

SYLLABUS FOR Ph.D. ENTRANCE EXAMINATION

PERIODONTOLOGY

1. Development of the periodontium
2. Micro and macro structural anatomy and biology of the periodontal tissues.
3. Age changes in the periodontal tissues
4. Anatomy of the periodontium.
 - macroscopic and microscopic anatomy
 - blood supply of the periodontium
 - lymphatic system of the periodontium
 - nerves of the periodontium
5. Temporomandibular joint, maxilla and mandible.
6. Nerves of periodontics
7. Tongue. Oropharynx.
8. Muscles of mastication.

Physiology:

1. Blood
2. Respiratory system - acknowledge of the respiratory diseases which are a cause of periodontal diseases(periodontal medicine)
3. Cardiovascular system.
 - a. Blood pressure
 - b. Normal ECG
 - c. Shock
4. Endocrinology- hormonal influences on periodontium
5. Gastrointestinal system
 - a. Salivary secretion-composition ,function and regulation
 - b. Reproductive physiology
 - c. Hormones-actions and regulation,role in periodontal disease
 - d. Family planning methods
6. Nervous system
 - a. Pain pathways
 - b. Taste- taste buds ,primary taste sensation and pathways for sensation

Biochemistry:

1. Basics of carbohydrates,lipids ,proteins , vitamins , enzymes and minerals.
2. Diet and nutrition and periodontium
3. Biochemical test and their significance
4. Calcium and phosph

Pathology:

1. Cell structure and metabolism
2. Inflammation and repair ,necrosis and degeneration
3. Immunity and hypersensitivity
4. Circulatory disturbances-oedema , haemorrhage,shock,thrombosis,embolism,infarction and hypertension

5. Disturbances of nutrition
6. Diabetes melitus
7. Cellular growth and differentiation. Regulation
8. Lab investigations
9. Blood

Microbiology:

1. General bacteriology
 - a. Identification of bacteria
 - b. Culture media and methods
 - c. Sterilization and disinfection
2. Immunology and infection
3. Systemic bacteriology with special emphasis on oral microbiology- staphylococci genus actinomysis , and other filamentous bacteria and actinobacillus actinomycetum comitans
4. Virology
 - a. General properties of viruses
 - b. Herpes, hepatitis virus. Hiv virus
5. Mycology
 - a. Candidiasis
6. Applied microbiology
7. Diagnostic microbiology and immunology, hospital infections and management

Pharmacology:

1. General pharmacology
 - a. Definitions- pharmacokinetics with clinical applications, routes of administration including local drug delivery in periodontics
 - b. Adverse drug reactions and drug interactions
2. Detailed pharmacology of
 - a. Analgesics- opioid and non opioid
 - b. Local anaesthetics
 - c. Hematinics and coagulants, anti-coagulants
 - d. Vitamin d and calcium preparations
 - e. Anti diabetic drugs
 - f. Steroids
 - g. Antibiotics
 - h. Antihypertensive
 - i. Immunosuppressive drugs and their effects on oral tissue
 - j. Antiepileptic drugs
3. Brief pharmacology, dental use and adverse effects of –
 - a. General anesthetics
 - b. Anti-psychotics
 - c. Anti- depressants
 - d. Anxiolytic drugs
 - e. Sedatives
 - f. Anti epileptics
 - g. Anti- hypertensives

- h. Anti- anginal drugs
- i. Diuretics
- j. Hormones
- k. Pre-anesthetic medications
- 4. Drugs used in bronchial asthma, cough
- 5. Drug therapy of-
 - a. Emergency
 - b. Seizures
 - c. Anaphylaxis
 - d. Bleeding
 - e. Shock
 - f. Diabetic ketoacidosis
 - g. Acute adisonian crisis
- 6. Dental pharmacology
 - a. Antiseptics
 - b. Astringents
 - c. Sialogogues
 - d. Disclosing agents
 - e. Antiplaque agents
- 7. Fluoride pharmacology

Biostatistics:

- 1. Introduction ,definition,and branches of biostatistics
- 2. Collection of data . Sampling, types ,bias and errors
- 3. Compiling data graphs and charts
- 4. Measures of central tendency(mean ,median and mode) ,standard deviation and variability
- 5. Test of singnificance(chi square test, “t” test and “z” test
- 6. Null hypothesis

Etiopathogenesis:

- 1. Classification of periodontal diseases and conditions
- 2. Epidemiology of gingival and periodontal diseases
- 3. Defence mechanisms of gingiva
- 4. Periodontal microbiology
- 5. Basics 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 diseases.
- 13. Stress and periodontal diseases
- 14. Occlusion and periodontal diseases
- 15. Smoking and tobacco in the etiology of periodontal diseases

- 16. Aids and periodontium
- 17. Periodontal medicine
- 18. Dentinal hypersensitivity

Clinical and therapeutic periodontology and oral Implantology Please

note:

Clinical periodontology includes gingival diseases, periodontal diseases, periodontal instrumentation. Diagnosis, prognosis, and treatment of periodontal diseases

I. Gingival diseases

- 1. Gingival inflammation
- 2. Clinical features of gingivitis
- 3. Gingival enlargement
- 4. Acute gingival infection
- 5. Desquamative gingivitis and oral mucous membrane diseases
- 6. Gingival diseases in 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
 - a. Orthodontic
 - b. Endontic
- 9. periodontic considerations in periodontal therapy

III. Treatment of periodontal diseases

- A. History, examination, diagnosis, prognosis and treatment planning
 - 1. Clinical diagnosis
 - 2. Radiographic and other aids in the diagnosis of periodontal diseases
 - 3. Advance diagnostic techniques
 - 4. Risk assessment
 - 5. Determination of prognosis
 - 6. Treatment plan
 - 7. Rationale for periodontal treatment
 - 8. General principles of anti infective therapy with special emphasis on infection control in periodontal practise
 - 9. Halitosis and its treatment
 - 10. Bruxism and its treatment
- B. Periodontal instrumentation
 - 1. Instrumentation

2. Principles of periodontal instrumentation
3. Instruments used in different parts of the mouth

C. Periodontal therapy

1. Preparation of tooth surface
2. Plaque control
3. Anti microbial and other drugs used in periodontal therapy and wasting diseases of teeth
4. Periodontal management of hiv infected patients
5. Occlusal evaluation and therapy in the management of periodontal diseases
6. Role of orthodontics as an adjunct to periodontal therapy
7. Special emphasis on precautions and treatment for medically compromised patients
8. Periodontal splints
9. Management of dentinal hypersensitivity

D. Periodontal surgical phase- special emphasis on drug prescription

1. General principles of periodontal surgery
2. Surgical anatomy of periodontium and related structures
3. Gingival curettage
4. Givectomy technique
5. Treatment of gingival enlargements
6. Periodontal flap
7. Osseous surgery(resective and regenerative)
8. Furcation problem and its management
9. The periodontic – endodontic continuum
10. Periodontic plastic and esthetic surgery
11. Recent advances in surgical techniques

E. Future directions and controversial questions in periodontal therapy

1. Future directions for infection control
2. Research directions in regenerative therapy
3. Future directions in anti inflammatory therapy
4. Future directions in measurement of periodontal diseases

F. Periodontal maintenance phase

1. Supportive periodontal treatment
2. 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 aspect of dental implants
6. Diagnosis and treatment of peri implant complications
7. Special emphasis on plaque control measures in implant patients
8. Maintenance phase