

## Medical Science Optional Syllabus for UPSC

### Human Anatomy

- Applied anatomy including blood and nerve supply of:
  - Upper limbs
  - Lower limbs
  - Joints- shoulder, hip and knee.
- Gross anatomy, blood supply and lymphatic drainage of:
  - Tongue
  - Thyroid
  - Mammary gland
  - Stomach
  - Liver
  - Prostate
  - Kidney
  - Urinary bladder
  - Gonads
  - Uterus
  - Uterine tubes
  - Vas Deferens
- Applied anatomy of:
  - Diaphragm
  - Perineum
  - Inguinal region

### Embryology

- Placenta and placental barrier
- Development and common congenital abnormalities of:
  - Heart
  - Gut
  - Kidney
  - Uterus
  - Ovary
  - Testis

### Central and Peripheral Autonomic Nervous System:

- Gross and clinical anatomy of:
  - Ventricles of brain
  - Circulation of cerebrospinal fluid
- Neural pathways and lesions of cutaneous sensations
- Hearing
- Vision

- Cranial nerves distribution and clinical significance
- Components of autonomic nervous system

## **Human Physiology**

### Neurophysiology

- Conduction and transmission of impulse
- Mechanism of contraction
- Neuromuscular transmission
- Reflexes
- Control of equilibrium
- Posture and muscle tone
- Descending pathways
- Functions of cerebellum
- Basal ganglia
- Physiology of sleep and consciousness

### Endocrine System:

- Mechanism of action of hormones, formation, secretion, transport, metabolism, function and regulation of secretion of:
  - Pancreas
  - Pituitary gland

Reproductive System: Pregnancy, menstrual cycle, lactation.

Blood: Development, regulation and fate of blood cells.

Cardio-vascular: cardiac output, blood pressure, regulation of cardiovascular functions.

## **Biochemistry**

- Organ function tests:
  - Liver
  - Kidney
  - Thyroid
- Protein synthesis
- Vitamins
- Minerals
- Restriction fragment length polymorphism (RFLP)
- Polymerase chain reaction (PCR)
- Radio-immunoassays (RIA)

## **Pathology**

- Inflammation and repair
- Disturbances of growth and cancer
- Differentiation between:
  - Benign and malignant tumors
  - Primary and metastatic malignancies
- Etiology, Pathogenesis and histopathology of:

- Rheumatic heart disease
- Ischaemic heart disease
- Diabetes mellitus
- Bronchogenic carcinoma
- Carcinoma breast
- Oral cancer
- Cancer cervix
- Leukemia
- Cirrhosis liver
- Glomerulonephritis
- Tuberculosis
- Acute osteomyelitis

### **Microbiology**

- Humoral and cell mediated immunity.
- Diseases caused by and laboratory diagnosis of:
  - Meningococcus
  - Salmonella
  - Shigella
  - Herpes
  - Dengue
  - Polio
  - HIV/AIDS
  - Malaria
  - E. Histolytica
  - Giardia
  - Candida
  - Cryptococcus
  - Aspergillus

### **Pharmacology**

- Mechanism of action and side effects of the following drugs:
  - Antipyretics and analgesics
  - Antibiotics
  - Antimalaria
  - Anti kala-azar
  - Antidiabetics
  - Antihypertensive
  - Antidiuretics
  - General and cardiac vasodilators
  - Antiviral
  - Antiparasitic,
  - Antifungal
  - Immunosuppressants and Anticancer

### **Forensic Medicine and Toxicology**

- Forensic examination of:
  - Injuries and wounds
  - Blood
  - Seminal stains
- Poisoning
- Sedative overdose
- Hanging
- Drowning
- Burns
- DNA and finger print study

**PAPER-II**  
**General Medicine**

- Etiology, clinical features, diagnosis and principles of management:
  - Typhoid
  - Rabies
  - AIDS
  - Dengue
  - Kala-azar
  - Meningitis and encephalitis
  - Japanese Encephalitis
  - Ischaemic heart disease
  - Pulmonary embolism
  - Bronchial asthma
  - Pleural effusion
  - Tuberculosis
  - Malabsorption syndromes
  - Acid peptic diseases
  - Viral hepatitis
  - Cirrhosis of liver
  - Glomerulonephritis
  - Pyelonephritis
  - Renal failure
  - Nephrotic syndrome
  - Renovascular hypertension
  - Complications of diabetes mellitus
  - Coagulation disorders
  - Leukaemia
  - Hypo and hyper thyroidism
- Psychiatry:
  - Anxiety
  - Depressive Psychosis
  - Schizophrenia
  - ECT
- Paediatrics:

- Immunization
- Baby friendly hospital
- Congenital cyanotic heart disease
- Respiratory distress syndrome
- Bronchopneumonias
- Kernicterus
- IMNCI classification and management
- PEM grading and management
- ARI and Diarrhea of under five and their management.

- Dermatology:

- Psoriasis
- Allergic dermatitis
- Scabies
- Eczema
- Vitiligo
- Stevan Johnson's syndrome
- Lichen Planus

### **General Surgery**

- Clinical features, causes, diagnosis and principles of management of:

- Cleft palate
- Harelip
- Laryngeal tumour
- Oral Tumors
- Esophageal tumour
- Peripheral arterial diseases
- Varicose veins
- Coarctation of aorta.
- Tumours of Thyroid
- Tumours of Adrenal Gland
- Breast- Abscess, cancer, fibroadenoma and adenosis
- Bleeding peptic ulcer
- Tuberculosis of bowel
- Ulcerative colitis
- Cancer stomach
- Renal mass
- Cancer prostate
- Kidney
- Ureter
- Urinary Bladder
- Haemothorax
- Splenomegaly
- Portal hypertension
- Liver abscess
- Peritonitis
- Carcinoma head of pancreas
- Stones of Gall bladder and cholecystitis

- Management of surgical conditions of:
  - Rectum
  - Anus and Anal canal
  - Gall bladder and Bile ducts

Ortho:

- Fractures of spine
- Colles' fracture
- Bone tumors

### **Obstetrics and Gynaecology**

- Obstetrics:
  - Diagnosis of pregnancy
  - Labour management
  - Complications of 3rd stage
  - Antepartum and postpartum hemorrhage
  - Resuscitation of the newborn
  - Management of abnormal lie and difficult labour
  - Management of small for date or premature newborn
  - Diagnosis and management of anemia of pregnancy
  - Preeclampsia and Toxaemias of pregnancy
- Gynaecology:
  - Management of Postmenopausal Syndrome
  - Intra-uterine devices and pills
  - Tubectomy and vasectomy
  - Medical termination of pregnancy including legal aspects
  - Cancer cervix
  - Leucorrhoea
  - Pelvic pain
  - Infertility
  - Dysfunctional uterine bleeding (DUB)
  - Amenorrhoea
  - Fibroid
  - Prolapse of uterus

### **Community Medicine**

- Epidemiology- Principles, methods approach and measurements
- Nutrition, nutritional diseases/ disorders and Nutrition Programs
- Health information- Collection, Analysis and Presentation
- Objectives, components and critical analysis of National programs for control/eradication of:
  - Malaria
  - Kala-azar
  - Filaria
  - Tuberculosis
  - HIV/AIDS
  - STDs
  - Dengue

- Critical appraisal of Health care delivery system
- Health management and administration- Techniques, Tools, Program Implementation and Evaluation
- Reproductive and Child Health- Objectives, Components, Goals and Status National Rural Health Mission
- Millennium/ Sustainable Development Goals
- Management of hospital and industrial waste

### **Imaging**

- Ultrasound
- Echo- cardiogram
- CT scan
- MRI
- Endoscopy
- Laparoscopic Surgery