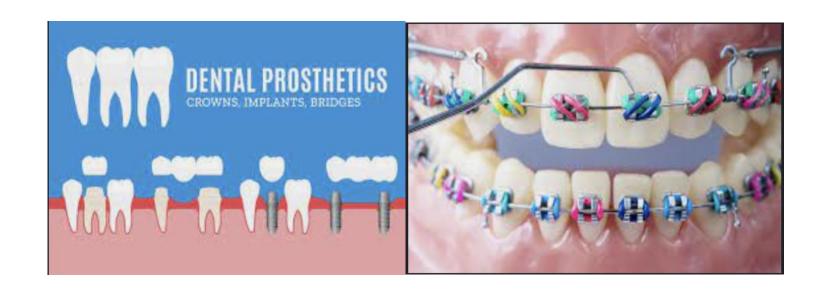
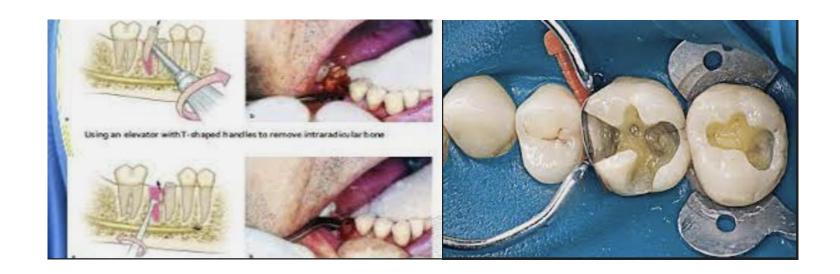


DENTAL COLLEGE HITEC-IMS Study Guide Y4 - T2 - D22 Term 2 Final Year BDS

Coordinator: Prof. Dr. Beenish Qureshi





"Medical education does not exist to provide students with a way of making a living but to ensure the health of the community."

Rudolf Virchow

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List of Abbreviations

CBL Case Base Learning

EECS Early Exposure to Clinical Skills

EOT End of Term Examination FGD Focus Group Discussion

LGIF Large Group Instructional Format
LGIS Large Group Interactive Session

MCQ Multiple Choice Question

MIT Mode of Information Transfer

NUMS National University of Medical Sciences

OMFS Oral & Maxillofacial Surgery

OSCE Objectively Structured Clinical Examination
OSPE Objectively Structured Practical Examination

PMC Pakistan Medical Commission

SAQ Short Answer Question SDL Self-Directed Learning

SEQ Structured Essay Questions

SGD Small Group Discussion
TOS Table of Specification

WFME World Federation of Medical Education



NUMS Vision

The vision of the National University of Medical Sciences is to improve the quality of life through education, research, innovation, and healthcare, thereby contributing to endeavors to make Pakistan and this world a better place to live in.

Institutional Vision

Leading advancement in Oral & Dental health through excellence in education, patient care and research

Institutional Mission

To serve the local and global communities by producing competent, ethical, socially responsible, research oriented and life long learning oral health care professionals

Term Committee

Coordinator: Professor Dr. Beenish Qureshi

HoD Operative Dentistry, Contact No: 0333-4368332

S.No.	Name	Designation	Departments	Contact Number
1	Dr Rai Tariq	Professor / Vice Principal	Community Dentistry	0333-5718658
2	Dr Waheed Ullah	Professor / Dean Clinical Sciences / HoD	Orthodontics	0333-5206136
3	Dr Beenish Qureshi	Professor / HoD	Operative Dentistry	0333-4368332
4 Dr Aamir Rafique		Associate Professor / HoD	Prosthodontics	0334-4353578
5 Dr Maimoona Siddique		Assistant Professor / HoD	OMFS	0333-2173509
6 Dr Faizan Munir		Assistant Professor / HoD Dental Education	Dental Education	0334-0031031
7 Sana Irfan		Student	Final Year	0333-5335466
8 Tassawar Hussain		Student	Final Year	0304-0150250

Curriculum Overview/Implementation

1. Preface

The curriculum meets the standards of the Pakistan Medical Commission, the Higher Education Commission of Pakistan, and the World Federation of Medical Education, so that our students, on completion of the program, have the required competencies as defined worldwide in a graduate doctor.

2. Model

The curriculum of Dental College HITEC-IMS is based on a traditional discipline-based model of educational strategies. Nevertheless, we have incorporated some elements of SPICES model student-centred, integrated, community-oriented and systematic aspects. As a result, our curriculum has evolved, considering traditional, experiential, behavioural, and constructivist perspectives of curricula.

3. Organisation

The curriculum is organised and integrated along important vertical and horizontal dimensions. The content taught is integrated concurrently in the horizontal organisation and vertically across the years of BDS program. The course of the final year is divided into three terms. In each term, the sequencing of the content is logical and integrated. Research methodology and professionalism will be inculcated as part of the longitudinal theme.

4. Teaching Strategies

This curriculum aims to improve doctors' clinical skills, including communication, leadership, management, research skills, ethical values and professionalism. BDS final year deals with the clinical subjects of Operative Dentistry, Orthodontics, Prosthodontics and Oral & Maxillofacial Surgery to learn and develop clinical skills. In addition, clinical exposure is ensured, which helps them learn real-life clinical scenarios and implement the skills learnt during the academic session.

Multiple teaching strategies are used. First, LGIS are used to provoke thought and understanding among students. These help to understand topics which need effort including basic sciences review along with updated research, and best evidence medical information. Second, we are teaching clinical implications of each topic giving learning experience that is contextual, realistic, and relevant. Third, small group discussions encourage students to learn socially and discuss their concepts to refine their schemas.

5. Assessment

Constructive feedback is provided via formative assessments by assignments, presentation, CBL and class tests. The students are summatively assessed by term and pre annual examinations at the end of the academic year according to the standards outlined by NUMS.

Institutional Competency Framework



Alignment of Term Outcomes with Institutional Competencies

S. No.	Term Outcomes	Institutional Competencies
1.	Relate and implement the knowledge of sterilisation & cross-infection protocol in relevant clinical scenarios in the dental operatory	IC 1, IC 6
2.	Correlate the aetiology of oral diseases with applying knowledge, interception & management in relevant clinical conditions	IC 1 to IC 6
3.	Apply the concepts of occlusion in the development of dentofacial problems, orthodontic, restorative, and prosthetic management	IC 1 to IC 6
4.	Correlate the clinical presentation of dentate & edentulous patients with the application of principles of surgical practice and restorative management	IC 1 to IC 6
5.	Recognise a medical emergency in the dental setting and apply the knowledge of prevention & management in clinical departments	IC 1 to IC 6
6.	Apply the principles of research for writing research proposals	IC 1, IC 2, IC 4

Yearly Clinical Rotation Schedule

FINAL YEAR BDS SESSION 2022-23

Rotation (7th February to 5th June)

DURATION		7 th February to 6 th March	(4 weeks)	
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	A	В	С	D
DURATION		7 th March to 3 rd April (4	4 weeks)	
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	D	А	В	С
DURATION		4 th April to 1 st May (4	weeks)	
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	С	D	A	В
DURATION		9 th May to 5 th June (4	weeks)	
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	В	С	D	А
	2 nd Clinical Rota	ation (6 th June to 12 th Novemb	oer)	
DURATION	6 th J	une to 25 th June & 18 th July to	31 st July (5 weeks)	
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	A	В	С	D

DURATION	1 st August to 4 th September (5 weeks)				
DEPARTMENT	Operative Dentistry Prosthodontics Orthodontics OM				
GROUP	D	Α	В	С	

DURATION	5 th September to 9 th October (5 weeks)				
DEPARTMENT	Operative Dentistry Prosthodontics Orthodontics OMFS				
GROUP	С	D	A	В	

DURATION	10 th October to 12 th November (5 weeks)			
DEPARTMENT	Operative Dentistry Prosthodontics Orthodontics		Orthodontics	OMFS
GROUP	В	С	D	A

GROUP A: Roll # 1-12 GROUP B: Roll# 13-24 GROUP C: Roll# 25-36 GROUP D: Roll# 37-47

Assessment

Types and Schedules

Assessment is continuous in the form of class tests, departmental assignments and practical tests. Continuous assessment is separate from the Term exam.

Formative assessment includes tests/written assignments, presentations and feedback to the student during the teaching time. The purpose of formative assessment is to provide feedback to the students for improvement and to teachers to identify areas where students need further guidance.

From the 4th week onwards, the class tests of Operative Dentistry, Prosthodontics, Orthodontics, and OMFS will be held on rotation basis. During the 12th week, the end-of-term exam will be taken. The EOT exam will comprise of theory and practical separately. All these will form part of summative assessment, along with pre-annual exams. This will contribute towards internal assessment.

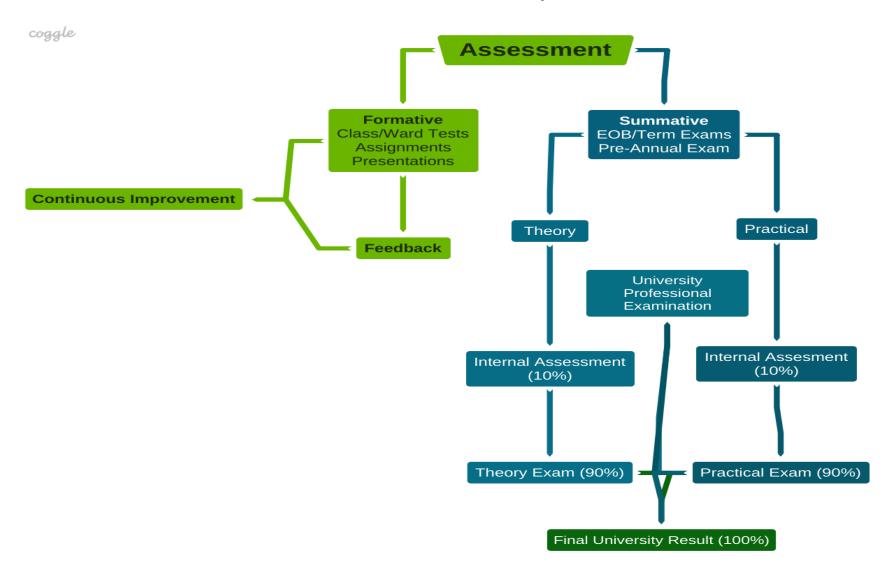
Students must secure 50% marks in theory and practical exams separately, per university criteria.

The student who fails the end-of-term exam will be allowed to attend the next term; however, his/ her internal assessment will be affected accordingly.

Internal assessment criteria for submission of internal assessment marks of final Professional Examination NUMS:

- 1. The weightage of internal assessment shall be 10% or ten marks for a 100 marks Paper in the annual examination.
- 2. End-of-term examination / practical quota, pre-annual examination and accumulative attendance shall contribute toward internal assessment.

Standard Assessment Map



Academic Calendar

Final Year BDS CLASS-2022

Academic Event	Duration	
	7th February 2022	
Commencement of new academic year	Start of Session	
First-term—12Weeks	7 th February 22 to 30 th April 22	
Sports week 28 th March to	31 st March	
25 th April t	o 29 th April	
1 st term ex	xam	
Eid ul Fitr holidays 1 Week	1 st May 22 to 8 th May 22	
Second term12 Weeks + 3 Weeks	9 th May 22 to 19 th August 22	
Academics 7/12	9-5-22 to 24-6-22	
Summer break + Eid ul Adha holidays	25 th June 22 to 17th July 22	
Academics 5 /12 Second Term exams	18-7-22 to 21-8-22	
Third term12 Weeks	22 nd August 22 to 11 th November 22	
Academics 12/12	22-8-22 to 11-11-22	

Prep Leaves for Send up exam—1 Week	12-11-22 to 20-11-22
Send up/ Pre prof exam 2 Weeks	21-11-22 to 2-12-22
Prep Leaves for Prof 3 Weeks	3-12-22 to 25-12-22
Final professional exam	26-12- 22 As proposed by NUMS

Sample Timetable

Final year BDS (2022-2023) Weekly Time Table (07th Feb 2022 to 11th Feb 2022) DENTAL COLLEGE HITEC-IMS

DAY/DATE	8:30 - 9:15	9:15 – 10:00	10:00 -10:20	10:20 – 3:30	
MONDAY 07-02-22	Operative Dentistry Orientation and intro to Operative Dentistry (Dr. Beenish)	Prosthodontics Orientation & intro to FPD (Dr. <u>Aamir</u>)	Break		CLINICS GROUP-A (Operative Dentistry) Orientation to dept, chair positioning
TUESDAY 08-02-22	Orthodontics Orientation and Intro to orthodontics (Dr. Waheed)	OMFS Orientation and Exodontia (Dr. Maimoona)		History taking & clinical examination Clinical quota GROUP-B (Prosthodontics)	
WEDNESDAY 09-02-22	Prosthodontics Systemic health consideration in CD patient (Dr. Sameen)	Operative Dentistry Infection control (Dr. Beenish)		Crown prepar GROU History and C	Crown preparation GROUP-C (Orthodontics) History and Clinical examination
THURSDAY 10-02-22	<u>OMFS</u> Exodontia (Dr. <u>Maimoona</u>)	Orthodontics Intro to orthodontics (Dr. Waheed)		GROUP-D (OMFS) Orientation to dept, chair positioning History taking & clinical examination Pre –perioperative patient evaluation	
FRIDAY 11-02-22	Prosthodontics History taking & medical exam (Dr. <u>Aamir</u>)	Operative Dentistry Infection control (Dr. Beenish)		10:20-1:00 1:00-2:00 2:00-3:30 Clinics Jumma Break Small Group Discussion/CBL Diagnosis and treatment planning CPD designing Patient evaluation Macro-esthetics	
<u>Group: A</u> Roll # 1-12; <u>Group: B</u> Roll # 13		-24; <u>Group: (</u>	C Roll # 25-36; Group: D Roll # 37-47		
Dr. <u>Beenish</u> Qureshi		Dr. Waheed Ullah Vice Principal	Dr. 🛕	Aamir Rafique Dr. Mudassar Saleem Principal	

Term – II Practice Based Learning

Structured Summary – Term II

Term Code	Y4-T2-D22
Term Title	Practice Based Learning
Duration Of Term	12 weeks
Important Dates	9 th May 2022 – 21 st August 2022
	1.Dental traumatology
Horizontally Integrated Themes	2. Surgical Endodontics
	3. Space Management
	Research Methodology
Vertically Integrated Themes	Communication Skills*
	Professionalism*
Prerequisite Blocks	First Term Final Year

^{*}These themes are taught via MITs of clinical rotations, SGD's, CBL's and role modelling in clinical years via practical and role playing in basic sciences

Tentative Exam Schedule¹

Final Year BDS – 2nd term -2022

Theory exam schedule:

DATE/DAY	SUBJECT	TIME
15 th August 22 / Monday	Operative Dentistry	8:45am to 11:45am
16 th August 22 / Tuesday	Orthodontics	8:45am to 11:45am
18 th August / Thursday	Prosthodontics	8:45am to 11:45am
19 th August 22 / Friday	OMFS	8:45am to 11:45am

Practical exam schedule:

The exit exam at the end of each rotation from each department will be counted as practical exam of second term.

¹ This is a tentative schedule. Therefore, it is subject to change.

Learning Outcomes for Term II

1. Operative Dentistry

S. No.	Topic	Learning Outcomes	Learning Objectives	IC CODES	MIT	Assessment Tool
1.	Introduction to Endodontics	At the end of session, student will be able to: • Demonstrate the scope & rationale of endodontic treatment	At the end of lecture, student will be able to: Knowledge Define Endodontics Describe Scope of endodontics Define rationale for treatment Describe objective of endodontic treatment	IC 2	LGIS	MCQs/Viva
2.	Tooth morphology & access cavity preparation	 Execute all the stages of endodontic treatment using conventional and contemporary techniques Appropriately seal and protect root canal treated teeth before discharge of the patient 	 Mowledge Define objectives of access opening Describe working length determination Skill Use of rubber dam isolation Endodontic access 	IC2 IC 1 to IC 6	LGIS Demonstration Practical	MCQs/SEQs/Viva OSCE

		Implement suitable recall schedules and plan further therapy when required	determination on extracted teeth and on patients Attitude Explain procedure to the patient Avoid iatrogenic damage during endodontic access	IC 1 to IC 6	Demonstration	OSCE
3.	Preparation of radicular pulp space irrigants & antiseptics intracanal medicaments	Describe the role, properties and techniques for irrigation	 Enowledge Describe the rationale for chemo-mechanical preparation of canals Define cleaning and shaping techniques Describe Irrigants Define the role of intra canal medicaments 	IC 2	LGIS / SGD / CBL	MCQs/SEQs
			Use different temporary restorations Perform cleaning and shaping of extracted teeth and then on patients Attitude	IC 1 to IC 6	Demonstration Practical Demonstration	OSCE

			 Follow a careful approach to avoid procedural accidents 			
4.	Obturation	 Discuss the objectives and techniques of obturation Perform obturation on patient 	Describe the objectives of obturation Identify when to obturate the canal Enumerate the obturation techniques Enlist the ideal properties of obturating materials and sealers	IC 2	LGIS / SGD / CBL	MCQs/ SEQs/Viva
			Perform obturation on extracted teeth and on patients	IC 1 IC 3 IC 4 IC 5 IC 6	Demonstration Practical	OSCE
			AttitudeTreat all patients with dignity and respect	IC 1 IC 6	Demonstration Practical	OSCE
5.	Space management	 Discuss space issues in children and formulate a suitable treatment plan for its management 	Discuss causes of premature loss of primary teeth	IC 2 IC 6	LGIS	MCQs

			 Formulate a treatment plan for space management 			
6.	Surgical Endodontics	Discuss surgical endodontic treatment modalities	 Define endodontic surgery Enlist different surgical endodontic treatment modalities Discuss the procedure of incision for drainage Recall importance of biological aspects of the oral and peri-oral structures 	IC 2 IC 6	LGIS	MCQs/SEQ/Viva
7.	Traumatic Dental Injuries	 Evaluate and manage dental trauma Communicate effectively with medical and dental specialists to safeguard patient safety and ensure continuity of care Explain the need for clear and effective 	Classify dental traumatic injuries Identify dental traumatic injuries Describe immediate and long-term management of dental traumatic injuries Skill Perform emergency treatment and provide supportive care,	IC 2 IC1 to IC6	LGIS / SGD Practical / Demonstration	MCQs/SEQs OSCE

		communication with patients and their parents/guardians where children are involved	prevention, and maintenance under supervision Attitude Act ethically in seeking the best interdisciplinary care for patients Manage young patients with confidence and efficiency	IC1 to	Demonstration	OSCE
8.	Endodontic- Periodontic interrelationship	 Discuss the importance and implications of the inter-relationship between Endodontics and other clinical disciplines, particularly periodontics 	 Recall different types and clinical features of endo-perio lesion Diagnose endo-perio lesions on the basis of signs and symptoms and radiographic interpretation 	IC 2	LGIS / SGD / CBL	MCQs/SEQs/Viva
		·	Perform periodontal probing	IC1 to	Demonstration Practical	OSCE
			Demonstrate ethical outlook in treatment	IC 1	Demonstration Practical	OSCE

			planning and patient communication			
9.	Restoration of endodontically treated teeth	Apply knowledge of post application to restore endodontically treated teeth	 Define the structural and esthetic considerations for root filled teeth Describe different types of posts Outline the restoration design teeth 	IC 2	LGIS	MCQs
			Perform restoration of endodontically treated	IC1 to IC6	Practical / Demonstration	OSCE
			• Treat all patients with dignity and respect	IC1 to IC6	Demonstration Practical	OSCE

Practical

S. No.	Topic/Theme	Learning Objective	IC CODES	MIT	Assessment Tools
1.	Endodontic instruments and procedures	 Identify instrument design, function and formula Perform canal preparation techniques Perform obturation techniques and procedures 	IC 1 to	Demonstration	OSCE/Practical/ Viva
2.	Therapeutics and Anesthetics	 Manage pain effectively and appropriately Diagnose, medicate and carry out procedures Communicate indications and contraindications and interaction of drugs Use intracanal medicaments uses and application 	IC 1 to	Demonstration/ Clinical quota	OSCE/Practical/ Viva
3.	Radiographs & radiographic interpretation	 Discuss the importance and limitations of radiography in endodontics Identify endodontic pathology on radiographs Identify pathological structures in periapical radiographs Practice technique for taking different periapical radiographs Implement safety measures 	IC 1 to	Demonstration	OSCE/Practical/ Viva

4.	Emergency management	 Manage trauma and interappointment emergencies Manage a case of cracked tooth Identify perforations in teeth Manage a case of perforations 	IC 1 to	Demonstration	OSCE/Practical/ Viva
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2. Prosthodontics

S.	Topic/	Learning Outcomes	Learning Objectives	IC	MITs	Assessment
No.	Theme			Codes		Tools
1.	Materials Used In Management Of Edentulous Patients	At the completion of the session, the students should be: • Identify and manipulate various dental materials used in fabrication of dentures	 At the completion of the session, the students should be able to: KNOWLEDGE Describe non-elastic and elastic impression materials Describe disinfection protocols for various impression materials Describe the polymeric denture base material Describe injection moulding technique Explain significance of modified resin base materials Describe materials used in the fabrication of prosthetic teeth 	IC 2	LGIS	MCQs, SEQs &VIVA

			 Compare the properties of porcelain and resin teeth Describe denture lining materials Enlist indications of tissue conditioners Describe cast metal alloys used as denture base materials Describe various types of denture cleansers Describe adverse reactions to denture cleansers Enlist indications and contraindications for denture adhesives Describe adverse reactions to denture adhesives Describe factors that contribute to the retention of dentures 			
2.	Maxillary and mandibular substitutes for denture bearing area	Correlate the significance of anatomical landmarks of maxilla and mandible with respect to biomechanics of a complete denture and for better	 KNOWLEDGE Recall maxillary and mandibular stress bearing areas Describe the supporting structures in maxilla and mandible Describe limiting structures in maxilla and mandible 	IC 2	LGIS SGD	MCQs, SEQs &VIVA

3.	Impression	• Explain	KNOWLEDGE	IC 2	LGIS	MCQs/
3.	impression	impression making in edentulous patients	Enumerate objectives of impression making Describe preliminary impressions with respect to tray selection, material choice and technique Describe secondary impressions with respect to tray selection, material choice and technique Describe theories of impression making Describe the objectives and sequence of border molding		SGD	SEQs & VIVA
			• Perform primary and secondary impression making using different impression materials and following border molding procedures	IC1 IC6	Clinical Demonstrations	OSCE
			 Display a clear and respectful attitude in giving instructions for physiologic border molding 	IC 1	Clinical Demonstrations	OSCE

4.	Posterior	Record posterior	KNOWLEDGE	IC 2	LGIS	MCQs
	palatal seal	palatal seal	Define posterior palatal seal area		SGD	SEQs
			 Describe various methods used to record posterior palatal seal area 			& VIVA
			SKILL	IC 1 to	Clinical	OSCE
			Record posterior palatal seal using low fusing compound	IC 6	Demonstrations	
			ATTITUDE	IC 1	Clinical	OSCE
			Display clear and respectful attitude in giving instructions	IC 4	Demonstrations	
5.	Boxing after	Discuss beading	KNOWLEDGE	IC 2	LGIS	MCQs/
	impression making	and boxing after impression making	 Define boxing of an impression Define dental cast Differentiate between various types of cast Describe the method for fabrication of custom tray 		SGD	SEQs
			SKILL	IC 1 to	Clinical	OSCE
			 Perform beading and boxing of secondary impression using modelling wax Fabricate primary and secondary cast using dental stone Fabricate custom tray using autopolymerizing resins for secondary impression making 	IC 6	Demonstrations	

6.	Denture's	Describe different	KNOWLEDGE	IC 2	LGIS	MCQs/
	Polished Surfaces	surfaces and parts of denture	 Define various parts and surfaces of dentures Describe the method for the fabrication of record bases 		SGD	SEQs
			SKILL Fabricate record bases on master cast	IC 1 to	Clinical Demonstrations	OSCE
7.	Neutral zone	 Discuss the concept of Neutral zone 	 KNOWLEDGE Define neutral zone Explain significance of neutral zone in complete dentures 	IC 2	LGIS SGD	MCQs / SEQs & VIVA
8.	Jaw Relation	Record maxillomandibular relationship	Define jaw relations Describe various methods used to record vertical and horizontal jaw relations Define vertical dimension of rest, vertical dimension of occlusion and inter-occlusal distance Define centric relation Describe significance of centric relation in jaw relation record Enlist effects of increased and decreased vertical dimension of occlusion	IC 2	LGIS SGD	MCQs/ SEQs

			SKILL	IC1 to	Clinical	OSCE
			 Accurately record the vertical dimension and centric relation of edentulous patients 	IC6	Demonstrations	
			ATTITUDE	IC 1	Clinical	OSCE
			Display a kind and respectful attitude	IC 4	Demonstrations	
9.	Articulators	 Use articulators 	KNOWLEDGE	IC 2	LGIS	MCQs/
	and facebow	and facebow used for prosthodontic	Classify articulatorsEnumerate advantage and		SGD	SEQs/
		work	disadvantages of semi-adjustable articulators • Differentiate between ARCON and NON-ARCON articulators • Describe programming of an articulator • Define facebow • Describe the procedure for recording orientation relation using a facebow • Enlist advantages and indications of a facebow			VIVA
			SKILL Demonstrate the procedure for mounting of casts on articulator	IC 1 to	Clinical Demonstrations	OSCE
10.	Selection and	Discuss selection	KNOWLEDGE	IC 2	LGIS	MCQs
	Arrangement of	of teeth and their arrangement	Describe various theories for selection of artificial teeth		SGD	SEQs

	Prosthetic	using biometric	SKILL	IC 1 to	Clinical			
	teeth	guidelines	Demonstrate the selection of teeth based on patients requirement	IC 6	demonstration	OSCE		
		Practice the	KNOWLEDGE	I C 2	LGIS	MCQs/		
		correct arrangement of teeth	 Enlist landmarks for complete denture teeth setup Describe anterior tooth setup for maxilla and mandible Describe posterior tooth setup for maxilla and mandible 		SGD	SEQs		
			 SKILL Practice the arrangement of maxillary and mandibular anterior and posterior teeth following the records and biometric guidelines 	IC 1 to	Clinical demonstration	OSCE		
11.	Occlusion	Discuss occlusal	KNOWLEDGE	IC 2	LGIS	MCQs/		
		concepts for complete	Explain various occlusal concepts for complete denture		SGD	SEQs/		
		dentures	occlusion			VIVA		
	REMOVABLE PARTIAL DENTURE							
12.	Diagnosis and	 Diagnose and plan treatment for patients requiring 	KNOWLEDGE	IC 2	LGIS	MCQs/		

	Treatment	removable partial	•Enumerate objectives of		SGD	SEQs/
	Planning in	dentures	prosthodontic treatment			\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	RPD		Enlist indications for removable			VIVA
			partial dentures			
			• Enlist steps involved in diagnosis of			
			a patient prosthodontic			
			treatment options			
			Describe factors that affect			
			prosthesis selection			
			 Enlist the available prosthodontic treatment options 			
		 Describe 	KNOWLEDGE	IC 2	LGIS	MCQs/
		preparation of				050 /
		mouth for	Describe oral surgical preparation			SEQs/
		removable partial dentures	for removable partial denture			VIVA
		dentures	patient			
			Describe conditioning of abused and irritated oral tissues			
13.	Clasp-	Differentiate	KNOWLEDGE	IC 2	LGIS	MCQs/
	Retained	between tooth-	Differentiate between tooth			SEQs/
	Partial	supported and				SEQS/
	Denture	tooth& tissue supported partial	supported and tooth& tissue			VIVA
		dentures	supported partial dentures			
		Gentares	Describe six phases of partial			
			denture service			

14.	Partially Edentulous Arches	Classify partially edentulous arches using Kennedy's classification	Enlist reasons of failure of clasp retained partial dentures KNOWLEDGE Enumerate requirements of an acceptable classification method Describe Kennedy's classification Enlist Applegate's rules Describe advantages and drawbacks of Kennedy's classification	IC 2	LGIS SGD	MCQs/ SEQs/ VIVA
15.	Biomechanics of Removable Partial Denture	 Describe possible movements of a partial denture 	 KNOWLEDGE Describe possible movements of partial denture and various components that counter these movements 	IC 2	LGIS	MCQs/ SEQs/ VIVA
16.	Components of Removable Partial dentures	 Identify components that serve as major and minor connectors Discuss the role of rests in partial denture support Recall the role of retainers in complete denture retention 	 KNOWLEDGE Describe principles for design and location of connectors Describe indications, contraindications and characteristics of various maxillary and mandibular major connectors Define minor connectors Describe function, form and location of minor connectors Define tissue stops and their functions 	IC 2	LGIS SGD	MCQs/ SEQs/ VIVA

	Define rest and rest seat		
	• Classify rests		
	• Enlist advantages of rests		
	_		
	Describe the outline form of an		
	occlusal rest and rest seat		
	Describe various forms of rests in		
	detail		
	Define retainers		
	 Classify direct retainers 		
	Describe factors affecting amount		
	of retention		
	• Describe basic principles of clasp		
	design		
	 Enlist indications and 		
	contraindications for circumferential		
	and bar clasps		
	·		
	Describe RPI and RPA systems		
	Describe internal attachments		

Practical

Weeks	Topic /Theme	Learning Objectives	IC Codes	MITs	Assessment Tools
Week 1	 Orientation to prosthodontic department History taking & clinical examination Primary impressions of edentulous patients Custom tray fabrication Secondary impression 	 Use instruments & appliances Demonstrate correct technique of history taking & clinical examination Take primary impression using impression compound Fabricate custom tray using auto polymerizing resins Take secondary impression with zinc oxide eugenol using green stick as border molding material 	IC 1 to IC 6	Demonstration	OSCE/Practical
Week 2	Maxillomandibular relationshipTeeth setup	 Practice recording maxillomandibular relation using biometric guidelines Practice tooth setup using records obtained from patients and also utilizing biometric guidelines 	IC 1 to IC 6	Demonstration	OSCE/Practical
Week 3	• Try-in	Demonstrate the verification of esthetic, phonetics, centric record & VDO at try-in of dentures	IC 1 to IC 6	Demonstration	OSCE/Practical

	Laboratory procedures for denture processing	 Perform flasking, de waxing, packing, curing and finishing of dentures 			
Week 4	 Insertion of dentures and follow up 	 Perform the insertion of dentures and post insertion follow up management 	IC 1 to IC 6	Demonstration	OSCE/Practical
Week 5	Cast partial denture designing (Kennedy' class I &II)	Design partial denture in Kennedy's class I & II	IC 1 to IC 6	Demonstration SGD	OSCE/Practical
Week 6	Cast partial denture designing (Kennedy' class III &IV)	Design partial denture design in Kennedy's class III & IV	IC 1 to IC 6	Demonstration SGD	OSCE/Practical
Week 7 & 8	Anterior teeth Crown preparation	Practice the preparation of anterior teeth for metal ceramic and all ceramic crowns	IC 1 to IC 6	Demonstration SGD	OSCE/Practical
Week 9 & 10	Posterior teeth Crown preparation	Practice the preparation of posterior teeth for metal ceramic crowns	IC 1 to IC 6	Demonstration SGD	OSCE/Practical

3. Orthodontics

S.	Topic /	Learning	Learning Objectives	IC	MITs	Assessment
No.	Theme	Outcomes		Codes		Tools
01	Diagnosis of Malocclusion	At the end of the term, the students will be able to: • Apply the knowledge of orthodontic diagnosis • Develop the problem list of	At the end of the lecture, the students will be able to: Knowledge Explain the method of extraoral and intra-oral clinical examination Recall the need of planning appropriate diagnostic records	IC 2	LGIS SGD	MCQ/SEQs Viva
03	Done	an orthodontic case	Interpret the diagnostic records Formulate a comprehensive diagnosis and problem list Knowledge	IC 1 to	Demonstrations Practical	OSCE Practical
02	Bone Metabolism	 Demonstrate the metabolic basis of orthodontic 	<u>Knowledge</u>	IC 2	LGIS	MCQ/SEQs Viva

		tooth movement • Apply the knowledge of different orthodontic forces on tooth movement	 Describe the different tissue changes involved in orthodontic tooth movement Describe the effects of different drugs on tooth movement Explain the deleterious effects of orthodontic tooth movement on periodontium Relate bone metabolism with orthodontic tooth movement Explain the effects of normal and excessive forces 			
03	Biomechanics	 Demonstrate the basic principles of biomechanics in Orthodontics Apply the knowledge of the biomechanical properties of an orthodontic appliance Apply the knowledge of 	 Explain the basic concepts of orthodontic biomechanics Explain the different types of tooth movement and forces Describe the ideal properties of an orthodontic appliance Describe the biomechanical requirements of an orthodontic appliance Define anchorage and explain its different types Describe the methods used to enhance the anchorage 	IC 2	LGIS SGD	MCQ/SEQs Viva

		anchorage in	Skill	IC 1	Demonstrations	OSCE
		orthodontic biomechanics	 Design the orthodontic appliance based on the principles of biomechanics Perform different wire bending techniques Use different methods of reenforcing anchorage in clinical orthodontic practice 	IC 2 IC 4 IC 6	Practical	Practical
04	Malocclusion and treatment planning	 Apply the knowledge of treatment planning for different orthodontic 	 Moviedge Describe the different types of malocclusion Explain the basic principles of treatment planning 	IC 2	LGIS SGD	MCQ/SEQs Viva
		problems	 Skill Identify the orthodontic problems and their features Perform a comprehensive orthodontic diagnosis Organize an orthodontic problem list Formulate a treatment plan for different types of malocclusions 	IC 1 to IC 6	Demonstrations Practical	OSCE

05	Protocols used in mixed dentition	 Demonstrate the concepts of prevention, interception and 	 Identify different orthodontic problems in mixed dentition stage 	IC 2	LGIS SGD	MCQ/SEQs Viva
		management of mixed dentition problems in Orthodontics	 Discuss the protocols of controlling habits, serial extractions, space maintenance, space regaining, space supervision and growth modification 			
			Skill	IC 1 to	Demonstrations	OSCE
			 Prevention, interception and management of different problems in the mixed dentition stage 	IC 6	Practical	Practical

Practical

Weeks	Topic /Theme	Learning Objectives	IC Codes	MITs	Assessment Tools
Week 1	Cast Analysis Basic wire bending exercises	 Practice the basic technique of performing cast analysis Demonstrate skills of basic wire bending in Orthodontics 	IC 1 IC 2 IC 4	Demonstration	OSCE/Practical

Week 2	Cast Analysis Basic wire bending exercises	 Practice the basic technique of performing cast analysis Demonstrate skills of basic wire bending in Orthodontics 	IC 1 IC 2 IC 4	Demonstration	OSCE/Practical
Week 3	Mixed Dentition Analysis	 Practice the basic technique of performing mixed dentition analysis 	IC 1 IC 2 IC 4	Demonstration	OSCE/Practical
Week 4	Case presentation	 Demonstrate skills of orthodontic case presentation Ward test 	IC 1 to	Demonstration	OSCE/Practical

4. <u>OMFS:</u>

S.	Topic/	Learning Outcomes	Learning Objectives	IC	MITs	Assessment
No.	Theme			Code		Tool
01	Trauma:	At the end of term student	At the end of lecture, student should be	IC 2	LGIS	MCQ
	Dento-	will be able to:	able to:		CBL	SEQ
	Alveolar Fractures	 Diagnose and order relevant investigations Make appropriate referral related to Oral & 	Describe facial soft tissue and dento-alveolar injuries		SGD	VIVA

Maxillofacial trau presenting in Eme or Out Patient Un • Diagnose & mana dentoalveolar & mandible fracture closed methods	 Define abrasion, contusion, laceration and diagnose these injuries by history and clinical 	IC 1 to	Demonst rations / Practical	OSCE
	 Respect patients Acquire Informed Consent	IC 1 to	Demonst rations / Practical	OSCE

02	ATLS &	Discuss the various	KNOWLEDGE	IC 2	LGIS	MCQ
	Mandible Fractures	 airway management maneuvers Discuss classification, principles of management and complications of mid face fractures 	 State etiology of maxillofacial trauma Describe ATLS and BLS Describe various airway management maneuvers (surgical & non-surgical) Classify mandibular fractures according to the type, site and favorability to reduction Enlist complications of mandibular fractures Describe open & closed methods of fracture reduction & 		SGD	SEQ VIVA
			treatment SKILL	IC 1 to	Demonst	OSCE
			Examine patient with suspected	IC 6	rations /	3362
			 mandibular fracture Diagnose mandibular fractures by eliciting signs & symptoms and Interpret radiographic investigations related to mandible fracture Formulate a treatment plan for mandibular fractures in adults and children Perform MMF via eye lets on study models 		Practical	

			ATTITUDERespect patientsAcquire informed consent	IC 1 to	Demonst rations / Practical	OSCE
03	Mid-Face, NOE & ZMC Fractures	Discuss classification, principles of management and complications of mid face fractures	 Classify mid face fractures (Lefort I, II & III) Discuss principles of management of fractures of midface Discuss principles of management of fractures of zygomatic bone, arch, frontal bone and naso-orbitoethmoid (NOE) complex fracture Enlist complications of mid and upper face fractures 	IC 2	LGIS	MCQ SEQ VIVA
04	Fire Arm Injury	Discuss management of fire arm injuries	Describe considerations in the management of pediatric and geriatric maxillofacial trauma Describe principles of management of fire arm injuries involving the face	IC 2	LGIS	MCQ SEQ VIVA

05	Pathology	Identify a potentially	KNOWLEDGE	IC2	LGIS/	MCQ
	(Biopsy)	malignant lesion, can describe and perform steps of biopsy • Describe features of malignant lesion and order relevant investigations • Identify jaw cysts and tumours • Order relevant	 Describe the adjuncts to clinical screening of suspicious lesions State the indications of biopsy Describe each type of soft and hard tissue biopsy Describe principles of biopsy Describe methods of specimen orientation 		SGD	SEQ VIVA
		investigations, formulate treatment plan Manage a patient who has been irradiated, can identify a patient at risk of MRONJ & Osteoradionecrosis Identify a patient with sinus pathology/ oroantral	 Record history of a patient with potentially malignant lesions in oral and maxillofacial region Order and interpret relevant investigations Write a biopsy request form for histopathological examination and properly handle biopsy specimen Follow up of a biopsy patient 	IC 1 to	Demonst rations / Practical	OSCE
		communication/fistul a • Describe management of patient having root displaced in maxillary sinus	• Respect patients • Acquire informed consent	IC 1	Demonst rations / Practical	OSCE

06	Jaw Cysts	Discuss classification,	KNOWLEDGE	IC 2	LGIS/	MCQ
		indications and techniques for the management of jaw cysts	 Classify jaw cysts (odontogenic and non-odontogenic) Differentiate between radicular, dentigerous and keratocyst State the indications, advantages, disadvantages and techniques for the management of jaw cysts and cyst-like lesions i.e., enucleation, marsupialization, enucleation followed by marsupialization, enucleation with curettage 		SGD	SEQ VIVA
07	Jaw	Identify jaw cysts and	KNOWLEDGE	IC 2	LGIS/	MCQ
	Tumour	tumours • Discuss management of jaw tumours	 Describe the management of jaw tumors based on the types of resection: marginal, segmental, partial, total and composite Describe the management of benign soft tissue tumors Describe the management of potentially malignant (premalignant) lesions Describe the management of malignant tumors of the oral cavity according to the following factors: Histopathology Grade and extracapsular spread 		SGD	SEQ VIVA

			 iii. TNM staging State the general principles of OMF reconstruction Describe the biology of bone reconstruction and define osteo-induction, osteo-conduction, osteo-promotion and osteogenesis Classify bone grafts on the basis of source and vascularity 			
08	Maxillary Sinus Disease	Discuss treatment of sinusitisDiscuss oro-antral	Evaluate a patient with maxillary	IC 2	LGIS	MCQ SEQ
		communication	 sinus disease Describe odontogenic and nonodontogenic infections of maxillary sinus and their differential diagnoses Describe treatment of sinusitis Classify oro-antral communication according to size and describe their management according to the time elapsed Enlist the common maxillary sinus tumors of odontogenic and non-odontogenic origin, and describe their management Describe difference between oroantral communication and fistula and their management Describe post-operative sinus 			VIVA

			precautions			
09	Surgical Endodonti cs	Discuss appropriate procedure, flap, technique and (rootend filling) materials for surgical endodontics	 Evaluate a patient with a periapical pathology and order and interpret relevant investigations Discuss indications for surgical endodontic procedures List contraindications for surgical endodontics Select appropriate procedure, flap, technique and (root-end filling) materials for surgical endodontics 	IC 2	LGIS	MCQ SEQ VIVA
10	Managem ent of Patients Undergoin g Radiation Therapy & MRONJ	Describe the dental management of a patient undergoing radiotherapy to the oral & maxillofacial region	 State the mechanism of action of radiotherapy, regimes of radiotherapy and list its adverse oral effects Describe the dental management of a patient undergoing radiotherapy to the OMF region Define osteoradionecrosis Describe its stages and management plan State the dental management of a patient undergoing systemic chemotherapy Define MRONJ 	IC 2	LGIS	MCQ SEQ VIVA

			dental extraction CLASS TEST			
Week	INFECTION	At the end of term,	KNOWLEDGE	IC 2	LGIS/	MCQ
09	ODONTOGENIC	student will be able to:	Discuss factors (host, micro- organisms, anatomical) that		SGD	SEQ
space infection determine	 Identify a facial space infection, determine 	organisms, anatomical) that govern the spread of odontogenic infections			VIVA	
	and manage a patient with primary facial	patient with	 Evaluate a patient with an odontogenic or maxillofacial infection order and interpret relevant investigations 	IC 1 to	Practical	OSCE
			ATTITUDE Respect patients	IC 1	Demonst rations /	OSCE
			Acquire Informed Consent		Practical	

Week	FACIAL SPACES	Describe various primary 8.	KNOWLEDGE	IC 2	LGIS	MCQ
10		primary & secondary facial spaces	 Diagnose and differentiate between edema (inoculation), cellulitis and abscess Describe anatomical fascial spaces in head & neck(boundaries and contents) which may get involved by spread of odontogenic infections 			SEQ VIVA
	ODONTOGENIC		KNOWLEDGE	IC 2	LGIS	MCQ
	INFECTIONS: pathophysiology & management		Describe spread, pathophysiology & management of following infections in head and neck i. Odontogenic infection to primary and secondary facial spaces ii. Cavernous sinus thrombosis/orbital cellulitis iii. mediastinitis iv. Ludwig's angina v. Osteomyelitis, candidiasis,	162	20.0	SEQ VIVA
			necrotizing fasciitis,			
			actinomycosis SKILL	IC 1 to	Practical	OSCE
			 Formulate management plan for odontogenic infections under following principles: Remove the etiology Drain surgically pus and insert drains; if indicated 	IC 6		3332

			 Provide supportive therapy: select appropriate antibiotic and manage airway, nutrition, and hydration Select and prescribe appropriate antibiotic(s) for odontogenic infections Refer when indicated ATTITUDE Respect patients Acquire informed consent 	IC 1 to	Demonst rations / Practical	OSCE
Week	ANTIBIOTIC	Prescribe	KNOWLEDGE	IC 2	LGIS	MCQ
11	PROPHYLAXIS	appropriate antibiotics and	Describe prophylactic antibiotic			SEQ
		ascertain the requirement of prophylactic antibiotics in relevant patients	 cover, different Antibiotics with recommended dosages Describe protocol for antibiotic prophylaxis Justify prophylaxis against infectious endocarditis and total joint replacement 			VIVA

PRACTICAL

Week	Topic/	Learning Objective	IC	MITs	Assessment
	Theme		Codes		Tools
05	Basic Principles of Surgery	 Describe various suturing material types, their application, specification of suturing needle and suture Perform various Suturing Techniques Draw and label various surgical flaps used in minor oral surgery Identify and use of appropriate size/number blade according to purpose and anatomical region Handling of Surgical Blade, placement and removal from BP Handle 	IC 1 to	Demonstrations Practical	OSCE
06	Oral & Maxillofacial Trauma	 Describe various reduction & fixation techniques used in maxillofacial fracture management Make eye-lets with wire & wire handling Maxillo-mandibular fixation on Models Placement of arch bar on models CBL 	IC 1 to	Demonstrations Practical	OSCE

07	Examination of Oral & Maxillofacial Region	 Perform clinical examination of TMJ, Salivary Glands and Lymph Nodes Identification of armamentarium for Major & Minor Surgical Procedures CBL 	IC 1 to	Demonstrations Practical	OSCE
08	Student Presentations & Radiology	 Group wise Student presentations 03 students/group Interpret Radiological findings related to exodontia: Periapical & OPG (impacted canine & 3rd molars) CBL 	IC 1 to	Demonstrations Practical	OSCE
09	Ward Test Week	END OF ROTATION WARD TEST	-	-	-

Term II Syllabi

Operative Dentistry

WEEK	TOPIC	NO OF LECTURES		
	2 nd TERM			
13 th Week	Introduction to Endodontics	03		
	Tooth morphology & access cavity preparation			
14 th Week	Preparation of radicular pulp space	02		
	Paper discussion (1 st Term)	01		
15 th Week	Irrigants & antiseptics	01		
	Intracanal medicaments	02		
16 th Week	Obturation	03		
17 th Week	Failure in endodontics	03		
18 th Week	Class test	01		
	Surgical endodontics	02		
19 th Week	Traumatic injuries	03		
20 th Week	Traumatic injuries	03		
21 st Week	Endo perio lesions	03		

22 nd Week	Space Management	01
	Revision	02
23 rd Week	Revision	03
24 th Week	2 nd Term Exam	

Prosthodontics

SECOND TERM (12 WEEKS)		
WEEK 13	 Materials used in fabrication of Dentures-I Materials used in fabrication of Dentures-II 	
	Materials used in fabrication of Dentures-III	
WEEK 14	 Materials used in fabrication of Dentures-IV Materials used in fabrication of Dentures-V 	
	Landmarks of edentulous maxilla and mandible	
	 Diagnosis and treatment Planning for PD Preparation of mouth 	
WEEK 15	Impression making and theories of Impression making	

WEEK 16	 Posterior palatal seal area Beading and boxing of impression & Dental cast
	Parts and surfaces of denture
	Fabrication of record bases
WEEK 17	Neutral zone
	Classification of partially edentulous arches
	Maxillomandibular Relation-I
WEEK 18	Maxillomandibular Relation-II
	Movements of partial denture
WEEK 40	Articulator-I
WEEK 19	Articulators-II
	Articulators-III
WEEK 20	Facebow
WEEK 20	Major Connectors-I
	Major Connectors-II
WEEK 21	Selection of Artificial Teeth
	Minor Connectors
	Rest and rest seats
WEEK 22	Arrangement of Teeth-I
	Arrangement of Teeth-II
	Direct retainers-I
WEEK 23	Occlusion in complete Denture-I
	Occlusion in complete Denture-II
	Direct retainers-II
WEEK 24	TERM EXAM

Orthodontics

Week	Topic	No. of Lectures
1 st Week	Diagnosis of Malocclusion	02
2 nd Week	Bone Metabolism	02
3 rd Week	Bone Metabolism	01
	Biomechanics	01
4 th Week	Biomechanics	02
	Anchorage	01
5 th Week	Malocclusion & Treatment Planning	01
	 Management of Class I Malocclusion 	
	Malocclusion & Treatment Planning	01
6 th Week	 Management of Crowding & Spacing 	
	Malocclusion & Treatment Planning	01
	 Management of Class II division 1 malocclusion 	
	Malocclusion & Treatment Planning	01
7 th Week	 Management of Class II division 2 malocclusion 	
	Malocclusion & Treatment Planning	01
	 Management of Class III malocclusion 	
8 th Week	CLASS TEST	01

Malocclusion & Treatment Planning	01
Management of Open bite malocclusion	
Malocclusion & Treatment Planning	01
 Management of Deep bite malocclusion 	
Malocclusion & Treatment Planning	
Management of Cross bite malocclusion	01
Protocols used in Mixed Dentition	02
Protocols used in Mixed Dentition	02
Term exam	
	Management of Open bite malocclusion Malocclusion & Treatment Planning

OMFS

Week	Topic	No. of Lectures
01	TRAUMA	02
	Introduction & etiology of maxillofacial traumaDentoalveolar fractures	
02	TRAUMA	02
	ATLS & Mandible fractures	
03	TRAUMA:	02

	Midface, NOE, Frontal & ZMC fractures	
04	TRAUMA	02
	Fire-Arm Injuries	
	Management of pediatric & geriatric patients	
05	PATHOLOGY	02
		-
	Biopsy	
	Jaw Cyst	
06	PATHOLOGY	02
	Jaw Tumor	
	Bone Grafts & reconstruction	
07	PATHOLOGY:	02
	Maxillary Sinus Disease	
	Endodontic Surgery	
08	PATHOLOGY	02
	Patients undergoing radiation /chemo therapy	
	MRONJ	
09	CLASS TEST	
09	INFECTIONS	01
	Odontogenic Infections (etiology & sign/symtoms)	
10	INFECTIONS	02
	 Odontogenic Infections (spread & management) Facial spaces 	

11	INFECTIONS	02
	 Odontogenic Infections (management & complications) Antibiotic prophylaxis 	
12	2 ND TERM EXAM	

Learning Resources

1. Operative Dentistry

- Sturdevant's Art & Science of Operative Dentistry
- Cohan's Pathways of Pulp
- Grossman Endodontic practice
- Contemporary Fixed Prosthodontics Rosenstiel
- Paediatric Dentistry, Richard Welbury

2. Oral And Maxillofacial Surgery

- 1. Contemporary Oral and Maxillofacial Surgery, 7th Edition, James R. Hupp
- 2. Handbook of Local Anesthesia, 7th Edition, Stanley F.Malamed
- 3. Fractures of the Facial Skeleton, 2nd Edition, Peter Banks
- 4. Scully's Medical Problems in Dentistry, 7th Edition, Crispian Scully
- 5. Internet Sources

https://www.sciencedirect.com/ https://emedicine.medscape.com/

3. Orthodontics

• Contemporary Orthodontics William R. Proffit

• An Introduction to Orthodontics Laura Mitchell

4. <u>Prosthodontics</u>

- Prosthodontic treatment for edentulous patients, Thirteen Edition by Zarb and Hobkirk
- McCracken's Removable Partial Prosthodontics, Thirteen Edition
- Contemporary Fixed Prosthodontics Rosenstiel