

MEDICAL SCIENCE (MAIN)

PAPER -I

Section - A

I. Human Anatomy : Gross and microscopic anatomy and movements of shoulder, hip and knee joint, Blood supply, nerve innervation of hand. Lymphatic system, medical genetics, Gross and microscopic anatomy and blood supply of lungs, heart, kidneys, liver, testis and uterus, Gross anatomy of pelvis perineum and inguinal region, Gross-sectional anatomy of the body and mid-thoracic, upper abdominal, mid-abdominal and pelvic regions.

Embryology : Major steps in the development of lung, heart, kidney urinary bladder, uterus, ovary, testis and their common congenital abnormalities, Placenta and placental barrier.

Anatomy of central and peripheral autonomic nervous system : Neural pathways for cutaneous sensations and vision, Cranial nerves, distribution and clinical significance, Anatomy of autonomic control of gastrointestinal, respiratory and reproductive system.

II. Human Physiology : Central, peripheral and autonomic nervous system, Nerve and muscle excitation, conduction and transmission of impulse, mechanism of contraction, neurovascular transmission, EMG, Synaptic transmission, reflexes, control of equilibrium, posture and muscle tone descending pathways, functions of cerebellum, basal ganglia, reticular formation, hypothalamus limbic system and cerebral cortex; Physiology of sleep and consciousness, EEG, Higher functions of the brain, Vision and hearing.

Endocrine system : Mechanism of action of hormones, formation, secretion transport, metabolism, functions and regulations of secretion of pancreas and pituitary gland.

Physiology of reproductive system : Menstrual cycle, lactation, pregnancy.

Blood : Development, regulations and fate of blood cells,

Cardio-vascular, respiratory gastro-intestinal and renal physiology : Cardiac excitation, spread of cardiac impulse, ECG, cardiac output, blood pressure, regulation of cardiovascular functions, Mechanisms of respiration and regulation of respiration, Digestion and absorption of food, regulation of secretion and motility of gastrointestinal tract, Glomerular and tubular functions of kidney.

III. Biochemistry : Properties and regulation of enzyme activity, Sources, daily requirements, action and toxicity of vitamins, Metabolism of lipids, carbohydrates, proteins, disorders of their metabolism, Chemical nature structure, synthesis and functions of nucleic acids and proteins, Distribution and regulation of body water and minerals including trace elements, Blood Gas Analysis, GTT, molecular structure of muscle contractile protein, oestrogen receptors.

SECTION- B

I. Pathology : Reaction of cell and tissue injury inflammation and repair, disturbances of growth and cancer, genetic disease Pathogenesis and histopathology of Rheumatic and ischaemic heart disease; Bronchogenic carcinoma, carcinoma breast, oral cancer, cancer colon, Lymphoma, leukaemia, liver cancer, meningioma and meningitis, Etiology, pathogenesis and histopathology of - Peptic ulcer, cirrhosis liver glomerulonephritis, lobar pneumonia, acute osteomyelitis, hepatitis, acute pancreatitis.

II. Microbiology : Growth of micro-organisms, sterilization and disinfection, bacterial genetics, virus-cell interactions, Immunological principles, acquired immunity, immunity in infections caused by viruses, Diseases caused by and laboratory diagnosis of Staphylococcus,

enterococcus, salmonella, shigella, pseudomonas, vibrio, herpes viruses rubella, fungi protozoa, helminths, leptospiral infection Dengue, plague.

III. Pharmacology : Drug receptor instruction mechanism of drug action, Mechanism of action, dosage, metabolism and side effects of - Pilocarpine, terbutaline, metoprolol, diazepam, acetylsalicylic acid, ibuprofen, frusemide, metronidazole, quinine Chloroquin. Mechanism of action, dosage and toxicity of Ampicillin, Cephalosporins, 1,2,3,4th generations, Aminoglycoside, Doxycycline, Chloramphenicol, rifampicin, Calcium channel blocker, beta blocker, immunosuppressive therapy. Indications, dosage, side-effects and contraindications of - Methotrexate, vincristin, tamoxifen, Classification, route of administration, mechanism of action and side effect of - General anaesthetics, hypnotics, analgesics, Anti-viral, anti-fungal drugs.

IV. Forensic Medicine and Toxicology : Forensic examination of injuries and wounds, physical and chemical examination of blood and seminal stains, Organo phosphorus poisoning sedative overdose, hanging drowning, burns, snake envenomation, Age determination.

MEDICAL SCIENCE

PAPER-II (MAIN)

SECTION - A

1. General Medicine :

Etiology, Clinical features, diagnosis and principles of management (including prevention) of :-

Malaria, Typhoid, Cholera, Tetanus, Rabies, Exanthematous Fevers, Tuberculosis, AIDS.

Etiology, clinical features, diagnosis and principles of management of : Rheumatic, ischaemic and congenital heart disease, hypertension. Cardiomyopathy, pulmonary embolism, Acute and chronic respiratory infections, bronchial asthma.

Occupational lung disease, pleural effusion, disseminated tuberculosis Malabsorption syndromes, acid peptic diseases haematemesis, Viral hepatitis, cirrhosis of liver, alcoholic liver disease.

Acute glomerulonephritis, chronic pyelonephritis, renal failure, nephrotic syndrome, renovascular hypertension, diabetes mellitus, anaemias, coagulation disorders, leukaemia, polycythemia and hyperviscosity syndrome, meningitis encephalitis, cerebrovascular diseases.

Role of imageology in the work-up of medical problems, ultrasound, echo cardiogram, CT scan, MRI

Psychiatry : Common psychiatric disorders, schizophrenia, ECT, lithium.

II. Paediatrics : Common paediatric problems congenital cyanotic heart disease, respiratory distress syndrome, broncho pneumonias, kernicterus, AIDS prevention of vertical transmission.

III. Dermatology : Common skin diseases, psoriasis, Hansen's disease, fungal infection, scabies, eczema, vitiligo STD.

SECTION - B

I. General Surgery : Clinical features, causes diagnosis and principles of management of :

Cervical lymph node enlargement, parotid tumour, oral cancer, cleft palate, hare lip.

Laryngeal tumour, esophageal tumours. Peripheral arterial diseases, varicose veins, coarctation of aorta. Dysfunction of thyroid parathyroids and adrenals.

Tumours of Thyroid, Parathyroid, Adrenal, Pituitary Glands, Abscess of breast, cancer breast, fibroadenoma. Acute and chronic appendicitis, bleeding peptic ulcer, tuberculosis of bowel, intestinal obstruction, ulcerative colitis. Renal mass, acute retention of urine, benign prostatic hypertrophy. Haemothorax, constructive pericarditis, Splenomegaly, chronic cholecystitis, portal hypertension, Liver abscess, peritonitis, carcinoma head of pancreas, Direct and indirect inguinal hernia and their complications, cancer oesophagus.

Fractures of femur and spine, Colles' fracture and bone tumours. Laparoscopic Surgery.

II. Obstetrics and gynaecology including Family Planning. Diagnosis of Pregnancy, screening of high risk pregnancy, foetoplacental development, ectopic pregnancy.

Labour management, complications of 3rd stage postpartum haemorrhage, resuscitation of the newborn.

Diagnosis and management of anaemia and pregnancy induced hypertension. Principles of the following contraceptive methods.

Intra uterine devices, pills tubectomy and vasectomy. Medical termination of pregnancy including legal aspects. Etiology, clinical features, diagnosis and principles of management of : Cancer cervix, cancer ovary.

Leucorrhoea, infertility, abnormal uterine bleeding, amenorrhoea.

III. Preventive and Social Medicine. Concept of causation and control of disease in the community, principles and methods of epidemiology. Primary health care, National Health Policy.

Health hazards due to environmental pollution and industrialisation. Normal nutrition and nutritional deficiency diseases in India.

Population trends (World and India), Growth of population and its effect on health and development.

Objectives, components and critical analysis of each of the following National programmes for the control and eradication of :

Malaria, filaria, Kala-azar, leprosy, tuberculosis, cancer, blindness, iodine deficiency disorders, AIDS & STD, poliomyelitis,

Objectives, components, critical analysis of each of the following National Health and Family Welfare Programmes :

Reproductive and child health

Family Welfare

Nutrition,

Immunization

Ophthalmology : common eye diseases, cataract glaucoms, refractive errors.

ENT : Throat cancer, ear infections, hearing defects Sinusitis.