FURTHER DETAILS REGARDING MAIN TOPICS OF PROGRAMME No. 05/2020 (Item No: 2, 3, 4 & 5)

ASSISTANT INSURANCE MEDICAL OFFICER/ ASSISTANT SURGEON/CASUALTY MEDICAL OFFICER MEDICAL OFFICER IN INSURANCE MEDICAL SERVICES/ HEALTH SERVICES

Category Numbers: 233/19, 234/19, 235/19, 305/19, 329/19

HUMAN ANATOMY

General Anatomy
General Embryology
Upper Limb
Lower Limb
Thorax
Head and Neck
Brain and Spinal Cord
Abdomen, Pelvis and Perineum
Genetics

BIOCHEMISTRY

Proteins
Carbohydrates
Lipids
Metabolism of Lipids
Metabolism of Amino acids
Haemoglobin
Vitamins
Mineral Metabolism
Maintenance of Homeostasis
Nucleic Acids and Molecular Biology
Plasma Proteins and Immunoglobulins
Biochemistry of Cancer
Clinical Chemistry

HUMAN PHYSIOLOGY INCLUDING BIO-PHYSICS

Hematology
Cardiovascular System
Respiratory System
Gastrointestinal System
Renal System
Skin and Temperature regulation
Nerve - muscle physiology
Nervous System
Special Senses
Audition

Endocrinology
Physiology of Reproduction

FORENSIC MEDICINE AND TOXICOLOGY

Forensic Medicine

1. Definition of forensic medicine, forensic pathology and medical jurisprudence
2. Introduction to the subject, historical aspects of forensic medicine
3. Inquest procedures
4. Courts in India and their powers. Supreme Court, High Court, Sessions Court, Assistant Sessions Court and Magistrate Courts.
5. Court procedures. Summons, warrant, Conduct money, Oath / affirmation, types of witnesses, recording of evidence, conduct of doctor in witness box, perjury, hostile witness.
6. Medical certificates and medico legal reports. Birth, death, wound, drunkenness, potency, offence cases, intimation, notification.
7. Death sex
8. Definition, diagnosis and certification (as per MCCD rules), somatic, molecular and brain death. Sudden natural deaths, suspended animation. Changes after death.
    - *(a)* Algor mortis, Livor mortis, Rigor mortis, cadaveric spasm, cold stiffening, heat stiffening
    - *(b)* Decomposition, modified forms of decomposition, estimation of time since death.
    - *(c)* Common post mortem artifacts.
9. Identification
    - *(a)* Definition.
    - *(b)* Identification of persons, dead bodies and remains of a person by sex, age, biometry, dental features, scars, moles, tattoos, dactylography, personal belongings, photography, superimposition, DNA.
10. Medico legal autopsy and exhumation
    - *(a)* Definition of medico legal and clinical / pathological autopsy.
    - *(b)* Objectives, procedures and formalities of medico legal autopsy.
    - *(c)* Preservation of articles and tissues of importance during autopsy.
11. Mechanical injuries or wounds
    - *(a)* Definition of wound, injury, hurt, assault, battery.
    - *(b)* Classification of injuries, description of blunt force and sharp force injuries.
    - *(c)* Fire arms – principles, types, examination and interpretation of fire arm wounds. Comparison microscopy.
    - *(d)* Medico legal aspects of injuries: Difference between ante mortem and post-mortem injuries, determination of different types of injuries, defense wounds, hesitation cuts, fabricated injuries, simple and grievous hurt, suicidal, accidental and homicidal injuries, causes of death by mechanical injuries, legal classification of fatal injuries.
    - *(e)* Regional injuries: Injuries to head, neck, thorax, abdomen, pelvis, genitalia, vertebral column and bones.
    - *(f)* Injuries due to traffic occurrences.
    - *(g)* Injuries due to physical agents and their medico legal importance: Heat, cold, electricity and lightning. Explosion injuries.

12. Asphyxial deaths: Definition, causes, types, post-mortem appearances and medico legal significance of violent asphyxia deaths like hanging, strangulation, suffocation, smothering, choking, drowning, traumatic asphyxia.

13. Medico legal aspects of deaths due to starvation-forced feeding.

14. Human sexual functions:

- *(a)* Potency, sterility, virginity, pregnancy, delivery.
- *(b)* Abortion, MTP, sexual sterilization, artificial insemination and their legal aspects.
- *(c)* Sexual offences and abnormal sexual practices.
- *(d)* Legal aspects of the above.

15. Infant and childhood deaths: Viability and determination of intrauterine age of the foetus, live birth, still birth, dead born. Sudden infant death syndrome, child abuse.

16. Biological fluids:

- *(a)* Blood – preservation and dispatch of samples, importance of blood groups in disputed paternity, hazards of blood transfusion.
- *(b)* Seminal and salivary stains preservation, dispatch and importance of grouping.
- *(c)* Principles of laboratory tests for identification of the above and interpretation of the results.

17. Forensic psychiatry:

- *(a)* Definition and brief overview of common mental illnesses.
- *(b)* True and feigned mental illnesses.
- *(c)* Civil and criminal responsibilities of mentally ill persons.
- *(d)* Indian mental health act with special reference to admission, care and discharge of mentally ill persons.

18. Medical jurisprudence:

- *(a)* Indian medical council and state medical councils, their functions and disciplinary control.
- *(b)* Duties and rights and privileges of a registered medical practitioner.
- *(c)* Professional conduct, etiquette and ethics in medical practice.
- *(d)* Professional secrecy and privileged communication.
- *(e)* Medical negligence: Civil, criminal, contributory negligence, vicarious responsibility, res ipsa loquitur, prevention of medical negligence and defence in medical negligence suits.
- *(f)* Consent: Types, age in relation to consent, consent in relation to mental illness and alcohol intoxication, consent in emergency situations.
- *(g)* Consumer protection act.
- *(h)* Certification of births, deaths, illness, fitness, disability.

19. Forensic toxicology:

- *(a)* Definition and general principles of management of a case of poisoning.
- *(b)* Medico legal duties of a doctor in a case of poisoning, preservation dispatch of viscera for chemical analysis. Role of chemical examiner's laboratory and forensic science laboratory in brief.
- *(c)* Diagnosis and principles of therapy and medico legal aspects of the following poisons, giving special emphasis to those of regional importance.
    - *i)* Corrosive poisons: strong mineral acids, alkalies and organic acids – (carbolic, formic and oxalic acid).
    - *ii)* Metallic poisons: Lead, Arsenic and Iron.
    - *iii)* Animal poisons: snake and scorpion bites.
    - *iv)* Deliriants: Dhatura, Cannabis and Cocaine.

v) Inebriants: Methyl and Ethyl alcohol.
vi) Asphyxiants: Carbon monoxide, carbon dioxide, Hydrogen sulphide and Cyanides.
vii) Cardiac Poisons: Cerbera Odollam, Cerbera thevitia, Nerium odorum.
viii) Insecticides: Organophosphorous compounds, carbamates and Organocholoro compounds, Aluminium phosphide and Zinc phosphide.

(d) Drug abuse and dependence.
(e) Inorganic non metallic poisons: Phosphorous.
(f) Organic vegetable irritants: Abrus precatorius, capsicum, calotropis, Semicarpus anacardium, Croton.
(g) Convulsants: Strychnine.
(h) Paralytic agents: Curare.
(i) War gases and industrial gases.
(j) Chloral hydrate
(k) Mechanical poisons.

MICROBIOLOGY

I. ***General microbiology***

1. Introduction to microbiology
2. Morphology of bacteria comparison with other microbial forms
3. Growth, nutrition culture media
4. Identification of bacteria
5. Bacterial genetics
6. Antibacterial agents and antibiotic sensitivity test
7. Infection – Source and spread of infection
8. Sterilisation and disinfection
9. Response to microbial infections

II. ***Systematic bacteriology***

Gram positive Cocci-Stapohylococci, Streptococci, Pneumococci
Gram negative Cocci- Neisseria
Gram positive Bacilli-Corynebacterium, Listeria, Bacillus
Mycobacteria, Nocardia, Actinomyces
Clostridia, Nonsporing anaerobes
Gram negative Bacillus-Haemophilus, Bordetella, Brucella, Enterobacteria / Yersinia
Pseudomonas, Pasteurella, Acinetobacter
Vibrio / Campylobacter
Mycoplasma, Legionella, Rickettsia, Chlamydia
Spirochetes

III. ***Virology***

1. General characteristics of viruses
2. Virus host interaction
3. Replication of virus
4. Pox virus, Herpes, Adenovirus
5. Papova, Retrovirus
6. Myxoviruses
7. Picorna virus

8. Hepatitis, Miscellaneous
9. Rhabdo virus
10. Arboviruses
11. Oncogenic viruses
12. Bacteriophages

IV. ***Immunology***
1. Introduction, classification, type and cells involved in immunity
2. Antigen, antibodies
3. Complement in health and diseases
4. Hypersensitivity
5. HLA antigens in health and diseases
6. Immunodeficiency diseases
7. Serological test in medical practices
8. Autoimmunity
9. Tumour and transplantation
10. Immunoprophylaxis and immunotherapy

V. ***Parasitology***
1. Introduction of parasitic disease
2. Protozoal infections – Amoebiasis, Plasmodium, Leishmaniasis, Trypanosoma, Giardia, Balantidium, Cryptosporidium, Trichomonas, Toxoplasma, Pneumocystis – laboratory diagnosis of protozoal infection
3. Helminthus – intestinal nematodes, tissue nematodes, cestodes, trematodes – laboratory diagnosis of helminthic infections

VI. ***Mycology***
1. Introduction – classification of fungi and general principles of lab diagnosis
2. Superficial infections
3. Subcutaneous infections – Mycetoma, Rhinosporidiosis
4. Systematic mycosis
5. Oppurtunistic fungi

PATHOLOGY
Cell injury
Infectious diseases
Circulatory disturbances
Growth disturbances
Miscellaneous disorders
Haematopathology
Cardiovascular pathology
Respiratory pathology
Renal and urinary tract pathology
Pathology of gastrointestinal tract
Liver and Biliary tract pathology
Lymphoreticular system.
Reproductive system.
Osteopathology
Endocrine Pathology
Neuropathology

Dermato-pathology

PHARMACOLOGY

General pharmacology and basic concepts of clinical pharmacology
Autonomic nervous system
Autacoids and related drugs
Central nervous system
Cardiovascular system
Drugs affecting blood and blood formation
Respiratory system
GIT
Drugs acting on Endocrine system
Chemotherapy
Toxicology
Miscellaneous
National health programmes
Infective/Parasitic conditions
Medical emergencies

COMMUNITY MEDICINE

I. Concept of health and disease

1. Definition, concepts and evolution (history) of public health
2. Definition of health, holistic concepts of health including the concept of spiritual health, appreciation of health as a relative concept, dimensions and determinants of health
3. Characteristics of agent, host and environmental factors in health and disease and the multifactorial etiology of disease.
4. Understanding the concept of prevention and control of disease
5. Understanding the natural history of disease and application of interventions at various levels of preventions
6. Introduction to various health indicators
7. Health profile of India

II. Social and behavioural sciences

1. Concept of sociology and behavioural science, Clinico-socio-cultural and demographic evaluation of the individual, family and community
2. Assessment of barriers to good health and health seeking behaviour
3. Role of family in health and disease
4. Socio-cultural factors related to health and disease in the context of urban and rural societies
5. Assessment of socio-economic status, effect of health and illness on socio-economic status
6. Doctor-patient relationship
7. Social psychology, community behaviour and community relationship, hospital sociology and psychology
8. Social security – health insurance: Organized sector, unorganized sector, special groups (Eg: elderly)
9. Impact of urbanization on health and disease
10. Poverty link to health and disease and poverty alleviation programmes
11. Intelligence – IQ and EQ
12. Personality – Types, Interpersonal relationships

13. Attitude, Behaviour, habits
14. Emotions, frustrations, role of emotions in health and coping with emotions
15. Conflicts – internal, interpersonal and conflict resolutions, defense mechanisms
16. Stress and coping skills – integrated (Psychiatry)
17. Ethics
18. Learning – Types and skills
19. Development and health interface – poverty and health, poverty alleviation programme, health of the marginalized, sustainable and inclusive development
20. Gender and health including gender based violence, epidemiology of violence and its prevention and control life skill education

III. Environment and Health

1. Water: concepts of safe and wholesome water, sanitary sources of waterborne diseases, water purification process, water quality standards.
2. Physical, Chemical and bacteriological standards of drinking water quality and tests of assessing bacteriological quality of water
3. Health hazards of air, water, noise, radiation pollution.
4. Concepts of water conservation, rainwater harvesting and global warming.
5. Concepts of solid waste, human excreta and sewage disposal.
6. Awareness of standards of housing and its effect of housing on health.
7. Role of vectors in the causation of diseases.
8. Identifying the features of vectors and their control measures.
9. Life cycles of vectors and advantages and limitations of various vector control measures.
10. Mode of action, application cycle of commonly used insecticides and rodenticides.
11. Urban waste management.
12. Recent issue in environmental health.
    (a) Stockholm convention
    (b) Basel convention
    (c) Kyoto Protocol
13. Radiation prevention and control

Health promotion and education / communication for behavioural change (Information, education, communication)
Nutrition
Occupational health
Bio-statistics
Basic epidemiology
Epidemiology of specific diseases: Communicable and noncommunicable
Demography and vital statistics
Reproductive and child health
School health
Urban health
Health care system in India
Health planning, management and administration
Disaster management
Legislation and public health
International health
Health care waste management
Health care of elderly
Mental health and behavioural problems

Development and health interface
Genetics
Disability

OPHTHALMOLOGY

Acute conjunctivitis, Trachoma, Allergic conjunctivitis, Pingencula, pterygium, Xerosis/ bitot spots, Dry eye, Angular conjunctivitis, neonatal conjunctivitis, subconj hemorrhager, D/D of conjunctival and limbal nodule
Chronic conjunctivitis, Dry eye, membraneous conjunctivitis, Inclusion conjunctivitis
Corneal Inflammations: Corneal ulcers-bacterial, fungal, viral, Mooren's ulcer, Vitamin A deficiency and keratomalacia, exposure keratitis, neuroparlytic keratitis, corneal blindness, eye banking, eye donation, keratoplasty, arcus senilis, corneal oedema, deep / interstitial keratitis, degenerations and dystrophies, overview of keratorefractive surgery.
Scleritis, episcleritis
Iridocylitis, Panophthalmitis, Endophthalmitis
Systemic associations of uveitis, Choroiditis, Coloboma iris, ocular albinism, vitreous hemorrhage – causes
Synchisis syntillans, Asteroid hyalosis.
Angle closure glaucoma, open angle glaucoma, steroid induced glaucoma, lens induced glaucoma including surgery and management
Cataract and management, cong. Conditions, surgery and complications, lens abnormality, secondary glaucomas, congenital glaucoma
Fundus changes in diabetes, hypertension, anaemias, pregnancy induced hypertension, haematological disorders, myopia
Photocoagulation
Retinal vascular diseases
Central retinal artery occlusion, central retinal vein occlusion, retinal detachment, retinopathy of prematurity, retinitis pigmentosa, retinoblastoma, Pappilledema, optic neuritis, optic atrophy
Awareness of amblyopia, types of squint, paralytic, non-paralytic
Common causes of proptosis, orbital cellulites, cavernous sinus thrombosis
Dacryocystitis – congenital, acute, chronic, epiphora
Ectropion entropion, trichiasis, ptosis, Iagophthalmos, symblepharon, blepharitis, Chalazion, refractive error, myopia, hypermetropia, Astigmatism, presbyopia, aphakia / pseduophakia, Anisometropia, overview of keratorefractive surgery.
Chemical injuries, open globe injuries, closed globe injuries and first aid treatment including sympathetic injuries.
Siderosis bulbi, Chalcosis, medico legal aspects.
Definition and types of blindness.
Causes of blindness
Promotion of eye donation
NPCB, Vision 2020
Eye camps
Symptomatic disturbances of vision, overview of recent advances in ophthalmology
Lasers in Ophthalmology
Enucleation – Indication, technique
Eye and systemic diseases including AIDS
Causes of sudden / partial / painless dimension of vision
Ocular malignancy – retinoblastoma and malignant melanoma of choroid
Pharmacology

Chronic side effects of systemic medication, local anaesthetics, viscoelastics, steroid and NSAIDS

OTORHINOLARYNGOLOGY

Ear

Introduction to diseases of ear Topics: Diseases of external ear (with special mention on wax, otomycosis, foreign body, keratosis and malignant otitis externa. Diseases of middle ear: Acute otitis media, otitis media with effusion, chronic suppurative otitis media – TTD, AAD, complications of middle ear infections. Deafness – classification, causes, investigations, early detection of deafness in children and rehabilitation (special mention to audiometry, otosclerosis, learning and speech rehabilitation.
Disease of inner ear: Vertigo – classification, causes, investigations and management (special mention of Meniere's disease, positional vertigo and acoustic neuroma)

Nose and paranasal sinuses

Rhinitis – etiology, classification and management (special mention of allergic rhinitis, atrophic rhinitis and allergic fungal rhino-sinusitis.)
Acute sinusitis (in detail), chronic sinusitis (in detail)
Complications of infections of nose and paranasal sinuses
Facio-maxillary injuries (in detail), epistaxis, DNS and nasal polyp (special emphasis on FESS)
Tumours of nose and PNS (special mention of inverted papilloma, naso-pharyngeal angiofibroma and malignancy)

Throat

Tonsils and adenoids (special mention of Qunisy, patches in oral cavity and pharynx)
Neck space infections – Ludwig's angina, retropharyngeal and parapharyngeal abscess
Hoarseness – diagnosis and management
Stridor – diagnosis and management
Malignant lesions of larynx and laryngo-pharynx
Dysphagia – causes, investigations and management (special mention of malignancy)
Foreign bodies of aero-digestive tract – diagnosis, management and complications, endoscopies in ENT

MEDICINE AND ITS ALLIED SPECIALITIES

I. ***Nutrition and nutritional disorders***
- ***(a)*** Nutrition requirements
- ***(b)*** Protein calorie malnutrition in adults
- ***(c)*** Obesity
- ***(d)*** Vitamin deficiencies
- ***(e)*** Vitamin excess
- ***(f)*** Hypo and Hypervitaminosis A & D

II. ***Fluid and electrolyte balance***
- *(a)* Hypovolemia and dehydration
- *(b)* Acidosis
- *(c)* Alkalosis

(d) Hyponatremia + Hypernatremia
(e) Hypokalemia + Hyperkalemia

III. ***Disturbance of body temperature***

Infections
Approach to fever and PUO
URI including sinusitis
LRTI – Bronchitis and community acquired pneumonia
Tuberculosis
Gastroenteritis, Cholera, food poisoning
Amoebiasis
Helminthic infections, Bacillary dysentery
Acute viral hepatitis chronic
Viral hepatitis malaria
Filariasis
Chickenpox,
Herpes zoster
Dengue fever,
Chickungunya
Typhoid,
Leptospirosis
Common exanthematous fevers
Skin and soft tissue infections including cellulitis
UTI
HIV AIDS
Sepsis
Rabies
Tetanus
Common fungal infections
Influenza and other respiratory viral infections
Brucellosis
Ricketsia
Meningitis
Common gram negative infections
Common gram positive infections

IV. ***Immunology***
Role of B and T Lymphocytes
Immunoglobulin
Immune reaction
Anaphylaxis, Urticaria, Angioedemas

V. ***Primary Immune deficiency disorders***

VI. ***Genetics***
Clinical Genetics

VII. ***Environmental and occupational problems***
(a) Common poisonings organophosphate and carbamate sedatives, hypnotics, antipsychotics, TCA, Rat poison + paracetamol, formic acid, methyl alcohol, Odollum
(b) Bites and stings, snake bite, scorpion sting + others

(c) Alcohol abuse
(d) Radiation hazards
(e) Hanging, drowning, electrical injuries

VIII. ***Medical disorders in pregnancy***

IX. ***CVS***

Coronary circulation
Coronary artery diseases
ECG and X-ray interpretation
Rheumatic fever and RHD
Congenital heart disorders
Corpulomonale
Hypertension and hypertensive heart disease
Cardiac failure
Peripheral vascular diseases
Infective endocarditis
Cardiomyopathies
Pericardial disease
Rhythm disturbances
DVT + pulmonary embolism

X. ***GI system***

Approach to patient with Jaundice
Approach to patient with Ascites
Physiology of absorption and investigation procedures
Acid peptic diseases
Malabsorption syndrome and tropical sprue
Drug / toxin induced hepatitis and NASH
IBS
Inflammatory bowel disease
Disease of colon and rectum
Abdominal tuberculosis
Chronic liver disease
Upper GI bleed
Haemochromatosis and Wilson's disease

XI. ***Respiratory system***

Bronchial asthma
COPD
Suppurative lung disease
Pleural diseases
Bronchogenic carcinoma
Respiratory failure
ILD

XII. ***Haematology***

Bleeding disorders
Coagulation disorders
Acute Leukemias
Chronic Leukemias

Haemolytic anaemias Fe
Deficiency anaemia
Macrocyte and Megaloblastic anaemia
Plasma cell disorders
Polycythemia
Lymphoma
Aplastic anaemia + Agranulocytosis
HUS and TTP

XIII. ***Renal medicine***
Acute renal failure
Chronic renal failure
Glomerular disease
Nephrotic syndrome RFT

XIV. ***Central nervous system***
Functional
Anatomy
Physiology and Investigation
Migraine and cluster headache
Seizures and epilepsy Ischemic
Stroke
Hemorrhagic stroke
Approach to a case of vertigo
Extrapyramidal disorders
Peripheral Neuropathy
Spinal cord disorders
Motor neuron disease and myasthenia
CNS tuberculosis
Demyelination
Cerebellar disorders
Dementias, Delirium
Pituitary dysfunction and tumour
Endocrine disease related to gonads

XV. ***Geriatrics***
Normal ageing and age-related common problems
Drug therapy in elderly

XVI. ***Critical care***
Severe sepsis and shock
Acute LVF + Acute severe asthma
Cardiopulmonary resuscitation status
Epileptics
Approach to coma
Management of hepatic encephalopathy
DIC
Emergency management of acute coronary syndrome
Bioterrorism and disaster management

XVII. ***Rheumatology***

Rheumatoid arthritis
SLE
Spondyloarthopathies
Degenerative joint disorders
Approach to chronic backache
Inflammatory muscle disease

XVIII. ***Endocrine disease***
Diabetes Mellitus
Hypothyroidism
Hyperthyroidism
Thyroiditis and other thyroid disorders
Parathyroid disorders + Tetany
Metabolic bone disease + Osteoporosis + Vitamin deficiency
Cushings disease + syndrome
Addison's disease

XIX. ***Pain and principles of palliative care***
Assessment and treatment of chronic pain

XX. ***Clinical pharmacy and therapeutics***
General principles of drug therapy
Common drug interactions
Common adverse reactions
Monitoring drug therapy
Rational prescription writing

PSYCHIATRY
Classification of psychiatric disorders
Aetiological factors in psychiatric disorders
Clinical interview and mental state examination
Organic brain syndrome
Substance abuse
Bipolar disorders
Depressive disorders
Schizophrenia
Major manifestation of psychiatric illness
Treatments used in psychiatric illness
Neurotic, stress related and somatoform disorders
Sleep disorders
Legal aspects of psychiatry

RADIOLOGY
Production of X-rays
Biological changes
Skeletal radiology chest and Mediastinum
Gastrointestinal system
Hepatobiliary system
Genitourinary system
Neuroimaging modalities
Emergency radiology
DERMATOLOGY

Infections of skin
Eczematous dermatitis
Bullous skin lesion collagen disorder
Pigmentary disturbances
Maculopapular,
Squamous lesion
Neoplastic lesions
Lesions of skin appendages
Gastrogenic disorders
Leprosy and national leprosy control programmes

SURGERY AND ITS ALLIED SPECIALITIES

Principles of Surgery, genetics, history of surgery, surgical ethics

Trauma

Metabolic response to trauma
Wound healing and complications
Critically injured patient including Triage
ATLS, poly trauma, disaster management
Different types of wounds and their management
Shock: Types, pathogenesis and management, Haemorrhage, Haemostasis, Blood transfusion, Burns
Fluid and electrolyte balance, nutritional support
Pre-operative and post-operative care – emphasis on intensive care and high dependency sterilization
Surgical sepsis – specific infection, Nosocomial infection, antibiotic policy
Immunology and organ transplantation, HIV and surgeon, Hepatitis B
Principles of imaging techniques
Suture materials and anastomosis
Skin and soft tissues
Normal structure – Ulcers, sinus and fistula, cysts and benign tumours
Pre-malignant conditions, malignant tumours, skin cover
Arteries - Applied anatomy and physiology, investigation, trauma, acute ischaemia, chronic ischaemia, Arterial aneurysms and A. V. fistula, amputations
Veins - Applied anatomy and physiology, varicose veins and venous ulcers, DVT and superficial thrombophlebitis
Lymphatics and lymph nodes - Applied Anatomy and physiology, lymph oedema – primary, secondary, lymph cyst – cystic hygroma
Inflammations – Lymphangitis, lymphadentis, malignant neoplasms – lymphomas
Head and neck - Head injuries, facio maxillary injuries, salivary glands, mouth and face, cleft lip, cleft palate, oral cancers and premalignant conditions, jaw tumours, ranula, misc-Branchial cysts, arid fistula, carotid body tumours.
Thyroid and parathyroid thyroglossal cyst and fistula Breast - Applied anatomy and physiology, investigation, fibrocystic diseases, inflammation, tumours
Chest – diaphragm, mediastinum, chest injuries: Thoracic outlet compression syndrome, heart and pericardium, pleura and lungs.
Gastrointestinal tract – oesophagus, anatomy and physiology, congential anomalies, dysphagia, achalasia and other motility disorders, oesophageal perforation, gastrooesophageal reflux diseases, tumours.
Stomach and Duodenum – Anatomy, physiology, embryology, congenital, peptic ulcer disease (APD), Upper GI haemorrhage, tumours, pyloric stenosis

Liver – Applied anatomy and physiology, trauma, liver abscess, cysts of the liver, portal hypertension, tumours, principles and management of obstructive jaundice.
Biliary system – congential disorders, gall stone, cholecystitis, Cholangocarcinoma
Spleen – Anatomy and physiology, trauma – splenic conservation, indication for splenectomy
Pancreas – Anatomy, development and physiology, congenital anomalies, acute pancreatitis, chronic pancreatitis including calcific pancreatitis, tumours, surgical jaundice
Vermiform appendix – Anatomy, appendicitis, neoplasm
Small and large intestine – Anatomy, physiology, embryology, congenital disorders, inflammatory bowel disease including typhoid, tuberculosis, tumours, intestinal obstruction.
Rectum and anal canal – ano-rectal anomalies, prolapse, haemorrhoids, ano-rectal sepsis, fissure, fistula, tumour
Miscellaneous – Abdominal trauma, minimally invasive surgery, peritoneum and retroperitoneum, hernia and abdominal wall, mesentery, surgical audit and day care surgery
Genitourinary system – congenital conditions, trauma, infections, stones, hydronephrosis, tumours of kidney, tumours of bladder, retention of urinary bladder, haematuria, torsion, undescended testis, epididymo-orchitis, carcinoma penis, phimosis, prostate testicular tumours, benign prostatic hypertrophy, carcinoma prostate, adrenal gland surgery pheochromacytoma and conn syndrome.

ORTHOPAEDICS

Traumatology
Definition of a fracture and types of fracture and general principles of management of fracture
Complications of fracture – open fractures and pathological fracture
Fracture clavicle, fracture neck of humerus and shoulder dislocation
Fracture humems (Shaft) and supracondylar fracture
Intercondylar fracture and Olecranon fracture
Elbow dislocation and forearm fracture
Monteggia fracture and Galeazzi's fracture
Colle's fracture and fracture scaphoid
Fracture spine and traumatic paraplegia
Fracture pelvis and hip fracture – fracture of femur
Hip dislocation and fracture shaft of femur
Meniscus tear and fracture patella
Leg fracture
Ankle injuries – Pott's fracture
Hand injuries
Extensor mechanism injuries of knee
Fracture of tarsal bones
Cold orthopaedics
CTEV and flat foot
CDH
Torticollis, congential pseudoarthrosis of tibia and arthrgryphosis multiplex congenita ostemyelitis septic arthritis tuberculosis – spine, hip, knee, elbow, wrist and other sites
Perthe's disease and slipped upper femoral epiphysis
Rickets and osteomalacia
Rheumatoid arthritis and ankylosing spondylitis

Intervertebral disc prolapse
Scoliosis and spondylothesis
Bone, tumour, osteochondroma, simple bone cyst, aneurysmal bone cyst and endochondroma, giant cell tumour, osteosarcoma and Ewing's sarcoma, Chondrosarcoma, multiple myeloma, metastatic bone diseases and osteogenesis imperfecta
Nerve injuries – Radial nerve, ulnar nerve, sciatic nerve, amputations and osteoarthrosis hip, knee, cerebral palsy

PHYSICAL MEDICINE AND REHABILITATION

Introduction to physical medicine and rehabilitation disability process and progression of disabilities concept of Impairment / disability and hard cap
Principles of physical therapy – various modalities and therapeutic exercises
Principles of occupational therapy its application in the rehabilitation of various disabilities
Principles of prosthetics and rehabilitation aids their application in the rehabilitation of disabilities
Disability evaluation – principles people with disabilities Act – 1995
Pain management principles
Principles of rehabilitation of people with disabilities
To understand the basic principles of disability conclusion and for certification purposes
To get exposed to the potentials of socia-vocation rehabilitation of the various describing conditions in the light of the 1995 Act people with disabilities (equal opportunities etc) Act 1995
To get oriented to basic principles of community based rehabilitation of people with disabilities

RADIOTHERAPY

Cancer epidemiology and possible etiological factors, screening for cancer
Principles of cancer chemotherapy and chemotherapeutic agents used in the management of cancer
Hormone treatment in cancer
Principles of radiation oncology, radioactive sources – Teletherapy, Brachial therapy and nuclear medicine
Methods of radiotherapy and recent advances
Common malignancies, diagnosis and treatment

ANAESTHESIOLOGY

Introduction – scope of Anaesthesiology
Pre-anaesthetic check-up premedication
General anaesthesia – Basal anaesthesia triads of anaesthesia Inhalational agents
Intravenous anaesthetic agents
Regional analgesia – subarachnoid and epidural analgesia, other techniques of regional analgesia and agents used.
Equipments in anaesthesia and methods of oxygen therapy
Intravenous fluid therapy, intraoperative monitoring
Complication in anaesthesia and post-operative period
Cardio-pulmonary and cerebral resuscitation, basic cardiac life support (BCLS), advanced cardiac life support (ACLS)
Methods of pain relief

PAEDIATRIC

Infectious diseases
Poliomyelitis, measles, diphtheria, tetanus, childhood tuberculosis, typhoid fever, HIV infection, dengue and chikungunya, viral haemorrhagic fevers and malaria. Pertussis, mumps, rubella, influenza, H1N1, seasonal epidemics

Gastrointestinal tract and liver disorder
Diarrhoeal diseases, hepatitis and hepatic failure, cirrhosis liver and portal hypertension. Helminthic infestations.

CVS - Congenital heart disease, rheumatic fever and RHD, CCF, hypertension, infective endocarditis.
Respiratory system - Childhood asthma, acute bronchiolitis, pneumonias in children suppurative lung disease, smoking and environmental pollution, Croup syndromes
CNS - Cerebral palsy, mental retardation, meningitis and encephalitis, seizure disorders and febrile seizures, microcephaly and hydrocephalus, floppy infant, therapeutics Treatment of epilepsy, GBS, ADEM
Haemopoietic system - anaemia in children, bleeding disorders
Disorders of kidney - acute nephritis, nephrotic syndrome, renal failure, urinary tract infection
Endocrine disorder - diabetes mellitus, thyroid disorders, short stature and intersex, ambigous genitalia, precocious puberty
Connective tissue disorders - JRA, other vasculitis syndromes including SLE and HSP, Kawasaki disease
Malignancies in children - leukemia, lymphomas, neuroblastoma, solid tumours, CNS tumours, new born respiratory distress in newborn, perinatal diagnosis and treatment, sepsis in newborn, assessment and management of asphyxia, thermoregulation in newborn congenital malformations, disorders of gestation and low birth weight, neonatal resuscitation, neonatal jaundice, sepsis, BFHI and feeding, normal variations intrauterine infections, neonatal seizures
Behavioural problems in children - Enuresis, thumb sucking, breath holding, dyslexia, specific learning disorders, child rearing problems like infantile colic, growing pain etc
Common poisoning and accidents in children - Kerosene, Dhatura, paracetamol and iron, snake bite, burns etc.
Nutrition - BFHI, IYCF Nutritional assessment, SAM, specific vitamin deficiency disorders
National programmes - IMNCI, RCH3, NRHM, Vitamin A, Iodine deficiency, IDSP, ARI, ADD, AFP & PPI
Common chromosomal disorders and genetic counselling - Down's syndrome, Turner syndrome.
Fragile X and Genetic counselling,
Innocent problems causing undue parental anxiety breath holding spell, evening colic, growing pain etc.

OBSTETRICS AND GYNAECOLOGY

Pregnancy - Diagnosis, Clinical features, differential diagnosis, relevant tests and the principles underlying the tests
Antenatal care: objectives of antenatal care routine antenatal check up, Assessment of period of gestation, obstetric examination, general examination, other system examination
Clinical monitoring of maternal and fetal well being, detect abnormality
Common problems in Pregnancy - Oedema, Pruritis, heart burn, piles, varicose veins, clothing and foot ware, exercise, sex, hygiene, nutrition, rest, drug in pregnancy

Drugs: Immunisation, drug prescription relevant blood examination, urine examination and interpretation of the results and physiological changes in pregnancy
Ultrasound examination
Fetal surveillance
Normal Labour
Physiology of onset of labor, fetal skull and pelvis
Mechanism of labour
Labour monitoring partogram, Labour analgesia
Induction of labor (various methods of induction – merits and demerits)
Acceleration of labor and drugs used in labor
Delivery: stages of labour, management of first of labour
Management of second stage of labour (vaginal delivery with episiotomy)
Management of third stage of labor:
Active management of third stage of labor
Prevention of PPH, Management of PPH
Other complications of third stage of labor and management
Abnormal labor:
Hypertonic contractions, hypotonic contractions and incoordinate uterine action
CPD, obstructed labour
Caesarean section (indications, complications)
Vaginal delivery after caesarean
Abnormal presentations and management: Occipito posterior position, Breech presentation, transverse lie, brow/face presentation
Abortions: Types, aetiopathology, investigations and management
Recurrent pregnancy loss: causes, investigations and management
Ectopic pregnancy: aetiopatholgy, early diagnosis, late diagnosis, clinical features, differential diagnosis and principles of management (conservative, medical and surgical)
Trophoblastic diseases: aetiopathology, classification, clinical features, diagnosis, management, long term follow up and complications
Hyperemesis gravidarum: definition, aetiopathology, clinical features advice and drug therapy
Abnormal puerperium: cause clinical presentation investigations and management
Abnormal pregnancy:
Multiple pregnancies
Intrauterine death
PROM (Premature rupture of membranes)
Preterm labor
Post datism
IUGR
Elderly primi, grand multipara, Rh negative, Gynaecological disorders complicating pregnancy
Fetus and newborn:
Fetal distress: definition, diagnosis and management neonatal resuscitation, care of newborn, examination of newborn and identifying congenital abnormalities, jaundice in newborn
Breast feeding
Contraception: various methods and devices, selection of patients, counselling of the Couples, follow up, side effects, complications, and failure rates
Medical termination of pregnancy:
MTP Act, Legal and ethical aspects, methods, complications and management
Operative obstetrics

Indication and steps of the procedure of episiotomy
Vacuum extraction, forceps delivery
Instrumental evacuation
Caesarean section
Assisted breech delivery, breech extraction
External cephalic version, internal podalic version
Cervical encirclage extra amniotic instillation and manual removal of placenta
Ultrasound MRI in obstetrics: diagnostic and interventional
Fetomaternal medicine: Screening for congenital abnormalities, blood tests (maternal and fetal) Amniotic fluid analysis, fetal tissue biopsy
Medical disorders in pregnancy:
Hypertensive disorders of pregnancy
Heart disease complicating pregnancy
Anaemia in pregnancy
Diabetes in pregnancy
UTI, hepatitis, TB, chest disease complicating pregnancy
Veneral disease, infections, HIV complicating pregnancy
Thyroid disorders, immunological disorders like SLE, ACLA, and thrombophilia complicating pregnancy
Jaundice in pregnancy Haemorrhage and coagulation disorders in obstetrics and immunology in pregnancy
Dummy pelvis, Mannequins resuscitation of newborn

Gynaecology
Abnormal menstruation:
Normal menstrual cycle – physiology of menstruation
Abnormal menstruation – definition, classification, clinical features and principles of investigations, diagnosis and management
Amenorrhoea: Definition, classification, causes, investigations and management
Dysfunctional uterine bleeding and postmenopausal bleeding: Definition, causes, investigations and management
Hormonal therapy: when to give, when not to give, type of hormones with dosage, duration of hormonal therapy, complications and contraindications for hormonal therapy
Infertility: Types, definition, causes, counselling, examination of couple and essential investigations, ART: various methods of assisted reproductive techniques, setting up of ART lab
Genital injuries including fistulae: Causes, diagnosis, clinical features, and principles of management and prevention
Genital infections: STDs, PID, HIV infection and AIDS, genital TB – aetiopathology, diagnosis and principles of management
Neoplasms of genital tract – Benign and malignant, aetiopathology, clinical feature, diagnosis, principles of management and cancer screening and preventive aspects
Abnormal vaginal discharge: causes, clinical examination, diagnosis, investigation and management. Counselling regarding prevention of STD’s
Endometriosis: aetiopathology, classification, clinical features, diagnosis and management, contraception
Operative gynaecology: Indications, complications of D&C, cervical biopsy
Medical termination of pregnancy, evacuation of incomplete Abortion tubal ligation, IUCD insertion
Abnormal hysterectomy
Vaginal hysterectomy, sling procedures

Ovarian tumours
Radical procedure for malignancy
Correction of enterocele, diagnosis and operation for vault prolapse
Endoscopy in gynaecological practice
Laproscopy: Principles, indications, instrumentation, procedure, complication, scope of laproscopy in gynaecological practices
Hysteroscopy: Principles, indications, instrumentation, procedure, steps in present gynaecological practices and complications.
Colposcopy: Principles instrument, procedure
Endocrinology
Post operative management:
Routine management of postoperative patient like IV fluids, drugs, antibiotics, ambulation, nutrition
Management of fever, skin wound complications, complications like burst abdomen, intraperitoneal bleeding and intra peritoneal collections, instruments, specimens etc.
Acute abdomen
Adolescent medicine (Gynaecology)
Analgesia
Urological problems

FAMILY WELFARE

Applied anatomy of mechanical methods for prevention of conception
In female – Barrier contraception, female condom, IUCD, tubectomy etc.
In male – Condom, vasectomy (NSV) etc
Physiology, endocrine and regulation of reproduction in the female. The safe period-rhythm method of contraception, principle of use of oral contraceptives.
Pharmacology:
Mode of action and administration of chemical contraceptives and oral contraceptive
Contraindications for administration of contraceptives. Side effects of contraceptives
Community Medicine: The need for Family Welfare Planning, organization of Family Planning service, Health Education in relating to Family Planning, Nutrition, Physiological need of the mother, the child and the family Demography and the vital statistics
Pediatrics: Problems of child health in relation to large family: organization of pediatric services, nutritional problems of mother and child, childhood diseases due to over crowding.

NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper