

UPSC Mains Medical Science Optional Paper-I Syllabus

1. Human Anatomy:

Applied anatomy including blood and nerve supply of upper and lower limbs and joints of shoulder, hip and knee. Gross anatomy, blood supply and lymphatic drainage of tongue, thyroid, mammary gland, stomach, liver, prostate, gonads and uterus.

Applied anatomy of diaphragm, perineum and inguinal region.

Clinical anatomy of kidney, urinary bladder, uterine tubes, vas deferens.

Embryology: Placenta and placental barrier. Development of heart, gut, kidney, uterus, ovary, testis and their common congenital abnormalities.

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 and vision; Cranial nerves distribution and clinical significance; Components of autonomic nervous system.

2. Human Physiology:

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 and pituitary gland.

Physiology of Reproductive System: Pregnancy menstrual cycle, lactation, pregnancy.

Blood: Development, regulation and fate of blood cells.

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

3. Biochemistry:

Organ function tests-liver, kidney, thyroid Protein synthesis.

Vitamins and minerals.

Restriction fragment length.

Polymorphism (RFLP).

Polymerase chain reaction (PCR).

Radio-immunoassays (RIA).

4. Pathology:

Inflammation and repair, disturbances of growth and cancer, Pathogenesis and histopathology of rheumatic and ischaemic heart disease and diabetes mellitus. Differentiation between benign, malignant, primary and metastatic malignancies, Pathogenesis and histopathology of bronchogenic carcinoma, carcinoma breast, oral cancer, cancer cervix, leukemia, Etiology, pathogenesis and histopathology of cirrhosis liver, glomerulonephritis, tuberculosis, acute osteomyelitis.

5. Microbiology:

Humoral and cell-mediated immunity.

Diseases caused by and laboratory diagnosis of —

- * Meningococcus, Saimonella
- * Shigella, Herpes, Dengue, Polio
- * HIV/AIDS, Malaria, E. Histolytica, Giardia
- * Candida, Cryptococcus, Aspergillus.



6. Pharmacology:

Mechanism of action and side effects of the following drugs:

- * Antipyretics and analgesics, Antibiotics,
- * Antimalaria, Antikala-azar, Antidiabetics,
- * Antihypertensive, Antidiuretics, General and cardiac vasodilators, Antiviral, Antiparasitic, Antifungal, Immunosuppressants,
- * Anticancer.

7. Forensic Medicine and Toxicology

Forensic examination of injuries and wounds; Examination of blood and seminal stains; Poisoning, sedative overdose, hanging, drowning, burns, DNA and fingerprint study.