



**ALTAMASH INSTITUTE OF DENTAL MEDICINE
(JINNAH SINDH MEDICAL UNIVERSITY)**

**BDS Third Year
Junior Prosthodontics
Study Guide**

Introduction

Prosthodontics is a specialty within dentistry pertaining to the diagnosis, treatment planning, rehabilitation and maintenance of the oral function, comfort, appearance and health of patients with clinical conditions associated with missing or deficient teeth and/or maxillofacial tissues using biocompatible substitutes. This course aims to provide the undergraduate students with basic removable and fixed prosthodontic skills in the practice of general dentistry

This science is taught to dental undergraduates in order to equip them with the basic clinical and laboratory skills performed on partially and completely edentulous patients. This course will help the students to obtain the basic knowledge before they are exposed to more in-depth courses

Outcome:

By the end of the Prosthodontics course, BDS graduates will be able to demonstrate skills in rehabilitating the oral function of the patients by restoring chewing, esthetics and phonetics through the use of veneers, crowns and/or dental prostheses.

Teaching and learning:

- Flipped Classroom (FC)
- Interactive lectures (IL)
- Demonstration (Demo)
- Tutorials
 - a. Cased Based Learning (CBL)
 - b. Small Group Discussion (SGD)

Assessment tools:

1. Multiple Choice Questions: (MCQs)
 - One Correct Type
 - One Best Type
2. Mini Clinical Examination (MiniCEX)
3. Observed Structured Clinical Examination (OSCE)



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s.n o.	Topic	Course Objectives: By the end of the course, 3rd year students will be able to:	Teaching method	Assessment Tool
1.	Removable Partial Denture Partially Edentulous Epidemiology, Physiology And Terminology	<ul style="list-style-type: none"> • Define the following: <ul style="list-style-type: none"> ○ Abutment ○ Retainer ○ Extra coronal partial denture ○ tooth and tooth-tissue supported RPD ○ temporary RPD ○ Interim, transitional and treatment dentures ○ Treatment denture ○ Centric relation and centric occlusion ○ Eccentric relation ○ Support, retention and stability ○ Reciprocation; ○ Bracing; ○ Appliance ○ Saddle area • Discuss the Clinical application of anatomy of oral cavity. 	IL SGD	MCQs (1C)
2	Classification Of Partially Edentulous Arches	<ul style="list-style-type: none"> • Discuss the requirements of an acceptable method of classification. • Discuss Bailyn, Skinner, Cummer and Kennedy's Classification and Applegate's Rules 	FC SGD	MCQs (1C)
3	Oral Manifestation Of Local And Systemic Diseases	Discuss the problems related to xerostomia, poor healing, osteoporosis, osteopenia and autoimmune diseases	IL SGD	MCQs (1C)
4	Patient Evaluation And Problem-Oriented Treatment	Discuss: <ul style="list-style-type: none"> • General Examination (gait, 	FC SGD	MCQs (1B)



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	<p>Planning</p>	<p>complexion and personality, cosmetic index, mental attitude of patient)</p> <ul style="list-style-type: none"> • Extra Oral examination including facial features, facial form, facial profile, lower facial height, muscle tone, complexion, lip competency • TMJ examination (including muscles of mastication, deviation, deflection, clicking/crepitation of TMJ and mouth opening) • Neuromuscular examination • Intra Oral Examination <ul style="list-style-type: none"> ○ existing teeth (number of teeth, tilting, drifting, supra-eruption, rotation, undercuts) ○ mucosa (color, condition, thickness) ○ tongue examination including frenal attachment ○ saliva [consistency (normal, thick, ropy), xerostomia] ○ occlusion (canine guided, group function, mutually protective, inter-arch space) ○ others (midline mouth opening, occlusal stops, periodontal condition, residual alveolar ridge classification, residual roots, tooth surface loss, prosthesis, gag reflex) • Abutment Evaluation <ul style="list-style-type: none"> ○ Radiographic examination (crown to root ratio, peri-apical pathology, retained residual roots, thickness of mucosa, bone support and quality, root configuration 		
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		of abutment teeth)		
5	Biomechanics Of Removable Partial Dentures	<ul style="list-style-type: none"> • Discuss the bio mechanical consideration for removable partial dentures • Discuss the vertical, horizontal and torsional stress considerations in partial dentures • Discuss the factors influencing magnitude of stress • Discuss the differential support mechanisms in partial dentures • Discuss the role of periodontal ligaments in removable partial dentures • Differentiate among the various types of levers 	IL SGD	MCQs (1B)
6	Major And Minor Connectors	<ul style="list-style-type: none"> • Classify major and minor connectors. • Discuss the location, types, functions, indications, contraindication and design considerations of minor and major connectors. • Discuss the ideal requirements for minor and major connectors. • Discuss tissue stops and finishing lines. • Justify the selection of the type of connector 	IL SGD	MCQs (1B)
7	Rest And Rest Seats	<ul style="list-style-type: none"> • Classify rest and rest seats • Discuss the types, form, support and design of rests and rest seats • Discuss the role of rest and rest seats in control of prosthesis movement 	IL SGD	MCQs (1B)
8	Direct Retainers	<ul style="list-style-type: none"> • Define direct retainers. • Discuss role of direct retainer in prosthesis movement 	IL SGD	MCQs (1B)



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		<p>control.</p> <ul style="list-style-type: none"> • Classify different types of direct retainers. • Discuss: <ul style="list-style-type: none"> ○ Analysis of tooth contours for retentive clasps ○ Functional requirements of clasps • List basic parts of clasp assembly. • Discuss: <ul style="list-style-type: none"> ○ basic principles of clasp design ○ types of clasp assemblies 		
9	Indirect Retainers	<ul style="list-style-type: none"> • Define indirect retainers • Classify different types of indirect retainers • Discuss the factors influencing effectiveness of indirect retainers • Discuss the forces acting on the denture • Describe the fulcrum line • Discuss the auxiliary functions of indirect retainers: rugae support • Discuss various indirect retainers <ul style="list-style-type: none"> ○ Auxiliary occlusal rests ○ canine rests <ul style="list-style-type: none"> ○ canine extension from occlusal rests ○ cingulum bars (continuous bars) and linguoplates; ○ Modification areas. 	IL SGD	MCQs (1B)
10	Denture Base Considerations:	<ul style="list-style-type: none"> • Describe denture base • Discuss: <ul style="list-style-type: none"> ○ ideal requirements and functions of different types of denture bases (tooth supported partial denture 	IL SGD	MCQs (1B)



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		<p>bases, distal extension partial denture base)</p> <ul style="list-style-type: none"> ○ methods of attaching a denture base to metal framework ● Discuss denture base materials including their advantages and disadvantages ● Discuss the following methods of attaching various types of artificial teeth on denture base: <ul style="list-style-type: none"> ○ porcelain or acrylic resin teeth attached with acrylic resin ○ porcelain or resin tube teeth and facings cemented directly to metal bases ○ resin teeth processed directly to metal bases ○ metal teeth ○ chemical bonding ● Define surveying ● Discuss purpose, different types and parts of dental surveyors ● Describe the various types of survey lines and their purposes ● Discuss the factors that determine path of placement and removal of partial dentures ● Discuss the procedure of surveying a diagnostic cast and a master cast ● Justify the final path of placement ● Discuss the relation of cast to surveyor ● Justify the need for relining of denture bases ● Discuss stress breakers ● Attach artificial teeth to denture bases 		
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11	Principles Of Removable Partial Denture Design	<ul style="list-style-type: none"> • Classify removable partial dentures • Discuss difference in prosthesis support and the influence on design • Differentiate between the two main types of removable partial denture based on their support, impression registration and clasp designs • Discuss the following essential considerations pertinent to partial denture design: <ul style="list-style-type: none"> ○ tooth support ○ ridge support ○ guiding plane • Discuss clinical factors related to metal alloys used for metal framework. • Explain examples of systematic approach to design • Justify the partial denture design for different Kennedy's classes • Discuss the following components of partial denture design: Major and minor connectors <ul style="list-style-type: none"> ○ Direct retainer for tooth supported partial denture ○ Direct retainer for distal extension partial denture ○ Stabilizing components ○ Indirect retainers 	IL CBL	MCQs (1B)
12	Occlusion	<ul style="list-style-type: none"> • Describe factors influencing balanced occlusion • Describe compensatory curves (Curve of Monsoon, Curve of Spee and Curve of Wilson) 	IL SGD	MCQs (1B)
13	Surveying	<ul style="list-style-type: none"> • Define a Surveyor • Describe the purposes of 	IL SGD	MCQs (1B)



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		<p>Dental surveyor.</p> <ul style="list-style-type: none"> • Discuss and compare the different types of dental surveyor • List the parts of dental surveyor. • Illustrate the types of survey lines. • Discuss the factors that determine path of placement and removal • Discuss the Guide planes, their types and functions • Explain the procedure of surveying a diagnostic cast (all steps) in detail. • Explain the procedure of surveying a master cast (all steps) in detail • Explain block out in detail 		
14	Preparation Of Mouth For Removable Partial Dentures	<ul style="list-style-type: none"> • Discuss the intra- and extra-oral soft and hard tissue considerations pertinent to mouth preparation for pre-prosthetic surgical procedures. • Justify the management of various intra- and extra-oral conditions pertinent to mouth preparation for removable partial dentures (including the use of various tissue conditioning materials) <ul style="list-style-type: none"> ○ Recall maintenance. • Discuss occlusal disharmony, pain, discomfort and endodontic treatment. 	IL SGD	MCQs (1B)
15	Preparation Of Abutment Teeth	<ul style="list-style-type: none"> • Classify abutment teeth • Discuss the intra-oral hard and soft tissue considerations pertinent to abutment teeth 	IL SGD	MCQs (1B)



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		<p>preparation</p> <ul style="list-style-type: none"> • Discuss the: <ul style="list-style-type: none"> ○ sequence of abutment preparation on sound teeth and existing restorations ○ Preparation of guide planes and rest seats; ○ Technique to create undercut; ○ Abutment preparation using crowns; ○ Abutment preparation using conservative restoration; ○ Splinting of abutment teeth; ○ Use of isolated teeth as abutments; ○ Missing anterior teeth; ○ Temporary crowns when a removable partial denture is being worn 		
16	Impression Techniques And Modification	<ul style="list-style-type: none"> • Name the types of impression materials used for removable partial dentures • Describe the anatomic or functional forms of impressions • List the indications of functional impressions • Discuss the following impression techniques: <ul style="list-style-type: none"> ○ Mclean’s physiologic impression technique ○ functional relining method ○ selective pressure impression ○ altered cast technique and its modifications • Justify the selection of impression techniques based on the following considerations: <ul style="list-style-type: none"> ○ Mouth opening ○ Types of trays used ○ Theories of impression 	IL SGD	MCQs (1B)



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		<ul style="list-style-type: none"> ○ Purpose of impression ○ Material used 		
17	Trial Of Metal Framework	<ul style="list-style-type: none"> ● Discuss examination of the framework ● Discuss steps of fitting frame work to teeth, supporting structures and opposite occlusion ● Describe correction of discrepancies by indicating media and soft tissue impingements and finishing the framework 	IL SGD	MCQs (1B)
18	Occlusal Relations For Removable Partial Denture	<ul style="list-style-type: none"> ● Discuss the desirable occlusal contact relationship with trial metal framework for removable partial denture using facebow and various articulators ● Explain the methods for establishing occlusal relationship ● Determine jaw relations for removable partial denture on models ● Justify the established maxillo-mandibular relations for removable partial dentures during trial phase 	IL SGD	MCQs (1B)
19	Selection Of Teeth	<ul style="list-style-type: none"> ● Justify anterior teeth selection according to size, form and color of teeth on the basis of various patient factors ● Justify the posterior teeth selection according to size, form and color of teeth on the basis of various patient factors 	IL SGD	MCQs (1B)
20	Laboratory Procedures For Removable Partial Dentures	Discuss duplicating materials, flasks and duplicating procedures.	IL SGD	MCQs (1C)



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21	Insertion And Post Insertion Instructions And Recall	Justify the management of post-insertion complaints of removable partial denture patients	IL SGD	MCQs (1B)
22	Relining, Rebasing And Repair Of Rpd	Discuss the relining, rebasing and repair of removable partial dentures.	IL SGD	MCQs (1B)
23	Types Of Partial Denture	Discuss the fabrication the various types of partial dentures (interim partial denture, every denture, spoon denture, swing lock denture)	FC	MCQs (1B)
Procedural Skills By the end of the course, 3rd year students will be able to:			Teaching method	Assessment Tool
1	Patient Evaluation And Problem-Oriented Treatment Planning	<ul style="list-style-type: none"> • Obtain complete history based on prescribed format • Perform the following examinations of patient according to the recommended method: <ul style="list-style-type: none"> ○ General Examination (gait, complexion and personality, cosmetic index, mental attitude of patient) ○ Extra Oral examination including facial features, facial form, facial profile, lower facial height, muscle tone, complexion, lip competency ○ TMJ examination (including muscles of mastication, deviation, deflection, clicking/crepitation of TMJ and mouth opening) ○ Neuromuscular examination ○ Intra Oral Examination ○ existing teeth (number of teeth, tilting, drifting, 	Demo	OSCE MiniCEX



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		<p>supra-eruption, rotation, undercuts)</p> <ul style="list-style-type: none"> ○ mucosa (color, condition, thickness) ○ tongue examination including frenal attachment ○ saliva [consistency (normal, thick, ropy), xerostomia] ○ occlusion (canine guided, group function, mutually protective, inter-arch space) ○ others (midline mouth opening, occlusal stops, periodontal condition, residual alveolar ridge classification, residual roots, tooth surface loss, prosthesis, gag reflex) ○ Abutment Evaluation ○ Radiographic examination (crown to root ratio, periapical pathology, retained residual roots, thickness of mucosa, bone support and quality, root configuration of abutment teeth) <ul style="list-style-type: none"> ● Plan the correct treatment for patients requiring partial dentures ● Justify the selection of partial denture type in patients requiring partial dentures ● Justify the treatment plan for patients requiring partial dentures ● Document the correct treatment plan for patients requiring partial dentures ● Discuss the treatment plan with patients requiring partial dentures 		
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		<ul style="list-style-type: none"> • following the ethical guidelines • Refer partially dentate patients requiring complex prosthodontic treatment following the recommended guidelines 		
2	Direct Retainer	Justify the selection of clasp design on a model.	Demo	OSCE
3	Principles Of Removable Partial Denture Design	<ul style="list-style-type: none"> • Justify the partial denture design for different Kennedy's classes • Design the following components of partial denture appropriately: <ul style="list-style-type: none"> ○ Major and minor connectors ○ Direct retainer for tooth supported partial denture ○ Direct retainer for distal extension partial denture ○ Stabilizing components ○ Indirect retainers 		
4	Impression Techniques And Modification	Record impressions for patients requiring removable partial dentures	Demo	OSCE
5	Surveying	Identify types & parts of a surveyor		
6	Occlusal Relations For Removable Partial Denture	<ul style="list-style-type: none"> • Determine jaw relations for removable partial denture on models • Verify the established maxillo-mandibular relations for removable partial dentures during trial phase 		
7	Selection Of Teeth	Justify anterior & posterior teeth selection according to size, form and color of teeth on the basis of various patient factors		
8	Laboratory Procedures For Removable Partial	<ul style="list-style-type: none"> • Discuss duplicating materials, flasks and duplicating 		



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	Dentures	<p>procedures</p> <ul style="list-style-type: none"> • Perform wax-up and casting for removable partial denture following the correct protocol. • Arrange anterior and posterior teeth on the wax framework following the correct protocol. • Process the denture following the correct protocol. • Finish the processed denture following the recommended guidelines 		
9	Insertion And Post Insertion Instructions And Recall	<ul style="list-style-type: none"> • Insert the finished denture on the patient according to the recommended protocol. • Communicate post-insertion instructions to the removable partial denture patient effectively • Manage post-insertion complaints on removable partial denture patients on recall visit following the recommended guidelines • Justify the management of post-insertion complaints of removable partial denture patients 		

Reading Sources:

Text Book:

- Removable Partial Denture McCracken's (latest edition)
- Stewart's Clinical Removable Partial Denture (latest edition)

Internet resources: With easy excess to digital library students will use internet resources with added time flexibility to enrich and update their knowledge and its application.

Library: It provides wealth of resources, space to study alone or in a group. It also provide world of books to discover and borrow.



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Assessment Criteria :

Please Note: The final professional examination for removable partial denture component will be taken in the 4th professional year

Knowledge:

- MCQs (Multiple Choice Questions) are used to assess objectives covered in each module.
- A MCQ has a statement or clinical scenario followed by four options (likely answer).
- Students after reading the statement/scenario select ONE, the most appropriate response from the given list of options.
- Correct answer carries one mark, and incorrect 'zero mark'. There is no negative marking.
- Students mark their responses on an answer sheet provided by examination department.

Skills:

- OSCE: Objective Structured Clinical Examination:
- Each student will be assessed on the same content and have same time to complete the task.
- Comprise of 12-25 stations.
- Each station may assess a practical tasks include practical skills and application of knowledge
- Stations are observed, interactive, application of knowledge based and rest.
- In Observed and Interactive Stations these will be assessed by internal or external examiners through structured viva or a task.
- Application of knowledge Stations: it will be static stations in which there will be pictures, clinical scenarios with related questions for students to answer on the provided answer copy.
- Rests: It is a station where there is no task given and in this time student can organize his/her thoughts.

AIDM Internal Assessment Policy

Students will be assessed to determine achievement of learning objectives with the subject of Dental Materials through the following:

- Midterm Examination will be scheduled on completion of half of the course
- Mock Examination will be scheduled on completion of whole course



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- The method of examination comprises theory exam which includes MCQs, and practical examination by OSCE (Objective Structured Clinical Examination).
- Student's behaviors and attitudes will be observed during all academic activities.

Annual Examination:

Content of this course will be assessed in final professional examination through OSCEs and MCQs.

Course Evaluation:

- Pass/fail ratio of continuous assessments will be evaluated.
- 75% attendance is mandatory to be eligible for annual professional examination
- Feedback will be taken
 - Regarding course from students and faculty
 - Student feedback regarding faculty
 - Faculty feedback of students

Teaching Faculty:

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