B.D.S COURSE
PERIODONTOLOGY / SYLLABUS

(With effect from 2010-11 onwards)
PERIODONTONTOLOGY

a) OBJECTIVES:
The student shall acquire the skill to:-
   i. Perform dental scaling diagnostic tests of periodontal diseases
   ii. To use the instruments for periodontal therapy and maintenance of the same.
The student shall develop attitude to:-
   i. Impart the preventive measures namely, the prevention of periodontal diseases and prevention of the progress of the disease
   ii. Perform the treatment with full aseptic precautions
   iii. Shall develop an attitude to prevent iatrogenic diseases
   iv. To conserve the tooth to the maximum possible time by maintaining periodontal health
   v. To refer the patients who require specialist’s care.

b) THEORY: 80 HOURS (III yr. 30hrs, Final yr. Part I . 50 hrs)

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<tr>
<th>Topic</th>
<th>Hours</th>
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<tr>
<td>1. Introduction, Definition of Periodontology, Periodontics, Periodontia, Brief historical background, Scope of Periodontics</td>
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<td>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</td>
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<td>3. Defensive mechanisms in the oral cavity: Role of Epithelium, Gingival fluid, Saliva and other defensive mechanisms in the oral environment</td>
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<td>4. Age changes in teeth and periodontal structures and their association with periodontal diseases and their significance in Geriatric dentistry</td>
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<td>5. Classification of periodontal diseases: need for classification, Scientific basis of classification, Classification of gingival and periodontal diseases as described in World Workshop 1989</td>
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<td>6. Gingivitis: Plaque associated, ANUG, steroid hormone influenced, Medication influenced, Desquamative gingivitis, other forms of gingivitis as in nutritional deficiency, bacterial and viral infections etc.</td>
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<td>8. Gingival diseases: Localized and generalized gingivitis, Papillary, marginal and diffuse gingivitis aetiology, pathogenesis, clinical signs, symptoms and management of</td>
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<tr>
<td>a) Plaque associated gingivitis</td>
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<td>b) Systemically aggravated gingivitis (sex hormones, drugs and systemic diseases)</td>
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<td>c) ANUG</td>
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<td>d) Desquamative gingivitis-Gingivitis associated with Lichen Planus, Pemphigoid, Pemphigus, and other Vesiculobullous lesions</td>
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<td>e) Allergic gingivitis</td>
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<td>f) Infective gingivitis-Herpetic, Bacterial and Candidial</td>
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<td>g) Pericoronitis</td>
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<td>h) Gingival enlargement (classification and differential diagnosis)</td>
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<td>9. 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 &amp; Loe Plaque Index, Loe &amp; Silness Gingival Index, CPTTN &amp; CPL, Prevalence of periodontal diseases in India and other countries. Public health significance (All these topics are covered at length under community dentistry. Hence, the topics may be discussed briefly. However, questions may be asked from the topics for examination.)</td>
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<td>10. Extension of inflammation from Gingiva, mechanism of spread of inflammation from gingival area to deeper periodontal structures, Factors that modify the spread</td>
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<td>11. Pocket, Definition, signs and symptoms, classification, pathogenesis, histopathology, root surface changes and contents of the pocket</td>
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<td>12. Etiology</td>
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<td>a) Dental Plaque (Biofilm), Definition, New concept of Biofilm, Types, composition, bacterial colonization, growth, maturation &amp; 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</td>
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<td>b) Calculus, Definition, Types, composition, attachment, theories of formation, Role of</td>
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<td>c)</td>
<td>Food Impaction: Definition, Types, Etiology, Hirschfield’s classification, Signs, symptoms &amp; sequelae of treatment</td>
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<td>d)</td>
<td>Trauma from occlusion: Definition, Types, Histopathological changes, Role in periodontal disease, Measures of management in brief</td>
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<td>e)</td>
<td>Habits: Their periodontal significance, Bruxism &amp; Parafunctional habits, tongue thrusting, lip biting, occupational habits</td>
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| f) | Iatrogenic factors,  
  (i) Conservative Dentistry: -Restorations, Contact point, marginal ridge, surface roughness, overhanging restorations, interface between restoration and teeth  
  (ii) Prosthodontics, Interrelationship, Bridges and other prosthesis, Pontics (types), surface contour, relationships of margins to the periodontium, Gingival protection theory, muscle action theory & theory of access to oral hygiene.  
  (iii) Orthodontics, Interrelationship, removable appliances & fixed appliances, Retention of plaque, bacterial changes |
| g) | Systemic diseases: Diabetes, Sex hormones, nutrition (Vit. C & proteins), AIDS & periodontium, Hemorrhagic diseases, Leukemia, clotting factor disorders, PMN disorder |
| 13. | Risk factors: Definition, Risk factors for periodontal diseases |
| 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 |
| 15. | Periodontitis:  
  a) Etiology, histopathology, clinical signs & symptoms, diagnosis and treatment of adult Periodontitis  
  b) Periodontal abscess: definition, classification, pathogenesis, differential diagnosis and treatment  
  c) Furcation involvement, Glickman’s classification, prognosis and management  
  d) Rapidly progressive Periodontitis: Juvenile Periodontitis: Localized and generalized Post juvenile Periodontitis  
  e) Periodontitis associated with systemic diseases: Refractory Periodontitis |
| 16. | Diagnosis:  
  a) Routine procedures, methods of probing, 2 types of probes, (According to case history)  
  b) Halitosis: Etiology and treatment. Mention advanced diagnostic aids and their role in brief. |
| 17. | Prognosis: Definition, types, purpose and factors to be taken into consideration |
| 18. | Treatment plan factors to be considered |
| 19. | Periodontal therapy:  
  a) General principles of periodontal therapy. Phase I, II, III, IV therapy.  
  b) Definition of periodontal regeneration, repair, new attachment and reattachment  
  c) Plaque control:  
    (i) Mechanical: tooth brushes, Interdental cleaning aids, dentifrices  
    (ii) Chemical: classification and mechanism of action of each & pocket irrigation |
| 20. | Pocket eradication procedures:  
  a) Scaling and root planning: Indications, Aims & objectives, Healing following root planning, Hand instruments, sonic, ultrasonic & Piezo-electric Scalers  
  b) Curettage: Definition, Indications present concepts Aims & objectives, Procedures & healing response |
| 21. | Osseous Surgery:  
  a) Osseous defects in periodontal disease, Definition, Classification  
  b) Surgery: resective, additive osseous surgery (osseous grafts with classification of grafts)  
  c) Healing responses  
  d) Other regenerative procedures: root conditioning  
  e) Guided tissue regeneration |
22. Mucogingival surgery & periodontal plastic surgery:
   a) Definition, Mucogingival problems: etiology.
   b) classification of gingival recession (P.D. Miller Jr and Sullivan and Atkins), Indications, objectives
   c) Gingival extension procedures: Lateral Pedicle Graft, Frenectomy, Frenotomy
   d) Crown lengthening procedures
   e) Periodontal microsurgery in brief

23. Splints: Periodontal splints, Purpose & classification, Principles of splinting

24. Hypersensitivity, Cause, theories & Management

25. Implants: Definition, types, scope & biomaterials used, Periodontal considerations: such as Implant-bone interface, Implant-Gingiva interface, Implant failure, Peri-implantitis & management

26. Maintenance phase (SPT):
   a) Causes, Theories & management
   b) Aims, objectives, and principles
   c) Importance
   d) Procedures
   e) Maintenance of implants

27. Pharmacotherapy:
   a) Periodontal dressings
   b) Antibiotics & anti-inflammatory drugs
   c) Local drug delivery systems

28. Periodontal management of medically compromised patients: Topics concerning periodontal management of medically compromised patients

29. Inter-disciplinary care: Pulpo-Periodontal involvement, Routes of spread of infection, Simons classification, Management

30. Systemic effects of periodontal diseases in brief: Cardiovascular diseases, Low birth weight babies etc.

31. Infection control protocol: Sterilization and various aseptic procedures

32. Ethics.

c) TUTORIALS DURING CLINICAL POSTING:
   i. Infection control
   ii. Periodontal instruments
   iii. Chair position and principles of instrumentation
   iv. Maintenance of instruments (sharpening)
   v. Ultrasonic, Piezoelectric and sonic scaling - demonstration of technique
   vi. Diagnosis of periodontal disease and determination of prognosis
   vii. Radiographic interpretation and lab investigations
   viii. Motivation of patients- oral hygiene instructions
   ix. Students should be able to record a detailed periodontal case history, determine diagnosis, prognosis and plan treatment
   x. Student should perform scaling, root plaining local drug delivery and SPT.
   xi. Shall be given demonstration of all periodontal surgical procedures.

d) DEMONSTRATIONS:
   i. History taking and clinical examination of the patients
   ii. Recording different indices
   iii. Methods of using various scaling and surgical instruments
   iv. Polishing the teeth
   v. Bacterial smear taking
   vi. Demonstration to patients about different oral hygiene aids
   vii. Surgical procedures- gingivectomy, gingivoplasty, and flap operations
   viii. Follow up procedures, post operative care and supervision
e) **MINIMUM CLINICAL REQUIREMENTS MANDATORY TO APPEAR FOR UNIVERSITY EXAMINATION:**

i. Diagnosis, treatment planning, and discussion and total periodontal treatment- 25 cases

ii. Dental scaling, oral hygiene instructions – 50 complete cases/equivalent

iii. Sub gingival Scaling and Root Planing - 15 cases

iv. Assistance in periodontal surgery- 5 cases

v. 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.

vi. Students should have to complete the work prescribed by the concerned department from time to time and submit a certified record for evaluation.

f) **SCHEME OF EXAMINATION**

Distribution of Topics and Types of Questions for University Written Examination:

<table>
<thead>
<tr>
<th>Contents</th>
<th>Types of Questions and Distribution of Marks</th>
<th>Total Marks</th>
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<tbody>
<tr>
<td>Questions from any of the Periodontology Topics</td>
<td>Structured Essays</td>
<td>28</td>
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<td>2x 14 marks</td>
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<td>Brief structured Essays</td>
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<td>4 x 8 marks</td>
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<td>Short Answers</td>
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<td>10x4marks</td>
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<td><strong>Total</strong></td>
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v. **Theory**

- University Written: 100 Marks
- Internal Assessment: 25 Marks
- Viva Voce: 25 Marks

vi. **Clinicals:**

- **University Clinical Examination:** 80 Marks
  - Case History, Clinical Examination, Diagnosis & Treatment Planning: 30 Marks
  - Oral prophylaxis: 30 Marks
  - Clinical Work Record & Seminar: 20 Marks

- **Internal Assessment:** 20 Marks

**Grand Total 250 Marks**