

MEDICAL SCIENCE

OPTIONAL SYLLABUS

Paper 1

Anatomy

1. Applied anatomy including blood and nerve supply of upper and lower limbs
2. Joints of shoulder, hip and knee
3. Gross anatomy, blood supply and lymphatic drainage of tongue, thyroid, mammary gland, stomach, liver, prostate, gonads and uterus.
4. Applied anatomy of diaphragm, perineum and inguinal region.
5. 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.

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 the 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

BIOCHEMISTRY

1. Organ function tests— liver, kidney, thyroid
2. Protein synthesis.
3. Vitamins and minerals.
4. Restriction fragment length polymorphism (RFLP).
5. Polymerase chain reaction (PCR).
6. Radio-immunoassays (RIA)

Pathology

- Inflammation and repair
- Disturbances of growth and cancer
- Pathogenesis and histopathology of rheumatic and ischaemic heart disease and diabetes mellitus.
- Difference between benign and malignant tumours, primary and metastatic malignancies.
- Pathogenesis and histopathology of bronchogenic carcinoma, carcinoma breast, oral cancer, cancer cervix, leukaemia.
- Etiology, pathogenesis and histopathology of— cirrhosis liver, glomerulonephritis, tuberculosis, acute osteomyelitis.

Microbiology

- Humoral and cell-mediated immunity.
- Diseases caused by and laboratory diagnosis of —

Bacteria- Meningococcus, Saimonella, Shigella,

Virus - Herpes, Dengue, Polio, HIV/AIDS

Parasitology- Malaria, E. Histolytica, Giardia

Mycology - 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

Anticancer

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

PAPER 2

General Medicine

Etiology, clinical features, diagnosis and principles of management (including prevention) of—Typhoid, Rabies, AIDS, Dengue, Kala-azar, Japanese Encephalitis.

Etiology, clinical features, diagnosis and principles of management of Ischaemic heart disease, pulmonary embolism, Bronchial asthma.

Pleural effusion, tuberculosis, Malabsorption syndromes; acid peptic diseases, Viral hepatitis and cirrhosis of the liver.

Glomerulonephritis and pyelonephritis, renal failure, nephrotic syndrome, renovascular hypertension, complications of diabetes mellitus, coagulation disorders, leukaemia, Hypo and hyperthyroidism, meningitis and encephalitis.

Radiology - Imaging medical problems, ultrasound, echocardiogram, CT scan, MRI.

Psychiatry - Anxiety and Depressive Psychosis and schizophrenia and ECT.

Paediatrics

Immunisation

Baby friendly hospital

Congenital cyanotic heart disease

Respiratory distress syndrome, broncho— pneumonias

Kernicterus

IMNCI classification and management

PEM grading and management.

ARI and Diarrhoea 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:

Laryngeal tumour, oral and esophageal tumours

Cleft palate, harelip.

Peripheral arterial diseases, varicose veins, coarctation of aorta.

Tumours of Thyroid, Adrenal Glands.

Breast: Abscess, cancer, fibroadenoma and adenosis of breast.

Bleeding peptic ulcer, tuberculosis of bowel, ulcerative colitis, cancer of the stomach.

Renal mass, cancer prostate.

Haemothorax

Stones of Gallbladder

Kidney, Ureter and Urinary Bladder.

Management of surgical conditions of Rectum, Anus and Anal canal, Gallbladder and Bile ducts.

Splenomegaly, cholecystitis, portal hypertension, liver abscess, peritonitis, carcinoma head of pancreas.

Fractures of spine, Colles' fracture and bone tumours.

Endoscopy.

Laparoscopic Surgery

Obstetrics and Gynaecology including Family Planning

Diagnosis of pregnancy.

Labour management, complications of 3rd stage, Antepartum and postpartum haemorrhage, resuscitation of the newborn, Management of abnormal life and difficult labour. Management of small for date or premature newborn.

Diagnosis and management of anaemia. Preeclampsia and Toxemia of pregnancy

Management of Postmenopausal Syndrome.

Intrauterine devices, pills, tubectomy and vasectomy.

Medical termination of pregnancy including legal aspects.

Cancer cervix.

Leucorrhoea, pelvic pain; infertility, dysfunctional uterine bleeding (DUB), amenorrhoea, Fibroid and prolapse of the uterus.

Community Medicine (Preventive and Social Medicine)

Principles, methods, approach and measurements of Epidemiology.

Nutrition, nutritional diseases/disorders and Nutrition Programmes.

Health information Collection, Analysis and Presentation.

Objectives, components and critical analysis of National programmes for control/eradication of : Malaria, Kala-azar, Filaria and Tuberculosis, HIV/AIDS, STDs and Dengue.

Critical appraisal of Health care delivery system.

Health management and administration; Techniques, Tools, Programme Implementation and Evaluation.

Objectives, Components, Goals and Status of Reproductive and Child Health, National Rural Health Mission and Millennium Development Goals.

Management of hospital and industrial waste