

MALWANCHAL UNIVERSITY, INDORE (MP)
SYLLABUS
FOR
BACHELOR OF DENTAL SCIENCE (BDS)
FIRST YEAR EXAMINATION

Syllabus of Study

1. HUMAN ANATOMY, EMBRYOLOGY, HISTOLOGY & MEDICAL GENETICS

A. GOAL:

The students should gain the knowledge and insight into, the functional anatomy of the normal human head and neck, functional histology and an appreciation of the genetic basis of inheritance and disease, and the embryological development of clinically important structures. So that relevant anatomical & scientific foundations are laid down for the clinical years of the BDS course.

B. OBJECTIVES:

a) KNOWLEDGE & UNDERSTANDING:

At the end of the 1st year BDS course in Anatomical Sciences the undergraduate student is Expected to:

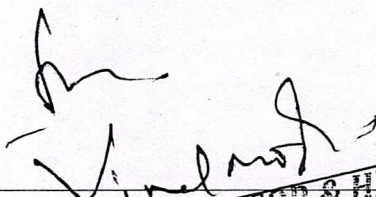
1. Know the normal disposition of the structures in the body while clinically examining a
2. Patient and while conducting clinical procedures.
3. Know the anatomical basis of disease and injury.
4. Know the microscopic structure of the various tissues, a pre-requisite for understanding of
5. The disease processes.
6. Know the nervous system to locate the site of lesions according to the sensory and or motor
7. Deficits encountered.
8. 5. Have an idea about the basis of abnormal development, critical stages of development, effects
9. of teratogens, genetic mutations and environmental hazards.
10. 6. Know the sectional anatomy of head neck and brain to read the features in radiographs and
11. Pictures taken by modern imaging techniques.
12. 7. Know the anatomy of cardio-pulmonary resuscitation.

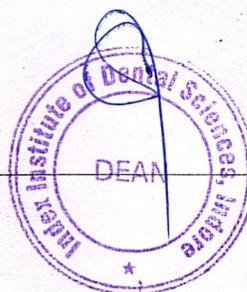
b) SKILLS


1. To locate various structures of the body and to mark the topography of the living anatomy.
2. To identify various tissues under microscope.
3. To identify the features in radiographs and modern imaging techniques.
4. To detect various congenital abnormalities.

c) INTEGRATION

By emphasising on the relevant information and avoiding unwanted details, the anatomy taught


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integrally with other basic sciences & clinical subjects not only keeps the curiosity alive in the learner

but also lays down the scientific foundation for making a better doctor, a benefit to the society.

This insight is gained in a variety of ways:

1. Lectures & small group teaching
2. Demonstrations
3. Dissection of the human cadaver
4. Study of dissected specimens
5. Osteology
6. Surface anatomy on living individual
7. Study of radiographs & other modern imaging techniques.
8. Study of Histology slides.
9. Study of embryology models
10. Audio-visual aids

Throughout the course, particular emphasis is placed on the functional correlation, clinical application & on integration with teaching in other bio dental disciplines.

d) AN OUTLINE OF THE COURSE CONTENT:

1. General anatomy: Introduction of anatomical terms and brief outline of various systems of the body.
2. Regional anatomy of head & neck with osteology of bones of head & neck, with emphasis on topics of dental importance.
3. General disposition of thoracic, abdominal & pelvic organs.
4. The regional anatomy of the sites of intramuscular & intra vascular injections, & lumbar Puncture.
5. General embryology & systemic embryology with respect to development of head & neck.
6. Histology of basic tissues and of the organs of gastrointestinal, respiratory, Endocrine, Excretory systems & gonads.
7. Medical genetics.

e) FURTHER DETAILS OF THE COURSE.

I. INTRODUCTION TO :

1. Anatomical terms.
2. Skin, superficial fascia & deep fascia
3. Cardiovascular system, portal system collateral circulation and arteries.
4. Lymphatic system, regional lymph nodes
5. Osteology - Including ossification & growth of bones
6. Myology – Including types of muscle tissue & innervation.
7. Syndesmology – Including classification of Joints.
8. Nervous system

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II. HEAD & NECK:

1. Scalp, face & temple, lacrimal apparatus
2. Neck - Deep fascia of neck, posterior triangle, suboccipital triangle, anterior triangle, anterior median region of the neck, deep structures in the neck.
3. Cranial cavity - Meninges, parts of brain, ventricles of brain, dural venous sinuses, cranial nerves attached to the brain, pituitary gland.
4. Cranial nerves - III, IV, V, VI, VII, IX, XII in detail.
5. Orbital cavity – Muscles of the eye ball, supports of the eye ball, nerves and vessels in the orbit.
6. Parotid gland.
7. Temporo mandibular joint, muscles of mastication, infratemporal fossa, pterygo - palatine fossa.
8. Submandibular region
9. Walls of the nasal cavity, paranasal air sinuses
10. Palate
11. Oral cavity, Tongue
12. Pharynx (palatine tonsil and the auditory tube) Larynx, OSTEOLOGY – Foetal skull, adult skull, individual bones of the skull, hyoid bone and Cervical vertebrae

III. THORAX: Demonstration on a dissected specimen of

1. Thoracic wall
2. Heart chambers
3. Coronary arteries
4. Pericardium
5. Lungs – surfaces; pleural cavity
6. Diaphragm

IV. ABDOMEN : Demonstration on a dissected specimen of

1. Peritoneal cavity
2. Organs in the abdominal & pelvic cavity.

V. CLINICAL PROCEDURES :

a). Intramuscular injections: Demonstration on a dissected specimen and on a living person of the following sites of injection.

1. Deltoid muscle and its relation to the axillary nerve and radial nerve.
2. Gluteal region and the relation of the sciatic nerve.
3. Vastus lateralis muscle.

b). Intravenous injections & venesection: Demonstration of veins in the dissected specimen and on a living person.

1. Median cubital vein
2. Cephalic vein
3. Basilic vein
4. Long saphenous vein

for
W. K. M. S.

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c). Arterial pulsations: Demonstration of arteries on a dissected specimen and feeling of pulsation of the following arteries on a living person.

1. Superficial temporal
2. Facial
3. Carotid
4. Axillary
5. Brachial
6. Radial
7. Ulnar
8. Femoral
9. Popliteal
10. Dorsalispedis

d) Lumbar puncture: Demonstration on a dissected specimen of the spinal cord, cauda equine & epidural space and the inter vertebral space between L4 & L5 .

VI. EMBRYOLOGY :

Oogenesis, Spermatogenesis, Fertilisation, Placenta, Primitive streak, Neural crest, Bilaminar and trilaminar embryonic disc, Intra embryonic mesoderm - formation and fate, notochord formation & fate, Pharyngeal arches, pouches & clefts, Development of face, tongue, palate, thyroid gland, pituitary gland, salivary glands, and anomalies in their development, Tooth development in brief.

VII. HISTOLOGY :

The Cell :

Basic tissues - Epithelium, Connective tissue including cartilage and bone, Muscle Tissue, Nervous tissue : Peripheral nerve, optic nerve, sensory ganglion, motor ganglion, Skin
Classification of Glands Salivary glands (serous, mucous and mixed gland), Blood vessels, Lymphoid tissue Tooth, lip, tongue, hard palate, oesophagus, stomach, ,duodenum ,ileum, colon, vermiform appendix Liver, Pancreas, Lung, Trachea ,Epiglottis, Thyroid gland , para thyroid gland , supra renal gland and pituitary gland, Kidney, Ureter, Urinary bladder, Ovary and testis.

VIII. MEDICAL GENETICS :

Mitosis, meiosis, Chromosomes, gene structure, Mendelism, modes of inheritance

IX. NEUROANATOMY:

1. Classification of CNS
2. Brief account of Cerebrum
3. Brief account of Brian stem
4. Brief account of Cerebellum
5. Brief account of spinal cord – Cross section & blood supply of spinal cord
6. Brief account of Ventricles of brain
7. Blood supply of brain

for
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BDS 1st year
Syllabus

MALWANCHAL UNIVERSITY, INDORE (M.P.)

Syllabus for BDS 1st Year

Adapted from

[Part III- SEC.4]

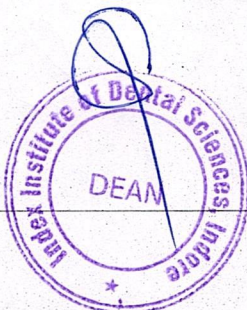
THE GAZETE OF INDIA: EXTRAORDINARY

Physiology

Chapter
1. General Physiology
2. Blood
3. Muscle & Nerve
4. Gastro Intestinal Track
5. Cardio Vascular System
6. Respiration System
7. Renal System
8. Skin and Body Temperature
9. Endocrine
10. Reproductive System
11. Central Nervous System
12. Special Senses

Biochemistry

Chapter
1. Cell structure and function, sub cellular organeiles, cell membranes, transport across the membranes
2. Chemistry, digestion, absorption and metabolism of Carbohydrates .
3. Chemistry, digestion, absorption and metabolism of lipids
4. Amino acids and protein chemistry, general reactions of amino acids, digestion and absorption, urea cycle and metabolism of amino acids.
5. Chemistry and metabolism of nucleic acids
6. Vitamins
7. Minerals
8. Enzymes
9. Nutrition and dieteties.



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MALWANCHAL UNIVERSITY, INDORE (M.P.)

REVISED Syllabus for

Subject: DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

Adapted from

BDS Course Regulations 2007 (Modified:25.07.2007)

by Dental council of India

Teaching Hours:

Lecture Hours	Practical Hours	Total Teaching Hours
105	250	355

INTRODUCTION

Dental Anatomy including Embryology and Oral Histology – a composite of basic Dental Sciences & their clinical applications.

SKILLS

The student should acquire basic skills in :

1. Carving of crowns of permanent teeth in wax.
2. Microscopic study of Oral tissues.
3. Identification of Deciduous & Permanent teeth.
4. Age estimation by patterns of teeth eruption from plaster casts of different age groups.

OBJECTIVES

After a course on Dental Anatomy including Embryology and Oral Histology,

1. The student is expected to appreciate the normal development, morphology, structure & functions of oral tissues & variations in different pathological / non-pathological states.
2. The student should understand the histological basis of various dental treatment procedures and physiologic ageing process in the dental tissues.
3. The students must know the basic knowledge of various research methodologies.

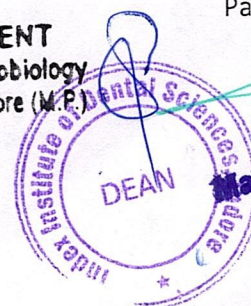
I. TOOTH MORPHOLOGY

1. Introduction to tooth morphology:

□ Human dentition, types of teeth, & functions, Palmer's & Binomial notation systems, tooth surfaces, their junctions - line angles & point angles, definition of terms used in dental morphology, geometric concepts in tooth morphology, contact areas & embrasures - Clinical significance.

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2. Morphology of permanent teeth :

- Description of individual teeth, along with their endodontic anatomy & including a note on their chronology of development, differences between similar class of teeth & identification of individual teeth.
- Variations & Anomalies commonly seen in individual teeth.

3. Morphology of Deciduous teeth :

- Generalized differences between Deciduous & Permanent teeth.
- Description of individual deciduous teeth, including their chronology of development, endodontic anatomy, differences between similar class of teeth & identification of individual teeth.

4. Occlusion :

- Definition, factors influencing occlusion - basal bone, arch, individual teeth, external & internal forces & sequence of eruption.
- Inclination of individual teeth - compensatory curves.
- Centric relation & Centric occlusion - protrusive, retrusive & lateral occlusion.
- Clinical significance of normal occlusion.
- Introduction to & Classification of Malocclusion.

5. Pulp Chambers and Canals

II. ORAL EMBRYOLOGY

1. Brief review of development of face, jaws, lip, palate & tongue, with applied aspects.

2. Development of teeth :


- Epithelial mesenchymal interaction, detailed study of different stages of development of crown, root & supporting tissues of tooth & detailed study of formation of calcified tissues.
- Applied aspects of disorders in development of teeth.

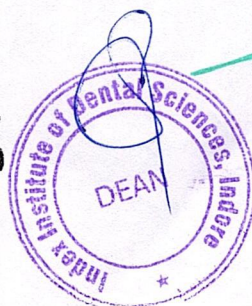
3. Eruption of deciduous & Permanent teeth :

- Mechanisms in tooth eruption, different theories & histology of eruption, formation of dentogingival junction, role of gubernacular cord in eruption of permanent teeth.
- Clinical or Applied aspects of disorders of eruption.

4. Shedding of teeth :

- Factors & mechanisms of shedding of deciduous teeth.
- Complications of shedding.


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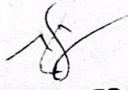

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III. ORAL HISTOLOGY

1. Detailed microscopic study of Enamel, Dentine, Cementum & Pulp tissue. Age changes & Applied aspects (Clinical and forensic significance) of histological considerations - Fluoride applications, transparent dentine, dentine hypersensitivity, reaction of pulp tissue to varying insults to exposed dentine ; Pulp calcifications & Hypercementosis.
2. Detailed microscopic study of Periodontal ligament & alveolar bone, age changes, histological changes in periodontal ligament & bone in normal & orthodontic tooth movement, applied aspects of alveolar bone resorption.
3. Detailed microscopic study of Oral Mucosa, variation in structure in relation to functional requirements, mechanisms of keratinization, clinical parts of gingiva, Dentogingival & Mucocutaneous junctions & lingual papillae. Age changes & clinical considerations.
4. Salivary Glands :
 - Detailed microscopic study of acini & ductal system.
 - Age changes & clinical considerations.
5. TM Joint :
 - Review of basic anatomical aspects & microscopic study & clinical considerations.
6. Maxillary Sinus :
 - Microscopic study, anatomical variations, functions & clinical relevance of maxillary sinus in dental practice.
7. Processing of Hard & soft tissues for microscopic study :
 - Ground sections, decalcified sections & routine staining procedures.
8. Basic histochemical staining patterns of oral tissues.

IV. ORAL PHYSIOLOGY

1. Saliva :
 - Composition of saliva - variations, formation of saliva & mechanisms of secretion, salivary reflexes, brief review of secretomotor pathway, functions, role of saliva in dental caries & applied aspects of hyper & hypo salivation.
2. Mastication :
 - Masticatory force & its measurement - need for mastication, peculiarities of masticatory muscles, masticatory cycle, masticatory reflexes & neural control of mastication.


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3. Deglutition :

Review of the steps in deglutition, swallowing in infants, neural control of deglutition & dysphagia, effect of GIT disturbances on oral tissues.

4. Calcium, Phosphorous & fluoride metabolism :

Source, requirements, absorption, distribution, functions & excretion, clinical considerations, hypo & hypercalcemia & hyper & hypo phosphatemia & fluorosis.

5. Theories of Mineralization :

Definition, mechanisms, theories & their drawbacks.

Applied aspects of physiology of mineralization, pathological considerations - calculus formation.

6. Physiology of Taste :

Innervation of taste buds & taste pathway, physiologic basis of taste sensation, age changes & applied aspects - taste disorders.

7. Physiology of Speech :

Review of basic anatomy of larynx & vocal cords.

Voice production, resonators, production of vowels & different consonants - Role of palate, teeth & tongue.

Effects of dental prosthesis & appliances on speech & basic speech disorders.

RECOMMENDED TEXT BOOKS

1. Orban's Oral Histology & Embryology - S.N.Bhaskar

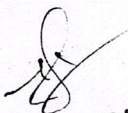
2. Oral Development & Histology - James & Avery

3. Wheeler's Dental Anatomy, Physiology & Occlusion - Major.M.Ash

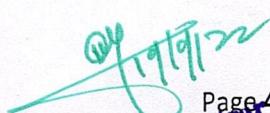
4. Dental Anatomy - its relevance to dentistry - Woelfel & Scheid

5. Applied Physiology of the mouth - Lavelle

6. Physiology & Biochemistry of the mouth - Jenkins


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Syllabus for BDS 2nd Year

Adapted from

[Part III- SEC.4]

THE GAZETE OF INDIA: EXTRAORDINARY

GENERAL PATHOLOGY

Total Teaching Hours: 110

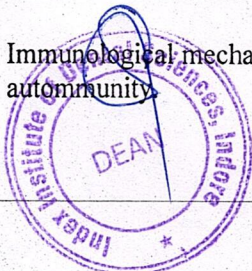
Lecture Hours: 55

Practical Hours: 55

SYLLABUS

1. GENERAL PATHOLOGY:

1. Introduction to Pathology: Terminologies, cell in health, normal cell structure, cellular functions.
2. Etiology and Pathogenesis of Disease: Cell Injury; Types – congenital, Acquired; Mainly acquired causes of disease ((Hypoxic injury, chemical injury, physical injury, immunological injury).
3. Degenerations: Amyloidosis, Fatty change, Cloudy swelling, Hyaline change, mucoid degeneration.
4. Cell death & Necrosis: Apoptosis, Definition, causes, features and types of necrosis, Gangrene (Dry, wet, gas), Pathological calcifications (Dystrophic and metastatic).
5. Inflammation: Definition, causes, types, and features; Acute inflammation - vascular response, cellular response, chemical mediators, inflammatory cells, fate; Chronic inflammation- Granulomatous inflammation.
6. Healing: Regeneration; Repair- Mechanisms, Healing by primary intention, Healing by secondary intention, Fracture healing, Factors influencing healing process, Complications.
7. Tuberculosis: Epidemiology, Pathogenesis (Formation of tubercle), Pathological features of Primary and secondary TB, Complications and Fate
8. Syphilis: Epidemiology, Types and stages of syphilis, Pathological features, Diagnostic criteria, Oral lesions.
9. Typhoid: Epidemiology, Pathogenesis, Pathological features, Diagnostic criteria.
10. Thrombosis: Definition, Pathophysiology, Formation, complications & fate of a thrombus.
11. Embolism: Definition, types, effects.
12. Ischaemia and Infarction: Definition, etiology, types, Infarction of various organs.
13. Arrangements of body fluids: Oedema – pathogenesis, different types.
14. Disorders of circulation: Hyperaemia, shock.
2. Nutritional disorders: Common vitamin deficiencies.
3. Immunological mechanisms in disease: Humoral & cellular immunity, hyps, autoimmunity.



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4. AIDS and Hepatitis.
1. Hypertension: Definition, classification, Pathophysiology, Effects in various organs.
2. Diabetes Mellitus: Definition, Classification, Pathogenesis, Pathology in different organs.
3. Adaptive disorders of growth: Atrophy & Hypertrophy, Hyperplasia, Metaplasia and Dysplasia.
4. General Aspects of neoplasia: Definition, terminology, classification, Differences between benign and malignant neoplasms, neoplastic cell, Metastasis, Etiology and pathogenesis of neoplasia, Carcinogenesis, Tumour biology, Oncogenes and anti-oncogenes, Diagnosis, Precancerous lesions, Common specific tumours, Sq papilloma & Ca, Basal cell Ca, Adenoma & Adenoca, Fibroma & Fibrosarcoma, Lipoma and liposarcoma.

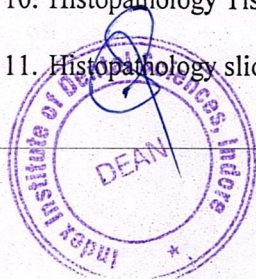
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2. SYSTEMIC PATHOLOGY:

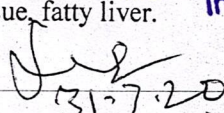
6. Anaemias: Iron deficiency anaemia, Megaloblastic anaemia.
7. Leukaemias: Acute and chronic leukaemias, diagnosis and clinical features.
8. Diseases of Lymph nodes: Hodgkin's disease, Non-Hodgkins lymphoma, Metastatic carcinoma.
9. Diseases of oral cavity: Lichen planus, Stomatitis, Leukoplakia, Sq cell Ca, Dental caries, Dentigerous cyst, Ameloblastoma.
10. Diseases of salivary glands: Normal structure, Sialadenitis, Tumours.
11. Common diseases of bones: Osteomyelitis, Metabolic bone diseases, Bone tumours, Osteosarcoma, Osteoclastoma, Giant cell tumour, Ewing's sarcoma, Fibrous dysplasia, Aneurysmal bone cyst.
12. Diseases of cardiovascular system: Cardiac failure, Congenital heart diseases (ASD, VSD, PDA), Fallot's Tetralogy, Infective endocarditis, Atherosclerosis, Ischaemic heart disease.
13. Haemorrhagic disorders: Coagulation cascade, Coagulation disorders, Platelet function, Platelet disorders.

3. PRACTICALS:

14. Urine: Abnormal constituents (sugar, albumin, ketone bodies).
15. Urine: Abnormal constituents (Blood, bile salts, bile pigments).
5. Hemoglobin (Hb) estimation.
6. Total WBC count.
7. Differential WBC Count.
8. Packed cell volume (PCV,) Erythrocyte Sedimentation Rate (ESR).
9. Bleeding time & clotting time.
10. Histopathology Tissue Processing Staining.
11. Histopathology slides: Acute appendicitis, Granulation tissue, fatty liver.




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12. Histopathology slides: CVC lung, CVC liver, Kidney amyloidosis.
1. Histopathology slides: Tuberculosis, Actinomycosis, Rhinosporidiosis.
2. Histopathology slides: Papilloma, Basal cell Ca, Sq cell Ca.
3. Histopathology slides: Osteosarcoma, osteoclastoma, fibrosarcoma.
4. Histopathology slides: Malignant melanoma, Ameloblastoma, Adenoma.
5. Histopathology slides: Mixed parotid tumour, metastatic carcinoma in lymph node.

Books Recommended:

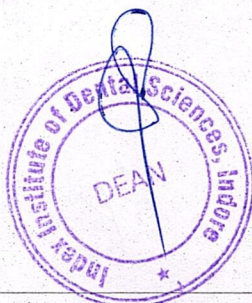
1. Robbins and Croton. Pathologic Basis of Disease. Latest ed.
2. Chesterman, Penington and Rush. Degruhy's Clinical Haematology in Medical Practice. Latest ed.
3. Linder, James and Ivan Damjanov. Anderson's Pathology. Latest ed.

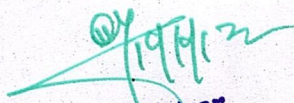
- See more at: <http://www.sgtuniversity.ac.in/faculty-of-dental-sciences/pages/general-pathology#sthash.feQgzOSb.dpuf>


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Syllabus for BDS 2nd Year

Adapted from

[Part III- SEC.4]

THE GAZETE OF INDIA: EXTRAORDINARY

MICROBIOLOGY

Total Teaching Hours: 115

Lecture Hours: 65

Practical Hours: 50

1. OBJECTIVES

At the end of the Microbiology course the student is expected to:

1. understand the basics of various branches of microbiology and able to apply the knowledge relevantly;
1. apply the knowledge gained in related medical subjects like General Medicine and General Surgery and Dental subjects like oral Pathology, Community Dentistry, Periodontics, Oral Surgery, Pedodontics, Conservative Dentistry and Oral Medicine in higher classes;
2. understand and practise various methods of sterilisation and disinfection in dental clinics;
3. have a sound understanding of various infectious diseases and lesions in the oral cavity.

II. SYLLABUS

1. GENERAL MICROBIOLOGY:

2. History, introduction, scope, aims and objectives.
3. Morphology and Physiology of bacteria.
4. Detail account of sterilization and disinfection.
5. Brief account of culture media and culture techniques.
6. Basic knowledge of selection, collection, transport, processing of clinical specimens and identification of bacteria.
7. Bacterial genetics and drug resistance in bacteria.

2. IMMUNOLOGY:

8. Infection - Definition, classification, source, mode of transmission and types of Infectious disease.
9. Immunity.
10. Structure and functions of Immune system.
11. Complement system.
12. Antigen.
 1. Immunoglobulins: Antibodies, General structure and the role played in defense mechanism of the body.
 2. Immune response.
 3. Antigen: Antibody reactions- with reference to clinical utility.



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**Professor and Head
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4. Immunodeficiency disorders: A brief knowledge of various types of immunodeficiency disorders, sound knowledge of immunodeficiency disorders relevant to dentistry.
5. Hypersensitivity reactions.
6. Autoimmune disorders: Basic knowledge of various types, sound knowledge of autoimmune disorders of oral cavity and related structures.
7. Immunology of transplantation and malignancy.
8. Immunehaematology.

3 SYSTEMIC BACTERIOLOGY:

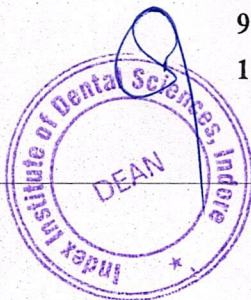
9. Pyogenic cocci: Staphylococcus, Streptococcus, Pneumococcus, Gonococcus; Meningococcus: Brief account of each coccus, detailed account of mode of spread, laboratory diagnosis, chemotherapy and prevention, detailed account of Cariogenic Streptococci.
10. Corynebacterium diphtheria: Mode of spread, important clinical feature, laboratory diagnosis, chemotherapy and active immunization.
11. Mycobacteria: Tuberculosis and Leprosy.
12. Clostridium: Gas gangrene, food poisoning and tetanus.
13. Non-sporing Anaerobes: Brief about classification and morphology, details about dental pathogens - mechanism of disease production and prevention.
14. Spirochaetes: Treponema pallidum, detailed account of oral lesions of syphilis, Borrelia vincentii.
15. Actinomycetes.

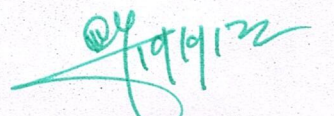
4 VIROLOGY:


- a. Introduction.
- b. General properties, cultivation, host-virus interaction with special reference to Interferon
- c. Brief account of laboratory diagnosis, chemotherapy and immunoprophylaxis in general.
- 5 A few viruses of relevance to dentistry (Herpes virus, Hepatitis B virus - brief about other types, Human immunodeficiency virus (HIV), Mumps virus, brief about Measles and Rubella virus).
- 6 Bacteriophage: Structure and significance.

7 MYCOLOGY

- 8 Brief introduction.
- 9 Candidosis (in detail).
- 10 Briefly on oral lesions of systemic mycoses.




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5 PARASITOLOGY:

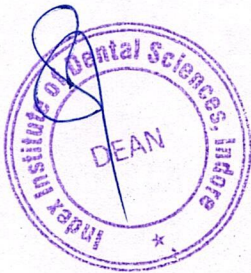
- a. Brief introduction: Protozoans and helminthes.
- b. Brief knowledge about the mode of transmission and prevention of commonly seen parasitic infection in the region.

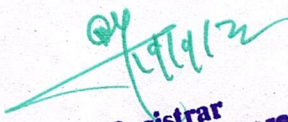
Books Recommended:

1. Ananthanarayan, R. and C.K. Jayaram Paniker. Text Book of Microbiology. Latest ed.
2. Greenwood , David et al. Medical Microbiology.

- See more at: <http://www.sgtuniversity.ac.in/faculty-of-dental-sciences/pages/general-microbiology#sthash.AjMwB0xo.dpuf>


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MALWANCHAL UNIVERSITY, INDORE (M.P.)
Syllabus for BDS 2nd Year

Adapted from

[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY

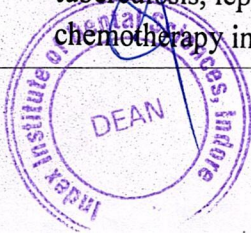
General and Dental Pharmacology & Therapeutics

Part A:

1. General principles of pharmacology: Sources and nature of drugs dosage forms; prescription writing; pharmacokinetics (absorption, distribution, metabolism and excretion of drugs), Pharmacodynamics, factors modifying drug response, adverse drug reactions; drug interactions, implications of general principles in clinical dentistry.
2. Drugs acting on Autonomic Nervous System: Sympathomimetics, antiadrenergic drugs, parasympathomimetics and parasympatholytics, implications of autonomic drugs in clinical dentistry.
3. Drugs Acting on Peripheral Nervous System: Local anaesthetic agents, skeletal relaxants, implications of these drugs in clinical dentistry.
4. **Autocoids and Respiratory System:** Histamine, antihistamines, prostaglandins, leukotrienes, NSAIDS, treatment of migraine and bronchial asthma, implication of autocoids in clinical dentistry.
5. Renal Pharmacology: Diuretics.
6. Drugs acting on Cardiovascular System: Cardiac stimulants; antihypertensive drugs, vasopressor agents, drugs used in the treatment of shock, antianginal agents and primary aid in M.I., implications of these drugs in clinical dentistry.
7. Drugs Acting on Blood and Blood-Forming Organs: coagulants and anticoagulants, hematinics, antiplatelets, thrombolytics, implications of these drugs in clinical dentistry.

Part B:

1. **Endocrine Pharmacology:** Emphasis on treatment of diabetes and glucocorticoids, thyroid and antithyroid drugs, drugs affecting calcium balance, anabolic steroids, implications of these drugs in clinical dentistry.
2. **Chemotherapy:** Antimicrobial agents (against bacteria, anaerobic infections, fungi, virus and broad spectrum), infection management in dentistry, pharmacotherapy of Malaria, tuberculosis, leprosy and chemotherapy of malignancy in general, implications of chemotherapy in clinical dentistry.



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Syllabus for BDS 2nd Year

Adapted from

[Part III- SEC.4]

THE GAZETE OF INDIA: EXTRAORDINARY

DENTAL MATERIALS

Total Teaching Hours: 320

Lecture Hours: 80

Practical Hours: 240

OBJECTIVES :

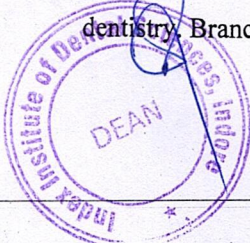
1. To understand the evolution and development of science of dental materials.
2. To explain purpose of course in dental materials to personnels concerned with the profession of the dentistry.
3. To acquire knowledge of physical and chemical properties.
4. To acquire knowledge of biomechanical requirements of particular restorative procedure.
5. An intelligent compromise of the conflicting as well as co-coordinating factors into the desired earnest.
6. Laying down standards or specifications of various materials to guide the manufacturers as well as to help professionals.
7. Search for newer and better materials which may answer our requirements with greater satisfaction.
8. To understand and evaluate the claims made by manufactures of dental Materials.

NEED FOR THE COURSE:

The profession has to rise from an art to a science, , the need for the dentist to possess adequate knowledge of materials to exercises his best through knowledge of properties of different types of materials. The growing concern of health hazards due to mercury toxicity, inhalation of certain vapour or dust materials, irritations and allergic reaction to skin due to contact of materials. Materials causing irritation of oral tissues, pH of restorative materials causing inflammation and necrosis of pulp which is a cause for the dentist to posses wider knowledge of physical, chemical and biological properties of materials being used. For the protection for the patient and his own protection certain criteria of selection are provided that will enable the dentist to discriminate between facts and propaganda, which will make a material biologically accept.

SCOPE:

The dental materials is employed in mechanical procedures including restorative dentistry such as Prosthodontics, endodontics, periodontal, orthodontics and restorative materials. There is scarcely a dental procedure that does not make use of dental materials in one form or another and therefore the application of dental material is not limited to any one branch of dentistry. Branches such as minor surgery and periodontics require less use of materials but



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the physical and chemical characters of materials are important in these fields. The toxic and tissue reaction of dental materials and their durability in the oral cavity where the temperature is between 32 & 37 degree centigrade, and the ingestion of hot or cold food ranges from 0-70 degree centigrade. The acid an alkalinity of fluids shown pH varies from 4 to 8.5. The load on 1 sq. mm of tooth or restorative materials can reach to a level as high as many kilograms. Thus the biological properties of dental materials cannot be separated from their physical and chemical properties.

SYLLABUS:**1. Structure of Matter and Principles of Adhesion:**

Change of state, inter -atomic primary bonds, inter-atomic secondary bonds, inter- atomic bond distance and bonding energy, thermal energy, crystalline structure, non-crystalline structures, diffusion, adhesion and bonding and adhesion to tooth structures.

2. Important Physical Properties Applicable to Dental Materials:

Physical properties are based on laws of mechanics, acoustics, optics, thermodynamics, electricity, magnetism, radiation, atomic structure or nuclear phenomena. Hue, value, chroma and translucency, physical properties based on laws of optics, dealing with phenomena of light, vision and sight. Thermal conductivity & coefficient of thermal expansion are physical properties based on laws of thermodynamics. Stress, strain, proportional limit, elastic limit, yield strength, modulus of elasticity, flexibility, resilience, impact, impact strength, permanent deformation, strength, flexure strength fatigue, static fatigue, toughness, brittleness, ductility & malleability, hardness, abrasion resistance, relaxation, rheology, thixotropic, creep, static creep, dynamic creep, flow, colour, three dimensional colour- hue, values, chroma, Munsell system, metamersim, fluorescence, physical properties of tooth, stress during mastication.

3. Biological Considerations in Use of Dental Materials:

Materials used are with the knowledge of appreciation of certain biological considerations for use in oral cavity. Requirement of materials with biological compatibility. Classification of materials from the perspective of biological compatibility e.g. contact with soft tissues, affecting vitality of pulp, used for root canal fillings, affecting hard tissues of teeth, laboratory materials that could be accidentally inhaled or ingested during handling. Hazards associated with materials: pH-affecting pulp, polymers causing chemical irritation, mercury toxicity, etc. Microleakage, thermal changes, galvanism, toxic effect of materials. Biological evaluation for systemic toxicity, skin irritation, mutagenicity and carcinogenicity. Disinfection of dental materials for infection control.



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4. Gypsum & Gypsum Products:

Gypsum: Its origin, chemical formula, products manufactured from gypsum. Dental plaster, Dental stone, Die stone, high strength, high expansion stone. Application and manufacturing procedure of each, macroscopic and microscopic structure of each. Supplied as and commercial names. Chemistry of setting, setting reaction, theories of setting, gauging water, microscopic structure of set material. Setting time: working time and setting time, measurement of setting time and factors controlling setting time. Setting expansion, Hygroscopic setting expansion – factors affecting each. Strength : wet strength, dry strength, factors affecting strength, tensile strength. Slurry – need and use. Care of cast. ADA classification of gypsum products. Description of impression plaster and dental investment. Manipulation including recent methods or advanced methods. Disinfection : infection control, liquids, sprays, radiation. Method of use of disinfectants. Storage of material – shelf life.

5. Impression materials used in Dentistry:

Impression plaster, Impression compound, Zinc oxide eugenol impression paste & bite registration paste including non-eugenol paste, Hydrocolloids, reversible and irreversible, Elastomeric impression materials. Polysulphide, condensation silicones, addition silicones, Polyether, Visible light cure polyether urethane dimethacrylate, Historical background & development of each impression material, Definition of impression, Purpose of making impression, Ideal properties required and application of material, Classification as per ADA specification, general & individual impression material. Application and their uses in different disciplines, Marketed as and their commercial names, Mode of supply & mode of application, bulk/wash impression. Composition, chemistry of setting, Control of setting time, Type of impression trays required, Adhesion to tray, manipulation, instruments & equipments required. Techniques of impression, storage of impression (Compatibility with cast and die material). Any recent advancements in material and mixing devices. Study of properties: Working time, setting time, flow, accuracy, strength, flexibility, tear strength, dimensional stability, compatibility with cast & die materials including electroplating. Biological properties: tissue reaction, Shelf life & storage of material. Infection control – disinfection, advantages & disadvantages of each material.

6. Synthetic Resins Used in Dentistry:

Historical background and development of material, Denture base materials and their classification and requirement. Classification of resins: Dental resins – requirements of dental resins, applications, polymerisation, polymerisation mechanism stages in addition to polymerization, inhibition of polymerization, co-polymerization, molecular weight, crosslinking, plastixizers, Physical properties of polymers, polymer structures, types of resins.



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Acrylic resins: Mode of polymerization- Heat activated, Chemically activated, Light activated. Mode of supply, application, composition, polymerisation reaction of each.

Technical considerations: Methods of manipulation for each type of resin. Physical properties of denture base resin. Miscellaneous resins & techniques: Repair resins, Relining and rebasing. Short term and long term soft-liners, temporary crown and bridge resins, Resin impression trays, Tray materials, Resin teeth, materials in maxillofacial prosthesis, Denture cleansers, Infection control in detail, Biological properties and allergic reactions. Restorative resins: Historical background, Resin-based restorative materials, Unfilled & filled, composite restorative materials, Mode of supply, composition. Polymerization mechanisms: Chemically activated, light activated. Dual cure: Degree of conversion, Polymerization shrinkage. Classification of composites: Application, composition and properties of each, composites of posterior teeth, Prosthodontics resins for veneering. Biocompatibility- microleakage, pulpal reaction, pulpal protection. Manipulation of composites: Techniques of insertion of chemically activated, light activated, dual cure polymerization, Finishing and polishing of restoration, Repair of composites. Direct bonding Bonding: Need for bonding, Acid-etch technique, Enamel bonding, Dentin bonding agents. Mode of bonding, bond strength, sandwich technique- its indication and procedure. Extended application for composites: Resins for restoring eroded teeth, Pit and fissure sealing, Resin inlays system – Indirect & direct, Core build up, Orthodontic applications.

7. Metal and Alloys:

Structure and behaviour of metals, Solidification of metals, mechanism of crystallization amorphous & crystalline. Classification of alloys, solid solutions, constitutes or equilibrium phase diagrams: Electric alloys, physical properties, peritectic alloys, solid state reaction other binary systems: Metallography & heat treatment. Tarnish and corrosion. Definition: causes of corrosion, protection against corrosion, Corrosion of dental restorations, clinical significance of galvanic current. Dental amalgam.

History: Definition of dental amalgam, application, alloy classification, manufacture of alloy powder composition - available as. Amalgamation : setting reaction & resulting structure , properties , Microleakage, dimensional stability, strength, creep, clinical performance. Manipulation: Selection of alloy, proportioning, mechanism of trituration, condensation, carving & finishing. Effect of dimensional changes, marginal deterioration, Repair of amalgam, mercury toxicity, mercury hygiene. Direct filling gold: Properties of pure gold, mode of adhesion of gold for restoration forms of direct filling gold for using as restorative material. Classification: Gold foil, Electrolytic precipitate, powdered gold. Manipulation Removal of surface impurities and compaction of direct filling gold. Physical properties of compacted gold, clinical performance.



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BDS 2nd year

Syllabus

Dental Casting Alloys: Historical background, desirable properties of casting alloys. Alternatives to cast metal technology: direct filling gold, amalgam, mercury free condensable intermetallic compound - an alternative to metal casting process. CAD-CAM process for metal & ceramic inlays - without need of impression of teeth or casting procedure, pure titanium, most biocompatible metal which are difficult to cast can be made into crowns with the aid of CAD-CAM technology. Another method of making copings - by copy milling (without casting procedures). Classification of casting alloys: By function & description. Recent classification, High noble (HN), Noble (N) and predominantly base metal (PB).

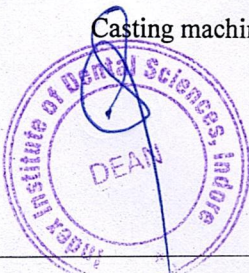
Alloys for crown & bridge, metal ceramic & removable partial denture. Composition, function, constituents and application of each alloy, both noble and base metal. Properties of alloys: Melting range, mechanical properties, hardness, elongation, modulus of elasticity, tarnish and corrosion. Casting shrinkage and compensation of casting shrinkage. Biocompatibility- Handling hazards & precautions of base metal alloys, casting investments used. Heat treatment: Softening & hardening heat treatment. Recycling of metals. Titanium alloys & their application, properties & advantages. Technical considerations In casting. Heat source, furnaces.

8. Dental Waxes including Inlay Casting Wax:

Introduction and importance of waxes. Sources of natural waxes and their chemical nature. Classification of waxes. Properties: melting range, thermal expansion, mechanical properties, flow & residual stresses, ductility. Dental Wax: Inlay wax: Mode of supply : Classification & composition, Ideal requirements: Properties of inlay wax: Flow, thermal properties. Wax distortion & its causes. Manipulation of inlay wax, Instruments & equipment required including electrically heated instruments, metal tips and thermostatically controlled Wax baths. Other waxes: Applications, mode of supply & properties. Casting wax, Base plate wax, Processing wax, Boxing wax, Utility wax, Sticky wax, Impression wax for corrective impressions, Bite registration wax.

9. Dental Casting Investments:

Definition, requirements, classification, Gypsum bonded - classification. Phosphate bonded, Silica bonded. Mode of Supply: Composition, application, setting mechanism, setting time & factors controlling. Expansions: Setting expansion, Hygroscopic setting expansion & thermal expansion: factors affecting. Properties: Strength, porosity, and fineness & storage. Technical considerations for casting procedure, Preparation of die, Wax pattern, spruing, investing, control of shrinkage compensation, wax burnout, and heating the invested ring, casting. Casting machines, source of heat for melting the alloy. Defects in casting.



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10. Brazing, soldering and Welding

Need of joining dental appliances, terms & definition. Solders: Definition, ideal requirement, types of solders – Soft & hard and their fusion temperature, application. Mode of supply of solders, composition and selection, Properties. Tarnish & corrosion resistance, mechanical properties, microstructure of soldered joint. Fluxes & Anti fluxes: Definition, function, types, commonly used fluxes & their selection. Technique of Soldering & Brazing: free hand soldering and investment, steps and procedure. Welding,: Definition, application, requirements, procedure, weld decay - causes and how to avoid it. Laser welding.

Wrought Base Metal Alloys: Applications and different alloys used mainly for orthodontics purpose (Stainless steel, Cobalt chromium nickel, Nickel titanium & Beta titanium).

Properties required for orthodontic wires, working range, springiness, stiffness, resilience, Formability, ductility, ease of joining, corrosion resistance, stability in oral environment, biocompatibility. Stainless steels: Description, type, composition & properties of each type. Sensitization & stabilization, Mechanical properties – strength, tensile, yield strength, KHN. Braided & twisted wires their need, Solders for stainless steel, Fluxes, Welding

1. Wrought cobalt chromium nickel alloys, composition, allocation, properties, heat treatment, physical properties.
2. Nickel – Titanium alloys, shape, memory & super elastic.
3. Titanium alloys, application, composition, properties, welding, Corrosion resistance.

11. Dental Cements:

Definition & Ideal requirements: Cements: Silicate, Glass ionomer, metal modified glass ionomer, resin modified glass ionomer, zinc oxide eugenol, modified zinc oxide eugenol, zinc phosphate, zinc silico phosphate, zinc poly carboxylate, Cavity liners and cement bases, Varnishes Calcium hydroxide, Gutta percha

Application, classification (general and individual), setting mechanism, mode of supply, Properties, factors affecting setting, special emphasis on critical procedures of manipulation and protection of cement, mode of adhesion, biomechanism of caries inhibition.

Agents for pulpal protection., Modifications and recent advances, Principles of cementation. Special emphasis on cavity liners and cement bases and luting agents.

12. Dental Ceramics:

Historical background & General applications. Dental ceramics : definition, classification, application, mode of supply, manufacturing procedure, methods of strengthening. Properties of fused ceramic: Strength and factors affecting, modulus of elasticity, surface hardness, wear resistance, thermal properties, specific gravity, chemical stability, esthetic properties, biocompatibility, technical considerations.

Metal Ceramics (PFM): Alloys - Types and composition of alloys. Ceramic - Type and Composition. Metal Ceramic Bond- Nature of bond. Bonding using electro deposition, foil copings, bonded platinum foil, swaged gold alloy foil coping.



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Technical considerations for porcelain and porcelain fused metal restorations. Recent advances - all porcelain restorations, Manganese core, injection moulded, castable ceramics, glass infiltrated alumina core ceramic (In ceram), ceramic veneers, inlays and onlays, and CAD - CAM ceramic. Chemical attack of ceramic by fluoride. Porcelain furnaces.

13. Abrasion & Polishing Agents:

Definition of abrasion and polishing. Need of abrasion and polishing. Types of abrasives: Finishing, polishing & cleaning. Types of abrasives: Diamond, Emery, aluminium oxides garnet, pumice, Kieselgurh, tripoli, rouge, tin oxide, chalk, chromic oxide, sand, carbides, diamond, zirconium silicate Zinc oxide Abrasive Action : Desirable characteristics of an abrasive, Rate of abrasion, Size of particle, pressure and speed. Grading of abrasive & polishing agents. Binder, Polishing materials & procedures used. Technical consideration - Material and procedure used for abrasion and polishin Electrolytic polishing and burnishing.

14. Die And Counter Die Materials Including Electroforming & Electropolishing.

Types- Gypsum products, Electroforming, Epoxy resin, Amalgam.

15. Dental Implants : Evolution of dental implants, types and materials.

16. Mechanics of Cutting :

Burs and points. At the end of the course the student should have the knowledge about the composition, properties, manipulative techniques and their various commercial names. The student should also acquire skills to select and use the materials appropriately for laboratory and clinical use.

17. Recent advances in Composites

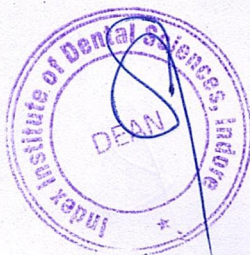
Flowable composites, Packable composites, Ceromers, Anti bacterial composites, Compomers, Giomers, Ormocers, Smart composites, Fiber Reinforced composites, Indirect ceromers.

18. Biomimetic Materials

MTA, Biodentin, GIC, Composite.

Recommended Books:

1. Anusavice , Kenneth J. Philips' Science of Dental Materials. 10th ed.
 2. Craig , Robert G. Restorative Dental Materials. 10 ed.
 3. Combe, E.C. Notes on Dental Materials.
- See more at: <http://www.sgtuniversity.ac.in/faculty-of-dental-sciences/pages/dental-materials-second-year#sthash.4Zakgt24.dpuf>



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MALWANCHAL UNIVERSITY, INDORE (M.P.)

Syllabus for BDS 2nd Year

Adapted from

[Part III- SEC.4]

THE GAZETE OF INDIA: EXTRAORDINARY

PRECLINICAL PROSTHODONTICS AND CROWN AND BRIDGE (PRACTICALS)

Practical Hours: 300

1. INTRODUCTION :

The department of Prosthodontics is imparting teaching and training to its undergraduate students for preclinical Prosthodontic exercises. It helps them to master the laboratory techniques related to Prosthodontic treatments. The trained dental graduates should have desired competencies in dentistry in general and Prosthodontics as a speciality.

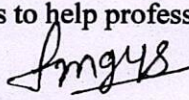
Training programme in Prosthodontics includes: Fabrication Of Complete Denture Prosthesis Using Edentulous Models (Cast), fabrication of removable partial denture, fixed partial denture and special prostheses.

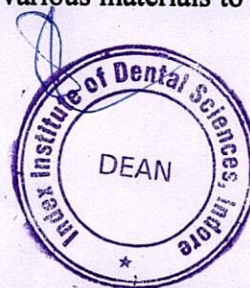
2. CORE VALUE :

To prepare the health care professionals who is confident, competent, concerned & companionate towards the health related care in general and dental in particular.

3. GOALS :

- To provide training in the subject to Undergraduate.
- To help them to master the laboratory techniques related to different field in the subject of prosthodontics.
- To guide them for communication with the laboratory technician and to write laboratory prescription for effective and perfect results.
- To help render quality treatment to patients visiting the Department by working efficiently in the laboratory.
- To provide manpower and technical expertise for outreach and extension activities as per the requirement of Department of Community Dentistry
- Laying down standards or specifications of various materials to guide the manufacturers as well as to help professionals.


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- Search for newer and better techniques which may answer our requirements with greater satisfaction. • To understand and evaluate the claims made by manufactures of dental materials
- To achieve excellence in academics and providing the State-of-Art services to the community.

4. CORE COMPETENCIES :

As per the Vision & Mission of the institute to prepare health care professional who is competent enough to serve as a dental surgeon, should be able to teach, be able to work as researcher, and also as a community oriented worker.

5. PROGRAMME OBJECTIVES

A. Knowledge & understanding :

- The graduate should acquire the adequate knowledge of sound principles of various laboratory exercises related to removable and fixed partial denture prosthodontics.
- Also should understand various dental materials in terms of its properties and manipulation.
- Should be able to guide the technician in his work.

B. Skills :

A graduate should able to demonstrate the following skills necessary for preclinical prosthodontics.

- Able to perform the laboratory exercises efficiently.
- Able to manipulate the materials efficiently.
- Able to select appropriate materials required.

C. Attitude :

A graduate should develop during the training period the following attitude,

- Willing to apply the acquired knowledge in the best interests of the patients and community.
- Maintain a high standards professional ethics and conduct and apply these in all aspect of professional life.
- Should participate in CDE programme to updates the knowledge and professional skill from time to time.

6. COURSE CONTENT -

Learning Objectives of the course:

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After the completion of syllabus the learner should be able to :

- Perform the laboratory exercises related to different field in the subject of prosthodontics.
 - Communicate with the laboratory technician and guide him for effective and accurate results.
 - To render quality treatment to patients by working efficiently in the laboratory.
 - Take part as a technical expertise for outreach and extension activities for Community services.
 - Search for newer and better techniques which may answer our requirements with greater satisfaction.(Research orientation)
 - To achieve excellence in academics and providing the State-of-Art services to the community
- The following topics will be taught to achieve the above objectives,

• **PRACTICAL –**

A) Fabrication Of Complete Denture Prosthesis Using Edentulous Models (Cast)

1. Introduction, Aims, Objectives And Scope
2. Masticatory Apparatus, Applied Anatomy Of Its Component
3. Anatomical Landmarks And Physiological Considerations Of The Edentulous Maxillary And Mandibular Arches.
4. Preliminary Impression, (Demonstration Only) And Cast Preparation
5. Construction Of Special Trays In Shellac And Self Cured Acrylic Resin
6. Final Impression And Master Cast Preparation By Box In Technique(Only Demonstration
7. Preparation Of Record Bases.
 - a) Temporary denture bases (Shellac/ Self-cured acrylic resin)
 - b) Occlusion Rims of standard dimensions
8. Brief Introduction And Demonstration Of Jaw Relation Records
9. Transfer Of Jaw Relation Record On Articulator
10. Brief Information About The Selection Of Teeth
11. Arrangement Of Teeth anteriors and posteriors
12. Reproducing Gingival Tissue Morphology (Waxing And Carving)
13. Laboratory Procedures –
 - I. Flasking - Various techniques in brief
 - II. Wax elimination to obtain mould (Dewaxing)
 - III. Preparation of mould for packing with Heat Cured resin.
 - IV. Acrylization - Brief introduction about curing cycles
 - V. Deflasking - Denture recovery from flask along with casts
 - VI. Laboratory Remount and Selective grinding procedure
 - VII. Face bow preservation Record (Demonstration only)
 - VIII. Finishing and Polishing of Dentures
 - i.) Making Remount cast for Clinical Remount procedure (Demonstration)

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14. Teeth Arrangement In Prognathic and Retrognathic Ridge Relations (Only Up To Waxing & Carving Stage)

15. Arrangement Of Teeth Using Non Anatomic Posteriors & Dentogenic Arrangement

16. Repair To A Broken Complete Denture

B) Removable Partial Dentures

1. Brief introduction to partial Dentures

2. Comparison between Removable and Fixed partial dentures

3. Classification (introduction) and Rules governing the classification

4. Making One tooth (Anterior) partial denture (in acrylic resin).

5. Making Removable partial denture with 'C' clasp replacing Posteriors

6. Surveying procedure (Demonstration only)

7. Brief introduction of various components of partial Denture

8. Designing partial denture framework on partially edentulous cast (Drawing on Diagnostic cast and writing laboratory prescription)

9. Brief introduction to various laboratory steps in fabrication of cast partial denture framework by using audio - visual aids and model

C) Fixed Partial Denture Prosthesis:

1. Brief introduction to Crown and Bridge prosthesis

2. Principles of tooth reduction (Preparing abutment) –

a) Full crown for anterior and posterior teeth

b) Partial veneer crown for anterior and posterior teeth (demonstration only)

c) Dowel crown/Post and Core crown (Demonstration only)

3. Casting procedure to fabricate 3 unit Bridge (Demonstration only) with special consideration to making of Dies and working models)

4. Brief introduction of pontic designs

D) Special Prosthesis: (20 Hrs.)

1. Making of Cap splints & Gunning splint (only Demonstrations.)

2. Fabrication of Obturators (only demonstration)

3. Introduction (with models/charts/photographs) of various Maxillofacial prosthesis & Dental Implant.

MALWANCHAL UNIVERSITY, INDORE (M.P.)

Syllabus for BDS 2nd Year

Adapted from

[Part III- SEC.4]

THE GAZETTE OF INDIA: EXTRAORDINARY

PRECLINICAL CONSERVATIVE DENTISTRY

Lecture – 25 hrs.

Practical – 200 hrs.

Total 225 Hrs

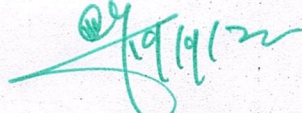
SYLLABUS:-

1. Identification and study of hand cutting instruments- chisels, gingival margin trimmers, excavators and hatchet.
2. Identification and use of rotary cutting instruments in contra angle, hand pieces, burs (Micromotor).
3. Exercises to improve the dexterity: i) Preparation of plaster models of teeth ii) Finishing and polishing of plaster models iii) Marking of cavity as per Black's classification on these plaster models for Dental Amalgam fillings. iv) Preparation of cavities for Amalgam fillings on plaster model v) Restoration of the prepared cavities with modelling wax.
4. Preparation: class I and extended class I and class II and MOD's and class V amounting to 10 exercises in plaster models.
5. Exercises in mounted extracted teeth including cavity preparation base application matrix and wedge placement restoration with amalgam.:

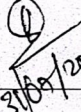
Class	1	4
Class	1 with extension	2
Class	2	4
Class	5	2

5. Exercises on phantom head models which includes cavity preparation base and varnish application matrix and wedge placement followed by amalgam restoration.

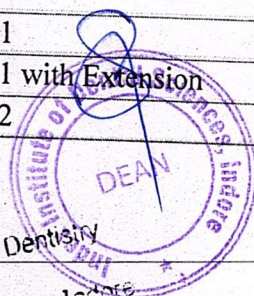
Class	1	5
Class	1 with Extension	2
Class	2	10


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Class	2 MOD	2
Class	5 and 3 for glass ionomers	4
Class	5 for amalgam	2

6. Polishing of the above restorations.
7. Demonstration of Class III and Class V cavity preparation for composites on extracted tooth completing the restoration.
8. Polishing and finishing of the restoration of composites.
9. Identification and manipulation of varnish and bases like Zinc Phosphate, Polycarboxylate, Glass Ionomers, Zinc Oxide Eugenol cements.
10. Identification and manipulation of various matrices, tooth separators and materials like composites and modified glassionomer cements.
11. Cast Restoration:
 1. Preparation of Class II inlay cavity.
 2. Fabrication of wax pattern
 3. Sprue for inner attachment investing
 4. Investing of wax pattern
 5. Finishing and cementing of class II inlay in extracted tooth.
12. Endodontics:
 1. Identification of basic endodontic instruments.
 2. Coronal access cavity preparation on extracted. Upper central incisors.
 3. Determination of working length.
 4. Biomechanical preparation of root canal space of central incisor.
 5. Obturation of root canal spaces.
 6. Closure of access cavity.

Recommended books:

1. Sturdevant. Art & science of operative dentistry.
2. Charbaneu. Operative Dentistry.
3. Sikri, Vimal. Textbook of Operative Dentistry
4. Gopi Krishna. Atlas of Pre-Clinical Conservative.

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BDS 3rd year
Syllabus

MALWANCHAL UNIVERSITY, INDORE (M.P.)

Syllabus for BDS 3rd Year

Adapted from

[Part III- SEC.4]

THE GAZETE OF INDIA: EXTRAORDINARY

GENERAL MEDICINE

Teaching Hours: 150

Theory Hours: 60

Clinical Hours: 90

GUIDELINES:

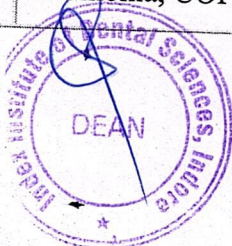
Special emphasis should be given throughout on the importance of various diseases as applicable to dentistry.

1. Special precautions/contraindication of anaesthesia and various dental procedures in different systemic diseases.
2. Oral manifestations of systemic diseases.
3. Medical emergencies in dental practice.

A dental student should be taught in such a manner that he/she is able to record the arterial pulse, blood pressure and be capable of suspecting by sight and superficial examination of the body-diseases of the heart, lungs, kidneys, blood etc. He should be capable of handling medical emergencies encountered in dental practice.

THEORY SYLLABUS:-

S. No.	Core Topics Must Know	Collateral Topics Desirable to Know
1	Aims of medicine, Definitions of signs, symptoms, diagnosis, differential diagnosis.	
2	<u>Infections:</u> Enteric fever, AIDS, herpes simplex, herpes zoster, syphilis diphtheria.	Infectious mononucleosis, mumps, measles, rubella, malaria.
3	<u>G.I.T. :</u> Stomatitis, gingival hyperplasia, dysphagia, acid peptic disease, jaundice, acute and chronic hepatitis, cirrhosis of liver ascites.	Diarrhea, Dysentery Amoebiasis, Malabsorption
4	<u>CVS:</u> Acute rheumatic fever rheumatic valvular heart disease, hypertension, ischemic heart disease, infective endocarditis, common arrhythmias, congenital heart disease, congestive cardiac failure.	
5	<u>Respiratory System:</u> Pneumonia, COPD, Pulmonary TB, Bronchial asthma.	Lung Abscess Pleural effusion Pneumothorax Bronchiectasis Lung cancers.



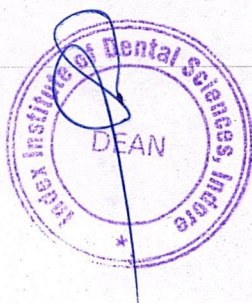
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Sudhir Mohanty
M.D. (Medicine)
Professor
No. HP-4440

6	Haematology: Anemias, bleeding & clotting disorders, leukemias, lymphomas, agranulocytosis, splenomegaly, oral manifestations of hematologic disorders, generalized Lymphadenopathy.	
7	Renal System: Acute nephritis Nephrotic syndrome	Renal failure
8	Nutrition: Avitaminosis	Balanced diet ,PEM, Avitaminosis
9	CNS: Facial palsy, facial pain including trigeminal neuralgia, epilepsy, headache including migraine.	Meningitis, Examination of comatose patient, Examination of cranial nerves.
10	Endocrines: Diabetes Mellitus Acromegaly, Hypothyroidism, Thyrotoxicosis, Calcium metabolism and parathyroids.	Addison's disease,Cushing's syndrome.
11	Critical care: Syncope, cardiac arrest, CPR, shock.	Ac LVF ARDS

CLINICAL TRAINING:

The student must be able to take history, do general physical examination (including build, nourishment, pulse, BP, respiration, clubbing, cyanosis, jaundice, lymphadenopathy, oral cavity) and be able to examine CVS, RS and abdomen and facial nerve.



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Syllabus for BDS 3rd Year - GENERAL SURGERY

Adapted from

[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY

GENERAL SURGERY

Teaching Hours: 150 Theory Hours: 60 Practical Hours: 90

1. HISTORY OF SURGERY:

The development of surgery as a speciality over the years, will give the students an opportunity to know the contributions made by various scientists, teachers and investigators. It will also enable the student to understand the relations of various specialities in the practice of modern surgery.

2. GENERAL PRINCIPLES OF SURGERY:

Introduction to various aspects of surgical principles as related to orodental diseases. Classification of diseases in general. This will help the student to understand the various diseases, their relevance to routine dental practice.

3. WOUNDS:

Their classification, wound healing, repair, treatment of wounds, medico-legal aspects of accidental wounds and complications of wounds.

4. INFLAMMATION:

Of soft and hard tissues. Causes of inflammation, varieties, treatment and sequelae.

5. INFECTIONS:

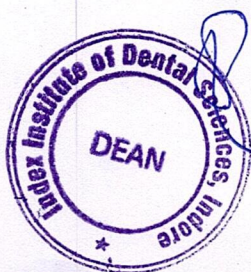
Acute and chronic abscess skin infections, cellulitis, carbuncle, and erysepelas. Specific infections such as tetanus, gangrene, syphilis, gonorrhoea, tuberculosis, Actinomycosis, Vincents angina, cancrum oris. Pyaemia, toxæmia and septicaemia.

6. TRNSMISSABLE VIRAL INFECTIONS:

HIV and Hepatitis B with special reference to their prevention and precautions to be taken in treating patients in a carrier state.

7. SHOCK AND HAEMORRHAGE:

Classification, causes, clinical features and management of various types of shock. Syncope, Circulatory collapse.



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Haemorrhage – different types, causes, clinical features and management. Blood groups, blood transfusion, precautions and complications of blood and their products.

Hemophilias, their transmission, clinical features and management especially in relation to minor dental procedures.

8. TUMOURS, ULCERS, CYSTS, SINUS AND FISTULAE:

Classification, clinical examination and treatment principles in various types of benign and malignant tumours, ulcers, cysts, sinus and fistulae.

9. DISEASES OF LYMPHATIC SYSTEM:

Especially those occurring in head and neck region. Special emphasis on identifying diseases such as tubercular infection, lymphomas, leukaemias, metastatic lymph node diseases.

10. DISEASES OF THE ORAL CAVITY:

Infective and malignant diseases of the oral cavity and oropharynx including salivary glands with special emphasis on preventive aspects of premalignant and malignant diseases of the oral cavity.

11. DISEASES OF LARYNX, NASOPHARYNX:

Infections and tumours affecting these sites. Indications, procedure and complications of tracheostomy.

12. NERVOUS SYSTEM:

Surgical problems associated with nervous system with special reference to the principles of peripheral nerve injuries, their regeneration and principles of treatment. Detailed description of affections of facial nerve and its management. Trigeminal neuralgia, its presentation and treatment.

13. FRACTURES:

General principles of fractures, clinical presentation and treatment with additional reference to newer methods of fracture treatment. Special emphasis on fracture healing and rehabilitation.

14. PRINCIPLES OF OPERATIVE SURGERY:

Principles as applicable to minor surgical procedures including detailed description of asepsis, antiseptics, sterilisation, principles of anaesthesia and principles of tissue replacement. Knowledge of sutures, drains, diathermy, cryosurgery and use of Laser in surgery.

15. ANOMOLIES OF DEVELOPMENT OF FACE:

Surgical anatomy and development of face. Cleft lip and cleft palate—principles of management.

16. DISEASES OF THYROID AND PARATHYROID:



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Surgical anatomy, pathogenesis, clinical features and management of dysfunction of thyroid and parathyroid glands. Malignant diseases of the thyroid—classification, clinical features and management.

17. SWELLINGS OF THE JAW:

Differential diagnosis and management of different types of swellings of the jaw.

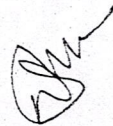
18. BIOPSY:

Different types of biopsies routinely used in surgical practice.

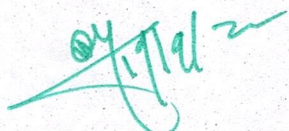
Skills to be developed by the end of teaching is to examine a routine swelling, ulcer and other related diseases and to perform minor surgical procedures such as draining an abscess, taking a biopsy etc.

PRESCRIBED BOOK:

Baily & Love's Short practice of Surgery



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MALWANCHAL UNIVERSITY, INDORE (M.P.)
REVISED Syllabus for
Subject: ORAL PATHOLOGY & ORAL MICRIBIOLOGY

Adapted from
BDS Course Regulations 2007 (Modified: 25.07.2007)
By Dental Council of India

Teaching Hours:

Lecture Hours	Practical Hours	Total Teaching Hours
145	130	275

OBJECTIVES:

At the end of Oral Pathology & Oral Microbiology course, the student should be able to comprehend -

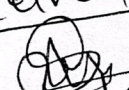
1. The different types of pathological processes, that involve the oral cavity.
2. The manifestations of common diseases, their diagnosis & correlation with clinical pathological processes.
3. An understanding of the oral manifestations of systemic diseases should help in correlating with the systemic physical signs & laboratory findings.
4. The student should understand the underlying biological principles governing treatment of oral diseases.
5. The principles of certain basic aspects of Forensic Odontology.


SKILLS:

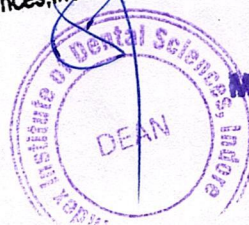
- i) Microscopic study of common lesions affecting oral tissues through microscopic slides & projection slides.
- ii) Study of the disease process by surgical specimens.
- iii) Study of teeth anomalies/polymorphisms through tooth specimens & plaster casts.
- iv) Microscopic study of plaque pathogens.
- v) Study of haematological preparations (blood films) of anaemias & leukemias.
- vi) Basic exercises in Forensic Odontology such as histological methods of age estimation and appearance of teeth in injuries.

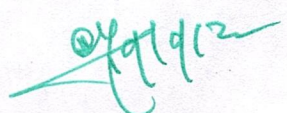
1. Introduction:

- A bird's eye view of the different pathological processes involving the oral cavity & oral cavity involvement in systemic diseases to be brought out. Interrelationship between General Medicine & General Surgery & Oral pathology to be emphasized.

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2. Developmental disturbances of teeth, jaws and soft tissues of oral & paraoral region :

□ Introduction to developmental disturbances - Hereditary, Familial mutation, Hormonal etc. causes to be highlighted.

□ Developmental disturbances of teeth - Etiopathogenesis, clinical features, radiological features & histopathological features as appropriate :-

The size, shape, number, structure & eruption of teeth & clinical significance of the anomalies to be emphasized.

□ Forensic Odontology.

□ Developmental disturbances of jaws - size & shape of the jaws.

□ Developmental disturbances of oral & paraoral soft tissues - lip & palate - clefts, tongue, gingiva, mouth, salivary glands & face.

3. Dental Caries :

□ Etiopathogenesis, microbiology, clinical features, diagnosis, histopathology, immunology, prevention of dental caries & its sequelae.

4. Pulp & Periapical Pathology & Osteomyelitis.

□ Etiopathogenesis & interrelationship, clinical features, microbiology, histopathology & radiological features (as appropriate) of pulp & periapical lesions & osteomyelitis.

□ Sequelae of periapical abscess - summary of space infections, systemic complications & significance.

5. Periodontal Diseases :

□ Etiopathogenesis, microbiology, clinical features, histopathology & radiological features (as appropriate) of gingivitis, gingival enlargements & periodontitis. Basic immunological mechanisms of periodontal disease to be highlighted.

6. Microbial infections of oral soft tissues :

□ Microbiology, defence mechanisms including immunological aspects, oral manifestations, histopathology and laboratory diagnosis of common bacterial, viral & fungal infections namely :- Bacterial :


Tuberculosis, Syphilis, ANUG & its complications - Cancrum Oris.

Viral : Herpes Simplex, Varicella zoster, Measles, Mumps, HIV infection, Corona virus infection.

Fungal : Candidal infection. Aphthous Ulcers.

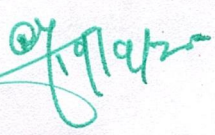
7. Common non-inflammatory diseases involving the jaws :

□ Etiopathogenesis, clinical features, radiological & laboratory values in diagnosis of :


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Fibrous dysplasia, Cherubism, Osteogenesis Imperfecta, Paget's disease, Cleidocranial dysplasia, Rickets, Achondroplasia, Marfan's syndrome & Down's syndrome.

8. Diseases of TM Joint :

□ Ankylosis, summary of different types of arthritis & other developmental malformations, traumatic injuries & myofascial pain dysfunction syndrome.

9. Cysts of the Oral & Paraoral region :

□ Classification, etiopathogenesis, clinical features, histopathology, laboratory & radiological features (as appropriate) of Odontogenic cysts, Non-Odontogenic cysts, Pseudocysts of jaws & soft tissue cysts of oral & paraoral region.

10. Tumours of the Oral Cavity :

□ Classification of Odontogenic, Non-Odontogenic & Salivary Gland Tumours. Etiopathogenesis, clinical features, histopathology, radiological features & laboratory diagnosis (as appropriate) of the following common tumours :-

a) Odontogenic - all lesions. b) Non-odontogenic

- Benign Epithelial - Papilloma, Keratoacanthoma & Naevi.

- Benign Mesenchymal - Fibroma, Aggressive fibrous lesions, Lipoma, Haemangioma, Lymphangioma, Neurofibroma, Schwannoma, Chondroma, Osteoma & Tori.

- Malignant Epithelial - Basal Cell Carcinoma, Verrucous Carcinoma, Squamous Cell carcinoma & Malignant Melanoma.

- Malignant Mesenchymal - Fibrosarcoma, Osteosarcoma, Giant cell tumour, Chondrosarcoma, Angiosarcoma, Kaposi's sarcoma, Lymphomas, Ewing's sarcoma & Other Reticuloendothelial tumours.

c) Salivary Gland


- Benign Epithelial neoplasms - Pleomorphic Adenoma, Warthin's tumour & Oncocytoma.

- Malignant Epithelial neoplasms - Adenoid Cystic Carcinoma, Mucoepidermoid Carcinoma, Acinic Cell Carcinoma & Adenocarcinomas.

d) Tumours of Disputed Origin - Congenital Epulis & Granular Cell

Myoblastoma. e) Metastatic tumours - Tumors metastasizing to & from oral cavity & the routes of metastasis.

11. Traumatic, Reactive & Regressive lesions of Oral Cavity :

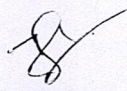

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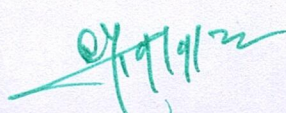

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- Pyogenic & Giant cell granuloma, exostoses Fibrous Hyperplasia, Traumatic Ulcer & Traumatic Neuroma.
 - Attrition, Abrasion, Erosion, Bruxism, Hypercementosis, Dentinal changes, Pulp calcifications & Resorption of teeth.
 - Radiation effects of oral cavity, summary of Physical & Chemical injuries including allergic reactions of the oral cavity.
 - Healing of Oral wounds & complications - Dry socket.
12. Non neoplastic Salivary Gland Diseases :
- Sialolithiasis, Sialosis, Sialadenitis, Xerostomia & Ptyalism.
13. Systemic Diseases involving Oral cavity :
- Brief review & oral manifestations, diagnosis & significance of common Blood, Nutritional, Hormonal & Metabolic diseases of Oral cavity.
14. Mucocutaneous Lesions :
- Etiopathogenesis, clinical features & histopathology of the following common lesions.
Lichen Planus, Lupus Erythematosus, Pemphigus & Pemphigoid lesions, Erythema Multiforme, Psoriasis, Scleroderma, Ectodermal Dysplasia, Epidermolysis bullosa & White sponge nevus..
15. Diseases of the Nerves :
- Facial neuralgias - Trigeminal & Glossopharyngeal. VII nerve paralysis, Causalgia.
 - Psychogenic facial pain & Burning mouth syndrome.
16. Pigmentation of Oral & Paraoral region & Discolouration of teeth :
- causes & clinical manifestations.
17. Diseases of Maxillary Sinus :
- Traumatic injuries to sinus, Sinusitis, Cysts & Tumours involving antrum.
18. a) ORAL PRECANCER – CANCER; Epidemiology, aetiology, clinical and histopathological features, TNM classification. Recent advances in diagnosis, management and prevention.
- b) Biopsy : Types of biopsy, value of biopsy, cytology, histo chemistry & frozen sections in diagnosis of oral diseases.
19. Principles of Basic Forensic Odontology (Pre-clinical Forensic Odontology):
- Introduction, definition, aims & scope.
 - Sex and ethnic (racial) differences in tooth morphology and histological age estimation
 - Determination of sex & blood groups from buccal mucosa / saliva.
 - Dental DNA methods
 - Bite marks, rugae patterns & lip prints.




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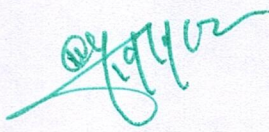
- Dental importance of poisons and corrosives.
- Overview of forensic medicine and toxicology

RECOMMENDED BOOKS:

- 1) A Text Book of Oral Pathology - Shafer, Hine & Levy.
- 2) Oral Pathology - Clinical Pathologic correlations - Regezi & Sciubba.
- 3) Oral Pathology - Soames & Southam.
- 4) Oral Pathology in the Tropics - Prabhu, Wilson, Johnson & Daftary



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Syllabus for BDS 4th Year –Oral Medicine & Radiology
Adapted from
[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY

Teaching Hours: 280

Theory Hours: 80

Practical Hours: 200

ORAL MEDICINE & RADIOLOGY

Oral Medicine and Radiology Oral Medicine is a speciality of dentistry concerned with the basic diagnostic procedures and techniques useful in recognising the diseases of the oral tissues of local and constitutional origin and their medical management.

Radiology is a science dealing with x-rays and their uses in diagnosis and treatment of diseases in relation to orofacial diseases.

SYLLABUS

1. Methods of clinical diagnosis of oral and systemic diseases as applicable to oral tissue including modern diagnostic techniques.
2. Laboratory investigations including special investigations of oral and Oro-facial diseases.
3. Teeth in local and systemic diseases, congenital and heredity disorders.
4. Oral manifestation of systemic diseases.
5. Oro-facial pain.
6. Psychosomatic aspects of oral diseases.
7. Management of medically compromised patients including medical emergencies in the dental chair.
8. Congenital and hereditary disorders involving tissues of oro facial region
9. Systemic diseases due to oral foci of infection.
10. Hematological, dermatological, metabolic, nutritional and endocrinal conditions with oral manifestations.
11. Neuro- muscular diseases affecting oro facial region.
12. Salivary glands disorders.
13. Tongue in oral and systemic diseases.



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14. TMJ dysfunctions and diseases.
15. Concept of immunity as related to oro facial lesions including AIDS.
16. Cysts, neoplasms, odontomes and fibro-osseous lesions.
17. Oral changes in osteodystrophies and chondrodystrophies.
18. Premalignant and malignant lesion of or facial region.
19. Allergy and other miscellaneous conditions.
20. Therapeutics in oral medicine- clinical pharmacology.
21. Forensic Odontology.
22. Computers in oral diagnosis and imaging.
23. Evidence based oral care in treatment planning

Oral and Maxillo-facial Radiology: study includes seminars/ lectures/ demonstrations

1. History of Radiology, structure of x-ray tube, production of x-rays, property of x-rays.
 2. Biological effects of radiation.
 3. Filtration of collimation, grids and units of radiation.
 4. Films and recording media.
 5. Processing of image in radiology.
 6. Design of x-ray department, dark room and use of automatic processing units.
 7. Localization: radiographic techniques.
 8. Faults of dental radiographs and concept of ideal radiograph.
 9. Quality assurance and audit in dental radiology.
 10. Extra oral imaging techniques.
 11. O. P. G. and other radiology techniques.
1. Emergency dental care for patients during COVID – 19 pandemic
 2. Oral Fungal infection in relation to COVID – 19

TUTORIALS DURING CLINICAL POSTINGS:

1. Infection control
2. Diagnostics instruments
3. Chair position and principles of diagnostic instrumentation

DEMONSTRATIONS:

1. History taking and Clinical examination of the patients.
2. Techniques for taking Intra-oral Periapical radiographs with Bisecting angle and Paralleling angle technique
3. Developing and processing of the radiograph
4. Demonstrations on taking opg and extra oral radiographs



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PRESCRIBED BOOKS:

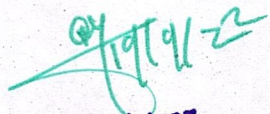
1. Burket's Oral Medicine –12th edition - Michael Glick (Latest)
2. White and Pharoah's Oral Radiology - 8th Edition – Elsevier (latest edition)

REFERENCE BOOKS:

1. Textbook of Oral Medicine, Oral Diagnosis and Oral Radiology – Ravikiran ongole, Praveen B.
2. Textbook of Dental Radiology – Pramod John R
3. Essentials of Oral & Maxillofacial Radiology – Freny Karjodkar
4. Cysts of the Oral and Maxillofacial Regions – Marvin Shear, Paul Speight
5. Medical Problems in Dentistry – Crispian Scully
6. Differential Diagnosis of Oral and Maxillofacial Lesions - Norman Kenyon Wood, Paul W. Goaz
7. Treatment Planning in Dentistry - Stephen J. Stefanac, Samuel P. Nesbit


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Syllabus for BDS 4thYear –PAEDIATRIC AND PREVENTIVE DENTISTRY

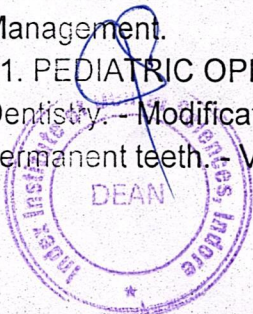
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[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY

PAEDIATRIC & PREVENTIVE DENTISTRY

THEORY

1. INTRODUCTION TO PEDODONTICS & PREVENTIVE DENTISTRY. - Definition, Scope, Objectives and Importance.
2. GROWTH & DEVELOPMENT: - Importance of study of growth and development in Pedodontics. - Prenatal and Postnatal factors in growth & development. - Theories of growth & development. - Development of maxilla and mandible and related age changes.
3. DEVELOPMENT OF OCCLUSION FROM BIRTH THROUGH ADOLESCENCE. - Study of variations and abnormalities.
4. DENTAL ANATOMY AND HISTOLOGY: - Development of teeth and associated structures. - Eruption and shedding of teeth. - Teething disorders and their management. - Chronology of eruption of teeth. - Differences between deciduous and permanent teeth. - Development of dentition from birth to adolescence. - Importance of first permanent molar.
5. DENTAL RADIOLOGY RELATED TO PEDODONTICS.
6. ORAL SURGICAL PROCEDURES IN CHILDREN. - Indications and contraindications of extractions of primary and permanent teeth in children. - Knowledge of Local and General Anesthesia. - Minor surgical procedures in children.
7. DENTAL CARIES: - Historical background. - Definition, aetiology & pathogenesis. - Caries pattern in primary, young permanent and permanent teeth in children. - Rampant caries, early childhood caries and extensive caries: * Definition, aetiology, Pathogenesis, Clinical features, Complications & Management - Role of diet and nutrition in Dental Caries. - Dietary modifications & Diet counseling. - Caries activity, tests, caries prediction, caries susceptibility & their clinical application.
8. GINGIVAL & PERIODONTAL DISEASES IN CHILDREN. - Normal gingiva & periodontium in children. - Definition, aetiology & Pathogenesis. - Prevention & Management of gingival & Periodontal diseases.
9. CHILD PSYCHOLOGY: - Definition. - Theories of child psychology. - Psychological development of children with age. - Principles of psychological growth & development while managing child patient. - Dental fear and its management. - Factors affecting child's reaction to dental treatment.
10. BEHAVIOUR MANAGEMENT: - Definitions. - Types of behaviour encountered in the dental clinic. - Non-pharmacological & pharmacological methods of Behaviour Management.
11. PEDIATRIC OPERATIVE DENTISTRY: - Principles of Pediatric Operative Dentistry. - Modifications required for cavity preparation in primary and young permanent teeth. - Various Isolation Techniques. - Restorations of decayed primary,



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young permanent and permanent teeth in children using various restorative materials like Glass Ionomer, Composites & Silver Amalgam. Stainless steel, Polycarbonate & Resin Crowns.

12. PEDIATRIC ENDODONTICS - Principles & Diagnosis. - Classification of Pulpal Pathology in primary, young permanent & permanent teeth. - Management of Pulpally involved primary, young permanent & permanent teeth. •Pulp capping – direct & indirect. •Pulpotomy •Pulpectomy •Apexogenesis •Apexification - Obturation Techniques & material used for primary, young permanent & Permanent teeth in children.

13. TRAUMATIC INJURIES IN CHILDREN: - Classifications & Importance. - Sequelae & reaction of teeth to trauma. - Management of Traumatized teeth.

14. PREVENTIVE & INTERCEPTIVE ORTHODONTICS: - Definitions. - Problems encountered during primary and mixed dentition phases & their management. - Serial extractions. - Space management.

15. ORAL HABITS IN CHILDREN: - Definition, Aetiology & Classification. - Clinical features of digit sucking, tongue thrusting, mouth breathing & various other secondary habits. - Management of oral habits in children.

16. DENTAL CARE OF CHILDREN WITH SPECIAL NEEDS: - Definition, Aetiology, Classification, Behavioural and Clinical features & Management of children with:

- Physically handicapping conditions.
- Mentally compromising conditions.
- Medically compromising conditions.
- Genetic disorders.

17. CONGENITAL ABNORMALITIES IN CHILDREN: - Definition, Classification, Clinical features & Management.

18. DENTAL EMERGENCIES IN CHILDREN & THEIR MANAGEMENT.

19. DENTAL MATERIALS USED IN PEDIATRIC DENTISTRY.

20. PREVENTIVE DENTISTRY: - Definition. - Principles & Scope. - Types of prevention. - Different preventive measures used in Pediatric Dentistry including pit and fissure sealants and caries vaccine.

21. DENTAL HEALTH EDUCATION & SCHOOL DENTAL HEALTH PROGRAMMES.

22. FLUORIDES: - Historical background. - Systemic & Topical fluorides. - Mechanism of action. - Toxicity & Management. - Defluoridation techniques.

23. CASE HISTORY RECORDING: - Outline of principles of examination, diagnosis & treatment planning.

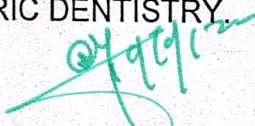
24. CHILD ABUSE AND NEGLECT.

25. SETTING UP OF PEDIATRIC DENTISTRY CLINIC.

26. ETHICS.

27. RECENT ADVANCES IN PEDIATRIC DENTISTRY.




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PRACTICALS

Following is the recommended clinical quota for under-graduate students in the subject of pediatric & preventive dentistry.

1. Restorations – Class I & II only : 45
2. Preventive measures e.g. Oral Prophylaxis – 20.
3. Fluoride applications – 10
4. Extractions – 25
5. Case History Recording & Treatment Planning – 10
6. Education & motivation of the patients using disclosing agents. Educating patients about oral hygiene measures like tooth brushing, flossing etc

BOOKS RECOMMENDED & REFERENCE

1. Pediatric Dentistry (Infancy through Adolescence) – Pinkham.
2. Kennedy's Pediatric Operative Dentistry – Kennedy & Curzon.
3. Occlusal guidance in Pediatric Dentistry – Stephen H. Wei.
4. Clinical Use of Fluorides – Stephen H. Wei.
5. Pediatric Oral & Maxillofacial Surgery – Kaban.
6. Pediatric Medical Emergencies – P. S. Whatt.
7. Understanding of Dental Caries – NikiForuk.
8. An Atlas of Glass Ionomer cements – G. J. Mount.
9. Clinical Pedodontics – Finn.
10. Textbook of Pediatric Dentistry – Braham Morris.
11. Primary Preventive Dentistry – Norman O. Harris.
12. Handbook of Clinical Pedodontics – Kenneth. D.
13. Preventive Dentistry – Forrester.
14. The Metabolism and Toxicity of Fluoride – Garry M. Whitford.
15. Dentistry for the Child and Adolescence – Mc. Donald.
16. Pediatric Dentistry – Damle S. G.
17. Behaviour Management – Wright
18. Pediatric Dentistry – Mathewson.
19. Traumatic Injuries – andreason.
20. Occlusal guidance in Pediatric Dentistry – Nakata.
21. Pediatric Drug Therapy – Tomare
22. Contemporary Orthodontics – Profitt.
23. Preventive Dentistry – Depaola.
24. Metabolism & Toxicity of Fluoride – whitford. G. M.
25. Endodontic Practice – Grossman.
26. Principles of Endodontics – Munford.
27. Endodontics – Ingle.
28. Pathways of Pulp – Cohen.
29. Management of Traumatized anterior Teeth – Hargreaves.



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Syllabus for BDS 4th Year - ORTHODONTICS

Adapted from

[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY

ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS

1. Introduction, Definition, Historical Background, Aims And Objectives Of Orthodontics And Need For Orthodontics Care.
2. Growth And Development: In General
 - a. Definition
 - b. Growth spurts and Differential growth
 - c. Factors influencing growth and Development
 - d. Methods of measuring growth
 - e. Growth theories (Genetic, Sicher's, Scott's, Moss's, Petrovics, Multifactorial)
 - f. Genetic and epigenetic factors in growth
 - g. Cephalocaudal gradient in growth.
3. Morphologic Development Of Craniofacial Structures
 - a. Methods of bone growth
 - b. Prenatal growth of craniofacial structures
 - c. Postnatal growth and development of: cranial base, maxilla, mandible, dental arches and occlusion.
4. Functional Development Of Dental Arches And Occlusion
 - a. Factors influencing functional development of dental arches and occlusion.
 - b. Forces of occlusion
 - c. Wolfe's law of transformation of bone
 - d. Trajectories of forces
5. Clinical Application Of Growth And Development
6. Malocclusion - In General
 - a. Concept of normal occlusion
 - b. Definition of malocclusion
 - c. Description of different types of dental, skeletal and functional malocclusion.
7. Classification of Malocclusion Principle, description, advantages and disadvantages of classification of malocclusion by Angle's, Simon's, Lischer's and Ackerman and Proffitt's.
8. Normal And Abnormal Function Of Stomatognathic System
9. Etiology Of Malocclusion
 - a. Definition, importance, classification, local and general etiological factors.
 - b. Etiology of following different types of malocclusion:
 - 1) Midline diastema
 - 2) Spacing
 - 3) Crowding
 - 4) Cross-Bite: Anterior/Posterior
 - 5) Class III Malocclusion

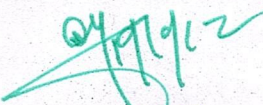


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Institute of Dental Sciences, Ind**

- 6) Class II Malocclusion
- 7) Deep Bite
- 8) Open bite
10. Diagnosis And Diagnostic Aids
 - a. Definition, Importance and classification of diagnostic aids
 - b. Importance of case history and clinical examination in orthodontics
 - c. Study Models: - Importance and uses - Preparation and preservation of study models
 - d. Importance of intraoral X-rays in orthodontics
 - e. Panoramic radiographs: - Principles, Advantages, disadvantages and uses
 - f. Cephalometrics: Its advantages, disadvantages
 1. Definition
 2. Description and use of cephalostat
 3. Description and uses of anatomical landmarks lines and angles used in cephalometric analysis
 4. Analysis- Steiner's, Down's, Tweed's, Ricket's-E- line
 - g. Electromyography and its uses in orthodontics
 - h. Wrist X-rays and its importance in orthodontics
11. General Principles In Orthodontic Treatment Planning Of Dental And Skeletal Malocclusions
12. Anchorage In Orthodontics - Definition, Classification, Types and Stability Of Anchorage
13. Biomechanical Principles In Orthodontic Tooth Movement
 - a. Different types of tooth movements
 - b. Tissue response to orthodontic force application
 - c. Age factor in orthodontic tooth movement
14. Preventive Orthodontics
 - a. Definition
 - b. Different procedures undertaken in preventive orthodontics and their limitations.
15. Interceptive Orthodontics
 - a. Definition
 - b. Different procedures undertaken in interceptive orthodontics
 - c. Serial extractions: Definition, indications, contra-indication, technique, advantages and disadvantages.
 - d. Role of muscle exercises as an interceptive procedure
16. Corrective Orthodontics
 - a. Definition, factors to be considered during treatment planning.
 - b. Model analysis: Pont's, Ashley Howe's, Bolton, Careys, Moyer's Mixed Dentition Analysis
 - c. Methods of gaining space in the arch:- Indications, relative merits and demerits of proximal stripping, arch expansion and extractions
 - d. Extractions in Orthodontics - indications and selection of teeth for extraction.
17. Orthodontic Appliances: General
 - a. Requisites for orthodontic appliances
 - b. Classification, indications of Removable and Functional Appliances




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- c. Methods of force application
- d. Materials used in construction of various orthodontic appliances - uses of stainless steel; technical considerations in curing of acrylic, Principles of welding and soldering, fluxes and antfluxes.
- e. Preliminary knowledge of acid etching and direct bonding.

REMOVABLE ORTHODONTIC APPLIANCES

- 1) Components of removable appliances
- 2) Different types of clasps and their uses
- 3) Different types of labial bows and their uses
- 4) Different types of springs and their uses
- 5) Expansion appliances in orthodontics:
 - i) Principles
 - ii) Indications for arch expansion
 - iii) Description of expansion appliances and different types of expansion devices and their uses.
 - iv) Rapid maxillary expansion

FIXED ORTHODONTIC APPLIANCES

- 1. Definition, Indications & Contraindications
- 2. Component parts and their uses
- 3. Basic principles of different techniques: Edgewise, Begg's, straight wire.

EXTRAORAL APPLIANCES

- 1. Headgears
- 2. chin cup
- 3. reverse pull headgears

MYOFUNCTIONAL APPLIANCES

- 1. Definition and principles
- 2. Muscle exercises and their uses in orthodontics
- 3. Functional appliances:
 - i) Activator, Oral screens, Frankels function regulator, bionator twin blocks, lip bumper
 - ii) Inclined planes - upper and lower

18. Orthodontic Management Of Cleft Lip And Palate

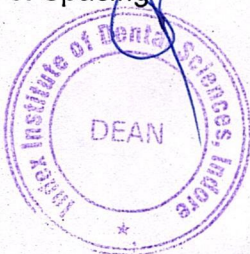
19. Principles Of Surgical Orthodontics.

Brief knowledge of correction of:

- a. Mandibular Prognathism and Retrognathism
- b. Maxillary Prognathism and Retrognathism
- c. Anterior open bite and deep bite
- d. Cross bite

20. Principle, Differential Diagnosis & Methods Of Treatment Of:

- 1. Midline diastema
- 2. Cross bite
- 3. Open bite
- 4. Deep bite
- 5. Spacing



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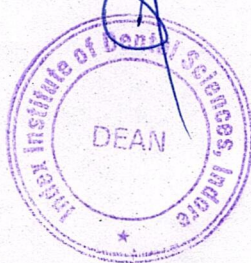
6. Crowding
7. Class II - Division 1, Division 2
8. Class III Malocclusion - True and Pseudo Class III
21. Retention And Relapse, Definition, Need for retention, Causes of relapse, Methods of retention, Different types of retention devices, Duration of retention, Theories of retention.
22. Emergencies in orthodontics and their management during covid 19 pandemic.
23. Ethics & Practice management

CLINICALS AND PRACTICALS IN ORTHODONTICS
PRACTICAL TRAINING DURING II YEAR B.D.S.

- I. Basic wire bending exercises Gauge 22 or 0.7mm
 1. Straightening of wires (4 Nos.)
 2. Bending of a equilateral triangle
 3. Bending of a rectangle
 4. Bending of a square
 5. Bending of a circle
 6. Bending of U.V.
- II. Construction of Clasps (Both sides upper/lower) Gauge 22 or 0.7mm
 1. 3/4 Clasp (C-Clasp)
 2. Full Clasp (Jackson's Crib)
 3. Adam's Clasp
 4. Triangular Clasp
- III. Construction of Springs (on upper both sides) Gauge 24 or 0.5mm
 1. Finger Spring
 2. Single Cantelever Spring
 3. Double Cantelever Spring (Z-Spring)
 4. T-Springs on premolars
- IV. Construction of Canine retractors Gauge 23 or 0.6mm
 1. U - Loop canine retractor
(Both sides on upper & lower)
 2. Helical canine retractor
(Both sides on upper & lower)
 3. Buccal canine retractor:
 - Self supported buccal canine retractor with
 - a) Sleeve - 5mm wire or 24 gauge
 - b) Sleeve - 19 gauge needle on any one side.
 4. Palatal canine retractor on upper both sides
Gauge 23 or 0.6mm
- V. Labial Bow
Gauge 22 or 0.7mm
One on both upper and lower

CLINICAL TRAINING DURING III YEAR B.D.S.

01. Making upper Alginate impression
02. Making lower Alginate impression
03. Study Model preparation




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04. Model Analysis

- a. Pont's Analysis
- b. Ashley Howe's Analysis
- c. Carey's Analysis
- d. Bolton's Analysis
- e. Moyer's Mixed Dentition Analysis

CLINICAL TRAINING DURING FINAL YEAR B.D.S.

01. Case History taking
02. Case discussion
03. Discussion on the given topic
04. Cephalometric tracings
 - a. Down's Analysis
 - b. Steiner's Analysis
 - c. Tweed's Analysis

PRACTICAL TRAINING DURING FINAL YEAR B.D.S.

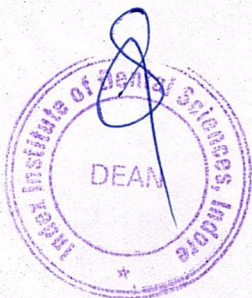
1. Adam's Clasp on Anterior teeth Gauge 0.7mm
2. Modified Adam's Clasp on upper arch Gauge 0.7mm
3. High Labial bow with Apron spring on upper arch
(Gauge of Labial bow - 0.9mm, Apron spring - 0.3mm)
4. Coffin spring on upper arch Gauge 1mm

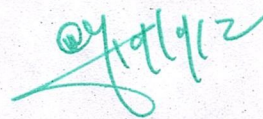
Appliance Construction in Acrylic

1. Upper & Lower Hawley's Appliance
2. Upper Hawley's with Anterior bite plane .
3. Upper Habit breaking Appliance
4. Upper Hawley's with Posterior bite plane with 'Z' Spring
5. Construction of Activator
6. Lower inclined plane/Catalan's Appliance
7. Upper Expansion plate with Expansion Screw

RECOMMENDED AND REFERENCE BOOKS

1. CONTEMPORARY ORTHODONTICS- WILLIAM R. PROFFIT
2. ORTHODONTICS FOR DENTAL STUDENTS -WHITE and GARDINER
3. HANDBOOK OF ORTHODONTICS MOYERS
4. ORTHODONTICS - PRINCIPLES AND PRACTICE GRABER
5. DESIGN, CONSTRUCTION AND USE OF REMOVABLE ORTHODONTIC APPLIANCES C. PHILIP ADAMS
6. CLINICAL ORTHODONTICS: VOL1 & 2 SALZMANN
7. ORTHODONTICS DIAGNOSIS OF AND MANAGEMENT OF MALOCCLUSION AND DENTOFACIAL DEFORMITIES- O. P. KHARBANDA
8. TEXTBOOK OF ORTHODONTICS, SAMIR E. BISHARA




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Syllabus for BDS 4th Year -PERIODONTOLOGY

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[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY

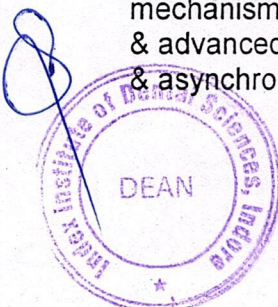
PERIODONTOLOGY

Teaching Hours: 280

Theory Hours: 80

Practical Hours: 200

1. Introduction: Definition of Periodontology, Periodontics, Periodontia, Brief historical background, Scope of Periodontics
2. Development of Periodontal tissues, micro-structural anatomy and biology of periodontal tissues in detail. Gingiva. Junctional epithelium in detail, Epithelial-mesenchymal interaction, Periodontal ligament, Cementum, Alveolar bone.
3. Defensive mechanisms in the oral cavity: Role of Epithelium, Gingival fluid, Saliva and other defensive mechanisms in the oral environment.
4. Age changes in Periodontium. Age changes in teeth and periodontal structures and Their periodontal structures association with periodontal diseases and their significance in Geriatric dentistry
5. Classification of Periodontal Diseases. Need for classification, scientific basis of classification of periodontal diseases, Classification of gingival and periodontal diseases as described in 1989 and 1999 classification.
6. Epidemiology of periodontal diseases Definition of index, incidence, Prevalence epidemiology, endemic, epidemic, and pandemic. Classification of indices (Irreversible and reversible), Deficiencies of earlier indices used in Periodontics. Detailed understanding of Silness & Loe Plaque Index, Loe & Silness Gingival Index, CPITN & CPI. Prevalence of periodontal diseases in India and other countries.
7. Defence mechanisms of the Gingiva
8. Gingival Inflammation
9. Clinical Features of Gingivitis
10. Gingival Enlargements
11. Acute Gingival Infections
12. Gingival Diseases in Childhood
13. Desquamative Gingivitis
14. Host response - Mechanism of initiation and progression of periodontal diseases- Basic concepts about cells, Mast: cells, neutrophils, macrophages, lymphocytes, immunoglobulins, complement system, immune mechanisms & cytokines in brief. Stages in gingivitis-Initial, early, established & advanced. Periodontal disease activity, continuous paradigm, random burst & asynchronous multiple burst hypothesis.



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15. Periodontal Microbiology: Dental Plaque (Biofilm), Definition, New concept of biofilm Types, composition, bacterial colonization, growth, maturation .& disclosing agents Role of dental plaque in periodontal diseases, Plaque microorganisms in detail and bacteria associated with periodontal diseases, Plaque retentive factors, Materia alba Food debris
16. The Role of Dental Calculus and other Local Predisposing factors: Calculus, iatrogenic factors, Malocclusion, Periodontal complications associated with orthodontic therapy, Extraction of Impacted third molars, Habits and self inflicted injuries, Smokeless Tobacco, Radiation therapy, Food Impaction-- Definition Types, Aetiology, - Hirschfield's classification, - Signs & symptoms & sequelae of treatment
17. Smoking and Periodontal Disease
18. Chronic Periodontitis
19. Aggressive Periodontitis
20. Bone loss and patterns of Bone destruction in Periodontal Disease
21. Influence of Systemic Disorders on the Periodontium
22. Oral Malodor
23. Clinical Diagnosis
24. Radiographic Aids in Diagnosis of Periodontal Diseases
25. Determination of Prognosis-Definition, types, purpose and factors to be taken into consideration
26. Treatment Plan-Factors to be considered
27. Periodontal management of Medically Compromised Patients
28. Periodontal therapy in the Female patients
29. Phase I Periodontal Therapy: Rationale for Periodontal Treatment.
30. Plaque control for Periodontal Patients- Mechanical tooth brushes, interdental cleaning aids, dentifrices.
Chemical; Classification and mechanism of action of each & pocket irrigation
31. Scaling and Root Planing
32. Sonic and Ultrasonic Instrumentation and Irrigation
33. Anti Infective Therapy
34. Host Modulation
35. Phase II Periodontal Therapy
36. General Principles of Periodontal Surgery
37. Gingival Surgical Techniques
38. The Periodontal Flap: Different flap techniques for pocket eradication
39. Resective Osseous Surgery
40. Reconstructive Periodontal Surgery
41. Furcation: Involvement and Treatment
42. Periodontal Plastic Surgery and Esthetic Surgery-Definition, Mucogingival problems: Aetiology, classification of gingival recession (RD:Miller Jr. and Sullivan and Atkins), Indications & objectives, Gingival extension procedures: lateral pedicle graft, frenectomy, frenotomy, Crown lengthening procedures.
43. Periodontal Restorative Interrelationships
44. Diagnosis and Management of Periodontic- Endodontic Lesions



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45. Periimplant Anatomy, Biology and Function, Implants Definition, types, scope & biomaterials used. Periodontal considerations: such as implant-bone Interlace, implant-gingiva interface, implant failure, peri- Implantitis and its management
46. Maintenance Phase (Supportive Periodontal Therapy)- Aims, objectives, and Principles, Importance,- Procedures, • Maintenance of implants
47. Recent Advances In Periodontal Microsurgery
48. Infection Control Protocol- Sterilization and various aseptic Procedures
49. Dental Ethics
50. Periodontal Instruments- Classification and Description of each Instrument. Sharpening of Instrumentation
51. Principles of Periodontal Instrumentation
52. Impact of Periodontal Infections on systemic health (Periodontal Medicine)
53. Pathology and Management of Periodontal Problems in patients with HIV infection.
54. Periodontal Response to External Forces
55. Periodontal Abscess
56. Recent advances in surgical therapy: Lasers in Periodontal Therapy
57. Levels of Significance.
58. Risk Assessment
59. COVID-19 and its implication in periodontology

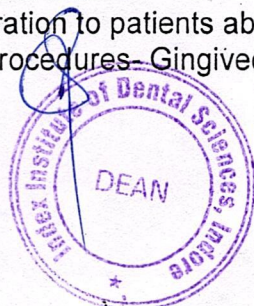
TUTORIALS DURING CLINICAL POSTINGS:

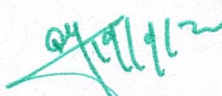
1. Infection control
2. Periodontal instruments
3. Chair position and principles of instrumentation
4. Maintenance of instruments (sharpening)
5. Ultrasonic, Piezoelectric and sonic scaling - Demonstration of technique
6. Diagnosis of periodontal disease and determination of prognosis
7. Radiographic interpretation and lab investigations
8. Motivation of patients- oral hygiene instructions

Students should be able to record a detailed periodontal case history, determine diagnosis, prognosis and plan treatment. Student should perform scaling, root planning, local drug delivery and SPT. Students shall be given demonstration of all periodontal surgical procedures.

DEMONSTRATIONS:

1. History taking and Clinical examination of the patients
2. Recording different Indices
3. Methods of using various scaling and surgical instruments
4. Polishing the teeth
5. Demonstration to patients about different oral hygiene aids
6. Surgical procedures- Gingivectomy, Gingivoplasty, and flap operations




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7. Follow up procedures, post operative care and supervision

REQUIREMENTS:

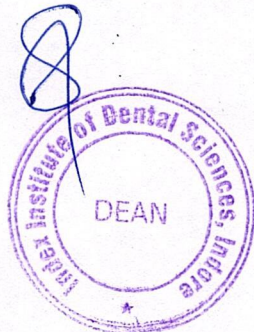
1. Diagnosis, treatment planning and discussion and total periodontal treatment- 15 cases
2. Dental scaling, oral hygiene instructions - 30 complete cases/ Equivalent
3. Assistance in periodontal surgery - 02 cases
4. A work record should be maintained by all the students and should be submitted at the time of examination after due certification from the head of the department. Students should have to complete the work prescribed by the concerned department from time to time and submit a certified record for evaluation.

PRESCRIBED BOOK:

Glickman's Clinical Periodontology -Carranza

REFERENCE BOOKS:

1. Essentials of Periodontology and Periodontics- Torquil MacPhee
2. Contemporary Periodontics- Cohen
3. Periodontal therapy- Goldman
4. Orbans' Periodontics- Orban
5. Oral Health Survey- W.H.O.
6. Preventive Periodontics- Young and Stiffler
7. Public Health Dentistry- Slack
8. Advanced Periodontal Disease- John Prichard
9. Preventive Dentistry- Forrest
10. Clinical Periodontology- Jan Lindhe
11. Periodontics- Baer & Morris.



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Syllabus for BDS 4th Year

Adapted from

[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY

PROSTHODONTICS AND CROWN AND BRIDGE

Teaching Hours: 895

Theory Hours: 135

Practical Hours: 760

Complete Dentures

A. Applied Anatomy and Physiology

1. Introduction
2. Biomechanics of the edentulous state
3. Residual ridge resorption

B. Communicating with patient

1. Understanding the patient's Mental Attitude-
2. Instructing the patient

C. Diagnosis and treatment planning for patients

1. With some teeth remaining
2. With no teeth remaining
 - a) Systemic status
 - b) Local factor
 - c) The geriatric patients
 - d) Diagnostic procedures

D. Articulators - discussion

E. Improving the patient's denture foundation and ridge relation - an overview.

- a) Pre-operative examination
- b) Initial hard tissue & soft tissue procedures
- c) Secondary hard and soft tissue procedure
- d) Implant procedure



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DEPARTMENT OF PROSTHODONTICS AND CROWN & BRI
AND
ORAL IMPLANTOLOGY

- e) Congenital deformities
- f) Postoperative procedure.

F. Principles of Retention, Support and Stability

G. Impressions - detail

- a) Muscles of facial expression
- b) Biological considerations for maxillary and mandibular impression including anatomy landmark and their interpretation.
- c) Impression objectives
- d) Impression materials
- e) Impression techniques
- f) Maxillary and mandibular impression procedures. i) Preliminary impressions ii) final Impressions
- g) Laboratory procedures involved with impression making (Beading & Boxing, and cast preparation)

H. Record bases and occlusion rims - in detail

- a) Materials & techniques
- b) useful guidelines and ideal parameters
- c) recording and transferring bases and occlusal rims

I. Biological consideration in jaw relation & jaw movements - craniomandibular relations.

- a) Mandibular movements
- b) Maxillo - mandibular relation including vertical and horizontal jaw relations.
- c) Concept of occlusion - discuss in brief

J. Relating the patient to the articulator

- a) Face bow types and uses - discuss in brief
- b) Face bow transfer procedure - discuss in brief

K. Recording maxillo mandibular relation

- a) Vertical relations
- b) Centric relation records
- c) Eccentric relation records.
- d) Lateral relation records



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L. Tooth selection and arrangement

- a) Anterior teeth
- b) Posterior teeth
- c) Esthetic and functional harmony

M. Relating inclination of teeth to concept of occlusion - in brief

- a) Neurocentric concept
- b) Balanced occlusal concept

N. Trial dentures

O. Laboratory procedures

- a) Wax contouring
- b) Investing of dentures
- c) Preparing of mold
- d) Preparing & Packing acrylic resin
- e) Processing of dentures
- f) Recovery of dentures
- g) Lab remount procedures
- h) Recovering the complete denture from the cast
- i) Finishing and polishing the complete denture
- j) Plaster cast for clinical denture remount procedure

P. Denture insertion

- a) Insertion procedures
- b) Clinical errors
- c) Correcting occlusal disharmony
- d) Selective grinding procedures.

R. Treating problems with associated denture use - discuss in brief (tabulation / flow chart form)

S. Treating abused tissues - discuss in brief

T. Relining and rebasing of dentures - discuss in brief



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U. Immediate complete dentures construction procedure - discuss in brief

V. The single complete denture - discuss in brief

W. Overdentures denture - discuss in brief

X. Dental implants in complete denture - discuss in brief

Note : It is suggested that the above mentioned topics be dealt with wherever appropriate in the following order so as to cover –

1. Definition
2. Diagnosis (of the particular situation / patient selection / treatment planning)
3. Types / classification
4. Materials
5. Methodology - Lab / Clinical
6. Advantages & disadvantages
7. Indication, contraindications
8. Maintenance phase
9. Oral Implantology
10. Ethics

Removable Flexible (Partial) Dentures

1. Introduction

- Terminologies and scope→

2. Classification

3. Examination, Diagnosis & Treatment planning and evaluation of diagnostic data

4. Components of a removable partial

- Major connectors
- Minor connectors
- Rest and rest seats

5. Components of a Removable Partial Denture

- Direct retainers
- Indirect retainers
- Tooth replacement



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6. Principles of Removable Partial Denture Design

7. Survey and design - in brief

- Surveyors
- Surveying
- Designing

8. Mouth preparation and master cast

9. Impression materials and procedures for removable partial dentures

10. Preliminary jaw relation and esthetic try in for some anterior replacement teeth

11. Laboratory procedures for framework construction - in brief.

12. Fitting the framework - in brief.

13. Try - in of the partial denture - in brief

14. Completion of the partial denture - in brief

15. Inserting the Removable Partial Denture - in brief

16. Postinsertion observations.

17. Temporary Acrylic Partial Dentures.

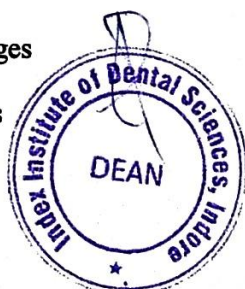
18. Immediate Removable Partial Denture.

19. Removable Partial Dentures opposing Complete denture.

20. Post COVID mucormycosis and prosthetic rehabilitation

Note: It is suggested that the above mentioned topics be dealt with wherever appropriate in the following order so as to cover –

1. Definition
2. Diagnosis (of the particular situation / patient selection / treatment planning)
3. Types / Classification
4. Materials
5. Methodology - Lab / Clinical
6. Advantages & disadvantages
7. Indications, contradictions
8. Maintenance Phase



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Fixed Partial Dentures

To Be Covered In Detail


1. Introduction
2. Fundamentals of occlusion - in brief.
3. Articulators - in brief
4. Treatment planning for single tooth restorations.
5. Treatment planning for the replacement of missing teeth including selection and choice of abutment teeth.
6. Fixed partial denture configurations.
7. Principles of tooth preparations.
8. Preparations for full veneer crowns - in detail.
9. Preparations for partial veneer crowns - in brief
10. Provisional Restorations
11. Fluid Control and Soft Tissue Management
12. Impressions
13. Working Casts and Dies
14. Wax patterns
15. Pontics and Edentulous Ridges
16. Esthetic Considerations
17. Finishing and Cementation

Topics To Be Covered In Brief –

1. Solder Joints and Other Connectors
2. All - Ceramic Restorations
3. Metal - Ceramic Restorations
4. Preparations of intracoronal restorations.
5. Preparations for extensively damaged teeth.
6. Preparations for periodontally weakened teeth




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7. The Functionally Generated Path Technique
8. Investing and Casting
9. Resin - Bonded Fixed Partial Denture

Note : It is suggested that the above mentioned topics be dealt with wherever appropriate in the following order so as to cover –

1. Definition
2. Diagnosis (of the particular situation / patient selection / treatment planning)
3. Types / Classification
4. Materials
5. Methodology - Lab / Clinical
6. Advantages & disadvantages
7. Indications, contradictions
8. Maintenance Phase

RECOMMENDED BOOKS :

1. Syllabus of Complete Denture by - Charles M. Heartwell Jr. and Arthur O. Rahn.
2. Boucher's "Prosthetic treatment for edentulous patients"
3. Essentials of complete denture Prosthodontics by - Sheldon Winkler.
4. Maxillofacial prosthetics by - William R. Laney.
5. McCracken's Removable partial Prosthodontics
6. Removable Partial Prosthodontics by - Ernest L. Miller and Joseph E. Grasso.
7. Contemporary Fixed Prosthodontics – Rosenstiel, Land and Fujimoto



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Revised Syllabus for BDS 4th Year

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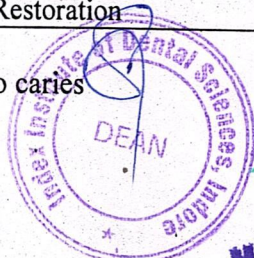
[Part III- SEC.4]

THE GAZETTE OF INDIA: EXTRAORDINARY

CONSERVATIVE DENTISTRY & ENDODONTICS

Theory Hours: 135 Practical Hours: 200 Clinical Hours: 370 Total Hours :705

S. No	Topic
1.	Introduction To Operative Dentistry <ul style="list-style-type: none"> • Definition Of Operative Dentistry • History Of Operative Dentistry • Factors affecting operative treatment – Indications – Considerations <ul style="list-style-type: none"> • Factors affecting the future demand of operative dentistry – Economic factors – Demographic factors
2.	Nomenclature Of Dentition <ul style="list-style-type: none"> • Introduction And Need Of Nomenclature • Commonly Used Nomenclature Systems – FDI, -Universal – Zygmondy-Palmer System Advantages/Disadvantage Of Each System
3.	Review Of Dental Anatomy <ul style="list-style-type: none"> • Development Of Tooth And And Associated Structures • Anatomy Of Tooth Related To Operative Dentistry Importance Of Pits & Fissures And Proximal Contact Areas In Relation To Cavity Preparation
4.	Gnathological Concepts of Restoration <ul style="list-style-type: none"> • Physiology of Occlusion • Normal Occlusion • Ideal Occlusion • Mandibular Movements • Occlusal Analysis • Occlusal Rehabilitation & Restoration
5.	Dental Caries <ul style="list-style-type: none"> • Definition And Introduction to caries • Etiology of caries • Various Theories • Classification Of Caries • Stages Of Caries In Enamel • Stages Of Caries in Dentin • Clinical Features of caries • Morphological Features of caries • Microscopic features of enamel and dentinal caries



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	<ul style="list-style-type: none"> • Prevention Of Dental Caries -diet modification - fluoride application - caries vaccines • Caries Activity Tests • Treatment of Caries • Clinical diagnosis & Sequelae of dental caries
6.	<p>Preventive measures in restorative practice: Plaque control , pit and fissure sealants, dietary measures ,restorative procedures and periodontal health</p>
7.	<p>Applied Dental Materials</p> <p>Amalgam</p> <ul style="list-style-type: none"> • History Of Amalgam • Advantages/Disadvantages • Indications & Contra indications Of Amalgam • Composition of amalgam • Physical & mechanical properties • Amalgam Reaction Of High And Low copper Amalgam • Procedure and clinical technique for amalgam restoration • Failure of amalgam • Mercury toxicity • Recent advances in amalgam <p>Dental Cements</p> <ul style="list-style-type: none"> • Classification Of Dental Cements • Detail About Each Cemernt • Zn phosphate cement • Zn polycarboxylate cement • Zinc oxide eugenol • Glass ionomer cement • Physical, Mechanical Properties And Manipulation Of Each Cement <p>Composites</p> <ul style="list-style-type: none"> • Introduction To Composite Material • History Of Resins • Classification Of Composites • Composition • Dentin Bonding Agents • Curing Methods • Composite Placement Procedures • Cavity preparation for composites • Recent advances in composites • Limitations of composites <p>Dental Porcelain</p>
8.	<p>Treatment Planning For Operative Dentistry</p> <ul style="list-style-type: none"> • Patient Evaluation • Clinical and Radiographic Examination • Tests for diagnosis of caries • Vitality tests, Diagnosis and preparation of case sheet • Treatment Planning • Treatment Record
9.	<p>PRELIMINARY CONSIDERATIONS FOR OPERATIVE DENTISTRY Preoperative patient and dental team consideration</p> <ul style="list-style-type: none"> • Chair and patient position • Operating positions • Operating stools



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	<ul style="list-style-type: none"> • Instrument exchange
10.	PAIN CONTROL FOR OPERATIVE DENTISTRY <ul style="list-style-type: none"> • Introduction • Method to control pain in operative dentistry • Local anesthesia • Patient factor • Local anesthetic agents • Technique of local anesthesia • Precautions during injection • Advantages of local anesthesia • Alternative methods to control pain • Premedication with sedatives • Inhalation sedation • Hypnosis • Electronic dental anesthesia
11.	CONTROL OF OPERATING FIELD <ul style="list-style-type: none"> • Introduction • Goals of isolation • Method of isolation • Cotton rolls and cellulose wafers • Rubber dam • Introduction • Indication • Contraindication • Rubber dam equipments • Rubber dam application technique • Removal of rubber dam • Aids for leaking dams • Advantages • Disadvantages • Saliva injectors • High volume evacuators • Throat shield • Anti sialogagues
12.	MANAGEMENT OF GINGIVAL TISSUE <ul style="list-style-type: none"> • Introduction • Indication for gingival tissue management • Methods of gingival tissue management • Physicomechanical • Chemicomechanical • Chemical • Recent techniques for gingival retraction • Laser • Retraction by dilatation of gingival sulcus
13.	Pulp Protection <ul style="list-style-type: none"> • Indications and need for Liners ,base and varnish • Composition of each • Material aspect and application procedure
14.	Principles Of Cavity Preparation <ul style="list-style-type: none"> • Definition of Cavity Preparation • Nomenclature of Cavity walls, angles and floors • Classification of Cavities • Various Principles of Cavity Preparation • Steps of Initial Cavity Preparation • Steps of Final Cavity Preparation



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15.	Armamentarium In Cavity Preparation <ul style="list-style-type: none"> • History Of Dental Instruments • Classification Of Hand And Rotary Instruments • Details Of Hand Cutting Instruments – instrument formula – instrument design • Sharpening of instruments • Grasps And Rests • Rotary Instruments – Bur Blade Design – Rake And Clearance Angle • Sterilisation of instruments • Basic instrument tray set up
16.	RESTORING CONTACTS AND CONTOURS <ul style="list-style-type: none"> • Introduction • Matrices • Definition • Ideal requirements • Classification of matrices • Functions • Parts of matrices • Description of various matrices • Tooth separation and wedges • Introduction • Definition • Need for tooth separation • Method of tooth separation <ul style="list-style-type: none"> • Recent advances
17.	Cavity Preparation For Amalgam Restoration <ul style="list-style-type: none"> • Implication of Initial & Final Cavity Preparation steps to cavity preparation for Dental Amalgam • Recent cavity modifications
18.	COMPLEX AMALGAM RESTORATION <ul style="list-style-type: none"> • Indication • Contraindication • Advantages • Disadvantages Pin retained amalgam restoration <ul style="list-style-type: none"> • Introduction • Types of pins • Indication • Contraindications • Advantages • Disadvantages • Pin placement factors and technique. • Failures of pin retained restoration • Use of automatrix
19.	Anterior restorations : Selection of cases, selection of material , step wise procedure for using restorations ,silicate (theory only) glass ionomers ,composites ,sandwich technique and bevels of the same . Indications and Limitations
20.	CAST RESTORATIONS



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	<ul style="list-style-type: none"> • Cast metal alloy –(noble and non-noble) • Indications • Contraindications • Advantages • Disadvantages • Tooth preparation for class I & class II cast metal inlay • Armamentarium • Initial preparation • Final preparation • Fabrication of wax pattern • Spruing & investing • Casting procedure • Casting defects • Die materials and preparation • Impression materials
21.	Difference between cast and amalgam cavity preparation with note on all three types of bevels used for cast restorations
22.	INDIRECT TOOTH COLOR RESTORATIONS <ul style="list-style-type: none"> • Class-I and class-II tooth color restoration • Indication • Contraindication • Advantages • Disadvantages • Type of ceramic inlay and onlay • Clinical procedures • Tooth preparation • Tooth fabrication and cementation
23.	MANAGEMENT OF DISCOLORED TEETH <ul style="list-style-type: none"> • Classification of discoloration • Bleaching treatment • Microabrasion and macroabrasion • Veneers • Laminates • Aesthetic dentistry
24.	Temporization and interim restorations
25.	DIRECT FILLING GOLD RESTORATIONS <ul style="list-style-type: none"> • Direct gold • Indications • Contraindications • Cavity preparation for direct filling gold • Type of the direct gold • Principle of manipulation of direct filling gold • Cohesion and degassing • Compaction of direct gold
26.	HYPERSENSITIVE DENTIN AND ITS MANAGEMENT <ul style="list-style-type: none"> • Introduction • Definition • Etiology • Direct innervations theory • Odontoblastic receptor theory • Hydrodynamic theory • Clinical features



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	<ul style="list-style-type: none"> • Diagnosis • Clinical management
27.	Microleakage
28.	NON CARIOUS DESTRUCTION OF TOOTH STRUCTURE AND THEIR MANAGEMENT <ul style="list-style-type: none"> • Introduction to non carious defects • Etiology of non-cariou lesions • Diagnosis • Clinical management of non- carious cervical lesion
29.	LASERS IN CONSERVATIVE DENTISTRY <ul style="list-style-type: none"> • Introduction • History • Components of laser • Basic principle of laser • Laser- tissue intraction • Type of lasers • Laser applications in conservative dentistry. • Laser safety
30.	Management of deep carious lesions , direct and indirect pulp capping
31.	Recent advances in Conservative Dentistry
32.	Guidelines for managing Epidemics, Pandemics and outbreaks

S.No.	Topic
33.	Introduction to endodontics Introduction , definition , scope & future
34.	DIAGNOSIS IN ENDODONTICS <ul style="list-style-type: none"> • History and record symptoms • Subjective symptoms • Objective symptoms • Various diagnostic aids • Recent advances in diagnosis in endodontics
35.	DENTAL PULP AND PERI-RADICULAR TISSUE <ul style="list-style-type: none"> • Embryology • Normal pulp -functions ,zones ,mineralization, effects of aging on pulp • Normal periradicular tissue -cementum, Pdl, alveolar process
36.	Endodontic Microbiology,bacteriological examinations, culture methods
37.	DISEASES OF PULP <ul style="list-style-type: none"> • Causes of pulpal diseases • Classification • Diseases of pulp Reversible pulpitis Irreversible pulpitis Chronic hyperplastic pulpitis Internal resorption Pulp degeneration Necrosis of pulp Treatment of pulpal diseases
38.	DISEASES OF PERIRADICULAR TISSUES <ul style="list-style-type: none"> • Causes of periradicular diseases • Classification

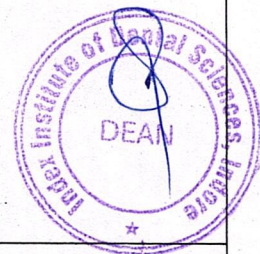


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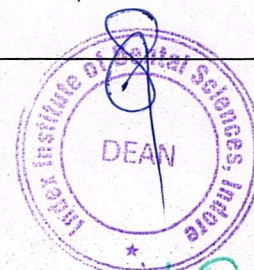
	<ul style="list-style-type: none"> • Diseases Symptomatic apical periodontitis Acute alveolar abscess Phoenix abscess Asymptomatic apical periodontitis Chronic alveolar abscess Granuloma Radicular cyst Condensing osteitis External root resorption Persistent apical periodontitis • Diseases of periradicular tissues of nonendodontic origin <p>RATIONALE OF ENDODONTIC TREATMENT</p> <ol style="list-style-type: none"> 1. Inflammation 2. Endodontic implications
39.	<p>SELECTION OF CASES FOR TREATMENT</p> <ol style="list-style-type: none"> 1. Common medical findings that may influence endodontic treatment planning 2. Dental evaluation and development of the endodontic treatment plan <ul style="list-style-type: none"> • Periodontal considerations • Surgical considerations • Restorative considerations • Endodontic therapy or dental implant • Retreatment • Immature teeth • Other factors
40.	<p>PRINCIPLES OF ROOT CANAL TREATMENT</p> <ul style="list-style-type: none"> ○ Local anesthesia ○ Rubber dam isolation ○ Techniques of rubber dam application ○ Sterilization of instruments ○ Recommended sterilization protocols ○ Biological monitoring
41.	<p>Vital pulp therapy</p> <ul style="list-style-type: none"> • Pulpotomy • Apexogenesis and Apexification • Introduction to Regenerative endodontics
42.	<p>ANATOMY OF PULP CAVITY AND ACCESS OPENING</p> <ul style="list-style-type: none"> • Components of the root canal system • Root canal anatomy • Anatomy of the apical root • Objectives and guidelines for access cavity preparation • Armamentarium for access cavity preparation • Morphology and Clinical guidelines for access cavity preparation for individual teeth • Challenging access preparations



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	<ul style="list-style-type: none"> • Errors in access cavity preparation
43.	WORKING LENGTH DETERMINATION <ol style="list-style-type: none"> 1. Definition 2. Anatomical considerations 3. Methods of determining working length Radiographic methods Nonradiographic methods Electronic methods
44.	ENDODONTIC INSTRUMENTS <ol style="list-style-type: none"> 1. Hand instruments 2. Instruments for pulp space preparation Classification Manually operated instruments Low speed rotary instruments Rotary instruments for canal preparation Sonic and ultrasonic instruments ISO standardization of instruments Devices for working length determination Instruments for obturation
45.	CLEANING AND SHAPING <ol style="list-style-type: none"> 1. Goals of shaping radicular space 2. Guidelines for shaping root canal 3. Phases in shaping 4. Root canal Shaping Techniques
46.	INTRACANAL IRRIGANTS <ol style="list-style-type: none"> 1. Ideal requirements of irrigants 2. Functions of irrigants 3. Types of endodontic irrigants 4. Irrigation guidelines 5. Irrigation techniques
47.	INTRACANAL MEDICAMENTS <ol style="list-style-type: none"> 1. Types 2. Ideal requirements 3. Mechanism of action 4. Recent advancements
48.	OBTURATION <ol style="list-style-type: none"> 1. Timing of obturation 2. Length of obturation 3. Requirements of ideal root canal filling material 4. Endodontic Sealers 5. Core materials 6. Techniques of obturation 7. Coronal seal 8. Recent advances in obturating materials
49.	RESTORATION OF ENDODONTICALLY TREATED TEETH <ol style="list-style-type: none"> 1. Planning of post endodontic restoration 2. Post endodontic restoration fabrication 3. Components of post core preparation 4. Classification and description of posts



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50.	TRAUMATIC INJURIES OF TEETH <ol style="list-style-type: none"> 1. Causes 2. Examination of traumatic injuries 3. Classification & management of traumatic injuries 4. Uncomplicated and complicated crown fractures 5. Response of pulp to trauma 6. Effect of trauma on supporting tissues
51.	ENDODONTIC EMERGENCIES AND THEIR MANAGEMENT <ol style="list-style-type: none"> 1. Diagnosis & treatment planning 2. Pretreatment, Intratreatment & Postobturation emergencies
52.	PROCEDURAL ACCIDENTS AND THEIR MANAGEMENT <ol style="list-style-type: none"> 1. Related to access opening, perforation and its management 2. Related to canal shaping and cleaning, Broken instruments and its management, management of single and double curved root canals 3. Related to obturation
53.	ENDO-PERIO RELATIONSHIP <ol style="list-style-type: none"> 1. Pathways of communication between pulp and periodontium 2. Effect of pulpal & periodontal disease on pulp 3. Classification 4. Diagnosis & treatment planning Management
54.	RESORPTION AND ITS MANAGEMENT <ol style="list-style-type: none"> 1. Classification 2. Cells involved in tooth resorption 3. Internal, External Cervical root resorption
55.	NON SURGICAL ENDODONTIC RETREATMENT <ol style="list-style-type: none"> 1. Etiology of persistent apical periodontitis 2. Treatment planning 3. Retreatment procedures 4. Prognosis
56.	SURGICAL ENDODONTICS <ol style="list-style-type: none"> 1. Classification 2. Presurgical considerations 3. Indications and contraindications 4. Principles 5. Flap designs 6. Application of surgical techniques 7. Root end filling material
57.	Biofilm and smear layer in endodontics
58.	SINGLE VISIT ENDODONTICS <ol style="list-style-type: none"> 1. Indications 2. Single vs multiple visit 3. Clinical considerations
59.	PHARMACOLOGY IN ENDODONTICS <ol style="list-style-type: none"> 1. Pain control 2. Selection of antibiotics
60.	MODERN CONCEPTS IN ENDODONTICS <ol style="list-style-type: none"> 1. Lasers 2. Adhesive endodontics
61.	ETHICS IN ENDODONTIC PRACTICE <ol style="list-style-type: none"> 1. Principles of ethics 2. Informed consent 3. Dental negligence



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	4. Malpractice 5. Dentist Act & its amendment 6. Duties towards government 7. Dental material and basic equipment management
62.	Introduction to Magnification
63.	1. Sars – cov – 2 relevance and prevention of aerosol transmission 2. Protective protocols in dentistry against the outbreak of corona virus disease

MINIMUM CLINICAL REQUIREMENTS MANDATORY TO APPEAR FOR UNIVERSITY EXAMINATION:

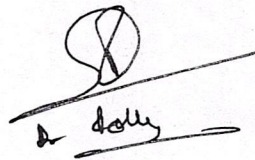
1. **Diagnosis, treatment planning and case history- 10 cases**
2. **Restoration: Amalgam/GIC/Composite: 90***
3. **RCT (Anterior): 10***

***Should have completed 75% of the above clinical work**

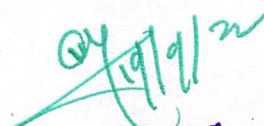
Recommended Books:

Conservative Dentistry and Endodontics

- 1) **The Art & Science of Operative Dentistry, Sturdevant, Mosby U.S.A**
- 2) **Principle & Practice of Operative Dentistry, Charbeneu, Varghese Publishing, Mumbai.**
- 3) **Grossman's Endodontic Practice, B. Suresh Chandra & V. Gopi Krishna, Wolters Kluwer**
- 4) **Phillips' Science of Dental Materials Anusavice, Chiayi Shen, H. Ralph Rawls**
- 5) **Sturdevant's art and Science of Operative Dentistry**


A. Dolly




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MALWANCHAL UNIVERSITY, INDORE (M.P.)

Syllabus for BDS 4th Year

Adapted from

[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY

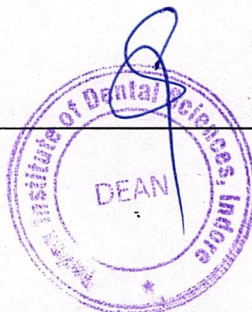
ORAL AND MAXILLOFACIAL SURGERY

Teaching Hours: 250 hr

Theory Hours: 50hr

Practical Hours: 200hr

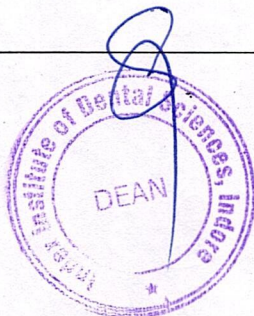
S. No.	Topic	Description	Hours
8.	Impacted teeth	i. Incidence, definition, etiology. ii. Impacted mandibular third molar Classification, reasons for removal Assessment - both clinical & radiological. Armamentarium and surgical procedures for removal. Complications during and after removal, its prevention and management. iii. Maxillary third molar, Indications for removal, classification, Armamentarium and surgical procedure for removal, Complications during and after removal, its prevention and management. iv. Impacted maxillary canine. Reasons for canine impaction, indications for removal, Methods of management, Localization, labial and palatal approaches, Complications during and after removal, its prevention and management Surgical exposure, Transplantation	4
9.	Neurological Diseases	i. Trigeminal neuralgia - definition, etiology, clinical features and methods of management including medical and surgical. ii. Facial paralysis - etiology, clinical features. iii. Nerve injuries - Classification, clinical features and management, Nerve Grafting -Neuropathy etc.	3
10.	Implants	Concept of osseointegration, History of implants their design & surface characteristics. Knowledge of various types of implants, Bone biology, Morphology, Classification of bone and its relevance to implant placement. Bone augmentation materials. Soft tissue considerations in implant dentistry. Surgical procedure to place implants.	2

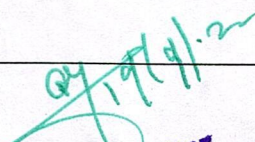


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ORAL & MAXILLOFACIAL SURGERY
H.O.D

11.	Diseases of the maxillary sinus	Surgical anatomy and development of the sinus. Sinusitis both acute and chronic Surgical approach of sinus - Cald well-Luc procedure, Knowledge of FESS, Removal of root from the sinus. Oro-antral fistula and communications- etiology, clinical features and surgical methods for closure.	2
12.	Cysts of the mouth and jaws	Definition, classification, pathogenesis. Diagnosis - Clinical features, radiological, FNAC, use of contrast media and histopathology. Management - types of surgical procedures. Rationale of the techniques, indications, contraindications, procedures, complications etc.	4
14.	Jaw deformities	Basic forms - Prognathism, Retrognathism and open bite. Reasons for correction. Diagnosis and treatment planning Outline of surgical methods carried out on mandible and maxillasubapical, body,sagittal split osteotomy, genioplasty, anterior maxillary Osteotomy, Le fort I osteotomy Role of distraction osteogenesis in correction of jaw deformities	3
15.	Cleft Lip and Palate	Etiology of the clefts, incidence, classification Role of dental surgeon/ maxillofacial surgeon in the cleft team. Outline of the closure procedures,	1




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16.	Infections of the Oral cavity	Introduction, surgical anatomy of the superficial and deep fasciae of head and neck Factors responsible for infection, pathogenecity, virulence Dento-alveolar abscess - aetiology, clinical features and management. Spread of odontogenic infections through various facial spaces and its management Ludwig's angina - definition, aetiology, clinical features, management and complications Course of odontogenic infections	6
17.	Fungal Infections of head and neck region	Candidiasis, Actinomycosis, Coccidiomycosis, Rhinosporidosis, Antifungal agents	1
18.	Osteomyelitis of the jaws	Definition, etiology, pre-disposing factors, classification, clinical features and management.	1
19.	Carcinoma of the oral cavity	Lymphatic Spread. TNM classification, Staging . Biopsy-types, filling of Histopathology request form Outline of management of Squamous Cell Carcinoma: surgery, radiation and chemotherapy Role of dental surgeons in the prevention and early detection of oral cancer.	2
20.	Osteoradionecrosis -	Definition, etiology, theories, pre-disposing factors, classification, clinical features and management.	1



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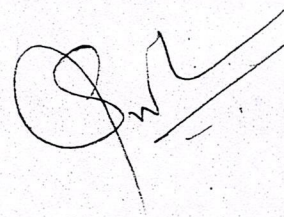
21.	Maxillofacial Traumatology	<p>Emergency management in maxillofacial trauma</p> <p>General considerations, types of fractures, aetiology, clinical features and general principles of management.</p> <p>Mandibular fractures - Applied anatomy, classification. Diagnosis - Clinical and radiological features, Management - Reduction - closed and open Fixation and immobilization methods outline of rigid and semi-rigid internal fixation.</p> <p>Fractures of the condyle - etiology, classification, clinical features, principles of management</p> <p>Fractures of the middle third of the face. Definition of the mid face, applied surgical anatomy, classification, clinical features and outline of management.</p> <p>Alveolar fractures - methods of management</p> <p>Fractures of the Zygomatic complex and orbit. Classification, clinical features, indications for treatment, various methods of reduction and fixation.</p> <p>maxillofacial Injuries in Children</p> <p>Complications of fractures - delayed union, non-union and malunion.</p>	7
22.	Salivary gland diseases	<p>Surgical Anatomy of Minor and Major salivary glands</p> <p>Sialography, contrast media, procedure.</p> <p>Inflammatory conditions of the salivary glands</p> <p>Sialolithiasis- Sub mandibular duct and gland , parotid duct and gland ,Clinical features, management, Intraoral and extra oral Sialolithotomy. Salivary fistulae, sialocoele</p> <p>Autoimmune diseases of the salivary glands, diagnosis managment</p> <p>Common tumours of salivary glands like Pleomorphic adenoma including minor salivary glands.</p>	3



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23.	Tumors of the Oral cavity	<p>General considerations, surgical principles</p> <p>Non odontogenic benign tumours occurring in oral cavity fibroma, papilloma, lipoma, ossifying fibroma, myxoma etc.</p> <p>Odontogenic tumors: both benign and malignant.</p> <p>Ameloblastoma - Clinical features, radiological appearance and methods of management.</p> <p>Osteogenic tumours of the faciomaxillary region.</p>	4
24.	Disorders of T.M. Joint	<p>Applied surgical anatomy of the joint.</p> <p>Development of the TMJ</p> <p>Surgical approaches to TM.J</p> <p>Radiological investigations</p> <p>Hypermobility of TMJ; Dislocation - Types, aetiology, clinical features and management.</p> <p>Hypomobility of TMJ; Classification, Ankylosis - Definition, aetiology, clinical features and management</p> <p>Myo-facial pain dysfunction syndrome, etiology, clinical features, management- Non surgical and surgical.</p> <p>Internal derangement of the joint.</p> <p>Inflammatory Diseases of T.M. Joint.</p> <p>Arthroscopy</p>	4

1. COVID – 19 Guidelines for triage of emergency patients requiring surgical intervention
2. Orbitomaxillary Mucormycosis




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Syllabus for BDS 4th Year

Adapted from

[Part III- SEC.4] THE GAZETE OF INDIA: EXTRAORDINARY

PUBLIC HEALTH DENTISTRY

Teaching Hours: 260 h r

Theory Hours: 60 hr

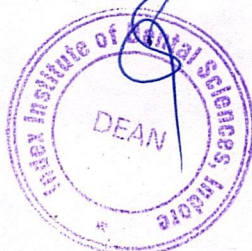
Practical Hours: 200 hr

Syllabus:

1. Introduction to Dentistry: Definition of Dentistry, History of dentistry, Scope, aims and objectives of Dentistry.
2. Public Health:
 - i. Health & Disease: - Concepts, Philosophy, Definition and Characteristics
 - ii. Public Health: - Definition & Concepts, History of public health
 - iii. General Epidemiology: - Definition, objectives, methods
 - iv. Environmental Health: - Concepts, principles, protection, sources, purification environmental sanitation of water disposal of waste sanitation, then role in mass disorder
 - v. Health Education: - Definition, concepts, principles, methods, and health education aids
 - vi. Public Health Administration: - Priority, establishment, manpower, private practice management, hospital management.
 - vii. Ethics and Jurisprudence: Professional liabilities, negligence, malpractice, consents, evidence, contracts, and methods of identification in forensic dentistry.
 - viii. Nutrition in oral diseases
 - ix. Behavioral science: Definition of sociology, anthropology and psychology and their in dental practice and community.
 - x. Health care delivery system: Center and state, oral health policy, primary health care, national programmes, health organizations

Dental Public Health:

1. Definition and difference between community and clinical health.
 2. Epidemiology of dental diseases-dental caries, periodontal diseases, malocclusion, dental fluorosis and oral cancer.
 3. Survey procedures: Planning, implementation and evaluation, WHO oral health survey methods 1997, indices for dental diseases.
 4. Delivery of dental care: Dental auxiliaries, operational and non-operational, incremental and comprehensive health care, school dental health.
 5. Payments of dental care: Methods of payments and dental insurance, government plans
 6. Preventive Dentistry- definition, Levels, role of individual, community and profession, fluorides in dentistry, plaque control programmes.
- Research Methodology and Dental Statistics



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Public Health Dentistry
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1. Health Information: - Basic knowledge of Computers, MS Office, Window 2000, Statistical Programmes
2. Research Methodology: -Definition, types of research, designing a written protocol
3. Bio-Statistics: - Introduction, collection of data, presentation of data, Measures of Central tendency, measures of dispersion, Tests of significance, Sampling and sampling techniques, errors, bias, blind trails and calibration.

Practice Management:

1. Place and locality
2. Premises & layout
3. Selection of equipments
4. Maintenance of records/accounts/audit.

Dentist Act 1948 with amendment.

Dental Council of India and State Dental Councils

Composition and responsibilities.

Indian Dental Association Head Office, State, local and branches.

1. Epidemiology COVID – 19 & prevention of its spread
2. Update on biomedical waste management during COVID – 19

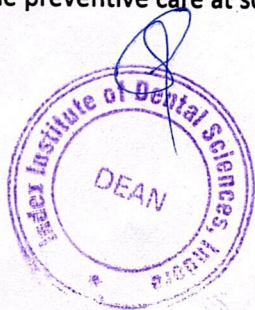
PRACTICALS/CLINICALS/FIELD PROGEAMME IN COMMUNITY DENTISTRY:

These exercises designed to help the student in IV year students:

1. Understand the community aspects of dentistry
2. To take up leadership role in solving community oral health programme

Exercises:

- a) Collection of statistical data (demographic) on population in India, birth rates, morbidity and mortality, literacy, per capita income
- b) Incidence and prevalence of common oral diseases like dental caries, periodontal disease, oral cancer, fluorosis at national and international levels
- c) Preparation of oral health education material posters, models, slides, lectures, play acting skits etc.
- d) Oral health status assessment of the community using indices and WHO basic oral health survey methods
- e) Exploring and planning setting of private dental clinics in rural, semi urban and urban locations, availment of finances for dental practices-preparing project report.
- f) Visit to primary health center-to acquaint with activities and primary health care delivery
- g) Visit to water purification plant/public health laboratory/ center for treatment of western and sewage water
- h) Visit to schools-to assess the oral health status of school children, emergency treatment and health education including possible preventive care at school (tooth brushing technique demonstration and oral rinse programme etc.)



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i) Visit to institution for the care of handicapped, physically, mentally, or medically compromised patients

j) Preventive dentistry: in the department application of pit and fissure sealants, fluoride gel application procedure, A. R. T., Comprehensive health for 5 pts at least 2 patients

The colleges are encouraged to involve in the N.S.S. programme for college students for carrying out social work in rural areas

SUGGESTED INTERNSHIP PROGRAMME IN COMMUNITY DENTISTRY:

I. AT THE COLLEGE:

Students are posted to the department to get training in dental practice management.

(a) Total oral health care approach- in order to prepare the new graduates in their approach to diagnosis, treatment planning, cost of treatment, prevention of treatment on schedule, recall maintenance of records etc. at least 10 patients (both children and adults of all types posting for at least one month).

(b) The practice of chair side preventive dentistry including oral health education

II. AT THE COMMUNITY ORAL HEALTH CARE CENTRE (ADOPTED BY THE DENTAL COLLEGE IN RURAL AREAS) Graduates posted for at least on month to familiarize in:

(a) Survey methods, analysis and presentation of oral health assessment of school children and community independently using WHO basic oral health survey methods.

(b) Participation in rural oral health education programmes

(c) Stay in the village to understand the problems and life in rural areas

III. DESIRABLE: Learning use of computers-at least basic programme.

Examination Pattern

I. Index: Case History

b) Oral hygiene indices simplified- Green and Vermilion

c) Silness and Loe index for Plaque

d) Loe and Silness index for gingival

e) CPI

f) DMF: T and S, df:t and s

g) Deans fluoride index

II. Health Education



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1. Make one - Audio visual aid

2. Make a health talk

III. Practical work

1. Pit and fissure sealant

2. Topical fluoride application

BOOKS RECOMMENDED & REFERENCE:

1. Dentistry Dental Practice and Community by David F. Striffler and Brain A. Burt, Edn. -1983, W. B. Saunders Company

2. Principles of Dental Public Health by James Morse Dunning, IVth Edition, 1986, Harward University Press.

3. Dental Public Health and Community Dentistry Ed by Anthony Jong Publication by The C. V. Mosby Company 1981

4. Community Oral Health-A system approach by Patricia P. Cormier and Joyce I. Levy published by Appleton-Century-Crofts/New York, 1981

5. Community Dentistry-A problem oriented approach by P. C. Dental Hand book series Vol.8 by Stephen L. Silverman and Ames F. Tryon, Series editor-Alvin F. Gardner, PSG Publishing company Inc. Littleton Massachuseltts, 1980.

6. Dental Public Health- An Introduction to Community Dentistry. Edition by Geoffrey L. Slack and Brain Burt, Published by John Wrigth and sons Bristol, 1980

7. Oral Health Surveys- Basic Methods, 4th edition, 1997, published by W. H. O. Geneva available at the regional office New Delhi.

8. Preventive Medicine and Hygiene-By Maxcy and Rosenau, published by Appleton Century Crofts, 1986.

9. Preventive Dentistry-by J. O. Forrest published by John Wright and sons Bristol, 1980.

10. Preventive Dentistry by Murray, 1997.

11. Text Book of Preventive and Social Medicine by Park and park, 14th edition.

12. Community Dentistry by Dr. Soben Peter.

13. Introduction to Bio-statistics by B. K. Mahajan

14. Introduction to Statistical Methods by Grewal.



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