## **DEPARTMENT OF PERIODONTOLOGY**

## Learning objectives for Under Graduate Course

#### **GOALS:**

- The dental graduates during training in the institutions should acquire adequate knowledge, necessary skills and reasonable attitudes which are required for carrying out all activities appropriate to general dental practice involving the prevention, diagnosis and treatment of anomalies and diseases of the teeth, mouth, jaws and associated tissues.
- The graduate also should understand the concept of community oral health education and be able to participate in the rural health care delivery programmes existing in the country.

## **PERIODONTOLOGY** -

#### **OBJECTIVES:**

- The student shall acquire knowledge to diagnose the disease, make appropriate treatment plan and to conduct different treatment modalities.
- The student shall acquire the skill to perform dental scaling, diagnostic tests of periodontal diseases.
- Students shall develop skills to use the instruments for periodontal therapy and maintenance of the same.
- The student shall develop attitude to impart the preventive measures namely, the prevention of periodontal diseases and prevention of the progress of the disease.
- The student shall develop communication skills to make rapport with patient and shall encourage patient to emphasize preventing measures of the disease in daily life and to encourage patient about treatment and prevention of disease.

• The student shall also develop an attitude to perform the treatment with full aseptic precautions; shall develop an attitude to prevent iatrogenic diseases; to conserve the tooth to the maximum possible time by maintaining periodontal health and to refer the patients who require specialist's care.

## <u>Syllabus -</u>

**1. Introduction:** Definition of Periodontology, Periodontics, Periodontia, Brief historical background, Scope of Periodontics

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.

**3. Defensive mechanisms in the oral cavity:** Role of-Epithelium, Gingival fluid, Saliva and other defensive mechanisms in the oral environment.

## 4. Age changes in periodontal structures and their significance in Geriatric dentistry:

Age changes in teeth and periodontal structures and their association with periodontal diseases

#### 5. Classification of periodontal diseases:

Need for classification, Scientific basis of classification, Classification of gingival and periodontal diseases as described in World Workshop1989

#### **Gingivitis:**

Plaque associated, ANUG, steroid hormone influenced, Medication influenced, Desquamative gingivitis, other forms of gingivitis as in nutritional deficiency, bacterial and viral infections etc.

#### **Periodontitis:**

Adult periodontitis, rapidly progressive periodontitis A&B, Juvenile periodontitis (localized, generalized, and post-juvenile), Prepubertal periodontitis, Refractory periodontitis

#### 6. Gingival diseases:

Localized and generalized gingivitis, Papillary, marginal and diffuse gingivitis Etiology, pathogenesis, clinical signs, symptoms and management of

i) Plaque associated gingivitis

ii) Systemically aggravated gingivitis (sex hormones,

drugs and systemic diseases)

iii) ANUG

iv) Desquamative gingivitis - Gingivitis associated with lichen planus, pemphigoid, pemphigus, and other vesiculobullous lesions

- v) Allergic gingivitis
- vi) Infective gingivitis -Herpetic, bacterial and candidial
- vii) Pericoronitis

viii) Gingival enlargement (classification and differential diagnosis)

#### 7. 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 & Loe Plaque Index, Loe & Silness Gingival Index, CPITN & CPI.

- 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

#### 8. Extension of inflammation from Gingiva:

- Mechanism of spread of inflammation from gingival area to deeper periodontal structures

- Factors that modify the spread

#### 9. Pocket:

Definition, signs and symptoms, classification, pathogenesis, histopathology, root surface changes and contents of the pocket.

## **10. Etiology:**

- Dental Plaque (Biofilm)
- Definition, New concept of biofilm
- Types, composition, bacterial colonization, growth, maturation & disclosing agents
- Role of dental plaque in periodontal diseases
- Plaque microorganisms in detail and bacteria associated with periodontal diseases
- Plaque retentive factors
- Material alba
- Food debris
- Calculus
- Definition
- Types, composition, attachment, theories of formation
- Role of calculus in disease

#### **Food Impaction**

- Definition
- Types, Etiology
- Hirschfelds' classification
- Signs, symptoms & sequelae of treatment

#### Trauma from occlusion

- Definition, Types
- Histopathological changes
- Role in periodontal disease
- Measures of management in brief

#### Habits

- Their periodontal significance
- Bruxism &parafunctional habits, tongue thrusting, lip biting, occupational habits

#### **IATROGENIC FACTORS**

#### **Conservative Dentistry**

## - Restorations

- Contact point, marginal ridge, surface roughness, overhanging restorations, interface between restoration and teeth

## 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.

## Orthodontics

- Interrelationship, removable appliances & fixed appliances
- Retention of plaque, bacterial changes

## Systemic diseases

- Diabetes, sex hormones, nutrition (Vit.C &proteins)
- AIDS & periodontium
- Hemorrhagic diseases, Leukemia, clotting factor disorders, PMN disorders
- 11. Risk factors Definition: Risk factors for periodontal diseases 1

12. 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

#### 13. Periodontitis:

- Etiology, histopathology, clinical signs & symptoms, diagnosis and treatment of adult periodontitis

- Periodontal abscess; definition, classification, pathogenesis, differential diagnosis and treatment

- Furcation involvement, Glickmans' classification, prognosis and management

- Rapidly progressive periodontitis
- Juvenile periodontitis: Localized and generalized
- Post-juvenile periodontitis
- Periodontitis associated with systemic diseases
- Refractory periodontitis

#### 14. Diagnosis:

- Routine procedures, methods of probing, types of probes,(According to case history)
- Halitosis: Etiology and treatment. Mention advanced diagnostic aids and their role in brief.

#### 15. Prognosis:

- Definition, types, purpose and factors to be taken into consideration

## 16. Treatment plan: Factors to be considered

#### **17. Periodontal therapy**

A. General principles of periodontal therapy. Phase I, II, III, IV therapy. Definition of periodontal regeneration, repair, new attachment and reattachment.

## B. Plaque control

- i. Mechanical tooth brushes, interdental cleaning aids, dentifrices
- ii. Chemical; classification and mechanism of action of each & pocket irrigation

## **18. Pocket eradication Procedures:**

- Scaling and root planing
- Indications
- Aims & objectives
- Healing following root planning
- Hand instruments, sonic, ultrasonic &piezo-electric scalers
- Curettage &present concepts
- Definition
- Indications
- Aims & objectives
- Procedures & healing response
- Flap surgery
- Definition
- Types of flaps, Design of flaps, papilla preservation
- Indications & contraindications
- Armamentarium
- Surgical procedure & healing response

#### 19. Osseous Surgery Osseous defects in periodontal disease

- Definition
- Classification

- Surgery: resective, additive osseous surgery (osseous grafts with classification of grafts)

- Healing responses

- Other regenerative procedures; root conditioning
- Guided tissue regeneration

#### 20. Mucogingival surgery &periodontal plastic surgeries:

-Definition

- Mucogingival problems: etiology, classification of gingival recession (P.D.Miller Jr. and Sullivan and Atkins)

- Indications & objectives

- Gingival extension procedures: lateral pedicle graft, frenectomy, frenotomy Crown lengthening procedures

- Periodontal microsurgery in brief

#### 21. Splints - Periodontal splints

- Purpose & classification
- Principles of splinting

#### 22. Hypersensitivity Causes, Theories & management 1

#### 23. Implants Definition, types, scope & biomaterials used:

Periodontal considerations: such as implant-bone interface, implant-gingiva interface, implant failure, peri-implantitis & management

#### 24. Maintenance phase (SPT)

- Aims, objectives, and principles
- Importance
- Procedures
- Maintenance of implants

#### 25. Pharmaco-therapy - Periodontal dressings

- Antibiotics & anti-inflammatory drugs

- Local drug delivery systems

## 26. Periodontal management of medically compromised patients

Topics concerning periodontal management of medically compromised patients

#### 27. Inter-disciplinary care

- Pulpo-periodontal involvement

- Routes of spread of infection
- Simons' classification
- Management

## 28. Systemic effects of periodontal diseases in brief

Cardiovascular diseases, Low birth weight babies etc.

## 29. Infection control protocol Sterilization and various aseptic procedures

## 30. Ethics

## **TUTORIALS DURING CLINICAL POSTING:**

- 1. Infection control
- 2. Periodontal instruments
- 3. Chair position and principles of instrumentation
- 4. Maintenance of instruments (sharpening)
- 5. Ultrasonic, Piezoelectric and sonic scaling demonstration of technique
- 6. Diagnosis of periodontal disease and determination of prognosis
- 7. Radiographic interpretation and lab investigations
- 8. Motivation of patients- oral hygiene instructions
- Students should be able to record a detailed periodontal case history, determine diagnosis, prognosis and plan treatment. Student should perform scaling, root planning local drug delivery and SPT.
- Shall be given demonstration of all periodontal surgical procedures.

## **DEMONSTRATIONS:**

- 1. History taking and clinical examination of the patients
- 2. Recording different indices
- 3. Methods of using various scaling and surgical instruments
- 4. Polishing the teeth
- 5. Bacterial smear taking
- 6. Demonstration to patients about different oral hygiene aids
- 7. Surgical procedures- gingivectomy, gingivoplasty, and flap operations
- 8. Follow up procedures, post-operative care and supervision

#### **REQUIREMENTS:**

1. Diagnosis, treatment planning and discussion and total periodontal treatment – 25 cases

2. Dental scaling, oral hygiene instructions - 50 complete cases/ equivalent

3. Assistance in periodontal surgery – 5 cases

4. 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.

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

## **DEPARTMENT OF PERIODONTOLOGY**

## Learning Objectives for Post Graduate Course

## HUMAN VALUES, ETHICAL PRACTICE AND COMMUNICATION ABILITIES:

- Adopt ethical principles in all aspects of practice.
- Foster professional honesty and integrity.
- Deliver patient care irrespective of social status, caste, creed, or religion of the patient.
- Develop communication skills, to explain various options available and obtain a true informed consent from the patient.
- Provide leadership and get the best out of his team in a congenial working atmosphere.
- Apply high moral and ethical standards while carrying out human or animal research
- Be humble and accept the limitations in his knowledge and skill and to ask for help from colleagues when needed.
- Respect patient's rights and privileges including patient's right to information and right to seek a second opinion.

## **OBJECTIVES:**

The following objectives are laid out to achieve the goals of the course

## A) KNOWLEDGE:

The post graduate student shall gain knowledge and shall able to -

- Discuss historical perspective to advancement in the subject proper and related topics.
- Describe etiology, pathogenesis, diagnosis and management of common periodontal diseases with emphasis on Indian population.
- Familiarize with the biochemical, microbiologic and immunologic genetic aspects of periodontal pathology.
- Describe various preventive periodontal measures.
- Describe various treatment modalities of periodontal disease from historical aspect to currently available ones.
- Describe interrelationship between periodontal disease and various systemic conditions.

- Describe periodontal hazards due to iatrogenic causes and deleterious habits and prevention of it.
- Identify rarities in periodontal disease and environmental/Emotional determinates in a given case.
- Recognize conditions that may be outside the area of his/her Speciality/ competence and refer them to an appropriate Specialist.
- Decide regarding non-surgical or surgical management of the case.
- Update the student by attending courses, conferences and seminars relevant to periodontics or by self-learning process.
- Plan out/ carry out research activity both basic and clinical aspects with the aim of publishing his/her work in scientific journals.
- Reach to the public to motivate and educate regarding periodontal disease, its prevention and consequences if not treated.
- Plan out epidemiological survey to assess prevalence and incidence of early onset periodontitis and adult periodontitis in Indian population (Region wise).
- Shall develop knowledge, skill in the science and practice of Oral Implantology.
- Shall develop teaching skill in the field of Periodontology and Oral Implantology.
- Principals of Surgery and Medical Emergencies.
- To sensitize students about inter disciplinary approach towards the soft tissues of the oral cavity with the help of specialist from other departments.

## **B) SKILLS:**

- Take a proper clinical history, thorough examination of intra oral, extra oral, medical history evaluation, advice essential diagnostic procedures and interpret them to come to a reasonable diagnosis.
- Effective motivation and education regarding periodontal disease maintenance after the treatment.
- Perform both non-surgical & education regarding periodontal disease, maintenance after the treatment.
- Perform both non-surgical and surgical procedures independently.
- Provide Basic Life Support Service (BLS) recognizes the need for advance life support and does the immediate need for that.

- Human values, ethical practice to communication abilities.
- Adopt ethical principles in all aspects of treatment modalities; Professional honesty & integrity are to be fostered.
- Develop Communication skills to make awareness regarding periodontal disease.
- Apply high moral and ethical standards while carrying out human or animal research.
- Be humble, accept the limitations in his/her knowledge and skill, and ask for help from colleagues when needed, Respect patient's rights and privileges, including patients right to information and right to seek a second opinion.
- To learn the principal of lip repositioning and perio esthetics surgeries.

## **COURSE CONTENTS:**

PART-I:

# **APPLIED BASIC SCIENCES**

## **APPLIED ANATOMY:**

- 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, Maxillae and Mandible
- 6. Tongue, oropharynx
- 7. Muscles of mastication / Face
- 8. Blood Supply and Nerve Supply of Head & Neck and Lymphatics.
- 9. Spaces of Head & Neck

## **PHYSIOLOGY:**

1. Blood

2. Respiratory system – knowledge of the respiratory diseases which are a cause of periodontal diseases (periodontal Medicine)

- 3. Cardiovascular system
  - Blood pressure
  - Normal ECG
  - Shock
- 4. Endocrinology hormonal influences on Periodontium
- 5. Gastrointestinal system
- c. Hormones Actions and regulations, role in periodontal disease
- d. Family planning methods
- 6. Nervous system
- 7. Hemostasis

## **BIOCHEMISTRY:**

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

## **PATHOLOGY:**

- 1. Cell structure and metabolism
- 2. Inflammation and repair, necrosis and degeneration
- 3. Immunity and hypersensitivity
- 4. Circulatory disturbances edema, hemorrhage, shock, thrombosis, embolism, infarction and hypertension
- 5. Disturbances of nutrition
- 6. Diabetes mellitus
- 7. Cellular growth and differentiation, regulation
- 8. Lab investigations
- 9. Blood

## **MICROBIOLOGY:**

1. General bacteriology

- Identification of bacteria
- Culture media and methods
- Sterilization and disinfection
- 2. Immunology and Infection

3. Systemic bacteriology with special emphasis on oral microbiology – staphylococci, genus actinomyces 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

- Definitions Pharmacokinetics with clinical applications, routes of administration including local drug
- General anesthetics
- Antipsychotics
- Antidepressants
- Anxiolytic drugs
- Sedatives
- Antiepileptics
- Antihypertensives
- Antianginal drugs
- Diuretics
- Hormones
- Pre-anesthetic medications

- delivery in Periodontics
- Adverse drug reactions and drug interactions
- 2. Detailed pharmacology of
- 3. Brief pharmacology, dental use and adverse effects of
- 4. Drugs used in Bronchial asthma, cough
- 5. Drug therapy of
  - Emergencies
  - Seizures
  - Anaphylaxis
  - Bleeding
  - Shock
  - Diabetic ketoacidosis
  - Acute addisonian crisis
- 6. Dental Pharmacology
  - Antiseptics
  - Astringents
  - Sialogogues
  - Disclosing agents
  - 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. Tests of significance (chi square test, t-test and z-test) Null hypothesis

# <u>PART II</u>

# <u>PAPER 1</u> 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 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 infections
- 5. Desquamative gingivitis and oral mucous membrane diseases
- 6. Gingival diseases 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. Necrotising ulcerative periodontitis
- 8. Interdisciplinary approaches
  - Orthodontic
  - Endodontic

## (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. Advanced 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 practice

9. Halitosis and its treatment

10. Bruxism and its treatment

## **B.** Periodontal instrumentation

- 1. Periodontal Instruments
- 2. Principles of periodontal instrumentation

## C. Periodontal therapy

1. Preparation of tooth surface

- 2. Plaque control
- 3. Antimicrobial 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. Gingivectomy 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 aspects of dental implants
- 6. Diagnosis and treatment of Peri-implant complications
- 7. Special emphasis on plaque control measures in implant patients
- 8. Maintenance phase

# (v) MANAGEMENT OF MEDICAL EMERGENCIES IN PERIODONTAL PRACTICE

Periodontology treatment should be practiced by various treatment plans and more number of patients to establish skill for diagnosis and treatment and after care with bio-mechanical, biological, bio-esthetics, bio-phonetics and all treatment should be carried out in more number for developing clinical skill.

# TEACHING / LEARNING ACTIVITIES:

The post graduate is expected to complete the following at the end of:

| S.   | Year wise    | ACTIVITIES WORKS TO BE DONE                                      |  |
|--|--------------|--|--|
| No.  |              |  |  |
| 1.   | Module 1     | Orientation to the PG program                                    |  |
|  | (First year) | Pre-clinical work (4 months)                                     |  |
|  |              | a. Dental  |  |
| 1. Practice of incision  |              | 1. Practice of incisions and suturing techniques on the typodont |  |
| models.  |              | models.  |  |
| 2. Fabrication of bite gu  |              | 2. Fabrication of bite guards and splints.                       |  |
| 3. Occlusal adjustment on the casts mo   |              | 3. Occlusal adjustment on the casts mounted on the articulator   |  |
|  |              | 4. X-ray techniques and interpretation.                          |  |
|  |              | 5. Local anaesthetic techniques.                                 |  |
|  |              | 6. Identification of Common Periodontal Instruments.             |  |
|  |              | 7. To learn science of Periodontal Instruments maintance         |  |
|  |              | (Sharpening, Sterlization and Storate)                           |  |
|  |              | 8. Concept of Biological width                                   |  |
| a. Typhodont Exercise  |              | a. Typhodont Exercise  |  |
| (i) Class II Filling with Band and Wedge<br>(ii) Crown cuttings                |              | (i) Class II Filling with Band and Wedge Application             |  |
|  |              | (ii) Crown cuttings  |  |
|  |              |  |  |
|  |              | b. Medical   |  |
| 1. Basic diagnostic microbiology a         handling of sample and culture text |              | 1. Basic diagnostic microbiology and immunology, collection and  |  |
|  |              | handling of sample and culture techniques.                       |  |
|  |              | 2. Introduction to genetics, bioinformatics.                     |  |

|    |               | 3. Basic understanding of cell biology and immunological         |  |
|----|---------------|--|--|
|    |               | diseases.  |  |
|    |               | Clinical work  |  |
|    |               | 1. Applied periodontal indices 10 cases                          |  |
|    |               | 2. Scaling and root planning: with Proper written history        |  |
|    |               | a. Manual 20 Cases   |  |
|    |               | b. Ultrasonic 20 Cases   |  |
|    |               | 3. Observation / assessment of all periodontal procedures        |  |
|    |               | including implants   |  |
| 2. | Module 2      | 1. Interpretation of various bio-chemical investigations.        |  |
|    | (First year)  | 2. Practical training and handling medical emergencies and basic |  |
|    |               | life support devices.  |  |
|    |               | 3. Basic biostatistics – Surveying and data analysis.            |  |
|    |               | Clinical   |  |
|    |               | 1. Case history and treatment planning 10 cases                  |  |
|    |               | 2. Root planning 50 cases  |  |
|    |               | 3. Observation / assessment of all periodontal procedures        |  |
|    |               | including implant.   |  |
|    |               | 4. Selection of topic for Library dissertation and submission of |  |
|    |               | Dissertation Synopsis.   |  |
| 3. | Module 3      | Minor surgical cases 20 cases                                    |  |
|    | (First year)  | (i) Gingival Depigmentation - 3 Cases                            |  |
|    |               | (ii) Gingival Curettage - no limits                              |  |
|    |               | (iii) ENAP - 1 Case  |  |
|    |               | (iv) Gingivectomy/ Gingivoplasty - 5 cases                       |  |
|    |               | (v) Operculectomy - 3 cases                                      |  |
|    |               | Poster Presentation at the Speciality conference                 |  |
| 4. | Module 4      | Clinical work  |  |
|    | (Second year) | 1. Case history and treatment planning - 10 cases                |  |
|    |               | 2. Occlusal adjustments - 10 cases                               |  |
|    |               | 3. Perio splints - 10 cases                                      |  |

|    |               | 4. Local drug delivery techniques - 5 cases                      |  |
|----|---------------|--|--|
|    |               | 5. Screening cases for dissertation                              |  |
| 5. | Module 5      | 1. Periodontal surgical procedures.                              |  |
|    | (Second year) | a. Basic flap procedures - 20 cases                              |  |
|    |               | 2. Periodontal plastic and esthetic - 10 cases                   |  |
|    |               | a. Increasing width of attached gingiva - 5 cases                |  |
|    |               | b. Root coverage procedures / Papilla Preservation and           |  |
|    |               | Reconstruction - 5 cases   |  |
|    |               | c. Crown lengthening procedures - 5 cases                        |  |
|    |               | d. Frenectomy - 5 cases  |  |
|    |               | e. Vestibuloplasty - 5 cases                                     |  |
|    |               | 3. Furcation treatment (Hemisection, Rootsection, Tunelling) - 5 |  |
|    |               | cases  |  |
|    |               | 4. Surgical closure of diastema - 2 cases                        |  |
| 6. | Module 6      | 1. Ridge augmentation procedures - 5 cases                       |  |
|    | (Second year) | 2. Implants Placements and monitoring - 5 cases                  |  |
|    |               | 3. Sinus lift procedures - 2 cases                               |  |
|    |               | 4. Case selection, preparation and investigation of implants.    |  |
|    |               | 5. Interdisciplinary Periodontics - 2 each                       |  |
|    |               | (i) Ortho – Perio  |  |
|    |               | (ii) Endo – Perio  |  |
|    |               | (iii) Restorative Perio  |  |
|    |               | (iv) Preprosthetic   |  |
|    |               | (v) Crown Prep   |  |
|    |               | 6. Osseous Surgery - 2 each                                      |  |
|    |               | (i) Resective  |  |
|    |               | (ii) Regenerative  |  |
|    |               | 7. Scientific paper/ poster presentation at the conference.      |  |
| 7. | Module 7      | Clinical work  |  |
|    | (Third year)  | 1. Flap surgeries & regenerative techniques - 25 cases           |  |
|    |               | (using various grafts & barrier membranes)                       |  |
|    |               | 2. Assistance / observation of advanced surgical procedure - 5   |  |

|    | each                                    |   |  |
|----|---|---|--|
|    |   | 3. Micro Surgery - 5 each   |  |
|    |   | 4. Record maintenance & follow-up of all treated cases including  |  |
|    |   | implants.   |  |
|    |   | 5. Submission of dissertation – 6 months before completion of III |  |
|    |   | year.   |  |
|    |   | 6. Scientific paper presentation at conferences                   |  |
| 8. | Module 81. Refining of surgical skills. |   |  |
|    | (Third year)                            | 2. Publication of an article in a scientific journal.             |  |
|    |   | 3. Preparation for final exams.                                   |  |
| 9. | Module 9                                | 1. Preparation for final exams.                                   |  |
|    | (Third year)                            | 2. University exam  |  |

Note: Maintenance of Work Diary / Check list / Log books as prescribed.

## **ASSESSMENT EXAMINATION:**

• In addition to regular evaluation, log book etc., Assessment examination should be conducted after every 3 modules & progress of the student monitored.

## **MONITORING LEARNING PROGRESS:**

- It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment.
- It not only helps teachers to evaluate students, but also students to evaluate themselves.
- The monitoring is to be done by the staff of the department based on participation of students in various teaching / learning activities.
- It may be structured and assessment be done using checklists that assess various aspects.

# **SCHEME OF EXAMINATION:**

## A. Theory:

Part-I: Basic Sciences Paper - 100 Marks

Part-II: Paper-I, Paper-II & Paper-III - 300 Marks (100 Marks for each Paper)

- Written examination shall consist of Basic Sciences Paper (Part-I) of three hours duration and should be conducted at the end of First year of MDS course.
- Part-II Examination will be conducted at the end of Third year of MDS course.
- Part-II Examination will consist of Paper-I, Paper-II & Paper-III, each of three hours duration.
- Paper-I & Paper-II shall consist of two long answer questions carrying 25 marks each and five questions carrying 10 marks each.
- Paper-III will be on Essays.
- In Paper-III three Questions will be given and student has to answer any two questions.
- Each question carries 50 marks.
- Questions on recent advances may be asked in any or all the papers.
- Distribution of topics for each paper will be as follows:

<u>**Part-I:</u>** Applied Basic Sciences: Applied Anatomy, Physiology, & Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics.</u>

## <u>Part-II:</u>

Paper I: Normal Periodontal structure, Etiology & Pathogenesis of Periodontal diseases, epidemiology as related to Periodontics
Paper II: Periodontal diagnosis, therapy & Oral Implantology
Paper III: Essays (descriptive and analyzing type questions)

• The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.

## **B.** Practical / Clinical Examination: 200 Marks

The clinical examination shall be of two-day duration

## <u>1st day</u>

Case discussion

- Long case One
- Short case One

Periodontal surgery – Periodontal Surgery on a previously prepared case after getting approval from the examiners

## 2nd day

- Post-surgical review and discussion of the case treated on the 1st day
- Presentation of dissertation & discussion
- All the examiners shall participate in all the aspects of clinical examinations / Viva Voce

Distribution of Marks for Clinical examination (recommended)

| Long case discussion | 75                      |    |  |
|----------------------|-------------------------|----|--|
| 1 Short case         | 25                      |    |  |
| Periodontal therapy  | Anesthesia              | 10 |  |
|                      | Incision                | 20 |  |
|                      | Post-surgery evaluation | 25 |  |
|                      | Sutures                 | 10 |  |
|                      | Pack (if any)           | 10 |  |
| Post – operative     | 25                      |    |  |
| review               |                         |    |  |
| Total                | 200                     |    |  |

C. Viva Voce : 100 Marks

## i. Viva-Voce examination: 80 marks

- All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression, interpretation of data and communication skills.
- It includes all components of course contents. It includes presentation and discussion on dissertation also.

# ii. Pedagogy Exercise: 20 marks

- A topic will be given to each candidate in the beginning of clinical examination.
- He/she is asked to make a presentation on the topic for 8-10 minutes.