

**SYLLABUS FOR Ph.D. ENTRANCE EXAMINATIONS  
FACULTY OF DENTISTRY**

**UNIT I (A)** Cranial nerves - III, IV, V, VI, VII, IX, XII in detail.,Parotid gland.Temporo mandibular joint, muscles of mastication, infratemporal fossa, pterygo - palatine fossa. Submandibular region. Walls of the nasal cavity, paranasal air sinuses, Palate. Oral cavity, Tongue. Osteology , The Cell:Basic tissues - Epithelium, Connective tissue including cartilage and bone, Muscle Tissue, Nervous tissue,Medical Genetics:Mitosis, meiosis, Chromosomes, gene structure, Mendelism, modes of inheritance

**(B)** Homeostasis,Composition & functions of blood,Body temperature ,Functions of skin, General endocrinology - Enumeration of endocrine glands & hormones,Cardio vascular system,Digestive system

**UNIT II :** Carbohydrates: Lipids: Aminoacids: Classification., Introduction to peptides. Proteins: Simple and conjugated; globular and fibrous. Outlines of glycolysis, pyruvate oxidation and citric acid cycle. Introduction to glycogenesis, glycogenolysis, fatty acid synthesis, lipogenesis and lipolysis., Gluconeogenesis.Enzymes: Definition, classification, specificity and active site, Cofactors.Collagen and elastin, Glycosaminoglycans, Bone structure, Membranes.

**UNIT III:** Human dentition, types of teeth, & functions, Palmer's & binomial notation systems.Epithelial mesenchymal interaction, detailed study of different stages of development of crown, root & supporting tissues of tooth & detailed study of formation of calcified tissues. Detailed microscopic study of Enamel, dentine, Cementum & Pulp tissue. Age changes. Detailed microscopic study of Periodontal ligament & alveolar bone, Detailed microscopic study of Oral Mucosa, Salivary Glands: TM Joint :Maxillary Sinus: Saliva: Calcium, Phosphorous & fluoride metabolism: Physiology of Taste:

**UNIT IV :** (A) Cell Injury&change,Cell death & Necrosis, Inflammation, Healing, Ischaemia and infraction Derangements of body fluids, Disorders of circulation, Cancer, Anaemias& leukaemias, Common diseases of Bones, Haemorrhagic Disorders

(B) Morphology and, Physiology of bacteria.Detail, account of Sterilisation and Disinfection. Brief account of Culture media and Culture techniques. Basic knowledge of selection, collection, transport, processing of clinical Specimens and identification of bacteria. Bacterial Genetics and Drug Resistance in bacteria. Infection - Definition, Classification, Source, Mode of transmission and types of Infectious disease. Immunity, Structure and functions of Immune system. The Complement System,Immune response,Immuno deficiency disorders - a brief knowledge of various types ofimmunodeficiency disorders , Autoimmune disorders

(C) Pyogenic cocci - Staphylococcus, Streptococcus, Pneumococcus, Gonococcus,Meningococcus

Corynebacteriumdiphtheriae, Mycobacteria - Tuberculosis and Leprosy, Clostridium - Gas gangrene, food poisoning and tetanus, Non-sporing Anaerobes, Spirochaetes - Treponemapallidum - detailed account of Oral Lesions of syphilia, Borreliavincetii, Actinomycetes,Herpes Virus, Hepatitis B Virus - brief about other types,Human Immunodeficiency Virus (HIV),Candidosis - in detail. Brief introduction - protozoans and helminths

**UNIT V :**General principles of pharmacology; pharmacokinetics ,CNS drugs, Autonomic drugs; Cardiovascular drugs ,Gastrointestinal tract drugs,hormones,chemotherapy - Implications of these drugs in clinical dentistry, Autocoids:Histamine, antihistamines, prostaglandins, leukotriens,,Drugs acting on blood: coagulants and anticoagulants, hematinics, Implications of these drugs in clinical dentistry. Vitamins: water soluble vitamins, Vito

D, Vit K. and Vit E, Implications, of Vitamins in clinical dentistry. Anti-septics, astringents, obtundents, mummifying agents, bleaching agents, styptics, disclosing agents, dentifrices, mouth washes, caries and fluorides.

**UNIT VI:** A bird's eye view of the different pathological processes involving the oral cavity & oral cavity involvement in systemic diseases, Developmental disturbances of teeth, jaws and soft tissues of oral & paraoral region, Microbial infections of oral soft tissues: Common non-inflammatory diseases involving the jaws. Cysts of the Oral & Para oral region: Tumours of the Oral Cavity: Traumatic, Reactive & Regressive lesions of Oral Cavity: Non neoplastic Salivary Gland Diseases: Systemic Diseases involving Oral cavity: Mucocutaneous Lesions : Diseases of the Nerves: Pigmentation of Oral & Paraoral region & Discolouration of teeth:

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**UNIT VII:** Dental caries: Treatment Planning For Operative Dentistry: gnathological Concepts Of Restoration: Physiology of occlusal rehabilitation and restoration. Amalgam Restoration: Pulp Protection: Anterior Restoration; Direct Filling Gold Restorations: Hyper Sensitive Dental And Its Management. Cast Restorations, Vitality tests, Diagnosis and Treatment Planning and Preparation of Case Sheet. Dental porcelain, Aesthetic Dentistry, Endodontics

**UNIT VIII:** Principles of infection control and cross-infection control, Principles of Oral Surgery ,Asepsis: Sterilization of instruments, Local anaesthesia General anaesthesia  
Exodontia: Diseases of the maxillary sinus, Disorders of T.M.Joint, Infections of the Oral cavity  
Benign cystic lesions of the jaws, Tumours of the Oral cavity, Fractures of the jaws, Salivary gland diseases, Jaw deformities, Oral Implantology

**UNIT IX:** Teeth: Development abnormalities, causes of destruction of teeth and their sequelae and discoloration of teeth. Disease of bone and Osteodystrophies, Common cysts of soft tissue & bone, Tumours  
Infections of oral and paraoral structures: Bacterial: Fungal; Candida albicans Virus:  
Important common mucosal lesions, Cervico-facial lymphadenopathy  
Facial pain: Altered sensations: Cacogeusia, halitosis. Tongue in local and systemic disorders: Oral manifestations of systemic diseases, Disease of salivary glands: Dermatological diseases with oral manifestations: Allergy:

Foci of oral infection and their ill effects on general health Management of dental problems in medically compromised persons, Precancerous lesions , Nerve and muscle diseases: Therapeutics: Gene , Drugs commonly used in oral medicine, Physics of radiation: Biological effects of radiation

**UNIT X :** Growth and Development, Morphologic Development of Craniofacial Structures, Functional Development of Dental Arches and Occlusion, Clinical Application of Growth and Development  
Malocclusion-In General, Classification of Malocclusion Normal and Abnormal Function o, Stomatognathic System , Etiology of Malocclusion, Diagnosis and Diagnostic Aids, Removable orthodontic appliances, Fixed orthodontic appliances, Extraoral appliances, Myofunctional appliances

**UNIT XI:** Development of periodontal tissues-anatomy, histology, Defensive mechanisms in the oral cavity  
Age changes in periodontal structures, Classification of periodontal diseases, Gingival disease, Epidemiology of periodontal disease, Periodontitis 8. Periodontal Therapy, Implants, Maintenance phase,

Periodontal management of medically compromised patients

Systemic effect of periodontal disease in brief

**UNIT XII:** Complete Dentures, Removable partial denture, Fixed Partial Dentures, Implants

**UNIT XIII:** Introduction to pedodontics & preventive dentistry, Growth & development, Development of occlusion from birth through adolescence, Dental anatomy and histology, Dental radiology related to pedodontics. Oral surgical procedures in children, Dental caries, Gingival & periodontal diseases in children. Child psychology, Behaviour management, Pediatric operative dentistry, Traumatic injuries in children, Preventive & interceptive orthodontics, Oral habits in children :Dental care of children with special needs: Congenital abnormalities in children: Dental emergencies in children & their management  
Dental materials used in pediatric dentistry. Preventive dentistry, Dental health education & school dental health programmes. Fluorides: