

# **PROSTHODONTICS & CROWN & BRIDGES- BDS PROGRAM**

## **RATIONALE-**

Purpose of training program in Prosthodontics, Crown & bridges department includes cognition and psychomotor skills related to fabrication of complete denture, removable partial denture, fixed partial denture, Implant rehabilitation and Maxillofacial prosthesis rehabilitation along with thorough knowledge, understanding and manipulation of Dental Materials.

## **PROGRAM OUTCOME:**

1. To prepare clinicians who demonstrate proficiency with the diagnosis, treatment planning and treatment of Prosthodontic patients, with particular emphasis on the critical use of the existing literature and current knowledge.
2. To provide the student with information in the basic sciences as a foundation for understanding the literature and adapting future advances into the clinical practice of Prosthodontics.
3. Candidate should be able to perform clinical and laboratory procedure with understanding of biomaterials, tissue conditions related to prosthesis and have competent dexterity and skill for performing clinical and laboratory procedures in fixed, removable, implant and maxillofacial Prosthodontics.
4. To prepare a candidate having laboratory technique management based on skills and knowledge of Dental Materials and dental equipment and instruments.
5. To prepare students to work closely with other health care professionals like dental technician, hygienist and other working staff to the end that patients receive optimal care.

6. To prepare a candidate having research and clinical abilities, attitude, communicative skills and ability to research with understanding of social, cultural, education and environmental background of the society.

## **SYLLABUS FOR UNDERGRADUATES:**

### **BDS II Year (Subject: DENTAL MATERIALS)**

<b>Sr no</b>	<b>Topics</b>	<b>Objectives</b>	
<b>MODULE 1 : PROPERTIES OF DENTAL MATERIALS</b>			
1	INTRODUCTION	1. Aims of the course 2. Objectives of the course 3. Needs for the course 4. Scope of the course	Must know
2	STRUCTURE OF MATTER	1. Change of state 2. Interatomic primary 3. Interatomic secondary bonds 4. Interatomic bond distance and bonding energy. 5. Crystalline and non-crystalline structure	Must know
3	PRINCIPLES OF ADHESION	1. Adhesion and bonding 2. Wetting 3. Contact angle 4. Adhesion to tooth structure	Must know
4	PHYSICAL PROPERTIES OF DENTAL MATERIALS	1. Types of physical properties 2. Abrasion and Viscosity 3. Creep and flow 4. Color and color perception 5. Thermophysical properties	Must know
5	MECHANICAL PROPERTIES OF DENTAL MATERIALS	1. Types of mechanical properties 2. Elastic deformations properties 3. Strength properties 4. Mechanical properties of tooth structure 5. Criteria for selection of restorative materials	Must know
6	BIOLOGICAL CONSIDERATIONS	1. Biocompatibility of dental materials.	Desirable to know

		<ul style="list-style-type: none"> <li>2. Adverse effects of materials</li> <li>3. Biological response in dental environment.</li> <li>4. Biological interfaces with dental materials</li> <li>5. Current biocompatibility issues</li> <li>6. Guidelines for selecting biocompatible materials.</li> <li>7. Disinfection of dental materials</li> </ul>	
7	TARNISH AND CORROSION	<ul style="list-style-type: none"> <li>1. Tarnish and Corrosion</li> <li>2. Causes and Classification</li> <li>3. Electrochemical Corrosion</li> <li>4. Protection against Corrosion Corrosion of dental restorations</li> <li>5. Evaluation of tarnish and corrosion resistance</li> </ul>	Must know
8	SOLIDIFICATION & MICROSTRUCTURE OF METALS	<ul style="list-style-type: none"> <li>1. Definition &amp; background of metals</li> <li>2. Solidification of metals</li> <li>3. Nucleus formation</li> <li>4. Solidification modes</li> <li>5. Grain refinement</li> </ul>	Nice to know
9	CONSTITUTIONS OF CAST ALLOYS	<ul style="list-style-type: none"> <li>1. Classification of alloys</li> <li>2. Solid solution</li> <li>3. Constitution phase diagrams</li> <li>4. Interpretations of phase diagrams</li> <li>5. Eutectic alloys</li> <li>6. Peritectic alloys</li> <li>7. Solid state reactions</li> <li>8. Other binary systems</li> <li>9. Tertiary &amp; higher order alloy systems</li> </ul>	Must know
<b>MODULE 2: AUXILIARY DENTAL MATERIALS</b>			
10	GYP SUM PRODUCTS	<ul style="list-style-type: none"> <li>1. Origin and uses</li> <li>2. Dental Plaster and Stone</li> <li>3. Setting of Gypsum products</li> <li>4. Tests for setting time</li> <li>5. Control of setting time</li> <li>6. Setting expansion</li> <li>7. Accelerators and retarders</li> <li>8. Hygroscopic setting expansion</li> <li>9. Types of Gypsum products</li> <li>10. Manipulation</li> </ul>	Must know
11	IMPRESSION MATERIALS	<ul style="list-style-type: none"> <li>1. Definition, Purpose and Requirements</li> <li>2. Classification</li> </ul>	Must know

		3. Uses and general properties 4. Type of impression trays	
12	INELASTIC IMPRESSION MATERIALS - I	1. Impression Plaster – Background, Uses, Composition, Properties. 2. Impression compound – Uses, Composition, Manipulation, Properties.	Must know
13	INELASTIC IMPRESSION MATERIALS - II	Zinc Oxide Eugenol Impression paste- Background, Uses, Composition, Manipulation, Properties, Non Eugenol paste, Disinfection.	Must know
14	HYDROCOLLOID IMPRESSION MATERIALS - I	1. Hydrocolloids Definition 2. Sol-Gel transformation 3. Reversible Hydrocolloids (AGAR) Background, Uses, Composition, Manipulation.	Must know
15	HYDROCOLLOID IMPRESSION MATERIALS - II	Irreversible Hydrocolloids (ALGINATE) – Background, Composition, Gelation process, Controlling setting time, Properties, Manipulation, Modified Alginates, Disinfection	Must know
16	ELASTOMERIC IMPRESSION MATERIALS - I	1. Background 2. General Properties 3. Types 4. Polysulfide – Chemistry and Composition, Properties, Manipulation 5. Polyether – Chemistry and Composition, Properties, Manipulation	Must know
17	ELASTOMERIC IMPRESSION MATERIALS - II	1. Condensation Silicone – Setting Reaction, Composition, Properties, Manipulation 2. Addition Silicone – Setting Reaction, Composition, Properties, Manipulation	Must know
18	DENTAL WAXES	1. background & importance 2. Sources & chemical nature 3. Classification of waxes 4. Different waxes – uses, properties	Must know
19	INLAY CASTING WAX	1. Classification 2. composition 3. Ideal requirements	Must know

		4. Properties 5. Manipulation	
20	CASTING INVESTMENTS MATERIAL	1. Definition & Requirements 2. Classification 3. Gypsum bonded investment 4. Phosphate bonded investment 5. Ethyl silicate bonded investment	Must know
21	CASTING PROCEDURE -I	1. background 2. Steps in casting procedure 3. Preparation of master die 4. Electroformed die 5. Wax pattern 6. Sprue design 7. Casting ring 8. Investing procedure 9. Compensation of shrinkage	Desirable to know
22	CASTING PROCEDURE -II	1. Wax burnout 2. Selection of casting alloy 3. Casting machines 4. Cleaning the casting 5. Casting defects – Types, causes, prevention	Desirable to know
23	FINISHING & POLISHING MATERIALS	1. Benefits of finishing & polishing 2. Definitions 3. Principles 4. Abrasive instrument design 5. Types of abrasives – finishing & polishing agents 6. Finishing & Polishing procedures for different restorations 7. Dentifrices	Desirable to know
<b>MODULE 3: DIRECT RESTORATIVE MATERIALS</b>			
24	SYNTHETIC RESINS	1. Background and applications 2. Classification 3. Requirements 4. Nature of Polymers 5. Properties of polymers 6. Polymerization types 7. Types of dental resins	Must know
25	DENTURE BASE RESINS	1. Background and application 2. Mode of polymerization 3. Types of denture base resins 4. Properties 5. Relining & rebasing resin 6. Resin teeth	Must know

		7. Materials for maxillofacial prosthesis	
26	RESTORATIVE RESINS - I	<ol style="list-style-type: none"> <li>1. Background</li> <li>2. Aesthetic restorative materials</li> <li>3. Unfilled and filled resins</li> <li>4. Curing of Resin based Composites - Chemical &amp; light activation, Dual cure</li> <li>5. Composite Resins – Composition, Classification, background, clinical considerations and properties of each</li> </ol>	Must know
27	RESTORATIVE RESINS – II	<ol style="list-style-type: none"> <li>1. Manipulation of composite resin</li> <li>2. Acid Etch technique</li> <li>3. Composites for posterior restorations</li> <li>4. Composites for resin veneers</li> <li>5. Finishing &amp; Polishing of composites</li> <li>6. Biocompatibility</li> <li>7. Repair &amp; survival of composites</li> <li>8. Pit &amp; Fissure sealants</li> </ol>	Desirable to know
28	BONDING	<ol style="list-style-type: none"> <li>1. Need for bonding</li> <li>2. Mechanism of Adhesion</li> <li>3. Enamel &amp; Dentin bonding agents</li> <li>4. Measurement of bond strength</li> </ol>	Must know
29	DENTAL CERAMICS -I	<ol style="list-style-type: none"> <li>1. Definition</li> <li>2. Historical background</li> <li>3. Composition</li> <li>4. Classification of dental ceramics</li> <li>5. Ceramic processing methods</li> <li>6. Dental Porcelain for Metal Ceramic- composition, properties, bonding</li> <li>7. Aluminous porcelain crown</li> <li>8. Glass ceramics</li> </ol>	Must know
30	DENTAL CERAMICS -II	<ol style="list-style-type: none"> <li>1. All ceramic systems - conventional, castable, inceram, pressable, cad-cam</li> <li>2. Strengthening of dental ceramics</li> <li>3. Clinical performance 3. Porcelain denture teeth</li> <li>4. Factors affecting color of ceramics</li> <li>5. Criteria for selection of ceramics</li> </ol>	Nice to know
31	DENTAL AMALGAM -I	<ol style="list-style-type: none"> <li>1. Definition &amp; background</li> <li>2. Alloy composition</li> <li>3. Manufacture of alloy powder</li> </ol>	Must know

		<ol style="list-style-type: none"> <li>4. Amalgamation - Low &amp; high copper Alloys</li> <li>5. Dimensional stability and other Properties</li> <li>6. Clinical performances</li> <li>7. Factors affecting the success of amalgam restorations</li> </ol>	
32	DENTAL AMALGAM -II	<ol style="list-style-type: none"> <li>1. Manipulation of amalgam</li> <li>2. Carving &amp; Finishing</li> <li>3. Effect of dimensional changes</li> <li>4. Marginal deterioration</li> <li>5. Side effects of mercury</li> <li>6. Mercury toxicity</li> <li>7. Mercury hygiene</li> <li>8. Repair of amalgam restoration</li> </ol>	Must know
33	DIRECT FILLING GOLD	<ol style="list-style-type: none"> <li>1. Background of Gold foil</li> <li>2. Properties of pure gold</li> <li>3. Forms of direct filling gold</li> <li>4. Granular gold</li> <li>5. Removal of surface impurities</li> <li>6. Compaction of direct filling gold</li> <li>7. Physical properties of compacted gold</li> <li>8. Direct gold restoration</li> </ol>	Must know
<b>MODULE 4: INDIRECT RESTORATIVE AND PROSTHETIC MATERIALS</b>			
34	DENTAL CASTING ALLOYS -I	<ol style="list-style-type: none"> <li>1. Historical background</li> <li>2. Desirable properties of casting alloys</li> <li>3. Classification of casting alloys</li> <li>4. Noble &amp; base metal alloys</li> <li>5. Alloys for all metal &amp; resin veneered</li> <li>6. Heat treatment of alloys</li> </ol>	Must know
35	DENTAL CASTING ALLOYS -II	<ol style="list-style-type: none"> <li>1. Metal ceramic alloy - High noble &amp; noble alloys</li> <li>2. Metal ceramic alloys - Base metal alloys</li> <li>3. Biological hazards and precautions</li> <li>4. Guidelines for selection &amp; use of base metal alloys</li> <li>5. Alloys for cast partial dentures</li> <li>6. Alternatives to cast metal technology</li> <li>7. Soldering of dental alloys</li> </ol>	Must know

36	WROUGHT ALLOYS	<ol style="list-style-type: none"> <li>1. Background &amp; application</li> <li>2. Classification</li> <li>3. Annealing</li> <li>4. Stainless steels</li> <li>5. Cobalt-chromium-nickel alloys</li> <li>6. Nickel-Titanium alloys</li> <li>7. Beta-Titanium alloys</li> <li>8. Other wrought alloys</li> </ol>	Must know
37	DENTAL CEMENTS -I	<ol style="list-style-type: none"> <li>1. Background</li> <li>2. Classification of dental cements and their applications</li> <li>3. Principles of cementation</li> <li>4. Fluoride releasing cements – Mechanism</li> </ol>	Must know
38	DENTAL CEMENTS -II	<ol style="list-style-type: none"> <li>1. Zinc Phosphate cement</li> <li>2. Zinc Polycarboxylate cement</li> <li>3. Glass ionomer cement</li> <li>4. Compomers</li> <li>5. Silicate Cement</li> <li>6. Zinc oxide eugenol cement</li> </ol>	Must know
39	DENTAL CEMENTS -III	<ol style="list-style-type: none"> <li>1. Resin cements</li> <li>2. Agents for pulp protection - cavity varnishes, liners, bases</li> <li>3. Calcium Hydroxide cement</li> <li>4. Modifications &amp; Recent advancement</li> <li>5. Solubility &amp; disintegration of cements</li> </ol>	Must know
40	SOLDERING & WELDING -I	<ol style="list-style-type: none"> <li>1. Need for joining dental appliances</li> <li>2. Terms &amp; definitions</li> <li>3. Solders - ideal requirements, types, applications, Properties.</li> <li>4. Soldering Flux, Anti flux</li> <li>5. Heat sources for soldering</li> <li>6. Technique procedures for soldering</li> <li>7. Radiographic analysis of solder joint</li> <li>8. Laser welding</li> </ol>	Desirable to know
41	DENTAL IMPLANTS -I	<ol style="list-style-type: none"> <li>1. Historical background</li> <li>2. Classification of implants</li> <li>3. Osseointegration</li> <li>4. Implant components</li> <li>5. Clinical success of dental implants</li> </ol>	Desirable to know
42	DENTAL IMPLANTS -II	<ol style="list-style-type: none"> <li>1. Implant materials</li> <li>2. Selecting an implant materials</li> </ol>	

		3. Biocompatibility of implants 4. Biomechanics 5. Recent advancement	Nice to know
43	MAXILLOFAICAL MATERIALS	1. Background 2. Application 3. Different materials used for maxillofacial prosthesis	Desirable to know
44	ADVANCEMENT IN DENTAL MATERIALS	Related to dental impressions, restorative materials, alloys, implants	Nice to know

### **BDS FINAL YEAR [Module 1: COMPLETE DENTURE]**

Sr. no.	Topics	Objective	
1.	Biomechanics of edentulous state	1. Support mechanism for natural and complete dentition 2. Functional and parafunctional consideration 3. Changes in Morphology 4. Esthetic behavior and adaptive responses	Must know
2.	Effect of Aging on edentulous state	1. Aging Population 2. Impact of edentulism and age 2. Jaw movement in old age 4. effect on funtion	Must know
3.	sequelae of wearing complete denture	1. Dentura and oral environment 2. Direct Sequelae of wearing dentures 3. Indirect Sequelae of wearing dentures	Must know
4.	Gerodontology and nutritional care for elderly	1. Impact on dental status on food intake 2. Nutritional needs and status of older adults 3. Dietary management	Nice to know
5.	TMJ Disorders in edentulous patients	1. General anatomy of TMJ. 2. TMJ Disorder - types	Must know

6.	Diagnosis and Treatment planning in completely edentulous patients	1. History taking 2. Examination extra/intraorally 3. Treatment planning	Must know
7.	Improving the denture foundation	1. Nonsurgical methods 2. Surgical Methods	Nice to know
8.	communication with edentulous patients	1. Understanding the patients 2. Significant Doctor/ Patient Communication 2. Instructing the patients	Desirable to know
9.	Single CD, Interim Denture,	1. Definition and importance 2. diagnosis & treatment planning 3. Clinical/Laboratory Procedure	Desirable to know
10.	Over-denture	1. Definition and importance 2. diagnosis & treatment planning 3. Clinical/Laboratory Procedure	Must know
11.	Immediate Denture	1. Definition and importance 2. diagnosis & treatment planning 3. Clinical/Laboratory Procedure	Must know
12.	Biologic consideration for maxillary and mandibular dentures	1. Anatomy of supporting Structure 2. Anatomy of peripheral/limiting Structure	Must know
13.	Impression in complete denture (maxillary and mandibular)	1. Impression objectives 2. impression materials 3. Impression techniques 4. impression procedures	Must know
14.	Retention, stability and support in complete denture	1. Principles of retention, support and stability 2. Factors affecting of retention, support and stability	Must know
15.	Trial denture base and occlusion	1. Materials 2. Techniques	Must know

16.	Biologic consideration of orientation, vertical and horizontal jaw relations	1. Regulation of mandibular movements 2. Maxillo-mandibular relations including vertical and horizontal jaw relations	Must know
17.	Speech and phonetics	1. Speech Production and role of Teeth 2. Methods for Speech Analysis	Desirable to know
18.	Articulators	1. Definition and classification 2. Principle in brief of each type	Nice to know
19.	Occlusion	1. Definition and Importance 2. concept 3. Type of occlusion	Musty know
20.	Selection and arrangement Of artificial teeth	1. Anterior teeth Selection 2. Posterior teeth Selection 3. Arrangement of teeth	Must know
21.	Try-in appointment	1. Perfection and verification of Jaw Relation Records 2. Creating Facial and functional harmony	Desirable to know
22.	Processing of denture, Insertion adjustment	1. Waxing and Processing the denture 2. Insertion of Complete Denture 3. Maintaing comfort and health in rehabilitated edentulous patient	Must know
23.	Post insertion and follow ups	1. Subsequent oral Examination and Treatment 2. Complains during post insertions phase 3. Management of complains	Must know
24.	Relining and rebasing	1. Treatment Rationale 2. Procedure	Desirable to know
25.	Maxillofacial prosthesis	1. Types of maxillofacial prosthesis 2. Materials used in maxillofacial prosthesis. 3. Procedure for fabrication.	Must know
26.	Implant supported dentures	1. Osseointegration 2. Implant Materials 3. Type of implant supported Prosthesis 4. Procedure	Must know

Sr.no	Topic	Learning objectives
1.	RESEARCH METHODOLOGY	1) Research and types 2) Levels of Scientific evidence 3) Types of studies 4) Sampling

### SOFT SKILLS

Sr.no	Topic	Learning objectives
1	Soft skills	1. Introduction to skills of a dentist 2. Soft skills classifications 3. Visual aids 4. Auditory aids 5. Interpersonal skills 6. Patient doctor rapport

### BDS FINAL YEAR [Module 2: REMOVABLE PARTIAL DENTURE]

Sr. no.	Topics	Objectives	
1	PARTIAL EDENTULOUS EPIDEMIOLOGY AND PHYSIOLOGY OF PARTIAL EDENTULISM	1. Introduction 2. terminology and scope. 3. Six phases of partial denture service.	Must know
3	CLASSIFICATION OF PARTIAL EDENTULOUS ARCHES	1. Requirements of an accepted method of classification. 2. Kennedy classification. 3. Applegate's rules.	Must know
4	BIOMECHANICS AND PRINCIPLES OF REMOVABLE PARTIAL DENTURES: PART I,II	1. Biomechanical consideration. 2. Possible movements of partial dentures.	Must know

5	MAJOR CONNECTORS: PART I,II,III	1. Mandibular major connectors 2. Maxillary major connectors 3. Designs, Indications 4. Minor connectors - Functions, form and location, tissue stops.	Must know
6	RESTS AND REST SEATS	1. form of occlusal rest and rest seats. 2. Extended occlusal rest. 3. Interproximal occlusal rest seats. 4. Support for rests. 5. Incisal rests and rest seats.	Must know
7	DIRECT RETAINERS: PART I,II	1. Internal attachments. 2. Extracoronal attachments. 3. Criteria for selecting a given clasp design. 4. Basic principles of clasp design. 5. Other types of retainers.	Must know
8	INDIRECT RETAINERS	1. Factors influencing effectiveness of indirect retainers. 2. Functions of indirect retainers. 3. Forms of indirect retainers.	Must know
9	DENTURE BASE CONSIDERATIONS	1. functions of denture bases 2. Methods of attaching denture bases 3. Advantages	Must know
10	SURVEYING: PART I,II	1. Description of dental surveyors 2. Purposes 3. factors determining path of placement and removal 4. procedure of surveying 5. Blocking the master cast 6. Surveying the master cast 7. Survey lines	Desirable to know
11	DESIGNING THE RDP	1. Understanding the Principles of designing 2. Procedure	Nice to know
12	EXAMINATION AND EVALUATION OF DIAGNOSTIC DATA	1. Clinical examination 2. Objectives of treatment 3. Diagnostic findings 4. Differential diagnosis	Must know
13	MOUTH PREPARATION AND MASTER CAST	1. Oral surgical preparation 2. Conditioning of abused tissues 3. periodontal preparation	Desirable to know

		<ul style="list-style-type: none"> <li>4. Abutment tooth preparation</li> <li>5. Impressions</li> <li>6. Master cast</li> </ul>	
14	SUPPORT FOR THE DISTAL EXTENSION DENTURE BASE	<ul style="list-style-type: none"> <li>1. Factors influencing support</li> <li>2. Anatomic form impression</li> <li>3. Functional impression - types, methods.</li> </ul>	Nice to know
15	IMPRESSION MATERIALS AND PROCEDURE FOR RDP	<ul style="list-style-type: none"> <li>1. Introductions</li> <li>2. Types of materials</li> <li>3. Individual impression trays</li> </ul>	Must know
16	PRELIMINARY JAW RELATION AND ESTHETIC TRY-IN FOR ANTERIOR REPLACEMENT TEETH	<ul style="list-style-type: none"> <li>1. Occlusal contact relationship</li> <li>2. methods for establishing occlusal relationship.</li> <li>3. Materials for teeth</li> <li>4. Establishing jaw relations</li> </ul>	Must know
17	FITTING THE FRAMEWORK WITH SPECIAL IMPRESSION PROCEDURE	- Introduction	Must know
18	OCCLUSAL RELATIONSHIP FOR RDP,CD OPPOSING RDP	<ul style="list-style-type: none"> <li>Occlusal interferences</li> <li>Adjustments of bearing surfaces of denture bases.</li> </ul>	Must know
20	LABORATORY PROCEDURE AND DELIVERY OF RDP	<ul style="list-style-type: none"> <li>1. Duplicating the cast</li> <li>2. Waxing, spruing</li> <li>3. Processing</li> <li>4. Remount and Polishing</li> </ul>	Desirable to know
21	POST-INSERTION OBSERVATIONS RELINING, REBASING AND REPAIR OF THE RDP	<ul style="list-style-type: none"> <li>1. instructions to patients</li> <li>2. Relining, rebasing, repair - definitions, materials, methods.</li> </ul>	Desirable to know
22	OTHER FORMS OF RDP, TEMPORARY, IMMEDIATE	<ul style="list-style-type: none"> <li>1.Types</li> <li>2. Appearance</li> <li>3. Indications</li> </ul>	Must know
23	RPD IN MAXILLOFACIAL PROSTHETICS	<ul style="list-style-type: none"> <li>1. Types</li> <li>2. Design consideration</li> <li>3. Fabrication Procedure</li> </ul>	Desirable to know

### BDS FINAL Year (Module 3 : FIXED PARTIAL DENTURE)

Sr no	Topics	Objectives	
1	AN INTRODUCTION, DIAGNOSIS & TREATMENT PLANNING IN FDP	<ol style="list-style-type: none"> <li>1. Topic to be covered in detail.</li> <li>2. Patients history, expectations and need.</li> <li>3. Systemic and emotional health.</li> <li>4. Clinical examinations.</li> <li>5. Preparation of diagnostic cast.</li> <li>6. Abutment selection - bone support</li> <li>7. Comprehensive planning and prognosis.</li> </ol>	Must know
2	FUNDAMENTALS OF OCCLUSION	<ol style="list-style-type: none"> <li>1. Definition and Importance</li> <li>2. concept</li> <li>3. Type of occlusion</li> </ol>	Desirable to know
3	INTEROCCLUSAL RECORDS	<ol style="list-style-type: none"> <li>1. Centric Relation records</li> <li>2. Maximum intercuspation records</li> <li>3. Lateral Interocclusal records</li> </ol>	Must know
4	ARTICULATION OF CASTS	<ol style="list-style-type: none"> <li>1. Types of articulator</li> <li>2. Principles of articulator</li> </ol>	Must know
5	PRINCIPLES OF TOOTH PREPARATIONS	<ol style="list-style-type: none"> <li>1. Conservation of tooth structure</li> <li>2. Retention and resistance</li> <li>3. Structural durability</li> <li>4. Marginal Integrity</li> <li>5. Preservation of the periodontium</li> </ol>	Must know
6	PREPARATIONS FOR FULL VENEER CROWNS AND PARTIAL VENEER CROWNS	<ol style="list-style-type: none"> <li>1. full metal crown - maxillary molar</li> <li>2. full metal crown - mandibular molar</li> <li>3. Uniformity of tooth reduction</li> <li>4. Sequential preparation procedure</li> </ol>	Must know

		5. Partial $\frac{3}{4}$ , radicular $\frac{7}{8}$ , telescopic, pin ledge tooth preparations.	
7	PREPARATIONS FOR INTRACORONAL RESTORATIONS	1. Indications 2. Anterior versus posterior teeth 3. Techniques and materials	Must know
8	PREPARATIONS FOR EXTENSIVELY DAMAGED TEETH AND PERIODONTALLY COMPROMISED TEETH	1. Introduction and limitations 2. Splints - types, indications 3. Tooth preparation - margin placement, proximal contours, cementation 4. Restoration of molars with furcation involvement. 5. Prognosis	Desirable to know
9	PROVISIONAL RESTORATIONS	1. Introduction and need 2. Types and techniques 3. Materials and limitations 4. Provisional splints	Must know
10	FLUID CONTROL AND SOFT TISSUE MANAGEMENT	1. Tissue health 2. Tissue dilation -types, materials.	Must know
11	IMPRESSIONS, WORKING CASTS AND DIES	1. Impression materials. 2. Techniques 3. Die preparation	Must know
12	WAX PATTERNS	1. Introduction 2. Types of wax, properties, method	Must know
13	THE FUNCTIONALLY GENERATED PATH TECHNIQUE	1. Introduction 2. Indications 3. Technique	Nice to know
14	INVESTING AND CASTING	1. Materials 2. Procedure	Must know
15	ESTHETIC CONSIDERATIONS, FINISHING AND CEMENTATION	1. Introduction 2. Materials 3. Technique	Must know
16	ALL- CERAMIC RESTORATIONS	1. Introduction and indications 2. Types of all ceramic system Procedure	Must know
17	METAL- CERAMIC RESTORATIONS	1. Introduction and indications.	Must know

		2.Tooth preparation.	
18	PONTICS AND EDENTULOUS RIDGES	1. Types of pontic 2.design 3. Indications and contraindications	Must know
19	RETAINERS, SOLDER JOINTS AND OTHER CONNECTORS	1. Types 2. Techniques	Desirable to know
20	RESIN-BONDED FIXED PARTIAL DENTURES	1. Introduction 2. Types of resin bonded FPD 3. Indications, Contraindications 4. Tooth preparation, impression	Nice to know
21	HISTORY AND COMPONENTS OF DENTAL IMPLANTS	1.Introduction and history of dental implants. 2. Osseointegration 3. Bone Density 2. Types, materials	Desirable to know

## **PROGRAM ASSESSMENTS**

1. Written Exams – Terminal and Professional exams (Subjective and objective)
2. Practical Exams – Preclinical and Dental Material Practical Exam in 2<sup>nd</sup> Professional, Clinical Exams in 4<sup>th</sup> Professional- Include case presentation, clinical procedure, Spotting, Table and Grand viva
3. Student Self-Assessment by experiences obtained during daily clinical activity.
4. Internal assessment by faculty (performance based during clinical posting and Lab procedures and log book maintenance).
5. Formative assessment- subject wise timely class test (Subjective/ objective)

## **BOOKS:**

1. Phillips science of dental materials. (Kenneth J. Anusavice)
2. Craig's Restorative Dental Materials. (Ronald L. Sakaguchi and John M. Powers)
3. Prosthodontic Treatment for Edentulous Patients: Complete Dentures and Implant-Supported Protheses. (Zarb, Bolender)
4. Fundamentals of fixed prosthodontics. (Schilling)
5. McCracken's Removable Partial Denture. (Alan Carr & David Brown)