

## III BDS ORAL MEDICINE AND RADIOLOGY

### Radiology III YEAR THEORY : 8 Hours

1. Introduction to Oral Radiology -History, origin, Definitions, scope & limitations.	1 hour
2. Basic physics in radiology <ul style="list-style-type: none"> <li>- Radiographic equipment</li> <li>- Radiographic accessories (film holders, beam directional devices, intensifying screens, extra oral cassettes, grids etc.)</li> <li>- Radiographic image receptors</li> </ul> <p>Factors responsible for ideal radiographs:</p> <ul style="list-style-type: none"> <li>i. KvP and ma of X-ray machine</li> <li>ii. Filters</li> <li>iii. Collimations</li> <li>iv. Intensifying screens</li> <li>v. Grids</li> </ul> <p>Faulty radiographs and artefacts in radiographs.</p>	1 hour
- Production of X rays (dark room procedures, composition of developer fixer, safe lighting, processing technique- manual/ automatic, storage of films)	1 hour
<ul style="list-style-type: none"> <li>- Properties of X rays</li> <li>- Sources of radiation.</li> <li>- Electromagnetic spectrum &amp; types of radiation</li> <li>- Electro physical factors</li> <li>- Collimation, Filtration</li> <li>- Films</li> <li>- Principles of Shadow Casting</li> <li>- Projection Geometry</li> <li>- Object localization techniques</li> </ul>	2 hour
3. Principles of Intra oral Radiography, techniques, indications of - IOPA Bitewing, Occlusal radiography - lecture	1 hour
4. Radiographic interpretation - I <ul style="list-style-type: none"> <li>- Principles, procedures.</li> <li>- Normal radiographic landmarks of jaws &amp; adjacent structures.</li> <li>- Radiographic interpretations &amp; differential diagnosis in dental caries periodontal diseases, periapical disease</li> </ul>	2 hour

## IV BDS

# ORAL MEDICINE AND RADIOLOGY

Theory: 45 Hours

Practicals : 100 Hours

### MUST KNOW

#### IV YEAR ORAL MEDICINE THEORY: 31 HOURS

<p>1. Acute infections of oral and para oral structures - bacterial, viral, fungal, parasitic including cervico facial lymphadenopathy.  <b>Bacterial:</b> Streptococcal, tuberculosis, syphilis, vincent's, leprosy, actinomycosis, diphtheria and tetanus.  <b>Fungal:</b> Candida albicans, deep seated fungal infections  <b>Virus:</b> Herpes simplex, Herpes zoster, Ramsy Hunt Syndrome, measles, herpangina, mumps, infectious mononucleosis, HIV, hepatitis -B, hepatitis-C  Granulomatous diseases: tuberculosis, sarcoidosis, midline lethal granuloma, Crohn's disease and histiocytosis X</p>	<p>2 hour</p>
<p>2. White and red lesions of oral mucosa.  White lesions: chemical burns, leukoedema, leukoplakia, fordyce's spots, stomatitis nicotina palatinus, white spongy nevus, candidiasis, lichen planus, discoid lupus erythematosus, oral submucous fibrosis  Red lesions: Erythroplakia, stomatitis venenata and medicamentosa, erosive lesions and denture sore mouth.</p>	<p>2 hour</p>
<p>3. Ulceerative lesions : Acute and chronic ulcers.  Vesiculobullous lesions of oral mucosa: herpes simplex, herpes zoster, herpangina, bullous lichen planus, pemphigus, cicatricial pemphigoid, erythema multiforme.</p>	<p>2 hours</p>
<p>4. Diagnostic protocol for differential diagnosis of cysts, odontogenic, non-odontogenic and developmental cysts.  Cysts of soft tissues : Mucocele and Ranula  Cysts of bone : odontogenic and non-odontogenic.  Tumors: Soft tissue: Epithelial: Papilloma, Carcinoma, Melanoma.  Connective tissue: Fibroma, lipoma, fibrosarcoma.  Vascular: Haemangioma, Lymphangioma.  Nerve tissue: Neurofibroma, traumatic neuroma, Neurofibromatosis.  Salivary Glands: Pleomorphic adenoma, Adenocarcinoma, Warthin's tumor, Adenoid cystic carcinoma.  <b>Hard tissue:</b>  Non-odontogenic tumors:  Odontogenic tumors:  Fibro osseous lesions of oral paraoral structures.</p>	<p>2 hours</p>

<p>5. Oral manifestations of Metabolic disorders:</p> <ul style="list-style-type: none"> <li>i. Porphyria</li> <li>ii. Haemochromatosis</li> <li>iii. histiocytosis,</li> </ul> <p>Oral manifestations of endocrinal disorders:</p> <ul style="list-style-type: none"> <li>i. Pituitary: - Acromegaly, Gigantism, hypopituitarism.</li> <li>ii. Adrenal cortex: Addison's disease (hypofunction) Cushing's syndrome (hyper function)</li> <li>iii. Parathyroid glands: Hyperparathyroidism, hypoparathyroidism</li> <li>iv. Thyroid glands: Cretinism(hypothyroidism), myxoedema, hyperthyroidism</li> <li>v. Pancreas: Diabetes.</li> </ul> <p>Nutritional deficiency affecting oral cavity: Vitamins: Riboflavin, nicotinic acid, folic acid, vitamin B12, vitamin C (scurvy)</p> <p>Blood disorders:</p> <ul style="list-style-type: none"> <li>i. Red blood cell diseases: iron deficiency anemia, plummer Vinson syndrome, pernicious anemia, thalassemia, sickle cell anemia, erythroblastosis foetalis, aplastic anemia, polycytemia.</li> <li>ii. WBC disorders: Neutopenia, cyclic neutropenia, agranulocytosis, infectious mononucleosis and leukemias</li> <li>iii. Bleeding &amp; clotting disorders: thrombocytopenia, purpura, haemophilia, Christmas disease and Von Willebrand's disease.</li> </ul>	2 hours
<p>6. Dermatological diseases importance to dentistry:</p> <ul style="list-style-type: none"> <li>i. Ectodermal dysplasia</li> <li>ii. Hyperkeratosis palmoplantaris with periodontopathy</li> <li>iii. Scleroderma</li> <li>iv. Lichen planus including grinspan syndrome</li> <li>v. lupus erythematoses</li> <li>vi. Pemphigus</li> <li>vii. Erythema multiforme</li> <li>viii. Psoriasis.</li> </ul>	2 hours
<p>7. Disease of tongue and tongue in systemic diseases:</p> <p>Aglossia, ankyloglossia, bifid tongue, fissured tongue, scrotal tongue, macroglossia, microglossia, geographic tongue, median rhomboid glossitis, depapillation of tongue, hairy tongue, atrophic tongue, reactive lymphoid hyperplasia, glossodynia, glossopyrosis, ulcers, white and red lesions.</p>	1 hour
<p>8. Concept of pre malignancy, Premalignant lesions and conditions</p>	1 hour
<p>9. Oral Cancer, Etiology and Classification</p> <p>Epidemiology.</p> <ul style="list-style-type: none"> <li>- Screening.</li> <li>- Clinical Features and Clinical staging</li> <li>- Diagnosis.</li> <li>- Laboratory Investigations and Diagnosis.</li> <li>- Immune concepts in Oral Malignancies.</li> <li>- Management Chemotherapy / Radiotherapy.</li> </ul>	2 hour

<p>10. Diseases of salivary glands:</p> <ul style="list-style-type: none"> <li>i. Developmental disturbances: Aplasia, atresia and aberration.</li> <li>ii. Functional disturbances : Xerostomia, ptyalism.</li> <li>iii. Inflammatory conditions: Non-specific sialadenitis, mumps, sarcodiosis, heerdfort's syndrome (uveoparotid fever), necrotizing sialometaplasia.</li> <li>iv. Cysts and tumors: Mucocele, ranula, ;pleomorphic adenoma, mucoepidermoid carcinoma.</li> <li>v. Miscellaneous : sialolithiasis, Sjogren's syndrome, mikuliez's disease and sialosis.</li> </ul>	1 hour
11. Autoimmune diseases affecting oral cavity	2 hour
<p>12. Allergic: Local allergic reactions, anaphylaxis, serum sickness (local and systemic allergic manifestations to drugs and chemicals)</p> <p>Immunoological lesions of oral cavity:</p> <ul style="list-style-type: none"> <li>i. Multiple myeloma</li> <li>ii. HIV clinical manifestations, oppourtunistic infections, neoplasms</li> <li>iii. Thrombocytopenia</li> <li>iv. Lupus erythematosus</li> <li>v. Scleroderma</li> <li>vi. Dermatomyositis</li> <li>vii. Rheumatoid arthritis</li> <li>viii. Recurrent oral ulcerations including behcet's syndrome and reiter's syndfrome.</li> </ul>	1 hour
<p>13. Diseases of TMJ : Developmental abnormalities of condyle, rheumatoid arthritis, osteoarthritis, subluxation and luxation, internal derangement of TMJ, myofacial pain dysfunction sydrome.</p> <p>Diseases of Bone: Development disorders, anomalies, exostosis and tori, infantile cortical hyperostosis, osteogenesis imperfecta, marfans syndrome, osteoporosis. Miscellaneous- Paget's disease, mono and polyostotic fibrous dysplasia, cherubism,</p>	3 hour
14. Diseases of maxillary sinus	1 hour
<p>15. Oral manifestations of systemic diseases and medical emergency management, cardiac patient,cardias arrest, specific infections, syncope, anaphylaxis.</p> <p>Phsiologic changes: Puberty, pregnancy and menopause.</p>	1 hour
16. Maxillofacial trauma clinical diagnostic protocol	1 hour
17. Psychosomatic diseases, burning mouth syndrome, glossopyrosis glossodynia, orofacial dysaesthesia, cancerophobia., MPDS, taste abnormalities	1 hour
<p>18. Forensic Odontology including radiography in forensic odontology:</p> <ul style="list-style-type: none"> <li>i. Medicolegal aspects of orofacial injuries</li> <li>ii. Identification of bite marks</li> </ul>	1 hour

iii. Determination of age and sex iv. Identification of cadavers by dental appliances, restorations and tissue remnants.	1 hour
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## IV BDS ORAL MEDICINE AND RADIOLOGY

### MUST KNOW IV YEAR RADIOLOGY THEORY: 14 HOURS

1. Radiographic interpretation II - Radiographic artifacts.	1 hour
- Radiographic features of common pathologies of jaw bones (cysts , tumors, fibro-osseous diseases, metabolic, endocrine, nutritional blood disorders)	2 hour
- TMJ radiography -	1 hour
2. Biologic effects of radiation and radiation protection	2 hours
3. Principles of radiotherapy- preparation of patient for oral radiotherapy, management of post radiation oral complications	1 hour
4. Principles of extra oral radiography- techniques and indications of maxillary sinus, trauma radiography, cephalometry, various skull projections.	2 hour
5. Contrast radiography- technique and interpretation of Sialography, cystography, arthrography, angiography- lecture.	1 hour
6. Panoramic Radiography	1 hour
7. Advance radiographic techniques- CT scans, PET scans, radionucleide diagnosis, digital radiography, sialography, digital imaging, xeroradiography	1 hour

### Clinicals III & IV year BDS (inclusive) ORAL MEDICINE

1. Detailed presentation of case histories of (minimum) ten special cases.

### RADIOLOGY

1. Taking IOPA for at least 25 cases and processing them.
2. Taking at least 2 Bite wing radiographs and processing them.
3. Interpretation of at least 25 IOPA Radiographs.

### CLINICAL DEMONSTRATIONS

1. Demonstrations of the following radiographic techniques:

- a. Maxillary and mandibular occlusal view
- b. Orthopantomograph
- c. Lateral cephalogram
- d. Postero anterior view of mandible
- e. Paranasal sinus view
- f. Reverse townes's view
- g. Submentovertex view
- h. Lateral oblique view for ramus and body of mandible

2. Identification Of The Above Mentioned Radiographs And Their Interpretation

### Scheme of Examination

#### A. Theory (university written examination) 70 Marks

Distribution of Topics and Types of Questions

Contents	Type of Questions and Marks	Marks
a. 1 Question from Oral Medicine b. 1 Question from Radiology	Long Essays 2 x 10 marks	20
a. 4 Questions from Oral Medicine b. 4 Questions from Radiology	Short Essays 8 x 5 marks	40
a. 3 Questions from Oral Medicine b. 2 Questions from Radiology	Short Answers 2x5	10
	Total	70

#### B. Internal Assessment Theory: 10 marks, Practicals:10 marks

#### C. Clinicals: 90 Marks

I. Clinicals in Oral Medicine: 60 Marks (recording of Long Case)

- a. Case History taking 30 Marks
- b. Diagnosis & Differential Diagnosis 10 Marks
- c. Investigations 10 Marks
- d. Management 10 Marks

II. Clinicals in Radiology: 30 Marks (One Intra.a-Oral Periapical Radiograph to be taken)

- a. Technique 10 Marks
- b. Processing 10 Marks
- c. Interpretation 10 Marks

D. Viva Voce 20 Marks  
Theory : 100  
University written exam : 70

Viva Voce	:	20
Internal assessment (written)	:	10
Total	:	<u>100</u>

Clinical:100		
University exam	:	90
Internal assessment (written)	:	10
Total	:	<u>100</u>

### **BOOKS RECOMMENDED:**

#### **a. Oral Diagnosis, Oral Medicine, Oral Pathology**

1. Burkit - Oral medicine - J.B. Lippincott Company
2. Coleman - Principles of Oral Diagnosis - Mosby Year Book
3. Jones - Oral Manifestations of Systemic Diseases - W. B. Saunders company
4. Mitchell - Oral Diagnosis & Oral Medicine
5. Kerr - Oral Diagnosis
6. Miller - Oral Diagnosis & Treatment
7. Hutchinson - Clinical Methods
8. Shafers - Oral Pathology
9. Sonis. S.T., Fazio.R.C. and Fang. L - Principles and Practice of Oral Medicine
10. Differential diagnosis of oral lesions - Norman wood KW and Paul W. HGoaz 4th edition, 1997, Mosby Philadelphia.
11. Hand book of medical emergencies in dental office by Malamed Stanley 3rd edition 1989, - AITBS, Mosby.
12. Orofacial pains, classification, diagnosis and management by Bell Welden, 4th edition 1989, year book Medical publishers, Chicago.
13. Oral & Marillofacial Injections - Topazian Richard
14. Oral & Marillofacial Pathology - Neville
15. Oral Pathology - Clinical Pathology Carrelation Reglzi

#### **b. Oral Radiology**

1. White & Goaz - Oral Radiology - Mosby Year Book
2. Weaheman - Dental radiology - C. V. Mosby Company
3. Stafine - Oral Roentgenographic Diagnosis - W.B. Saunders company
4. Fundamentals of oral medicine and radiology by Bailoor DN and Nagesh KS 1st and 2nd edition 1994, 2001. Contemporary dental publishers
5. Dental Radiography - Principles & Technique - Haring, Howerlow
6. Essentials of Dental Radiography & Radiology - Eevie Whailes

#### **c. Forensic Odontology**

1. Derek H. Clark - Practical Forensic Odontology - Butterworth - Heinmann (1992)
2. C. Michel Bowers, Gary Bell - Manual of Forensic Odontology - Forensic Pr.(1995)