

# **Syllabus for Ph.D in General Medicine**

## **SYMPTOMATOLOGY/ EMERGENCY MEDICINE:**

**CVS:** Chest pain, Breathlessness, Edema, Palpitation, Syncope, Hypotension/Shock, Sudden cardiac death, Cardiac arrest, Pulmonary edema, ACLS,BLS

**GIT/GUT:** Oral manifestations of disease, Dysphagia, Anorexia, Weight loss, Abdominal pain, Vomiting, Diarrhoea, constipation, Jaundice, Hematemesis/malena, Bleeding per rectum, Ascites, Dysuria, Oligouria, Polyuria, Hematuria

**CNS:** Faintness, Syncope and Episodic weakness, Motor paralysis, Tremor, Chorea, Athetosis, Ataxia and other abnormalities of Movement and Posture, Dizziness – Vertigo and Disorders of Gait, Neuro-ophthalmology, Disorders of sensation, Coma and related disturbances of consciousness – Sleep and its abnormalities, The Convulsive state, Affections of Speech, Delirium and other acute confusions states, Derangement of intellect and behaviour due to diffuse and focal cerebral disease, Cerebral edema

**RS:** Dyspnoea, Cyanosis, Hypoxia, Dyspnoea, Cough, Hemoptysis, Hypercapnia, ARDS/ALI, Mechanical ventilation

Oncologic Emergencies

Endocrine emergencies

## **INTERNAL MEDICINE:**

**DISEASES OF CARDIOVASCULAR SYSTEM:** Principles of clinical electrocardiogram, Cardiac dysarrhythmias, Cardiac failure, Rheumatic fever, Valvular diseases, Congenital heart diseases, Ichaemic heart disease, Pericardial diseases, Cardiomyopathies and Myocarditis, Cardiac tumours, Atherosclerosis, Hypertension, Diseases of Aorta, Peripheral vascular diseases.

**DISEASES OF THE RESPIRATORY SYSTEM:** Disturbances of respiratory functions, diseases of upper respiratorytract, Obstructive Airway Diseases, Bronchiectasis –Lung Abscess, Broncholithiasis, Diffuse, infiltrative diseases of Lung, Pulmonary thromboembolism, Hypersensitivity reactions of Lung, Environmental Lung Diseases – Primary Pulmonary Hypertension, Neoplasms of Lung, Diseases of Pleura, Mediastinum and Diaphragm, Corpulmonale, Acute Respiratory Failure.

**DISEASES OF THE DIGESTIVE SYSTEM:** Diseases of Oesophagus, Peptic Ulcer,Gastritis and other diseases of Stomach including Carcinoma, Diseases of small intestine, Diseases of Colon and Rectum – Diseases of Peritoneum and Mesentery.

**DISEASES OF LIVER AND BILIARY TRACT:** Diagnostic Procedures in Liver Diseases, Derangement of Hepatic Metabolism, Disturbance of Biliary Metabolism, Acute Hepatitis, Chronic Active Hepatitis,

Cirrhosis of Liver, Tumours of Liver, Suppurative Diseases of Liver, Infiltrative and Metabolic Diseases affecting the Liver, Diseases of Gall bladder and Bile ducts.

**DISEASES OF PANCREAS:** Acute and chronic pancreatitis, prognostic indicators, tumors of pancreas

**DISEASES OF KIDNEY AND URINARY SYSTEM:** Acute and Chronic Renal Failure, Glomerulonephritis, Nephrotic Syndrome: Vascular Diseases of Kidney, Toxaemia of Pregnancy, Infections of the Urinary Tract, Obstructive Uropathy – Nephrolithiasis, Cystic Diseases of the Kidneys,

**DISEASES OF THE ENDOCRINE SYSTEM:** The Hypothalamus and Pituitary Gland, Diseases of Anterior Lobe of Pituitary Diseases of Adrenal Cortex and Medulla, Diseases of Testis and Ovaries, Pineal Gland, Diabetes Mellitus, Hyperinsulinism, Hypoglycemia, Diseases of Neurohypophysis, Diseases of Thyroid and parathyroid.

#### **OBESITY AND METABOLIC SYNDROME**

**DISEASES OF THE BLOOD AND BLOOD FORMING ORGANS;** Blood Formation Blood Destruction, Anemia, Bone Marrow failure, Blood Groups and Transfusions Polycythemia Rubra Vera, Abnormal Haemoglobin, Disorders of platelets, Haemorrhagic Disorder, MDS, Myeloproliferative diseases, Leukemia, Lymphomas, Diseases of spleen and Reticulo Endothelial system. Stem cell therapy.

**DISEASES OF CONNECTIVE TISSUES, JOINT AND BONES:** Rheumatoid Arthritis, Ankylosing Spondylitis, Systemic Lupus Erythematosus, Scleroderma, Polymyalgia Rheumatica, Gout, Pseudo Gout, Osteoarthritis, Diseases of Bone, Metabolic and Endocrine Diseases, Tumors of Bone, Metabolic and Endocrine Diseases of Bone, Paget's Diseases.

**DISEASES OF THE NERVOUS SYSTEM:** Diagnostic Methods in Neurology, Coma, Headache, Epilepsy, Diseases of Peripheral Nervous System, Diseases of Cranial Nerves, Diseases of Spinal Cord, Cerebrovascular Diseases, Traumatic Diseases of brain, Neoplasms, Pyogenic Infection of Central Nervous System – Tuberculosis and Viral Infections, Multiple Sclerosis, Demyelinating diseases, Metabolic and Nutritional Diseases of Brain, Degenerative Diseases of Nervous system, Developmental and other Congenital Anomalies of Nervous Systems, Narcolepsy, Migraine, Disease of Extraparamidal System, Muscle Disorders, Disorders of Myoneural Junction.

**PSYCHIATRY:** Neuroses, Antisocial Personality, Grief, Reactive Depression, Manic depressive Psychosis, Involutional Melancholia and Hypochondriacs, Schizophrenic Syndromes and related Psychoses.

**ERRORS OF METABOLISM:** Genetic Disorders of Amino acid Metabolism, Cystinuria, Renal Glycosuria Renal Tubular Acidosis, Carcinoid, Syndrome, Gout, Haemochromatosis, Disorders of

Porphyrin Metabolism, Hepatolenticular Degeneration, Disorders of Glycogen Synthesis and Mobilization, Galactosemia, Disorders of Lipid Metabolism, Amyloidosis.

**DISORDERS DUE TO CHEMICAL AND PHYSICAL AGENTS INCLUDING NUCLEAR MEDICINE:** Common Poisons, Heavy Metals, Alcohol, Opiates and other Synthetic Analgesic Drugs, Barbiturates, Depressants, Stimulants and Psychogenic Drugs, Disorders Caused by Venoms, Bites and Stings, Disorders due to Environment, temperature. Electric Shock, Lightning, Hanging, Disorders due to Alternations in Barometric Pressure Problems of Air and SpaceTravel –Radioactive Isotopes and Radiation injury Electrical Injuries, Immersion Injury and Drowning.

**GERIATRIC MEDICINE:** Problem of old age and disease, condition peculiar to the aged.

**INFECTIOUS/TROPICAL MEDICINE:** Diseases caused by Protozoa: Malaria, African and American Trypanosomiasis, Leishmaniasis, Toxoplasmosis, Coccidiosis and Pneumocystis infection, Ameobiasis, Giardiasis Diseases caused by Helminths: Filariasis, Other Nematode infestation, Trematode and Cestode infestation.

Diseases caused by Viruses: Arbovirus diseases Pox diseases, other viruses diseases: Measles, Infective Hepatitis, poliomyelitis, Rabies.

Diseases caused by Bacteria: Leprosy, Tuberculosis, Plague, Melioidosis, Brucellosis Tularaemia, Cholera, Shigelloses and Diarrhoea, Salmonellosis, Tetanus, Anthrax, Tropical Pyomyositis, Rhinoscleroma, Meningitis.

Diseases caused by Spirochetes: Relapsing fevers, Rat bite fever, Leptospirosis.

Diseases caused by Rickettsiae and Bartonella.

Tropical Veneral Diseases: Lymphogranuloma Venereum, Granuloma Inguinale.

Diseases caused by Fungi: Superficial Mycoses – Systemic Mycosis.

#### **HIV/ AIDS**

**Heat Disorders:** Heat stroke and heat hyperpyrexia, Hypothermia

Nutritional Diseases: Nutritional deficiency syndromes, Malabsorption in the Tropics, Vitamin deficiencies.

#### **GENETICS:**

Human genome project, Chromosomal disorders, Genetics in clinical medicine

#### **DRUGS:**

Chemotherapy, Antibiotics and antimicrobials Antimalarial drugs. Antiamoebic drugs. Anthelmintics. Analgesics. Sedatives. Tranquilizers. Antiviral agents. Antimitotics. Drugs acting on Autonomic nervous system. Hormones. Drugs for Epilepsy. Diuretics. Cardiac glycosides.

Antiarrhythmic drugs. Coagulants and anticoagulants. Histamine and antihistamine drugs. Alcohol. Vaccines and Immune Sera. Drug abuse, drug tolerance, drug addiction. Newer drugs.

**APPLIED BASIC SCIENCES ANATOMY INCLUDING HISTOLOGY:**

Embryology - Development of Heart and Great Vessels Development of Brain and Spinal Cord. Anatomy of Brain and Spinal Cord with their Blood Supply and Venous Drainage. Cranial Nerves and Autonomic Nervous System. Nervous Control of Bladder and Rectum. Anatomy including Histopathology of Endocrine Glands. Anatomy of Liver, Pancreas and Portal Circulation. Anatomy including Histopathology of Kidneys. Anatomy including Histopathology of Spleen. Anatomy of Bronchopulmonary Segments, Pleura and Mediastinum. Surface Anatomy of Head and Neck, Thorax and Abdomen.

**PHYSIOLOGY INCLUDING BIOCHEMISTRY:** Liver: Laboratory tests of liver Function.

Kidney: Laboratory Tests of Kidney Function.

Exocrine and Endocrine function of pancreas.

Hormones: Pituitary, Adrenal, Thyroid, Parathyroid, and Chemistry of Steroids - Various tests to study function of Endocrine Glands.

Pulmonary Function Tests.

The mechanism of Deglutition. Digestion: Gastric and Intestinal secretion and their Hormones Mechanism of absorption of Fat, Proteins and Carbohydrates.

Heart: Basic principles of condition system and electro-cardiogram - Circulation - Measurement of cardiac output - Factors controlling arterial blood pressure – Mechanism of production of cardiac failure and syndrome of shock.

Blood, Plasma, proteins - Coagulation of blood RBC and WBC development - Platelets - Erythropoiesis and its regulation - Blood groups - Iron Metabolism. Physiology of Micturition and Defaecation.

Fluid and electrolyte balance. Calcium and Phosphorous Metabolism. Carbohydrate metabolism. Fat metabolism, Protein metabolism and electrophoresis. Inborn Errors of metabolism. Porphyrins and porphyrias.

Jaundice - Types and Diagnosis. Metabolism of Haemoglobin and circulation of Bile pigments. Immunoglobulin and the Mechanism of Immunity. Physiology of consciousness. Physiology of sleep and disorders of sleep. Temperature regulation.

## **BIOSTATISTICS:**

Epidemiology (Descriptive/Analytical/ Experimental) and Research methodology

Descriptive statistics

Tests of significance/ Concepts of p value and Confidence intervals

Design of studies ( Cross sectional, Case control, Cohort, Experimental )

Randomised Control Trials

Applied multivariate analysis

Clinical trials

Surveillance