

**Maharashtra Public Service Commission****Civil Services Exam – Mains Optional****Medical Sciences****(Code No : 701)****Paper - I****Standard** : MBBS Degree**Total Marks** : 200**Nature of Paper** : Conventional Type**Duration** : 3 Hours

- Note:**
- 1) Answers to this paper must be written in English only.
  - 2) This paper will test the candidate's ability to comprehend, to analyse, to interpret, to criticise and to appraise the subject matter related to the topics/sub topics mentioned below.
  - 3) It is expected from candidates to study the latest and recent developments and happenings pertaining to the topics/sub topics mentioned below.

**Section - A ( Marks : 50 )****1) HUMAN ANATOMY :**

- .01) General Anatomy** - Bone, Joints, Muscles, Cartilage, integument & Skin, Appendages, fascia, Blood Vessels, lymphatics, Neurology.
- .02) Regional Anatomy -**

- a) **Upper limb** : Joints, arteries, veins, lymphatics, bones, muscles and nerves of Upper limb with applied anatomy. Mammary gland, axilla, cubital fossa brachial plexus.
- b) **Lower limb** : Joints, arteries, veins, lymphatics, bones, muscles and nerves of Lower limb with applied, anatomy femoral triangle; adductor canal, popliteal fossa, sole, arches of foot, gluteal region.
- c) **Abdomen and thorax** : Joints, arteries, veins, lymphatics, bones, muscles and nerves , Anterior abdominal wall, quadrants, peritoneum, Anatomy of thoracic and pelvic diaphragm with its applied, anatomy Thoracic wall, thoracic inlet, outlet, intercostal space, mediastinum, pleura. pericardium and heart.
- d) **Head - face and neck** : triangles of neck, oral and Nasal Cavity, Salivary glands, face, scalp, larynx, pharynx, orbit, eyeball, ear, spinal cord, CSF, meninges and Brain.

**2) HISTOLOGY :**

- .01) General Histology** - cell, cell organelles-nucleus chromatin. Epithelial- Cilia; Microvilli; Stereocilia; Glands, Connective tissue. Bone - Cartilage. Neurons and Neuroglia, Blood vessels, Lymphoid tissue.
- .02) Systemic histology** - skin and its appendages, lip, tongue; tooth, salivary glands;

G.I. Tract with glands, Respiratory system, Urinary system, Male and Female reproductive system, Endocrine glands, nerves system, Cornea; Sclerocorneal junction; Lens; Retina; Optic nerve. Cochlea.

**3) EMBRYOLOGY :**

**.01) General embryology** - Gametogenesis: reproductive cycles, Fertilisation, Contraception, Sex determination, "Sex-ratio", Cleavages, Implantation and development of embryo, Foetal membranes, Allantois, Derivatives of germ layers, Decidua; Umbilical cord; Foetomaternal circulation.

**.02) Systemic Embryology** - Development of Cardio-vascular system, Respiratory system, Gastrointestinal system with related glands, Urinary system, Male and Female reproductive system. Skin and appendages. Pharyngeal arches, Development of face, palate, endocrine glands. Spinal Cord and Brain, Forebrain, Midbrain and Hindbrain, Peripheral Nervous System. - Eye and Ear.

**4) GENETICS :**

Mendelism, Eugenics, Sex chromatin, Population genetics Cytogenetics, Cell cycle, Molecular genetics Gene, Genetic code, DNA, RNA. Inheritance : Pedigree charts. Mutation, Polymorphism, Lyon's hypothesis; teratogenesis. Chromosomal abnormalities, Prenatal diagnosis. Karyotype and genetic counselling. Clinical genetics.

**Section - B ( Marks : 50 )**

**5) HUMAN PHYSIOLOGY :**

**.01) General physiology and hematology** - Homeostasis, Biofeedback mechanisms. Cell Physiology, Blood : Plasma proteins, anaemia, polycythemia. Haemopoiesis, Immunity : Blood groups, Hemostasis and Anticoagulants, Body fluid compartments, Blood volume. Bone marrow, Haemoglobinopathies, haemorrhagic diseases.

**.02) Respiratory physiology and Cardiovascular physiology** - Physiology of respiratory system, Mechanics of respiration, dead space, Diffusion of Gases, Transport of oxygen and carbondioxide, Control of Breathing, Hypoxia, Artificial respiration, Pulmonary function tests. Properties of cardiac muscle heart, pacemaker, ECG ,Cardiac cycle. Haemodynamics, cardiac output, Blood pressure, Capillary circulation, tissue fluid, lymphatic system, Regional circulation.

**.03) Renal physiology, Body temperature regulation** - kidney, Renal circulation, Concept of clearance, Formation of urine, acid-base balance. Physiology of micturition, Artificial kidney, dialysis, Regulation of body temperature.

**.04) Alimentary system and nutrition** - Motility of GIT and GIT hormones Digestion & absorption, concept of balanced diet, caloric requirements, nutrients.

**.05) Reproductive physiology and endocrine system** - Hypothalamus, pituitary, Thyroid, Parathyroid, Adrenal and medullary hormones, Male and Female reproductive system, Sex chromosomes, Barr bodies, sex determination, sex differentiation, pregnancy, Lactation, Contraception.

**.06) Central nervous system and special senses** - Action potential, Muscle contraction, skeletal muscle, motor units, E.M.G. synapse, neurotransmitters .receptors, tone posture, sensations. Reflexes, Tracts, UMN & LMN, Spinal cord, Medulla oblongata, Pons, midbrain. Thalamic or Decorticate animal, Posture & Equilibrium, vestibular apparatus, Thalamus, Hypothalamus, Limbic system, Reticular formation, sleep wakeful cycle, E.E.G., Cerebellum, Basal

Ganglia, Cerebral Cortex, speech, Memory and Learning, reward and punishment, Autonomic nervous system, CSF, blood brain barrier. Eye, optics, Photochemistry of vision, Accommodation, Errors of refraction, Colour vision, Visual pathway, Physics of sound, Audiometry, Auditory pathway, Sense of smell and taste.

**6) HUMAN BIOCHEMISTRY :**

- .01)** Chemistry of carbohydrates, lipids, proteins and nucleic acids. enzymes, vitamins, nutrition, genetic code, protein biosynthesis.
- .02)** Metabolism of carbohydrate, proteins, lipids, purines and pyrimidines and related disorder.
- .03)** Hormones, mineral and hemoglobin metabolism, porphyria, jaundice, liver function tests, kidney function tests and thyroid function tests.
- .04)** Detoxification mechanism, genetic engineering, recombinant technology and its application. Radioisotopes- uses and hazards. Biochemistry of Cancer.

**Section - C ( Marks : 50 )**

**7) PATHOLOGY :**

- .01) General pathology :** Causes of diseases. Cell injury. Necrosis & gangrene. Inflammation. Regeneration and repair. Oedema. Shock. Thrombosis. Embolism and Infarction. Haemorrhage. Mineral metabolism. Genetic disorders. Hypersensitivity reactions. Autoimmune diseases. AIDS. Typhoid fever. Syphilis, Tuberculosis. Leprosy. Fungal diseases. Malaria. Neoplasia.
- .02) Haematology -** Hemopoiesis. anaemias. haemoglobinopathies. haemorrhagic disorders. Leukaemias. Paraproteinemia. Blood groups. Blood Transfusion.
- .03) Systemic pathology -** Atherosclerosis. Ischaemic, Congenital & Rheumatic heart diseases. Cardiomyopathies. Pneumonias. Lung Abscess and Bronchiectasis. Emphysema. Occupational lung diseases. Tumours of lung and pleura. Lesions of oral cavity and salivary glands. Gastritis and Peptic Ulcer. Ulcers of Intestines. Idiopathic Inflammatory Bowel disease. Tumours of upper GIT and lower GIT. Viral Hepatitis. Alcoholic liver disease. Cirrhosis. Tumours of liver, Pancreas and gall bladder. Diabetes mellitus. nephritis & GN. Nephrotic syndrome. Renal failure. Tumours of kidney, Pelvis, testis, Prostate, Cervix, Uterus, Ovary, trophoblastic tissue, skin, soft tissue, bone, cartilage and joints. Non-neoplastic and Neo-plastic lesions of the breast, lymph nodes and Spleen. Lymphoma. lesions of bone and joints. Inflammatory and neoplastic conditions of CNS. Lesions of Thyroid. Myopathies. Clinical pathology: of jaundice. renal function tests. diabetes mellitus. autopsy.

**8) MICROBIOLOGY :**

- .01) General Microbiology :** Bacterial cell and its organelles. Dark ground illumination, phase contrast and fluorescent microscopy, electron microscopy. Physiology of bacteria. Culture media. Sterilization, disinfection, asepsis, antiseptics. Ubiquity of bacteria. chemical agents, Universal safety precautions. Bio medical Waste disposal. Bacterial genetics and drug resistance R factor, action of antimicrobials, drug resistance and antimicrobial susceptibility tests. Host parasite relationship. Commensal, pathogenic and opportunistic organisms. Microbial factors : Types of infection, Normal flora. Identification of bacteria. Diagnosis of infectious diseases. Principles of laboratory diagnosis.

Collection, transport, processing of specimens.

- .02) Immunology** : immunity, HLA, MHC, Antibodies, immuno-Globulins, Serological reactions, antigen- antibody interaction. B & T lymphocytes, cell activation, antigen processing and presentation, immune response, monoclonal antibodies, antibody production, CMI, immune tolerance. Complement. Hypersensitivity. Autoimmunity. Transplantation & tumour immunology. transplants, transplant rejection, IR to tumours, tumour antigens, Immuno-Deficiency diseases.
- .03) Systemic bacteriology** : infectious agents, clinical features, complications, virulence factor, Immunological response, Specimen selection, Collection, Transport, Selection of media, Pathogenicity testing, Anti microbial drug susceptibility testing- Culture and isolation, Viability, Virulence, Diseases, Antigens, - Pathogenesis, Immune response of- Staphylococci, Streptococci, Pneumococci, Neisseria, C.diphtheriae, M.Tuberculosis, Atypical mycobacteria, M.leprae, Bacillus, Methods of anaerobiosis. Non sporing anaerobes. Clostridium welchii, tetani, Cl.botulinum, Enterobacteriaceae, Salmonella typhi, Shigella, Vibrio & Campylobacter, Pseudomonas, Other GNB, Newer bacteria, Spirochete, Actinomycosis & Nocardia, Rickettsia, Chlamydia & Mycoplasma, Bacteriology of air, water, milk and food.
- .04) Mycology** : fungi, sporulation and classification, identification, Infections produced, Lab Diagnosis, Agents of Superficial mycoses, Subcutaneous mycoses, Mycetoma, Rhinosporidiosis, Systemic mycoses, Opportunistic fungal infections, Candida, Cryptococcus, Histoplasma, Mucor, Aspergillus, Pneumocystis jirovecii.
- .05) Virology** : General properties and classification of viruses, pathogenesis, bacteriophages, Viral immunity, interferon, viral vaccines, Pox viruses. DNA viruses, Papova, Adeno, Herpes viruses, Respiratory viruses, Orthomyxo and Paramyxoviruses, Picornaviruses, Polio, Coxsackie, Enteroviruses, Viruses causing diarrhoea – Rota viruses, Polioviruses (polio), Hepatitis viruses, Arboviruses, Dengue, KFD, Japanese encephalitis, Rhabdoviruses, Rabies, Slow and Oncogenic viruses. Retroviruses, HIV/AIDS, Immunity, Universal Safety Precautions/ Standard Work Precautions .
- .06) Parasitology** : geographical distribution, Habitat, Morphology. Life cycle, Pathogenesis, Laboratory diagnosis, Treatment, Control, Immunoprophylaxis. epidemiology of E. histolytica, Amoebic infections, flagellates, Free living amoebae, PAME, Giardia & Trichomonas. Hemoflagellates, L. donovani, Malaria, Malarial parasites, protozoa, Toxoplasma, Cestodes, Taenia saginata & solium, Echinococcus granulosus, Trematodes, Schistosomiasis, Intestinal Nematodes, A.duodenale, A. lumbricoides, E. vermicularis, T. tritura, Tissue Nematodes, W. bancrofti, D. medinensis, in brief T. spiralis and emerging parasitic infections.

#### Section - D ( Marks : 50 )

#### 9) PHARMACOLOGY :

- .01) Introduction** : General Pharmacology, nature and sources of drugs; pharmacology, rational pharmacotherapy, Pharmacokinetics, Pharmacodynamics, Adverse Drug Reactions.
- .02) Cardiovascular system haematinics and haematopoietic factors** : drugs affecting coagulation, antihypertensive therapy; Management of hypertension,

angina. Calcium channel blockers. Anticoagulants & Coagulants. Thrombolytics & Antiplatelet Agents. Drugs for CCF. Antiarrhythmic Agents. management of shock. Hypolipidaemic drugs. iron deficiency anaemia and megaloblastic anaemia; Management of anaemia.

- .03) Autonomic pharmacology:** Adrenergic agonists & antagonists, Beta- blockers. Cholinergic agonists. Anticholinesterases. Antimuscarinic drugs. neuropsychiatric pharmacology : inflammaton, pain & substance abuse. sedative-hypnotics. psychopharmacology : Antianxiety; Antipsychotics; Antidepressants. Antiepileptics. Neurodegenerative disorders : Anti - Parkinsonian agents ; cerebral vasodilators / nootropics. Local anaesthetics. Analgesics : Opioids; NSAIDs. Pharmacotherapy of pain of rheumatoid arthritis and gout. Substance abuse : Management of opioid, alcohol and tobacco addictions.
- .04) Chemotherapy :** Antimicrobial agents : Sulphonamides & Cotrimoxazole. Quinoline derivatives. Penicillins, Cephalosporins & Other b Lactams. Aminoglycosides. Macrolides. Tetracyclines & Chloramphenicol. Pharmacotherapy of UTI. Antimicrobial use. Antimycobacterial therapy : Antileprotic agents. Antiprotozoal agents. Antiamoebic, Antimalarials and Anti Kala azar. malaria. Anthelmintics. Antifungal agents. Antiviral agents. STD s. cancer chemotherapy.
- .05) Endocrinology :** Steroids. Progestins & antagonists. Oral contraceptives & profertility agents. Testosterone & anabolic steroids. Fertility control. Thyroxine and antithyroid agents. Diabetes Mellitus.
- .06) Miscellaneous :** Agents used in gastro intestinal disorders: Perioperative Management : Preanaesthetic medication, antiseptics, Local Anaesthetics, Skeletal muscle relaxants. Drugs used in post-operative period: analgesics, antiemetics. Autocoids, Antiallergics, Antihistaminics, bronchial asthma, cough, Drugs acting on immune system: Immunostimulants, immunosuppressants; vaccines & sera. Drugs acting on the uterus. Drug Interactions. Drug use at extremes of age, in pregnancy & in organ dysfunction. Use of chelating agents in heavy metal poisonings; Environmental & occupational toxicants. Ocular pharmacology. Dermatopharmacology.
- 10) FORENSIC MEDICINE AND MEDICAL JURISPRUDENCE INCLUDING TOXICOLOGY :**
- .01)** Personal identity : Identification of Living and Dead. Age estimation. Sex determination. establishing identity: Corpus Delicti, Dactylography, Tattoo marks, Scars. DNA fingerprinting. blood and blood stains. Collection, Preservation and Dispatch of Specimen for Blood and other ancillary material.
- .02)** Mechanical injuries and burns: classification of injuries: Abrasions, Contusions, Lacerations, Incised and Stab injury, Firearm and Explosion injury, Fabricated and Defence injury, hurt, simple and grievous hurts, Ante-mortem, Postmortem Wounds, Age of the injury, Causative Weapon. Suicidal, Accidental and Homicidal injuries. Head injury, cut throat injuries and Road traffic accident injuries. Thermal injuries: Injuries due to heat and cold, Injuries due to Electricity, Lightning.
- .03)** Medico-legal aspects of sex, marriage, death and infant death: sexual offences and perversions : Rape, Adultery, Incest, Sodomy, Bestiality Buccal coitus, Lesbianism, perversions. Impotence, Sterility, Virginity, Pregnancy, Delivery, Paternity, Legitimacy, Artificial Insemination, Abortions, Medical Termination

of pregnancy. foetal sex determination. Infant death (Infanticide) Autopsy features. Determination of age of Foetus and Infant. Signs of live-born, stillborn and dead born child. Signs of death. Changes after death, Estimation of time since death. Death Certification, Presumption of death and survivorship. The Human organ transplantation Act. Sudden unexpected death, deaths from starvation, cold and heat. death from Asphyxia, Hanging, Strangulation, Suffocation and Drowning.

- .04)** Forensic psychiatry: Definition of common terms, Civil and Criminal responsibility. Examination, Certification, restraint and admission to Mental Hospital. Mental Health Act.
- .05)** Poisons: General considerations and Laws in relation to poisons viz. Narcotic drugs and psychotropic substances Act, Schedules H and L drugs, Duties and responsibilities of attending physician. poisons and their classification, Addiction and Habit forming drugs, drug dependence, postmortem examination in poisonings. Corrosive: Non-metallic, Metallic Poisons, Plant Poisons: Snakes bites, Food poisoning. Alcohol, Barbiturates. Carbon Monoxide, Hydrocyanic acid, and Cyanides. Organo-Phosphorus Compounds, Organo-Chloro Compounds, Carbamates (Carbaryl) and Rodenticides (Phosphides). Collection, Preservation and forwarding of evidence, remains of poison, body discharges and viscera etc. to Forensic Science Laboratory.
- .06)** Miscellaneous: forensic science laboratory: The Indian Medical Council Act. State Medical Council. Rights and obligations of Registered Medical Practitioners and patient, Duties of physicians and patients, Euthanasia. Infamous conduct, Professional secrecy and privileged communications. Medical Negligence and contributory negligence. Consumer Protection Act. Consent, Fitness certificate, maintenance of medical records and problems in relation to AIDS. Inquest, type of offences. Types of Criminal courts and their powers, punishments prescribed by law, kinds of witnesses and Evidence, Dying declaration and Dying deposition. subpoena, conduct money.

## Paper - II

**Standard** : MBBS Degree

**Total Marks** : 200

**Nature of Paper** : Conventional Type

**Duration** : 3 Hours

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  - 3) It is expected from candidates to study the latest and recent developments and happenings pertaining to the topics/sub topics mentioned below.

### Section - A ( Marks : 50 )

**1) Medicine :**

- .01) Infectious Diseases:** Modes of Infection, transmission, Incubation Types,

Immunization Host defenses, period, & Prevention. Management including Tetanus/ Diphtheria, Viral hepatitis, Malaria, Rabies, Typhoid fever, Gastroenteritis, Dengue, HIV Infection & AIDS.

- .02) **Cardiology** : Cardiac arrest. C.C.F.Rheumatic Fever, Various Valvular lesions, Infective endocarditis, Coronary artery disease, Pericardial diseases and cardiomyopathy, Hypertension.
  - .03) **Gastroenterology**: Peptic ulcers, gastritis, Small and Large intestine diseases, Dysphagia, Ulcerative colitis, Hepatitis, Cirrhosis of liver, Gall bladder diseases, Pancreatitis,
  - .04) **Respiratory system**: Pulmonary Function Testing, Pneumonias, bronchitis and emphysema, Bronchiectasis and lung abscess, Bronchial asthma, pneumothorax, Pleural effusion, Occupational lung diseases, Tuberculosis,
  - .05) **Neurology**: Cerebro Vascular Space Occupying Lesions, Encephalitis and meningitis, Epilepsy Disease, Cerebellar syndrome, Parkinsonism,, Peripheral neuropathy, Spinal cord disorders, C.S.F.
  - .06) **Hematology**: Hemopoiesis, Anemias, Agranulocytosis, Leukemias, Lymphomas Bleeding Hemoglobinopathies, Disorders, Blood groups & Blood Transfusion & Component Therapy.
  - .07) **Endocrinology**: Thyroid, Adrenal, Para thyroid Hormones, Diabetes Mellitus, metabolic syndrome.
  - .08) **Nephrology**: Glomerulonephropathy, Infections of urinary system, Nephrotic syndrome, Renal failure, Dialysis.
  - .09) **Nutrition**: Balanced diet, Protein energy malnutrition, Vitamin deficiency Obesity/Asthenia, Basics of genetics and Gene Therapy. state,
  - .10) **Immunology**: ABC of immunology, T & B cell mediated illnesses, Immuno deficiency, Auto-antibody. Collagen Vascular disease, osteoporosis, Atherosclerosis.
- 2) **Paediatrics** :
- Normal Growth & Development. Breast feeding and lactation management. Immunization, Mile Stones. Neonatal Respiratory Distress, Jaundice in newborn, Protein Energy Malnutrition (PEM) and its management, Acute diarrhea; Hypothyroidism in children, Congestive heart failure - Congenital heart disease. Rheumatic heart disease, Hypertension in children, Acute respiratory infections, Bronchial asthma, Nephrotic syndrome, Acute glomerulonephritis and hematuria, Chronic liver disease, Haemolytic anaemia including thalassemia, Leukaemias. Bleeding and coagulation disorders. Seizure disorders. Cerebral Palsy Common exanthematous illness. Childhood tuberculosis, Behaviour disorders, Meningitis, Diphtheria, Pertussis and Tetanus. HIV infection, Malaria & Enteric fever.
- 3) **Dermatology** :
- Common skin diseases, psoriasis, Hansen's disease, fungal dermatitis, scabies, eczema, vitiligo, Steven Johnson's syndrome. Allergic Disorders; Leprosy, STD, HIV & Skin, Drug reactions.
- 4) **Tuberculosis and Respiratory Diseases** :
- Clinical features of pulmonary tuberculosis; Anti-tuberculous DOTS, Prophylaxis - Drugs / drugs, Multi Drug Resistant tuberculosis, HIV BCG / Tuberculin test. & Pleural TB, Extra - Pulmonary tuberculosis, Effusion, Respiratory infections, pneumonias, Bronchiectasis & lung Abscess; Bronchial Asthma. Pleural Diseases, Occupational Lung Disease.

5) **Psychiatry :**

Common Psychiatric disorders, Schizophrenia, Alcohol and substance abuse, Psychotherapies. ECT, Newer drugs.

**Section - B ( Marks : 50 )**6) **General Surgery :**

**.01) General Principles :** Wound healing and management, scars : Hypertrophic scar and keloid; First aid management of severely injured. Boils, cellulitis, abscess, necrotising fasciitis. Tetanus and Gas gangrene, Mechanism and management of missile, blast and gun shot injuries. Surgical aspects of diabetes mellitus. Bites and stings Organ transplantation - Basic principles.

**.02) Skin disorders :** Common Cysts and Tumors, Sinus and fistulae. Burns and its management.

**.03) Vascular disorders :** Arterial obstruction, types of gangrene; Burger's disease, Vascular injuries. Varicose veins deep venous thrombosis, thrombophlebitis. lymphangitis, lymphedema.

**.04) Head and Neck :** Head injury, coma, cerebral compression. Cleft lip and palate; carcinoma lip and tongue, Branchial cyst; cystic hygroma. Cervical lymphadenitis. Thyroid goitre, thyrotoxicosis and malignancy, Hyperparathyroidism. Adrenal hypo and Hyperfunctions.

**.05) Breast :** Acute mastitis, breast abscess; gynaecomastia; fibro-adenomas. Cancer breast.

**.06) Thorax and Abdomen :** Recognition and treatment of pneumothorax, haemothorax, pulmonary embolism, flail chest; Stove in chest; pyothorax; cancer lung. Dysphagia, Cancer oesophagus; Congenital hypertrophic pyloric stenosis. Etiopathogenesis, diagnosis and management of peptic ulcer, cancer stomach; Amoebic liver abscess, hydatid cyst and portal hypertension. Splenomegaly, splenic injury. cholelithiasis and cholecystitis; obstructive jaundice; Carcinoma of gall bladder, choledochal cyst. Acute and Chronic pancreatitis.

**.07) Small and Large intestine :** Intestinal amoebiasis, Ulcerative colitis, Intestinal obstruction Acute abdomen, Acute and chronic appendicitis, Carcinoma rectum. Fissure haemorrhoids.

**.08) Hernias :** Clinical features, diagnosis, complications and principles of management of : Umbilical, Inguinal, epigastric and femoral hernia.

**.09) Genito-urinary System :** Renal mass, congenital anomalies of kidney & Ureter, Haematuria, anuria and acute retention of urine. Benign prostatic hyperplasia, Phimosis, paraphimosis, Urethral stricture, Hydrocoele, hematocoele, pyocoele, varicocele.

7) **Orthopedics :**

**.01)** Definition and Classification of Fracture and Dislocation, Signs, symptoms and diagnosis of sprain, contusion, fracture and dislocation. First aid measures in Poly-trauma patient.

**.02)** Fracture neck & shaft humerus, Colles fracture, Dislocation of shoulder and elbow, Fracture of Pelvis with complications. Fracture Neck femur, Fracture shaft femur, Meniscus and ligaments injury at knee. Fracture Tibia-fibula, Dislocation of Hip.

**.03)** Congenital Talipes Equino virus (CTEV), Congenital dislocation of hip (CDH), Osteogenesis Imperfecta, spina Bifida and Torticollis. Amputation and

Disarticulation – Indications Rheumatoid arthritis. Back ache, Frozen shoulder, Tennis Elbow. methods and complications.

**8) Anaesthesiology :**

Cardiopulmonary resuscitation (CPR) - basic and advanced, including use of simple ventilators. Anatomy of upper airway, sites of respiratory obstruction and management of airway in an unconscious patient. Various methods of oxygen therapy and its indications. Infiltration anaesthesia, digital block, ankle block, pudendal and para-cervical blocks. Management of complications of regional anaesthesia. The principles of administration of general anaesthesia.

**9) Radiology :**

Basics of X-ray, Radiological changes in diseases of Chest, Abdomen, Skeletal system, Gastro-intestinal system, Genito-urinary System & CNS,, Imaging techniques like nuclear medicine, computerised tomography (CT), Ultrasound, magnetic resonance imaging (MRI), conventional & Digital subtraction Angiography (DSA). Intravenous Urography (IVP), Hysterosalpingography (HSG).

**10) Ophthalmology :**

Conjunctivitis, Pterigium, Corneal Ulcers, Corneal Opacities. Keratoplasty. Episcleritis. Scleritis Staphyloma, Uveitis, endophthalmitis, Panophthalmitis. Cataract: Classification & surgical management, Phacoemulsification, Small incision Cataract surgery, IOL Implants. Glaucoma- types, diagnosis and treatment. Diabetic retinopathy, Retinal Detachment. Retinitis Pigmentosa, Optic Atrophy. Refractive Errors. Refractive surgery, LASIK. Contact lenses . Diseases of Lids & Lacrimal System, Colour Blindness, Blindness : Definition Causes & Magnitude, N.P.C.B. Eye Banking. Vit. A. Deficiency.

**11) Ear, Nose and Throat (E.N.T.) :**

- .01) Throat :** Diseases of buccal cavity & pharynx, Tonsils and adenoids, Stridor, tracheostomy, Laryngitis, Laryngeal paralysis.
- .02) Nose and para-nasal sinuses :** Diseases of external nose, Epistaxis, Diseases of nasal septum, Rhinitis, Nasal polyps, nasal allergy, Sinusitis and its complications.
- .03) Ear :** Congenital diseases of exterior ear & middle ear, Acute/chronic supp. otitis media, Mastoid/middle ear surgery, Facial paralysis, Tinnitus /ototoxicity Deafness/hearing aids/rehabilitation.

**Section - C ( Marks : 50 )**

**OBSTETRICS & GYNAECOLOGY**

**12) OBSTETRICS :**

- .01)** Development of genital tract, Physiology of menstruation, Puberty and menopause. Physiology of ovulation / conception / implantation. Early development of human embryo. Structure, function and anomalies of placenta. Antenatal care, nutrition in pregnancy, detection of high-risk pregnancy. Normal labour. Breast-feeding. Examination and care of newborn. Contraception - Introduction and basic principles, Maternal mortality and morbidity, perinatal mortality and morbidity. National health programme - safe-motherhood, reproductive and child health, social obstetrics.
- .02) Obstetric & Newborn :** Complications in early pregnancy, Obstetrical complications during pregnancy. APH - Accidental hemorrhage. Placenta praevia. Poly hydramnios / oligohydramnios, multifetal pregnancy. Common Medical disorders in pregnancy. PIH and Eclampsia, Diabetes, jaundice. Infections in pregnancy, sexually transmitted, HIV and pregnancy. Fibroid with

pregnancy, ovarian tumours, acute abdomen, genital prolapse. High risk pregnancy, pre-term labour, Induction of labour. Abnormal position & presentation of labour, Obstructed labour, uterine rupture. Third stage complications - Retained placenta, PPH, Shock. Drugs used in obstetric, Operative procedures in Obstetrics : Caesarean Section, Instrumental Vaginal Delivery.

**13) GYNAECOLOGY :**

- .01) Amenorrhoea, Dysmenorrhoea, Abnormal Uterine Bleeding, DUB.
- .02) Puberty and its disorders, Adolescent Gynaecological problems. Menopause & HRT.
- .03) Infections of genital tract, Leucorrhoea, Pruritus vulvae, Vaginitis, Cervicitis, Genital TB, Sexually transmitted infections including HIV infection.
- .04) Benign & Malignant tumours of the genital tract. Leiomyoma, carcinoma cervix, carcinoma endometrium, chorio carcinoma, ovarian tumors. Benign & Malignant Lesions of Vulva, Radiotherapy & Chemotherapy in Gynaecology. Genital Prolapse, Genital Tract displacement,

**14) FAMILY PLANNING :**

Family Planning, Demography and population Dynamics. Contraception - Temporary methods Permanent methods. MTP Act and procedures of MTP in first & second trimester.

**Section - D ( Marks : 50 )**

**Preventive and Social Medicine (PSM)**

**15) Community Medicine :**

- .01) Evolution of Community Medicine. Definition, spectrum of health and factors affecting, indicators of health. Health Problem of World, Urban and Rural Indian Health. Demography, Demographic cycle, Population trends, World and India. Family welfare and Population control. Medical ethics and Doctor patient relationship Consumer Protection Act. Sociology and Social factors affecting health, Economics and health, Health Education and Communication. Nutrition and Health. Constituents of food, Diet planning and allowance Nutritional diseases. Toxins in the food., Assessment of Nutritional status. Body Mass Index (B.M.I.).
- .02) **Environmental Health** : Water in relation to health and disease. Air pollution and ecological balance. Housing and health. Effects of radiation on human health. Effects of Noise on human health. Meteorological environment. Solid & Liquid waste disposal. Disposal of hospital waste.
- .03) Community development programmes and multisectoral development. Maternal Comprehensive medical care and Primary health care. National Health Policy. Occupational Epidemiology, Non communicable diseases. and Child Health care. Problems of adolescence including Drug dependence. Geriatrics. health.
- .04) **Vital statistics** : sources and uses, Census, Fertility statistics. Mental health. Management information system.
- .05) Genetics in public health. Health planning and management.
- .06) International health and Voluntary Health Agencies. Setting of model for preventing habits like Smoking, Tobacco Chewing, Substance abuse.
- .07) Disaster Planning and Management. Broad aspects of Famine and its Hazards

**16) Epidemiology:**

- .01)** The concepts of disease. Natural history of disease. Epidemiological triad. Dynamics of diseases transmission .Concept of disease control.
- .02)** Air borne infections, exanthematous fevers, Diphtheria and Poliomyelitis, Pertussis, Tuberculosis. Osteoporosis Indian perspective, Soil Hepatitis. Enteric Fever and Cholera, Bacillary and Amoebic dysentery, Rabies and other Viral Zoonotic Tetanus transmitted Helminths, Filariasis. Malaria disease, Leprosy, Arthropod borne viral diseases.
- .03)** AIDS, Sexually transmitted diseases and their control. S.A.R.S .Cancer Prevention policies for men and women. Epidemiology of Geiaratric Health Problems

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