

**SYLLABUS OF
THIRD PROFESSIONAL
M.B.B.S.**

- (A) SPECIAL PATHOLOGY
- (B) COMMUNITY MEDICINE
- (C) OPHTHALMOLOGY
- (D) E.N.T.

(A) 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
- Monckeberg's medial calcific sclerosis
- Arteriosclerosis.
- 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 evaluation of 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 dehydrogenase deficiency.
- Immuno-hemolytic anemia.
- Warm and cold antibodies immuno-hemolytic 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 epiglottitis
 - 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 infertility.
- 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;
 - Gonorrhoea
 - 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 liposarcoma.
- 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. (CUSHING'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, pustule, scale, lichenification, excoriation, hyperkeratosis, parakeratosis, acanthosis, dyskeratosis, acantholysis, papillomatosis, lentiginous spongiosis.
- Morphological and clinical features of urticaria.
- Etiology, pathogenesis morphological and clinical features of;
 - Eczematous dermatitis.
 - Contact dermatitis
 - Atopic dermatitis
 - Photoeczematous 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

RECOMMENDED BOOKS

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.**