



# KHYBER MEDICAL UNIVERSITY

## DENTAL TECHNOLOGY CURRICULUM

STUDY GUIDE SEMESTER 5<sup>th</sup>

16 Weeks Activity Planner

2025

CENTRAL CURRICULUM & ASSESSMENT COMMITTEE FOR NURSING,  
REHABILITATION SCIENCES & ALLIED HEALTH SCIENCES

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## TEAM FOR TOS DEVELOPMENT

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## Vision & Mission

### **Khyber Medical University (KMU) Vision:**

Khyber Medical University will be the global leader in health sciences academics and research for efficient and compassionate health care.

### **Khyber Medical University (KMU) Mission:**

Khyber Medical University goals to encourage professional aptitude through learning and innovation for providing comprehensive quality health care to the nation.

### **Institute of Paramedical Sciences Peshawar (IPMS-PESH) Mission:**

To produce allied health professionals who excel in their skills, research, compassionate care, and community involvement, thereby enhancing the healthcare system

## Program Introduction

The Bachelor of Science in Dental Technology is a comprehensive undergraduate program designed to train Dental Technologists with competencies in both clinical dental care and Laboratory technology. The program aims to produce professionals capable of providing preventive and therapeutic oral health services including oral examinations, scaling, restorations, and uncomplicated extractions while also being proficient in the design, fabrication, and maintenance of dental prostheses and appliances. Graduates will be equipped to serve in both clinical and laboratory settings, contributing significantly to improved oral healthcare delivery, particularly in underserved and resource-limited areas.

## Objectives

- 1) To perform an effective role in the field of dentistry to improve community dental health.
- 2) To provide dental therapist/technologists with status and recognition in the dental care delivery system through Improving their capability and Increasing awareness of their responsibilities.
- 3) To assist Maxillofacial surgeons during surgeries
- 4) To perform an effective role in delivering conservative treatment for the primary teeth
- 5) To enable the dental Technologists to fabricate prosthodontic appliances, crown and bridges, orthodontic appliances and surgical splints etc.
- 6) To provide primary dental care services to the community.
- 7) To enable the dental technologist, perform the exodontia of primary teeth and simple permanent teeth.
- 8) To enable the dental Technologist to perform the routine conservative treatment of permanent teeth.
- 9) To provide a platform to conduct research in their respective fields in pursuance of excellence.

## Fifth Semester Subjects for BS Dental Technology

S. No	Subjects	Duration
1	DEN-607- Partial Denture Prosthodontics 3 (2+1)	16 weeks
2	DEN-608- Oral Pathology and Oral Medicine-II 3 (2+1)	16 weeks
3	DEN-609- Minor Oral Surgery-I 3 (2+1)	16 weeks
4	DEN-610- Community and Preventive Dentistry 3 (2+1)	16 weeks
5	DEN-611- Fundamental of Oral and Maxillofacial Radiology 3 (2+1)	16 weeks
6	DEN-612- Operative Dentistry 3 (2+1)	16 weeks



## DEN-607- PARTIAL DENTURE PROSTHODONTICS 3(2+1)

### Course Description:

In this course students will learn basic concept of the Prosthodontics with a specific focus on Partial Denture Prosthodontics. Students will gain knowledge about fundamentals of classification, diagnosis, and treatment planning for removable partial dentures. Students will explore the biological and mechanical principles guiding partial denture design, including the various component parts such as maxillary and mandibular major connectors, minor connectors, direct and indirect retainers. The course covers the selection and properties of denture base materials and artificial teeth, as well as the techniques involved in denture designing, surveying (including parts of the surveyor), and appropriate material selection. Emphasis is placed on clinical procedures such as arrangement of teeth, try-in, curing, finishing, polishing, and insertion of the final prosthesis. The concept and application of over dentures are also introduced, providing students with a well-rounded understanding of removable partial denture prosthodontics.

### Learning Objectives:

#### Cognitive Domain:

**By the end of this course, students should be able to:**

1. Explain the basic concepts of prosthodontics with an emphasis on removable partial dentures.
2. Classify different types of partial dentures and identify appropriate treatment plans.
3. Describe the biological and mechanical principles involved in partial denture design.
4. Identify and explain the functions of denture components such as connectors and retainers.

5. Evaluate the properties and indications of materials used for denture bases and artificial teeth.

#### Psychomotor Domain:

**By the end of this course, students should be able to:**

1. Design a removable partial denture based on clinical findings and patient needs.
2. Perform surveying and identify suitable paths of insertion using a dental surveyor.
3. Select appropriate materials for denture base and artificial teeth.
4. Demonstrate the steps involved in arranging teeth, try-in, curing, finishing, and polishing.
5. Insert the final prosthesis effectively and make necessary adjustments.

#### Affective Domain:

**By the end of this course, students should be able to:**

1. Show professionalism and responsibility in patient care and denture fabrication.
2. Appreciate the importance of precise planning and execution in prosthodontic treatment.
3. Demonstrate a patient-centered approach in selecting designs and materials.
4. Value teamwork and collaboration during clinical and laboratory procedures.
5. Reflect on the ethical and clinical importance of providing functional and esthetic prostheses.

# Table of Specification

S.No	Weeks	Content	Learning Outcome	Domain			MIT's	Time/ Hours	Assessment	No of Items
				C	P	A				
THE INTRODUCTION TO PROSTHODONTICS, PARTIAL DENTURE PROSTHODONTICS AND ITS CLASSIFICATION.										
1	Week-1	Definition	Define prosthodontics and Removable partial denture.	C1			Interactive lecture /SDG	2	MCQS	2
2		Common Terminologies and indication of Removable Partial denture	Demonstrate mastery of RPD terminology and critically evaluate indications for use based on clinical, anatomical, and functional factors.	C2						
3		Classification	Analyze and apply Cummer's and Kennedy's classification systems to accurately categorize partially edentulous arches and formulate appropriate prosthodontic treatment plans.	C3						
4		Applegate's rules and Applegate's Classification	Evaluate and apply Applegate's rules and classification in complex cases to guide advanced prosthodontic planning and contribute to best practices.	C4						
5		Practical Performance	Perform a comprehensive assessment of partially edentulous arches using Kennedy's and Cummer's classifications and develop a treatment plan for a removable partial denture.		P4		Practical Demo/ Video	1	OSPE	
6		Professionalism and ethical consideration	Exhibit professionalism and ethical decision-making in the application of prosthodontic principles, ensuring patient safety, informed consent, and respect for patient autonomy.			A4	Role play			
THE DIAGNOSIS AND TREATMENT PLAINING										
7	Week-2	Introduction: Clinical and Derived Diagnosis	Apply clinical and diagnostic methods to assess patient conditions and inform treatment planning	C3			Interactive lecture /SDG	2	MCQS	3
8		Treatment Planning	Develop and justify comprehensive treatment plans based on advanced diagnostic analysis, considering all clinical factors and patient-specific needs.	C4						
9		Practical Performance	Demonstrate proficiency in applying clinical and diagnostic methods to assess patient conditions and develop treatment plans, ensuring accuracy and effectiveness in execution.		P4					
10		Professionalism in Treatment Planning	Integrate patient-centered care and professional values when developing and justifying treatment plans, prioritizing clinical factors and individual patient needs			A4				
PREPROSTHETIC MOUTH PREPARATION AND PRIMARY CAST PREPARATION										
11	Week-3	Preprosthetic Mouth Preparation	Assess and perform preprosthetic procedures to optimize the oral environment for prosthetic rehabilitation.	C3						3
12		Making Primary Cast	Describe and demonstrate the process of making primary casts, ensuring accurate replication of oral structures for effective prosthetic design	C3						
13		Practical Performance	Demonstrate clinical procedures such as diagnostic assessment, preprosthetic preparation, and casting to support prosthetic rehabilitation, while ensuring patient comfort and safety.		P3		Practical Demo/ Video	1	OSPE	
14		Professionalism and ethical consideration	Exhibit professionalism and ethical decision-making in clinical practice, ensuring patient welfare, confidentiality, and informed consent in the prosthodontic treatment process.			A4	Role play			

PRINCIPLES OF REMOVABLE PARTIAL DENTURE/BIOLOGICAL CONSIDERATIONS OF PARTIAL DENTURE.										
15	Week-4	Introduction	Describe the fundamentals of removable partial dentures (RPDs), including their function, components, and the need for proper design in prosthetic dentistry.	C3			Interactive lecture /SDG	2	MCQS	3
16		Different forces Acting on the Denture	Explain the various forces acting on removable partial dentures and their implications for design.	C3						
17		Response of Denture to various forces	Discuss how removable partial dentures respond to different forces, including stress, displacement, and tissue adaptation.	C3						
18		Practical Performance	Demonstrate the ability to design and adjust removable partial dentures, considering the forces acting on the denture and their impact on function, stability, and patient comfort.		P4					
19		Patient-Centered Care and Professionalism	Apply patient-centered care and professional values in designing removable partial dentures, ensuring functional and aesthetic outcomes.			A4				
MECHANICAL CONSIDERATIONS OF PARTIAL DENTURE										
20	Week-5	Designing a RPD to limit the effect of harmful forces	Analyze and design removable partial dentures to minimize the impact of harmful forces, ensuring stability and comfort for the patient.	C4						3
21		Controlling Stress by Design considerations	Describe design strategies for controlling stress on both the denture and supporting structures to enhance comfort and longevity.	C3						
22		Principles of design/philosophy of design	Explain the key principles and philosophies behind RPD design, including support, stability, retention, and esthetics.	C3						
23		Practical Performance	Demonstrate the practical application of RPD design, assessing forces, stress, and stress control methods during the design and trial phases, ensuring optimal function.		P3		Practical Demo/ Video	1	OSPE	
24		Professionalism and ethical consideration	Exhibit professionalism and ethical behavior in the prosthodontic design and treatment process, ensuring patient care, safety, and informed consent.			A4	Role play			
REMOVABLE PARTIAL DENTURE DESIGN/ COMPONENT PARTS OF PARTIAL DENTURE; MAXILLARY MAJOR CONNECTOR.										
25	Week-6	Introduction: Major connectors	Describe the role of major connectors in uniting components of a removable partial denture across the dental arch. .	C2			Interactive lecture /SDG	2	MCQS	7
26		Ideal requirement for maxillary and mandibular major connector	Describe the ideal biological and mechanical requirements for designing maxillary and mandibular major connectors	C2						
27		Design consideration for maxillary and mandibular major connector	Describe and apply key anatomical, functional, and patient-specific factors in designing effective maxillary and mandibular major connectors.	C4						
28		Types of Maxillary major connectors	Describe Classification and select appropriate types of maxillary major connectors based on clinical indications and anatomical limitations.	C3						

29		Design procedure for maxillary major connector	Describe and design an appropriate maxillary major connector by integrating anatomical, functional, and patient-specific considerations.	C3						
30		Practical Performance	Demonstrate the ability to design and adjust major connectors, considering anatomical and functional factors for specific patient needs.		P4		Practical Demo/ Video	1	OSPE	
31		Patient Centered Care and Profesionalism	Apply patient-centered care and professional values in designing major connectors to meet individual patient needs.			A4				
MANDIBULAR MAJOR CONNECTOR										
32	Week-7	Mandibular major connector	Describe the definition, function, and fundamental features of mandibular major connectors.	C3			Interactive lecture /SDG	2	MCQS	6
33		Design consideration of mandibular major connectors	Describe and analyze key anatomical and functional factors influencing the design of mandibular major connectors.	C4						
34		Types of Mandibular major connectors	Describe Classification and select appropriate types of maxillary major connectors based on clinical indications and anatomical limitations.	C3						
35		Practical Performance	Demonstrate the design and adjustment of mandibular and maxillary major connectors based on clinical and anatomical needs, ensuring optimal fit and function.		P3		Practical Demo/ Video	1	OSPE	
36		Safety Protocol	Adhere to safety protocols throughout the RPD design process, ensuring patient safety during procedures, from design to fitting, following infection control guidelines.			A4	Role play			
MINOR CONNECTORS, REST AND REST SEATS										
37	Week-8	Introduction: Minor connectors	Define minor connectors and recognize their role in linking major connectors to other RPD components.	C2			Interactive lecture /SDG	2	MCQS	5
38		Function of minor connectors	Explain the functional roles of minor connectors in providing support, stabilization, and force transmission within an RPD.	C3						
39		Types of minor connectors	Describe and classify the various types of minor connectors based on their location and function in the removable partial denture.	C3						
40		Rest seats: introduction	Describe the purpose and basic concept of rest seats in supporting and stabilizing a removable partial denture.	C2						
41		Classification of Rests and Function of each	Differentiate between types of rests and explain the function each serves in maintaining the position and stability of the prosthesis.	C3						
42		Practical Performance	Demonstrate the identification, design, and clinical application of minor connectors and rest seats, ensuring proper fit and function within removable partial dentures.		P4		Practical Demo/ Video	1	OSPE	
43		Professionalism and Ethics	Integrate patient-centered care and professional values in the design and application of minor connectors and rest seats, ensuring quality and functional outcomes.			A4				
DIRECT RETAINERS										

44	Week-9	Introduction: definition	Define a direct retainer and recognize its role in retaining a removable partial denture.	C2			Interactive lecture /SDG	2	MCQS	6
45		Component parts	Identify and describe the component parts of a direct retainer, including clasp arms, rest, and minor connectors.	C3						
46		Classification: Extra coronal direct retainers	Classify direct retainers based on design, location, and mechanism of action. Describe extra coronal direct retainers and explain their indications and mechanism of retention.	C3						
47		Intra coronal Direct Retainers	Describe intra coronal direct retainers and identify their applications in precision attachment cases.	C3						
48		Principles of clasp design	Apply the principles of clasp design to ensure optimal retention, support, stability, and patient comfort	C4						
49		Functional requirement of clasp	Evaluate the functional requirements of a clasp, including retention, support, reciprocation.	C4						
50		Factors effecting retention	Analyze the factors influencing retention in direct retainers, such as undercut depth, clasp flexibility, and material used.	C3						
51'		Practical Performance	Demonstrate the design and application of direct retainers, including clasps and rests, ensuring optimal retention, support, and stability in removable partial dentures.		P4		Practical Demo/ Video	1	OSPE	
52		SOPs	Adhere to Standard Operating Procedures (SOPs) for the design and clinical application of direct retainers, ensuring safety, quality, and patient care throughout the process.			A4	Role play			
INDIRECT RETAINER, DENTURE BASE MATERIAL AND SELECTION.										
53	Week-10	Definition: indirect retainer	Define an indirect retainer and its role in preventing rotational displacement of distal extension bases.	C2			Interactive lecture /SDG	2	MCQS	6
54		Forces acting in the denture	Describe the forces acting on a removable partial denture during function.	C3						
55		Principles of indirect Retainers	Explain the principles guiding the placement and effectiveness of indirect retainers.	C3						
56		Factors Affecting the Effectiveness of the indirect retainer	Evaluate the factors influencing the effectiveness of indirect retainers in RPDs.	C4						
57		Function of indirect retainer	Describe the function of indirect retainers in providing additional support and stability	C3						
58		Types of indirect Retainer	Classify the types of indirect retainers based on design and location.	C3						
59		Definition: Denture base	Define a denture base as the part of an RPD that supports artificial teeth and contacts oral tissues	C2						
60		Ideal requirement of Denture base	List the ideal requirements of a denture base in terms of strength, stability, and biocompatibility	C2						
61		Types of Denture base	Classify the types of dentures bases according to materials and construction methods.	C3						
62	Practical performance	Demonstrate the design and adjustment of indirect retainers and denture bases, ensuring proper function, support, and stability in removable partial dentures.		P4		Practical Demo/ Video	1	OSPE		

63		SOPs	Adhere to Standard Operating Procedures (SOPs) in the design and application of indirect retainers and denture bases, ensuring safety, quality, and patient care.			A4	Role play			
TOOTH REPLACEMENT, MATERIALS OF ARTIFICIAL TEETH AND SELECTION OF ARTIFICIAL TEETH.										
64	Week-11	Tooth Replacement	Describe tooth replacement in removable partial dentures.	C2			Interactive lecture /SDG	2	MCQS	4
65		Anterior teeth replacement	Explain the design considerations for replacing anterior teeth in RPDs.	C3						
66		Posterior teeth replacement	Explain the design considerations for replacing posterior teeth in RPDs.	C3						
67		Teeth selection; definition	Define the concept of teeth selection in relation to removable partial dentures	C2						
68		Anterior teeth selection	Describe the selection of anterior artificial teeth based on material type, considering their esthetics, wear resistance, and compatibility with natural dentition.	C2						
69		Posterior teeth selection	Describe the selection of posterior artificial teeth based on material type, evaluating their functional efficiency, durability, and impact on opposing dentition.	C2						
70			Practical performance	Demonstrate the process of selecting and replacing anterior and posterior teeth in removable partial dentures, ensuring proper fit, function, and esthetic integration.		P4		Practical Demo/ Video	1	OSPE
71		SOPs	Adhere to Standard Operating Procedures (SOPs) during tooth selection and replacement in RPDs, ensuring safety, precision, and patient care throughout the process.			A4	Role play			
ARRANGEMENT OF TEETH, TRY-IN, CURING, FINISHING AND POLISHING, INSERTION OF PARTIAL DENTURE.										
72	Week-12	Introduction	Define the concept of teeth arrangement in removable partial dentures.	C1			Interactive lecture /SDG	2	MCQS	4
73		Rules for arranging teeth	Explain the principles and rules guiding the arrangement of artificial teeth in RPDs.	C3						
74		Trail denture try-in	Describe the procedure and importance of the trial denture try-in appointment.	C3						
75		Try-in of Anterior and Posterior teeth	Evaluate the esthetics and occlusion during the try-in of anterior and posterior teeth	C3						
76		Processing	Explain the processing steps involved in converting the trial denture into the final prosthesis.	C3						
77		Insertion	Describe the clinical steps involved in inserting the completed removable partial denture.	C3						
78		Procedure completed during insertion	Identify the clinical adjustments and instructions provided during denture insertion.	C3						
79			Practical Performance	Demonstrate skilled execution of RPD procedures, including trial placement, evaluation, and final insertion, with coordinated accuracy and technique.		P4				
80		Clinical Attitude and Communication/ Professionalism and Ethics	Integrate patient-centered care and professional values during the try-in and insertion phases, prioritizing comfort, esthetics, function, and patient education.			A4				
SURVEYOR AND PARTS OF SURVEYOR.										
81		Surveyor.	Define a dental surveyor and its purpose in removable partial denture planning.	C2			Interactive lecture /SDG			5

82	Week-13	Types of Surveyors	Describe the common types of dental surveyors used in prosthodontics.	C3						
83		Parts of surveyor	Identify the major parts of a dental surveyor and their functions.	C2						
84		Uses of surveyor	Explain the various uses of a surveyor in RPD design, including locating undercuts and determining guiding planes.	C3						
85		Practical Performance	Demonstrate the process of arranging teeth, conducting a trial denture try-in, and using the dental surveyor in RPD design, ensuring optimal esthetics, occlusion, and fit.		P4		Practical Demo/ Video	1	OSPE	
86		SOPs	Adhere to Standard Operating Procedures (SOPs) for the preparation, trial try-in, and insertion of RPDs, ensuring safe and effective practices throughout the procedure.			A4	Role play			
REMOVABLE PARTIAL DENTURE DESIGN: SURVEYING										
87	Week-14	Surveying	Define dental surveying and explain its role in removable partial denture design.	C3			Interactive lecture /SDG	2	MCQS	6
		Objective of Surveying	Describe the objectives of surveying in identifying undercuts and guiding the path of insertion.	C3						
88		Survey line	Explain the concept of a survey line and its significance in clasp design and retention.	C3						
89		Set up for Surveying/Procedure	Demonstrate the step-by-step procedure and proper set-up for surveying a diagnostic cast.	C4						
90		Practical Performance	Demonstrate the use of dental surveying techniques, including identifying undercuts, determining the path of insertion, and establishing survey lines on diagnostic casts.		P4		Practical Demo/ Video	1		
91		Impact of Surveying on RPD Design	Evaluate the impact of effective surveying on the overall RPD design, focusing on its role in ensuring optimal retention, function, and patient comfort.			A4	Role play			
GUIDING PLANES AND PATH OF INSERTION										
92	Week-15	Introduction; path of insertion	Define the concept of path of insertion in removable partial denture design.	C2			Interactive lecture /SDG		MCQS	4
93		Clinical consideration	Discuss clinical considerations in determining the path of insertion for RPDs.	C3						
94		Factors influencing path of insertion	Explain the factors that influence the path of insertion in RPD construction.	C3						
95		Guiding planes	Define guiding planes in relation to removable partial denture insertion and removal	C2						
96		Structure of Guiding planes	Describe the basic structural features of guiding planes on abutment teeth.	C2						
97		Types of Guiding planes	Classify the types of guiding planes based on their design and position.	C3						
98		Functions of Guiding planes	Explain the functions of guiding planes in improving retention, stability, and insertion accuracy.	C3						

99		Practical Performance	Demonstrate skilled execution of RPD design procedures, involving the design and adjustment of the path of insertion and guiding planes with coordinated skill and accuracy.		P4						
100		Patient Centered Principles	Value and apply patient-centered principles in planning and delivering RPD treatments.			A4					
<b>REMOVABLE PARTIAL OVER DENTURE.</b>											
101	Week-16	Introduction	Define an overdenture as a removable prosthesis supported by retained natural teeth or roots and/or implants.	C1			Interactive lecture /SDG		MCQS	3	
102		Advantages	List the advantages of overdentures,	C2							
103		Indications	Identify the clinical situations where overdentures are indicated based on patient condition and prognosis of abutment teeth.	C2							
104		Criteria for selecting overdenture Abutment teeth	Explain the clinical and anatomical criteria used in selecting suitable abutment teeth for overdentures.	C3							
105		Design of the Prosthesis	Describe the design considerations of an overdenture prosthesis, including support, stability, and abutment modification.	C3							
106		Practical Performance	Demonstrate the procedure for selecting suitable abutment teeth, designing, and fitting an overdenture prosthesis based on clinical and anatomical criteria.		P4		Practical Demo/ Video	1	OSPE		
107		Assessing Overdenture Effectiveness	Assess the effectiveness of overdenture design and its impact on patient comfort, function, and long-term success of the prosthesis.			A4	Role play				



**Recommended Books:**

1. Textbook of Prosthodontics Deepak Nallaswamy , JAYPEE.
2. Boucher's Prosthodontics
3. Fenn's Clinical Dental Prosthetics
4. A Color Guide To Removable Partial Denture Design Davenport JC, BaskerRM, Heath JR, Ralph JP & Glantz

**ASSESSMENT BREAKDOWN**

S.No	Topics	No of MCQ	No of OSPE / OSCE Stations	Static / Interactive
1	The Introduction to Prosthodontics, Partial Denture Prosthodontics and Its Classification.	02	-	-
2	The Diagnosis and Treatment Planning.	03	01	Interactive
3	Preprosthetic Mouth Preparation and Primary Cast Preparation	03	01	Interactive
4	Principles Of Removable Partial Denture/Biological Considerations of Partial Denture.	03	01	Interactive
5	Mechanical Considerations of Partial Denture	03	01	static
6	Removable Partial Denture Design/ Component Parts of Partial Denture; Maxillary Major Connector	07	01	Static
7	Mandibular Major Connector	06	01	Static
8	Minor Connectors, Rest and Rest Seats	05	01	Static
9	Direct Retainers	06	01	Static
10	Indirect Retainer, Denture Base Material and Selection.	06	01	Static
11	Tooth Replacement, Materials of Artificial Teeth and Selection of Artificial Teeth.	04	01	Static
12	Arrangement Of Teeth, Try-In, Curing, Finishing and Polishing, Insertion of Partial Denture.	04	-	-
13	Surveyor And Parts of Surveyor.	05	01	Static
14	Removable Partial Denture Design: Surveying.	06	01	Static
15	Guiding Planes and Path of Insertion	04	01	Static
16	Removable Partial Over Denture.	03	01	Static
<b>Total</b>	<b>16</b>	<b>70</b>	<b>14</b>	<b>14</b>

# DEN-608 ORAL PATHOLOGY AND ORAL MEDICINE-II 3(2+1)

## Course Description:

This course covers the fundamental principles of Oral Pathology and Oral Medicine, focusing on the diagnosis and management of diseases affecting the mouth, jaws, and surrounding tissues. The course emphasizes clinical presentations, histopathological features, and treatment options, preparing students to differentiate between benign and malignant conditions. Through lectures, case discussions, and Practical applications, students will enhance their ability to diagnose and manage oral diseases effectively. The course also fosters critical thinking, professional ethics, and patient-centered care, ensuring a holistic approach to oral pathology and medicine. By the end of this course, students will be capable of identifying and managing oral pathologies, utilizing evidence-based approaches to provide accurate diagnoses and optimal patient care.

## Learning Objectives:

### Cognitive Domain:

**By the end of this course, students should be able to:**

1. Explain the causes, progression, and complications of major infections affecting the oral and maxillofacial region.
2. Differentiate between benign and malignant odontogenic tumors, focusing on clinical and histopathological features.
3. Identify oral premalignant lesions, their risk factors, and their potential for malignant transformation.
4. Analyze the progression of oral cancers, including staging, metastasis, and treatment approaches.
5. Evaluate risk factors associated with oral cancer and premalignancy, including lifestyle and genetic factors.
6. Synthesize knowledge from pathology and medicine to create evidence-based management plans for patients.
7. Analyze the histopathological features of oral diseases
8. Design a treatment plan for a patient with a complex oral condition.

### Psychomotor Domain:

**By the end of this course, students should be able to:**

1. Perform clinical examinations of the oral cavity to identify pathological lesions.
2. Take accurate patient histories, focusing on symptoms related to oral diseases.
3. Demonstrate proper techniques for palpating lymph nodes to assess oral infections and malignancies.
4. Assist in the collection and handling of oral cytology and biopsy samples.
5. Interpret radiographic images to detect odontogenic tumors, neoplasms, and bone pathologies.
6. Present case studies on oral pathology and oral medicine, integrating diagnostic findings with clinical management.

### Affective Domain:

**By the end of this course, students should be able to:**

1. Show compassion and empathy when discussing oral pathology diagnoses with patients.
2. Maintain confidentiality and professionalism when handling patient records and diagnostic findings.
3. Exhibit ethical decision-making in treatment planning for patients with oral diseases.
4. Encourage a preventive approach to oral health, promoting awareness about oral cancer risks.
5. Demonstrate teamwork and communication when collaborating with other dental and medical professionals.
6. Advocate for early screening and diagnosis of premalignant and malignant oral conditions.
7. Show commitment to evidence-based practice and the integration of scientific knowledge in clinical decision-making

Table of Specification

S.No	Weeks	Content	Learning Outcome	Domain			MIT's	Time/ Hours	Assessment	No of Items
				C	P	A				
MAJOR INFECTIONS OF MOUTH										
1	Week-1	Introduction	Define common infections affecting oral tissues.	C2			Interactive Lecture/SGD	02	MCQS	03
2		Chronic osteomyelitis	Differentiate between acute and chronic osteomyelitis based on clinical progression.	C4						
3		Chronic low-grade osteomyelitis and osteitis	Explain the pathology and clinical management of low-grade chronic osteitis.	C3						
4		Bisphosphonate-induced osteonecrosis	Discuss the causes and clinical management of bisphosphonate-related osteonecrosis.	C4						
5		Osteoradionecrosis	Analyze risk factors and preventive measures for osteoradionecrosis.	C4						
6		Alveolar osteitis	Identify clinical signs of dry socket and outline management strategies.	C3						
7		Sclerotic bone islands	Recognize the radiographic features of sclerotic bone islands.	C3						
8		Practical Perfomance	Draw a chart mentioning different types of infections mentioning origin of formation, clinical, histopathologic, radiographic features management and preventive options.		P4		Charts	01	OSCE/ OSPE	
9	Patient Education	Educate patients on the importance of oral hygiene in preventing infections			A3	Role play				
MAJOR INFECTION OF JAWS AND PERIORAL TISSUES										
10	Week-2	Fascial space infections (cervicofacial cellulitis)	Describe the spread, clinical presentation, and emergency management of cellulitis.	C4			Interactive Lecture/SGD	02	MCQS	05
11		Necrotizing fasciitis	Identify signs of necrotizing fasciitis and discuss its urgent treatment.	C4						
12		Cavernous sinus thrombosis	Explain how infections can spread to the cavernous sinus and its clinical implications.	C3						
13		Maxillofacial gangrene (noma, cancrum oris)	Discuss the etiology, risk factors, and management of Noma.	C3						
14		Actinomycosis	Describe the clinical presentation and treatment of actinomycosis.	C3						
15		The systemic mycoses	Differentiate major systemic fungal infections affecting the oral region.	C4						
16		Systemic infections by oral bacteria	Explain how oral infections can cause systemic diseases.	C4						
17		Infective endocarditis	Analyze the oral contributions to infective endocarditis.	C4						

18		Lung and brain abscesses	Discuss the pathway by which oral bacteria can cause lung and brain abscesses.	C4						
19		Immunodeficiency states	Explain how immunodeficiency alters oral infection patterns.	C3						
20		Normal healing of an extraction socket	Describe normal healing after tooth extraction and recognize complications.	C2						
21		Practical Perfomance	Assist in drainage, biopsy, or referral procedures for severe facial infections		P3		Demo/ Video	01	OSCE/ OSPE	
22		Management of critical situation	Show urgency and concern in managing life-threatening oral infections like cellulitis and cavernous sinus thrombosis			A2	Role play			
ODONTOGENIC TUMORS										
23	Week-3	Ameloblastoma	Classify different types of ameloblastomas and their clinical behavior	C4			Interactive Lecture/SGD	02	MCQS	03
24		Unicystic ameloblastoma	Identify the clinical features and treatment options for unicystic Ameloblastoma	C3						
25		Metastasizing ameloblastoma and Ameloblastic carcinoma	Differentiate between benign and malignant behavior in ameloblastoma variants	C4						
26		Practical Perfomance	Interpret radiographs and identify radiolucent or radiopaque jaw tumors		P3		Demo/ Radiographs / Video	01	OSCE/ OSPE	
27		Professional responsibility	Display professional responsibility when delivering potentially serious diagnoses to patients			A2	Role play			
ODONTOGENIC TUMORS LIKE LESIONS OF THE JAWS										
28	Week-4	Adenomatoid odontogenic tumor	Describe radiographic and clinical features of adenomatoid odontogenic tumors	C3			Interactive Lecture/SGD	02	MCQS	05
29		Calcifying epithelial odontogenic tumor	Summarize key features of Pindborg tumors	C4						
30		Clear cell odontogenic carcinoma	Discuss the aggressive behavior and prognosis of clear cell odontogenic carcinoma	C3						
31		Calcifying (ghost cell) odontogenic cyst	Explain the pathogenesis and features of ghost cell lesions	C3						
32		Squamous odontogenic tumor	Identify characteristics and clinical presentation of squamous odontogenic tumors.	C3						
33		Ameloblastic fibroma	Describe the nature and treatment of Ameloblastic fibroma	C4						
34		Ameloblastic sarcoma (Ameloblastic fibrosarcoma)	Explain the malignant transformation in Ameloblasticfibro sarcoma	C3						
35		Odontogenic myxoma	Recognize the radiological and histological features of odontogenic Myxoma	C3						
36		Practical Perfomance	Perform extraoral and intraoral examination to identify various tumors and tumor like lesions of jaws		P4		Demo/ Charts/ Video	01	OSCE/ OSPE	
37		Showing Respect	Respect patient anxiety and concerns, especially when managing aggressive tumors or unclear findings			A3	Role play			

## OTHER TUMORS AND DYSPLASIAS

OTHER TUMORS AND DYSPLASIAS										
38	Week-5	Odontogenic fibroma	Discuss clinical signs and differential diagnosis of odontogenic fibroma	C3			Interactive Lecture/SGD	02	MCQS	05
39		Tumors and dysplasia of cementum	Classify cementum-related tumors and dysplasia.	C4						
40		Non-neoplastic odontogenic lesions	Describe key examples of non-neoplastic odontogenic lesions	C3						
41		Cemento-osseous dysplasia	Identify types and clinical significance of cemento-osseous dysplasia	C4						
42		Odontomas (odontomes)	Summarize rare types of odontomas based on histological composition	C4						
43		Practical Performance	Participate in planning or simulating surgical excision of odontogenic tumors in clinical practice		P4		Demo/ Charts/ Video	01	OSCE/ OSPE	
44		Caring attitude	Display a caring attitude towards patients presenting with benign but distressing oral growth			A3				Role play

## ORAL PREMALIGNANCY

45	Week-6	Introduction	Define Oral Premalignancy	C2			Interactive Lecture/SGD	02	MCQS	07
46		Premalignant lesions and conditions	Define oral potentially malignant disorders and their importance.	C3						
47		Erythroplasia ('erythroplakia)	Describe the clinical features and high-risk nature of erythroplakia.	C4						
48		Speckled leukoplakia	Explain the diagnosis and management of speckled leukoplakia.	C4						
49		Idiopathic leukoplakia	Identify diagnostic challenges in idiopathic leukoplakia cases.	C3						
50		Sublingual keratosis	Discuss clinical relevance and biopsy approach to sublingual keratosis.	C3						
51		Proliferative verrucous leukoplakia	Analyze the aggressive behavior and risk of malignancy in PVL.	C4						
52		Pipe smoker's keratosis	Recognize features and risk assessment for pipe smoker's keratosis.	C3						

53		Smokeless tobacco-induced keratosis	Identify patterns and dangers of smokeless tobacco lesions	C3									
54		Chronic hyperplastic candidiasis	Differentiate between chronic hyperplastic candidiosis and other white lesions	C3									
55		Practical Performance	Demonstrate the correct way to perform a soft tissue examination and identify suspicious white/red lesions		P3						Demo/ Charts/ Video	01	OSCE/ OSPE
56		Commitment	Show commitment to educating the public about early signs of oral precancer			A5					Role play		
OTHER PREMALIGNANT CONDITIONS													
57	Week-7	Oral submucous fibrosis	Explain the pathology, clinical signs, and malignant potential of oral submucous fibrosis	C4			Interactive Lecture/SGD	02	MCQS	03			
58		Lichen planus	Classify types of oral lichen planus and discuss malignancy risk	C4									
59		Lupus Erythematosus	Discuss oral manifestations and differential diagnosis of lupus erythematosus	C3									
60		Dyskeratosis congenita	Explain genetic basis and oral features of dyskeratosis congenital	C3									
61		Syphilitic leukoplakia	Describe syphilitic leukoplakia and its relevance to oral cancer risk	C3									
62		Early carcinoma	Identify features of early oral squamous cell carcinoma	C4									
63		Management of Dysplastic lesions	Formulate management protocols for oral epithelial dysplasia.	C5									
64		Practical Performance	Simulate performing a brush biopsy or assisting in scalpel biopsy procedures		P2		Demo/ Charts/ Video	01	OSCE/ OSPE				
65		Smoking cessation	Counsel patients on smoking cessation and its benefits for oral health.			A3	Role play						
ORAL CANCER: EPIDEMIOLOGY AND AETIOLOGY													
66	Week-8	Epidemiology	Describe patterns of incidence and demographics for oral cancer	C2			Interactive Lecture/SGD	02	MCQS	05			
67		Age and gender incidence	Discuss variations in oral cancer occurrence based on age and gender	C2									
68		Aetiology	Analyze tobacco’s role in oral carcinogenesis	C4									
69		Tobacco use	Analyze tobacco’s role in oral carcinogenesis	C3									
70		Alcohol	Explain the synergistic effects of alcohol and tobacco	C4									
71		Infections and immunological factors	Discuss infectious agents and immunological risks related to oral cancer	C3									

72		Syphilis	Describe the historic link between syphilis and oral malignancy	C4						
73		Chronic candidiasis	Evaluate the role of chronic candidal infection in oral carcinogenesis	C3						
74		Malnutrition	Explain how malnutrition contributes to oral cancer development	C4						
75		Oral sepsis	Discuss the role of chronic oral infection in carcinogenesis	C4						
76		Sunlight	Describe the effects of sunlight exposure on lip cancer	C4						
77		Genetic factors	Identify genetic mutations commonly associated with oral cancers	C2						
78		Precancerous lesions	Discuss how precancerous lesions transition into carcinoma	C3						
79		Early squamous cell carcinoma	Recognize early clinical signs of squamous cell carcinoma	C4						
80		Practical Performance	Demonstrate clinical examination techniques and assist in biopsy procedures for detecting oral cancer		P3					
81	Encouragement	Encourage patients to change harmful habits like tobacco use, showing care and patience			A4	Role play				
ORAL CANCER: SITES AND PATHOLOGY										
82	Week-9	Oral cancer sites	List common anatomical sites involved in oral cancer	C3			Interactive Lecture/SGD	02	MCQS	04
83		Carcinoma of the lip	Describe features and treatment outcomes for lip carcinomas	C3						
84		Carcinoma of the tongue and floor of mouth	Analyze prognosis differences based on tumor location.	C4						
85		Carcinoma of the alveolar ridge, cheek and palate	Describe spread patterns and management challenges	C3						
86		Pathology	Explain microscopic features of oral squamous cell carcinoma	C3						
87		Spread of oral carcinoma	Discuss local, lymphatic, and hematogenous spread routes	C4						
88		Practical Performance	Perform lymph node palpation and identify warning signs of malignancy in oral tissues		P4		Demo/ Charts/ Video	01	OSCE/ OSPE	
89		Compassion	Exhibit compassion and emotional sensitivity while discussing potential cancer diagnoses			A4	Role play			
ORAL CANCER: MANAGEMENT, SURVIVAL AND SCREENING										

90	Week-10	Management	Outline steps in assessing oral cancer cases preoperatively	C4			Interactive Lecture/SGD	02	MCQS	03
91		Survival from Oral cancer	Discuss factors affecting survival rates in oral cancer	C3						
92		Oral Cancer Screening	Design a basic oral cancer screening protocol	C4						
93		Verrucous Carcinoma	Differentiate verrucous carcinoma from conventional squamous carcinoma	C3						
94		Practical Performance	Assist in oral cancer screening sessions and clinical staging assessments		P4		Demo/ Charts/ Video	01	OSCE/ OSPE	
95		Ethical decision-making	Promote ethical decision-making and empathy when discussing treatment options with terminally ill patients			A3	Role play			
COMMON BENIGN MUCOSAL SWELLINGS										
96	Week-11	Introduction	Recall the Benign Mucosal Swellings	C2			Interactive Lecture/SGD	02	MCQS	04
97		Fibrous polyps, epulides and denture-induced granulomas	Describe clinical features and management of common benign swellings	C3						
98		Giant-cell fibroma	Recognize clinical presentation and histological features of giant-cell fibroma	C3						
99		Papillary hyperplasia of the palate	Identify causes and treatment strategies for papillary hyperplasia	C4						
100		Practical Performance	Examine soft tissue swellings and distinguish between fibrous, vascular, or reactive growths		P3		Demo/ Charts/ Video	01	OSCE/ OSPE	
101		Caring Attitude	Display a caring attitude towards patients presenting with benign but distressing oral growths			A4	Role play			
GRANULOMA AND PAPILLOMAS										
102	Week-12	Pyogenic Granuloma and Pregnancy epulis	Explain clinical appearance and management of pyogenic granuloma and pregnancy tumors	C3			Interactive Lecture/SGD	02	MCQS	03
103		Giant-cell epulis	Describe giant cell epulis and differentiate it from other oral swellings	C3						
104		Papilloma	Identify different types of oral papilloma.	C4						
105		Squamous cell papilloma	Discuss clinical features and viral associations of squamous papilloma	C3						
106		Infective warts (verruca vulgaris)	Recognize and differentiate infective oral warts	C3						
107		Focal epithelial hyperplasia	Explain the appearance and viral etiology of focal epithelial hyperplasia	C3						
108		Other benign neoplasms	Summarize miscellaneous benign oral neoplasms	C2						
109		Practical Performance	Record clinical features of swellings and suggest basic management steps		P3		Demo/ Charts/ Video	01	OSCE/ OSPE	
110		Reassurance	Reassure patients with non-threatening lesions and avoid alarmist communication			A3	Role play			
SOFT TISSUES NEOPLASMS										
111		Introduction	Define soft tissues neoplasms	C2			Interactive Lecture/SGD	02	MCQS	03



112	Week-13	Neurofibromas	Describe the clinical features and systemic associations of oral neurofibromas	C3						
113		Neurilemmomas	Explain the histopathology and diagnosis of neurilemmomas	C3						
114		Lipoma and fibro lipoma	Differentiate lipomas from other soft tissue tumors based on clinical signs	C3						
115		Granular cell tumor	Discuss the origin and diagnosis of granular cell tumors	C4						
116		Congenital (granular cell) epulis	Identify the unique features of congenital granular cell epulis	C3						
117		Hemangiomas	Describe clinical signs, diagnosis, and management of oral hemangiomas	C3						
118		Lymphangioma	Discuss the clinical diagnosis and implications of lymphangioma in the oral cavity	C3						
119		Practical Perfomance	Assist in the diagnosis of soft tissue tumors through clinical examination and case documentation		P2					
120		Respect	Respect patient dignity during examination and referral for soft tissue tumors			A3	Role play			
MALIGNANT CONNECTIVE TISSUE TUMORS										
121	Week-14	Malignant connective tissue tumors	Define malignant connective tissue tumors	C2			Interactive Lecture/SGD	02	MCQS	02
122		Rhabdomyosarcoma	Explain the clinical behavior and treatment challenges of rhabdomyosarcoma	C4						
123		Fibrosarcoma	Recognize the clinical features and prognosis of oral fibrosarcoma	C3						
124		Practical Perfomance	Review pathology slides to recognize common benign and malignant mesenchymal lesions		P3		Demo/ Charts/ Video	01	OSCE/ OSPE	
125		Multidisciplinary collaboration	Promote multidisciplinary collaboration for holistic patient care in neoplastic cases			A4	Role play			
PIGMENTED LESIONS										
126	Week-15	Localized mucosal pigmentation	Describe types and causes of localized oral pigmentation	C3			Interactive Lecture/SGD	02	MCQS	02
127		Physiological and racial pigmentation	Explain normal variations of oral pigmentation	C2						
128		Post-inflammatory pigmentation	Recognize clinical presentation of post-inflammatory pigmentation	C3						
129		Amalgam tattoo	Identify features of amalgam tattoos and differentiate from melanocytic lesions	C4						
130		Peutz-Jeghers syndrome	Discuss oral manifestations of Peutz-Jeghers syndrome	C3						
131		Oral melanotic naevi	Classify types of oral melanotic nevi and describe their clinical relevance	C3						
132		Blue naevus	Describe clinical features and differential diagnosis of oral blue nevus	C3						

133		Practical Performance	Examine and record pigment variations in the oral mucosa accurately.		P3		Demo/ Charts/ Video	01	OSCE/ OSPE	
134		Empathy	Respond with empathy to patient anxiety regarding dark or irregular lesions.			A3	Role play			
<b>MELANOMA</b>										
135	Week-16	Malignant melanoma	Discuss diagnosis, treatment, and prognosis of oral malignant melanoma	C4			Interactive Lecture/SGD	02	MCQS	03
136		Amelanotic melanomas	Recognize amelanotic melanoma and explain its diagnostic difficulty	C2						
137		Treatment	Outline surgical and adjunctive treatments for oral melanoma.	C4						
138		Melanotic neuroectodermal tumor of infancy	Describe features and early management of melanotic neuroectodermal tumors	C4						
139		Diffuse mucosal pigmentation	Explain systemic causes and oral manifestations of diffuse mucosal pigmentation	C3						
140		Practical Performance	Help in identifying lesions needing biopsy by comparing with common pigmentation patterns.		P2		Demo/ Charts/ Video	01	OSCE/ OSPE	
141		Awareness	Encourage regular oral exams and create awareness about oral melanoma in at-risk patients			A4	Role play			

## Recommended Books

1. Textbook of Oral Pathology by [Sanjay Saraf](#), Jaypee Brothers Publishers
2. Clinical Outline of Oral Pathology, 4th Edition by [Lewis R. Eversole](#) (Author) Pmph USA
3. Cawson's Essentials of Oral Pathology and Oral Medicine, 8e 8th Edition [by Roderick A. Cawson, ChurchillLivingstone](#)

## Assessment Breakdown

S.No	Topics	No of MCQ	No of OSPE / OSCE Stations	Static / Interactive
1	Major infections of mouth	03	1	Static
2	Major infections of Jaws and Perioral Tissues	05	2	Static
3	Odontogenic tumors	03	1	Static
4	Odontogenic tumors like lesions of the jaws	05	1	Interactive
5	Other tumors and dysplasia	05	-	-
6	Oral premalignancy	07	1	Interactive
7	Other premalignant conditions	03	1	Static
8	Oral cancer: epidemiology and etiology	05	-	-
9	Oral cancer: sites and pathology	04	1	Static
10	Oral cancer: management, survival and screening	03	1	Static
11	Common benign mucosal swellings	04	1	Static
12	Granuloma and papillomas	03	1	Static
13	Soft tissues neoplasms	03	1	Static
14	Malignant connective tissue tumors	02	1	Static
15	Pigmented lesions	02	1	Static
16	Melanoma	03	1	Static
<b>Total</b>	<b>16</b>	<b>70</b>	<b>14</b>	<b>14</b>

## DEN-609 MINOR ORAL SURGERY-I

### 3(2+1)

#### Course Description:

This course offers essential training in history taking, clinical examination, and patient evaluation for oral surgery. Students will learn patient and chair positioning, surgical principles, wound repair, and infection control. The curriculum includes routine exodontia, its indications, contraindications, and surgical instruments. It also covers local anesthetics—pharmacology, classification, administration, and complication management. By course end, students will have foundational surgical skills focused on patient safety, effective anesthesia, and complication prevention.

#### Learning Objectives:

#### Cognitive Domain:

By the end of this course, students should be able to:

1. Recall the steps involved in minor oral surgery, including preparation, anesthesia, and post-operative care
2. Describe the indications and contraindications for minor oral surgery, including the management of common complications
3. Apply the principles of minor oral surgery to real-world scenarios, including patient assessment and surgical technique.
4. Analyze the potential risks and benefits of minor oral surgery, including the impact on patient outcome
5. Evaluate the effectiveness of minor oral surgery in achieving desired patient outcomes, including aesthetic and functional results

#### Psychomotor Domain:

By the end of this course, students should be able to:

1. Imitate basic surgical skills, such as suturing and knot-tying, as demonstrated by an expert
2. Use surgical tools and materials with better skill and control.
3. Perform minor oral surgery procedures, including incision and excision, with accuracy and consistency
4. Articulate the steps involved in minor oral surgery, including patient preparation and post-operative care.
5. Perform minor oral surgery smoothly.

#### Affective Domain:

By the end of this course, students should be able to:

1. Receive feedback and guidance from instructors and peers, demonstrating a willingness to learn and improve.
2. Value the importance of patient safety, privacy, and dignity in minor oral surgery.
3. Articulate the steps involved in minor oral surgery, including patient preparation and post-operative care.
4. Demonstrate automaticity and fluidity in performing minor oral surgery procedures, with minimal conscious attention.

# Table of Specification

S.No	Weeks	Content	Learning Outcome	Domain			MIT's	Time/ Hours	Assessment	No of Items
				C	P	A				
HISTORY TAKING										
1	Week-1	Definition	Define dental caries	C1			Interactive lecture	2	MCQs	4
2		Importance of history	Describe the importance of accurate history taking in determining patient suitability for minor oral surgery.	C2						
3		Potential risks and complications	Analyze patient histories to identify potential risks and complications associated with minor oral surgery.	C4						
4		Practical performance	Create a comprehensive and accurate patient history record that informs minor oral surgery treatment plans.		P4		Hands on Demo	1	OSPE	
5		Decision-making in	Evaluate the impact of patient history on treatment planning and decision-making in minor oral surgery			A4	Role play			
CLINICAL EXAMINATION, CLINICAL EVALUATION										
6	Week-2	Extra oral and intraoral evaluations	Identify the key components of a clinical examination relevant to minor oral surgery, including extra oral and intraoral evaluations.	C1			Interactive lecture	2	MCQs	4
7		Significance of clinical examination	Describe the significance of clinical examination findings in determining patient suitability for minor oral surgery	C2						
8		Practical performance	emulate a comprehensive and accurate clinical examination record that informs minor oral surgery treatment plans and patient care		P3		Hands on Demo	1	OSPE	
9		Willingness to learn	Receive feedback on their clinical examination skills, demonstrating a willingness to learn and improve			A1	Role play			
PRINCIPLES OF SURGERY										
10	Week-3	principles of minor oral surgery	Recall the fundamental principles of minor oral surgery, including asepsis, incision ,flap design, tissue handling ,edema control	C1			Interactive lecture	2	MCQs	4
11		Minor oral surgery procedures	Apply knowledge of principles to plan and execute minor oral surgery procedures effectively.	C2						
12		Practical performance	Demonstrate the ability to execute minor oral surgery procedures with precision and accuracy.		P1		Demo	1	OSPE	
13		Patient safety	Value the importance of adhering to principles in ensuring patient safety and optimal outcomes			A1	Role play			
HEMOSTASIS										
14	Week-4	principles of wound hemostasis	Recall the basic principles of wound hemostasis, dead space management, and wound decontamination.	C2			Interactive lecture	2	MCQs	4
15		clinical significance	Explain the rationale and clinical significance of each technique in promoting wound healing.	C3						
16		Practical Performance	Demonstrate precise use of instruments for achieving hemostasis and performing debridement.		P3		Demo	1	OSPE	
17		Professionalism	Integrate wound management practices into a personal framework of surgical excellence and patient safety			A4	Role play			

PATIENT SURGEON POSITIONS, CHAIR POSITIONING										
18	Week-5	Principles	Recall the fundamental principles of patient positioning and chair positioning in minor oral surgery	C1			Interactive lecture	2	MCQs	4
19		Rationale	Explain the rationale behind various patient and chair positions in minor oral surgery.	C2						
20		chair positioning	Apply knowledge of patient and chair positioning to achieve optimal surgical access and patient comfort	C3						
21		Practical performance	Demonstrate the ability to position patients and chairs correctly for various minor oral surgery procedures		P4		Demo	1	OSPE	
22		Patient safety	Value the importance of proper patient and chair positioning in ensuring patient safety and comfort.			A1	Role play			
WOUND REPAIR										
23	Week-6	Healing of Extraction	Explain the process of wound Healing of Extraction Sockets	C2			Interactive lecture	2	MCQs	4
24		Practical performance	Demonstrate the ability to execute various suturing techniques with precision and accuracy		P4		Hands on Demo	1	OSPE	
25		Patient outcomes	Value the importance of meticulous wound repair in promoting optimal patient outcomes.			A3	Role play			
INFECTION CONTROL IN SURGICAL PRACTICE: COMMUNICABLE PATHOGENIC ORGANISMS										
26	Week-7	Communicable pathogenic organisms	Identify common communicable pathogenic organisms responsible for surgical site infections like bacteria , virus ,fungi	C1			Interactive lecture	2	MCQs	5
27		Infection control	Apply standard precautions and infection control measures to prevent the spread of communicable diseases	C3						
28		Practical performance	Demonstrate correct use of personal protective equipment (PPE) and hand hygiene techniques to prevent transmission of pathogens.		P3		Hands on Demo	1	OSPE	
29		Awareness	Show awareness of the risks associated with surgical site infections and commit to infection control practices to prevent pathogen transmission.			A4	Role play			
INFECTION CONTROL IN SURGICAL PRACTICE: STERILIZATION										
30	Week-8	Techniques	List the standard techniques used for instrument sterilization (e.g., autoclaving,	C1			Interactive lecture	2	MCQs	5
31		Maintaining sterility	Explain the importance of maintaining sterility and proper operatory disinfection in infection control.	C3						
32		Patient safety	Value the role of sterilization and disinfection in patient safety and infection prevention.			A3				
33		Practical performance	Demonstrate the correct procedures for maintaining a sterile field and disinfecting the operatory before and after surgery		P4		Hands on Demo	1	OSPE	
PRINCIPLES OF ROUTINE EXODONTIA										
34	Week-9	principles of routine exodontia	Recall the fundamental principles of routine exodontia, including anesthesia, flap design, and sectioning	C1			Interactive lecture	2	MCQs	4
35		Treatment plan	Apply knowledge of principles to plan and execute routine extractions effectively	C3						

36		Practical performance	Demonstrate the ability to execute routine extractions with precision and accuracy.		P4		Hands on Demo	1	OSPE	
37		Patient safety	Value the importance of adhering to principles in ensuring patient safety and optimal outcomes.			A3	Role play			
PRINCIPLES OF ROUTINE EXODONTIA :INDICATIONS & CONTRAINDICATIONS OF ROUTINE EXODONTIA										
38	Week-10	Indication and contraindication	Describe indication and contraindication for routine exodontia	C2			Interactive lectures	2	MCQs	5
39		Assessment	Apply knowledge of indications and contraindications to assess whether a patient is suitable for tooth extraction.	C3						
40		Practical performance	Demonstrate the ability to evaluate a clinical case and determine whether exodontia is appropriate based on patient history and examination		P4		Hands on Demo	1	OSPE	
41		Patient safety.	Show professional judgment in recognizing when not to proceed with extraction to ensure patient safety.			A4	Role play			
INSTRUMENTATIONS FOR BASIC ORAL SURGERY										
42	Week-11	Oral surgery Instruments	Recall the names, uses, and characteristics of basic oral surgery instruments	C1			Interactive lectures	2	MCQs	5
43		Principles of instrument selection	Describe the principles of instrument selection and handling.	C2						
44		Selection of appropriate instrument	Apply knowledge of instrumentation to select and use appropriate instruments for various basic oral surgery procedures.	C3						
45		Practical performance	Demonstrate the ability to handle and use basic oral surgery instruments with precision and accuracy		P4		Hands on demo	1	OSPE	
46		Patient safety	Value the importance of proper instrumentation in ensuring patient safety and optimal outcomes			A3	Role play			
PHARMACOLOGY OF LOCAL ANESTHETICS										
47	Week-12	Definition	Define key pharmacological terms related to local anesthetics (e.g., onset, duration, potency, toxicity).	C1			Interactive lectures	2	MCQs	3
48			Describe the mechanism of action, metabolism	C2						
49		Practical performance	Prepare and administer local anesthetics correctly using safe and aseptic techniques.		P4		Demo	1	OSPE	
50		Patient safety	Demonstrate responsibility and caution in choosing and using local anesthetics to prevent complications.			A3	Role play			
ADMINISTRATION OF LOCAL ANESTHESIA										
51	Week-13	local anesthesia methods	Explain the anatomical landmarks, techniques, and precautions for various local anesthesia methods (e.g., infiltration, nerve blocks)	C2				1		3
52		Selection of anesthesia	Apply knowledge of anatomy and pharmacology to plan and select the appropriate anesthesia technique for different clinical cases.	C3						
53		Practical performance	Perform local anesthesia procedures with supervision in routine clinical settings.		P5		Demo	1	OSPE	
54		Patient safety	Show concern for patient comfort, safety, and informed consent during anesthesia administration.			A4	Role play			
CLASSIFICATION AND COMPOSITIONS OF LOCAL ANESTHESIA										
55		Classes of local anesthetics	Identify the major classes of local anesthetics (e.g., esters and amides) and their key components.	C1			Interactive	2	MCQs	6

56	Week-14	Component of a local anesthetic solution	Explain the function of each component in a local anesthetic solution (e.g., vasoconstrictors, preservatives, stabilizers)	C3			lectures				
57		Practical performance	Accurately prepare local anesthetic agents for clinical use, ensuring correct concentration and combination.		P3		Demo Hands on	1	OSPE		
58		Patient safety	Show awareness of the importance of understanding anesthetic composition in preventing allergic reactions and ensuring patient safety.			A3	Role play				
TECHNIQUES OF LOCAL ANESTHESIA											
59	Week-15	Local anesthesia administration	Describe various techniques of local anesthesia administration, such as infiltration, field block, and nerve block, maxillary and mandibular nerve anesthesia	C2			Interactive lectures	2	MCQs	5	
60		Depth of anesthesia	Differentiate between techniques based on depth of anesthesia, duration, and area of coverage.	C34							
61		Practical performance	Perform local anesthesia techniques in a clinical or simulated setting.		P5		Demo Hands on	1	OSPE		
62		Patient safety	Show sensitivity to patient comfort and anxiety during the administration of anesthesia.			A3	Role play				
COMPLICATIONS OF LOCAL ANESTHESIA											
63	Week-16	Complications of local anesthesia	List common complications of local anesthesia (e.g., needle breakage, hematoma, allergic reaction, systemic toxicity).	C1			Interactive lectures	2	MCQs	5	
64		Causes and mechanisms of each complication	Describe the causes and mechanisms of each complication associated with local anesthesia.	C2							
65		Preventive measures	Apply appropriate preventive measures to minimize the risk of complications.	C3							
66			Practical performance	Manage minor complications and initiate emergency protocols when needed.		P5			1	OSPE	
67			Patient safety	Recognize the importance of patient monitoring and clear communication to ensure safety during and after anesthesia administration			A3	Role play			



**Recommended Books:**Contemporary oral and maxillofacial surgery sixth edition **james r. Hupp, dmd, md, jd, mba**

ASSESSMENT BREAKDOWN				
S.No	Topics	No of MCQ	No of OSPE / OSCE Stations	Static / Interactive
1	History taking	5	1	static
2	Clinical examination, clinical evaluation	5	1	static
3	Principles of surgery	5	-	static
4	Hemostasis	4	1	Static/interactive
5	Patient surgeon positions, chair positioning	5	1	Static/interactive
6	Wound repair	3	-	-
7	Infection control in surgical practice: communicable pathogenic organisms	3	-	-
8	Infection control in surgical practice: sterilization	4	1	interactive
9	Principles of routine exodontia	5	1	Static/interactive
10	Principles of routine exodontia :indications & contraindications of routine exodontia	4	1	static
11	Instrumentations for basic oral surgery	7	1	Static/interactive
12	Pharmacology of local anesthetics	4	1	static
13	Administration of local anesthesia	4	1	static
14	Classification and compositions of local anesthesia	4	1	static
15	Techniques of local anesthesia	4	1	Static/interactive
16	Complications of local anesthesia	4	1	static
<b>Total</b>	<b>16</b>	<b>70</b>	<b>14</b>	<b>14</b>

## DEN-610 PREVENTIVE AND COMMUNITY DENTISTRY 3(2+1)

### Course Description:

This course provides a comprehensive understanding of preventive and community dentistry, focusing on strategies to promote oral health at both individual and community levels. It covers the principles of disease prevention, epidemiology, and public health approaches to oral healthcare. Key topics include oral health education, infection control, fluoride use, preventive dentistry techniques, and the role of public health programs in improving community dental health. Students will learn to assess oral health needs, implement preventive measures, and contribute to policies that enhance public oral healthcare.

### Learning Objectives:

#### Cognitive Domain:

**By the end of this course, students should be able to:**

1. Define key concepts in preventive and community dentistry, including oral health promotion and epidemiology.
2. List common oral diseases and their preventive measures.
3. Recall the principles of infection control in dental practice.
4. Assess the effectiveness of preventive dentistry interventions.
5. Evaluate public health initiatives aimed at improving oral health.

#### Psychomotor Domain:

**By the end of this course, students should be able to:**

1. Identify proper techniques for fluoride application and sealant placement
2. Demonstrate proper handling of dental instruments.
3. Perform oral health screenings under supervision

4. Execute oral health promotion activities efficiently
5. Develop innovative oral health education programs.

#### Affective Domain:

**By the end of this course, students should be able to:**

1. Recognize ethical responsibilities in oral health promotion
2. Respect cultural and socioeconomic diversity in patient care.
3. Exhibit empathy, compassion, and professionalism in patient care
4. Demonstrate a positive attitude toward patient education
5. Prioritize community-based oral health initiatives

# Table of Specification

S.No	Weeks	Content	Learning Outcome	Domain			MIT's	Time/ Hours	Assessment	No of Items
				C	P	A				
INTRODUCTION TO DENTAL PUBLIC HEALTH										
1	Week-1	Definition and Scope of DPH	Recall the definition and objectives of dental public Health	C1			Interactive lecture	2	MCQs	4
2		Personal versus Community Dental Care	Compare the concepts of personal dental care and community dental care	C2						
3		Dental health programs and strategies	Explain the concept of traditional dental public health programs and new strategies for dental public health	C3						
9		Practical Performance	Demonstrate how to conduct survey to collect data on oral health and disease in population		P4		Hands on Demo	1	OSPE	
9		Attitude	Demonstrate proper and professional attitude while conducting surveys in community for dental public health			A4	Role play			
CORE ASPECTS OF DENTAL PUBLIC HEALTH										
10	Week-2	Functions of Public Health (Assessment, Policy, Assurance)	Analyze the core functions and their application in dental settings	C4			Interactive lecture	2	MCQs	4
11		Similarities and Differences: Clinical vs Public Health Model	Explain procedural and goal-based differences in both approaches	C3						
12		Traditional DPH Programs	Identify and discuss public health programs for special populations	C2						
13		DPH Tools and Resources	Apply understanding of epidemiology, biostatistics, and prevention tools in public health settings	C4						
16		Practical Performance	Demonstrate good oral hygiene practices for oral health promotion in communities		P4		Hands on Demo	1	OSPE	
17		Motivation	Encouraging general community to practice healthy behaviors related to oral hygiene			A4	Role play			
PRINCIPLES OF HEALTH EDUCATION										
18	Week-3	Health Education	Define health education and its importance in disease prevention and health promotion.	C2			Interactive lecture	2	MCQs	4
19		Principles of Health Education	Explain the key principles and strategies of health education.	C3						
20		Methods of Health Education	Compare different methods of health education, including mass media, individual, and group approaches.	C3						
24		Practical Performance	Demonstrate the use of visual aids in delivering a health education session.		P4		Demo	1	OSPE	
25		Ethical consideration	Show empathy and cultural sensitivity while educating diverse populations.			A4	Role play			
MODELS IN HEALTH EDUCATION										
26	Week-4	Behavior Change Models	Analyze behavior change models used in public health education (e.g., Health Belief Model, Social Learning Theory).	C2			Interactive lecture	2	MCQs	4
27		Role of Communication in Health Education	Describe the importance of effective communication in health education.	C3						

28		Health Literacy and Community Awareness	Evaluate strategies to improve health literacy and awareness in communities.	C3						
30		Practical Performance	Demonstrate the use of visual aids in delivering a health education session.		P4		Demo	1	OSPE	
31		Motivation	Show empathy and cultural sensitivity while educating diverse populations.			A4	Role play			
EPIDEMIOLOGY OF ORAL DISEASES										
32	Week-5	Oral Disease Epidemiology	Define epidemiology in relation to oral health and explain its significance.	C2			Interactive lecture	2	MCQs	4
		Dental caries	Explain the etiology and epidemiological triad for dental caries	C2						
33		Oral cancer	Explain the etiology and epidemiological triad for oral cancer	C2						
		Malocclusion	Explain the epidemiology, etiology, classification and prevention Of malocclusion	C3						
34		Practical Performance	Demonstrate different type of malocclusion and dental caries through charts and models		P4		Demo	1	OSPE	
35		Value	Value the importance of counseling individuals to promote good oral hygiene practices			A4	Role play			
NUTRITION IN HEALTH AND DISEASE										
36	Week-6	Nutrition and Health	Describe the role of nutrition (Fats, Protein’s, carbohydrates, Vitamins, minerals & trace elements) in maintaining health and prevention	C3			Interactive lecture	2	MCQs	4
37		Balance diet	Explain balanced diet and dietary goals	C3						
38		Diet Counseling	Discuss Diet Counseling in public health	C4						
39		Practical Performance	Demonstrate proper dietary planning for different age groups and health conditions		P4		Hands on Demo	1	OSPE	
40		Advocacy/Counseling	Advocate for healthy eating habits when counseling patients			A4	Role play			
MALNUTRITION AND PUBLIC HEALTH										
41	Week-7	Malnutrition and Public Health	Analyze the causes, consequences, and prevention strategies for malnutrition	C3			Interactive lecture	2	MCQs	5
42		Nutritional problems	Describe nutritional problems in public health	C3						
43		Oral Manifestations	Explain oral manifestations associated with oral health	C4						
46		Practical Performance	Demonstrate different disease related to malnutrition through charts, model and videos				Hands on Demo	1	OSPE	

47		Valuing	Support community engagement in nutritional programs to promote positive health behaviors			A4	Role play			
INDICES FOR ORAL DISEASES										
48	Week-8	Indices for oral diseases	Define and explain the importance and classification of oral indices	C2			Interactive lecture	2	MCQs	5
49		Plaque Index (PII), PHP, OHI, OHI-S	Compare different indices used to assess oral hygiene	C3						
50		Gingival Index (GI), SBI	Describe scoring criteria and purpose of GI and SBI	C3						
51		PI, PDI, CPITN	Analyze composite indices for gingival and periodontal health	C3						
52		Awareness/Receiving	Recognize the awareness and empathy while assessing patient’s oral condition			A4				
53		Practical performance	Record scores for at least 2 indices (e.g., PII and GI) using typodont models		P4		Hands on Demo	1	OSPE	
CARIES INDICES FOR PRIMARY DENTITION										
54	Week-9	Caries Indices for Primary Dentition	Recall the differences and applications of indices like dft, dfs	C4					MCQs	4
55		Dean’s Index, CFI	Describe and differentiate indices for dental fluorosis	C4						
56		Practical performance	Record scores for at least 2 indices (e.g., PII and GI) using typodont models		P4		Hands on Demo	1	OSPE	
57		Awareness	Demonstrate awareness and empathy while assessing patient’s oral condition			A4	Role play			
SCHOOL DENTAL HEALTH										
58	Week-10	Components of School Dental Health	Recall and explain the key components: environment, education, services	C1			Interactive lectures	2	MCQs	5
59		Comprehensive Dental Care	Describe objectives, benefits and limitations of comprehensive care	C3						
60		Incremental Dental Care	Compare incremental and comprehensive care approaches in school children	C1						
61		School Dental Health programs (Global & Local)	Analyze the structure and impact of programs like Askov, THETA, and BSBF	C3						
62		Screening and Referral Activity	Perform a simulated dental screening for schoolchildren using a basic checklist		P4		Hands on Demo	1	OSPE	
63		Community Sensitization	Demonstrate a responsible and empathetic attitude while educating peers in school			A4	Role play			
PREVENTION OF ORAL DISEASES										
64	Week-11	Preventive Dentistry	Define the concept of preventive dentistry and its role in oral health.	C3			Interactive lectures	2	MCQs	5
65		Levels of Prevention Clinical techniques	Describe primary, secondary, and tertiary prevention in oral health.	C4						
66		Prevention	Explain preventive measures for periodontitis, malocclusion and oral cancer	C4						

67		Practical performance	Demonstrate proper technique of sealant application for caries prevention		P3		Hands on demo	1	OSPE	
68		Professionalism	Show empathy and professionalism while educating patients			A4	Role play			
ORAL HYGIENE PREVENTIVE MEASURES										
69	Week-12	Oral Hygiene Measures	Analyze the effectiveness of brushing, flossing, and mouth rinses in preventing oral diseases.	C1			Interactive lectures	2	MCQs	3
70										
		Oral health education	Awareness regarding oral health and good oral hygiene practices	C2						
71		Dietary effect	Explain the effect of diet on oral hygiene.	C4						
72										
73		Practical performance	Demonstrate proper brushing and flossing technique to maintain good oral hygiene .		P3		Demo	2	OSPE	
		Empathy	Prioritize the patient health and show empathic behavior during community base preventive intervention			A4	Role play			
PRIMARY PREVENTIVE SERVICES										
74	Week-13	Primary Prevention	Define primary prevention and its importance in oral health.	C4				1		3
75		Plaque Control	Explain the role of mechanical and chemical plaque control in preventing oral diseases.	C3						
76		Caries Activity Tests	Evaluate different caries activity tests and their diagnostic value.	C3						
77		Pit and Fissure Sealants	Identify the indications, techniques, and benefits of sealant application.	C3						
78		Caries Vaccine	Discuss the concept and feasibility of a caries vaccine.	C3						
79		Disclosing Agents	Describe how disclosing agents help in oral hygiene education	C3						
80		Atraumatic Restorative Treatment (ART)	Demonstrate the ART technique for managing caries.		P3					
81		Ethical consideration	Show commitment to preventive dental care in underserved populations.			A4	Role play			
FLOURIDES IN CARIES PREVENTION										
82	Week-14	Fluorides	Define fluoride and describe its role in caries prevention.	C4			Interactive lectures	2	MCQs	6
83		Natural Occurrence of Fluoride	Explain the sources and distribution of fluoride in nature.	C3						
84		Mechanism of Action	Describe how fluoride prevents dental caries through systemic and topical mechanisms.	C3						
85		Practical performance	Demonstrate proper application of fluoride varnish on a patient.		P3		Demo Hands on	1	OSPE	
86		Ethical consideration	Show ethical responsibility in advocating for fluoride use in community programs.			A4	Role play			
FLUORIDES TOXICITY										

87	Week-15	Fluoride Toxicity	Discuss the effects of excessive fluoride intake and methods of DE fluoridation.	C3			Interactive lectures	2	MCQs	5
88		Fluoride Alternatives	Explain alternative fluoride delivery systems and emerging technologies.	C3						
89		Topical Fluoride Applications	Identify and compare various topical fluoride agents (gels, varnishes, rinses, dentifrices).restoration	C3						
90		Practical performance	Demonstrate through charts and models how excessive fluorides can affect teeth.		P3		Demo Hands on	1	OSPE	
91		Ethical consideration	Show ethical responsibility in advocating for fluoride use in community programs.			A4	Role play			
ORAL HEALTH CARE FOR SPECIAL GROUPS										
92	Week-16	Oral Health in Pregnancy	Identify oral health changes during pregnancy and list preventive strategies	C2			Interactive lectures	2	MCQs	5
93		Oral Health Guidance for Newborns	Describe the importance of breastfeeding and feeding habits for orofacial development	C2						
94		Oral Health for the Handicapped Child	Compare oral hygiene needs and challenges for different categories of disabilities	C1						
95		Practical performance	Demonstrate proper oral hygiene preventive measures during pregnancy		P4			1	OSPE	
96		Valuing	Promote healthy oral hygiene practices during pregnancy			A4	Role play			

**Recommended Books:**

1. Community oral health by Cynthia M. pine
2. Preventive and community dentistry by Joseph John O forest, latest edition

ASSESSMENT BREAKDOWN				
S.No	Topics	No of MCQ	No of OSPE / OSCE Stations	Static / Interactive
1	Introduction to dental public health	4	1	static
2	Core aspects of dental public health	4	1	static
3	Principles of health education	4	-	static
4	Models in health education	4	1	static
5	Epidemiology of oral disease	4	1	static
6	Nutrition in health and disease	4	-	-
7	Malnutrition in dental public health	5	-	-
8	Indices for oral disease	5	1	interactive
9	Caries indices for primary dentition	4	1	Static/interactive
10	School dental health	5	1	static
11	Prevention of oral disease	5	1	static
12	Oral hygiene preventive measures	3	1	static
13	Primary preventive services	3	1	static
14	Fluorides in caries prevention	6	1	static
15	Fluorides toxicity	5	1	Static/interactive
16	Oral health care for special groups	5	1	static
<b>Total</b>	<b>16</b>	<b>70</b>	<b>14</b>	<b>14</b>



# DEN-611-FUNDAMENTALS OF ORAL & MAXILLOFACIAL RADIOLOGY 3(2+1)

## Course Description:

In this course students will learn basic concept of the radiographic image and focusing on the essential knowledge of X-ray production, properties, interactions and as well as the biological effects and risks associated with ionizing radiation. Students will gain practical knowledge about radiation protection measures for both patients and operators during radiograph acquisition, ensuring safety in clinical settings, focusing on the practical application of radiographic techniques in dentistry. Students will learn about the uses/indications of different dental radiographic projections and interpret various radiographs with an emphasis on diagnosing dental conditions, planning treatments, and ensuring patient and operator safety. By the end, students will be equipped to effectively use dental radiographs in clinical practice while maintaining optimal safety standards.

## Learning Objectives:

### Cognitive Domain:

**By the end of this course, students should be able to:**

1. Understand X-ray production, properties, biological effects, and radiation risks.
2. Apply radiographic techniques to diagnose dental conditions and plan treatments.
3. Analyze radiographs to identify pathologies and assess dental restorations and implants.
4. Integrate radiographic knowledge into treatment planning and safety protocols.

### Psychomotor Domain:

**By the end of this course, students should be able to:**

1. Identify and position anatomical landmarks and patients/equipment for optimal radiographs.

2. Position and adjust radiographs exposure settings for optimal interpretation of conditions like caries and implant assessment.

3. Take and interpret radiographs under supervision, diagnosing common dental pathologies.

4. Accurately interpret complex radiographs to assist in treatment planning. Identify anatomical landmarks and radiographic features of dental conditions.

## Affective Domain:

**By the end of this course, students should be able to:**

1. Recognize the importance of patient safety and radiation protocols.
2. Actively engage in discussions and interpret radiographs with confidence.
3. Appreciate the role of radiographic interpretation in diagnosis, treatment planning, and patient care.
4. Prioritize accuracy and safety in radiographic interpretation, ensuring ethical decision-making.
5. Demonstrate professionalism in interpreting radiographs and communicating findings in a clinical context.

# Table of Specification

## Oral and Maxillofacial Radiology

S.No	Weeks	Content	Learning Outcome	Domain			MIT's	Time/Hours	Assessment	No of Items
				C	P	A				
THE RADIOGRAPHIC IMAGE										
1	Week-1	Introduction	Describe the basic knowledge and purpose of radiographic imaging.	C2			Interactive lecture /SDG	2	MCQS	2
2		Nature of radiographic image	Explain the nature of radiography and interpret images by recognizing radiographic shadows, 3D anatomical tissues, and the limitations imposed by 2D imaging.	C3						
3		Quality of Radiographic image	Describe how image quality is affected by the positioning of the image receptor, the x-ray beam, object and x-ray beam characteristics.	C3						
4		Perception of radiographic image	Identify how partial images, contrast, and context influence the interpretation of radiographic images.	C4						
5		Practical Performance	Apply radiographic techniques to ensure accurate image quality, proper interpretation, and optimal positioning.		P4		Practical Demo/ Video	1	OSPE	
6		Professionalism and ethical consideration	Demonstrate responsibility, ethical decision-making, and a commitment to patient care and safety.			A4	Role play			
THE PRODUCTION, PROPERTIES AND INTERACTION OF X-RAYS AT ATOMIC LEVEL										
7	Week-2	Introduction; X-ray Production	Analyze the process of X-ray production, including the roles of the anode, cathode, and electron interaction, and evaluate factors that affect X-ray quality.	C4			Interactive lecture /SDG	2	MCQS	3
8		X-ray interaction at atomic level	Describe the interactions at the atomic level during X-ray production, including heat-producing and X-ray-producing collisions.	C3						
9		Practical Performance	Demonstrate accurate setup and handling of radiographic equipment, applying knowledge of X-ray production and interactions to ensure quality image acquisition.		P4					
10		Professionalism in Radiology	Apply patient-centered care and professional values when performing radiographic procedures, emphasizing safety, accuracy, and diagnostic quality.			A4				
X-RAY SPECTRA AND X-RAY INTERACTION WITH MATTER										
11	Week-3	X-ray Spectra	Describe the production of continuous and characteristic X-ray spectra, including the processes involved in each and the factors that influence their formation.	C3			Interactive lecture /SDG	2	MCQS	3
12		Interaction of X-ray with Matter	Describe the photoelectric effect and Compton effect, including their mechanisms and the factors influencing each type of interaction between X-rays and matter.	C3						
13		Practical Performance	Apply X-ray production techniques, generate accurate spectra while ensuring patient safety.		P4		Practical Demo/ Video	1	OSPE	
14		Professionalism and ethical consideration	Demonstrate professionalism, ethical decision-making, and commitment to patient care and radiation safety.			A4	Role play			
THE BIOLOGICAL EFFECTS ASSOCIATED WITH X-RAYS With X-Rays AND ITS CLASSIFICATION										

15	Week-4	Radiation-Induced Tissue damage	Describe the mechanisms of radiation-induced tissue damage through direct action and indirect action.	C3			Interactive lecture /SDG	2	MCQS	3
16		Classification of the Biological Effects	Describe the classification of biological effects of radiation, including tissue reactions and stochastic effects, and explain their impact on health and safety	C3						
17		Practical Performance /Radiation Safety Practices	Demonstrate safe handling of radiographic equipment and implementation of protective measures to minimize radiation exposure and its biological effects.		P4		Practical Demo/ Video	1	OSPE	
18		Professionalism in Radiation Protection	Apply ethical and patient-centered principles in practicing radiation safety, recognizing the impact of radiation on biological tissues and prioritizing long-term health.			A4	Role play			
PRACTICAL RADIATION PROTECTION MEASURES										
19	Week-5	Practical Radiation Protection	Analyze and apply radiation protection strategies, ensuring the safe use of equipment and techniques to minimize exposure to patients, female patients, the general public, and radiation workers.	C4						3
20		Monitoring Radiations	Identify different radiation monitoring devices and explain their advantages and disadvantages in measuring radiation exposure.	C2						
21		General patient consideration including control of infection	Identify general guidelines on patient care, infection control, and measures to prevent the spread of infection in a healthcare setting.	C2						
22		Practical Performance	Apply radiation protection techniques, infection control practices, and use monitoring devices to ensure patient safety and minimize radiation exposure.		P3		Practical Demo/ Video	1	OSPE	
23		Professionalism and ethical consideration	Exhibit professionalism, responsibility, and commitment to patient care, safety, and infection control in clinical practice			A4	Role play			
ACKNOWLEDGE THE USES OF DIFFERENT RADIOGRAPHS USED IN DENTISTRY; PERIAPICAL, BITEWING AND OCCLUSAL RADIOGRAPHY										
24	Week-6	Periapical radiography: indications, ideal positioning requirement, advantages and disadvantages	Describe the indications for periapical radiography, including the ideal positioning requirements, and explain its advantages and disadvantages.	C3			Interactive lecture /SDG	2	MCQS	3
25		Bitewing radiography: introduction; main indication; techniques requirement	Describe the introduction, main indications, and the technical requirements for performing bitewing radiography.	C3						
26		Occlusal radiography; Terminology and Classification; with indications of all	Describe the terminology and classification of occlusal radiography and explain the indications for its use.	C3						
27		Practical Performance	Perform accurate positioning of the patient and imaging device, ensuring optimal image quality.		P4		Practical Demo/ Video	1	OSPE	
28		Safety Protocol	Adhering to safety protocols in radiographic techniques, demonstrating advanced responsibility, ethical decision-making, and proactive patient care.			A4	Role play			
ACKNOWLEDGE THE USES OF DIFFERENT RADIOGRAPHS USED IN DENTISTRY: SKULL, MAXILLOFACIAL, CEPHALOMETRIC, PANORAMIC AND DIGITAL.										
29		Skull and Maxillofacial radiography; types its main	Describe the types of skulls and maxillofacial radiography and explain their main indications for clinical use.	C3			Interactive lecture /SDG	2	MCQS	3

	Week-7	indication							
30		Cephalometric radiography; indications Cephalometric tracing/digitizing	Describe the indications for cephalometric radiography and explain the cephalometric tracing and digitizing.	C3					
31		Panoramic Tomography; introduction; principle of tomographic movement; indications; advantages and disadvantages	Describe the introduction and principle of tomographic movement in panoramic tomography, and explain its indications.	C3					
31		Digital radiography—	Describe the basic principles of digital radiography and explain its advantages in terms of image quality and patient safety.	C3					
32		Practical Performance	Perform accurate patient and imaging device positioning, ensuring optimal image quality, and minimizing radiation exposure during radiographic procedures.		P3		Practical Demo/ Video	1	OSPE
33		Safety Protocol	Adhering to safety protocols in radiographic techniques, demonstrating advanced responsibility, ethical decision-making, and proactive patient care.			A4	Role play		
INTERPRETATION OF DENTAL RADIOGRAPHS AS RELEVANT TO DENTISTRY- DENTAL CARIES AND ASSESSMENT OF RESTORATION.									
34	Week-8	Introduction and Classification of caries	Describe caries classification based on anatomical site, activity (active or arrested), level (incipient, moderate, advanced, severe), and extent (localized or generalized) using clinical and radiographic assessment.	C3			Interactive lecture /SDG	2	MCQS
35		Diagnosis and Detection of caries	Identify caries through clinical examination and basic radiographic interpretation.	C3					
36		Other important radiographic appearances of caries	Describe caries types and related radiographic features, including residual caries, radiodensity of adhesive restorations, cervical translucency, and dentinal changes beneath amalgam restorations, aiding in clinical decision-making.	C3					
37		Limitation of radiographic Detection of caries	Evaluate the limitations of radiographic caries detection and apply alternative diagnostic methods to ensure accurate diagnosis and effective treatment planning.	C4					
38		Limitation of radiographic image and suggested guidelines	Identify limitations of radiographic images, like resolution issues and distortion, and apply guidelines to minimize errors in positioning and exposure.	C3					
39		Practical Performance	Demonstrating caries diagnosis, identifying radiographic features, evaluating detection limitations, and applying guidelines to optimize image quality and treatment planning.		P4		Practical Demo/ Video	1	OSPE
40		Professional Attitude in Caries Diagnosis	Demonstrate a positive attitude toward accurate caries diagnosis and radiographic interpretation, showing commitment to patient care and diagnostic integrity.			A3	Role play		
INTERPRETATION OF DENTAL RADIOGRAPHS AS RELEVANT TO DENTISTRY -THE PERIAPICAL TISSUE.									
41		Introduction; Normal Periapical tissue radiographic appearance	Describe normal periapical tissue radiographic appearance, including the periodontal ligament, lamina dura, and surrounding bone.	C3			Interactive lecture /SDG	2	MCQS

	Week-9									
42		Radiographic Appearance of Periapical Inflammatory Changes.	Identify radiographic appearances of periapical inflammatory changes, such as periapical radiolucencies, thickened periodontal ligaments, and changes in the surrounding bone.	C3						
43		Suggested Guideline for interpreting Periapical images	Apply guidelines for interpreting periapical images, ensuring correct positioning, image quality, and accurate diagnosis through integration with clinical findings.	C4						
44		Practical Performance	Demonstrate normal periapical tissue appearance, performing identification of inflammatory changes, and applying guidelines for accurate image interpretation and diagnosis integration.		P4		Practical Demo/ Video	1	OSPE	
45		SOPs	Stick to SOPS i.e. correct exposure settings, radiation protection with lead aprons, disinfection of equipment, accurate patient information, and reviewing image quality for diagnostic accuracy.			A4	Role play			
INTERPRETATION OF DENTAL RADIOGRAPHS AS RELEVANT TO DENTISTRY- THE PERIODONTAL TISSUE AND PERIODONTAL DISEASES										
46	Week-10	Introduction	Describe the role of dental radiographs in assessing periodontal tissue and diseases.	C2			Interactive lecture /SDG	2	MCQS	5
47		Radiographic Features of Healthy Periodontium	Identify radiographic features of a healthy periodontium	C3						
48		Classification of periodontal diseases	Describe the classification of periodontal diseases	C2						
49		Radiographic Feature of periodontal diseases and the assessment of bone loss and Furcation involvement	Evaluate radiographic features of periodontal diseases, assess bone loss and furcation involvement, and apply this analysis to develop a treatment plan based on severity and progression.	C4						
50		Limitation of Radiographic diagnosis	Identify limitations of radiographic diagnosis, including 2D constraints, overlapping structures, and limited detection of early lesions.	C3						
51		Practical performance	Perform radiographic assessments of periodontal tissues, evaluating bone loss, furcation involvement, and applying limitations for diagnosis and treatment planning.		P4		Practical Demo/ Video	1	OSPE	
52		SOPs	Stick to SOPS i.e. correct exposure settings, radiation protection with lead aprons, disinfection of equipment, accurate patient information, and reviewing image quality for diagnostic accuracy.			A4	Role play			
INTERPRETATION OF DENTAL RADIOGRAPHS AS RELEVANT TO DENTISTRY- IMPLANT ASSESSMENT										
53	Week-11	Introduction	Describe implant radiographs, focusing on the osseointegration and positioning of implants, and identify any complications or bone loss related to the Brånemark system.	C3			Interactive lecture /SDG	2	MCQS	6
54		Radiographic Examination in Treatment plaining consideration	Evaluate treatment planning considerations for implants, including bone quality, positioning, and complications.	C4						
55		Practical performance	Demonstrate implant radiograph assessments, focusing on osseointegration, positioning, and complications, while evaluating treatment planning considerations like bone quality and implant positioning.		P4		Practical Demo/ Video	1	OSPE	
56		SOPs	Accurate positioning, proper exposure, infection control, image analysis, radiation minimization, treatment planning,			A4	Role play			

			documentation, and monitoring progression.							
INTERPRETATION OF DENTAL RADIOGRAPHS AS RELEVANT TO DENTISTRY- DEVELOPMENTAL ABNORMALITIES										
57	Week-12	Introduction; classification	Describe the concept of developmental abnormalities in teeth, classify them into categories such as anomalies in number, size, shape, structure, and eruption, and understand their significance in dental practice.	C2			Interactive lecture /SDG	2	MCQS	3
58		Radiographic Appearances of common and important Developmental abnormality	Evaluate and interpret radiographic appearances of developmental abnormalities to formulate accurate diagnoses and treatment plans.	C4						
59		Practical Performance	Demonstrate accurate radiographic identification and assessment of developmental abnormalities to support diagnosis and treatment planning.		P4		Practical Demo/ Video	1	OSPE	
60		Professionalism in Diagnosis	Integrate patient-centered values and ethics in diagnosing developmental dental abnormalities for accurate and responsible care.			A4				
RADIOGRAPHIC ASSESSMENT MANDIBULAR THIRD MOLAR AND UNERUPTED MAXILLARY CANINE										
61	Week-13	Radiographic assessment of Mandibular third molar	Evaluate and interpret radiographs of the mandibular third molar to assess impaction, developmental stage, and potential complications for treatment planning.	C4			Interactive lecture /SDG	2	MCQS	3
62		Radiographic assessment of Unerupted Maxillary Canine	Evaluate and interpret radiographs of the unerupted maxillary canine to assess its position, developmental stage, and potential impaction for appropriate treatment planning.	C4						
63		Practical Performance	Demonstrate radiographic assessments of mandibular third molars, and unerupted maxillary canines, applying findings to formulate treatment plans.		P4		Practical Demo/ Video	1	OSPE	
64		SOPs	<b>Evaluate and apply SOPs</b> for radiographic assessment of developmental abnormalities, ensuring accurate diagnosis, treatment planning, and patient safety.			A4				
RADIOLOGICAL DIFFERENTIAL DIAGNOSIS OF LESIONS-DESCRIBING LESION										
65	Week-14	Introduction	Describe lesions, identify their key characteristics, and detail their size, shape, location, and appearance in radiographs for accurate diagnosis.	C2			Interactive lecture /SDG	2	MCQS	7
		Detailed Description of lesion								
66		Radiolucent lesion of jaws: Step-by-step Guide	Evaluate and interpret radiolucent lesions of the jaws, analyzing their characteristics to formulate a differential diagnosis and treatment plan.	C4						
67		Typical Radiographic Features of cysts; inflammatory odontogenic cyst	Evaluate and interpret the radiographic features of inflammatory odontogenic cysts, identifying characteristics	C4			Practical Demo/ Video	1		
68		Practical Performance	Demonstrate and interpret lesions and inflammatory odontogenic cysts in radiographs, formulating accurate diagnoses and treatment plans.		P4					
69		SOPs	Patient preparation, radiographic technique, infection control, interpretation, radiation safety, documentation, treatment planning, and follow-up to ensure accurate diagnosis and effective care.			A4				
RADIOLOGICAL DIFFERENTIAL DIAGNOSIS OF LESIONS-DIFFERENTIAL DIAGNOSIS OF RADIOLUCENT LESION OF THE JAW										

70	Week-15	Typical Radiographic Features of Cysts; Developmental odontogenic cyst	Analyze and interpret radiographic features of developmental odontogenic cysts to form accurate diagnoses and treatment plans.	C4			Interactive lecture /SDG	MCQS		7
71		Typical Radiographic Features of Cysts; Non-Odontogenic Cysts	Analyze and interpret radiographic features of developmental non-odontogenic cysts to form accurate diagnoses and treatment plans.	C4						
72		Typical Radiographic Features of Tumours and Tumour-like Lesions; Odontogenic Tumours	Analyze and interpret radiographic features of Tumours: Odontogenic Tumours to form accurate diagnoses and treatment plans.	C4						
73		Typical Radiographic Features of Tumours and Tumour-like Lesions; Radiolucent non-Odontogenic Tumours	Analyze and interpret radiographic features of Tumours: Radiolucent non-Odontogenic Tumours to form accurate diagnoses and treatment plans	C4						
74		Typical Radiographic Features of Bone Related Lesion.	Analyze and interpret radiographic features of bone-related lesions to form accurate diagnoses and treatment plans.	C4						
75		Practical Performance	Demonstrate proficiency in identifying and interpreting radiographic features of cysts, tumors, and bone lesions to support accurate diagnosis and treatment planning.		P4		Practical Demo/ Video	1	OSPE	
76		Professionalism in Radiographic Diagnosis	Value accuracy, responsibility, and patient well-being when interpreting radiographic features of cysts, tumors, and bone lesions for clinical decision-making.			A4	Role play			
<b>RADIOLOGICAL DIFFERENTIAL DIAGNOSIS OF LESIONS-DIFFERENTIAL DIAGNOSIS OF LESION OF VARIABLE RADIOCAPACITY IN JAWS</b>										
77	Week-16	Step-by-Step Guide	Analyze and interpret radiographs of variable radiopacity lesions in the jaws to form differential diagnoses based on key features.	C4			Interactive lecture /SDG		MCQS	7
78		Typical Radiographic features of abnormalities of the teeth	Describe radiographic features of tooth abnormalities like odontomas, retained roots, and hypercementosis for accurate diagnosis.	C3						
79		Typical Radiographic features of Conditions of Variable opacity affecting bone	Analyze and interpret the typical radiographic features of conditions with variable opacity affecting bone	C4						
80		Typical Radiographic features of soft tissue calcifications	Analyze and interpret radiographic features of soft tissue calcifications to form accurate diagnoses and treatment plans.	C4						
81		Practical Performance	Demonstrate and interpret radiographs of lesions, tooth abnormalities, bone conditions, and soft tissue calcifications to form accurate diagnoses and treatment plans.		P3		Practical Demo/ Video	1	OSPE	
82		SOPs	Patient preparation, radiographic technique, infection control, interpretation, radiation safety, documentation, treatment planning, and follow-up to ensure accurate diagnosis and effective care.			A4	Role play			

**Recommended Books:**1. Essential of Dental Radiography and Radiology 5<sup>th</sup> Edition Eric Whaites Nicholas Drage2. CLARK'S POSITIONING IN RADIOGRAPHY 12<sup>th</sup> EDITION Stewart Whitley Charles Sloane Graham Hoadley Adrian D. Moore Chrissie W. Alsop

ASSESSMENT BREAKDOWN				
S.No	Topics	No of MCQ	No of OSPE / OSCE Stations	Static / Interactive
1	The Radiographic Image	02	-	-
2	The Production, properties and X-ray interaction at atomic level	03	01	Interactive
3	X-ray spectra and interaction of X-ray with matter	03	01	Interactive
4	The biological effects associated with X-rays and classification of biological effects	03	01	Interactive
5	Practical Radiation Protection Measures	03	-	-
6	Acknowledge the uses of different radiographs used in dentistry: periapical, bitewing and occlusal radiography	03	01	Static
7	Acknowledge the uses of different radiographs used in dentistry: skull, maxillofacial, cephalometric, panoramic and Digital.	03	01	static
8	Interpretation of dental radiographs as relevant to dentistry- Dental caries and assessment of restoration:	06	01	Static
9	The periapical tissue	06	01	Static
10	The periodontal tissue and periodontal diseases	05	01	Static
11	Implant assessment	06	01	Static
12	Developmental Abnormalities	03	01	Static
13	Radiographic assessment of mandibular 3 <sup>rd</sup> molar and maxillary unerupted canine	03	01	Static
14	Radiological differential Diagnosis of Lesions-Describing lesion - Description of lesion	07	01	Static
15	Differential Diagnosis of radiolucent lesion of the jaw	07	01	Static
16	Differential Diagnosis of Lesion of variable Radiopacity in Jaws	07	01	Static
<b>Total</b>	<b>16</b>	<b>70</b>	<b>14</b>	<b>14</b>



## DEN-612 OPERATIVE DENTISTRY 3(2+1)

### Course Description:

This course will introduce students to the basic concept of operative dentistry. Students will be able to know about the assessment diagnosis, examination and treatment planning for dental caries. Furthermore, students will get familiar with fundamentals of tooth preparation and preliminary consideration for operative dentistry. Students will be able to know regarding different type of tooth colored and non-tooth colored filling material specifically composite and amalgam. Student will also get insight into different types and classes of cavity preparation, restorative failures and post-operative problems.

### Learning Objectives:

#### Cognitive Domain:

**By the end of this course, students should be able to:**

1. Recalls the concepts, principles, and technique related to operative dentistry
2. Comprehend the knowledge and principals involved in different types of operative procedures like tooth preparation and restorative procedures
3. Apply the knowledge and principles of operative dentistry for treatment planning of composite and amalgam restoration
4. Analyze the advantages, disadvantages, indications and contraindications for composite and amalgam restoration
5. Evaluate the effectiveness of different operative procedures and techniques use for tooth restoration.

#### Psychomotor Domain:

**By the end of this course, students should be able to:**

1. Demonstrate proper technique for carries assessments and analysis using different clinical diagnostic instruments

2. Demonstrate how to diagnose caries using explorer, radiographs and visual assessment methods.
3. Perform cavity preparation for amalgam restoration on mounted teeth
4. Perform operative field isolation using rubber dam and cotton rolls
5. Formulate a compressive treatment plan for caries removal and tooth restoration

### Affective Domain:

**By the end of this course, students should be able to:**

1. Appreciate the importance of operative dentistry in tooth preservation and restoration
2. Prioritize the importance of isolation in operative dentistry by using rubber dams and cotton rolls
3. Show empathy and understanding towards patient anxiety and pain during operative procedures
4. Respect and value the autonomy and dignity of patient during operative procedures
5. Show professional attitudes towards patients, colleagues and other staff members

# Table of Specification

## OPERATIVE DENTISTRY

S.No	Weeks	Content	Learning Outcome	Domain			MIT's	Time/ Hours	Assessment	No of Items
				C	P	A				
DENTAL CARIES: ETIOLOGY AND CLINICAL CHARACTERISTICS										
1	Week-1	Definition	Define dental caries	C1			Interactive lecture	2	MCQs	4
2		Etiology and types	Explain the etiological factors involved in caries production. Explain different types of dental caries	C2						
3		Practical Performance	Perform the oral examination and identify different types of dental caries		P4		Hands on Demo	1	OSPE	
4		SOP's Compliance	Take care of instrumentation use for oral health examinations and caries evaluation			A4	Role play			
DENTAL CARIES: RISK ASSESSMENTS AND MANAGERMENTS										
5	Week-2	Caries risk assessment	Define the protocols and procedures used for the identification of caries risk factors, risk indicators and caries lesion assessments	C2			Interactive lecture	2	MCQs	4
6		Classification	Classification of caries according to degree of risk	C3						
7		Practical Performance	Demonstrate accurate diagnose of caries using visual inspective methods and diagnostic radiographs.		P4		Hands on Demo	1	OSPE	
8		SOP's Compliance	Take care of instrumentation use for oral health examinations and caries evaluation			A4	Role play			
CLINICAL CONSIDERATION FOR CARIES PREVENTION AND REMOVAL										
7	Week-3	Clinical considerations in caries preventions	Explain the important clinical consideration use for caries prevention	C3			Interactive lecture	2	MCQs	4
8		Clinical considerations for caries removal	Explain the important clinical considerations for caries removal	C3						
9		Practical Performance	Demonstrate the ADA caries assessment form and compare the testing results with each other		P4		Demo	1	OSPE	
10		Professionalism	Demonstrate a professional attitudes towards colleagues, patients and other staff members			A4	Role play			
PATIENT ASSESSMENT, EXAMINATION AND DIAGNOSE										
11	Week-4	Patient assessments	Define the general considerations related to patient assessments for dental caries	C2			Interactive lecture	2	MCQs	4
12		Examination and diagnosis Adjunctive aids	Define the clinical procedures use for caries examination Define the adjunctive aids use for caries diagnosis	C3						
13		Practical Performance	Demonstrate how to apply ICDAS( international caries detection and Assessment system) to diagnose caries		P4		Demo	1	OSPE	
14		Professionalism	Demonstrate a professional attitudes towards colleagues, patients and other staff members			A4	Role play			
TREATMENT PLANING FOR DENTAL CARIES										

15	Week-5	Treatment plaining	Explain the different phases of treatment for caries	C4			Interactive lecture	2	MCQs	4	
16		Interdisciplinary considerations	Explain the interdisciplinary consideration in operative treatment planning's	C4							
17		Practical Performance	Demonstrate how to diagnose caries using explorer, radiographs and visual assessment methods		P4		Demo	1	OSPE		
18		SOP's Compliance	Take care of instrumentation use for diagnosis and assessment of dental caries			A4	Role play				
PRELIMINARY CONSIDERATIONS FOR OPERATIVE DENTISTRY											
19	Week-6	Patient and dental team considerations	Define the preoperative patient and dental team considerations	C1			Interactive lecture	2	MCQs	4	
20		Isolation of operating field	Explain the goals of isolation in operative dentistry	C2							
21		Practical performance	Execute and perform the isolation of operative field using cotton rolls		P4		Hands on Demo	1	OSPE		
22		SOP's Compliance	Appreciate the importance of field isolation in operative dentistry.			A4	Role play				
RUBBER DAM ISOLATION											
23	Week-7	Rubber dam isolation	Explain the significance of rubber dam isolation in operative procedures	C4			Interactive lecture	2	MCQs	5	
24		Rubber dam application	Explain the steps involved in rubber dam application	C4							
25		Practical performance	Execute and perform rubber dam application for isolation of operative field		P4		Hands on Demo	1	OSPE		
26		Appreciation	Appreciate the importance of field isolation in operative dentistry using rubber dam and cotton roles.			A4	Role play				
FUNDAMENTALS OF TOOTH PREPARATION AND PULP PROTECTION											
27	Week-8	Tooth preparation	Define tooth preparation and key principles of tooth preparation	C2			Interactive lecture	2	MCQs	5	
28		Classification of tooth preparation	Classify the tooth preparations and define walls and angles involved in preparation	C3							
29		Affective learning	Appreciate the importance of field isolation in operative dentistry using rubber dam and cotton roles.			A4					
30		Practical performance	Execute and perform tooth preparation on mounted teeth and develop primary resistance and retention forms		P4		Hands on Demo	1	OSPE		
STAGES IN TOOTH PREPARATION											
31	Week-9	Additional concepts in tooth preparation	Explain the new and additional concepts recently develop for tooth preparation	C4					MCQs	4	
32		Stages and steps	Explain different stages and procedural steps involved in tooth preparation	C4							

33		Practical performance	Execute and perform the technique for pulpal protection on mounted teeth during tooth preparation		P4		Hands on Demo	1	OSPE	
34		SOP's Compliance	Take care of instrumentation use for diagnosis and assessment of dental caries			A4	Role play			
NON TOOTH COLORED RESTORATIVE MATERIAL										
35	Week-10	Introduction	Define dental amalgam	C1			Interactive lectures	2	MCQs	5
36		Classification	Classify dental amalgam	C3						
37		Clinical considerations	Explain the clinical considerations for amalgam							
38		Clinical recommendations	Define the clinical recommendations for dental amalgam	C1			Hands on Demo	1	OSPE	
39		SOP's Compliance	Organizing and arranging the steps systematically for amalgam manipulation using amalgamator.			A4				
CLINICAL TECHNIQUE FOR AMALGAM RESTORATION										
40	Week-11	Considerations and indications	Explain the general considerations and indications of amalgam restorations	C3			Interactive lectures	2	MCQs	5
41		Preparation	Explain the general guiding principles uses for preparation for amalgam restoration	C4						
		Clinical techniques	Explain the clinical techniques for class 1 and class 2 amalgam restoration							
42		Practical performance	Execute and perform class 1 and class 2 cavity preparation for amalgam restoration on mounted teeth.		P3		Hands on demo	1	OSPE	
43	SOP's Compliance	Prioritize the patient health and show empathic behavior during operative treatment			A4	Role play				
TOOTH COLURED RESTORATIVE MATERIAL										
44	Week-12	Introduction composition	Define the composite resin	C1			Interactive lectures	2	MCQs	3
45			Describe the composition of composite resin	C2						
46		classification	Classify the composite resin on different bases	C2						
47			Explain the different types of recently introduce composite	C3						
48		Practical performance	Demonstrate the stepwise procedure of composite application for class 1 and class 2 composite resin		P3		Demo	2	OSPE	
		Empathy	Prioritize the patient health and show empathic behavior during operative treatment			A4	Role play			
GENERAL CONSIDERATION FOR COMPOSITE RESIN										
49	Week-13	General consideration	Explain the general consideration for composite resin	C4				1		3
50		Indication and contraindication	Explain indication and contraindication for composite resin	C3						
51		Advantages and disadvantage	Advantage and disadvantages of composite resins	C3						
52		Practical performance	Demonstrate how to perform stepwise restoration using light cure composite resin		P3		Demo	1	OSPE	

53		Professionalism	Exhibit professional analysis and assessments while selecting the tooth colored restorative material			A4	Role play			
CLINICAL TECHNIQUE FOR PREVENTIVE COMPOSITE RESIN										
54	Week-14	Clinical technique	Explain the clinical technique for class 1 direct composite resin	C4			Interactive lectures	2	MCQs	6
55		Tooth preparation	Describe the technique of tooth preparation for class composite restoration	C3						
56		Finishing and polishing	Describe the technique of finishing and polishing for class 1 composite restoration	C3						
57		Practical performance	Demonstrate proper clinical technique for class 1 composite restoration using tooth models and mounted teeth		P3		Demo Hands on	1	OSPE	
58		SOP's Compliance	Take care of instrumentation and apparatuses use in cavity preparation on mounted teeth			A4	Role play			
CLINICAL TECHNIQUE FOR CLASS 2 DIRECT COMPOSITE RESTORATION										
59	Week-15	Initial clinical procedure	Describe the initial clinical procedure for class 2 composite restoration	C3			Interactive lectures	2	MCQs	5
60		Tooth preparation	Explain the processes of tooth preparation for class 2 composite restoration	C3						
61		Restorative technique	Explain the restorative technique for class 2 composite restoration	C3						
62		Practical performance	Demonstrate proper clinical technique for class 2 composite restoration using tooth models and mounted teeth		P3		Demo Hands on	1	OSPE	
63		SOP's Compliance	Organizing and arranging the steps systematically tooth colored restorative material			A4	Role play			
RESTORATIVE FAILURES AND POST OPERATIVE PROBLEMS										
64	Week-16	Repairing	Describe the technique for repairing composite restoration	C2			Interactive lectures	2	MCQs	5
65		Common problems	Define the common problems related to tooth color restoration	C2						
66		Potential solutions	Explain the potential solution for post-operative problems related to tooth colored restorations	C1						
67		Practical performance	Demonstrate a proper step wise restorative technique for class2 composite restoration using mounted teeth		P4			1	OSPE	
68		SOP's Compliance	Take care of instrumentation and apparatuses use in cavity preparation on mounted teeth			A4	Role play			

**Recommended Books:**

1. Operative dentistry by M.A marzouk 1<sup>st</sup> edition
2. Art and science of operative dentistry by sturdevant 2<sup>nd</sup> south Asian edition
3. Introduction to metal ceramic by W. Patrick Naylor

**ASSESSMENT BREAKDOWN**

S.No	Topics	No of MCQ	No of OSPE / OSCE Stations	Static / Interactive
1	Dental caries: etiology and clinical characteristics	4	1	static
2	Dental caries: risk assessments and managements	4	1	static
3	Clinical consideration for caries prevention and removal	4	-	static
4	Patient assessment, examination and diagnose	4	1	static
5	Treatment planning for dental caries	4	1	static
6	Preliminary considerations for operative dentistry	4	-	-
7	Rubber dam isolation	5	-	-
8	Fundamentals of tooth preparation and pulp protection	5	1	interactive
9	Stages in tooth preparation	4	1	Static/interactive
10	Non tooth colored restorative material	5	1	static
11	Clinical technique for amalgam restoration	5	1	static
12	Tooth colored restorative material	3	1	static
13	General consideration for composite resin	3	1	static
14	Clinical technique for preventive composite resin	6	1	static
15	Clinical technique for class 2 direct composite restoration	5	1	Static/interactive
16	Restorative failures and post-operative problems	5	1	static
<b>Total</b>	<b>16</b>	<b>70</b>	<b>14</b>	<b>14</b>

**END**