

**Syllabus for the Preliminary Test for the recruitment of**  
**Assistant Professor, Periodontology,**  
**Class-I, (Dental)( Advt. No.-44/2024-25)**

**Marks-200**

**Questions-200**

**Medium-English**

**1. APPLIED ANATOMY**

Development of the Periodontium, Micro and Macro structural anatomy and biology of the periodontal tissues, Age changes in the periodontal tissue, Anatomy of the Periodontium: Macroscopic and microscopic anatomy, Blood supply of the Periodontium, Lymphatic system of the Periodontium, Nerves of the Periodontium. Temporomandibular joint, Maxillae and Mandible, Tongue, oropharynx, Muscles of mastication/Face, Blood supply and nerve supply of Head & Neck and Lymphatics, Spaces of Head & neck.

**2. PHYSIOLOGY**

Blood, Respiratory system – knowledge of the respiratory diseases which are a cause of periodontal diseases (periodontal Medicine), Cardiovascular system: Blood pressure, Normal ECG, Shock. Endocrinology – hormonal influences on Periodontium, Gastrointestinal system: Salivary secretion – composition, function & regulation, Reproductive physiology, Hormones – Actions and regulations, role in periodontal disease, Family planning methods, Nervous system: Pain pathways, Taste – Taste buds, primary taste sensation & pathways for sensation. Hemostasis.

**3. BIOCHEMISTRY**

Basics of carbohydrates, lipids, proteins, vitamins, proteins, enzymes and minerals, Diet and nutrition and periodontium, Biochemical tests and their significance, Calcium and phosphorus.

**4. PATHOLOGY**

Cell structure and metabolism, Inflammation and repair, necrosis and degeneration, Immunity and hypersensitivity, Circulatory disturbances –

edema, hemorrhage, shock, thrombosis, embolism, infraction and hypertension, Disturbances of nutrition, Diabetes mellitus, Cellular growth and differentiation, regulation, Lab investigations, Blood.

## **5. MICROBIOLOGY**

General bacteriology: Identification of bacteria, Culture media and methods, Sterilization and disinfection, Immunology and infection, Systemic bacteriology with special emphasis on oral microbiology – staphylococci, genus actinomyces and other filamentous bacteria and actinobacillus actinomycetum comitons, Virology: General properties of viruses, Herpes, Hepatitis, virus, HIV virus, Mycology: Candidiasis. Applied microbiology, Diagnostic microbiology and immunology, hospital infections and management.

## **6. PHARMACOLOGY**

1. General pharmacology: Definitions – Pharmacokinetics with clinical applications, routes of administration including local drug delivery in Periodontics, Adverse drug reactions and drug interactions.
2. Detailed pharmacology of
  - a. Analgesics – opioid and nonopioid
  - b. Local anesthetics
  - c. Haematinics and coagulants, Anticoagulants
  - d. Vit D and Calcium preparations
  - e. Antidiabetics drugs
  - f. Steroids
  - g. Antibiotics
  - h. Antihypertensive
  - i. Immunosuppressive drugs and their effects on oral tissues
  - j. Antiepileptic drugs

3. Brief pharmacology, dental use and adverse effects of
  - a. General anesthetics
  - b. Antipsychotics
  - c. Antidepressants
  - d. Anxiolytic drugs
  - e. Sedatives
  - f. Antiepileptics
  - g. Antihypertensive
  - h. Antiangial drugs
  - i. Diuretics
  - j. Hormones
  - k. Pre-anesthetic medications
4. Drugs used in Bronchial asthma, cough
5. Drug therapy of
  - i. Emergencies
  - ii. Seizures
  - iii. Anaphylaxis
  - iv. Bleeding
  - v. Shock
  - vi. Diabetic ketoacidosis
  - vii. Acute Addisonian crisis
6. Dental Pharmacology
  - i. Antiseptics
  - ii. Astringents
  - iii. Sialogogues
  - iv. Disclosing agents
  - v. Antiplatelet agents
7. Fluoride pharmacology

## **7. ETIOPATHOGENESIS**

1. Classification of periodontal diseases and conditions
2. Epidemiology of gingival and periodontal diseases
3. Defense mechanisms of gingival

4. Periodontal microbiology
5. Basic concepts of inflammation and immunity
6. Microbial interactions with the host in periodontal diseases
7. Pathogenesis of plaque associated periodontal diseases
8. Dental calculus
9. Role of iatrogenic and other local factors
10. Genetic factors associated with periodontal diseases
11. Influence of systemic diseases and disorders of the periodontium
12. Role of environmental factors in the etiology of periodontal disease
13. Stress and periodontal diseases
14. Occlusion and periodontal diseases
15. Smoking and tobacco in the etiology of periodontal diseased
16. AIDS and periodontium
17. Periodontal medicine
18. Dental hypersensitivity

## **8. Clinical and Therapeutic periodontology and oral Implantology**

### **I. GINGIVAL DISEASES**

1. Gingival inflammation
2. Clinical features of gingivitis
3. Gingival enlargement
4. Acute gingival infections
5. Desquamative gingivitis and oral mucous membrane disease
6. Gingival disease in the childhood

### **II. PERIODONTAL DISEASES**

1. Periodontal pocket
2. Bone loss and patterns of bone destruction
3. Periodontal response to external forces
4. Masticatory system disorders
5. Chronic periodontitis
6. Aggressive periodontitis
7. Necrotizing ulcerative periodontitis
8. Interdisciplinary approaches: Orthodontic, Endodontic.

### III. TREATMENT OF PERIODONTAL DISEASES

- A. **History, examination, diagnosis, prognosis and treatment planning** : Clinical diagnosis, Radiographic and other aids in the diagnosis of periodontal diseases, Advanced diagnostic techniques, Risk assessment, Determination of prognosis, Treatment plan, Rationale for periodontal treatment, General principles of anti-infective therapy with special emphasis on infection control in periodontal practice, Halitosis and its treatment, Bruxism and its treatment.
- B. **Periodontal instrumentation** : periodontal instruments, Principles of periodontal instrumentation.
- C. **Periodontal therapy**: Preparation of tooth surface, Plaque control, Anti-microbial and other drugs used in periodontal therapy and wasting diseases of teeth, Periodontal management of HIV infected patients, Occlusal evaluation and therapy in the management of periodontal disease, Role of orthodontics as an adjunct to periodontal therapy, Special emphasis on precautions and treatment for medically compromised patients, Periodontal splints, Management of dentinal hypersensitivity.
- D. **Periodontal surgical phase – special emphasis on drug prescription** : General principles of periodontal surgery, Surgical anatomy of periodontium and related structures, Gingival curettage, Gingivectomy technique, Treatment of gingival enlargements, Periodontal flap, Osseous surgery (respective and regenerative), Furcation; Problem and its management, The periodontic – endodontic continuum, Periodontic plastic and esthetic surgery, Recent advances in surgical techniques.
- E. **Future directions and controversial questions in periodontal therapy**: Future directions for infection control, Research directions in regenerative therapy, Future directions in anti-inflammatory therapy, Future directions in measurement of periodontal diseases.

- F. **Periodontal maintenance phase:** Supportive periodontal treatment,  
Results of periodontal treatment.

#### **IV. ORAL IMPLANTOLOGY**

1. Introduction and historical review
2. Biological, clinical and surgical aspects of dental implants
3. Diagnosis and treatment planning
4. Implant surgery
5. Prosthetic aspects of dental implants
6. Diagnosis and treatment of Peri implant complications
7. Special emphasis on plaque control measures implant patients
8. Maintenance phase

#### **V. MANAGEMENT OF MEDICAL EMERGENCIES IN PERIODONTAL PRACTICE**

#### **9. RESEARCH MEHODOLOGY AND BIostatISTICS**

#### **10. Revised Dentists (Code of Ethics) Regulation,2014**

#### **11. Current Trends and Recent Advancements in the above fields.**