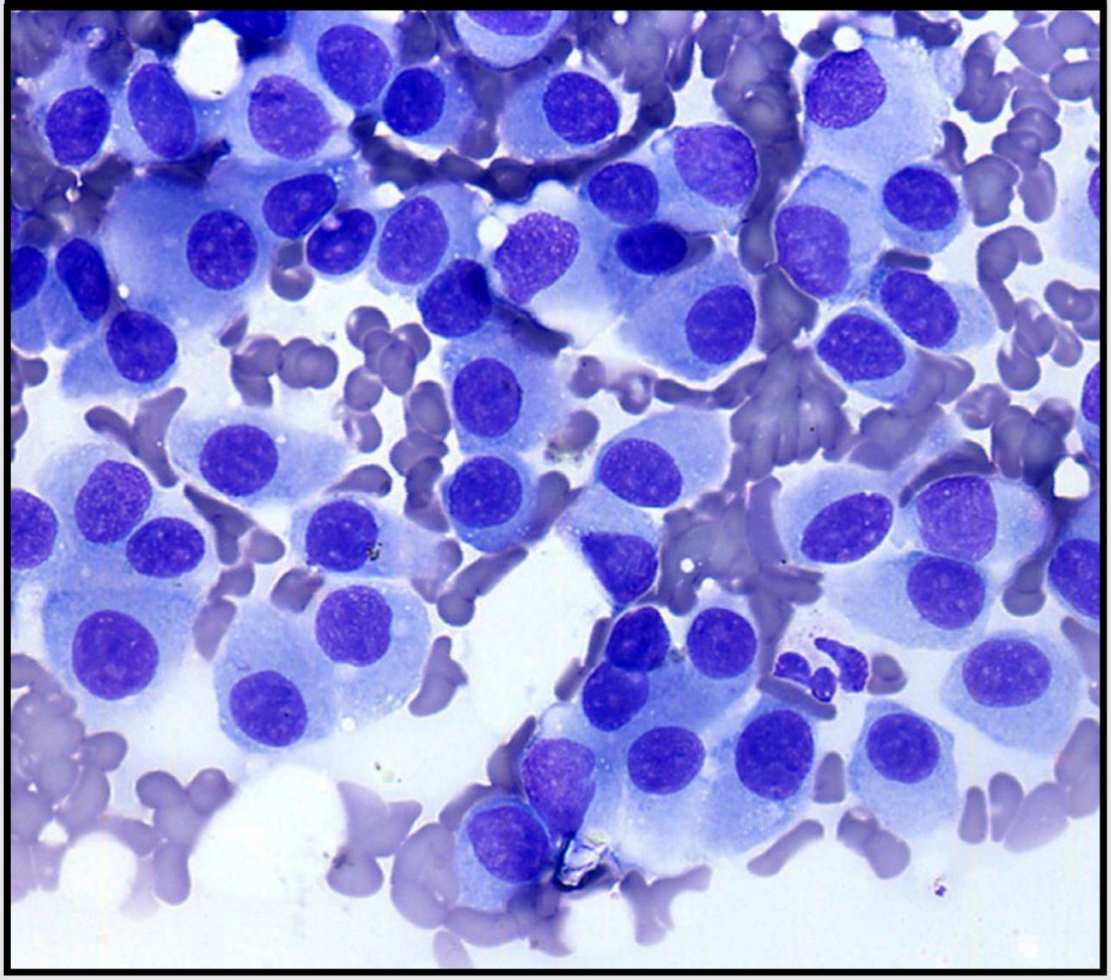
Pathology Study Guide (4th year) M.B.B.S

2021



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Department in a glance

Pathology is the branch of medicine concerned with the study of the nature of diseases and its causes, processes, development and consequences. The medical specialty that provides microscopy and other laboratory services (e.g. cytology, histopathology) to Clinicians.

The pathologist is interested not only in the recognition of structural alterations, but also in their significance, i.e. the effects of these changes on cellular and tissue function and ultimately the effect of these changes on the patient. It is a basic approach to a better understanding of disease and therefore a foundation of sound clinical medicine.

The department of pathology is headed by Prof. Dr M Kashif Baig along with two Associate Professors one Assistant Professor and five Demonstrators, all of them are actively involved in teaching programs. The department comprise of general and special pathology including histopathology, hematology, microbiology and chemical pathology. Teaching of general pathology principal are supplemented by experimental work by which students are equipped with the skills required for the collection of different specimens for the pathological analysis and then are able to perform commonly used tests done in a side room laboratory. The aim is to produce clinicians with better understanding of the disease process so that they objectively use diagnostic tools designed to help them to reach a conclusive diagnosis in the shortest possible time.

The department has an adequate slide bank and gross specimen collection for the teaching purposes. This department is also equipped with a Penta Head microscope with LCD display screen for proper explanation of the microscopic slides. Binocular microscopes are also available for students' proper training. The department also has two labs along with experienced teachers and technical staff.

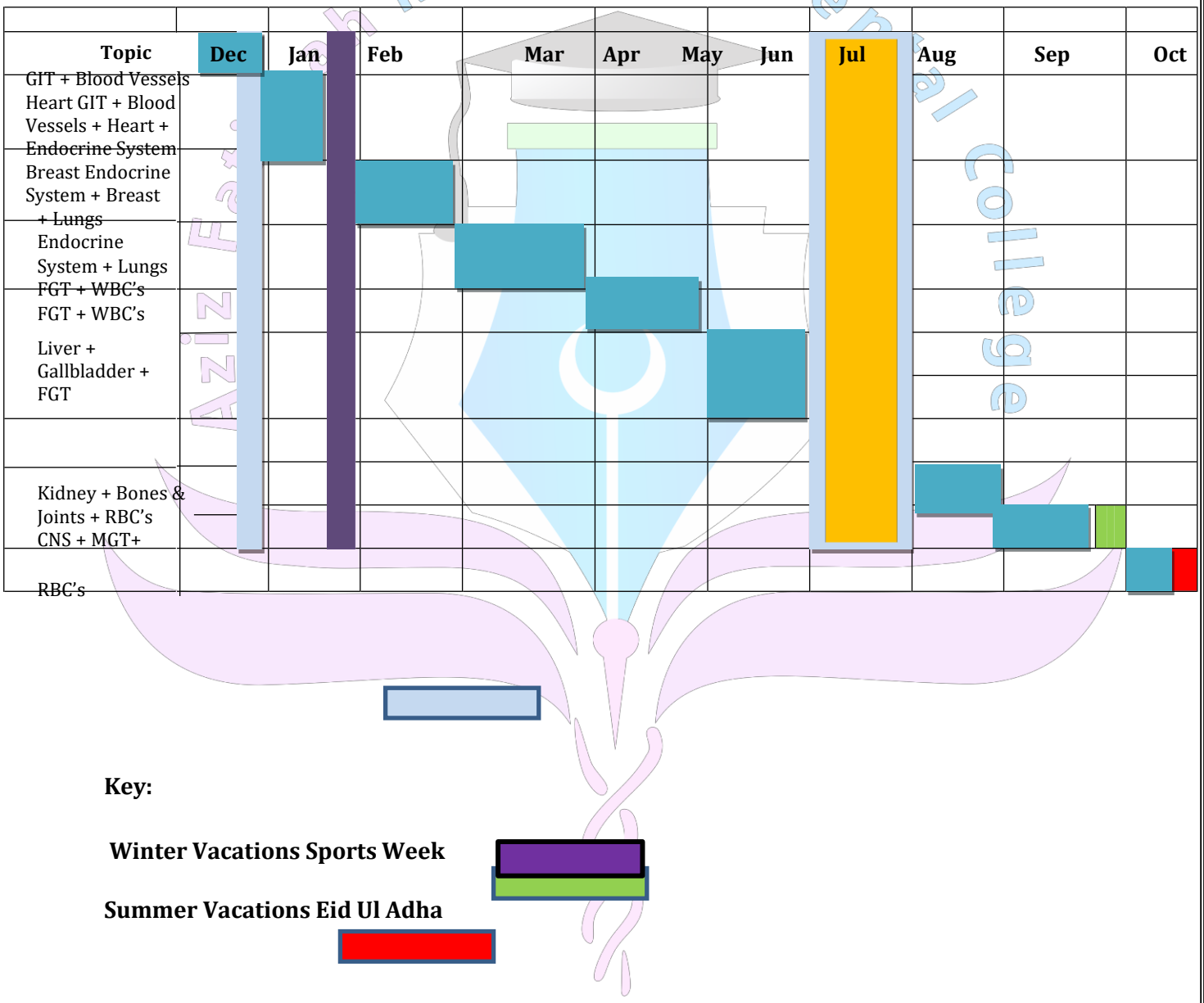
The academic session includes lectures, practical microbiology, histopathology slide discussions, museum classes, tutorials and small group discussions for MBBS students. Pathology is taught during the third and fourth years of the MBBS program. The students will be evaluated internally and externally. The department has a well – designed museum displaying neatly mounted specimens and several detailed and highly informative charts / graphs.

Department of Pathology

Designation	Name
HOD/Professor	Dr M Kashif Baig
Prof (microbiology)	Dr Khalid ur Rehman Hashmi
Associate Professor	Dr Usman Ansari
Assistant Professor	Dr Javaid Iqbal
Demonstrators	Dr Madeeha Javwad Dr Amna Saleem Dr Ahmed Bilal Dr Ramla Rani Dr Munaim Tahir
Lab Assistant / Lab Tech	Rehman Dastgeer (Lab Tech), M. Waseem (Assistant Lab Tech) M. Asif and M. Haseeb Ahmad (lab Attendant) Zeeshan Ali (Lecture hall attendant)
Computer Operator	Hammad Hassan

TIME LINE for SYLABUS COMPLETION

GANTT CHART of 4th YEAR



Key:

Winter Vacations Sports Week

Summer Vacations Eid Ul Adha

TIME TABLE

DAYS	1 08:00-08:45	2 08:45- 09:30	3 09:30-10:15	4 10:30-12:45	5 13:30-14:15	6 14:15-15:00
Monday	Class Test		Community Medicine	Ward	Pathology	Community Medicine
Tuesday	ENT	Obstetrics and Gynecology	Pathology		Community Medicine	Pathology
Wednesday	ENT	Community Medicine	Pathology		Pathology **Practical-** Batch A,B,C,D **Tutorial-** Batch E,F,G,H	
Thursday	Surgery and Allied	Eye	Pathology		Pathology **Practical-** Batch E,F,G,H **Tutorial-** Batch A,B,C,D	
Friday	Medicine and Allied	Eye	Community Medicine		Jumma Prayers	Self- Study/ Mentoring

Monthly Class Test	**Subject**	**Ward Program: 8 Groups**			
1st Monday	Community Medicine	**Rotation 1: Community Medicine**		**Rotation 4:** Medicine	**Rotation 7:** Surgery
2nd Monday	ENT	**Rotation 2: Eye**		**Rotation 5:** Pathology	**Rotation 8 :** 8a: Neurology
3rd Monday	Pathology	**Rotation 3: ENT**		**Rotation 6:** 6a : Pediatrics	8b: Orthopedics
4th Monday	EYE	• Ward Rotation for 4 weeks for Community Medicine, Pathology, Eye, ENT, Medicine, Surgery • Ward Rotation for 2 weeks each for pediatrics, OBGyn, Neurology and Orthopedics (Batch shall be subdivided into half for these wards,			

SYLLABUS OUTLINE

SPECIAL PATHOLOGY

The course outline is as follows:-

1. BLOOD VESSELS & HEART

- Atherosclerosis
    - Etiology and pathogenesis
    - Early lesion
    - Late and complicated lesion
    - Vessels affected
    - Complications
- Monkeberg's medial calcific sclerosis
- Arteriolosclerosis.
- Hypertension
    - Classification
    - Causes of secondary hypertension
    - Vascular changes in hypertension.
- Common pathogenetic mechanisms of vasculitis.
- Aneurysm
    - Classification
    - Etiology.
- Atherosclerotic aneurysm
    - Pathogenesis.
    - Type of vessel involved.
    - Morphological & clinical features.
- Varicose veins
    - Common sites
    - Predisposing factors
    - Clinical features.
- Benign and malignant tumours of blood vessels.
- Pathogenesis of ischemic heart disease.

Myocardial infarction

- Sequence of changes in myocardial infarction (M.I)

    - Pattern of elevation of biochemical markers used in the evaluationof M.I
    - Complications.
- Causes of sudden cardiac death.
- Cor-pulmonale
- Predisposing disorders.
- Rheumatic Endocarditis
- Bacterial Endocarditis
    - Etiology
    - Pathogenesis
    - Morphological & clinical features.
    - Complications
- Myocarditis.
- Morphological and clinical features of myocarditis.
- Cardiomyopathy
    - Dilated
    - Hypertrophic
    - Restrictive.
- Pericarditis.
- Clinical and morphological feature of pericarditis.
- Primary & secondary cardiac tumours.
- Fallot's tetralogy
- Coarctation of aorta

2. HEMATOPOIETIC AND LYMPHOID SYSTEMS

- Stages in the formation of red blood cell and white blood cells.
- Normal values of red cell count
- Hemoglobin level
- Packed cell volume
- MCH
- MCV

- MCHC
- WBC Count
- Platelet count.
- Anemia
    - Classification
    - Causes
- Etiology, Blood picture, clinical features and Lab Diagnosis of;
    - Iron deficiency anemia
    - Megaloblastic anemia.
    - Folate deficiency anemia.
    - Vit. B12 deficiency anemia.
    - Anemia of chronic disease
    - Nutritional deficiency anemia.
- Hereditary spherocytosis
    - Incidence
    - Etiology
    - Pathogenesis
    - Morphological and Clinical features
- Thalassemia.
    - Classification
    - Pathogenesis
    - Blood picture
    - Clinical and genetic features.
- Hemolytic anemia
- Glucose-6-phosphate dehyrogenase deficiency.
- Immunohemolytic anemia.
- Warm and cold antibodies immunohemolytic anemias.
- Aplastic anemia

- Etiology
- Pathogenesis
    - Clinical features
    - Lab. Diagnosis
- Neutropenia
- Agranulocytosis.
- Leukocytosis.
- Infectious mononucleosis
    - Epidemiology
    - Morphology
    - Clinical features
- Acute and chronic nonspecific lymphadenitis.
- Non-hodgkin's lymphoma
- Classification (real and working formulations)
- Hodgkin's disease
    - Classification
    - Clinical stages
    - Etiology and pathogenesis
- Leukemia
- Prognostic factors of acute lymphoblastic and acute myeloblastic leukemias.
- Pathophysiology of chronic myeloid and chronic lymphocytic leukemias
- Multiple myeloma
    - Etiology
    - Pathogenesis
    - Morphology
    - Clinical features
- Disseminated intravascular coagulation
    - Etiology
    - Pathogenesis
    - Clinical features
    - Laboratory diagnosis

- Causes of decreased production and decreased survival of platelets.
- Idiopathic & thrombotic thrombocytopenic purpura
- Value of following tests in the assessment of bleeding disorders
    - Bleeding time
    - Clotting time
    - Platelets count
    - Platelet function test
    - Partial thromboplastin time
    - Prothrombin time
    - Mixing test studies
- Polycythemia
    - Etiology
    - Pathogenesis
    - Clinical significance
    - Lab. Diagnosis
- ABO and Rhesus blood groups
- Screening of Donors
- Hazards of blood transfusion and their prevention.

3. RESPIRATORY SYSTEM

- Micro-organisms causing upper respiratory tract infection.
- Etiology and clinical features of;
    - Rhinitis
    - Nasal polyps
    - Acute pharyngitis
    - Acute tonsillitis
    - Acute bacterial epiglottis
    - Acute laryngitis
    - Pleural effusion
    - Hemothorax,

- Hydrothorax
- Pleuritis,
- Pneumothorax
- Chylothorax

- Malignant & benign tumours of nasopharynx and larynx.
- Atelectasis
  - Classification
  - Pathogenesis
- Restrictive & obstructive lung disease
- Etiology pathogenesis, morphology & clinical features of;
  - Asthma.
  - Various types of emphysema
  - Chronic bronchitis.
  - Bronchiectasis.
  - Adult respiratory distress syndrome.
  - Restrictive lung diseases.
  - Sarcoidosis
  - Hypersensitivity pneumonitis.
  - Idiopathic pulmonary fibrosis.
  - Goodpasture's syndrome.
  - Thromboemboli.
  - Pulmonary infarction.
  - Pulmonary hypertension and vascular sclerosis.
- Acute bacterial pneumonia.
- Micro-organisms causing atypical pneumonia.
- Etiology, pathogenesis & clinical features of;
  - Tuberculosis of the lung.
  - Pneumoconiosis
- Fungi (candida, pneumocystis carinii) causing lung infections.
- Bronchogenic carcinoma and mesothelioma
  - Classification

- Etiology
- Pathogenesis
- Clinical features

4. THE ORAL CAVITY AND GASTROINTESTINAL TRACT

- **Oral cavity**
- Leukoplakia.
- Oral cancer
    - Risk factors
    - Morphology
    - Clinical feature
- Benign and malignant tumours of salivary glands.
- Pleomorphic adenoma.
    - Clinical features
    - Morphology

- **Esophagus**
- Predisposing factors of esophagitis.
- Carcinoma of the esophagus
- Stomach
- Etiology, pathogenesis, morphological and clinical features of ;
    - Acute gastritis
    - Chronic gastritis.
    - Peptic ulcer.
- Gastric carcinoma
    - Risk factors
    - Pathogenesis
    - Morphology
    - Clinical features and diagnosis
    - Prognosis
- Intestine

- Etiology, pathogenesis, morphological and clinical features of;
    - Hirschsprung's disease
    - Celiac sprue
    - Tropical sprue
    - Ischemic bowel disease.
    - Crohn's disease
    - Ulcerative colitis.
    - Acute appendicitis
- Major causes of intestinal obstruction.
- Clinico-pathological features of following diseases of intestine
    - Amebiasis
    - Tuberculosis
    - Typhoid
- Non-neoplastic polyps of intestine.
- Adenomas
    - Classification on the basis of epithelial architecture.
    - Clinical and morphological features
- Colorectal carcinoma.
    - Classification
    - Etiology
    - Pathogenesis
    - Morphological and clinical features
- Aster-Coller classifications of carcinoma of the colon and rectum.
- Carcinoid tumour
    - Peak incidence
    - Most prevalent sites in the gut
    - Morphological features
    - Clinical features of carcinoid syndrome.
- Etiology, pathogenesis, morphological and clinical features of tumours of appendix.

- **Liver and Biliary Tract**
- Liver
- Pathway of bilirubin metabolism and its elimination from the body
- Jaundice
    - Classification
    - Causes
    - Clinical features
    - Lab diagnosis
- Intrahepatic and extrahepatic biliary obstruction.
- Etiology, pathogenesis, morphology, clinical features and complication of;
    - Hepatic failure
    - Cirrhosis
- Viral hepatitis A,B,C,D and E
    - Route of transmission
    - Incubation period
    - Clinical features.
    - Potential outcome of acute infection.
    - Carrier state
    - Acute and chronic hepatitis.
- Etiology, morphological and clinical features of liver abscess.
- Drugs and toxins causing hepatic injury
- Pathogenesis of alcohol liver disease.
- Morphological and clinical features of alcoholic hepatitis and cirrhosis.
- Classification, etiology, pathogenesis, morphological and clinical features of;
    - Hemochromatosis.
    - Secondary hemochromatosis.
    - Wilson's disease.
    - Alpha-1 antitrypsin deficiency.
    - Neonatal hepatitis.
    - Primary and secondary biliary cirrhosis.
- Hepatocellular carcinoma

- Epidemiology
- Pathogenesis
- Morphology
- Clinical features

- **Biliary tract**
- Pathogenesis and risk factors of cholelithiasis.
- Morphological and clinical features of acute and chronic cholecystitis.
- Clinical and morphological features of gall bladder cancer.

- **Pancreas**.
- Acute and chronic pancreatitis
  - Etiology
  - Pathogenesis
  - Morphology
  - Clinical features.
- Clinical and morphological features of carcinoma of pancreas.

5. THE URINARY SYSTEM

- Etiology, pathogenesis, clinical features and complications of;
  - Azotemia
  - Uremia
  - Acute renal failure
  - Chronic renal failure
  - Polycystic kidney disease (its Classification)
  - Glomerulonephritis (its Classification)
  - Nephrotic and nephritic syndrome
  - Acute pyelonephritis.
  - Chronic pyelonephritis.
  - Hydronephrosis
- Pathogenesis and clinical course of acute tubular necrosis.
- Benign and malignant nephrosclerosis

- Characteristics of various types of renal stones
- Pathogenesis, clinical features and lab diagnosis of nephrolithiasis
- Epidemiology, morphology, clinical features and prognosis of Wilm's tumour
- Classification, Epidemiology, morphology, clinical features and prognosis of renal cell carcinoma
- Etiology, morphology & clinical features of cystitis.
- Clinical features, etiology and morphology of transitional cell carcinoma of the urinary bladder.

6. MALE GENITAL SYSTEM

- Hypospadias
- Undescended testis
- Urethritis (Gonococcal, Non gonococcal)
    - Etiology
    - Route of infection
    - Pathogenesis
    - Diagnosis
- Etiology, pathogenesis and natural history of;
    - Prostatitis
    - Prostatic hyperplasia
- Causes, pathogenesis and clinical features of scrotal swelling.
    - Testicular adnexa
    - Varicocele
    - Hydrocele
    - Spermatocele
    - Testis and epididymis
    - Inflammation (Orchitis)
    - Epididymitis
- Causes, pathogenesis and relevant investigations of male inferitlity.
- Classification, pathogenesis, morphology, clinical features and prognosis of the tumours of the male genital tract (Prostate,Testis)

7. FEMALE GENITAL SYSTEM

- Causes, routes of infection & methods of diagnosis of sexually transmitted diseases.
- Route of infection, pathogenesis and Lab diagnosis of;
    - Gonorrhea
    - Syphilis
    - Chlamydia
    - HPV
    - Herpes simplex
    - Trichomonas vaginalis.
- Cervical intraepithelial neoplasia
- Neoplasms of cervix
- Causes, pathogenesis and clinical features of dysfunctional uterine bleeding with special reference to endometrial hyperplasia,endometrial polyp and carcinoma.
- Etiology, clinical features and pathogenesis of;
    - Adenomyosis
    - Endometriosis
    - Ectopic pregnancy
    - Toxemia of pregnancy.
- Classification, pathogenesis, morphology, clinical features and prognosis of the tumours of the female genital tract (uterus, ovary and Gestational trophoblastic tumours).

8. BREAST

- Etiology and causes of lump in the breast
- Etiology, Pathogenesis, Morphology and clinical features;
    - Mastitis
    - Fibrocystic disease of the breast
    - Intraductal papilloma
- Benign tumours of the breast (Fibroadenoma and Phyllodes tumour)
- Gynaecomastia
- Carcinomas of the breast (Ductal and Lobular)

9. MUSCULOSKELETAL SYSTEM

- Pathogenesis and clinical features of ;
    - Achondroplasia.
    - Osteogenesis imperfecta.
    - Osteoporosis.
- Acute and chronic osteomyelitis
    - Common causative micro-organism
    - Common routes of spread
    - Complications.
- Common sites involved in tuberculous osteomyelitis
- Pathogenesis, morphological and clinical features of Paget's disease (osteitis deformans).
- Benign and malignant bone forming tumours.
- Common sites, morphological and clinical features of osteogenic sarcoma.
- Benign and malignant cartilaginous tumours.
- Chondrosarcoma
    - Peak incidence
    - Common sites of origin
    - Morphological and clinical features.
- Most frequent sites, clinical and morphological features of giant cell tumours of bone.
- Ewing's sarcoma
    - Peak incidence
    - Common sites of origin
    - Chromosomal abnormality
    - Morphological and clinical features.
- Pathogenesis, morphological and clinical features of osteoarthritis
- Rheumatoid arthritis
    - Pathogenesis
    - Morphological and clinical features
    - Lab Diagnosis

- Gout.
    - Classification
    - Pathogenesis
    - Morphological and clinical features
    - Lab Diagnosis
- Pathogenesis, morphological and clinical features of;
    - Duchenne muscular dystrophy
    - Myotonic dystrophy
    - Congenital myopathies
    - Inflammatory myopathies
    - Myasthenia gravis.
- Lipoma and lipasarcoma.
- Rhabdomyosarcoma
    - Peak incidence
    - Histological variants
    - Frequent sites

10. ENDOCRINE SYSTEM

- **Pituitary.**
- Causes of hyperpituitarism.
- Morphology and clinical features of;
    - Pituitary adenomas.
    - Acromegaly
    - Gigantism.
- Causes of hypopituitarism.
- Etiology, pathogenesis and clinical features of;
    - Sheehan's syndrome
    - Dwarfism
- Etiology, clinical features, pathogenesis and lab findings in inappropriate secretion of ADH.
- **Adrenal Cortex and Medulla**

- Adrenal cortical hyperfunction. (CUSHNG'S SYNDROME)
- Etiology, pathogenesis clinical features and lab diagnosis of;
    - Conn's syndrome
    - Adrenogenital syndrome.
- Causes of hypofunction of adrenal cortex.
- Etiology, pathogenesis and clinical features of Addison's disease.
- Tumours of adrenal medulla and cortex.
- Clinical features and diagnosis of pheochromocytoma.
- **Thyroid**
- Etiology and clinical features of hyperthyroidism.
- Etiology and clinical features of hypothyroidism including Cretinism and Myxedema.
- Investigation / lab tests for diagnosis of thyroid dysfunction.
- Goiter and its types
- Etiology, pathogenesis and clinical features of diffuse and multinodular goiter.
- Causes of solitary thyroid nodule and its diagnostic approach.
- Thyroiditis
    - Types
    - Pathogenesis
    - Morphology
    - Clinical features
- Etiology, pathogenesis, morphology and clinical features of;
    - Follicular adenoma
    - Papillary carcinoma
    - Follicular carcinoma
    - Medullary carcinoma.
    - Undifferentiated.
- Types of MEN syndromes.
- **Parathyroid**
- Etiology and clinical features of hyperparathyroidism and hypoparathyroidism.
- Primary, secondary and tertiary hyperparathyroidism.
- Calcium homeostasis

- Causes of hyper and hypocalcemia.
- **SKIN**
- Macule, papule, nodule, plaque, vesicle, bulla, blister, putsule, scale,lichenification, excoriation, hyperkeratosis, parakeratosis, acanthosis,dyskeratosis, acantholysis, papillomatosis, lentiginousspongiosis.
- Morphological and clinical features of urticaria.
- Etiology, pathogenesis morphological and clinical features of;
    - Eczematous dermatitis.
    - Contact dermatitis
    - Atopic dermatitis
    - Photoeczematus eruptions
    - Primary irritant dermatitis
    - Erythema multiforme..
    - Psoriasis.
    - Pemphigus
    - Bullous pemphigoid.
- Premalignant epithelial lesions.
- Types of warts and their most frequent locations.
- Predisposing factors, morphology, clinical features and prognosis of;
    - Squamous cell carcinoma
    - Basal cell carcinoma.
- Types, clinical and morphological features of;
    - Nevocellular Nevi
    - Dysplastic nevi.
- Malignant melanoma
    - Classification
    - Frequent site of origin
    - Clinical and morphological features.

11. NERVOUS SYSTEM

- Clinico-pathological features of hydrocephalus.

- Cerebral edema (vasogenic & cytotoxic).
- Types of herniation of brain and their clinical significance.
- Intra-cranial hemorrhage.
- Etiologic agents, clinical and morphological features of;
    - Acute purulent meningitis
    - Acute lymphocytic meningitis
    - Chronic meningitis
    - Brain abscess
    - Tuberculosis meningitis.
    - Viral encephalitis
- Clinico-pathological features of Guillain Barre syndrome.
- Polyneuropathies
- Toxic neuropathy
- Important intracranial tumours (astrocytoma,oligodendrogliomas, ependymoma,medulloblastoma and meningioma)
- Clinical significance of glial tumours.
- Frequent metastatic tumours to the brain
- Primary peripheral nerve sheath neoplasms

Learning Objectives

Table of learning outcomes and teaching strategies in Special Pathology

TOPIC	SUBTOPIC	LEARNING OBJECTIVES
THE GASTROINTESTINAL TRACT		
1. ESOPHAGUS	Congenital anomalies	Recall and define Atresia, Fistulae, and Duplications
		Recall and define Diaphragmatic Hernia, Omphalocele,and Gastroschisis,Meckel
		Describe the pathogenesis and morphology of Hirschsprung's disease
	Esophageal obstruction and inflammation	Describe the pathogenesis and morphology of
		Describe the pathogenesis and morphology of different types of Esophagitis
	Esophageal Hemorrhage	Enlist the causes esophageal varices
	Barrett Esophagus	Describe the pathogenesis, morphology and consequences of Barrett esophagus
	Esophageal Tumors	Describe the etiology, pathogenesis and morphology of Adenocarcinoma & Squamous Cell Carcinoma
2. STOMACH	Gastropathy and Acute Gastritis	Enlist the causes of acute gastritis
		Discuss the pathogenesis of acute gastritis with its morphological features
	Chronic Gastritis	Discuss the pathogenesis and morphological features of Helicobacter pylori Gastritis
		Discuss the pathogenesis and morphological features Autoimmune Gastritis
		Compare and contrast H.pylori and autoimmune
		Describe the pathogenesis, morphology and complications of Peptic Ulcer Disease
		Define other different types of chronic gastritis and stress induced gastritis
		Discuss the Dysplastic changes in gastric epithelium

	Hypertrophic Gastropathies	Enlist the gastropathies, with description on causes and morphological features of
		Compare and contrast different hypertrophic gastropathies along with Zollinger-Ellison
	Gastric Polyps and Tumors	Describe the etiology, sites, pathogenesis, morphology and consequences of following polyps
		1. Inflammatory and Hyperplastic Polyps
		2. Fundic Gland Polyps
		3. Gastric Adenoma
		4. Gastric Adenocarcinoma
		5. Lymphoma
		6. Carcinoid Tumor
		7. Gastrointestinal Stromal Tumor
3. SMALL INTESTINE AND COLON	Intestinal Obstruction	Recall the anatomical locations, definitions and
		Hernias
		Adhesions
		Volvulus
		Intussusception
	Ischemic Bowel Disease	Describe the etiology, pathogenesis, morphology and clinical features of Ischemic bowel disease
	Malabsorption and Diarrhea	Discuss the etiology, pathogenesis, morphology, complications and clinical features of following;
		Cystic Fibrosis
		Celiac Disease
		Environmental Enteropathy
		Autoimmune Enteropathy
		Lactase (Disaccharidase) Deficiency and Abetalipoproteinemia

	Infectious Enterocolitis	A brief overview of the gastrointestinal microorganisms (etiological agent, pathogenesis,
		Cholera
		Campylobacter Enterocolitis
		Shigellosis
		Salmonella
		Typhoid Fever
		Escherichia coli ,Pseudomembranous Colitis Whipple Disease Viral Gastroenteritis Parasitic
	Irritable Bowel Syndrome	Discuss briefly the etiology ,pathogenesis,morphology and clinical features
	Inflammatory Bowel Disease	Discuss in detail the etiology ,pathogenesis,morphology, complications and clinical
		Discuss in detail the etiology ,pathogenesis,morphology, complications and
		Compare and contrast the features of Crohn's disease and Ulcerative colitis
		Discuss the significance of Colitis-Associated
		Compare Microscopic, Diversion and indeterminate Colitis
	Graft-Versus-Host Disease	Define and describe teh morphological changes in
	Polyps and tumors	Describe the etiology, pathogenesis, morphology and clinical features of;
		1. Hyperplastic Polyps
		2. Inflammatory Polyps
		3. Hamartomatous Polyps
		4.Juvenile Polyps
		5. Peutz-Jeghers Syndrome

		6. Neoplastic Polyps
		7. Adenomatous Polyposis
		8. Hereditary Non-Polyposis Colorectal cancer
		9. Adenocarcinoma
	Tumors of the Anal Canal	Recall of features of squamous cell carcinoma
	Hemorrhoids	Recall the anatomical features of hemorrhoids with brief morphological features
	Appendix	Describe the etiology, pathogenesis, morphology, complications and clinical features of Acute
		Enumerate the Tumors of the Appendix
4. Peritoneum	Peritoneal cavity	Enlist the Inflammatory and infectious Diseases of peritoneum
		Discuss the Sclerosing Retroperitonitis
BLOOD VESSELS	Introduction	Recall the structure and function of blood vessels
	Hypertensive Vascular Disease	Describe the pathogenesis of hypertension along with vascular pathology
		Classify hypertension and enlist the causes of secondary hypertension
	Arteriosclerosis	Define arteriosclerosis
	Atherosclerosis	Define atherosclerosis, Enlist it's Risk factors
		Discuss the etiology and pathogenesis along with complications and morphology
	Aneurysms and dissection	Classify and describe various types of aneurysms, types of vessels involved,
		Discuss the etiology and pathogenesis along with complications of aneurysms
		Define aortic dissection, describe it 's pathogenesis and morphology
	Vasculitis	Classify vasculitis and describe the underlying pathogenesis and morphology
	Varicose veins	Enlist common sites, risk factors and discuss clinical features
	Vascular	Classify vascular tumors (benign and malignant)

	tumors	Describe the Pathogenesis and morphology of Kaposi sarcoma
THE HEART	Congenital Heart Disease	Enlist congenital heart defects
		Describe Fallot's tetrology
		Describe coarctation of aorta
	Ischemic Heart Disease	Describe the pathogenesis of ischemic heart disease (angina pectoris and myocardial
		Describe the sequence of changes in Myocardium infarction
		Describe the biochemical markers in the evaluation of
		Discuss the complications of M.I
		Enlist the sudden causes of death
	Hypertensive Heart Disease	Describe the pathogenesis of Pulmonary (Right-Sided) Corpulmonale and systemic (left-sided) heart failure
	Rheumatic endocarditis	Describe the etiology, pathogenesis, morphology, clinical features and complication of Rheumatic Fever and Rheumatic heart disease
	Bacterial endocarditis	Describe the etiology, pathogenesis, morphology, clinical features and complications of bacterial endocardiis
	Myocarditis	Discuss the causes, morphology and clinical features of myocarditis
	Pericardial diseases	Describe the causes, morphology and clinical features of all types of pericarditis
		Enlist causes of pericardial effusion
		Define cardiomyopathy and Enlist the causes of cardiomyopathy
	Cardiomyopath y	Describe the etiology, pathogenesis, morphology and clinical features of each type
	Cardiac neoplasms	Enumerate primary and secondary cardiac tumors
		Describe the morphology of cardiac myxoma

THE LUNG	Upper respiratory tract infections	Enlist the microorganisms causing upper RTI's
	Lower respiratory tract infections	Classify pneumonia, describe acute bacterial pneumonias with morphological changes in the
		Enlist atypical pneumonias,
		Discuss lung infections by Fungi(candidiasis, pneumocystis carinii)
		Enlist causes of aspiration pneumonia, morphology of lung abscess along with its complications
		Discuss etiology, pathogenesis and clinical features of tuberculosis of the lung
		Discuss etiology, pathogenesis and clinical features of pneumoconiosis
	Tumors of nasopharynx and larynx	Enumerate the benign and malignant tumors
		Describe the nasopharyngeal carcinoma (etiology, morphology, clinical features)
	Atelactasis	Classify atelectasis and enlist it causes
	Pulmonary Edema	Discuss Hemodynamic Pulmonary Edema & Edema Caused by Microvascular (Alveolar) injury
	Lung injury	Enlist causes of Acute Lung Injury and Acute respiratory distress syndrome
		Describe the pathogenesis of Acute respiratory distress syndrome
	Obstructive Lung Diseases	Describe the etiology, pathogenesis, morphology and clinical features of following
		1. Asthma, 2. Various types of emphysema 3. Chronic bronchitis. 4. Bronchiectasis.
	Restrictive lung diseases	Describe the etiology, pathogenesis, morphology and clinical features of following restrictive lung diseases

		1. Idiopathic pulmonary fibrosis 2. Nonspecific interstitial pneumonia 3. Cryptogenic organizing pneumonia 4. Pneumoconiosis
	Granulomatous Diseases	discuss the Pathogenesis and morphology of Sarcoidosis and hypersensitivty pneumonitis
	Diseases of Vascular Origin	Discuss the pathogenesis and morphology of Pulmonary Embolism and Infarction
		Describe Pulmonary Hypertension
		Describe Goodpasture Syndrome
		Discuss Polyangiitis With Granulomatosis
	Tumors of lung	Describe the Bronchogenic carcinoma and mesothelioma on the basis of the following
		1. Classification 2.Etiology 3. Pathogenesis
DISEASES OF WBC'S,LYMPH NODES,SPLEEN	Development and maintenance hematopoietic tissue	Recall from physiology the developmental stages of WBC'S
		Memorize the reference ranges for different WBC'S
	Disorders of white cells	Discuss the etiology,pathogenesis and morphology of Leukopenia
		Discuss the etiology,pathogenesis and morphology of Neutropenia
		Discuss the etiology,pathogenesis and morphology of Agranulocytosis
		Introduction to reactive proliferation of white cells
		Discuss the etiology,pathogenesis and morphology of leukocytosis
		Discuss the etiology,pathogenesis and morphology of lymphadenitis
		Discuss the etiology,pathogenesis and morphology of acute nonspecific lymphadenitis

		Discuss the etiology,pathogenesis and morphology of chronic nonspecific lymphadenitis
		Define the term hemophagocytic lymphohistiocytosis
	Neoplastic proliferation of WBC'S	Discuss the etiological and pathgenetic factors in white cell neoplasia
		Definitions and classification of lymphoid neoplasms
		Discuss the etiology,pathogenesis and morphology of precursor B and T-cell neoplasm
		Discuss the etiology,pathogenesis and morphology of precursor B and T-cell neoplasm
		Discuss the etiology,pathogenesis and morphology of T- cell and natural killer cell neoplasms
		Discuss the etiology,pathogenesis and morphology of Hodgkin Lymphoma
		Introduce the term Myeloid neoplasm
		Discuss the etiology,pathogenesis and morphology of AML
		Discuss the etiology,pathogenesis and morphology of Myelodysplastic syndromes
		Discuss the etiology,pathogenesis and morphology of Myeloproliferative disorders
		Discuss the etiology,pathogenesis and morphology of Langerhans cell histiocytosis
	Spleen	Explain the causes of splenomegaly
		Discuss the etiology,pathogenesis and morphology of acute splenitis
		Discuss the etiology,pathogenesis and morphology of splenic infarcts and congestive splenomegaly

		Discuss the neoplasms,congenital anomalies and rupture of spleen
	Thymus	Define the developmental disorders of thymus
		Distinguish between thymic hyperplasia and thymomas morphologically and clinically
RED BLOOD CELL AND	Anemias	Discuss the Classification of ANEMIAS
		Explain the reference ranges for RBCS
	Blood loss anemias	Discuss in detail the etiology,pathogenesis,morphology and clinical
		Discuss in detail the etiology,pathogenesis,morphology and clinical
	Hemolytic Anemias	Discuss in detail the etiology,pathogenesis,morphology and clinical
		Discuss in detail the etiology,pathogenesis,morphology and clinical
		Discuss in detail the etiology,pathogenesis,morphology and clinical
		Discuss in detail the etiology,pathogenesis,morphology and clinical
		Discuss in detail the etiology,pathogenesis,morphology and clinical features of paroxysmal nocturnal hemoglobinuria
		Discuss in detail the etiology,pathogenesis,morphology and clinical
	Anemias of Diminished	Discuss in detail the etiology,pathogenesis,morphology and clinical features of Megaloblastic Anemia
	Erythropoiesis	Discuss in detail the etiology,pathogenesis,morphology and clinical

		Discuss in detail the etiology,pathogenesis,morphology and clinical
		Discuss in detail the etiology,pathogenesis,morphology and clinical
		Discuss in detail the etiology,pathogenesis,morphology and clinical
		Discuss in detail the etiology,pathogenesis,morphology and clinical
	Polycythemia	Discuss in detail the etiology,pathogenesis,morphology and clinical
BLEEEDING DISORDERS	Hemorrhagic Diatheses	Describe the bleeding disorders caused by vessel wall abnormalities
		Discuss etiology,pathogenesis , morphology and clinical features of thrombocytopenia
		Discuss etiology,pathogenesis , morphology and clinical features of Acute immune thrombocytopenic
		Discuss etiology,pathogenesis , morphology and clinical features of Chronic immune
		Describe the terms drug induced and HIV associated thrombocytopenia,HUS.
	Defective platelet function	Discuss the effects of defective platelet function
		Describe the hemorrhagic diathesis related to abnormalities in clotting
		Discuss the etiology,pathogenesis,morphology and clinical features of Von Willebrand disease
		Discuss the etiology,pathogenesis,morphology and clinical features of Hemophilia A
		Discuss the etiology,pathogenesis,morphology and clinical features of Hemophilia B
		Discuss the etiology,pathogenesis,morphology and clinical features of DIC

	Transfusion Reactions	Discuss the types of transfusion reactions
		Discuss the etiology,pathogenesis,morphology and clinical features of allergic and hemolytic reactions
		Discuss the etiology,pathogenesis,morphology and clinical features of transfusion related acute lung
THE LOWER URINARY TRACT AND MALE GENITAL SYSTEM	ureters	Recall the anatomy of normal lower urinary tract
		Discuss the congenital anomalies of ureters
		Recognize various inflammations of ureters
		Discuss the etiology,pathogenesis and morphology of congenital anomalies of ureters
		memorize various obstructive leisons and causes of uretheral obstructions
		Explain tumor and tumor like leisons of ureters
	urinary bladder	Identify congenital anomalies of bladder
		Identify acute and chronic cystitis
		Distinguish variants of cystitis(interstitial cystitis, Melakoplakia, polypoid cystitis)
		name various metaplastic lesions of bladder
		discuss the epidemiology,pathogenesis and morphology of urothelial tumors
		memorize grading of transitional cell tumors
		learn pathological staging of bladder carcinoma
	male genital tract	
	penis	enlist congenital anomalies ,inflammation and tumors of penis
	testis and epididymis	discuss the etiology, pathogenesis and morphology of cryptorchidism

		enumerate inflammatory diseases (orchitis,granulamatous
	testicular tumors	classify testicular tumors
		discuss the etiology, pathogenesis and morphology of germ cell tumors
		discuss the etiology,pathogenesis and morphology of seminomatous,nonseminomatous tumors
		discuss the etiology,pathogenesis and morphology of teratoma and sexcord- stromal tumors
	prostate	recall the anatomy of normal adult prostate
		discuss the etiology, pathogenesis and morphology of various types of prostatitis
		memorize etiology, pathogenesis and morphology of
		introduction to tumors of prostate
		discuss in detail the etiology, pathogenesis and morphology of
		explain staging of prostatic adenocarcinoma using the TNM system
		associate the role of PSA levels in adenocarcinoma of prostate
THE FEMALE GENITAL TRACT	Lower genital tract	Recall the anatomy of the structures comprising this system
		identify various infections of lower genital tract, discuss the clinical course of PID in detail
	VULVA	discuss the etiology, pathogenesis and morphology of various types of NONNEOPLASTIC EPITHELIAL DISORDERS
		discuss the etiology, pathogenesis and morphology of various types of NEOPLASTIC EPITHELIAL DISORDERS
		discuss in detail the etiology, pathogenesis and morphology of
	VAGINA	Explain various developmental anomalies

		Associate various premalignant and malignant neoplasms of vagina
		illustrate vaginal intraepithelial neoplasia and embryonal rhabdomyosarcoma
	CERVIX	Discuss etiology,pathogenesis and morphology of acute cervicitis
		Discuss etiology, pathogenesis and morphology of chronic cervicitis
		Discuss etiology, pathogenesis and morphology of endocervical polyp
		Discuss etiology, pathogenesis and morphology of CIN(squamous intraepithelial lesion)
		Discuss etiology, pathogenesis and morphology of cervical carcinoma
		Explain cervical cancer screening and prevention
	uterus and endometrium	Inquire endometrial histology in normal menstrual
		Introduce various functional endometrial disorders
		Explain the etiology, pathogenesis and morphology of DUB
		Discuss various inflammatory disorders of
		Explain the etiology, pathogenesis and morphology of acute endometritis
		Explain the etiology,pathogenesis and morphology of chronic endometritis
		Explain the term endometriosis and adenomyosis
		Discuss the etiology, pathogenesis and morphology of endometrial polyps
		Discuss the etiology, pathogenesis and morphology of endometrial hyperplasia
		Identify malignant tumors of endometrium
		Describe carcinoma of endometrium also explain characteristics of type I and type II

		Explain the etiology, pathogenesis and morphology of type I and typeII
		Briefly discuss the etiology. Pathogenesis and morphology of Malignant Mixed Mullerian tumor
		Discuss the etiology, pathogenesis and morphology of tumors of endometrial stroma
		Discuss the etiology, pathogenesis and morphology of tumors of myometrium
	Fallopian tubes	Briefly discuss the etiology, pathogenesis and morphology of inflammations, tumor and cysts of
	Ovaries	Describe nonneoplastic and functional cysts
		Discuss the etiology ,pathogenesis and morphology of follicle and luteal cysts
		Discuss the etiology ,pathogenesis and morphology of polycystic ovaries and stromal hyperthecosis
		Discuss classification of ovarian tumors
		Explain the etiology, pathogenesis and morphology of Epithelial tumors
		Explain the etiology, pathogenesis and morphology of germ cell tumors
		Explain the etiology, pathogenesis and morphology of sex cord stromal tumors
		Briefly discuss the etiology, pathogenesis and morphology metastatic tumors
	Gestational and placental disorders	Discuss the etiology, pathogenesis and morphology of spontaneous abortion and ectopic pregnancy
		Explain disorders of late pregnancy
		Briefly explain twin placentas, abnormalities of placental implantation
		Discuss etiology of placental infections

		Explain the etiology ,pathogenesis and morphology of preeclampsia and eclampsia
		Explain the term GTD
		Discuss the etiology, pathogenesis and morphology of Hydatidiform Mole
		Discuss the etiology, pathogenesis and morphology of complete, partial and invasive mole
		Describe in detail choriocarcinoma discussing the etiology, morphology and pathogenesis
		Briefly discuss placental site trophoblastic tumor
The Breast	disorders of breast	Briefly explain milk line remnants, accessory axillary breast tissue and congenital nipple inversion
	development	Introduction of inflammatory disorders of breast
		Discuss the etiology, pathogenesis and morphology of acute mastitis
		Discuss the etiology, pathogenesis and morphology of squamous metaplasia of lactiferous ducts
		Discuss the etiology, pathogenesis and morphology of duct ectasia and fat necrosis
		Discuss the etiology, pathogenesis and morphology of lymphocytic mastopathy and granulomatous mastitis
		Introduction of benign epithelial lesions
		Discuss the etiology, morphology and pathogenesis of nonproliferative changes
		Discuss the etiology, morphology and pathogenesis of proliferative breast diseases without
		Discuss the etiology, morphology and pathogenesis of proliferative changes with

		Briefly explain the clinical significance of benign epithelial changes
	Carcinomas of breast	General discussion on carcinoma of breast
		Brief discussion about incidence and epidemiology
		Discuss in detail the etiology and pathogenesis of familial breast cancer
		Discuss in detail the etiology and pathogenesis of sporadic breast cancer
		Discuss in detail the molecular mechanism of carcinogenesis and tumor progression
		General discussion on types of breast cancer
		Describe the etiology, pathogenesis and morphology of Ductal Carcinoma in situ
		Describe the etiology, pathogenesis and morphology of lobular Carcinoma in situ
		Describe the etiology, pathogenesis and morphology of invasive(infiltrating) Carcinoma
		Discuss in detail the special histologic types of invasive carcinoma
		Brief discussion about incidence of male breast
		Associate various prognostic and predictive factors in cancer development
		Introduce stromal tumors
		Discuss the etiology, pathogenesis and morphology of Fibroadenoma
		Discuss the etiology, pathogenesis and morphology of Phyllodes tumor
		Discuss the etiology, pathogenesis and morphology of lesions of interlobular stroma
		Describe in detail the malignant tumors of interlobular stroma
		Brief introduction to the other malignant tumors of the breast

Liver	General Features of Liver	Describe the mechanisms of injury and repair in liver
	Liver Failure	Define acute liver failure and enlist its causes
		Describe the morphological changes of acute liver
		Define chronic liver failure and enlist its causes
		Describe the morphological changes of chronic liver failure
		Define acute on chronic liver failure
		Define portal hypertension and enlist its causes
		Describe the mechanism of portal hypertension
	Infectious Disorders	Recall and describe the properties of hepatitis A,B,C,D,E along with their prognosis
		Define the Clinicopathologic Syndromes of Viral
		Enlist Bacterial, Parasitic, and Helminthic Infections
		Describe liver abscess (causes and morphology)
	Autoimmune Hepatitis	Describe the morphology and enlist the antibodies involved
	Drug- and Toxin-Induced Liver	Enlist the causes
	Alcoholic Liver Disease	Describe the pathogenesis, morphology and prognosis
	Metabolic Liver Disease	Describe causes and morphology of Nonalcoholic Fatty Liver Disease
		Describe the pathogenesis, morphology and clinical features of Hemochromatosis
		Describe the pathogenesis, morphology and clinical features of Wilson disease
		Describe the pathogenesis, morphology and clinical features of α1-Antitrypsin Deficiency
	Cholestatic Diseases	recall the Bilirubin and Bile Formation
		Describe the Pathophysiology of Jaundice
		Enlist the causes and morphology of Cholestasis

		Enlist the causes and morphology of Cholestasis of
		Neonatal Cholestasis
	Autoimmune Cholangiopathies	Describe the etiology, pathogenesis and morphology of Primary Biliary Cirrhosis (PBC)
	Circulatory Disorders	Describe the etiology, pathogenesis and morphology of Primary Sclerosing Cholangitis
		Describe the pathogenesis, causes and morphology of following circulatory disorders;
		Hepatic Vein Thrombosis
		Passive Congestion and Centrilobular Necrosis
	Graft-Versus-	Describe the causes and morphology of GVHD
	Hepatic Disease Associated with pregnancy	Describe the etiology, morphology and clinical features of following preg.related hepatic dis;
		1. Preeclampsia and Eclampsia
		2. Acute Fatty Liver of Pregnancy
		3. Intrahepatic Cholestasis of Pregnancy
	Nodules and Tumors	Describe the pathogenesis and morphology of Nodular Hyperplasias
		Describe the pathogenesis and morphology Benign Neoplasms Hepatocellular Adenomas
	Malignant Tumors	Describe the etiology, pathogenesis, morphology and prognosis of Hepatocellular
		Describe the etiology, pathogenesis, morphology and prognosis of Hepatoblastoma
		Describe the etiology, pathogenesis, morphology and prognosis of Cholangiocarcinoma (CCA)
GALLBLADDER	Cholelithiasis (Gallstones)	Describe the types, etiology, pathogenesis, morphology and complications of gallstones

	Cholecystitis	Describe the etiology, pathogenesis, morphology and prognosis of ;
		Acute cholecystitis and chronic cholecystitis
	Carcinoma	Describe the etiology, pathogenesis, morphology and prognosis of gallbladder carcinoma
PANCREAS	Congenital Anomalies	Define Annular Pancreas.
		Define Ectopic Pancreas
	Acute Pancreatitis	Enlist the Etiologic Factors in Acute Pancreatitis
		Describe the underling Pathogenesis.
		Describe the morphology
		Describe the clinical features
	CHRONIC PANCREATITIS	Describe the etiology, pathogenesis,
		Describe the morphology and clinical features
	Pancreatic carcinoma	Describe he etiology, pathogenesis, morphology
		and clinical features of pancreatic carcinoma
BONES+JOINTS +SOFT TISSUES	Basic Structure and function of	Recall of the basic histological structure, development of bone
	Developmental Disorders of Bone and Cartilage	Recall of the following developmental disorders of bone and cartilage
		1. Define Defects in Nuclear Proteins and Transcription Factors
		2.Define Defects in Hormones and Signal Transduction Proteins
		3. Define Defects in Extracellular Structural Proteins
	Acquired Disorders of Bone and Cartilage	Describe the etiology, pathogenesis, morphology, clinical features and complications of Osteopenia and Osteoporosis

		Describe the etiology, pathogenesis, morphology, clinical features and complications of Paget Disease
		Describe the etiology, pathogenesis, morphology, clinical features and complications of Osteomalacia
		Describe the etiology, pathogenesis, clinical features of Renal Osteodystrophy
		Define different types of Fractures
		Describe the etiology, pathogenesis, clinical features of Osteonecrosis
		Describe the etiology, pathogenesis, clinical features of Osteomyelitis
	Bone Tumors and Tumor- Like Lesions	Describe the etiology, pathogenesis, morphology, clinical features and complications of Bone-Forming
		Describe the etiology, pathogenesis, morphology, clinical features and complications of Cartilage-
		Describe the etiology, pathogenesis, morphology, clinical features and complications of Tumors of
		Describe the etiology, pathogenesis, morphology, clinical features and complications of Lesions Simulating Primary Neoplasms
	JOINTS	Describe the etiology, pathogenesis, morphology, clinical features and complications of Osteoarthritis
		Describe the etiology, pathogenesis, morphology, clinical features and complications of Rheumatoid
		Describe the etiology, pathogenesis, morphology, clinical features of Juvenile Idiopathic Arthritis

		Describe the etiology, pathogenesis, morphology, clinical features of Seronegative
		Describe the etiology, pathogenesis, morphology, clinical features of Infectious Arthritis
		Describe the etiology, pathogenesis, morphology, clinical features of Crystal-Induced Arthritis
	Joint Tumor and Tumor-Like Conditions	Describe the etiology, pathogenesis, morphology, clinical features of Ganglion and Synovial Cysts
	SOFT TISSUE	Describe the etiology, pathogenesis, morphology, clinical features of Tumors of Adipose Tissue
		Describe the etiology, pathogenesis, morphology, clinical features of Fibrous Tumors
		Describe the etiology, pathogenesis, morphology, clinical features of Skeletal Muscle Tumors
		Describe the etiology, pathogenesis, morphology, clinical features of Smooth Muscle Tumors
		Describe the etiology, pathogenesis, morphology, clinical features of Tumors of Uncertain Origin
Central Nervous system	Cellular Pathology of CNS	Describe the Reactions of Neurons, microglia and astrocytes to Injury
		Recall and define Cerebral Edema, Hydrocephalus, and herniation
	Cerebrovascular Disease (CVD)	Recall hypoxic, ischemic and infarctive changes in
		Describe the etiology, pathogenesis, morphology, clinical features of Hypertensive CVD
		Recall the etiology, pathogenesis, morphology, clinical features of CNS Infections
	Prion Diseases	Recall and define prion diseases
	Demyelinating Diseases	Classify demyelinating disorders of brain with definitions of basic terminologies in multiple
	Neurodegenera	Classify Neurodegenerative Diseases

	tive Diseases	Describe the etiology, pathogenesis, morphology, clinical features of Alzheimer Disease
		Describe the etiology, pathogenesis, morphology, clinical features of Parkinson Disease (PD)
		Briefly Describe pathogenesis, morphology, clinical features of Huntington Disease
	Tumors	classify CNS tumors
		Describe the etiology, pathogenesis, morphology, clinical features of Gliomas
		Describe the etiology, pathogenesis, morphology, clinical features of Poorly Differentiated Neoplasms
		Describe the etiology, pathogenesis, morphology, clinical features of Meningiomas
The Endocrine System	Pituitary Gland	Briefly discuss the normal anatomy of pituitary gland
		Discuss in detail the clinical manifestations of pituitary gland diseases
		Discuss in detail the classification of pituitary
		Discuss in detail the genetic alterations in pituitary
		Explain the term hyperpituitarism followed by discussion on the following
		Discuss in detail the eiology, pathogenesis and morphology of Lactotroph Adenoma
		Discuss in detail the eiology, pathogenesis and morphology of Somatotroph Adenoma
		Discuss in detail the eiology, pathogenesis and morphology of Corticotroph Adenoma
		Discuss in detail the eiology, pathogenesis and morphology of other anterior pituitary Adenomas
		Describe hypopituitarism, discuss the causes and clinical manifestations in detail
		Give a review of Posterior Pituitary Syndrome
		Describe hypothalmic suprasellar tumors
	Thyroid Gland	Explain the terms hyperthyroidism and hypothyroidism

		Discuss in detail the etiology, morphology and pathogenesis of Cretinism
		Discuss in detail the etiology, morphology and pathogenesis of Myxedema
		Introduce the term Thyroiditis giving examples
		Discuss in detail the etiology, pathogenesis and morphology of
		Discuss in detail the etiology, pathogenesis and morphology of Subacute Lymphocytic
		Discuss in detail the etiology, pathogenesis and morphology of
		Discuss in detail the etiology, pathogenesis and morphology of Graves'
		Explain the differences between diffuse and multinodular goiter
		Discuss in detail the etiology, pathogenesis and morphology of Diffuse
		Discuss in detail the etiology, pathogenesis and morphology of
		Discuss neoplasms of Thyroid(Adenomas and Carcinomas)
		Discuss in detail the etiology, pathogenesis and morphology of
		Discuss in detail the etiology, pathogenesis and morphology of Papillary
		Discuss in detail the etiology, pathogenesis and morphology of Follicular
		Discuss in detail the etiology, pathogenesis and morphology of
		Discuss in detail the etiology, pathogenesis and morphology of
		Discuss various congenital anomalies of thyroid gland
	Parathyroid Gland	Explain the term Hyperparathyroidism
		Discuss in detail the etiology, pathogenesis and morphology of Primary

		Discuss in detail the etiology, pathogenesis and morphology of Secondary
		Discuss in detail the etiology, pathogenesis and morphology of
		Discuss in detail the etiology, pathogenesis and morphology of pseudo
	The Pancreas	Discuss in detail the etiology of Diabetes Mellitus
		Explain the diagnostic criteria of diabetes and its classification
		Explain the role of insulin in regulation of its signaling pathways
		Discuss in detail the pathogenesis of Type I and Type II Diabetes Mellitus
		Briefly discuss diabetes in pregnancy
		Discuss the most initial presentation or mode of diagnosis for each of the major subtypes
		Discuss in detail the morphology and clinical manifestations of chronic
		Introduction to pancreatic neuroendocrine tumors
		Discuss in detail the etiology, pathogenesis and morphology of
		Discuss in detail the etiology, pathogenesis and morphology of Zollinger-
	Adrenal Glands	Recall the anatomy of adrenal cortex
	Adrenal Cortex	Explain Adrenocortical
		Discuss in detail the etiology, pathogenesis and morphology of Cushing
		Discuss in detail the etiology, pathogenesis and morphology of Primary
		Discuss in detail the etiology, pathogenesis and morphology of
		Explain in detail the pathogenesis of Adrenocortical Insufficency

		Discuss in detail the etiology, pathogenesis and morphology of Primary acute adrenocortical insufficiency
		Discuss in detail the etiology, pathogenesis and morphology of Waterhouse-fridrichsen Syndrome
		Discuss in detail the etiology, pathogenesis and morphology of Addison Disease
		Explain in detail the pathogenesis of Secondary Adrenocortical Insufficiency
		Discuss in detail the etiology, pathogenesis and morphology of Adrenocortical Neoplasms
		Recall the anatomy and physiology of ADRENAL Medulla
		Discuss in detail the etiology, pathogenesis and morphology of Pheochromocytoma
		Discuss in detail the etiology, pathogenesis and morphology of Multiple Endocrine Neoplasia Type 1
		Discuss in detail the etiology, pathogenesis and morphology of Multiple Endocrine Neoplasia Type 2
		Discuss in detail the etiology, pathogenesis and morphology of Pinealomas
		learn the definitions of the terms Freckle, Lentigo, melanocytic nevus, dysplastic nevi
		Distinguish psoriasis, pemphigus and bullous pemphigoid morphologically
		Discuss morphological and clinical features of Urticaria
		Discuss etiology ,pathogenesis ,morphological and clinical features of eczematous, contact and atopic dermatitis
		Discuss types of warts and their frequent locations
		Discuss in detail types, clinical and morphological features of nevocellular nevi and dysplastic nevi

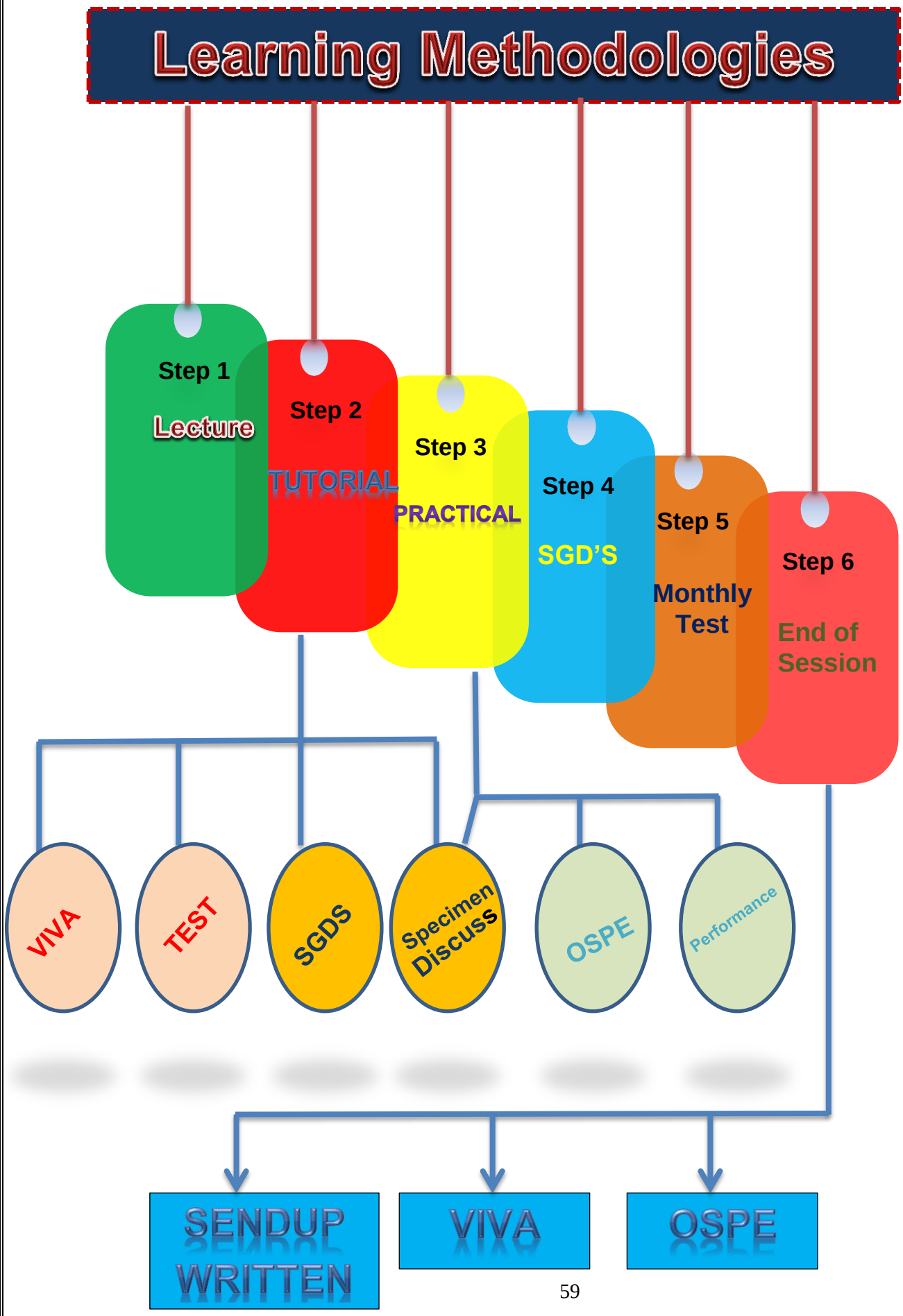
		Discuss in detail the etiology, pathogenesis and morphology of Primary acute adrenocortical insufficiency
		Discuss in detail the etiology, pathogenesis and morphology of Waterhouse-fridrichsen Syndrome
		Discuss in detail the etiology, pathogenesis and morphology of Addison
		Explain in detail the pathogenesis of Secondary Adrenocortical Insufficiency
		Discuss in detail the etiology, pathogenesis and morphology of
	Adrenal Medulla	Recall the anatomy and physiology of ADRENAL Medulla
		Discuss in detail the etiology, pathogenesis and morphology of
	Endocrine Neoplasia	Discuss in detail the etiology, pathogenesis and morphology of Multiple Endocrine Neoplasia Type 1
		Discuss in detail the etiology, pathogenesis and morphology of Multiple Endocrine Neoplasia Type 2
	Pineal Gland	Discuss in detail the etiology, pathogenesis and morphology of
THE SKIN	Disorders of pigmentation	learn the definitions of the terms Freckle, Lentigo, melanocytic nevus, dysplastic nevi
	acute inflammations of skin	Distinguish psoriasis, pemphigus and bullous pemphigoid morphologically
		Discuss morphological and clinical features of
		Discuss etiology ,pathogenesis ,morphological and clinical features of eczematous, contact and atopic
		Discuss types of warts and their frequent locations
		Discuss in detail types, clinical and morphological features of nevocellular nevi and dysplastic nevi

	chronic inflammations	Identify seborrhic keratoses, acanthosis nigricans, fibro epithelial polyp, epithelial or follicular inclusion cysts
	Benign tumors of skin	Brief introduction of the benign epithelial tumors(just names)
		Describe the predisposing factors, morphology ,clinical features and prognosis of squamous cell carcinoma
		Describe the predisposing factors, morphology ,clinical features and prognosis of basal cell carcinoma
	malignant tumors of skin	Describe the classification, morphology ,clinical features and prognosis of malignant melanoma

Practical List

Practical Work	Slide examination /Identification	Atherosclerosis
		Hypertensive Vascular disease
		Monckeberg's Arteriosclerosis
		Vasculitis
		Infarction
		Anthracosis
		Pneumonia
		Emphysema
		Pulmonary Tuberculosis
		Lung cancer
		Chronic gastritis
		Carcinoma of Stomach
		Adenocarcinoma Colon
		Acute Appendicitis
		Chronic Cholecystitis
		Biliary Calculi (Gall Bladder Stone)
		Liver Cirrhosis
		Hepatocellular Carcinoma
		Chronic Pyelonephritis
		Renal Calculi
		Renal Cell Carcinoma(Hypernephroma , Reanl Adenocarcinoma)
		Urothelial tumors
		Benign Prostatic hyperplasia
		Carcinoma Prostrate
		Seminoma testes

		Cervical Carcinoma
		Endometrial Hyperplasia
		Leiomyoma Hyperplasia
		Teratoma
		Breast Fibro adenoma
		Breast Cancer
		Multinodular Goiter
		Thyroid Follicular Adenoma
		Papillary Carcinoma
		Chronic Osteomyelitis
		Osteoma
		Osteogenic Sarcome
		Giant Cell Tumour (Osteoclastoma)of bone
		Squamous Cell Carcinoma (SCC)
		Basal Cell carcinoma (BCC)
		Malignant Melanoma
		Meningioma
		Sickle cell anemia
		Iron deficiency anemia
		Megaloblastic anemia
		Aplastic anemia
		AML,
		ALL
		CML
		CLL
		Hodgkin's Lymphoma
		Chemical Pathology


Learning Methodologies
Step 1
Lecture
Step 2
TUTORIAL
Step 3
PRACTICAL
Step 4
SGD'S
Step 5
Monthly Test
Step 6
End of Session
VIVA
TEST
SGDS
Specimen Discuss
OSPE
Performance
SENDUP WRITTEN
VIVA
OSPE

Assessment Methodologies:-

Criteria for Internal Assessment

Total 30 15 + 15

Attendance (15)

Range	Marks
91-100	15
81-90	14
71-80	13
61-70	12
51-60	11
41-50	10
31-40	09
21-30	07
11-20	05
01-10	03
0	1

Test (15)

Range	Marks
91-100	15
81-90	14
71-80	12
61-70	10
51-60	08
41-50	06
31-40	04
21-30	03
11-20	02
01-10	01
0	0

Key: - +1 for send-up performance
+2 for special benefit
Highest 29

Text Books and References

1. **Pathological Basis of Disease** by Kumar, Cotran, Robbins. 7th. Ed.
2. **Medical Microbiology and Immunology** by Levinson and Jawetz, 9th Ed. Mc Graw-Hill
3. **Ackerman's Surgical Pathology**
4. **Clinical Pathology Interpretations** by A.H. Nagi
5. **Theory and Practice Of Histological Techniques** by John D Bancroft
6. **District Laboratory Practice in Tropical Countries** by Monica Cheesburgh, 2nd Ed. Part I & II
7. **Online Journals and Reading Materials through HEC Digital Library Facility.**

MBBS Third Professional

Special Pathology

Table of Specifications (Theory)

Sl. No.	Topic/ Chapter	No. of SEQs	No. of MCQs
1	Cardiovascular System	1	5
2	Haemopoietic & Lymphoid System	1	5
3	Respiratory System	1	5
4	Oral Cavity and Gastrointestinal Tract	2	9
5	Hepatobiliary System	1	5
6	Urinary System	1	5
7	Male Genital System	1	5
8	Female Genital System	1	5
9	Diseases of Breast	1	5
10	Endocrinology	1	5
11	Musculo Skeletal System and Bones & Joints	1	5
12	Central Nervous System	1	2
13	Clinical Chemistry	1	3
14	Skin	-	1
Total		**14**	**65**