



Accredited with NAAC **A** Grade
12-B Status from UGC

TEERTHANKER MAHAVEER UNIVERSITY

(Established under Govt. of U.P. Act No. 30, 2008)

Delhi Road, Moradabad (U.P.)

PhD PROGRAMME

SYLLABUS FOR DISCIPLINE-SPECIFIC COURSE

PROSTHODONTICS AND CROWN & BRIDGE

Course code: PDS240124	PROSTHODONTICS AND CROWN & BRIDGE	L	T	P	C
		0	0	0	4
Objective:	1. Foster the ability to design, conduct, and analyze original research contributing to the field of prosthodontics. 2. Promote the application of evidence-based methodologies in both clinical practice and research. 3. Collaborate with other dental and medical specialties for comprehensive patient care. 4. Encourage the use of emerging technologies and innovative techniques in prosthodontic treatment. 5. Instil high ethical standards in research.				
Course Outcome:					
CO 1:	Scholars will demonstrate the ability to design, conduct, and critically analyse original research, contributing novel insights to the field of prosthodontics.				
CO 2:	Scholars will effectively integrate evidence-based methodologies into clinical decision-making and prosthodontic research to improve treatment outcomes.				
CO 3:	Scholars will work effectively with professionals from other dental and medical specialties, developing and executing comprehensive research plans.				
CO 4:	Scholars will utilize and adapt emerging technologies in prosthodontic treatments.				

CO 5:	Scholars will adhere to high ethical standards in conducting research, including the responsible handling of data, respect for patient confidentiality, and compliance with research regulations.
Course Content:	
Unit 1:	<p>PROSTHODONTIC TREATMENT FOR EDENTULOUS PATIENT'S: - COMPLETE DENTURES AND IMPLANT SUPPORTED PROSTHESIS:</p> <p>Complete Denture Prosthesis – Definitions, terminologies, G.P.T., Boucher's clinical dental terminology. Scope of Prosthodontics – The Cranio Mandibular system and its functions, the reasons for loss of teeth, consequences of loss of teeth and treatment modality with various restorations and replacements</p> <ul style="list-style-type: none"> a) Edentulous Predicament, Biomechanics of the edentulous state, Support mechanism for the natural dentition and complete dentures, biological considerations, Functional and Para functional considerations, Esthetic, behavioral and adaptive responses, Temporomandibular joints changes. b) Effects of aging of edentulous patients –aging population, distribution and edentulism in old age, impact of age on edentulous mouth – Mucosa, Bone, saliva, jaw movements in old age, taste and smell, nutrition, aging, skin and teeth, concern for personal appearance in old age. c) Sequelae caused by wearing complete denture –the denture in the oral environment – Mucosal reactions, altered taste perception, burning mouth syndrome, gagging, residual ridge (reduction) resorption, denture stomatitis, flabby ridge, denture irritation hyperplasia, traumatic Ulcers, Oral cancer in denture wearers, nutritional deficiencies, masticatory ability and performance, nutritional status and masticatory functions. d) Temporomandibular disorders in edentulous patients – Epidemiology, etiology and management, Pharmacotherapy, Physical modalities, and Bio-behavioral modalities.

e) Nutrition Care for the denture wearing patient –Impact of dental status on-food intake, Gastrointestinal functions, nutritional needs and status of older adults, Calcium and bone health, vitamin and herbal supplementation, dietary counseling and risk factor for malnutrition in patients with dentures and when teeth are extracted.

f) Preparing patient for complete denture patients –Diagnosis and treatment planning for edentulous and partially edentulous patients – familiarity with patients, principles of perception, health questionnaires and identification data, problem identification, prognosis and treatment identification data, problem identification, prognosis and treatment planning – contributing history – patient’s history, social information, medical status – systemic status with special reference to debilitating diseases, diseases of the joints, cardiovascular disorders, diseases of the skin, neurological disorders, oral malignancies, climacteric, use of drugs, mental health – mental attitude, psychological changes, adaptability, geriatric changes – physiologic, pathological, pathological and intra oral changes. Intra oral health – mucus membrane, alveolar ridges, palate and vestibular sulcus and dental health. Data collection and recording, visual observation, radiography, palpation, measurement of sulci or fossae, extra oral measurement, the vertical dimension of occlusion, diagnostic casts. Specific observations – existing dentures, soft tissue health, hard tissue health – teeth, bone Biomechanical considerations – jaw relations, border tissues, saliva, muscular development – muscle tone, neuromuscular co-ordination, tongue, cheek and lips. Interpreting diagnostic findings and treatment planning.

g) Pre prosthetic surgery –Improving the patients denture bearing areas and ridge relations.

h) Non-surgical methods –rest for the denture supporting tissues, occlusal correction of the old prosthesis, good nutrition, conditioning of the patient’s musculature.

i) Surgical methods –Correction of conditions, that preclude optimal prosthetic function – hyperplastic ridge – epulis fissuratum and papillomatosis, frenular attachments and pendulous maxillary tuberosities, ridge augmentation, maxillary and mandibular oral implants, corrections of congenital deformities, discrepancies in jaw size, relief of pressure on the mental foramen, enlargement of denture bearing areas, vestibuloplasty, ridge augmentation, replacement of tooth roots with Osseo integrated denture implants.

j) Immediate Denture –Advantages, Disadvantages, Contraindications, Diagnosis, treatment planning and Prognosis, Explanation to the patient, Oral examinations, Examination of existing prosthesis, Tooth modification, Prognosis, Referrals/adjunctive care, oral prophylaxis and other treatment needs. First visit, preliminary impressions and diagnostic casts, management of loose teeth, custom trays, final impressions and master casts, two tray or sectional custom impression tray, location of posterior limit and jaw relation records, setting of the posterior denture teeth / verifying jaw relations and the patient try in. Laboratory phase, setting of anterior teeth, Wax contouring, flasking and boil out, processing and finishing, surgical templates, surgery and immediate denture insertion, post operative care and patient instructions, subsequent service for the patient on the immediate denture.

k) Over dentures (tooth supported complete dentures)– indications and treatment planning, advantages and disadvantages, selection of abutment teeth, loss of abutment teeth, tooth supported complete dentures. Non-coping abutments, abutment with copings, abutments with attachments, submerged vital roots, preparations of the retained teeth.

l) Single Dentures: Single Mandibular denture to oppose natural maxillary teeth, single complete maxillary denture to oppose natural Mandibular teeth to oppose a partially edentulous Mandibular arch with fixed prosthesis, partially edentulous Mandibular arch with removable partial dentures. Opposing existing complete dentures, preservation of the residual alveolar ridge, necessity for retaining maxillary teeth and preventing mental trauma.

m) Art of communication in the management of the edentulous predicament – Communication–scope, a model of communication, why communication is important? What are the elements of effective communication? special significance of doctor / patient communication, doctor behavior, The iatrosedative (doctor & act of making calm) recognizing and acknowledging the problem, exploring and identifying the problem, interpreting and explaining the problem, offering a solution to the problem for mobilizing their resources to operate in a most efficient way, recognizing and acknowledging the problem, interpreting and explaining the problem, offering a solution to the problem.

n) Materials prescribed in the management of edentulous patients - Denture base materials, General requirements of biomaterials for edentulous patients, requirement of an ideal denture base, chemical composition of denture base resins, materials used in the fabrication of prosthetic denture teeth, requirement of prosthetic denture teeth, denture lining materials and tissue conditioners, cast metal alloys as denture bases – base metal alloys.

o) Articulators – Evolution of concepts, Classification, selection, limitations, precision, accuracy and sensitivity, and Functions of the articulator and their uses. Recent advancements including virtual articulator.

p) Fabrication of complete dentures –complete denture impressions–muscles of facial expressions and anatomical landmarks, support, retention, stability, aims and objectives of preservation, support, stability, aesthetics, and retention. Impression materials and techniques – need of 2 impressions the preliminary impression and final impressions. Developing an analogue / substitute for the maxillary denture bearing area – anatomy of supporting structures – mucous membrane, hard palate, residual ridge, shape of the supporting structure and factors that influence the form and size of the supporting bones, incisive foramen, maxillary tuberosity, sharp spiny process, torus palatinus, Anatomy of peripheral or limiting structures, labial vestibule, Buccal vestibule, vibrating lines. Preliminary and final impressions, impression making, custom tray and refining the custom tray, preparing the tray to secure the final impression, making the final impression, boxing impression and making the casts Developing an analogue / substitute for the Mandibular denture bearing area - anatomy of supporting structure, crest of the residual ridge, buccal shelf, shape of supporting structure, mylohyoid ridge, mental foramen, genial tubercles, torus mandibularis, Anatomy of peripheral or limiting structure – labial vestibule, Buccal vestibule, lingual border, mylohyoid muscle, retromylohyoid fossa, sublingual gland region, alveolingual sulcus, Mandibular impressions – preliminary impressions, custom tray, refining, preparing the tray\, final impressions.

q) Mandibular movements, Maxillo mandibular relations and concepts of occlusion – Gnathology, identification of shape and location of arch form–Mandibular and maxillary occlusion rims, level of occlusal plane and recording of trail denture base, tests to determine vertical dimension of occlusion, interocclusal & centric relation records. Biological and clinical considerations in making jaw relation records and transferring records from the patients to the articulator, Recording of Mandibular movements

– influence of opposing tooth contacts, temporomandibular joint, muscular involvements, neuromuscular regulation of Mandibular motion, the envelope of motion, rest position. Maxillo – Mandibular relations – the centric, eccentric, physiologic rest position, vertical dimension, occlusion, recording methods – mechanical, physiological, Determining the horizontal jaw relation – Functional graphics, tactile or interocclusal check record method, Orientation / sagittal relation records, Arbitrary / Hinge axis and face bow record, significance and requirement, principles and biological considerations and securing on articulators.

r) Selecting and arranging artificial teeth and occlusion for the edentulous patient – anterior tooth selection, posterior tooth selection, and principles in arrangement of teeth, and factors governing the position of teeth – horizontal & vertical relations. The inclinations and arrangement of teeth for aesthetics, phonetics and mechanics – to concept of occlusion.

s) The Try in –verifying vertical dimension, centric relation, establishment of posterior palatal seal, creating a facial and functional harmony with anterior teeth, harmony of spaces of individual teeth position, harmony with sex, personality and age of the patient, co-relating aesthetics and incisal guidance.

t) Speech considerations with complete dentures & speech production –structural and functional demands, neuropsychological background, speech production and the roll of teeth and other oral structures – bilabial sounds, labiodental(s) sounds, linguodental sounds, linguoalveolar sound, articulatoric characteristics, acoustic characteristics, auditory characteristics, linguopalatal and linguoalveolar sounds, speech analysis and prosthetic considerations.

u) Waxing contouring and processing the dentures their fit and insertion and after care –laboratory procedure–wax contouring, flasking and processing, laboratory remount procedures, selective

grinding, finishing and polishing. Critiquing the finished prosthesis – doctor's evaluation, patient's evaluation, friend's evaluation, elimination of basal surface errors, errors in occlusion, interocclusal records for remounting procedures – verifying centric relation, eliminating occlusal errors. Special instructions to the patient – appearance with new denture, mastication with new dentures, speaking with new dentures, oral hygiene with dentures, preservation of residual ridges and educational material for patients, maintaining the comfort and health of the oral cavity in the rehabilitated edentulous patients. Twenty-four hours oral examination and treatment and (preventive) Prosthodontic – periodontic recall for oral examination 3 to 4 months intervals and yearly intervals.

v) Implant supported Prosthesis for partially edentulous patients – Science of Osseointegration, clinical protocol (diagnostic, surgical and prosthetic) for treatment with implant supported overdentures, managing problems and complications. Implant Prosthodontics for edentulous patients: current and future directions.

Implant supported prosthesis for partially edentulous patients –

Clinical and laboratory protocol: Implant supported prosthesis, managing problems and complications

- o Introduction and Historical Review
- o Biological, clinical and surgical aspects of oral implants
- o Diagnosis and treatment planning
- o Radiological interpretation for selection of fixtures
- o Splints for guidance for surgical placement of fixtures
- o Surgical and Intra oral plastic surgery, if any
- o Guided bone and Tissue regeneration consideration for implants fixture.
- o Implant supported prosthesis for complete edentulism and partial edentulism
- o Occlusion for implant supported prosthesis.

	<ul style="list-style-type: none"> o Peri-implant tissue and Management of peri-implantitis o Maintenance and after care o Management of failed restoration. o Work authorization for implant supported prosthesis – definitive instructions, legal aspects, delineation of responsibility.
<p>Unit 2:</p>	<p>PROSTHODONTIC TREATMENT FOR PARTIALLY EDENTULOUS PATIENTS – REMOVABLE PARTIAL PROSTHODONTICS:</p> <p>a). Scope, definition and terminology, Classification of partially edentulous arches - requirements of an acceptable method of classification, Kennedy’s classification, Applegate’s rules for applying the Kennedy classification</p> <p>b). Components of RPD – i) major connector–mandibular and maxillary ii) minor connectors, design, functions & form and location of major and minor connectors, tissue stops, finishing lines, reaction of tissue to metallic coverage iii) Rest and rest seats – form of the Occlusal rest and rest seat, interproximal Occlusal rest seats, internal Occlusal rests, possible movements of partial dentures, support for rests, lingual rests on canines and incisor teeth, incisal rest and rest seat. iv) Direct retainers- Internal attachments & extracoronal direct retainers. Relative uniformity of retention, flexibility of clasp arms, stabilizing reciprocal clasp, criteria for selecting a given clasp design, the basic principles of clasp design, circumferential clasp, bar clasp, combination clasp and other type of retainers. v) Indirect Retainers – denture rotation about an axis, factors influencing effectiveness of indirect retainers, forms of indirect retainers, auxiliary Occlusal rest, canine extensions from Occlusal rests, canine rests, continuous bar retainers and linguoplates, modification areas, rugae support, direct – indirect retention. (vi) Teeth and denture bases – types, materials, advantages and dis-advantages, indications and contraindications and clinical use. Principles of removable partial Denture design – Bio mechanical considerations, and the factors influencing after mouth preparations – Occlusal relationship of remaining teeth, orientation of</p>

	<p>Occlusal plane, available space for restoration, arch integrity, tooth morphology, response of oral structure to previous stress, periodontal conditions, abutment support, tooth supported and tooth and tissue supported, need for indirect retention, clasp design, need for rebasing, secondary impression, need for abutment tooth modification, type of major connector, type of teeth selection, patients past experience, method of replacing single teeth or missing anterior teeth. Difference between tooth supported and tissue supported partial dentures. Essentials of partial denture design, components of partial denture design, tooth support, tissue support, stabilizing components, guiding planes, use of splint bar for denture support, internal clip attachments, overlay abutment as support for a denture base, use of a component partially to gain support.</p> <p>c). Education of patient</p> <p>d). Diagnosis and treatment planning</p> <p>e). Design, treatment sequencing and mouth preparation</p> <p>f). Surveying –Description of dental surveyor, purposes of surveying, Aims and objectives in surveying of diagnostic cast and master cast, Final path of insertion, factors that determine path of insertion and removal, recording relation of cast to surveyor, measuring amount of retentive area Blocking of master cast – paralleled block out, shaped block out, arbitrary block out and relief.</p> <p>g). Diagnosis and treatment planning –Infection control and cross infection barriers – clinical and laboratory and hospital waste management, Objectives of prosthodontic treatment, Records, systemic evaluation, Oral examination, preparation of diagnostic cast, interpretation of examination data, radiographic interpretation, periodontal considerations, caries activity, prospective surgical preparation, endodontic treatment, analysis of occlusal factors, fixed restorations, orthodontic treatment, need for determining the design of components, impression procedures and occlusion, need for reshaping remaining teeth, reduction of unfavorable tooth contours, differential</p>
--	--

	<p>diagnosis : fixed or removable partial dentures, choice between complete denture and removable partial dentures, choice of materials</p> <p>h). Preparation of Mouth for removable partial dentures –Oral surgical preparation, conditioning of abused and irritated tissues, periodontal preparation – objectives of periodontal therapy, periodontal diagnosis, control therapy, periodontal surgery.</p> <p>i). Preparation of Abutment teeth –Classification of abutment teeth, sequence of abutment preparations on sound enamel or existing restorations, conservative restorations using crowns, splinting abutment teeth, utilization, temporary crowns to be used as abutment.</p> <p>j). Impression Materials and Procedures for Removable Partial Dentures –Rigid materials, thermoplastic materials, Elastic materials, Impressions of the partially edentulous arch, Tooth supported, tooth tissue supported, Individual impression trays.</p> <p>k). Support for the Distal Extension Denture Base –Distal extension removable partial denture, Factors influencing the support of distal extension base, Methods of obtaining functional support for the distal extension base.</p> <p>l). Laboratory Procedures –Duplicating a stone cast, Waxing the partial denture framework, Anatomic replica patterns, Spruing, investing, burnout, casting and finishing of the partial denture framework, making record bases, occlusion rims, making a stone occlusal template from a functional occlusal record, arranging posterior teeth to an opposing cast or template, arrangement of anterior teeth, waxing and investing the partial denture before processing acrylic resin bases, processing the denture, remounting and occlusal correction to an occlusal template, polishing the denture.</p> <p>m). Initial placement, adjustment and servicing of the removable partial denture –adjustments to bearing surfaces of denture framework, adjustment of occlusion in harmony with natural and artificial dentition, instructions to the patient, follow – up services</p>
--	--

	<p>n). Relining and Rebasing the removable partial denture –Relining tooth supported dentures bases, relining distal extension denture bases, methods of reestablishing occlusion on a relined partial denture.</p> <p>o). Repairs and additions to removable partial dentures –Broken clasp arms, fractured occlusal rests, distortion or breakage of other components – major and minor connectors, loss of a tooth or teeth not involved in the support or retention of the restoration, loss of an abutment tooth necessitating its replacement and making a new direct retainer, Other types of repairs & repair by soldering.</p> <p>p). Removable partial denture considerations in maxillofacial prosthetics – Maxillofacial prosthetics, intra oral prosthesis, design considerations, maxillary prosthesis, Obturators, speech aids, palatal lifts, palatal augmentations, mandibular prosthesis, treatment planning, framework design, class I resection, Class II resection, mandibular flange prosthesis, jaw relation records.</p> <p>q). Management of failed restorations and work authorization details.</p>
<p>Unit 3:</p>	<p>MAXILLOFACIAL REHABILITATION:</p> <p>Scope, terminology, definitions, cross infection control and hospital waste management, work authorization. Behavioral and psychological issues in Head and neck cancer, Psychodynamic interactions between clinician and patient. Cancer Chemotherapy: Oral Manifestations, Complications, and management, Radiation therapy of head and neck tumors: Oral effects, Dental manifestations and dental treatment: Etiology, treatment and rehabilitation (restoration). Acquired defects of the mandible, acquired defects of hard palate, soft palate, clinical management of edentulous and partially edentulous maxillectomy patients, Facial defects, Restoration of speech, Velopharyngeal function, cleft lip and palate, cranial implants, maxillofacial trauma, Lip and cheek support prosthesis, Laryngectomy aids, Obstructive sleep apnoea, Tongue prosthesis, Oesophageal prosthesis, radiation carriers, Burn stents, Nasal stents, Vaginal and anal stents, Auditory inserts, Trismus appliances, mouth controlled devices for assisting the handicapped, custom prosthesis, conformers, and orbital prosthesis for</p>

	<p>ocular and orbital defects. Osseo integrated supported facial and maxillofacial prosthesis. Resin bonding for maxillofacial prosthesis, cranial prosthesis Implant rehabilitation of the mandible compromise by radiotherapy, Prosthodontic treatment, Material and laboratory procedures for maxillofacial prosthesis.</p>
<p>Unit 4:</p>	<p>OCCLUSION EVALUATION, DIAGNOSIS AND TREATMENT OF OCCLUSAL PROBLEMS:</p> <p>Scope, definition, terminology, optimum oral health, anatomic harmony, functional harmony, occlusal stability, causes of deterioration of dental and oral health. Anatomical, physiological, neuro – muscular, psychological considerations of teeth; muscles of mastication; temporomandibular joint; intra oral and extra oral and facial musculatures and the functions of Cranio mandibular system. Occlusal therapy, the stomatognathic system, centric relation, vertical dimension, the neutral zone, the occlusal plane, differential diagnosis of temporomandibular disorders, understanding and diagnosing intra articular problems, relating treatment to diagnosis of internal derangements of TMJ, Occlusal splints. Selecting instruments for occlusal diagnosis and treatment, mounting casts, Pankey-Mann-Schuyler philosophy of complete occlusal rehabilitation, long centric, anterior guidance, restoring lower anterior teeth, restoring upper anterior teeth, determining the type of posterior occlusal contours, methods for determining the plane of occlusion, restoring lower posterior teeth, restoring upper posterior teeth, functionally generated path techniques for recording border movements intra orally, occlusal equilibration. Bruxism, Procedural steps in restoring occlusion, requirements for occlusal stability, solving occlusal problems through programmed treatment planning, splinting, solving – occlusal wear problems, deep overbite problems, anterior overjet problems, anterior open bite problems. Treating – end to end occlusion, spaced anterior teeth, cross bite problems, Crowded, irregular, or interlocking anterior bite. Using Cephalometric for occlusal analysis, solving severe arch</p>

	malrelationship problems, transcranial radiography, postoperative care of occlusal therapy.
Unit 5:	<p>FIXED PROSTHODONTICS:</p> <p>Scope, definitions and terminology, classification and principles, design, mechanical and biological considerations of components – Retainers, connectors, pontics, work authorization.</p> <p>Diagnosis and treatment planning –patients history and interview, patient’s desires and expectations and needs, systemic and emotional health, clinical examinations – head and neck, oral – teeth, occlusal and periodontal, Preparation of diagnostic cast, radiographic interpretation, Aesthetics, endodontics considerations, abutment selection – bone support, root proximities and inclinations, selection of abutments for cantilever, pier abutments, splinting, available tooth structures and crown morphology, TMJ and muscles of mastication and comprehensive planning and prognosis.</p> <p>Management of Carious teeth –caries in aged population, caries control, removal caries, protection of pulp, reconstruction measure for compromised teeth – retentive pins, horizontal slots, retentive grooves, prevention of caries, diet, prevention of root caries and vaccine for caries.</p> <p>Periodontal considerations –attachment units, ligaments, prevention ofgingivitis, periodontitis. Microbiological aspect of periodontal diseases, marginal lesion, occlusal trauma, periodontal pockets in attached gingiva, interdental papilla, gingival embrasures, gingival/periodontal prosthesis, radiographic interpretations of Periodontia, intraoral, periodontal splinting – Fixed prosthodontics with periodontially compromised dentitions, placement of margin restorations.</p> <p>Biomechanical principles of tooth preparation –individual tooth preparations - Complete metal Crowns – P.F.C., All porcelain – Cerestore crowns, dicor crowns, in ceram etc. porcelain jacket crowns; partial 3/4, 7/8, telescopic, pin– ledge, laminates, inlays, onlays. Preparations for restoration of teeth– amalgam, glass Ionomer and</p>

	<p>composite resins. Resin bond retainers, Gingival marginal preparations – Design, material selection, and biological and mechanical considerations – intracoronar retainer and precision attachments – custom made and prefabricated.</p> <p>Isolation and fluid control – Rubber dam application(s), tissue dilation–soft tissue management for cast restoration, impression materials and techniques, provisional restorations, interocclusal records, laboratory support for fixed Prosthodontics, Occlusion, Occlusal equilibration, articulators, recording and transferring of occlusal relations, cementing of restorations.</p> <p>Resins, Gold and gold alloys, glass Ionomer, restorations.</p> <p>Restoration of endodontically treated teeth, Stomatognathic Dysfunction and management.</p> <p>Management of failed restorations Osseo integrated supported fixed Prosthodontics –Osseo integrated supported and tooth supported fixed Prosthodontics.</p> <p>CAD – CAM Prosthodontics.</p>
<p>Unit 6:</p>	<p>TMJ:</p> <p>Temporomandibular joint dysfunction – Scope, definitions, and terminology Temporomandibular joint and its function, Orofacial pain, and pain from the temporomandibular joint region, temporomandibular joint dysfunction, temporomandibular joint sounds, temporomandibular joint disorders, Anatomy related, trauma, disc displacement, Osteoarthritis/Osteoarthritis, Hyper mobility and dislocation, infectious arthritis, inflammatory diseases, Eagle’s syndrome (Styloid – stylohyoid syndrome), Synovial chondromatosis, Osteochondrosis disease, Ostonecrosis, Nerve entrapment process, Growth changes, Tumors, Radiographic imaging</p> <ul style="list-style-type: none"> • Etiology, diagnosis and cranio mandibular pain, differential diagnosis and management of orofacial pain – pain from teeth, pulp, dentin, muscle pain, TMJ pain – psychologic, physiologic – endogenous control, acupuncture analgesia, Placebo effects on analgesia, Trigeminal neuralgia, Temporal arteritis

	<ul style="list-style-type: none"> • Occlusal splint therapy – construction and fitting of occlusal splints, management of occlusal splints, therapeutic effects of occlusal splints, occlusal splints and general muscles performance, TMJ joint uploading and anterior repositioning appliances, use and care of occlusal splints. • Occlusal adjustment procedures – Reversible – occlusal stabilization splints and physical therapies, jaw exercises, jaw manipulation and other physiotherapy or irreversible therapy – occlusal repositioning appliances, orthodontic treatment, 56 Orthognathic surgery, fixed and removable prosthodontic treatment and occlusal adjustment, removable prosthodontic treatment and occlusal adjustment. Indication for occlusal adjustment, special nature of orofacial pain, Psychopathological considerations, occlusal adjustment philosophies, mandibular position, excursive guidance, occlusal contact scheme, goals of occlusal adjustment, significance of a slide in centric, Preclinical procedures, clinical procedures for occlusal adjustment.
<p>Unit 7:</p>	<p>ESTHETICS:</p> <p>Morpho psychology and esthetics, structural esthetic rules –facial components, dental components, gingival components and physical components. Esthetics and its relationship to function – Crown morphology, physiology of occlusion, mastication, occlusal loading and clinical aspect in bio esthetic aspects, Physical and physiologic characteristic and muscular activities of facial muscle, perioral anatomy and muscle retaining exercises Smile – classification and smile components, smile design, esthetic restoration of smile, Esthetic management of the dentogingival unit, intraoral materials for management of gingival contours, and ridge contours, Periodontal esthetics, Restorations – Tooth colored restorative materials, the clinical and laboratory aspects, marginal fit, anatomy, inclinations, form, size, shape, color, embrasures & contact point. Prosthodontic treatment should be practiced by developing skills, by treating various and a greater number of patients to establish skill to diagnose and treatment and after care with bio-mechanical, biological, bio-esthetics,</p>

	<p>bio-phonetics. All treatments should be carried out in more numbers for developing clinical skills.</p>
<p>Unit 8:</p>	<p>RESEARCH METHODOLOGY:</p> <p>Definition, types, and significance of research in academia and industry. Research ethics and integrity.</p> <p>Research Design:</p> <p>Understanding research problems and formulating hypotheses.</p> <p>Types of research design: exploratory, descriptive, and experimental.</p> <p>Sampling techniques and determination of sample size.</p> <p>Data Collection Methods:</p> <p>Primary vs. secondary data.</p> <p>Quantitative data collection: surveys, experiments, and measurements.</p> <p>Qualitative data collection: interviews, focus groups, and case studies.</p> <p>Data Analysis and Interpretation:</p> <p>Descriptive statistics: measures of central tendency, variability.</p> <p>Inferential statistics: hypothesis testing, confidence intervals, regression analysis.</p> <p>Qualitative data analysis: coding, thematic analysis, and narrative methods.</p> <p>Tools and Software for Research:</p> <p>Statistical tools: SPSS, R, or Python.</p> <p>Qualitative analysis tools: NVivo, Atlas.ti.</p> <p>Reference management tools: EndNote, Mendeley, Zotero.</p> <p>Literature Review:</p> <p>Importance and process of reviewing existing literature.</p> <p>Methods for sourcing and organizing literature.</p> <p>Writing a systematic review or meta-analysis.</p> <p>Proposal Writing and Funding</p> <p>Crafting a research proposal: objectives, methodology, and significance.</p> <p>Finding funding opportunities and preparing grant applications.</p> <p>Publishing Research</p>

	<p>Structure of a research paper: abstract, introduction, methodology, results, and discussion (IMRAD).</p> <p>Choosing the right journal and understanding peer-review processes.</p> <p>Avoiding plagiarism and ethical concerns in publication.</p> <p>Advanced Research Methods:</p> <p>Mixed-methods research: integrating qualitative and quantitative approaches.</p> <p>Longitudinal and cross-sectional studies.</p> <p>System modeling and simulations (specific to technical disciplines).</p> <p>Presentation and Dissemination of Research</p> <p>Writing research reports and theses.</p> <p>Effective presentation skills for conferences and seminars.</p> <p>Communicating research to non-specialist audiences.</p>
<p>Unit 9:</p>	<p>ETHICAL PUBLICATION:</p> <p>Principles of Ethical Publication:</p> <p>Honesty and transparency in reporting research.</p> <p>Proper attribution and acknowledgment of contributors and collaborators.</p> <p>Avoiding plagiarism, self-plagiarism, and duplicate submissions.</p> <p>Authorship Ethics:</p> <p>Criteria for authorship and order of authors.</p> <p>Avoiding ghostwriting, honorary authorship, and other unethical practices.</p> <p>Handling disputes over authorship.</p> <p>Plagiarism:</p> <p>Understanding what constitutes plagiarism.</p> <p>Tools for plagiarism detection (e.g., Turnitin, iThenticate).</p> <p>Avoiding text recycling and redundant publication.</p> <p>Peer Review Ethics:</p> <p>Responsibilities of authors, reviewers, and editors in the peer review process.</p> <p>Responding to peer review comments professionally and transparently.</p>

	<p>Conflicts of Interest: Identifying and disclosing financial or personal conflicts. How conflicts of interest can bias research and publications.</p> <p>Data Transparency: Requirements for data sharing and storage. Avoiding data fabrication, falsification, and selective reporting.</p> <p>Ethical Considerations in Research Involving Humans or Animals: Reporting ethical approval and informed consent. Transparency in describing methods and ethical safeguards.</p> <p>Corrections, Retractions, and Misconduct: Processes for addressing errors in published work. When and how to issue corrections or retract papers. Consequences of research misconduct.</p> <p>Open Access and Predatory Journals: Understanding the benefits and challenges of open-access publishing. Identifying and avoiding predatory journals and publishers.</p> <p>Copyright and Licensing: Understanding copyright issues and Creative Commons licenses. Negotiating rights with publishers.</p>
<p>Textbooks:</p>	<ol style="list-style-type: none"> 1. Zarb and Bolender's Prosthodontic Treatment for Edentulous Patients by George A. Zarb and Charles L. Bolender 2. Contemporary Fixed Prosthodontics by Stephen F. Rosenstiel, Martin F. Land, and Junhei Fujimoto 3. McCracken's Removable Partial Prosthodontics" by Alan B. Carr, David T. Brown 4. Implant Dentistry" by Carl E. Misch 5. Maxillofacial Rehabilitation: Prosthodontic and Surgical Management of Cancer-Related, Acquired, and Congenital Defects of the Head and Neck" by John Beumer III 6. TMJ Disorders and Orofacial Pain: The Role of Dentistry in a Multidisciplinary Diagnostic Approach" by Axel Bumann and Ulrich Lotzmann

	<ol style="list-style-type: none"> 7. "The Science of Occlusion and Oral Rehabilitation" by Iven Klineberg and Steven Eckert 8. "Research Methodology: Methods and Techniques" by C.R. Kothari and Gaurav Garg 9. "Publication Manual of the American Psychological Association (APA), 7th Edition" 10. "Esthetics in Dentistry" by Ronald E. Goldstein
Reference Books:	<ol style="list-style-type: none"> 1. "Essentials of Complete Denture Prosthodontics" by Sheldon Winkler 2. "Fundamentals of Fixed Prosthodontics" by Herbert T. Shillingburg, Jr. "Stewart's Clinical Removable Partial Prosthodontics" by Rodney D. Phoenix and David R. Cagna 3. "Clinical Implantology" by Ashok Sethi and Thomas Kaus 4. "Clinical Maxillofacial Prosthetics" by Thomas D. Taylor 5. "Craniofacial Pain: A Handbook for Assessment, Diagnosis, and Management" by Harry von Piekartz 6. "Management of Occlusion and TMJ Disorders" by Richard W. Preiskel 8. "Practical Research: Planning and Design" by Paul D. Leedy and Jeanne Ellis Ormrod. 9. "Ethics in Research and Publication" by the Committee on Publication Ethics (COPE) 10. "Scientific Writing and Communication: Papers, Proposals, and Presentations" by Angelika H. Hofmann 11. "Fundamentals of Esthetic Implant Dentistry" by Abdelsalam Elaskary
Additional Electronic Reference Material: (if any)	<p>COPE (Committee on Publication Ethics): Free resources and guidelines on publication ethics.</p> <p>iThenticate and Turnitin Manuals: Guides for plagiarism detection tools.</p> <p>National Institutes of Health (NIH): Guidelines on research ethics and responsible publication.</p>