5. The students will work on patients in the clinics, both in the mornings and in the afternoons under the supervision of teachers.
6. The students will undertake the laboratory work for the patients who are under their treatment.
7. Lectures in basic sciences-attendance at this course given by the basic science disciplines will be compulsory. This is usually given once every year and attendance at these courses will be essential.
8. Concurrent clinical training - each student will be required to undergo compulsory concurrent clinical training for this purpose in Plastic Surgery, Otolaryngology and Radio diagnosis.
9. Training in methodology of teaching - the postgraduate will attend the undergraduate classes to learn the methodology of teaching and they will be encouraged to teach the undergraduate students after preparing lectures and getting it corrected by a faculty member under whom he will work.
10. The candidate will get training in various aspects of Prosthodontics during the three years both in the clinics and laboratory.
11. Internal assessment examination will be conducted every 6 months.
12. The candidate must submit thesis protocol within 4 months of their joining the course i.e. by 30th April and 31st Oct. for the January and July session respectively.
13. The candidate must submit thesis six months prior to final examination for the January and July session i.e. by 30th November and 30th June respectively.

## SYLLABUS OF COURSE IN PROSTHODONTICS

### *A. Applied Anatomy, Physiology, Pathology and Biostatistics*

1. Anthropology as applied to craniofacial region.
2. Genetics in Dentistry.
3. Endocrine glands in particular reference to Pituitary, Parathyroid and Thyroid glands.
4. Normal occlusion, development of occlusion in deciduous, mixed and permanent dentitions.
5. Anatomy of T.M.J., its movements and Myofacial pain dysfunction syndrome.
6. Role of Vit A, C and B complex in oral mucosal and periodontal health.
7. Role of Calcium and Vit D in growth and development of teeth and jaws.
8. Growth and development of face, jaws and teeth.
9. Oral pre-cancerous lesions.
10. Malignant lesions of the oral cavity and head and neck region.
11. Histology of enamel, dentin, cement, periodontal ligament and alveolar bone.
12. Pulpal anatomy, histology and biological considerations.
13. Anatomy, physiology and function of the masticator system.
14. Speech Mechanism.
15. Mastication, swallowing and deglutition mechanism.
16. Salivary glands and saliva.
17. Anatomy and histology of oral mucous membrane.
18. Congenital abnormalities of face and oral cavity.

19. Indices in diagnosis of dental caries and periodontal diseases.
20. Sterilization in dentistry.
21. Tooth numbering systems.
22. Introduction to Biostatistics: scope and need for statistical application to biological data.
23. Definition of selected terms-scale of measurements related to statistics.
24. Methods of collecting data.
25. Presentation of data - statistical diagrams and graphs.

**Dental Materials**

1. Physical, mechanical and biological properties of modern dental materials.
2. Gypsum products used in Prosthodontics.
3. Die and counter die materials.
4. Various resins used in Prosthodontics including Denture base materials.
5. Impression materials used in Dentistry.
6. Duplicating materials.
7. Metals and alloys used in Dentistry.
8. Dental waxes including inlay casting wax.
9. Investments.
10. Casting procedures involved in small castings and cast partial dentures.
11. Soldering and welding.
12. Cements.
13. Porcelain including Porcelain fused to Metal alloys.
14. Porcelain furnace, firing and techniques.
15. Mechanics of tooth cutting (burs and points).
16. Abrasives and polishing agents.
17. Implant materials.

## *B. Complete Denture Prosthodontics*

1. Anatomy and physiology of edentulous mouth.
2. Diagnosis and treatment planning for a completely edentulous mouth.
3. Oral aspects of systemic diseases of Prosthodontic interest.
4. The problem of reduction of residual ridges.
5. Surgical preparation for complete Dentures.
6. Impressions in Complete Denture Prosthodontics.
7. Posterior palatal seal, principles and techniques.
8. Articulators and face bow in complete denture construction.
9. Recording of mandibular movements and maxillo - mandibular relations in edentulous patients.

10. Selection and arrangement of anterior teeth including guidelines for complete denture esthetics.
11. Complete denture occlusion.
12. Selection and arrangement of posterior teeth.
13. Verification of maxillo-mandibular relation records.
14. Try in of complete dentures.
15. Laboratory procedures involved in complete denture construction.
16. Denture Insertion.
17. Patient's education and complete denture maintenance.
18. Complaints associated with dentures.
19. Relining and rebasing of dentures.
20. Denture repair.
21. Immediate dentures.
22. Transitional dentures.
23. Overlay dentures.
24. Obturators on complete dentures.
25. The single complete denture.
26. Implants for the edentulous arches.
27. Geriatrics complete denture patients.
28. Preventive Prosthodontics.
29. Epidemiology of edentulousness.
30. Role of computers in Prosthodontics.

### *c. Partial Denture Prosthodontics*

1. Introduction and terminology used in partial denture Prosthodontics.
2. Examination, diagnosis and treatment planning in partial denture Prosthodontics.
3. Classification of partially edentulous arches.
4. Components of removable partial dentures and their function.
   a. Major connectors
   b. Minor connectors
   c. Rests and rest seats
   d. Direct retainers
   e. Indirect retainers
   f. Denture base considerations and teeth
   g. Stress breakers
5. Principles of removable partial denture (R.P.D) design and RPI concept.
6. Surveying.
7. Mouth preparation for removable partial denture including preparation of abutment teeth.

8. Impression materials and procedures for partially edentulous mouth.
9. Support for the distal extension denture base.
10. Occlusal relationship and arrangement of teeth.
11. Laboratory procedures involved in cast partial dentures.
12. Trying in and adjustment of cast frame work.
13. Processing, finishing, delivery and instructions about maintenance of removable partial dentures.
14. Repairs and additions to removable partial dentures.
15. Acrylic partial dentures.
16. Immediate partial dentures.

## *D. Fixed Prosthodontics*

1. Diagnosis and treatment planning.
2. Periodontal considerations in fixed Prosthodontics.
3. Fundamentals of occlusion.
4. Biomechanical principles of tooth preparation.
5. Individual tooth preparation.

a. Complete metal crown.
b. Partial veneer crown for Ant. and Post teeth.
c. Porcelain Jacket Crown.

6. Preparations for intra-coronal restorations.
7. Preparations for extensively damaged or endodontically treated teeth.
8. Provisional or temporary restorations.
9. Fluid control and soft tissue management.
10. Impression materials and techniques.
11. Working casts and dies.
12. Articulation of casts.
13. Wax patterns.
14. Investing and casting.
15. Occlusal equilibration.
16. Finishing and cementation.
17. Pontics.
18. Cementing Medium.
19. Porcelain fused to metal restorations.
20. Porcelain laminates.
21. Resin bonded retainers (Maryland bridges).
22. Fixed removable Prosthodontics.
23. Solder joints and other connectors.

## *E. Maxillofacial Prosthodontics*

I. Maxillofacial Prosthodontics in completely and partially edentulous mouth.
   1. Obturators
   2. Speech prosthesis
   3. Palatal lift prosthesis
   4. Splints and stents
   5. Cleft palate prosthesis
   6. Radiation carrier prosthesis

II. Extra Oral prosthesis including ocular, orbital, nasal and auricular.

III. Cranial and facial implants.

IV. Maxillofacial prosthesis materials and adhesives.

## PRECLINICAL EXERCISES

The student would be asked to complete the following preclinical exercises in Prosthodontics in first six months.

**A. Setting up of teeth in balanced occlusion(Complete Denture)**

(a) Class I Jaw Relation (Dentogenic concept).
(b) Class II Jaw Relation.
(c) Class III Jaw Relation.
(d) Balanced class I complete denture
(e) Relining of mandibular complete denture.
(f) Immediate denture using lower dentulous and upper semi- edentulous casts with upper anterior missing.

**B. Fixed Partial Denture Work : Typodont & Laboratory:**

(a) Occlusal carving using cone waxing technique on mounted casts for maxillary and mandibular premolars & molars.
(b) Post and core preparation on upper right Central incisor with casting and PFM crown.
(c) Three quarter crown for maxillary canine (preparation and casting).
(d) Anterior PFM 3 units FPD replacing upper right lateral incisor using modified ridge lap pontic.
(e) PFM crown on maxillary molar(preparation & casting).
(f) Laminate preparation on upper left lateral incisor with porcelain facing.
(g) Full metal crown for mandibular molar (preparation and casting).
(h) Posterior 3 unit PFM FPD replacing right lower first molar using spheroidal pontic with 4/5 crown on premolar and full crown on second molar.
(i) Maryland bridge preparation to replace lower left lateral incisor.

**C. Removable Partial Dentures**

(a) Duplication surveying and designing & wax up of one each of Kennedy's Class I, II, III & IV plaster casts.
(b) Casting, finishing and polishing etc. of any one of the above.

## CLINICAL LOAD DURING TRAINING

1. Complete Dentures – 25
2. Partial Dentures – 40
   a. Cast partial dentures – 15
   b. Interim partial dentures – 15
   c. Transitional partial dentures – 05
   d. Immediate dentures – 10
3. Crown – 30
   a. Post full metal crowns – 10
   b. Post full metal ceramic crowns – 05
   c. Ant. jacket metal ceramic crowns – 05
   d. Acrylic jacket crowns – 05
   e. Porcelain jacket crowns – 05
4. Fixed partial dentures – 10
5. Maxillofacial Prosthesis – 05

## ASSESSMENT SYSTEM

**Examination:**

The components of the assessment would be

**1. Evaluations of thesis**

**2. Theory**

**a) Paper I**

Basic Sciences as applied to Prosthodontics.

b) Paper II

Clinical Prosthodontics

Complete Denture Prosthodontics including Maxillofacial Prosthodontics.

c) Paper III

Clinical Prosthodontics

Removable Partial & Fixed Prosthodontics including Implantology.

d) Paper IV

Essay on Basic and Clinical Prosthodontics

**3. Practical, Clinical & Viva Voce Examination (2 days) will consist of:**

a) Presentation of Pre-clinical exercises

b) Complete Denture Case will be completed up to 'Trial Stage' including Gothic Arch Tracing for Centric Records, Protrusive Records and balanced set up on Hanau Articulator

c) Three Units Fixed Bridge Case will be completed up to 'Wax Patterns' / Castings

d) Designing of a Cast Partial Denture of a given case

e) Viva Voce examination will consist of

i) Thesis discussion

ii) Oral Examination

iii) R.P.D Case discussion

# CONSERVATIVE DENTISTRY AND ENDODONTICS

It will be a course of minimum 3 years duration, at the end of which the student would acquire the following knowledge and skills in the specialty of Conservative Dentistry and Endodontics.

## Conservative Dentistry

1. History and rationale of conservative procedures.
2. Occlusion
3. Pathologic and non-pathologic lesions of the hard tissue of the teeth, advanced knowledge of etiology, diagnosis, treatment and prevention.
4. Modern development and advanced knowledge of restorative materials, procedures, cutting tools, drugs and chemicals used in conservative dentistry.
5. All type of restorations used in conservative dentistry
6. Modern biological and mechanical dentistry
7. Moisture control and soft tissue management
8. Cariology – Epidemiology, etiology, microbiology, histopathology, prevention and role of Fluorides.
9. Conservative dentistry in relation to other branches of dentistry including Periodontics, Oral Surgery, Pedodontics, Preventive and Community Dentistry and Geriatric Dentistry
10. Infection control in Conservative Dentistry
11. Use of auxillaries
12. Aesthetic Dentistry
13. Ceramic Dentistry
14. Radiology as related to Conservative Dentistry and Endodontics
15. Managing elderly patients, requiring restorative and endodontic services, specially medically, physically and psychologically compromised elderly

## Endodontics

1. History and rationale of endodontic procedures
2. Pulp and periapical pathology, advanced knowledge of etiology, diagnosis, treatment and management of pulpally involved teeth.
3. Bacteriological investigations and intra canal medication
4. Advanced knowledge of root canal instruments, their sterilization and use.
5. Advanced knowledge of materials used in endodontics.
6. Basic and advanced procedures for root canal preparation
7. Techniques of root canal obturation
8. Endodontic failures and re-treatment.
9. Endo-perio relationship
10. Pediatric endodontics
11. Geriatric endodontics
12. Diagnosis and management of endodontic pain.
13. Endodontic emergencies and flare-ups.
14. Etiology and treatment of fractured and traumatized teeth
15. Surgical Endodontics and Endosseous Implants
16. Restoration of Endodontically treated teeth
17. Infection control in Endodontics
18. Radiology as related to Endodontics

## Syllabus for MDS course in Conservative Dentistry and Endodontics

### 1. Applied Anatomy and Histology and age related changes

Development of face

Muscles of Mastication

Temporo-Mandibular Joint

Salivary glands

Tongue

Paranasal sinuses

Hard and palate

Trigeminal, facial, glossopharyngeal and hypoglossal nerves

**Oral Histology**

Development of tooth

Structure of enamel, dentine, pulp and periodontium

Oral mucous membrane

Occlusion

Shedding and eruption