DOAP | Viva voce | |

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|---|---|---|---|---|---|---|---|
| **Topic 20: Hemorrhagic disorders** | | **Number of competencies: (03)** | | | **Number of competencies that require certification:(NIL)** | | |
| PA20.1 | Describe normal hemostasis Classify and describe the etiology, pathogenesis and pathology of vascular and platelet disorders including ITP and hemophilia's | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA20.2 | Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of disseminated intravascular coagulation and diagnosis of Vitamin K deficiency | S | SH | Y | LGT, SGT | Written/ Viva voce | |
| PA20.3 | Define and describe its laboratory findings and diagnosis of Multiple Myeloma | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| **Topic 21: Blood banking and transfusion** | | **Number of competencies: (06)** | | | **Number of competencies that require certification: (1)** | | |
| PA21.1 | Classify and describe blood group systems (ABO and RH) | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.2 | Enumerate blood components and describe their clinical uses | S | SH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.3 | Enumerate and describe infections transmitted by blood transfusion | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.4 | Describe transfusion reactions and enumerate the steps in the investigation of a transfusion reaction | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.5 | Enumerate the indications and describe the principles and procedure of autologous transfusion | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA21.6 | Describe the correct technique to perform blood grouping Describe the correct technique to perform a cross match | S | SH` | Y | DEMO | Viva voce / OSPE | 1 |

| **Number** | **COMPETENCY<br>The student should be able to** | **Predominant Domain K/S/A/C** | **Level K/KH/ S H/P** | **Core (Y/N )** | **Suggested Teaching Learning method** | **Suggested Assessment method** | **Number required to certify P** |
|---|---|---|---|---|---|---|---|
| **Topic 22: Clinical Pathology Number of competencies: (05) Number of competencies that require certification: (2)** | | | | | | | |
| PA22.1 | Describe abnormal urinary findings in disease states and identify and describe common urinary abnormalities in a clinical specimen | S | SH | Y | DOAP | Skill Assessment | |
| PA22.2 | Describe abnormal findings in body fluids in various disease states | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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|---|---|---|---|---|---|---|---|
| PA22.3 | Describe and interpret the abnormalities in a panel containing semen analysis, thyroid function tests. | S | SH | Y | DOAP | Skill Assessment | |
| PA22.4 | Describe and interpret the abnormalities in a panel containing liver function tests | KS | KH | Y | LGT/DOAP | Written/ Viva voce/ Skill Assessment | 4 |
| PA22.5 | Describe and interpret the abnormalities in a panel containing, renal function tests | KS | KH | Y | LGT/DOAP | Written/ Viva voce/ Skill Assessment | 4 |
| **Topic 23: Gastrointestinal tract** | | **Number of competencies: (09)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA23.1 | Describe the etiology, pathogenesis, pathology and clinical features of oral cancers | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.2 | Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of carcinoma esophagus | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.3 | Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of peptic ulcer disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.4 | Describe and etiology and pathogenesis and pathologic features of carcinoma of the stomach | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.5 | Describe and etiology and pathogenesis and pathologic features of Tuberculosis of the intestine and appendicitis. | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.6 | Describe and etiology and pathogenesis and pathologic and distinguishing features of Inflammatory bowel disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.7 | Enumerate causes and describe laboratory diagnosis of malabsorption syndrome | K | KH | N | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| PA23.8 | Describe the etiology, pathogenesis, pathology and distinguishing features of carcinoma of the colon | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA23.9 | Describe and identify the microscopic features of peptic ulcer ,intestinal ulcers and tumours of GIT | S | SH | Y | DOAP | Viva voce | |
| | **Topic 24: Hepatobiliary system** | **Number of competencies: (09)** | | | **Number of competencies that require certification: (01)** | | |
| PA24.1 | Describe Bilirubin metabolism, enumerate the etiology and pathogenesis of jaundice, distinguish between direct and indirect hyper Bilirubinemia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.2 | Describe the pathophysiology and pathologic changes seen in hepatic failure and their clinical manifestations, complications and consequences | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.3 | Describe the etiology and pathogenesis of viral and toxic hepatitis: distinguish the causes of hepatitis based on the clinical and laboratory features. Describe the pathology, complications and consequences of hepatitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.4 | Describe the pathophysiology, pathology and progression of alcoholic liver disease including cirrhosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.5 | Describe the etiology, pathogenesis and complications of portal hypertension | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.6 | Interpret liver function and viral hepatitis serology panel. Distinguish obstructive from non-obstructive jaundice based on clinical features and liver function tests | S | P | Y | DOAP | Skill assessment | 1 |
| PA24.7 | Define and describe the etiology, types, pathogenesis, morphology and complications of Hepatocellular Carcinoma | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA24.8 | Describe the pathophysiology, pathology and complications of acute cholecystitis and Cholelithiasis | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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|---|---|---|---|---|---|---|---|
| PA24.9 | Describe and identify the microscopic features of liver diseases and tumors | S | SH | Y | DOAP | Viva voce | |
| | **Topic 25: Respiratory system** | **Number of competencies: (07)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA25.1 | Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.2 | Describe the etiology, gross and microscopic appearance and complications of lung abscess | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.3 | Define and describe the etiology, types, pathogenesis, stages morphology and complications and evaluation of Obstructive airway disease (OAD) and bronchiectasis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.4 | Define and describe the etiology, types, pathogenesis, stages, morphology microscopic appearance and complications of tuberculosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.5 | Define and describe the etiology, types, exposure, environmental influence, pathogenesis, stages, morphology, microscopic appearance and complications of Occupational lung disease | K | KH | Y | LGT, SGT | Written / Viva voce | |
| PA25.6 | Define and describe the etiology, types, exposure, genetic environmental influence, pathogenesis, stages, morphology, microscopic appearance, metastases and complications of tumors of the lung and pleura including mesothelioma | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA25.7 | Identify and describe the features of diseases and tumors of lung in a gross and microscopic specimen | S | SH | Y | DOAP | Viva voce | |
| | **Topic 26: Cardiovascular system** | **Number of competencies: (10)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA26.1 | Distinguish arteriosclerosis from atherosclerosis. Describe the pathogenesis and pathology of various causes and types of atherosclerosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |

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|---|---|---|---|---|---|---|---|
| PA26.2 | Describe the etiology, dynamics, pathology types and complications of aneurysms including aortic aneurysms | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.3 | Describe the etiology, types, stages pathophysiology, pathology and complications of heart failure | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.4 | Describe the etiology, pathophysiology, pathology, gross and, complications of Congenital heart disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.5 | Describe the etiology, pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.6 | Describe the epidemiology, risk factors, etiology, pathophysiology, pathology, presentations, gross and microscopic features, diagnostic tests and complications of ischemic heart disease and Interpret abnormalities in cardiac function testing in acute coronary syndromes | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.7 | Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of infective endocarditis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA26.8 | Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of pericarditis and pericardial effusion | S | SH | Y | DOAP | Skill Assessment | |
| PA26.9 | Classify and describe the etiology, types, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of cardiomyopathies | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA26.10 | Describe the etiology, pathophysiology, pathology features and complications of tumors of cardiovascular system. | K | KH | N | LGT, SGT | Written/ Viva voce | |
| | **Topic 27 : Urinary Tract** | **Number of competencies: (17)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA27.1 | Describe the normal histology of the kidney | K | K | Y | LGT, SGT | Written/ Viva voce | |
| PA27.2 | Define, classify and distinguish the clinical syndromes and describe the etiology, pathogenesis, pathology, morphology, clinical and laboratory and urinary findings, complications of renal failure | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| PA27.3 | Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings, progression and complications of acute renal failure | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.4 | Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings progression and complications of chronic renal failure | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.5 | Define and classify glomerular diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of glomerular injury, pathology, distinguishing features and clinical manifestations of glomerulonephritis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.6 | Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of IgA nephropathy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.7 | Enumerate and describe the findings in glomerular manifestations of systemic disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.8 | Enumerate and classify diseases affecting the tubular Interstitium | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.9 | Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of acute tubular necrosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.10 | Describe the etiology, pathogenesis, pathology, laboratory findings, distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.11 | Define classify and describe the etiology, pathogenesis pathology, laboratory, urinary findings, distinguishing features progression and complications of vascular disease of the kidney | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.12 | Define classify and describe the genetics, inheritance, etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features, progression and complications of cystic disease of the kidney | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N ) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| PA27.13 | Define classify and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features progression and complications of renal stone disease and obstructive uropathy | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA27.14 | Classify and describe the etiology, genetics, pathogenesis, pathology, presenting features, progression and spread of renal tumors | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA27.15 | Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of thrombotic angiopathies | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA27.16 | Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of urothelial tumors | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA27.17 | Identify and describe the features of kidney diseases and tumors in a gross and microscopic specimen | S | SH` | Y | DEMO | Viva voce / OSPE | |
| **Topic 28: Male Genital Tract** | | **Number of competencies: (06)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA28.1 | Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA28.2 | Describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the penis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA28.3 | Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, urologic findings & diagnostic tests of benign prostatic hyperplasia | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA28.4 | Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate | K | KH | Y | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N ) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| PA28.5 | Describe the etiology, pathogenesis, pathology and progression of prostatitis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA28.6 | Describe and identify the morphologic and microscopic features of diseases and tumors of male genital tract | S | SH | Y | DOAP | Viva voce | |
| **Topic 29: Female Genital Tract** | | **Number of competencies: (10)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA.29.1 | Describe the epidemiology, pathogenesis, etiology, pathology, screening, diagnosis and progression of carcinoma of the cervix | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.2 | Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the endometrium | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.3 | Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the leiomyoma and leiomyosarcomas | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.4 | Classify and describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of ovarian tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.5 | Describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of gestational trophoblastic neoplasms | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA29.6 | Describe the etiology and morphologic features of cervicitis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA29.7 | Describe the etiology, hormonal dependence, features and morphology of endometriosis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA29.8 | Describe the etiology and morphologic features of adenomyosis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA29.9 | Describe the etiology, hormonal dependence and morphology of endometrial hyperplasia | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA29.10 | Describe and identify the morphologic and microscopic features of diseases and tumors of female genital tract | S | SH | Y | DOAP | Viva voce | |
| **Topic 30: Breast** | | **Number of competencies: (05)** | | | **Number of competencies that require certification: (NIL)** | | |

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N ) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| PA30.1 | Classify and describe the types, etiology, pathogenesis, hormonal dependency of breast pathology and benign disease | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA30.2 | Classify and describe the epidemiology, pathogenesis, classification, morphologic and microscopic features, prognostic factors, hormonal dependency, staging and spread of carcinoma of the breast | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA30.3 | Describe and identify the morphologic and microscopic features of Phyllodes tumor of the breast | S | SH | N | DOAP | Skill Assessment | |
| PA30.4 | Enumerate and describe the etiology, hormonal dependency and pathogenesis of Gynaecomastia | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA30.5 | Describe and identify the morphologic and microscopic features of benign and malignant tumors of the breast | S | SH | Y | DOAP | Viva voce | |
| | **Topic 31: Endocrine system** | **Number of competencies: (10)** | | | **Number of competencies that require certification: (NIL)** | | |
| PA31.1 | Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA31.2 | Describe the etiology, cause, iodine dependency, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA31.3 | Describe the etiology, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis/ hypothyroidism | K | KH | Y | LGT, Small group | Written/ Viva voce | |
| PA31.4 | Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features & complications of Thyroid tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA31.5 | Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of diabetes mellitus | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA31.6 | Describe the etiology, genetics, pathogenesis, manifestations, laboratory and morphologic features of hyperparathyroidism | K | KH | N | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N ) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| PA31.7 | Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications and metastases of pancreatic cancer | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA31.8 | Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of adrenal insufficiency | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA31.9 | Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of Cushing's syndrome | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA31.10 | Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms | S | SH | Y | DOAP | Viva voce | |
| | **Topic 32: Bone and soft tissue** | **Number of competencies: (07)** | | | **Number of competencies** | | |
| PA32.1 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of osteomyelitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA32.2 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA32.3 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of soft tissue tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA32.4 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of Paget's disease of the bone | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA32.5 | Classify and describe the etiology, immunology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of rheumatoid arthritis | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA32.6 | Classify and describe the etiology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of Osteo arthritis and Gouty arthritis | K | KH | N | LGT, SGT | Written/ Viva voce | |

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N ) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| PA32.7 | Describe and identify the morphologic and microscopic features of diseases and tumors of bone | S | SH | Y | DOAP | Viva voce | |
| | **Topic 33: Skin** | **Number of competencies: (04)** | | | **Number of competencies that require certification:(NIL)** | | |
| PA33.1 | Describe the risk factors pathogenesis, pathology and natural history of squamous cell carcinoma of the skin | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA33.2 | Describe the risk factors pathogenesis, pathology and natural history of basal cell carcinoma of the skin | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA33.3 | Describe the distinguishing features between a nevus and melanoma. Describe the etiology, pathogenesis, risk factors morphology clinical features and metastases of melanoma | K | KH | N | LGT, SGT | Written/ Viva voce | |
| PA33.4 | Identify, distinguish and describe common tumors of the skin | S | SH | N | DOAP | Skill Assessment | |
| | **Topic 34: Central Nervous System** | **Number of competencies:(03)** | | | **Number of competencies that require certification: (01)** | | |
| PA34.1 | Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA34.2 | Classify and describe the etiology, genetics, pathogenesis, pathology, presentation sequelae and complications of CNS tumors | K | KH | Y | LGT, SGT | Written/ Viva voce | |
| PA34.3 | Identify the etiology of meningitis based on given CSF parameters | S | P | Y | DOAP | Skill Assessment | 1 |
| | **Topic 35: Eye** | **Number of competencies: (01)** | | | **Number of competencies that require certification: (NIL)** | | |

| Number | COMPETENCY<br>The student should be able to | Predominant Domain K/S/A/C | Level K/KH/ S H/P | Core (Y/N ) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P |
|---|---|---|---|---|---|---|---|
| PA35.1 | Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma | K | KH | N | LGT, SGT | Written/ Viva voce | |

**BLUEPRINT GRID FOR SETTING QUESTION PAPERS**

## Pathology Paper 1-

| Pathology Paper 1 | % weightage |
|---|---|
| Cell injury and adaptations- | 15 |
| Infection and infestation | 3 |
| Paediatrics and genetic diseases | 3 |
| Amyloidosis immunopathology & aids | 10 |
| Inflammation Healing and repair | 15 |
| Neoplasia | 10 |
| Hemodynamics | 10 |
| Environment and nutrition | 3 |
| Introduction to hematology ,anemias and Leucocytic disorders | 10 |
| Anemias- Microcytic ,macrocytic ,hemolytic and aplastic anaemia | 10 |
| Lymph node and spleen ,Plasma cell disorders and Hemorrhagic disorders | 3 |
| Blood bank and transfusion plus clinical pathology | 3 |
| AETCOM 2.1 | 5 |
| Total | 100 |

## Pathology Paper 2-

| Pathology Paper 2 | % weightage |
|---|---|
| Gastrointestinal tract | 14 |
| Hepatobiliary diseases | 10 |
| Respiratory system | 12 |
| Cardiovascular system | 12 |
| Urinary tract | 10 |
| Male genital tract | 5 |
| Female genital tract and breast | 14 |
| Endocrine disorders | 5 |
| Bone and soft tissue | 5 |
| Central nervous system , Eye ,skin | 3 |
| Basic diagnostic cytology PA 8.1-8.3 | 5 |
| AETCOM 2.7 | 5 |
| TOTAL | 100 |

PRACTICALS (80 Marks)

EXERCISES & SKILLS

| | | | |
|---|---|---|---|
| 1 | Peripheral smear staining & interpretation | 30 Minutes | 10 Marks |
| 2 | Hb Estimation | 20 Minutes | 05 Marks |
| 3 | Urine Analysis | 30 Minutes | 10 Marks |
| 4 | Histopathology slides 1 mark x 10 | 30 Minutes | 10 Marks |
| 5 | Hematology 1 mark x 5 | | 05 Marks |
| 6 | Cytology 1 mark x 5 | | 05 Marks |
| 7 | Gross Specimens 2.5 marks x 4 | 20 Minutes | 10 Marks |
| 8 | OSPE<br>OSPE Exercise<br>Blood – Grouping, Rh typing<br><br>Clinical Interpretation Skills<br>OSPE case based discussion including Interpretation of CBC report, Abnormal Semen Analysis Report, Laboratory Requisition writingfor the given Clinical case scenario. | 50 Minutes | 5 Marks<br><br><br><br>15 Marks |
| | Hematology (1), Systemic (2)<br>3 case charts x 5 marks<br><br>3) OSPE spotters – H& E, SpecialStains, IHC, Histotechniques<br>Gross specimen, Interpretation of Urine strips 5 x 1 = 5 Marks | | 5 Marks |

VIVA – 20 Marks

| | |
|---|---|
| General Pathology | 5 Marks |
| Systemic Pathology – I | 5 Marks |
| Systemic Pathology – II | 5 Marks |
| Hematology | 5 Marks |
| TOTAL | 20 Marks |

# PHARMACOLOGY

| Number | COMPETENCY<br>The student should be able to | Domain K/S/A/C | Level K/KH/SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical Integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| **PHARMACOLOGY** | | | | | | | | | |
| **KNOWLEDGE: Topic: Pharmacology** | | **Number of competencies: (64)** | | | | **Number of procedures that require certification: (NIL)** | | | |
| PH1.1 | Define and describe the principles of pharmacology and pharmacotherapeutics | K | K | Y | Lecture | Written/ Viva voce | | | |
| PH1.2 | Describe the basis of Evidence based medicine and Therapeutic drug monitoring | K | KH | Y | Lecture | Written/ Viva voce | | | |
| PH1.3 | Enumerate and identify drug formulations and drug delivery systems | K/S | SH | Y | Lecture, Practical | Written/ Viva voce | | | |
| PH1.4 | Describe absorption, distribution, metabolism & excretion of drugs | K | KH | Y | Lecture, Small Group discussion | Written/ Viva voce | | | |
| PH1.5 | Describe general principles of mechanism of drug action | K | KH | Y | Lecture, Small Group discussion | Written/ Viva voce | | | |
| PH1.6 | Describe principles of Pharmacovigilance & ADR reporting systems | K | KH | Y | Lecture, Practical | Written/ Viva voce | | | |
| PH1.7 | Define, identify and describe the management of adverse drug reactions (ADR) | K/S | KH | Y | Lecture, Practical | Written/ Viva voce | | | |
| PH1.8 | Identify and describe the management of drug interactions | K/S | KH | Y | Lecture, Practical | Written/ Viva voce | | | |
| PH1.9 | Describe nomenclature of drugs i.e. generic, branded drugs | K/S | SH | Y | Lecture, Practical | Written/ Viva voce | | | |

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|---|---|---|---|---|---|---|---|---|---|
| PH1.10 | Describe parts of a correct, complete and legible generic prescription. Identify errors in prescription and correct appropriately | K/S | SH | Y | Lecture, Practical | Written/ Viva voce | | | |
| PH1.11 | Describe various routes of drug administration, eg., oral, SC, IV, IM, SL | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | | |
| **Number** | **COMPETENCY The student should be able to** | **Domain K/S/A/C** | **Level K/KH/SH/P** | **Core (Y/N)** | **Suggested Teaching Learning method** | **Suggested Assessment method** | **Number required to certify P** | **Vertical Integration** | **Horizontal Integration** |
| PH1.12 | Calculate the dosage of drugs using appropriate formulae for an individual patient, including children, elderly and patient with renal dysfunction. | K/S | SH | Y | Lecture, practical | Written/ Viva voce | | Pediatrics, General Medicine | |
| PH1.13 | Describe mechanism of action, types, doses, side effects, indications and contraindications of adrenergic and anti-adrenergic drugs | K | KH | Y | Lecture, Small Group discussion | Written/ Viva voce | | | |
| PH1.14 | Describe mechanism of action, types, doses, side effects, indications and contraindications of cholinergic and anticholinergic drugs | K | KH | Y | Lecture, Small Group discussion | Written/ Viva voce | | | |
| PH1.15 | Describe mechanism/s of action, types, doses, side effects, indications and contraindications of skeletal muscle relaxants | K | KH | Y | Lecture | Written/ Viva voce | | Anesthesiology, Physiology | |
| PH1.16 | Describe mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs which act by modulating autacoids, including: anti-histaminics, 5-HT modulating drugs, NSAIDs, drugs for gout, anti-rheumatic drugs, drugs for migraine | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine | |
| PH1.17 | Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of local anesthetics | K | KH | Y | Lecture | Written/ Viva voce | | Anesthesiology | |
| PH1.18 | Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of general anaesthetics, and pre- anesthetic medications | K | KH | Y | Lecture | Written/ Viva voce | | Anesthesiology | |

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| PH1.19 | Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs which act on CNS, (including anxiolytics, sedatives & hypnotics, anti-psychotic, anti- depressant drugs, anti-maniacs, opioid agonists and antagonists, drugs used for neurodegenerative disorders, anti-epileptics drugs) | K | KH | Y | Lecture | Written/ Viva voce | | Psychiatry, Physiology | |
| PH1.20 | Describe the effects of acute and chronic ethanol intake | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | Psychiatry | |

| Number | COMPETENCY<br>The student should be able to | Domain K/S/A/C | Level K/KH/SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical Integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| PH1.21 | Describe the symptoms and management of methanol and ethanol poisonings | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | |
| PH1.22 | Describe drugs of abuse (dependence, addiction, stimulants, depressants, psychedelics, drugs used for criminal offences) | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | Psychiatry | Forensic Medicine |
| PH1.23 | Describe the process and mechanism of drug deaddiction | K/S | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | Psychiatry | |
| PH1.24 | Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs affecting renal systems including diuretics, antidiuretics- vasopressin and analogues | K | KH | Y | Lecture | Written/ Viva voce | | | |
| PH1.25 | Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs acting on blood, like anticoagulants, antiplatelets, fibrinolytics, plasma expanders | K | KH | Y | Lecture | Written/ Viva voce | | Physiology, General Medicine | |
| PH1.26 | Describe mechanisms of action, types, doses, side effects, indications and contraindications of the drugs modulating the renin- angiotensin and aldosterone system | K | KH | Y | Lecture | Written/ Viva voce | | Physiology, General Medicine | |
| PH1.27 | Describe the mechanisms of action, types, doses, side effects, indications and contraindications of antihypertensive drugs and drugs used in shock | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine | |

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|---|---|---|---|---|---|---|---|---|---|
| PH1.28 | Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in<br>ischemic heart disease (stable, unstable angina and myocardial infarction), peripheral vascular disease | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine | |
| PH1.29 | Describe the mechanisms of action, types, doses, side effects,<br>indications and contraindications of the drugs used in congestive heart failure | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine | |
| PH1.30 | Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the antiarrhythmics | K | KH | N | Lecture | Written/ Viva voce | | General Medicine | |

| Number | COMPETENCY<br>The student should be able to | Domain K/S/A/C | Level K/KH/SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical Integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| PH1.31 | Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in the management of dyslipidemias | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | |
| PH1.32 | Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of drugs used in bronchial asthma and COPD | K | KH | Y | Lecture, Small Group discussion | Written/ Viva voce | | Respiratory Medicine | |
| PH1.33 | Describe the mechanism of action, types, doses, side effects, indications and contraindications of the drugs used in cough (antitussives, expectorants/ mucolytics) | K | KH | Y | Lecture, Small Group discussion | Written/ Viva voce | | Respiratory Medicine | |
| PH1.34 | Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of the drugs used as below:<br>1. Acid-peptic disease and GERD<br>2. Antiemetics and prokinetics<br>3. Antidiarrhoeals<br>4 .Laxatives<br>5. Inflammatory Bowel Disease<br>6. Irritable Bowel Disorders, biliary and pancreatic diseases | K | KH | Y | Lecture, Small Group discussion | Written/ Viva voce | | General Medicine | |

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|---|---|---|---|---|---|---|---|---|---|
| PH1.35 | Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of drugs used in hematological disorders like:<br>1. Drugs used in anemias<br>2. Colony Stimulating factors | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine, Physiology | Pharmacology |
| PH1.36 | Describe the mechanism of action, types, doses, side effects, indications and contraindications of drugs used in endocrine disorders (diabetes mellitus, thyroid disorders and osteoporosis) | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine | |
| PH1.37 | Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used as sex hormones, their analogues and anterior Pituitary hormones | K | KH | Y | Lecture | Written/ Viva voce | | | |
| PH1.38 | Describe the mechanism of action, types, doses, side effects, indications and contraindications of corticosteroids | K | KH | Y | Lecture | Written/ Viva voce | | | |

| Number | COMPETENCY<br>The student should be able to | Domain K/S/A/C | Level K/KH/SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical Integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| PH1.39 | Describe mechanism of action, types, doses, side effects, indications and contraindications the drugs used for contraception | K | KH | Y | Lecture | Written/ Viva voce | | Obstetrics & Gynaecology | |
| PH1.40 | Describe mechanism of action, types, doses, side effects, indications and contraindications of 1. Drugs used in the treatment of infertility, and 2. Drugs used in erectile dysfunction | K | KH | Y | Lecture | Written/ Viva voce | | Obstetrics & Gynaecology | |
| PH1.41 | Describe the mechanisms of action, types, doses, side effects, indications and contraindications of uterine relaxants and stimulants | K | KH | Y | Lecture | Written/ Viva voce | | Obstetrics & Gynaecology | |
| PH1.42 | Describe general principles of chemotherapy | K | KH | Y | Lecture | Written/ Viva voce | | | |
| PH1.43 | Describe and discuss the rational use of antimicrobials including antibiotic stewardship program | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine, Pediatrics | Microbiology |

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|---|---|---|---|---|---|---|---|---|---|
| PH1.44 | Describe the first line antitubercular dugs, their mechanisms of action, side effects and doses. | K | KH | Y | Lecture | Written/ Viva voce | | Respiratory Medicine | |
| PH1.45 | Describe the dugs used in MDR and XDR Tuberculosis | K | KH | Y | Lecture | Written/ Viva voce | | Respiratory Medicine | Microbiology |
| PH1.46 | Describe the mechanisms of action, types, doses, side effects, indications and contraindications of antileprotic drugs | K | KH | Y | Lecture | Written/ Viva voce | | Dermatology, Venereology & Leprosy | Microbiology |
| PH1.47 | Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in malaria, KALA-AZAR, amebiasis and intestinal helminthiasis | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine | Microbiology |
| PH1.48 | Describe the mechanisms of action, types, doses, side effects, indications and contraindications of the drugs used in UTI/ STD and viral diseases including HIV | K | KH | Y | Lecture | Written/Viva voce | | | Microbiology |
| PH1.49 | Describe mechanism of action, classes, side effects, indications and contraindications of anticancer drugs | K | KH | Y | Lecture | Written/Viva voce | | | |
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| Number | COMPETENCY<br>The student should be able to | Domain K/S/A/C | Level K/KH/SH/P | Core (Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical Integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| PH1.50 | Describe mechanisms of action, types, doses, side effects, indications and contraindications of immunomodulators and management of organ transplant rejection | K | KH | Y | Lecture | Written/ Viva voce | | | |
| PH1.51 | Describe occupational and environmental pesticides, food adulterants, pollutants and insect repellents | K | KH/ | Y | Lecture | Written/ Viva voce | | | |
| PH1.52 | Describe management of common poisoning, insecticides, common sting and bites | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine | |
| PH1.53 | Descri be heavy metal poisoning and chelating agents | K | KH | N | Lecture | Written/ Viva voce | | | |

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|---|---|---|---|---|---|---|---|---|---|
| PH1.54 | Describe vaccines and their uses | K | KH | Y | Lecture | Written/ Viva voce | | | |
| PH1.55 | Describe and discuss the following National Health Programmes including Immunisation, Tuberculosis, Leprosy, Malaria, HIV, Filaria, Kala Azar, Diarrhoeal diseases, Anaemia & nutritional disorders, Blindness, Non-communicable diseases, cancer and Iodine deficiency | K | KH | Y | Lecture | Written/ Viva voce | | | Community Medicine |
| PH1.56 | Describe basic aspects of Geriatric and Pediatric pharmacology | K | KH | Y | Lecture | Written/ Viva voce | | Pediatrics | |
| PH1.57 | Describe drugs used in skin disorders | K | KH | Y | Lecture | Written/ Viva voce | | Dermatology, Venereology & Leprosy | |
| PH1.58 | Describe drugs used in Ocular disorders | K | KH | Y | Lecture | Written/ Viva voce | | Ophthalmology | |
| PH1.59 | Describe and discuss the following: Essential medicines, Fixed dose combinations, Over the counter drugs, Herbal medicines | K | KH | Y | Lecture | Written/ Viva voce | | | |
| PH1.60 | Describe and discuss Pharmacogenomics and Pharmacoeconomics | K | KH | N | Lecture | Written/ Viva voce | | | |
| PH1.61 | Describe and discuss dietary supplements and nutraceuticals | K | KH | N | Lecture | Written/ Viva voce | | | |

| **Number** | **COMPETENCY<br>The student should be able to** | **Domain K/S/A/C** | **Level K/KH/SH/P** | **Core (Y/N)** | **Suggested Teaching Learning method** | **Suggested Assessment method** | **Number required to certify P** | **Vertical Integration** | **Horizontal Integration** |
|---|---|---|---|---|---|---|---|---|---|
| PH1.62 | Describe and discuss antiseptics and disinfectants | K | KH | Y | Lecture | Written/ Viva voce | | | |
| PH1.63 | Describe Drug Regulations, acts and other legal aspects | K | KH | Y | Lecture | Written/ Viva voce | | | |
| PH1.64 | Describe overview of drug development, Phases of clinical trials and Good Clinical Practice | K | KH | Y | Lecture | Written/ Viva voce | | | |
| **SKILLS: Topic: Clinical Pharmacy** | | **Number of competencies: (04)** | | | | **Number of procedures that require certification : (NIL)** | | | |

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|---|---|---|---|---|---|---|---|---|---|
| PH2.1 | Demonstrate understanding of the use of various dosage forms (oral/local/parenteral; solid/liquid) | S/C | SH | Y | DOAP sessions | Skills assessment | | | |
| PH2.2 | Prepare oral rehydration solution from ORS packet and explain its use | S/C | SH | Y | DOAP sessions | Skills assessment | | | |
| PH2.3 | Demonstrate the appropriate setting up of an intravenous drip in a simulated environment | S | SH | Y | DOAP sessions | Skills assessment | | | |
| PH2.4 | Demonstrate the correct method of calculation of drug dosage in patients including those used in special situations | S | SH | Y | DOAP sessions | Skills assessment | | Pediatrics, General Medicine | |
| **SKILLS: Topic: Clinical Pharmacology** | | **Number of competencies: (08)** | | | | **Number of procedures that require certification : (04)** | | | |
| PH3.1 | Write a rational, correct and legible generic prescription for a given condition and communicate the same to the patient | S/C | P | Y | Skill station | Skill station | 5 | General Medicine | |
| PH3.2 | Perform and interpret a critical appraisal (audit) of a given prescription | S | P | Y | Skill Lab | Maintenance of log book | 3 | | |
| PH3.3 | Perform a critical evaluation of the drug promotional literature | S | P | Y | Skill Lab | Maintenance of log book/ Skill station | 3 | General Medicine | |
| PH3.4 | To recognise and report an adverse drug reaction | S | SH | Y | Skill station | Maintenance of log book/ Skill station | | | |

| **Number** | **COMPETENCY The student should be able to** | **Domain K/S/A/C** | **Level K/KH/SH/P** | **Core (Y/N)** | **Suggested Teaching Learning method** | **Suggested Assessment method** | **Number required to certify P** | **Vertical Integration** | **Horizontal Integration** |
|---|---|---|---|---|---|---|---|---|---|
| PH3.5 | To prepare and explain a list of P-drugs for a given case/condition | S | P | Y | Skill station | Maintenance of log book | 3 | General Medicine | |
| PH3.6 | Demonstrate how to optimize interaction with pharmaceutical representative to get authentic information on drugs | S | SH | N | Skill station | maintenance of log book | | | |
| PH3.7 | Prepare a list of essential medicines for a healthcare facility | S | SH | Y | Skill station | Maintenance of log book | | | |

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|---|---|---|---|---|---|---|---|---|---|
| PH3.8 | Communicate effectively with a patient on the proper use of prescribed medication | C/A | SH | Y | Skill Lab | Skill station | | | |
| **SKILLS: Topic: Experimental Pharmacology** | | **Number of competencies: (02)** | | | **Number of procedures that require certification :(NIL)** | | | | |
| PH4.1 | Administer drugs through various routes in a simulated environment using mannequins | S | SH | Y | DOAP sessions | Skills assessment | | | |
| PH4.2 | Demonstrate the effects of drugs on blood pressure (vasopressor and vaso-depressors with appropriate blockers) using computer aided learning | S | SH | Y | Skill lab | Skill station | | | |
| **Communication Topic: Pharmacology** | | **Number of competencies: (07)** | | | **Number of procedures that require certification : (NIL)** | | | | |
| PH5.1 | Communicate with the patient with empathy and ethics on all aspects of drug use | A/C | SH | Y | Small group discussion | skill station | | General Medicine | |
| PH5.2 | Communicate with the patient regarding optimal use of a) drug therapy, b) devices and c) storage of medicines | A/C | SH | Y | Small group discussion | Skill station | | | |
| PH5.3 | Motivate patients with chronic diseases to adhere to the prescribed management by the health care provider | A/C | SH | Y | Small group discussion | short note/skill station | | | |
| PH5.4 | Explain to the patient the relationship between cost of treatment and patient compliance | A/C | SH | Y | Small group discussion | short note/ viva voce | | General Medicine | |
| PH5.5 | Demonstrate an understanding of the caution in prescribing drugs likely to produce dependence and recommend the line of management | K | KH | Y | Small group discussion | short note/ Viva voce | | Psychiatry | |

| Number | COMPETENCY<br>The student should be able to | Domain<br>K/S/A/C | Level<br>K/KH/SH/P | Core<br>(Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical Integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| PH5.6 | Demonstrate ability to educate public & patients about various aspects of drug use including drug dependence and OTC drugs | A/C | SH | Y | Small group discussion | Skill station | | Psychiatry | |
| PH5.7 | Demonstrate an understanding of the legal and ethical aspects of prescribing drugs | K | KH | Y | Small group discussion | short note/ Viva voce | | | Forensic Medicine |

## BLUEPRINT GRID FOR SETTING QUESTION PAPERS

## PHARMACOLOGY

**PAPER I**

| SL No. | TOPICS | WEIGHTAGE % |
|---|---|---|
| 1 | General Pharmacology | 15 |
| 2. | Central Nervous System | 20 |
| 3. | Cardiovascular System | 15 |
| 4. | ANS, PNS | 15 |
| 5. | Blood, Diuretics | 10 |
| 6. | Respiratory System | 10 |
| 7. | Autocoids | 10 |
| 8. | AETCOM 2.2, 2.3 | 5 |
| | TOTAL | 100 |

**PAPER II**

| SL No. | TOPICS | WEIGHTAGE % |
|---|---|---|
| 1. | Endocrine | 25 |
| 2. | Gastrointestinal System | 15 |
| 3. | Antibiotics | 20 |
| 4. | Cancer chemotherapy | 15 |
| 5. | Miscellaneous | 20 |
| 8. | AETCOM 2.5 | 5 |
| | TOTAL | 100 |

# PRACTICAL SCHEME- PHARMACOLOGY

## TOTAL – 80 MARKS

| PRACTICALS I (40 MARKS) | |
|---|---|
| 1. Prescription Writing | 05 marks |
| 2. Prescription Audit | 10 marks |
| 3. Clinical Problem Solving | 10 marks |
| 4. Dosage Calculation | 05 marks |
| 5. Review of Drug Promotional Literature | 05 marks |
| 6. Toxicology charts | 05 marks |

| PRACTICALS II (40 MARKS) | |
|---|---|
| 1. OSPE P-Drug | 05marks |
| 2. OSPE - ADR | 02marks |
| 3. Preparation of ORS | 03marks |
| 4. AETCOM – demonstration of Routes with communication | 10 marks |
| 5. Experimental Charts Qualitative (CAL/ Charts) | 10 marks |
| 6. Clinical Pharmacology – PharmacokineticCharts | 10 marks |

# VIVA - 20 Marks

| | |
|---|---|
| GP, RS, CNS, GIT, Autocoids | 5 Marks |
| ANS, CVS, Blood, Diuretics, Therapeutic Gases, Ocular Pharmacology | 5 Marks |
| Chemotherapy<br>Dermatological Pharmacology<br>Immunomodulators | 5 Marks |
| Endocrine<br>Enzymes in Therapy<br>Vitamins, Toxicology | 5 Marks |
| Total | 20 Marks |

# MICROBIOLOGY

**Topic: General Microbiology and Immunity** **Number of competencies: (11)** **Number of procedures that require certification : (01)**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| MI1.1 | Describe the different causative agents of Infectious diseases+A208, the methods used in their detection, and discuss the role of microbes in health and disease | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | | |
| MI1.2 | Perform and identify the different causative agents of Infectious diseases by Gram Stain, ZN stain and stool routine microscopy | S | P | Y | DOAP session | Skill assessment | 5 | | |
| MI1.3 | Describe the epidemiological basis of common infectious diseases | K | KH | Y | Lecture | Written/ Viva voce | | | Community Medicine |
| MI1.4 | Classify and describe the different methods of sterilization and disinfection. Discuss the application of the different methods in the laboratory, in clinical and surgical practice | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Surgery | |
| MI1.5 | Choose the most appropriate method of sterilization and disinfection to be used in specific situations in the laboratory, in clinical and surgical practice | K | KH | Y | Small group discussion, Case discussion | Written/Viva voce/ OSPE | | General Surgery | |
| MI1.6 | Describe the mechanisms of drug resistance, and the methods of antimicrobial susceptibility testing and monitoring of antimicrobial therapy | K | K | Y | Lecture, Small group discussion | Written/ Viva voce | | | Pharmacology |
| MI1.7 | Describe the immunological mechanisms in health | K | KH | Y | Lecture | Written/ Viva voce | | | Pathology |
| MI1.8 | Describe the mechanisms of immunity and response of the host immune system to infections | K | KH | Y | Lecture | Written/ Viva voce | | Pediatrics | Pathology |

| Number | COMPETENCY<br>The student should be able to | Domain<br>K/S/A/C | Level<br>K/KH/SH/P | Core<br>(Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| MI1.9 | Discuss the immunological basis of vaccines and describe the Universal Immunisation schedule | K | KH | Y | Lecture | Written/ Viva voce | | Paediatrics | |
| MI1.10 | Describe the immunological mechanisms in immunological disorder (hypersensitivity, autoimmune disorders and immunodeficiency states) and discuss the laboratory methods used in detection. | K | KH | Y | Lecture | Written/ Viva voce | | Paediatrics | |
| MI1.11 | Describe the immunological mechanisms of transplantation and tumor immunity | K | KH | Y | Lecture | Written/ Viva voce | | | |
| **Topic: CVS and Blood** | | **Number of competencies: (7)** | | | | **Number of procedures that require certification : (NIL)** | | | |
| MI2.1 | Describe the etiologic agents in rheumatic fever and their diagnosis | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | Pathology |
| MI2.2 | Describe the classification etio-pathogenesis, clinical features and discuss the diagnostic modalities of Infective endocarditis | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | Pathology |
| MI2.3 | Identify the microbial agents causing Rheumatic Heart Disease & infective Endocarditis | S | SH | Y | DOAP session | Skill assessment | | General Medicine | Pathology |
| MI2.4 | List the common microbial agents causing anemia. Describe the morphology, mode of infection and discuss the pathogenesis, clinical course, diagnosis and prevention and treatment of the common microbial agents causing Anemia | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | Pathology |
| MI2.5 | Describe the etio-pathogenesis and discuss the clinical evolution and the laboratory diagnosis of kalaazar, malaria, filariasis and other common parasites prevalent in India | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | Pathology |
| MI2.6 | Identify the causative agent of malaria and filariasis | K/S | SH | Y | DOAP session | Skill assessment | | General Medicine | |

| Number | COMPETENCY<br>The student should be able to | Domain<br>K/S/A/C | Level<br>K/KH/SH/P | Core<br>(Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| MI2.7 | Describe the epidemiology, the etio- pathogenesis, evolution complications, opportunistic infections, diagnosis, prevention and the principles of management of HIV | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | Pathology |
| **Topic: Gastrointestinal and hepatobiliary system** | | **Number of competencies: (8)** | | | | **Number of procedures that require certification : (NIL)** | | | |
| MI3.1 | Enumerate the microbial agents causing diarrhea and dysentery. Describe the epidemiology, morphology, pathogenesis, clinical features and diagnostic modalities of these agents | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine, Paediatrics | Pathology |
| MI3.2 | Identify the common etiologic agents of diarrhea and dysentery | S | SH | Y | DOAP session | Skill assessment | | General Medicine, Paediatrics | |
| MI3.3 | Describe the enteric fever pathogens and discuss the evolution of the clinical course and the laboratory diagnosis of the diseases caused by them | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | Pharmacology, Pathology |
| MI3.4 | Identify the different modalities for diagnosis of enteric fever. Choose the appropriate test related to the duration of illness | S | KH | Y | DOAP session | Skill assessment | | General Medicine | Pathology |
| MI3.5 | Enumerate the causative agents of food poisoning and discuss the pathogenesis, clinical course and laboratory diagnosis | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | Pharmacology |
| MI3.6 | Describe the etio-pathogenesis of Acid peptic disease (APD) and the clinical course. Discuss the diagnosis and management of the causative agent of APD | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | Pharmacology, Pathology |
| MI3.7 | Describe the epidemiology, the etio-pathogenesis and discuss the viral markers in the evolution of Viral hepatitis. Discuss the modalities in the diagnosis and prevention of viral hepatitis | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | Pathology |

| Number | COMPETENCY<br>The student should be able to | Domain<br>K/S/A/C | Level<br>K/KH/SH/P | Core<br>(Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| MI3.8 | Choose the appropriate laboratory test in the diagnosis of viral hepatitis with emphasis on viral markers | K | KH | Y | Small group discussion, Case discussion | Written/ Viva voce/ OSPE | | General Medicine | Pathology |
| **Topic: Musculoskeletal system skin and soft tissue infections** | | **Number of competencies: (3)** | | | | **Number of procedures that require certification : (NIL)** | | | |
| MI4.1 | Enumerate the microbial agents causing anaerobic infections. Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of anaerobic infections | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine | |
| MI4.2 | Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of bone & joint infections | K | KH | Y | Lecture | Written/ Viva voce | | Orthopaedics | |
| MI4.3 | Describe the etio-pathogenesis of infections of skin and soft tissue and discuss the clinical course and the laboratory diagnosis | K | KH | Y | Lecture | Written/ Viva voce | | Dermatology, Venereology & Leprosy, General Surgery | |
| **Topic: Central Nervous System infections** | | **Number of competencies: (3)** | | | | **Number of procedures that require certification : (NIL)** | | | |
| MI5.1 | Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of meningitis | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine, Pediatrics | Pathology |
| MI5.2 | Describe the etiopathogenesis, clinical course and discuss the laboratory diagnosis of encephalitis | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine, Pediatrics | Pathology |
| MI5.3 | Identify the microbial agents causing meningitis | S | SH | Y | DOAP session | Skill assessment | | General Medicine, Pediatrics | |
| **Topic: Respiratory tract infections** | | **Number of competencies: (3)** | | | | **Number of procedures that require certification : (02)** | | | |
| MI6.1 | Describe the etio-pathogenesis, laboratory diagnosis and prevention of Infections of upper and lower respiratory tract | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | |

| Number | COMPETENCY<br>The student should be able to | Domain<br>K/S/A/C | Level<br>K/KH/SH/P | Core<br>(Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| MI6.2 | Identify the common etiologic agents of upper respiratory tract infections (Gram Stain) | S | P | Y | DOAP session | Skill assessment | 3 | General Medicine | |
| MI6.3 | Identify the common etiologic agents of lower respiratory tract infections (Gram Stain & Acid fast stain) | S | P | Y | DOAP session | Skill assessment | 3 | General Medicine | |
| **Topic: Genitourinary & Sexually transmitted infections** | | **Number of competencies: (3)** | | | | **Number of procedures that require certification : (NIL)** | | | |
| MI7.1 | Describe the etio-pathogenesis and discuss the laboratory diagnosis of infections of genitourinary system | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Surgery | |
| MI7.2 | Describe the etio-pathogenesis and discuss the laboratory diagnosis of sexually transmitted infections. Recommend preventive measures | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | Dermatology, Venereology & Leprosy, Obstetrics & Gynaecology | |
| MI7.3 | Describe the etio-pathogenesis, clinical features, the appropriate method for specimen collection, and discuss the laboratory diagnosis of Urinary tract infections | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | |
| **Topic: Zoonotic diseases and miscellaneous** | | **Number of competencies: (16)** | | | | **Number of procedures that require certification : (01)** | | | |
| MI8.1 | Enumerate the microbial agents and their vectors causing Zoonotic diseases. Describe the morphology, mode of transmission, pathogenesis and discuss the clinical course, laboratory diagnosis and prevention | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine | |
| MI8.2 | Describe the etio-pathogenesis of opportunistic infections (OI) and discuss the factors contributing to the occurrence of OI, and the laboratory diagnosis | K | KH | Y | Lecture | Written/ Viva voce | | General Medicine | Pathology |
| MI8.3 | Describe the role of oncogenic viruses in the evolution of virus associated malignancy | K | KH | Y | Lecture | Written | | General Medicine | Pathology |

| Number | COMPETENCY<br>The student should be able to | Domain<br>K/S/A/C | Level<br>K/KH/SH/P | Core<br>(Y/N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| MI8.4 | Describe the etiologic agents of emerging Infectious diseases. Discuss the clinical course and diagnosis | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine, Community Medicine | |
| MI8.5 | Define Healthcare Associated Infections (HAI) and enumerate the types. Discuss the factors that contribute to the development of HAI and the methods for prevention | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | General Medicine, Community Medicine | |
| MI8.6 | Describe the basics of Infection control | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | | Community Medicine |
| MI8.7 | Demonstrate Infection control practices and use of Personal Protective Equipments (PPE) | S | P | Y | DOAP session | Skill assessment | 3 each in (Hand hygiene & PPE) | General Surgery | Community Medicine |
| MI8.8 | Describe the methods used and significance of assessing the microbial contamination of food, water and air | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | | |
| MI8.9 | Discuss the appropriate method of collection of samples in the performance of laboratory tests in the detection of microbial agents causing infectious diseases | K | KH | Y | Lecture, Small group discussion | Written/ Viva voce | | | |
| MI8.10 | Demonstrate the appropriate method of collection of samples in the performance of laboratory tests in the detection of microbial agents causing Infectious diseases | S | SH | Y | DOAP session | Skill assessment | | | |
| MI8.11 | Demonstrate respect for patient samples sent to the laboratory for performance of laboratory tests in the detection of microbial agents causing Infectious diseases | A | SH | Y | DOAP session | Skill assessment | | | |
| MI8.12 | Discuss confidentiality pertaining to patient identity in laboratory results | A | KH | Y | Lecture, Small group discussion | Viva voce | | | |
| MI8.13 | Choose the appropriate laboratory test in the diagnosis of the infectious disease | K | KH | Y | Small group discussions, Case discussion | Written/<br>Viva voce/ OSPE | | | |

| Number | COMPETENCY<br>The student should be able to | Domain K/S/A/C | Level K/KH/SH/ P | Core (Y/ N) | Suggested Teaching Learning method | Suggested Assessment method | Number required to certify P | Vertical integration | Horizontal Integration |
|---|---|---|---|---|---|---|---|---|---|
| MI8.14 | Demonstrate confidentiality pertaining to patient identity in laboratory results | A | SH | Y | DOAP session | Skill assessment | | AETCOM | |
| MI8.15 | Choose and Interpret the results of the laboratory tests used in diagnosis of the infectious diseas | K/S | SH | Y | Small group discussion, Case discussion | Written/ Viva voce/ OSPE | | | |
| MI8.16 | Describe the National Health Programs in the prevention of common infectious disease (for information purpose only as taught in CM) | K | K | Y | Lecture | Written/ Viva voce | | | Community Medicine |
| | *causative agents of Infectious diseases are inclusive of bacterial, viral, parasites and fungal agents causing various clinical conditions. | | | | | | | | |
| | **Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform.**<br>**Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation** | | | | | | | | |

## BLUEPRINT GRID FOR SETTING QUESTION PAPERS

## MICROBIOLOGY

**PAPER I**

| SL No. | TOPICS | WEIGHTAGE % |
|---|---|---|
| 1 | General Microbiology | 30 |
| 2. | Immunology | 15 |
| 3. | Hospital infection control | 10 |
| 4. | Zoonotic diseases & miscellaneous | 25 |
| 5. | Skin & soft tissue infection (SST) and Musculoskeletal system infections | 15 |
| 6. | AETCOM 2.1 | 5 |
| | TOTAL | 100 |

**PAPER II**

| SL No. | TOPICS | WEIGHTAGE % |
|---|---|---|
| 1. | CVS & blood stream infection | 20 |
| 2. | Respiratory tract infection | 20 |
| 3. | Genitourinary & sexually transmitted infections | 15 |
| 4. | Gastrointestinal & hepatobiliary system | 20 |
| 5. | Central Nervous system infections | 20 |
| 6. | AETCOM 2.8 | 5 |
| | TOTAL | 100 |

## MICROBIOLOGY - PRACTICALS (80 Marks)

| | | |
|---|---|---|
| 1 | Gram staining | 16 Marks |
| 2 | AFB Staining | 16 Marks |
| 3 | Bacteriology | 06 Marks |
| 4 | Immuno Serology | 06 Marks |
| 5 | Parasitology | 06 Marks |
| 6 | Mycology | 06 Marks |
| 7 | Virology | 06 Marks |
| | For problem solving exercise no.3 to 7, Clinical case scenario to be given for identification of thedisease causing agent and interpretation of Immuno-serology. | |
| 8 | Spotters | 10 Marks |
| 9 | OSPE<br>(any two of the following) Hand Hygiene<br>Bio Medical Waste Management Donning/Doffing<br>Interpretation of Antibiotic Sensitivity Testing | 2 X 4 MARKS = 8 |
| | Laboratory Requisition writing for the givenclinical case scenario<br>Specimen Collection (any one of thefollowing) Blood Naso-Pharyngeal Swab<br>Wound Swab<br>Urine sample collection from indwellingcatheter | |

VIVA – 20 Marks

| | |
|---|---|
| General Bacteriology and Immunology | 5 Marks |
| Blood stream infections, CVS,GIT and Hepato Biliary System | 5 Marks |
| Respiratory System, Genitourinary System and STD | 5 Marks |
| Skin and soft tissue, CNS, HAI, BMW and Antimicrobial Susceptibility | 5 Marks |
| TOTAL | 20 Marks |

# CLINICAL POSTING

**Clinical Posting Schedule** for **100 MBBS students** from

**October 2025 to September 2026**

| Department | Weeks |
|---|---|
| General Medicine | 8 |
| General Surgery | 6 |
| Obstetrics & Gynaecology | 6 |
| Paediatrics | 4 |
| Otorhinolaryngology (ENT) | 4 |
| Ophthalmology | 4 |
| Community Medicine | 4 |
| **Total** | **36 weeks** |

**36 weeks of clinical postings — a perfect fit for 9 months (October–June), leaving July–September free for revisions, electives, exams, or backlog adjustments.**

## Batch Rotation Plan

Split 100 students into **5 batches** of 20 students (A, B, C, D, E). Each batch rotates through all departments.

### Clinical Posting Cycle

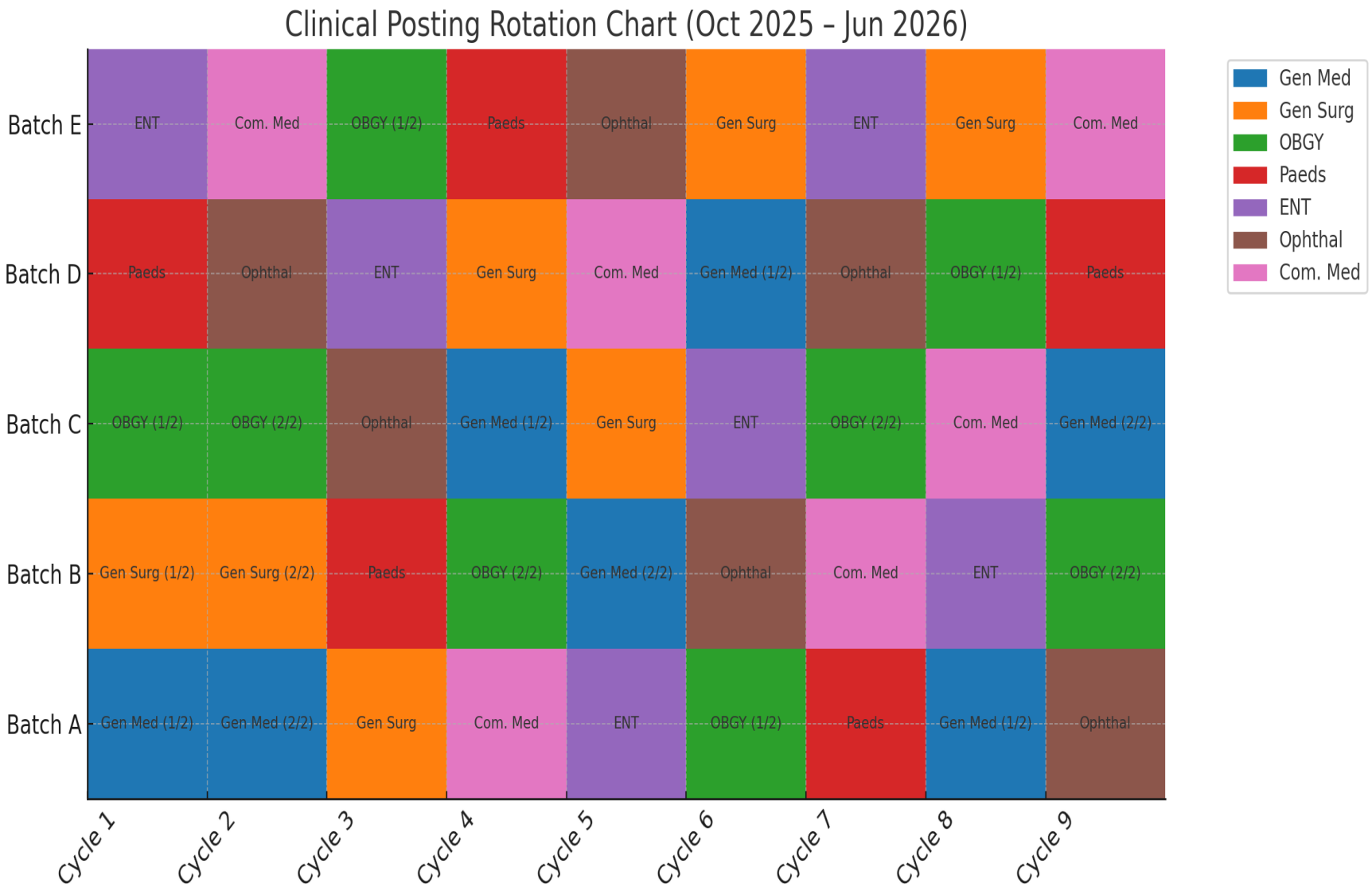
Each posting cycle = 4 weeks (1 month), repeated 9 times to cover 36 weeks.

| Cycle | Dates | Batch A | Batch B | Batch C | Batch D | Batch E |
|---|---|---|---|---|---|---|
| 1 | 1st Oct – 28th Oct | Gen Med (1/2) | Gen Surg (1/2) | OBGY (1/2) | Paeds | ENT |
| 2 | 29th Oct – 25th Nov | Gen Med (2/2) | Gen Med(1/2) | Paed | Ophthal | Com. Med |
| 3 | 26th Nov – 23rd Dec | Gen Surg(1/2) | Paeds | Ophthal | ENT | OBGY (1/2) |
| 4 | 24th Dec – 20th Jan | Com. Med | OBGY (1/2) | Gen Med(1/2) | Gen Surg(1/2) | Paeds |
| 5 | 21st Jan – 17th Feb | ENT | Gen Med(2/2) | Gen Surg(1/2) | Com. Med | Ophthal |
| 6 | 18th Feb – 17th Mar | OBGY (1/2) | Ophthal | ENT | Gen Med(1/2) | Gen Surg(1/2) |
| 7 | 18th Mar – 14th Apr | Paeds | Com. Med | Gen. surg/OG | Gen Med(2/2) | OBGY/Gen. surg |
| 8 | 15th Apr – 12th May | Gen. surg /OG | ENT | Com. Med | OBGY (1/2) | Gen Med(1/2) |
| 9 | 13th May – 9th Jun | Ophthal | Gen. surg/OG | Gen Med(2/2) | OG/Gen. surg | Gen. Med(2/2) |

Gen. surg/ OG: 2 weeks per subject in the respective order.

Timing: 10AM – 01 PM (clinical).

- Internal **Assessments**: After every cycle
- Logbooks to be maintained per posting


Clinical Posting Rotation Chart (Oct 2025 – Jun 2026)
Batch E
Batch D
Batch C
Batch B
Batch A
ENT
Com. Med
OBGY (1/2)
Paeds
Ophthal
Gen Surg
ENT
Gen Surg
Com. Med
Paeds
Ophthal
ENT
Gen Surg
Com. Med
Gen Med (1/2)
Ophthal
OBGY (1/2)
Paeds
OBGY (1/2)
OBGY (2/2)
Ophthal
Gen Med (1/2)
Gen Surg
ENT
OBGY (2/2)
Com. Med
Gen Med (2/2)
Gen Surg (1/2)
Gen Surg (2/2)
Paeds
OBGY (2/2)
Gen Med (2/2)
Ophthal
Com. Med
ENT
OBGY (2/2)
Gen Med (1/2)
Gen Med (2/2)
Gen Surg
Com. Med
ENT
OBGY (1/2)
Paeds
Gen Med (1/2)
Ophthal
Cycle 1
Cycle 2
Cycle 3
Cycle 4
Cycle 5
Cycle 6
Cycle 7
Cycle 8
Cycle 9
Gen Med
Gen Surg
OBGY
Paeds
ENT
Ophthal
Com. Med

| Month | Cycle | Posting Dates |
|---|---|---|
| Oct 2025 | 1 | 1 Oct – 28 Oct |
| Nov 2025 | 2 | 29 Oct – 25 Nov |
| Dec 2025 | 3 | 26 Nov – 23 Dec |
| Jan 2026 | 4 | 24 Dec – 20 Jan |
| Feb 2026 | 5 | 21 Jan – 17 Feb |
| Mar 2026 | 6 | 18 Feb – 17 Mar |
| Apr 2026 | 7 | 18 Mar – 14 Apr |
| May 2026 | 8 | 15 Apr – 12 May |
| Jun 2026 | 9 | 13 May – 9 Jun |

**Learner- Doctor programme (Clinical Clerkship)**

| **Year of Curriculum** | **Focus of Learner-Doctor programme** |
|---|---|
| Phase-I | Introduction to hospital environment, early clinical exposure, understanding perspectives of illness, family adoption program |
| Phase-II | History taking, physical examination, assessment of change in clinical status, communication and patient education, family adoption program |
| Phase-III Part -1 | All of the above and choice of investigations, basic procedures and continuity of care |
| Phase-III Part -2 | All of the above (except Family adoption programme) and decision making, management and outcomes |

# MASTER TIMETABLE

**KMMC Medical College and Hospitals, Muttom, Kanyakumari**

Timetable for Phase II MBBS – Batch of 2024

The timetable for Phase II is divided into 3 blocks, of 3 months each.

## First block of 3 months (October 2025 to December 2025)

| **Day** | **8 – 9 am** | **9 – 10 am** | **10 am – 1 pm** | **1 – 2pm** | **2 – 4 pm** |
|---|---|---|---|---|---|
| Monday | Pathology | CM/FMT[a] | Clinical Postings | Lunch | Practicals |
| Tuesday | Pharmacology | GM/ Ophthal[b] | | | Practicals |
| Wednesday | Microbiology | Pathology | | | Practicals |
| Thursday | Pharmacology | OBG/Paediatrics[c] | | | SDL/SGT<br>CM/FMT[d] |
| Friday | Microbiology | GS / ENT[e] | | | Integrated Seminar/AETCOM/SGT[f] |
| Saturday | SDL | **9-11am** | **11 am to 1 pm** | | Seminar / Extra-curricular activities |
| | | Tutorials | Assessment | | |

# Second block: Jan 2026 to March 2026

| **Day** | **8 – 9 am** | **9 – 10 am** | **10 am – 1 pm** | **1 – 2pm** | **2 – 4 pm** |
|---|---|---|---|---|---|
| Monday | Pathology | CM/FMT[a] | Clinical Postings | Lunch | Practicals |
| Tuesday | Pharmacology | GM/ Ophthal[b] | | | Practicals |
| | | Microbiology/Ophthal[*] | | | |
| Wednesday | Microbiology | Pharmacology | | | Practicals |
| Thursday | Pathology | OBG/Paediatrics[c] | | | FMT – Jan & Feb<br>SGT[#] from March |
| | | Pharmacology / Paediatrics[**] | | | |
| Friday | Microbiology | GS / ENT[e] | | | Integrated Seminar/AETCOM/SGT[f] |
| | | Pathology / ENT [***] | | | |
| Saturday | SDL | **9-11am** | **11 am to 1 pm** | | Seminar / Extra-curricular activities |
| | | Tutorials | Assessment | | |

# Third block: April 2026 to June 2026

| **Day** | **8 – 9 am** | **9 – 10 am** | **10 am – 1 pm** | **1 – 2pm** | **2 – 4 pm** |
|---|---|---|---|---|---|
| Monday | Pathology | CM/FMT[a] | Clinical Postings | Lunch | Practicals |
| Tuesday | Pharmacology | Microbiology | | | Practicals |
| Wednesday | Microbiology | Microbiology | | | Practicals |
| Thursday | Pathology | Pharmacology | | | SGT[#] / Sports |
| Friday | Pharmacology | Pathology | | | Integrated Seminar/ AETCOM/SGT[f]/sports |
| | | | | | LGT[$] (May & June) |
| Saturday | SDL | **9-11am** | **11 am to 1 pm** | | Seminar / Extra-curricular activities |
| | | Tutorials | Assessment | | |

- [a]. CM – 1st, 3rd and 5th week, FMT – 2nd and 4th week
- [b]. General Medicine - 1st, 2nd , 3rd and 5th week, Ophthalmology – 4th week
- [c]. OBG - 1st, 2nd , 3rd and 5th week, Paediatrics – 4th week
- [d]. FMT – 1st, 2ndand 3rd week; CM- 4th and 5th week
- [e]. General Surgery - 1st, 2nd , 3rd and 5th week, ENT – 4th week

- [f]. Fridays 2-4pm
    - Integrated Seminar on 1st week of every month. Phase II subjects (Pathology in October, January & April; Pharmacology in November, February & May and Microbiology in December, March & June) will handle in rotation basis.
    - AETCOM: 2nd week – Pathology, 3rd week – Pharmacology and 4th week – Microbiology
    - 5th week SGT: October – Pathology, January – Pharmacology, April – Microbiology
- $ Fridays 2-4pm from May 2026 – LGT on Pathology – 1st , 4th week, Pharmacology – 2nd week, Microbiology – 3rd week.
- Saturdays

<table>
<tr><td>Week</td><td>Department</td><td>8am – 1pm</td><td>2pm – 4 pm</td></tr>
<tr><td rowspan="2">First</td><td>October 2025 to January 2026<br>Community Medicine</td><td colspan="2">SDL (8-10am)<br>FAP (10 am – 4 pm)</td></tr>
<tr><td>Feb 2026 – Pathology<br>March 2026 – Pharmacology<br>April 2026 – Microbiology<br>May 2026 – Pathology<br>June 2026 - Pharmacology</td><td>SDL, Tutorials, and SGT</td><td>Seminar</td></tr>
<tr><td>Second and fifth</td><td>Pathology</td><td>SDL, Tutorials, and assessment</td><td>Seminar</td></tr>
</table>

| | | | |
|---|---|---|---|
| Third | Pharmacology | SDL, Tutorials, and assessment | Seminar |
| Fourth | Microbiology | SDL, Tutorials, and assessment | Seminar |

- # From March, Thursdays 2-4pm is SGT. 1st week Pathology, 2nd week Pharmacology, 3rd week Microbiology, 4th, 5th week – Sports / Yoga/ EC
- * From March – Microbiology classes will be conducted at 9-10 am on 1st, 2nd , 3rd and 5th week Tuesdays, and Ophthalmology on 4th Tuesdays.
- **From February, Pharmacology classes will be conducted at 9-10 am on 1st, 2nd , 3rd and 5th week Thursdays, and Paediatrics on 4th Thursdays.
- *** From February Pathology classes will be conducted at 9-10 am on 1st, 2nd , 3rd and 5th week Fridays, and ENT on 4th Friday.

- Hours of other phase subjects will be handed over to the phase II subjects after the required NMC teaching hours have conducted.

# ALIGNMENT-INTEGRATION

**Annexure 11- Phase II Alignment**

| | Pathology | Microbiology | Pharmacology |
|---|---|---|---|
| 1st month | Gen. Path | Gen. Micro, Communication and Ethics(14 competencies) | Gen. Pharm |
| 2nd month | Gen. Path | Gen. Micro, Communication and Ethics(14 competencies) | Gen. Pharm |
| 3rd month | Inflammation<br>Immunology<br>HIV | Immunology and Immunological Disorders (8 competencies) | (ANS/PNS)<br>NSAIDs |
| 4th month | Immunology | Immunology and Immunological Disorders | Immunosuppressants CVS |
| | CVS | CVS & Bloodstream infections (1.5 months) | |
| **1st Internal Assessment** | | | |
| 5th month | CVS<br>Hematology | CVS & Bloodstream infections (1.5 months) | CVS<br>Blood |
| 6th month | Respiratory System (2-3 weeks) | Respiratory System (2.5 weeks) Tb | Chemo |
| 7th month | Respiratory system | CNS 1.5 weeks | Respiratory System TB (7 hours) |
| | CNS 2 hours<br>Kidney | | CNS 4weeks |

| | | | |
|---|---|---|---|
| **2nd Internal Assessment** | | | |
| 8th month | Kidney<br>Genito-urinary 2 weeks | Genito-urinary and STI 2 wks GIT<br>Hepatobiliary | Chemotherapy |
| 9th month | GIT<br>Hepatobiliary | GIT<br>Hepatobiliary | GIT |
| 10th month | Bone<br>Breast<br>Skin, eye, joints<br>Endocrine | Musculoskeletal system, Skin and Soft Tissue Infections (2 weeks)<br>Zoonotic & Miscellaneous Infections (2 weeks)<br>HAI and Antimicrobial Stewardship<br>Hospital Infection Control | Drugs on skin, ocular<br>Endocrine |
| **3rd Internal Assessment/ Pre University** | | | |
| 11th month | **Phase 2 University Exam** | | |

# AETCOM

| AETCOM Phase II | | |
|---|---|---|
| **Subject** | **Paper** | **Module number** |
| Microbiology | Paper 1 | 2.1 |
| | Paper 2 | 2.8 |
| Pharmacology | Paper 1 | 2.2, 2.3 |
| | Paper 2 | 2.5 |
| Pathology | Paper 1 | 2.4 |
| | Paper 2 | 2.7 |

# INTERNAL ASSESSMENT (Pg 39)

| SL NO | SUBJECTS IN PHASE II | THEORY IA MARK | PRACTICAL IA MARK |
|---|---|---|---|
| 1. | PATHOLOGY | 100 | 100 |
| 2. | PHARMACOLOGY | 100 | 100 |
| 3. | MICROBIOLOGY | 100 | 100 |
| 4. | COMMUNITY MEDICINE | 25 | 25 |
| 5. | FORENSIC MEDICINE | 25 | 25 |
| 6. | ENT | 25 | 25 |
| 7. | OPHTHALMOLOGY | 25 | 25 |
| 8. | GENERAL MEDICINE | 50 | 50 |
| 9. | GENERAL SURGERY | 25 | 25 |
| 10. | O&G | | |
| 11. | PEDIATRICS | 25 | 25 |

# THEORY INTERNAL ASSESSMENT FORMAT

**Name of Institution:**

**Name of Examination:**

**Name of Department:**

**MBBS Batch:** **Phase:** **Date:**

| Sl.No. | Reg. No. | Name of student | FORMATIVE ASSESSMENT | | | CONTINUOUS INTERNAL ASSESSMENT | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | PCT 1 | PCT 2 | PRELIM THEORY (PAPER I& II) | CLASS TESTS | ATTENDANCE | SEMINAR/ MUSEUM STUDY | LIBRARY/ HOME ASSIGNMENT | TOTAL |
| | | | | | | | | **SELF DIRECTED LEARNING** | | |
| MAXIMUM MARKS | | | 20 | 20 | 40 | 8 | 4 | 4 | 4 | 100 |
| | | | | | | | | | | |

## PRACTICAL/ CLINICAL INTERNAL ASSESSMENT FORMAT

**Name of Institution:**

**Name of Examination:**

**Name of Department:**

**MBBS Batch:** **Phase:** **Date:**

| Sl.No. | Reg. No. | Name of student | FORMATIVE ASSESSMENT | | | CONTINUOUS INTERNAL ASSESSMENT | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | PCT 1 | PCT 2 | PRELIM PRACTICAL | RECORD/ PORTFOLIO | ATTENDANCE | CERTIFIABLE SKILL | AETCOM | SVL LAB | RESEARCH/ EXTRACURRICULAR | TOTAL |
| | | | | | | | | **LOGBOOK** | | | | |
| MAXIMUM MARKS | | | 20 | 20 | 20 | 5 | 4 | 14 | 5 | 8 | 4 | 100 |
| | | | | | | | | | | | | |

## INTERNAL MARKS FOR ATTENDANCE

| ATTENDANCE % | MARKS AWARDED | |
|---|---|---|
| | THEORY | PRACTICAL |
| 100 | 4 | 4 |
| 91-99 | 3 | 3 |
| 85-90 | 2 | 2 |
| 81-84 | 1 | 1 |
| >75 & <80 | 1 | 0 |

## ELIGIBILITY CRITERIA

- **Learners must secure at least 50% of the total marks (combined in theory and practical / clinical; and minimum 40% in theory and practical separately) for internal assessment in a particular subject in order to be eligible for appearing at the final University examination of that subject.**
- **The results of internal assessment should be intimated to students at least once in 3 months and as and when a student wants to see the results.**

# ATTENDANCE (THEORY & PRACTICAL)

- In each subject, the student shall have a minimum of 75% attendance in theory and 80% attendance in practical / clinical, separately to be eligible to appear for the University examinations.
- The student shall also have 75 % attendance in theory and 80% in practical / clinical of the non-examination going subjects in a phase, to be eligible to appear for the University examinations of that phase. e.g., Attendance for Gen. Medicine in Second Professional MBBS and Third Professional MBBS Part I.
- 75% attendance in Professional Development Programme (AETCOM Module) is required for eligibility to appear for final examination in each professional year.
- There shall be minimum of 80% attendance in family visits under Family adoption programme.
- **Calculation of attendance**
    - The Quarterly attendance has to be displayed on notice board for taking remedial measures, if necessary.

## University Examinations

## Eligibility to appear for University examination

i. Attendance as per Clause above.

ii. Internal examination marks as per Clause above.

iii. Learners must have completed the required certifiable competencies and completed the logbook for that phase of training including subjects which do not have a University Examination in that Professional year (e.g., Gen. Medicine in Second Professional and Third Professional Part I). iv. Submission of the logbook / case record to the department is required for eligibility to appear for the final examination of the subject.

**MBBS**

**SUGGESTED FORMAT FOR A THEORY PAPER-UNIVERSITY**

**Duration** – 3 Hrs **Maximum Marks** – 100

| QUESTION SL NO. | QUESTION PATTERN | NO. OF QUESTIONS | MARKS AWARDED | TOTAL MARKS |
|---|---|---|---|---|
| I | SCENARIO BASED MCQ | 20 | 1 | 20 |
| II | LONG STRUCTURED ESSAY QUESTION | 1 | 10 | 10 |
| III | REASONING QUESTION | 5 | 3 | 15 |
| IV | SHORT NOTES<br>• 1-AETCOM<br>• 4-APPLIED ASPECT<br>• 3-DIAGRAMATIC REPRESENTATION<br>• 1 – INTEGRATED TOPICS<br>• 1- RECENT ADVANCES<br>• 1- BASIC SCIENCES | 10+1 | 5 | 55 |
| | | | GRAND TOTAL | 100 |

## Marks distribution for subjects for University Annual Examinations

| Phase of Course | Theory | Practicals | Passing criteria |
|---|---|---|---|
| **Phase-II MBBS** | | | |
| Pathology - 2 papers | Paper 1- 100 | 100 | Mandatory to get 40% marks separately in theory and in practicals; and totally 50% for theory plus practicals. |
| | Paper 2 -100 | | |
| Microbiology- 2 papers | Paper 1- 100 | 100 | |
| | Paper 2- 100 | | |
| Pharmacology- 2 papers | Paper 1 -100 | 100 | |
| | Paper 2- 100 | | |

PHASE II SYLLABUS IS PREPARED ACCORDING TO NMC'S LATEST GUIDELINES & IS APPROVED BY CURRICULUM COMMITTEE OF KANYAKUMARI MEDICAL MISSION RESEARCH CENTER.

HEAD, DEPARTMENT OF PATHOLOGY (Name & Signature with date)

HEAD, DEPARTMENT OF PHARMACOLOGY (Name & Signature with date)

HEAD, DEPARTMENT OF MICROBIOLOGY (Name & Signature with date)

HEAD, DEPARTMENT OF COMMUNITY MEDICINE (Name & Signature with date)

HEAD, DEPARTMENT OF FORENSIC MEDICINE (Name & Signature with date)

HEAD, DEPARTMENT OF OTO-RHINO-LARYNGOLOGY (Name & Signature with date)

HEAD, DEPARTMENT OF OPTHALMOLOGY (Name & Signature with date)

HEAD, DEPARTMENT OF GENERAL MEDICINE (Name & Signature with date)

HEAD, DEPARTMENT OF PEDIATRICS (Name & Signature with date)

HEAD, DEPARTMENT OF GENERAL SURGERY (Name & Signature with date)

HEAD, DEPARTMENT OF OBSTETRICS & GYNECOLOGY (Name & Signature with date)

CO-OORDINATOR, MEDICAL EDUCATION UNIT (Name & Signature with date)

VICE PRINCIPAL, KMMC (Name & Signature with date)

DEAN, KMMC (Name & Signature with date)