

2. Amendment to Ordinance V (2) & VII. [EC. Res. 78-7 dated 25.03.2022] regarding course curriculum prepared on competency based UG curriculum for MBBS course -2nd Professional (New Scheme).

Pathology

VISION

The broad goal of pathology curriculum is to make undergraduates aware of pathological basis of disease, have comprehensive scientific knowledge of the gross and microscopic features of various organs affected in different pathological lesions and their correlation with clinical presentation.

Learning objectives (overall)

At the end of curriculum, student should be able to

a) KNOWLEDGE

1. Explain pathological basis of disease.
2. Identify gross and microscopic features of common pathological lesions
3. Know the etiopathogenesis of common clinical conditions
4. Know genetic basis of diseases with knowledge of genetic tools for diagnosis of diseases

b) SKILL

At the end of course, student should be able to

1. Make good peripheral smear AND describe the peripheral blood picture
2. Analyze lab reports and its correlation with clinical diagnosis
3. Describe the correct technique to perform blood grouping & cross matching,
4. Identify the etiology of meningitis based on given CSF parameters
5. Interpret liver function and viral hepatitis serology panel and able to differentiate various types of jaundice

c) ATTITUDE AND COMMUNICATIONS

At the end of course, student should be able to

1. Show due respect in handling of specimens, slides and microscope
2. work efficiently in a team
3. Communicate efficiently with teachers and peer groups
4. Develop professional attributes in terms of discipline, punctuality, accountability and respect to teachers

Competencies

Detailed competencies are shown in annexure 1

Learning objective for each competencies are added in annexure 2



S.No.	Topic	Competency	Theory/practical/ laboratory/ clinical
1)	Introduction to Pathology	PA 1.1: Describe the role of a pathologist in diagnosis and management of disease: PA1.2: Enumerate common definitions and terms used in Pathology PA 1.3: Describe the history and evolution of Pathology	Theory/practical
2)	Cell Injury and Adaptation	PA2.1: Demonstrate knowledge of the causes, mechanisms, types and effects of cell injury and their clinical significance PA2.2: Describe the etiology of cell injury. Distinguish between reversible-irreversible injury: mechanisms; morphology of cell injury PA2.3: Intracellular accumulation of fats, proteins, carbohydrates, pigments PA2.4: Describe and discuss Cell death-types, mechanisms, necrosis, apoptosis (basic as contrasted with necrosis), autolysis PA2.5: Describe and discuss pathologic calcifications, gangrene PA2.6: Describe and discuss cellular adaptations: atrophy, hypertrophy, hyperplasia, metaplasia, dysplasia PA2.7: Describe and discuss the mechanisms of cellular aging and Apoptosis PA2.8: Identify and describe various forms of cell injuries, their manifestations and consequences in gross and microscopic specimens	Theory/ practical/ laboratory/ clinical

3)	Amyloidosis	PA3.1: Describe the pathogenesis and pathology of amyloidosis PA3.2: Identify and describe amyloidosis in a pathology specimen	Theory/practical/ laboratory/clinical
4)	Inflammation	PA4.1: Define and describe the general features of acute and chronic inflammation including stimuli, vascular and cellular events PA4.2: Enumerate and describe the mediators of acute inflammation PA4.3: Define and describe chronic inflammation including causes, types non-specific and granulomatous; and examples of each PA4.4: Identify and describe acute and chronic inflammation in gross and microscopic specimens	Theory/practical/ laboratory/clinical
5)	Healing and repair	PA5.1: Define and describe the process of repair and regeneration including wound healing and its types	Theory/practical/ laboratory/ clinical
6)	Hemodynamic disorders	PA6.1: Define and describe edema, its types, pathogenesis and clinical correlation PA6.2: Define and describe hyperemia, congestion, hemorrhage PA6.3: Define and describe shock, its pathogenesis and its stages PA6.4: Define and describe normal haemostasis and the etiopathogenesis and consequences of thrombosis PA6.5: Define and describe embolism and its causes and common types PA6.6: Define and describe Ischaemia/infarction its types, etiology, morphologic changes and clinical effects PA6.7: Identify and describe the gross	Theory/practical/ laboratory/ clinical

		and microscopic features of infarction in a pathologic specimen	
7)	Neoplastic disorders	<p>PA7.1: Define and classify neoplasia. Describe the characteristics of neoplasia including gross, microscopy, biologic, behaviour and spread. Differentiate between benign from malignant neoplasm</p> <p>PA7.2: Describe the molecular basis of cancer</p> <p>PA7.3: Enumerate carcinogens and describe the process of Carcinogenesis</p> <p>PA7.4: Describe the effects of tumor on the host including paraneoplastic syndrome</p> <p>PA7.5: Describe immunology and the immune response to cancer</p>	Theory/practical/ laboratory/ clinical
8)	Basic diagnostic cytology	<p>PA8.1: Describe the diagnostic role of cytology and its application in clinical care</p> <p>PA8.2: Describe the basis of exfoliative cytology including the technique & stains used</p> <p>PA8.3: Observe a diagnostic cytology and its staining and interpret the specimen DOAP</p>	Theory/practical/ laboratory/ clinical
9)	Immunopathology and AIDS	<p>PA9.1: Describe the principles and mechanisms involved in immunity</p> <p>PA9.2: Describe the mechanism of hypersensitivity reactions</p> <p>PA9.3: DESCRIBE HLA SYSTEM and immune systems Involved in transplant and mechanism of transplant rejection</p> <p>PA9.4: Define autoimmunity. Enumerate autoimmune disorders</p>	Theory/practical/ laboratory/ clinical

		<p>PA9.5: Define and describe the pathogenesis of systemic Lupus Erythematosus</p> <p>PA9.6: Define and describe the pathogenesis and pathology of HIV and AIDS</p> <p>PA9.7: Define and describe the pathogenesis of other common autoimmune diseases</p>	
10)	Infections and Infestations	<p>PA10.1: Define and describe the pathogenesis and pathology of malaria</p> <p>PA10.2: Define and describe the pathogenesis and pathology of Cysticercosis</p> <p>PA10.3: Define and describe the pathogenesis and pathology of leprosy</p> <p>PA10.4: Define and describe the pathogenesis and pathology of common bacterial, viral, protozoal and helminthic diseases</p>	Theory/practical/ laboratory/ clinical
11).	Genetic and paediatric diseases	<p>PA11.1: Describe the pathogenesis and features of common cytogenetic abnormalities and mutations in childhood</p> <p>PA11.2: Describe the pathogenesis and pathology of tumor and tumourlike conditions in infancy and childhood</p> <p>PA11.3: Describe the pathogenesis of common storage disorders in infancy and childhood</p>	Theory/practical/ laboratory/ clinical
12)	Environmental and nutritional diseases	<p>PA12.1: Enumerate and describe the pathogenesis of disorders caused by air pollution, tobacco and alcohol</p> <p>PA12.2: Describe the pathogenesis of disorders caused by protein calorie malnutrition and starvation</p> <p>PA12.3: Describe the pathogenesis of obesity and its consequences</p>	Theory/practical/ laboratory/ clinical

13)	Introduction to haematology	<p>PA13.1: Describe hematopoiesis and extramedullary hematopoiesis</p> <p>PA13.2: Describe the role of anticoagulants in hematology</p> <p>PA13.3: Define and classify anemia</p> <p>PA13.4: Enumerate and describe the investigation of anemia</p> <p>PA13.5: Perform, Identify and describe the peripheral blood picture in Anemia</p>	Theory/practical/ laboratory/ clinical
14)	Microcytic anemia	<p>PA14.1: Describe iron metabolism</p> <p>PA14.2: Describe the etiology, investigations and differential diagnosis of microcytic hypochromic anemia</p> <p>PA14.3: Identify and describe the peripheral smear in microcytic anemia</p>	Theory/practical/ laboratory/ clinical
15)	Macrocytic anemia	<p>PA15.1: Describe the metabolism of Vitamin B12 and the etiology and pathogenesis of B12 deficiency</p> <p>PA15.2: Describe laboratory investigations of macrocytic anemia</p> <p>PA15.3: Identify and describe the peripheral blood picture of macrocytic Anemia</p> <p>PA15.4: Enumerate the differences and describe the distinguishing features of megaloblastic and non-megaloblastic macrocytic anemia</p>	Theory/practical/ laboratory/ clinical
16)	Hemolytic anemia	<p>PA16.1: Define and classify hemolytic anemia</p> <p>PA16.2: Describe the pathogenesis and clinical features and hematologic indices of hemolytic anemia</p> <p>PA16.3: Describe the pathogenesis, features, hematologic indices and peripheral blood picture of sickle cell anemia and thalassemia</p> <p>PA16.4: Describe the etiology pathogenesis, hematologic indices and peripheral blood picture of Acquired hemolytic anemia</p> <p>PA16.5: Describe the peripheral blood picture in different hemolytic anemia</p> <p>PA16.6: Prepare a peripheral blood smear and identify hemolytic anaemia</p>	Theory/practical/ laboratory/ clinical

		from it PA16.7: Describe the correct technique to perform a cross match	
17)	Aplastic anemia	PA17.1: Enumerate the etiology, pathogenesis and findings in aplastic anemia PA17.2: Enumerate the indications and describe the findings in bone marrow aspiration and biopsy	Theory/practical/ laboratory/clinical
18)	Leucocytic disorders	PA18.1: Enumerate and describe the causes of leucocytosis, leucopenia, lymphocytosis and leukemoid reactions. PA18.2: Describe the etiology, genetics, pathogenesis, classification, features, hematologic features of acute and chronic leukemia	Theory/practical/ laboratory/clinical
19)	Lymph node and spleen	PA19.1: Enumerate the causes and describe the differentiating features of lymphadenopathy PA19.2: Describe the pathogenesis and pathology of tuberculous lymphadenitis PA19.3: Identify and describe the features of tuberculous lymphadenitis in a gross and microscopic specimen PA19.4: Describe and discuss the pathogenesis, pathology and the differentiating features of Hodgkin's and non-Hodgkin's lymphoma PA19.5: Identify and describe the features of Hodgkin's lymphoma in a gross and microscopic specimen PA19.6: Enumerate and differentiate the causes of splenomegaly PA19.7: Identify and describe the gross specimen of an enlarged spleen	Theory/practical/ laboratory/ clinical

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20)	Plasma cell disorders	PA20.1: Describe the features of plasma cell myeloma	Theory/practical/ laboratory/clinical
21)	Hemorrhagic disorders	PA21.1: Describe normal hemostasis PA21.2: Classify and describe the etiology, pathogenesis and pathology of vascular and platelet disorders including ITP and haemophilia PA21.3: Differentiate platelet from clotting disorders based on the clinical and hematologic features PA21.4: Define and describe disseminated intravascular coagulation, its laboratory findings and diagnosis of disseminated intravascular coagulation PA21.5: Define and describe disseminated intravascular coagulation AND VIT K DEFICIENCY	Theory/practical/ laboratory/clinical
22)	Blood banking and transfusion	PA22.1: Classify and describe blood group systems (ABO and RH) PA22.2: Enumerate the indications, describe the principles, enumerate and demonstrate the steps of compatibility testing PA22.4: Enumerate blood components and describe their clinical uses PA22.5: Enumerate and describe infections transmitted by blood Transfusion PA22.6: Describe transfusion reactions and enumerate the steps in the investigation of a transfusion reaction PA22.7: Enumerate the indications and describe the principles and procedure of autologous transfusion	Theory/practical/ laboratory/clinical

23)	Clinical Pathology	<p>PA23.1: Describe abnormal urinary findings in disease states and identify and describe common urinary abnormalities in a clinical specimen</p> <p>PA23.2: Describe abnormal findings in body fluids in various disease States</p> <p>PA23.3: Describe and interpret the abnormalities in a panel containing semen analysis, thyroid function tests, renal function tests or liver function tests</p>	Theory/practical/ laboratory/clinical
24)	Gastrointestinal tract	<p>PA24.1: Describe the etiology, pathogenesis, pathology and clinical features of oral cancers</p> <p>PA24.2: Describe the etiology, pathogenesis, pathology, microbiology, clinical and microscopic features of peptic ulcer disease</p> <p>PA24.3: Describe and identify the microscopic features of peptic ulcer</p> <p>PA24.4: Describe etiology and pathogenesis and pathologic features of carcinoma of the stomach</p> <p>PA24.5: Describe etiology and pathogenesis and pathologic features of Tuberculosis of the intestine</p> <p>PA24.6: Describe etiology and pathogenesis and pathologic and distinguishing features of Inflammatory bowel disease</p> <p>PA24.7: Describe the etiology, pathogenesis, pathology and distinguishing features of carcinoma of the colon</p>	Theory/practical/ laboratory/clinical

25)	Hepatobiliary system	<p>PA25.1:Describe bilirubin metabolism, enumerate the etiology and pathogenesis of jaundice, distinguish between direct and indirect hyperbilirubinemia</p> <p>PA25.2:Describe the pathophysiology and pathologic changes seen in hepatic failure and their clinical manifestations, complications and consequences.</p> <p>PA25.3: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</p> <p>PA 25.4: Describe the pathophysiology, pathology and progression of alcoholic liver disease including cirrhosis</p> <p>25.5:Describe the etiology, pathogenesis and complications of portal hypertension SDL</p> <p>PA25.6 : Interpret liver function and viral hepatitis serology panel. Distinguish obstructive from non- obstructive jaundice based on clinical features and liver function tests</p>	Theory/practical/ laboratory/clinical
26)	Respiratory system	<p>26.1:Define and describe the etiology, types, pathogenesis, stages, morphology and complications of pneumonia</p> <p>26.2:Describe the etiology, gross and microscopic appearance and complications of lung abscess</p> <p>PA26.3:Describe the etiology, types, pathogenesis, stages, morphology and complications and evaluation of Obstructive airway disease (OAD) and bronchiectasis</p> <p>PA26.4;Define and describe the etiology, types, pathogenesis, stages, morphology microscopic appearance and</p>	Theory/practical/ laboratory/clinical

		<p>complications of tuberculosis</p> <p>PA26.5: Define and describe the etiology, types, exposure, environmental influence, pathogenesis, stages, morphology, microscopic appearance and complications of Occupational lung disease</p> <p>PA26.6: Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, stages, morphology, microscopic appearance, metastases and complications of tumors of the lung and pleura</p> <p>PA26.7: Define and describe the etiology, types, exposure, genetics environmental influence, pathogenesis, morphology, microscopic appearance and complications of mesothelioma</p>	
27)	Cardiovascular system	<p>PA27.1: Distinguish arteriosclerosis from atherosclerosis. Describe the pathogenesis and pathology of various causes and types of arteriosclerosis</p> <p>PA27.2: Describe the etiology, dynamics, pathology types and complications of aneurysms including aortic aneurysms</p> <p>PA27.3: Describe the etiology, types, stages pathophysiology, pathology and complications of heart failure</p> <p>PA27.4: Describe the etiology, pathophysiology, pathology, gross and microscopic features, criteria and complications of rheumatic fever</p> <p>PA27.5: Describe the epidemiology, risk factors, etiology, pathophysiology, pathology, presentations, gross and microscopic features, diagnostic tests and complications of ischemic heart disease</p> <p>PA27.6: Describe the etiology,</p>	Theory/practical/ laboratory/clinical

		<p>pathophysiology, pathology, gross and microscopic features, diagnosis and complications of infective endocarditis</p> <p>PA27.7:Describe the etiology, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of pericarditis and pericardial effusion</p> <p>PA27.8:Interpret abnormalities in cardiac function testing in acute coronary syndromes</p> <p>PA27.9:Classify and describe the etiology, types, pathophysiology, pathology, gross and microscopic features, diagnosis and complications of cardiomyopathies</p> <p>PA27.10:Describe the etiology, pathophysiology, pathology features and complications of syphilis on the cardiovascular system</p>	
28)	Urinary Tract	<p>PA28.1:Describe the normal histology of the kidney</p> <p>PA28.2:Define, classify and distinguish the clinical syndromes and describe the etiology, pathogenesis, pathology, morphology, clinical and laboratory and urinary findings, complications of renal failure</p> <p>PA28.3:Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings, progression and complications of acute renal failure</p> <p>PA28.4:Define and describe the etiology, precipitating factors, pathogenesis, pathology, laboratory urinary findings progression and complications of chronic renal failure</p> <p>PA28.5: Define and classify glomerular</p>	Theory/practical/ laboratory/clinical

		<p>diseases. Enumerate and describe the etiology, pathogenesis, mechanisms of glomerular injury, pathology, distinguishing features and clinical manifestations of glomerulonephritis</p> <p>PA28.6: Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of IgA nephropathy</p> <p>PA28.7: Enumerate and describe the findings in glomerular manifestations of systemic disease</p> <p>PA28.8: Enumerate and classify diseases affecting the tubular Interstitium</p> <p>PA28.9: Define and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, progression and complications of acute tubular necrosis</p> <p>PA28.10: describe the itiology, pathophysiology, lab findings and distinguishing features progression and complications of acute and chronic pyelonephritis and reflux nephropathy</p> <p>PA28.11: Define classify and describe the etiology, pathogenesis pathology, laboratory, urinary findings, distinguishing features progression and complications of vascular disease of the kidney</p> <p>PA28.12: Define classify and describe the genetics, inheritance, etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features, progression and complications of cystic disease of the kidney</p> <p>PA28.13: Define classify and describe the etiology, pathogenesis, pathology, laboratory, urinary findings, distinguishing features progression and complications of renal stone disease and obstructive</p>	
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		<p>uropathy</p> <p>PA28.14: Classify and describe the etiology, genetics, pathogenesis, pathology, presenting features, progression and spread of renal tumors</p> <p>PA28.15: Classify and describe the etiology, genetics, pathogenesis, pathology, presenting features, progression and spread of renal tumors</p> <p>PA28.16: Describe the etiology, genetics, pathogenesis, pathology, presenting features and progression of urothelial tumors</p>	
29)	Male Genital Tract	<p>PA29.1: Classify testicular tumors and describe the pathogenesis, pathology, presenting and distinguishing features, diagnostic tests, progression and spread of testicular tumors</p> <p>PA29.2: Describe the pathogenesis, pathology, presenting and distinguishing features, pathogenesis and spread of carcinoma of the penis</p> <p>PA29.3: Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, urologic findings & diagnostic tests of benign prostatic hyperplasia</p> <p>PA29.4: Describe the pathogenesis, pathology, hormonal dependency presenting and distinguishing features, diagnostic tests, progression and spread of carcinoma of the prostate</p> <p>PA29.5: Describe the etiology, pathogenesis, pathology and progression of prostatitis GROSS</p>	Theory/practical/ laboratory/clinical

30)	Female Genital Tract	<p>PA30.1: Describe screening, diagnosis and progression of carcinoma of the cervix</p> <p>PA30.2: Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the endometrium</p> <p>PA30.3: Describe the pathogenesis, etiology, pathology, diagnosis and progression and spread of carcinoma of the leiomyomas and leiomyosarcomas</p> <p>PA30.4: Classify and describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of ovarian tumors</p> <p>PA30.5: Describe the etiology, pathogenesis, pathology, morphology, clinical course, spread and complications of gestational trophoblastic neoplasms</p> <p>PA30.6: Describe the etiology and morphologic features of cervicitis (Non core)</p> <p>PA30.7: Describe the etiology, hormonal dependence, features and morphology of endometriosis</p> <p>PA30.8: Describe the etiology and morphologic features of adenomyosis</p> <p>PA30.9: Describe the etiology, hormonal dependence and morphology of endometrial hyperplasia</p>	Theory/practical/ laboratory/clinical
31)	Breast	<p>PA31.1: classify and describe the types, etiology, pathogenesis, of benign breast disease</p> <p>PA31.2: classify and describe the epidemiology, pathogenesis, classification, morphology, prognostic factors, hormonal dependency, staging and spread of carcinoma of the breast</p>	Theory/practical/ laboratory/clinical

		<p>PA31.3: Describe and identify the morphologic and microscopic features of carcinoma of the breast (P)</p> <p>PA31.4: Enumerate and describe the etiology, hormonal dependency and pathogenesis of gynecomastia (NON CORE)</p>	
32)	Endocrine system	<p>PA32.1: Enumerate, classify and describe the etiology, pathogenesis, pathology and iodine dependency of thyroid swellings</p> <p>PA32.2: Describe the etiology, cause, iodine dependency, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis</p> <p>PA32.3: Describe the etiology, pathogenesis, manifestations, laboratory and imaging features and course of thyrotoxicosis/ hypothyroidism AND THYROID TUMORS</p> <p>PA32.4: Classify and describe the epidemiology, etiology, pathogenesis, pathology, clinical laboratory features, complications and progression of diabetes mellitus</p> <p>PA32.5: Describe the etiology, genetics, pathogenesis, manifestations, laboratory and morphologic features of hyperparathyroidism</p> <p>PA32.6: Describe the etiology, laboratory, morphologic features, complications and metastases of pancreatic cancer</p> <p>PA32.7: Describe the etiology, pathogenesis, manifestations, laboratory, morphologic features, complications of adrenal insufficiency</p> <p>PA32.8: Describe the etiology, pathogenesis, manifestations, laboratory,</p>	Theory/practical/ laboratory/clinical

		<p>morphologic features, complications of Cushing's syndrome</p> <p>PA32.9: Describe the etiology, pathogenesis, manifestations, laboratory and morphologic features of adrenal neoplasms</p>	
33)	Bone and soft tissue	<p>PA33.1: Classify and describe the etiology, pathogenesis, manifestations, radiologic and complications of osteomyelitis</p> <p>PA 33.2: Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of bone tumors</p> <p>PA 33.3: Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications and metastases of soft tissue tumors</p> <p>PA 33.4: Classify and describe the etiology, pathogenesis, manifestations, radiologic and morphologic features and complications of Paget's disease of the bone</p> <p>PA 33.5: Classify and describe the etiology, immunology, pathogenesis, manifestations, radiologic and laboratory features, diagnostic criteria and complications of rheumatoid arthritis</p>	Theory/practical/ laboratory/clinical
34)	Skin	<p>PA34.1: Describe the risk factors pathogenesis, pathology and natural history of squamous cell carcinoma of the skin</p> <p>PA34.2: Describe the risk factors pathogenesis, pathology and natural history of basal cell carcinoma of the skin</p> <p>PA34.3: Describe the distinguishing</p>	Theory/practical/ laboratory/clinical

		<p>features between a nevus and melanoma. Describe the etiology, pathogenesis, risk factors morphology clinical features and metastases of melanoma</p> <p>PA34.4: Identify, distinguish and describe common tumors of the skin</p>	
35)	Central Nervous System	<p>PA 35.1 Describe the etiology, types and pathogenesis, differentiating factors, CSF findings in meningitis</p> <p>PA35.2: Classify and describe the etiology, genetics, pathogenesis, pathology, presentation sequelae and complications of CNS tumors</p> <p>PA35.3: Identify the etiology of meningitis based on given CSF parameters (P)</p>	Theory/practical/ laboratory/clinical
36)	Eye	<p>PA36.1: Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma</p>	Theory/practical/ laboratory/clinical

Holidays and exams :

Term	Exam	Vacations/preparatory leaves
1	05/1-10/1	17/12-31/12
2	20/4-26/4 theory 7 days practical till 08/5	16/6-30/6
3	9/8-15/8 theory 16/8-23/8 practicals	
University exams	5/9 onwards	

Teaching learning methods

1. Didactic lectures
2. Small group teaching
3. Self directed learning by arranging seminars and symposium
4. Problem card based learning
5. Practical –
 - Performing hematological exercises –TLC, DLC, Peripheral smear making and staining
 - Performing urine examination and interpreting various lesions
 - Analyse lab reports and its correlation with clinical diagnosis
 - Perform the correct technique of blood grouping and cross matching
6. Identifying gross pathology of various organs
7. Study of histopathology slides of various diseases
8. AETCOM



Paper I: General principles of Pathology, Clinical Pathology and Hematology

Sl.No.	Topic	Approximate weight-age
1	Cell injury and adaptation	10
2	Inflammation and repair	10
3	Hemostasis/ Circulatory disturbances	8
4	Immunopathology	6
5	Infectious pathology	8
6	Genetic and Environmental diseases	4
7	Neoplasia	10
8	Childhood diseases	4
9	RBC Disorders	10
10	WBC disorders	10
11	Lymphoreticular system	4
12	Diseases of Coagulation & Bleeding	8
13	Blood Banking	4
14	Clinical pathology incl cytopathology	4
		100

Guidelines for assessment: 20% MCQ

80% SAQ

30% of Questions should be on etiopathogenesis

30% on morphology preferably with clinical correlation

40% Problem based / lab diagnosis/reasoning

Variations in the scheme as per the consensus of examiners and moderator

Part I

1. Structured essay Question 8 marks
2. Differentiate between 4 questions x 4 = 16 marks

Part II

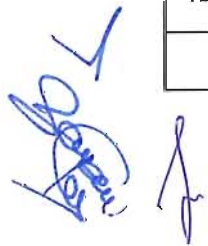
3. Structured essay Question 8 marks
4. Short notes; 4 questions x 5 = 20 marks

Part III

5. Structured essay Question 8 marks
6. Short notes 4 questions x 5 = 20 marks

Paper II Systemic Pathology

S.no	Topic	Approximate weight age
1	Cardiovascular	10
2	Respiratory	10
3	Gastrointestinal Tract	15
4	Hepatic and Biliary Tract, exocrine pancreas	15
5	Endocrine system	8
6	Urinary tract	10
7	Male genital tract	6
8	Female genital tract	8
9	Breast	6
10	CNS	4
11	Skin and soft tissue	4
12	Bone & Joints	4
		100



Guidelines for assessment: 20% MCQ 80% SAQ
 30% of Questions should be on etiopathogenesis
 30% on morphology preferably with clinical correlation
 40% Problem based/lab diagnosis/reasoning
 Variation in the scheme as per the consensus of examiners/ moderator

Part I

- 1 Structured essay Question 8 marks
- 2. Differentiate between 4 questions x 4 = 16 marks

Part II

- 3. Structured essay Question 8 marks
- 4. Short notes ; 4 questions x 5 = 20 marks

Part III

- 5. Structured essay Question 8 marks
- 6. Short notes 4 questions x 5 = 20 marks

Eligibility for appearing in examination and pass criteria as per NMC guidelines

PATHOLOGY PRACTICAL EXAMINATION

Pattern & Marks Distribution MAX MARKS : 100
Observation and reasoning

S. No.	Activity	Marks
1	Examine Three histopathology slides, identify the parent tissue, write microscopic features, give diagnosis and make a labelled diagram	3x5= 15
2	Examine the stained peripheral smear provided, do DLC, give the report and three causes of the findings	1 x 5 = 5

3	Study the case history provided. Examine the given peripheral smear/ bone marrow smear, write your observations and give your diagnosis.	1 x 5 = 5
4	Test for Hemoglobin by Sahli's hemoglobinometer orTLC by Neubauer's chamber. Write observation, inference. Performance of this test will be observed by 1 examiner	1 x 5 = 5
5	With the given blood sample, prepare and stain the peripheral smear and focus the smear. Performance of this test will be observed by 1 examiner for smear making and staining.	5+ 5 = 10
6	Urine Chemical Test: (Test for Protein/sugar/ketone bodies): perform urine chemical test by conventional method. Student has to write the result, inference and give answer to additional questions asked. Performance of this test will be observed by 1 examiner	15
7	OSPE: <ul style="list-style-type: none"> • Three gross – specimens • Two Instrument identification & related Questions • One observation and interpretation of test: Blood group identification by Slide method • One urine sediment/ PAP stain • One parasite • Two clinical case histories and lab findings for diagnosis 	10
8	Viva voce : Analytical skill-Case based discussion / Interpretation to assess clinical application; based on case histories discussion on approach to diagnosis, reasoning based on test findings/ specimens /images	30

	/instruments / charts/ lab data	
9	AETCOM	5
	Total	100

Internal assessment (IA)

Chapter end assessment, approx 10 : 10x10 =

100 (Total 50 for Theory & 50 for OSPE/ Spotting -
to be added in term examinations theory & practical respectively)

Should include short essay questions, objective questions, ospe , practicals and practical logbook

Exam	Theory		Practical	
	Academic knowledge	Other* academic activities	Academic knowledge	Other** academic activities
Chapter end assessment (10x10=100)	40	10	40	10
Term I	40	10	40	10
Term II	80	20	80	20
Term III	200		100	
Total	400		300	

Term I Theory: 50= (40+10 MCQ)

Practical : 50

Term II Theory: 100= (80 + 20 MCQ)

Practicals : 100

Term III : same format as university exam

As per CBME recommendations, upto 20% marks of IA should be from log book assessment.

It has been recommended that 80% of both theory and practical IA should be from Academic knowledge and rest 20% from other academic activities

*Other academic activities for Theory include: Interest in subject, Active participation, Scientific attitude, other academic activity participation (e.g. quiz, poster making, etc) and Logbook.

**Other academic activities for Practical include: Assignment completion (Practical notebook etc), Attitude, Ethical work habits, Communication and Logbook.

IA taken during the whole tenure will be added

Internal assessment: all above (Theory 400; Practicals : 300) added and IA calculated for Theory (40) and Practical (20)

Eligibility as per NMC guidelines: Learners must secure at least 50% marks of the total marks (Combined theory and Practical marks; not less than 40% marks in theory and practical separately) assigned for internal assessment.

Eligibility for appearing in examination and pass criteria as per NMC guidelines

