

SYLLABUS FOR THE RECRUITMENT OF MEDICAL OFFICERS (DENTAL)

SECTION-I

1.ANATOMY

Introduction to Anatomy :

1. Introduction to Osteology – Epiphyses – Ossification
2. Introduction to Joints – All Types of Joints.
3. Muscles – Types – Action – Terms used.
4. Nervous System – Central and Peripheral
5. Typical Spinal Nerve
6. Autonomic Nervous System.

Embryology:

1. Gametogenesis – The Genital Systems of Male and Female
2. Fertilisation – When and where it occurs and its results
3. Ectopic and Normal Implantation
4. Development from Zygotes to Chorionic Vesicle
5. Formation of Notochord, Neural Tube, Neural Crest
6. Formation of the Trilaminar Germ Disc
7. Foldings of the Embryo
8. Foetal Membranes – Fundamental Idea
9. Development of Face – Nose Lips Oral Cavity, & Jaws
10. Development of Brachial Arches and their derivatives (Tongue, Tonsil, Thymus, Thyroid, Parathyroid)
11. Development of Cranium and Vertebrae
12. Development of the Temporo Mandibular Joint
13. Development of Teeth
14. Development of the Salivary Glands
15. Development of Pituitary and Pharynx
16. Development of the Respiratory Tract
17. Development of Blood Vessels of the Head and Neck

GROSS ANATOMY

Osteology:

- i) Vertebrae in General
- ii) Cervical Vertebrae in Detail
- iii) Skull – General Architecture

Interior of Cranium

- Exterior of Cranium
- Norma Verticalis
- Norma Occipitalis
- Norma Lateralis
- Norma Basalis

iv) Individual Skull Bones, Mandible, Sphenoid,

Parietal, Frontal, maxilla, Ethmoid, Vomer, Nasal, Zygomatic, Temporal, Lachrymal, inferior Nasal Concha, etc.

3. Soft Parts :

1. Scalp & Temple – Muscle, Vessels & Nerves Face – Muscles Vessels & Nerves (Including Extra – Cranial Course of VII Nerves)
2. Posterior Triangle – Boundaries and contents (including Brachial plexus and third part of sub-clavian Artery)
3. Back – Sub occipital Triangle boundaries and contents of carotid, Digastric, Sub mental and Muscular Triangles.
4. Median Region of the Front of the Neck-Cervical Facia.
5. Anterior Jugular Vein
6. Platysma
7. Sternocleidomastoid
8. Cranial cavity – Duramater – Layers – folds Dural Venous sinuses – Diploic Veins.
9. Meningeal vessels, Emissary veins Cranial Fosse and their contents Removal of Brain
10. Lachrymal Apparatus and structure of Eyelid Orbit – Muscles, Vessels, Nerves (II, III, IV, V, VI)
11. Orbital Periosteum
12. Facial sheath of Eyeball
13. Deep Dissection of Neck
14. Thymus
15. Thyroid and Parathyroid
16. Subclavian Artery I & II parts
17. Branchiocephalic Veins
18. Trachea
19. Oesophagus
20. Cranial Nerves – Intracranial
21. Course of VII, VIII, IX, X, XI, XII cranial nerves
22. Common Carotid – its sub divisions, External carotid artery and its branches.
23. Cervical Sympathetic Trunk
24. Cervical Plexus
25. Lymphatic drainage of head and neck
26. Pre-Vertebral region
27. Parotid region
28. Temporal and infra temporal regions including Muscles of mastication and Temporo mandibular Joint.
29. Submandibular region – Submandibular & Sublingual glands
30. Mouth & Pharynx – Roof, floor & Vestibule of the mouth
31. Muscles of Pharynx. Subdivisions of the cavity of Pharynx Tonsil, Palate, Pharyngo – Tympanic tube
32. Adenoids, Carotid, Canal Tongue
33. Note & Nasal Cavity – Apertures, Lateral wall, Septum of Nose, Floor, Roof, Blood Vessels & nerves, Para nasal Air sinuses
34. Larynx – Wall – muscles, ligaments, cartilages
35. Cavity – subdivisions

36. Vocal cord
37. Organs of hearing and equilibration
38. External ear
39. Middle ear
40. Internal ear
41. Eye ball –
42. Spinal Cord – Coverings of Meninges
43. Contents of Vertebral canal
44. Gross Anatomy of Spinal Cord
45. Regional differentiation
46. Blood supply
47. Main ascending and descending tracts and their functions
48. Joints of the Neck
49. Brain – Meninges
50. Subarachnoid Cisterns
51. Blood supply of Brain
52. External surface of base of brain
53. Hind brain – Medulla – Occipital view and cranial nerves attached
54. Pons
55. Cerebellum – subdivisions and functions
56. Fourth Ventricle
57. Mid Brain – External View – Cranial nerves attached
58. Cerebrum – Main Sulci & Gyri – White matter of Cerebrum Lateral Ventricle
59. Thalamus – Geniculate Bodies
60. Internal Capsule
61. Basal Ganglia
62. Upper Limb – Names of the bones & Joints
63. Main Artery, Important muscle, nerves & veins
64. Thorax – Inlet – Outlet
65. Subdivisions
66. Lungs and Pleura
67. Heart, Pericardium and its blood vessels
68. Diaphragm
69. Abdomen – Subdivisions
70. Location of the abdominal organs in relation to the abdominal wall
71. Their blood supply & nerve supply

Histology

1. Structure of Epithelium – different types – connective tissues fibres and cells
2. Bone
3. Cartilage
4. Muscles
5. Blood Vessels
6. Lymphatic tissue – Lymph node, tonsil, spleen & thymus
7. Alimentary system – Salivary glands
8. Oesophagus
9. Stomach
10. Intestines – Small & Large i.e., Duodenum, Ileum, Jejunum
11. Caecum, Appendix, Colon
12. Liver, Gall Bladder
13. Pancreas
14. Reproductive System – Testis, Epididymis, Ductus Deferens
15. Prostate,

Seminal Vesicle

16. Ovary, Oviduct, Uterus, Placenta, Mammary gland,

Umbilical Cord

17. Eye - Cornea, Retina
18. Ear - Cochlea
19. Skin - Thin Skin, Thick Skin
20. Respiratory System - Trachea, Lungs
21. Urinary System - Kidney
22. Ureter
23. Urinary Bladder
24. Nervous System - Spinal Cord – Different levels
25. Cerebrum
26. Cerebellum
27. Medulla – 3 levels
28. Pons – 2 levels
29. Midbrain – 2 levels
30. Sensory Nerve endings
31. Motor Nerve endings
32. Endocrines - Pituitary
33. Thyroid
34. Parathyroid
35. Supra – Renal gland

2.PHYSIOLOGY

Introduction to Physiology:

1. The cell as the living unit of the body
2. The extra cellular fluid
3. Homeostasis
4. Transport through the cell membrane
5. Membrane Potentials and Action Potentials

Blood:

1. Composition of Blood
2. The Red Blood Cells
3. Blood Volume
4. Haemoglobin
5. The formation of Red Cells and Anaemia
6. Haemorrhage – Transfusion, haemolysis or Laking of Blood
7. The blood groups
8. The white cells
9. The blood platelets
10. The reticular Endothelial system
11. The Coagulation of Blood
12. Cardio Vascular System
13. General description of the circulatory system
14. Basic haemodynamic principles
15. Relevant to circulation. The structure and physiological properties of cardiac muscle

16. Origin and conduction of heart beat Cardiac Cycle
17. Different cyclic changes which occur
18. Electrocardiogram
19. Leads used both clinically and experimentally
20. Normal pattern and interpretation. ECG in cardiac disorders.
21. Cardiac Output
22. Terminology, Normal values, Measurement of Cardiac output,
23. Distribution of cardiac output, Factors controlling cardiac output.
24. Arterial blood pressure
25. Measurement of arterial blood pressure. Normal values, Factors controlling arterial pressure and factors affecting arterial pressure
26. Radial Pulse
27. Heart Rate and its Regulations
28. Vasomotor centre, Nerves of the Heart and their action.
29. Physiology of Shock
30. Special Circulation
31. Pulmonary circulation, Cerebral circulation, Coronary circulation, Skin circulation, Hepatic circulation, Splenic circulation and Renal circulation.
32. Respiration
33. Structure of the respiratory organs
34. Structure of the respiratory organs
35. Mechanics of respiration
36. Subdivisions of lung air
37. The Chemistry of respiration
38. Transport of respiratory gases in blood
39. Control of respiration
40. Physiological modification of respiration
41. Hypoxia
42. Artificial respiration
43. Excretion
44. Structure of the nephron
45. Volume and composition of Urine
46. Formation of urine
47. Renal function tests
48. Micturition
49. Artificial Kidney
50. Endocrines
51. General Chemistry of Hormones
52. The Thyroid gland
53. The Parathyroid gland
54. Endocrine Pancreas
55. Adrenal glands
56. Pituitary gland
57. The pineal gland
58. Prostaglandin
59. Thymus
60. Gonads and Reproduction
61. Male reproductive system
62. Androgens
63. Spermate genesis
64. Female reproductive system
65. Structure of Ovary
66. Menstruation
67. Pregnancy

68. Lactation
69. Muscle and the Nervous system
70. Skeletal muscle structure and properties
71. Structure and function of the nervous tissue
72. Reflex action
73. The Afferent nervous system
74. The Regulation of posture
75. The Cerebellum
76. Structure of the cerebral cortex
77. Voluntary movement
78. The Basal Ganglia
79. The Thalamus
80. The Electroencephalogram
81. Somatic sensory cortex and parietal lobe
82. The prefrontal lobe
83. Physiology of Pain
84. Taste
85. The Brain Stem
86. The Autonomic nervous system
87. The Special Senses
88. Digestion
89. Structure of the digestive tract
90. Digestion in the mouth
91. Digestion in the stomach
92. Digestion in the intestine
93. Absorption in the intestine
94. Movement of alimentary canal
95. Defecation

3.BIOCHEMISTRY

1. Biological Carbohydrates and Lipids

Carbohydrates- classification, structure chemical reactions of monosaccharides – deoxy and amine sugars, di and poly saccharides, glycoproteins and mucopolysaccharides – properties and biological importance. Lipids – classification and structure, properties of triglycerides, phospholipids and other compound lipids, Characteristic chemical reaction and properties of lipids, cholesterol, bile acid and steroids.

2. Peptides and Proteins

Classification, structure and properties of amino acids formation of peptide bonds – definition of peptides determination of primary structure of peptides by procedure like electrophoresis chromatography and ultra centrifugation physiologically active peptides – classification of proteins – size and shape of proteins and bonds responsible for their structure – denaturation and colour reactions of proteins – separation, determination, origin and function of plasma proteins and their alterations in pathological conditions.

3. Enzymes

Definition – Classification of Enzymes – coenzymes Enzyme specificity – measurement of enzyme activity, Enzyme kinetics – Michaelis menten equation – double reciprocal or Line Weaver Bork plot – sigmoidal saturation kinetics – optimum pH and temperature – competitive,

non-competitive – and non competitive inhibition – mechanism of enzyme action Iso-enzymes and enzymes in clinical diagnosis

4. Mineral Metabolism

Function, sources requirements, absorption, metabolism and deficiency symptoms with reference to calcium, phosphorus, magnesium, sodium and potassium and trace elements such as iron, copper and fluoride.

5. Whole Body Metabolism

General outline of metabolism of carbohydrates, proteins and lipids – biological oxidation.

6. Haemoglobin

Structure – abnormal haemoglobin – porphyrins – synthesis and break down – metabolism of bile pigments.

7. Vitamins

Structure, function, requirements, resources and deficiency symptoms with reference to vitamins A, D, E, K, and C & B COMPLEX

4.MATERIALS USED IN DENTISTRY

Aims and scope of the science of Dental materials .Structure and behaviour of materials. Important Physical properties applicable to dental materials including their biological consideration. Gypsum products used in dentistry including casting investment materials with or without gypsums binder.

Impression material used in dentistry including duplicating materials.

Synthetic resins used in dentistry.

General properties and physical characteristics Resins as denture base materials. Repair and reline materials, soft liners, and tissue conditioners. Resins as restorative materials, unfilled and filled resin restorative materials tissue sealants. Direct bonding cement materials.

Metals and Alloys : Their structure and behaviour and some important physical properties.

1. Dental amalgam alloys
2. Gold foil
3. Dental casting gold alloys
4. Dental waxes including inlay casting wax.
5. Welding and Soldering materials used.

Dental Cements: Classification, composition manipulation properties and uses. Zinc cements, Copper cements, Zinc oxide, Eugenol cements, Silicate cement, cavity line cavity varnishes, resin cement.

Dental Porcelain including porcelain fused to metal. Porcelain furnace and fusing.

Mechanics of Tooth cuttings, burs and points

Abrasives and polishing agents

Die and Counter die materials including electro-forming and electro-polishing

Filling materials for anterior teeth

SECTION-II

1.Human Oral Anatomy, Physiology Histology & Tooth Morphology

- i) Development and growth of face 'teeth and jaws'
- ii) Development of enamel., dentine, cementum, pulp and periodontal membrane
- iii) Calcification of hard tissues of the teeth
- iv) Microscopic anatomy of hard and soft tissues of the tooth and surrounding structures.
- v) Microscopic anatomy of hard and soft tissue of the oral cavity such as lips, tongue, floor of the mouth, palate, salivary glands, alveolar bones etc
- vi) Mastication and deglutition
- vii) Age changes in teeth and surrounding structures
- viii) Shedding of the deciduous teeth
- ix) Eruption of permanent teeth
- x) Chronology of dentition
- xi) Form and arrangement of teeth occlusion
- xii) Functional anatomy of the oral cavity
- xiii) Temporomandibular joint
- xiv) Evolution of the jaws and teeth
- xv) Chemical composition of teeth
- xvi) Calcium phosphorous and fluoride metabolism
- xvii) Effect of hormones on oral tissues
- xviii) Influence of diet on oral structures
- xix) Saliva

2.GENERAL PATHOLOGY & MICROBIOOGY

1. Introduction to Pathology
2. Causes of the disease
3. Cell response to injury
4. Inflammatory reactions
5. Tissue response to infection
6. Wound healing
7. Immunity to infection
8. Hyper Sensitivity
9. Pyogenic infection
10. Tuberculosis, Syphilis, Actinomycetes, Leprosy, Fungal & Viral diseases
11. Disorders of growth
12. Haemorrhage and shock
13. Disorders of nutrition
14. Endocrine disturbances
15. Disorders of calcium metabolism
16. Thrombosis and embolism
17. Oedema
18. Infraction
19. Renal failure
20. Hepatic failure

21. Pigments
22. Calculi
23. Healing of fracture

MICROBIOLOGY

1. Basic characteristics of microorganisms
2. Introduction Bacteriology
3. Sterilisation and Disinfection
4. Oral Microbial flora
5. Staphylococci
6. Gram positive and negative bacilli
7. Spirochetes
8. Actinomycetes
9. Viruses
10. Organisms causing tetanus and gas gangrene and dental caries
11. Common parasites
12. Vaccines and Sera
13. Pyaemia, Septicaemia and Toxaemia
14. Culture and Sensitive infection
15. Focal and Systemic infection

3.GENERAL & DENTAL PHARMACOLOGY & THERAPEUTICS

1. General Pharmacology:
 - a. General Principles of Pharmacology
 - b. Drug receptors' Pharmacodynamics
 - c. Pharmacokinetics
 - d. Drug bio -transformation
 - e. Dosage forms and routes of drug administration
 - f. Adverse drug reactions
2. Drug action on Central Nervous System
 - a. General Anaesthetics
 - b. Sedatives – Diagnostics and Anti-anxiety Drugs
 - c. Analgesics
 - Narcotics
 - Non-Narcotics (NSAID)
 - d. Anti-epileptic drugs
 - e. Analeptics
3. Drugs acting on Peripheral Nervous System
 - a. Cholinergic receptor stimulants
 - b. Cholinergic receptor antagonists
 - c. Adrenergic receptor activating drugs
 - d. Local Anaesthetics
 - e. Skeletal muscle relaxants
4. Anti-infective Agents

- a. Sulphonamides & Trimethoprim
- b. Metronidazole & Tinidazole
- c. Antibiotics
- d. Cancer Chemotherapy

5. Local anti-infective agents

- a. Disinfectants and Antiseptics including anti fungal and antiviral agents

6. Drugs acting on Cardiovascular System

- a. Drugs in Congestive Cardiac failure
- b. Anti-hypertensive Agents
- c. Vasodilators and Vasoconstrictors
- d. Drug therapy of shock
- e. Diuretics

7. Drugs acting on Hemopoetic System

- a. Iron, Vitamin B12 & Folic acid
- b. Haemostatic Agents & Anticoagulants
- c. Fibrinolytic Agents & Antiplatelet drugs

8. Drugs acting on the Endocrine System

- a. Hypothalamic & Pituitary Hormones
- b. Insulin & Anti-diabetic drugs
- c. Thyroid & Anti Thyroid drugs
- d. Parathormone, Calcitonin, Calcium & Vitamin D
- e. Adrenocorticosteroids
- f. Sex Hormones

9. Antacid

- a. Histamine & Anti-histamines
- b. Serotonin
- c. Prostaglandin

10. Drugs acting on Gastrointestinal Tract

- a. Emetics & Anti Emetics
- b. Antidiarrhoeal
- c. Drugs used in constipation

11. Drugs acting on Respiratory System

- a. Bronchodilators
- b. Antitussive Agents

12. Vitamins

13. Drugs acting on immune system

14. Miscellaneous Agents

- a. Astringents
- b. Obtundents
- c. Mummifying Agents
- d. Styptics
- e. Disclosing solutions
- f. Dentifrices & mouthwashes
- g. Bleaching agents

SECTION-III

1. ORAL PATHOLOGY & MICROBIOLOGY

1. Aims and objectives 2. Developmental disturbances of dental, oral and para-oral structure including hereditary disorders. 3. Dental caries 4. Pulpal and periapical pathosis and their sequelae 5. Environmental lesions of the oral and paraoral structures 6. Defence mechanism of oral tissues and healing following injuries 7. Diseases of periodontal ligament, gingiva and cementum 8. Effects of nutritional disturbances and hormonal disorders on the oral and para oral structures. 9. Infectious diseases of oral mucosa 10. Bone disorders affecting jaws 11. Cysts of oral cavity 12. Pre-cancerous lesions-etiology and pathology 13. Neoplasms of oral cavity 14. Diseases of salivary and lymph glands 15. Diseases of temporo-mandibular joint 16. Diseases of Nerves, Skin blood and their implications on Oral Tissues 17. Effects of radiation on Oral and para-oral tissues 18. Oral Microbiology.

2. GENERAL MEDICINE

Introduction:

Aims of Medicine, Definition of diagnosis, prognosis, treatment, history taking and physical examinations of a medical case. Medical emergencies in dental practice

G.I. Disorders:

Stomatitis, glossitis, gastritis, Diarrhoea, Amoebiasis, Ascities, mal absorption syndrome.

Liver :

1. Jaundice, Viral hepatitis, cirrhosis liver, Tender hepatomegaly
2. Cardiovascular system:
3. Congenital heart disease, classification Rheumatic heart disease, sub-acute bacterial endocarditis. Congestive heart failure. Left Ventricular failure. Hypertension, Coronary artery disease
4. Respiratory system:
5. Pneumonia, Bronchitis, Emphysema, Lung Abscess, Eosinophilia Pulmonary Embolism, Pulmonary Tuberculosis, Respiratory failure

Renal Diseases:

1. Acute Glomerulo Nephritis, Nephrotic Syndrome

2. Haematology:
3. Anaemia, Coagulation defects, Bleeding disorders Agranulocytosis. Leukaemia, Oral Manifestations of Haematological disorders, Lymphadenopathy and splenomegaly.
4. Central Nervous Systems.
5. Meningitis, Facial palsy, Facial pain epilepsy, Headache, Syncope.
6. Nutritional and Metabolic:
7. Balanced diet-normal daily Protein Caloric malnutrition requirements. Avitaminosis – Diabetes mellitus, calcium homeostasis
8. Endocrine Disorders:
9. Thyroid Hypo and Hyper
10. Pituitary-Hypo and Hyper
11. Parathyroid
12. Infections:
13. Enteric fever-mumps-Viral Exanthomata-Diphtheria – Syphilis – Gonorrhoea.
14. Miscellaneous:
15. Allergy-Drug reactions-Drug interactions – Evaluation of a case for general anesthesia.

3.GENERAL SURGERY

1. Introduction to Surgery, Surgery especially related to Oro-dental Surgery, Classification of diseases. 2. Inflammation, soft tissue hard tissue-causes, varieties sequelae and treatment. 3. Infections Acute and Chronic, Abscess, Carbuncle Sinus, Fistula, Ulceration Gangrene, Cellulitis, Erysipelas Septicaemia, Pyaemia Toxaemia, Cancrum Oris, Tuberculosis, Syphilis Gonorrhoea Actinomycosis, Anthrax, Tetanus. 4. Wounds – complications Treatment, Repair, Asepsis and Antiseptic Measures and procedure

with particular reference to the Oral cavity. Haemorrhage and its treatment, haemophilia, Syncope, Shock, Collapse, Head injury – Introduction. 5. Cysts and new growths – Their general

consideration with special reference to those occurring in the Buccal Cavity. 6. Diseases of the Lymphatic glands especially of the neck. 7. Outline of diseases of the mouth lips, tongue palate, tonsils and salivary glands. 8. Infections and diseases of the Larynx, Tracheostomy. 9. Nervous system injury to Facial Nerves, paralysis trigeminal Neuralgia 10. Principles of Surgical treatment,

Diathermy and radium treatment. 11. Fracture – General Principles of treatment, diathermy treatment 12. Cleft lip and cleft palate. Thyroid and parathyroid. 14. Swellings of jaws.

4.PREVENTIVE AND COMMUNITY DENTISTRY

1. Bio-statistics :

Introduction and General Principles of Bio-statistics & statistical procedures.

2. Psychology:

Introduction to Psychological development from birth to adolescence, management of child in the dental office parent counselling in respect of dental health and hygiene of the child.

3. Public Health:

Concept and Philosophy of Public Health, Public Health India

General Epidemiology – Health Education, Environmental Health, disposal of wastes, water norms for portability purification.

4. Preventive Dentistry:

Prevention, levels of prevention, various measures in the prevention of dental and oral diseases on individual and mass level

5. Public Health Dentistry:

Introduction, definition, objectives functions of public health dentistry procedural steps in dental public health indices for dental diseases, surveying and evaluation, epidemiology of dental caries, Periodontal diseases, oral care, public dental health programme, school dental health program, Dental Health Services of State and Centre. Private practice administration, ethics, Dental Council and Association. Epidemiology of periodontal disease and parameters used in clinical and population studies.

6. Social Sciences:

As applied to health, social structure concepts groups, social institutions, urban and rural societies their concept of health. Application of sociology in health programmes, social environment.

Cultural Anthropology objective different aspects of Folk medicine and Popular Medicine, cultural pattern and complexes taboos as related to health.

SECTION-IV

1. CONSERVATIVE DENTISTRY AND ENDODONTICS

Definition and Scope. Oral Hygiene in relation to conservative dentistry instruments. Nomenclature design and formulae, care and sterilization, examination, diagnosis and treatment planning, charting and recording of cases, cavities classification and nomenclature, choice of filling materials, Principles of cavity preparations, control of pain, prevention of damage to hard and soft tissues during Operative – Procedures, methods employed for exclusion of saliva Bio-Mechanics of cavity design and restoration with filling materials, Pulp and soft tissue protection. Aerators and high-speed equipment, Cavity preparation for various types of restoration including inlays and onlays restorative procedures matrices drugs used in the conservative dentistry, fractured teeth and their treatment. Sensitive dentine, its treatment. Ceramics in conservative dentistry.

ENDODONTICS:

Rationale of Endodontic Therapy. Diagnosis in Endodontics, Care and Sterilisation of Instruments. Endodontic Treatment of Vital and Non-Vital pulp. Tests for sterility of the root canal. Drugs used in root canal therapy. Bleaching of Teeth Restoration of Endodontically Treated Teeth. Surgical Treatment in Endodontics.

2. ORTHODONTIA

1. Definition, aims, objects and scope of Orthodontics, Growth and Development of jaws teeth, face and skull and establishment of normal occlusion. 3. Genetics as applied to Orthodontics 4.

Normal occlusion and its characteristics. Factors responsible for establishment and maintenance of normal occlusion.

5. Malocclusion type & Different classifications. 6. Aetiology of malocclusion. 7. History taking and examination of patient and case analysis and differential diagnosis including cephalometrics and treatment planning. 8. (a) Preventive and interceptive treatment of malocclusion (b) Extraction in orthodontics 9. Appliances used in orthodontic treatment – Adequate knowledge of (a) removable appliances, Mechanical appliances functional appliances 10. Tissue changes incident to orthodontic treatment. 11. Materials used in orthodontia 12. Habit breaking appliances.

3. ORAL MEDICINE (ORAL DIAGNOSIS) AND RADIOLOGY

Oral Medicine, Oral Diagnosis

1. Scope and importance of the subject. 2. Methods of diagnosis including special investigations 3. Acute infections of Oral and para-oral structures 4. Blood dyscrasias and their management. 5. Managements of Cardiac patient in dentistry. 6. Metabolic and endocrine disturbances and their oral manifestations. 7. Nutritional deficiencies and their significances in dentistry. 8. Oral sepsis and its effect on general system. 9. Dysfunctions of temporomandibular joints. 10. Cervico-facial lymphadenopathy. 11. Diseases of salivary glands. 12. Facial pain 13. Cysts and tumour of the oral cavity. 14. Oral manifestation of dermatological and other systemic disturbances 15. Special investigations 16. Immune concepts of oral lesions 17. Forensic odontology

Dental Radiology

1. Physics of radiation – production and properties of X-ray. 2. Principles of X-ray techniques and factors for Radiography and fluoroscopy. 3. Technique of intra-oral and extra-oral Radiography and normal anatomical land marks 4. Radiological interpretation of abnormal dental and jaw conditions 5. Elements of Radiation treatment in oral and facial conditions and their sequelae 6. Contrast radiography and recent advances in Dental Radiography including radioactive tracers.

4. PERIODONTIA

1. Introduction – Scope and applicability of the subject. Historical background of Periodontology. 2. Maintenance of Health – Role and Scope of Oral Physiotherapy measures – patients education – program and periodic check 3. Classification of gingival and periodontal disturbances 4. Gingival enlargement

5. Infective muco-gingival conditions –specific and non-specific 6. Degenerative conditions – Gingivosis and Periodontosis 7. Atrophic conditions affecting gingival and periodontal tissues 8. Local and systemic factors in the causation of gingival and periodontal lesions 9. Periodontitis and sequelae 10. Malocclusion, Mal-alignment and traumatic occlusion, Bruxism and Temporomandibular joint disturbances, Occlusal equilibration 11. Diagnosis and diagnostic aids including roentgenography and its uses and limitations 12. Prognosis 13. Morphological defects of the muco-gingival structures influencing periodontium and their treatment. 14. Treatment of all gingival and periodontal disturbances. Treatment planning phases and rationale. Different available therapeutic procedure. Healing Mechanism 15. Role of Nutrition in aetiology and treatment 16. Drugs in periodontics 17. Instrumentation 18. Splints 19. Preventive periodontics, concept of focal infections 20. Materials used in Periodontal

5. ORAL SURGERY

Local Anesthesia:

1. Introduction 2. Properties of an ideal local anaesthetic drug 3. Properties of common local anaesthetic drugs in use 4. Choice of anesthesia -local or general anesthesia 5. Indications and contra indications, advantages and disadvantages of local anesthesia 6. Components of a standard local anaesthetic solution and the part played by each component 7. How does a local anaesthetic act? 8. Pre-anaesthetic medication 9. Technique of infiltration anesthesia, Nerve block anesthesia Symptoms and signs of anesthesia 10. Complications associated with local anesthesia and their management.

General Anesthesia:

1. Properties of general anaesthetic drugs commonly used 2. Pre-anaesthetic preparation of a patient and pre-medication 3. Evaluation of a patient for general anesthesia 4. Short anesthesia in a Dental Chair Endotracheal anesthesia Intravenous anesthesia
5. Symptoms and signs of general anesthesia 6. Complications arising during the administration of general anesthesia and their management.

Exodontia:

1 Objectives
2 Indications for tooth extraction
3 Pre-operative assessment
4 Forceps extraction
5 Surgical extraction (Trans-alveolar extraction)
6 Extraction technique under general anesthesia in the Dental Chair
7 Complications of tooth extraction and their management

Oral Surgery:

1. Definition and scope 2. Diagnosis in oral surgery (a) History taking (b) Clinical examination (c) Special investigation 3. Importance of general condition of the patient in relation to oral surgery. 4. Treatment planning 5. Sterilisation 6. Use of antibiotics in oral surgery 7. Diagnosis pre-operative assessment and treatment of impacted teeth. 8. Pre-prosthetic surgery 9. Surgical aid to orthodontics 10. Oro-facial infections, their diagnosis and treatment 11. Inflammatory diseases of jawbone and their management 12. Diagnosis and management of cysts of oral cavity 13. Diagnosis and treatment of the fracture of the mandible 14. General outline of the fracture of the middle third of the facial skeleton 15. Diagnosis and treatment of benign neoplastic lesions of the oral cavity (Odontogenic and non-odontogenic) 16. Surgical procedure in relation to endodontic therapy (Apicoectomy) 17. Surgical treatment of tumour like lesions of the oral cavity including odontome 18. Diseases of maxillary sinus with special reference to oro-antral fistula 19. Management of haemorrhage in oral surgery 20. Diseases of salivary glands, Diagnosis and treatment of salivary glands 21. Surgical aspect of histo-pathological diagnosis 22. Oral surgical complications and their management 23. Diagnosis of malignant condition of oral cavity, a broad outline about the different methods of treatment 24. Diseases of temporomandibular joint such as arthritis, hypoplasia, subluxation, dislocation, ankylosis & other causes of inability to open the mouth 25. Affliction of trigeminal and facial nerves.

6. PROSTHODONTICS AND CROWN BRIDGE

a) Complete Dentures:

1. Introduction and Scope 2. Applied Anatomy 3. Examination, diagnosis, treatment planning and prognosis 4. Principles of retention and stability 5. Principles and techniques of

impression making 6. Preparation of casts, trays and temporary denture bases 7. Jaw relations and methods of registration

8. Artificial teeth, their selection and arrangements and aesthetics 9. Articulators and face bows 10. Occlusion and articulation in complete dentures 11. Processing and finishing of dentures 12. Corrections of occlusal discrepancies 13. Delivery and adjustments of complete dentures 14. Sequelae of ill-fitting dentures 15. Repair, rebasing and relining 16. Immediate denture 17. Implant dentures.

b) Removable Partial Dentures:

1. Introduction and scope
2. Classification
3. Examination diagnosis and treatment planning
4. Components of removable partial denture and their function
5. Surveyors
6. Mouth preparations for partial dentures
7. Impression procedures
8. Designs of removable practical dentures and its associated problems
9. Fabrication of cast metal framework
10. Jaw relation record
11. Selection and arrangement of teeth
12. Acrylic partial denture
13. Trying in of partial dentures
14. Processing, finishing, delivery and maintenance of partial dentures
15. Immediate partial dentures

c) Elements of Crown and Bridge Prosthesis

1. Introduction and Definitions
2. Indication and Contra-indications
3. Examination, diagnosis and treatment planning
4. Selection and choice of abutment teeth
5. Principles of tooth reduction
6. Indications contra-indications and procedures of preparation of
7. Abutment teeth for receiving various types of retainers
8. Temporary protection of a prepared tooth
9. Gingival retractions and impression procedures
10. Construction of dies and working models direct and indirect
11. technique
12. Technique of fabrication of retainers'
13. Selection and fabrication of pontics
14. Connectors, stress breakers and assembly o fixed bridges
15. Finishing commenting and maintenance of crowns and bridge

d) Maxillofacial Prosthesis:

1. Splints
2. Obturators
3. Carriers

7.PAEDODONTICS

I. Introduction, definition, scope and importance of paedodontics

II. Growth and Development of Dental and Oral facial structures and

Normal occlusion developmental anomalies

III. Morphology of Dentitions and its application

a. Applied morphology and histology of deciduous and permanent teeth

b. Importance of first permanent molar

IV. Fundamental Dental Health

Biological factors responsible for maintenance of Dental and Oral Health

V. Contributory local factors affecting oral health, plaque etc.

VI. Child psychology and management of child patient

VII. Examinations, Diagnosis and Treatment planning

VIII. Clinical Paedodontics:

Treatment of traumatized teeth, management of the primary and mixed dentition period gingival disorders in children.

Stomatological conditions in children. Mouth habits and their managements. Set-up of Paedodontic clinic. Toothing disorders.

Developmental anomalies. Dental caries in children. Restorative Dentistry. Pulp therapy and endodontics, space maintainers.