

## SCREENING TEST FOR THE POSTS OF DENTAL SURGEONS

### SYLLABUS FOR DENTAL SURGEON SCREENING TEST

#### GENERAL HUMAN ANATOMY AND HISTOLOGY

1. Introduction
2. Detailed anatomy and osteology of head and neck excluding brain.
3. Gross Anatomy of brain thorax and abdomen sufficient for understanding physiologic processes.
4. Embryology of head, neck and face; vascular, lymphatic and G.I. Systems.
5. Genetics-Fundamentals.
6. General, Principals of Anthropology.

#### HISTOLOGY

1. All basic tissues of the human body various types of epithelia and connective tissues.
2. Endocrine glands.
3. Lung, kidney, spleen, liver, thymus and pancreas.
4. Salivary glands.
5. Oral tissues.

#### PHYSIOLOGY

1. Introduction.
2. Blood and Lymph:
  - Composition and function of blood. Plasma proteins.
  - RBC - Morphology, Formation and functions.
  - WBC- Types, formation and function
  - Blood coagulation.
  - Blood groups.
  - Platelets, Anaemia, E.S.R
  - Lymph; Formation, Compitions, functions, oedma.
  - Immunity-Basic concept.
3. Cardio Vascular System:
  - General organization of cardiovascular system and Haemodynamics.
  - Conduction of Cardiac impulse.
  - Cardiac Cycle
  - Heat, Sounds, Pulse,
  - Normal electrocardiogram
  - Regulation-Nervous, chemical and hormonal
  - Blood Pressure regulation
  - Pathophysiology of shock, Syncopes
  - (Coronary circulation)
4. Respiratory system:
  - General Organization of respiratory system.
  - Ventilation, diffusion, carriage of respiratory gases.
  - Nervous and chemical regulation.
  - Asphyxia, Hypoxia, Cy-nosis.
  - Artificial respiration.
5. Digestive system:
  - Movements of digestive tract including chewing and deglutition.,

Mechanism and control of digestive secretion

Digestion and absorption

Liver and gall bladder functions.

Bile-Jaundice.

Salivary secretion in detail

6. Excretion:

Structure and functions of kidney.

Formation of Urine, Filtration, reabsorption and secretion.

Water and Salt regulation.

Physiology of Micturation

7. Skin; structure and functions.

8. Temperature regulation; Fever, Heat stroke and Heat, exhaustion.

9. Endocrines;

General Organisation and regulation

Secretions and function of:

a. Anterior and posterior pituitary

b. Thyroid

c. Adrenal Cortex and Medulla.

d. Para thyroid.

e. Insulin and glucagons islets of langerhans.

10. Reproductive System:

a. Male reproductive System – Testosterones

b. Female reproductive system, Menstruation, Pregnancy.

Family planning – Physiological basis of family planning methods.

11. Nerves System:

General organization of nervous system

General concepts of

Receptors and sensation.

Motor control

Reflexes and their clinical use

Functions of spinal cord, cerebellum, Basal ganglia, hypothalamus

Neocortex important centers and their functions

General concept of higher functions.

Autonomic nervous system.

12. Special senses:

General concept of structure and functions.

a. Eye and refractive errors.

b. Hearing.

c. Taste and Smell.

13. Nutrition:

General Metabolism, Principles of colorimetry. Basal Metabolic rate, metabolism of proteins, fats and carbohydrates, vitamins, sources, requirement and actions. Basic principles of dietetics, Enzymes. pH regulation, Calcium, Iron and Water metabolism.

### **BIOCHEMISTRY**

1. Introduction to Biochemistry - Historical development of Biochemistry scope and importance in Dentistry, structure of cell; Physical and chemical dynamics;

2. Carbohydrates - Introduction, classification, properties, Monosaccharides, disaccharides, oligosaccharides and polysaccharides (including mucopolysaccharides; carbohydrates of biological importance)

3. Lipids - Introduction and classification; structure and properties of fats, oils,

waxes, sterols, steroids; phospholipids and other complex liquids; essential fatty acids.

4. Proteins - introduction, classification and general characteristics, properties of amino- acids; essential and denaturations analytical methods. .

5. Nucleic acid - General considerations; nucleoproteins; purine and pyrimidines; nucleosides, nucleotides; biological importance of nucleosides and nucleotides structure of DNA and RNA, biological importance, genetic code.

6. Enzymology - Nature, classification distribution and function of enzymes; enzyme specificity, factors affecting enzymecatalyzed reactions; coenzyme factors; Inhibition - competitive and non-competitive, coenzymes and activators; allosteric enzymes Isozymes; clinical enzymology.

7. Vitamins - Definition and History of discovery of vitamins; Fat-soluble vitamins-A, D,E,K; water-soluble vitamins-Thiamine, Riboflavin, Niacin, Pyridoxine, Pantothenic acid, Lipoic acid and B12; Vitamin C, special emphasis on biochemical functions; Vitamins in daily life. Digestion and absorption of foods.

8. Digestion in the mouth, stomach and intestine; Role of various secretions and gastrointestinal hormones; Mechanisms of absorption of carbohydrates, lipids and proteins.

9. Introduction to Intermediary metabolism (An overview)

10. Metabolism of carbohydrates - Glycolysis and Glycogenolysis; Hexose monophosphate shunt; citric acid cycle; gluconeogenesis regulation of carbohydrate metabolism - sources of blood glucose and regulation of blood glucose, renal threshold; carbohydrate tolerance; measurement of glucose tolerance.

11. Biological oxidation.

12. Metabolism of lipids – Distribution of body and blood lipids; fate of fats in the body; oxidation of fatty acid; degradation of triglycerides, biosynthesis of lipids and regulation of lipogenesis role of carnitine in fatty acid, Metabolism; formation and metabolism of Ketone bodies; Metabolism of cholesterol, lipotropic factors; Disturbances in lipid metabolism.

13. Metabolism of proteins, degradation of proteins, general metabolism of amino acids deamination, transamination, transmethylation, decarboxylation, formation of urea, inborn errors of metabolism, protein biosynthesis.

14. Metabolism of Nucleic acids - Role of nucleic acids, Biosynthesis of purines and pyrimidines, catabolism of purines and pyrimidines, uric acid metabolism and gout.

15. Mineral metabolism - Metabolism and role in nutrition of calcium magnesium, phosphorus, iron, copper, manganese, iodine, cobalt zinc, fluorine, selenium lithium chromium, molybdenum.

16. Elements of nutrition - Unit of heat and fuel value of foods, animal calorimetry, respiratory quotient of food stuffs, basal metabolism, measurement of energy, requirements, specific dynamic action, adequate diet and recommended dietary allowances, protein-caloric malnutrition.

17. Special topics, biochemistry of muscle, epithelial, connective and nerve tissues, porphyrias, functions of liver, principles of immunochemistry water metabolism.

### **DENTAL MATERIALS**

1. Introduction:

Aims and Scope of the science of dental materials.

2. Structure and behaviour of matter.

3. Important physical properties applicable to dental materials including their biological considerations.
4. Gypsum products used in dentistry including casting, investment materials with or without gypsum binder.
5. Impression materials used in dentistry including duplicating materials.
6. Synthetic resins used in dentistry:
  - a. General properties and physical characteristics.
  - b. Resins as denture base materials, repairs and reline materials, soft liners, tissue conditioners.
  - c. Resins as restorative materials; unfilled and filled resin restorative materials tissue sealant.
  - d. Direct - bonding cement materials
7. Metals and alloys; their structure and behaviour, some important physical properties.
  - a. Dental Amalgam alloys;
  - b. Gold foil
  - c. Dental casting gold alloys;
  - d. Stainless steel, chrome-cobalt alloys.
8. Dental waxes including inlay casting wax.
9. Gold inlay casting procedures;
 

Preparation of the die-wax pattern, spruing, investing control of shrinkage compensation. Wax elimination-casting machines, casting, defects in castings.
10. Welding and soldering materials used.
11. Dental cements; classifications composition, manipulation, properties and uses;- Zinc cements, copper cements, zinc-oxide auganol cements, silicate cements, cavity liners, cavity varnishers, Rasin cements, Composite, glass ionomer cements and ionomer.
12. Dental porcelain including porcelain fused to metal, porcelain furnace and fusing.
13. Machines of tooth cutting. Burs and points.
14. Abrasives and polishing agents.
15. Die and counter die materials including electro-fbrf1ing and electro-polishing.

#### **GENERAL AND DENTAL PHARMACOLOGY**

1. History, sources, definition and preparation of drugs.
2. Routes of administration of drugs.
3. Absorption, distribution and secretion of drugs.
4. Manifestation, types and mechanisms of drugs.
5. Dose response relation and factors modifying drugs actions.
6. Drug toxicity, poisons.
7. Drug assay, standardization and formation.
8. Drug prescription.

#### **CENTRAL NERVOUS SYSTEM**

9. General principles and hypnotics.
10. Hypnotics
11. Analgesics
12. General Anaesthesia and local anaesthesia
13. Tranquilizers; C.N.S Stimulants and mood elevators.

#### **AUTONOMIC NERVOUS SYSTEM**

14. Adrenergic drugs and adrenergic blocking agents.
15. Cholinergic drugs and cholinergic blocking agents.
16. Anti choline esterases.

**G.I. Tract**

17. Anti emetics, drugs and treatment of peptic ulcer, diarrhoea and constipation.
18. Anthalmenthics.

**CARDIO VASCULAR SYSTEM AND BLOCK**

19. Hypertension.
20. Coronary dilators and treatment of angina.
21. Coagulants, anti-coagulants and Hoematinics.
22. Drug therapy of shock
23. Histamine, anti-histamines and treatment of allergy.

**CHEMOTHERAPHY**

24. Local antiseptics.
25. Sulphanomides.
26. Penicillin's.
27. Streptomycin and other antibiotics.
28. Drug therapy of T.B and Venereal disease.
29. Principles of antibiotic therapy.
30. Hormones, vitamins.
31. cortico-steroids.
32. Insulin and oral anti-diabetics.
33. Vitamins; A, B, K, DB-Complex and factors and Vitamin C.
34. Calcium, Vit D, and Parathyroid.
35. Vaccines and sera.

**Dental Pharmacology and Therapeutics**

1. Astringents, obtundents, mummifying agents, bleaching agents, styptix, disclosing agents, dentifrices and mouth washes.
2. Treatment of common oral conditions.

**GENERAL PATHOLOGY****I. GENERAL PATHOLOGY**

Methods of study of tissues and cells

Degenerative processes and disturbances of metabolism.

Cloudy swelling

Fatty Changes.

Amyloidosis

Hyaline Degeneration

Pigmentation

Calcification

Necrosis

Gangrene

Post mortem changes

Circulatory disturbances.

Hyperemia

Venous congestion

Ischaemia

Infraction

Hemorrhage

Thrombosis

Embolism

Shock

Inflammation, Response of soft and hard tissues to injuries

Acute inflammation

Repair  
 Infection, resistance and Allergy  
 Staphylococcal infections  
 Streptococcal Infections  
 Typhoid infection  
 Tuberculosis, Leprosy, Syphilis, Actinomycosis.  
 Growth and its disorders.  
 Metaplasia  
 Atrophy  
 Hyperplasia  
 Hyperplasia trophy  
 Elementary knowledge of Malformations and maldevelopments.  
 Tumours: Classification; Characters of malignant and Benign Tumours  
 Carcinogenesis  
 Methods of spread  
 Diagnostic methods in cancer  
 Vitamin deficiencies.  
 Scurvy  
 Rickets  
 Blood Dyscrasias  
 Bleeding disorders, and their laboratory investigations  
 Metabolic disorders  
 Diabetes.

## **II. MICROBIOLOGY AND PARASITOLOGY**

1. Introduction with reference to medical and dental microbiology including public health and preventive aspects of infections.
2. Methods and principles of sterilization.
3. Pyaemia, septicemia and toxemias.
4. Immunity and immunising agents.
5. Auto- immunity emphasis on practical application.
6. Morphology, laboratory diagnosis, physiology, characteristics, pathogenicity, and classification of microorganisms and particularly the following:
  - a. Gram positive and negative cocci and bacilli in dental and general infections.
  - b. Spirochetal oral infections.
  - c. Normal oral microbial flora.
  - d. Organisms causing specific infections such as meningitis, diphtheria, tetanus, gas gangrene, tuberculosis, syphilis.
  - e. Tetanus organisms related to dentalities.
7. Methods of taking swabs and smears from various oral regions and their staining.
8. Elementary knowledge of virology and mycology with examples of oro-facial lesions.
9. Common parasites and parasitic diseases such as amoebiasis, malaria, helminthic infections.

## **ORAL ANATOMY**

1. Development including mineralization, histology, applied anatomy, age changes, functions and stress on clinical significance from the view point of histology and embryology etc of the following: -  
 Structures of teeth (ENAMEL, DENTINE, CEMENTUM & PULP) and periodontal ligament - Jaws including T. M. Joint and Maxillary Sinuses FACE oral mucosa and

salivary glands.

2. Active and passive eruption of teeth and shedding of primary teeth.
3. Preparation of hard soft tissue sections for histological examination.
4. Applied anatomy of:
  - a. Blood and Nerve supply with lymphatic drainage of oral tissue.
  - b. Muscles of Mastication and Facial expressions.
5. Detailed Morphology, Chronology, Occlusion (including its controlling factors) of primary and permanent dentitions. Differences between primary and permanent Dentitions.
6. Physiology of mastication, deglutition, speech and sensation with their relevance to oral structures.
7. Composition and physiology of Saliva and their Influencing factors.
8. Chemical composition and physical properties of enamel dentine, cementum and bone.

### **GENERAL MEDICINE**

Introduction.

Aims of Medicine

Definition of diagnosis, prognosis and treatment.

G.I. Disorders.

Stomatitis, glossitis, gastritis, dysphagia, peptic ulcer, Diarrhoea, Amebiasis, Ascites.

Liver disorder and their relations to dentistry.

Jaundice, viral hepatitis, cirrhosis liver.

Cardio vascular system disorders and their relations to dentistry.

Congenital heart disease.

Rheumatic heart disease

Subacute bacterial endocarditis.

Congestive heart failure

Left Ventricular failure

Hypertension

Coronary artery disease

Thrombo-phlebitis

Cardiac arrests.

Respiratory system disorders and their relations to dentistry.

Pneumonia Bronchitis, Emphysema, Lung Abscess.

Eosinophilia, Pulmonary - Tuberculosis. Asthma, Aspergillosis.

Renal diseases and their relations to dentistry;

Acute glomerulo nephritis, nephrotic syndrome.

Haematological disorders and their relations to dentistry.

Anaemia, Coagulation defects, bleeding disorders.

Agranulocytosis. Leukemia, Oral Manifestations of Haematological disorders,

Lymphadenopathy and Lymphoma Blood groups - Transfusion.

Central Nervous system disease and their relations to Dentistry.

Meningitis, facial palsy, facial paralysis.

Headache, syncope.

Nutritional and metabolic disorders and their relations to Dentistry.

Balance diet, Normal Daily, Protein caloric requirements, malnutrition.

Avitaminosis.

Diabetes mellitus,

Calcium homeostasis

Endocrine Disorders and relations to Dentistry

Hypo and hyper parathyroid,  
 Hypo and hyper pituitary;  
 Hypo and hyper thyroid.  
 Dermatological disorders of significance to oral cavity.  
 Infections and their relations to Dentistry;  
 Enteric fevers.  
 Mumps  
 Viral exanthomata .  
 Diphtheria Syphilis  
 Miscellaneous with relation to dentistry;  
 Allergy  
 Drug reactions and poisonings.  
 Drug interactions  
 Evaluation of a case for general anesthesia  
 Arthritis Cortocosteroids Herpes  
 Alcoholism, Tetanus Shock Antibiotic, Sedatives  
 Treatment of Medical emergencies in dental practice, instruments and drugs employed in these.

### **GENERAL SURGERY**

#### **GROUP - I**

1. Introduction, definition and scope of surgery.  
Its relationship with allied sciences.
2. Sepsis, asepsis, antiseptics, disinfectants sterilization principles and methods.
3. Inflammations, toxemia, septicemia, abscesses, cellulites, sinus fistula - etiology pathology clinical features treatment.
4. Chronic non specific and specific inflammations such as tuberculosis, syphilis, fungal and leprosy
5. Tetanus - Pathology, features, prevention. Complications and management.
6. Wounds - types - healing. Role of reconstructive surgery in maxilla - facial injuries.
7. Haemorrhage – management – causes, effects, features – haemostasis, disorders coagulation
8. Shocks – Definition – Types, pathophysiology, features and treatment with particular reference in dental clinic.
9. Burns.
10. Effects of vascular obstruction.
11. Common diseases of veins.
12. Nerve injuries.
13. Common infections of Lymphatics and Lymph nodes.
14. Tumours - Benign and malignant - etiology, pathology metastasis - management.
15. Method of administration of anesthesia - precautions, management and resuscitation in- dental
16. Blood groups, transfusion, intravenous therapy.
17. Sutures - different types and dressing.
18. Operation theatre techniques.

#### **GROUP - II**

1. Diseases of salivary glands and lymph glands.
2. Common ENT diseases of relevance to dentistry.
3. Maxillo - facial injuries including paralysis and diseases of nerves.
4. Diseases of thyroid and parathyroid.

5. Respiratory obstruction and tracheotomy.
6. Management of unconscious patient with head injury;

### **ORAL PATHOLOGY**

1. Aims and objectives.
2. Basic principles of epidemiology of oral lesions. Etiology, pathogenesis, laboratory investigation diagnosis and differential diagnosis of:  
Development, hereditary, endocrinal metabolic, nutritional and other systematic conditions affecting oral and paraoral tissues.
3. Various traumatic injuries of teeth, jaws and soft tissues their sequelae and healing.
4. Dental caries - microbiology, epidemiology immunology prevention. Its sequelae.
5. Pulp and periapical pathosis and their sequelae.
6. Diseases of periodontal ligament, gingivae, cementum.
7. Environmental lesions of oral and paraoral tissues including effects of radiation and trauma.
8. Osteomyelitis of jaws due to various causes and other bone disorders.
9. Diseases of maxillary sinus and TM Joint.
10. Diseases of nerves, skin, blood and their oral manifestations,
11. Neuralgia and pain of head, face and neck.
12. Salivary and lymph gland lesions.
13. Cyst and cystlike lesions of jaws and soft tissue.
14. Oral premalignant lesions, common tumours and tumour like lesions including diagnostic procedures in oncology.
15. Principles of forensic dentology.
16. Oral microbial flora - nature, location, age changes, factors related to growth, virulence and spread
17. Concepts of immunology as related to oral microbial lesions.
18. Diagnostic procedures in oral microbiology.
19. Concepts of infections and focal infection.
20. Defense mechanism of oral tissues against infection.
21. Infections diseases of oral tissues.
22. Oral submucous fibrosis.

### **ORTHODONICS**

1. Definition, Aims, objectives and scope of orthodontics.
2. 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 - types and different classifications.
6. Etiology of Malocclusion.
7. History taking and examination of patient and case analysis and differential diagnosis including photographic analysis, cephalometries and treatment planning and prognosis.
8. a. Preventive and interceptive treatment of malocclusion.  
b. Extraction on orthodontics

### **PAEDIATRIC DENTISTRY (PEDODONTIA)**

1. Introduction, definition, scope and importance of pedodontics.
2. Growth development of dental and oral facial structure and normal occlusion, development anomalies. Genetics related to pedodontics.

3. Morphology of definitions and its application:
  - a. Applied Morphology and Histology of deciduous and permanent teeth.
  - b. Importance of first permanent molar.
4. Fundamentals of Dental Health:
 

Biological factors responsible for maintenance of dental oral health.
5. Contributory local factors affecting oral health plaque etc.
6. Child psychology and management of child patient
7. Examination, Diagnosis, and treatment planning.
8. Preventive Dentistry; Fluorides, Fissure, Sealants Foods etc.
9. Endodontics in paediatric dentistry.
10. Clinical aspects of paediatric dentistry.

Set up of paedodontic clinic.

Teething disorders.

Developmental Anomalies.

Dental caries in children.

Restorative Dentistry.

Pulp Therapy and Endodontics.

11. Space Maintainers.

Treatment of traumatized tooth.

Problems of primary and mixed dentition period

Gingival disorders in children.

Stomatological condition in children.

Management of handicapped children.

Mouth habits and their management.

### **ORAL MEDICINE DIAGNOSIS AND RADIOLOGY**

#### **A. ORAL/MEDICINE DIANOSIS**

1. Scope and importance of the subject.
2. Methods of diagnosis including special investigations.
3. Acute infections of oral and paraoral structures.
4. Blood dyscrasias and their management.
5. Management of cardiac patient in dentistry.
6. Metabolic and endocrine disturbances, their oral manifestation.
7. Nutritional deficiencies, and their significance in dentistry.
8. Oral Sepsis and its effect in general system.
9. Dysfunctions of Temporomandibular joints.
10. Cervico-facial Lymphadenopathy
11. Diseases of salivary glands.
12. Facial pain.
13. Cysts and tumours of the oral cavity.
14. Oral manifestations of dermatological and other systematic disturbances.
15. Special investigations.
16. Immune concepts of oral lesions.
17. Forensic dentology.

#### **B. RADIOLOGY**

1. Physics of radiation -production and properties of x - rays. ,
2. Principles of x- ray techniques and factors for radiography and fluoroscopy. Processing and developing film.
3. Technique of intra - oral and extra oral radiography and normal anatomical landmarks.
4. Radiological interpretation of abnormal dental and jaw conditions.

5. Elements of radiator treatment in oral and facial conditions and their sequelae.
6. Contrast radiography and recent advances in dental radiology including radioactive tracers.

### **PROSTHETIC DENTISTRY**

#### **1. COMPLETE DENTURES**

1. Aims, objective 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. Artivalarors and face rows
10. Occlusion and articulation in complete denture.
11. Trying in a complete dentures.
12. Processing and finishing of denture.
13. Correction of occlusion discrepancies.
14. Delivery and adjustments of complete dentures.
15. Sequel of ill - fitting dentures.
16. Repair, rebashing and relining.
17. Immediate dentures.
18. Implant dentures.

#### **2. REMOVABLE PARTIAL DENTURES**

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

#### **3. ELEMENTS OF CROWN AND BRIDGE PROSTHESIS**

1. Introduction definitions. .
2. Indication and centra - indications.
3. Examinations, diagnosis and treatment planning.
4. Selection and choice of adjustment teeth.
5. Principles of teeth reduction.
6. Indications center – indication, and procedures of preparation of abutment teeth for receiving various types of retainers.
7. Temporary protection of a prepared tooth.
8. Gingival retractions and impression procedures.

9. Construction of dyes and working models, direct and Indirect technique.
10. Technique of fabrication of retainers.
11. Selection and fabrication of points.
12. connectors stress - breakers and assembly of fixed bridges.
13. Finishing, cementing and maintenance of crowns and bridges.
14. Ceramic and ceramic metal restorations.

#### **4. MAXILOFACIAL PROSTHESIA**

1. Splints.
2. Bturous.
3. Carriers

#### **OPERATIVE DENTISTRY**

1. Definition and scope.
2. Oral hygienic in relation to conservative dentistry.
3. Instruments - Nomenclature design and formulae, uses and sterilization.
4. Examination diagnosis and treatment planning.
5. Charting and recording of cases.
6. Histology of the tooth structure as related to the operative procedure.
7. Hypoplasia, Artnitier, abrasion, erosion and their management.
8. Dental caries etiology, pathology, clinical features, classification, diagnosis, preventive measures and control of dental caries.
9. Cavities classification and nomenclature.
10. Choice of filling materials
11. Principles of cavity preparation control of pain, prevention of damage to hard and soft tissues during operative procedures.
12. Methods employed for exclusion of saliva.
13. Bio-mechanics of cavity design and restoration with filling materials, pump and soft tissue protection.
14. Airotors, high-speed equipment, air motor and micro motor.
15. Cavity preparation for various types of restorations including Inlays, on lays and pinlays restorative procedure materials.
16. Drugs used in conservative dentistry.
17. Introduction to recent advances in restoration materials and procedures.
18. Fractured teeth and their management, effect of systematic diseases dental tissues.
19. Sensitive dentine, its management.
20. Perio - operative problems.
21. Ceramics in conservative dentistry.
22. Biological aspects of restorative materials.

#### **Endodontics**

1. Definition, aims and object.
2. Rational of endodontic therapy, morphology of root canal and diseases of the pulp and periapical tissues Endodontics endries.
3. Diagnostic aids in Endodontics.
4. Endodontics Instruments.
5. Care and sterilization of instruments for Endodontics.
6. Treatment of vital and nonvital pulp.
7. Restoration of nonvital teeth.
8. Bleaching of teeth restoration of endodontically treated teeth. Surgical treatment in Endodontics. Emergencies in Endodontics. Endodperlo problems.

**ORAL SURGERY, LOCAL AND GENERAL ANAESTHESIA****LOCAL ANAESTHESIA**

1. Introduction.
2. Properties of an ideal local anesthetic drug.
3. Properties of common local anesthetic drugs in use.
4. Choice of anesthesia, local and general anesthesia.
5. Indications and contra - indications, advantages and dis-advantages of local anesthesia.
6. Components of a standard local anesthetic solution and disadvantages of local anesthesia.
7. How does local anesthetic acts.
8. Pre- anesthetic medication.
9. Technique of Infiltration anaesthesia, nerve block anaesthesia, symptom and signs of anaesthesia.
10. Complications associated with local anaesthesia and their management.

**GENERAL ANAESTHESIA**

1. Properties of general anesthetic drugs commonly used.
2. Pre - anesthetic preparation of a patient and pre—medication.
3. Evaluation of a patient for general anaesthesia.
4. Short anaesthesia in a dental chair, endotracheal anaesthesia, Intravenous anaesthesia.
5. Symptoms and signs of general anaesthesia.
6. Complications arising during the administration of general anaesthesia and their management.

**EXODENTIA**

1. Objectives.
2. Indications for teeth extraction.
3. Pre - operative assessment.
4. Torqueps extraction.
5. Surgical extraction (Trans - alveolar extraction).
6. Extraction technique under general anaesthesia 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 examinations
  - c. Special examinations
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 pre-prosthetic surgery.
8. Surgical orthodontics.
9. Oro - facial infections, their diagnosis and treatment.
10. Inflammatory diseases of jawbone and their management.
11. Diagnosis and management of Cysts of oral cavity.
12. Diagnosis and treatment of the fracture of the mandible.
13. General outline of the fracture of the middle third of the facial skeleton.
14. Diagnosis and treatment of benign neoplastic lesions of the oral cavity

odontogenic and non - odontogenic.

15. Surgical procedure in relation to endodontic therapy (Apicectomy).
16. Surgical treatment of tumour like lesions of the oral cavity including odontoma.
17. Diseases of maxillary sinus, with special reference to oroantral fistula.
18. Management of haemorrhage in oral surgery.
19. Diseases of salivary glands. Diagnosis and treatment of salivary calculi and neoplasms arising from minor salivary glands.
20. Surgical aspects of histopathological diagnosis.
21. Oral surgical complications and their management. .
22. Diagnosis of malignant condition of oral cavity, a broad outline about the different methods of treatment.
23. Diseases of temporomandibular joint such as arthritis, hypoplasia, subluxation, dislocation, ankylosis, other causes of inability to open the mouth.
24. Affections of trigeminal and facial nerves.

### **PERIODONTOLOGY**

1. Introduction - Scope and applicability of the subject;  
Historical background of periodontology.
2. Maintenance of Health - Role of scope of oral physiotherapy measures, patient education - programme and periodic check.
3. Classification of gingival and periodontal disturbances.
4. Gingival Enlargement.
5. Infective Muco - gingival condition - specific and non - specific.
6. Degenerative conditions - Gingivitis and periodontitis.
7. Atrophic conditions affecting gingival and periodontal tissues. Including ageing.
8. Local and systemic factors in the causation of gingival and periodontal lesions.
9. Periodontitis and sequelae. .
10. Malocclusion, Mal - alignments and traumatic occlusion, bruxism and Temporomandibular joint disturbances, occlusal equilibration.
11. Diagnosis and diagnostic aids including radiography and its uses in limitations.
12. Prognosis.
13. Morphological defects of the muco-gingival structures influencing periodontium and their treatment. Treatment of alveolar and periodontal disturbances.
14. Treatment planning. Phase and rationale. Different available therapeutic procedure. Healing mechanism.
15. Role of Nutrition in aetiology and treatment.
16. Drugs and materials used in periodontics.
17. Instrumentation.
18. Splints.
19. Preventive periodontics, concepts of focal infection.
20. Concept of Focal infection
21. Oral hygiene practices in India.