DETAILED SYLLABUS FOR THE POST OF ASSISTANT PROFESSOR IN ORAL MEDICINE AND RADIOLOGY IN (KERALA MEDICAL EDUCATION SERVICE) - DIRECT RECRUITMENT

(Cat.No. 291/2023)

MODULE 1: LAB INVESTIGATIONS IN ORAL DISEASE (15 marks)

1. Routine investigations: blood, urine, saliva chemistry, cytology of oral lesions- collection procedures, normal values, significance & clinical implications of varied values.

2. Advanced investigations: immunohistochemistry, immunocytochemistry, immunofluorescence, serological tests for infections, tumour markers, molecular methods in diagnosis of oral mucosal disease, immunological methods for diagnosis of oral mucosal disease.

3. Biopsy : types & procedures

4. Lab investigations in hematological disease, bleeding & clotting diseases.

5. Lab investigations in autoimmune diseases & dermatologic diseases with oral manifestations, Clinical immunology in oral disease.

6. Lab investigations in bacterial, viral, parasitic & fungal diseases.

7. Lab investigations in hematological disease, bleeding & clotting diseases.

8. Lab investigations in oral cancers & premalignant lesions & conditions of oral cavity

9. Lab investigations in orofacial pain, diseases of tongue & diseases of TMJ

10. Lab investigations in ulcers, vesiculobullous lesions, white & red lesions.

11. Lab investigations in salivary gland disease

MODULE 2: MANAGEMENT OF THE PATIENT WITH SYSTEMIC DISEASE (15 marks)

1. Dental management of the patient with cardiac disease: atherosclerosis, hypertension, angina pectoris, myocardial infarction, congestive cardiac failure, arrhythmias.

2. Dental management of the patient with endocrine disease; diabetes mellitus, adrenal disease, thyroid disease, patient on steroid therapy, arthritis.

3. Dental management of the patient with pregnancy.

4. Dental management of the patient with pulmonary disease: asthma, COPD, Tuberculosis. sarcoidosis

5. Dental management of the patient with gastrointestinal disease: peptic ulcer, inflammatory bowel disease, cirrhosis, hepatitis.

6. Dental management of the patient with hematologic disease: anemia, bleeding & hemorrhagic disorders, anticoagulation therapy, hematological malignancies

7. Dental management of the patient with renal disease: renal failure, dialysis, renal transplant.

8. Dental management of the patient with neurological & psychiatric disease: seizures, cerebrovascular disease, craniofacial neurological diseases, outpatient psychiatric disease.

9. Dental management of the patient with organ transplant: kidney, liver, lung & heart transplant.

10. Basic clinical medical assessment of the patient with medical disease, medical emergencies in the dental chair.

11. Congenital and Hereditary disorders involving tissues of oro facial region, Systemic diseases due to oral foci of infection.

MODULE 3: ORAL MUCOSAL DISEASE (10 marks)

1. Differential diagnosis of Ulcerative, vesicular & bullous diseases: acute multiple ulcers, recurring ulcers, chronic multiple ulcers, single ulcers affecting oral cavity. Investigations for oral ulcers.

2. Differential diagnosis of Red, white & mixed lesions of oral cavity: premalignant lesions, hereditary, neoplastic, reactive, infectious, variations of normal. Advanced techniques for investigating red, white & mixed lesions of oral cavity & premalignant lesions

3. Pigmentation of oral mucosa: red/blue/purple vascular, melanocytic, brown heme-associated, gray/black lesions, tobacco lesions, habit associated lesions, non-melanocytic lesions. Differential diagnosis & investigations for pigmentation of oral cavity.

4. Benign tumours of oral cavity & gingival enlargements, odontogenic & non odontogenic cysts of head & neck. . Differential diagnosis & investigations for growths in the oral cavity. Recent advances in diagnosis of oral tumours.

5. Oral cancer: epidemiology, molecular pathogenesis, etiology, clinical diagnosis, investigations, classification, differential diagnosis & recent advances for diagnosis, biomarkers of cancer & progression, prognosis, treatment with recent methods, viral oncogenesis, new concepts in oral oncogenesis, chemoprevention, Radiation oncogenesis.

6. Diseases of tongue: developmental/hereditary, lingual mucosal disease, tumours, infections, neural diseases affecting oral cavity & jaws. . Differential diagnosis & investigations for tongue disease.

7. Differential diagnosis & investigations for Verrucal-papillary lesions, connective tissue lesions, lymphoid lesions.

8. Differential diagnosis & investigations for Inflammatory jaw lesions: pulpal, periodontal, inflammatory bone disease.

9. Skin diseases affecting oral cavity: clinical diagnosis, Differential diagnosis , recent advances in treatment & investigations for skin diseases.

10. Geriatric oral disease

11. Pediatric oral mucosal disease

12. Disease affecting teeth, Teeth in local and systemic diseases, congenital, and hereditary disorders.

13. Periodontal disease

14. Pulpal disease

15. Forensic odontology

16. Concept of immunity as related to oro – facial lesions, including AIDS & STDs

17. Physical & chemical injuries to oral cavity & teeth.

18. Bacterial, fungal & viral disease of oral cavity with differential diagnosis & investigations.

19. Focus of infection,& maxillofacial space infections: imaging, assesement, differential diagnosis & treatment.

MODULE 4: OROFACIAL PAIN & TMJ (10 marks)

1. Orofacial pain: epidemiology, epidemiology, etiology, models & classification of pain, peripheral & central mechanisms, motor disorders, diagnosis, differential diagnosis, investigations, molecular markers, diagnostic imaging, multidisciplinary team approach, treatment & recent advances in orofacial pain, headaches, head & neck facial pain syndromes, complementary & alternative medicine.

2. Taste disorders

3. Oral symptoms without apparent physical abnormality: atypical facial pain, glossodynia, burning mouth syndrome, idiopathic dysguesia, oral psychosomatic disease.

4. Temporomandibular diseases: applied anatomy, normal physiology, embryology, epidemiology, etiology, models & classification of disease, abnormalities, diagnosis, differential diagnosis, investigations, molecular markers, diagnostic imaging, multidisciplinary team approach, treatment & recent advances in TMJ disease.

5. Sleep medicine.

MODULE 5: SALIVARY GLAND DISEASE (5 marks)

1. Reactive lesions, infections, neoplasms, non neoplastic disease

2. Autoimmune disease

3. Developmental disease.

4. Recent advances in assessment of salivary gland disease

MODULE 6: DISEASES OF BONE AFFECTING JAWS(5 marks)

1. Developmental, reactive, endocrine, metabolic, idiopathic, fibro osseous, inflammatory bone disease, neoplastic disease of bone.

2. Investigations for bone diseases affecting jaws with recent updates.

3. Differential diagnosis of bone disease.

4. Maxillofacial trauma: assessment, investigation, imaging & management

MODULE 7: APPLIED PHARMACOLOGY IN ORAL MEDICINE(10 marks)

1. Medical management of oral mucosal disease.

2. Antibiotics, analgesics, steroids, vitamins, micronutrients, antioxidants, mouthwashes, dentrifices, desensitizing agents, topically used mediations:

3. Adverse drug effects, drug interactions in dentistry.

4. Skeletal Muscle Relaxants, Histamine and Antihistaminics, Prostaglandins, Leukotrienes (Eicosanoids) and Platelet Activating Factor, Drugs for Cough and Bronchial Asthma, Insulin, Oral Hypoglycaemic Drugs and Glucagon, Sedative-Hypnotics . Antiepileptic Drugs, Opioid Analgesics and Antagonists, Drugs Affecting Coagulation, Bleeding and Thrombosis,

5. Antimicrobial Drugs, Antifungal Drugs, Antiviral Drugs. Anticancer Drugs & chemotherapy, Drugs Acting on Skin and Mucous Membranes . Antiseptics, Disinfectants.

6. Rationale for selection of drugs in dentistry.

7. Bacterial endocarditis & recent advances in therapy

MODULE 8: ORAL DIAGNOSIS:(10 marks)

1. Diagnostic process

2. Techniques in general physical diagnosis

3. Techniques in clinical oral diagnosis

4. Recent advances in oral diagnosis

5. Chairside investigations for oral diagnosis

6. Recent advances in periodontal diagnosis

7. Recent advances in endodontic diagnosis.

MODULE 9: BASIC ORAL RADIOLOGY(10 marks)

1. History of dental radiology, , structure of x – ray tube, production of x – ray, property of x – rays, Radiation Physics, Radiobiology, Radiation oncogenesis, Radiation Safety and Protection.

2. Projection Geometry, X-Ray Films, Filtration of collimation, grids and units of radiation, Design of x –ray department, dark room and use of automatic processing units . Localization by radiographic techniques . Faults of dental radiographs and concept of ideal radiograph . Quality assurance and audit in dental radiology Intensifying Screens, and Grids, Processing X-Ray Film, Digital Imaging, Infection Control, Intraoral Radiographic Examinations, Normal Radiographic Anatomy, Panoramic Imaging, Extraoral Radiographic Examinations,

MODULE 10: ADVANCED IMAGING OF MAXILLOFACIAL REGION (10 marks)

1. Advanced Imaging: CT, MRI, SCINTIGRAPHY, SPECT, PET, ULTRASOUND, Cone-Beam Computed Tomography. Radiation protection and ICRP guidelines, Guidelines for Prescribing Dental Radiographs.

2. Principles of Radiographic Interpretation, Radiographic Interpretation of Dental Caries, Periodontal Diseases, Dental Anomalies, Infl ammatory Lesions of the Jaws, Cysts and Cystlike Lesions of the Jaws, Benign Tumors of the Jaws, Malignant Diseases of the Jaws, Diseases of Bone Manifested in the Jaws, Systemic Diseases Manifested in the Jaws, Diagnostic Imaging of the Temporomandibular Joint, Paranasal Sinuses, Soft Tissue Calcification and Ossification, Imaging in Trauma to Teeth and Facial Structures, Developmental Disturbances of the Face and Jaws, Salivary Gland Radiology, Dental Implants,

3. Radiograph differential diagnosis of radiolucent, radio opaque and mixed lesions.

NOTE: – It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper.