



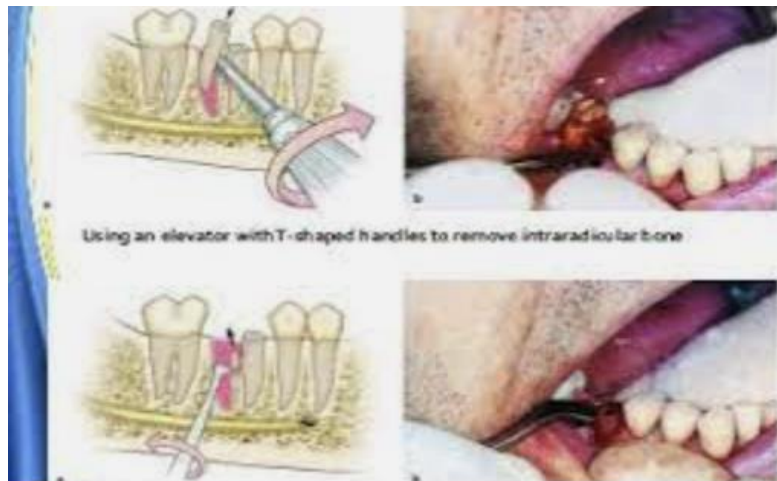
**DENTAL COLLEGE HITEC-IMS**

**Study Guide Y4 - T1 - D22**

**Term I**

**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.

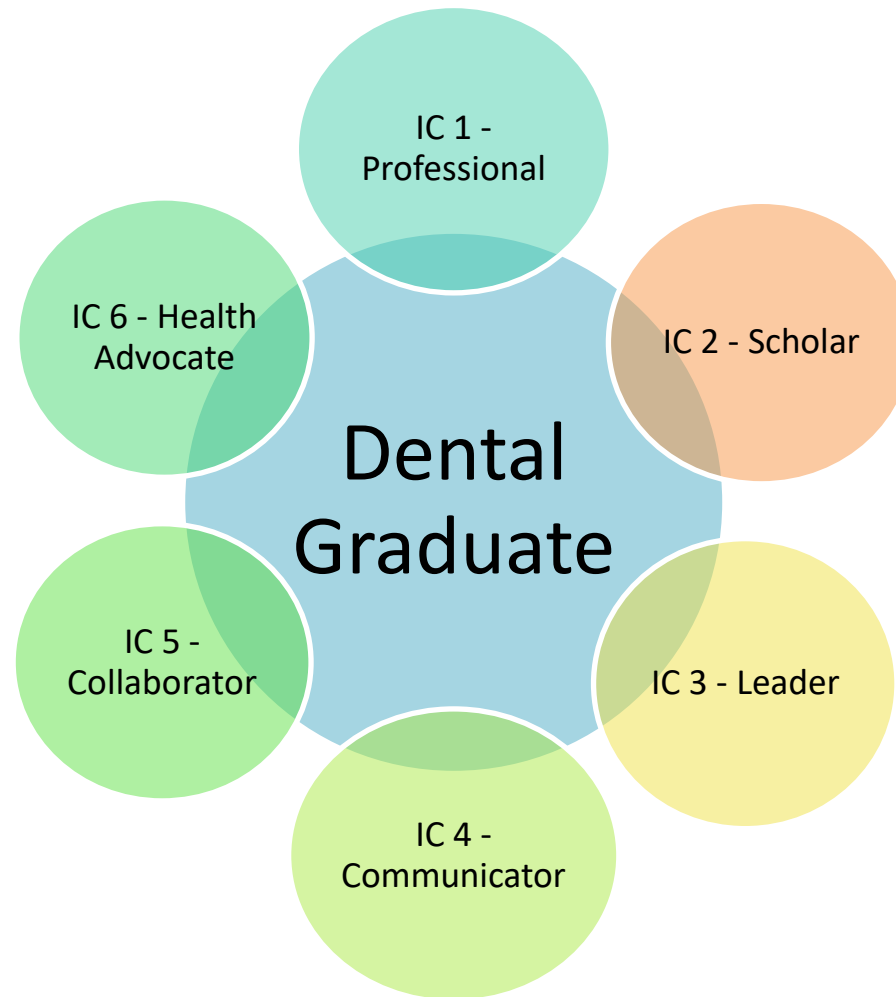
Multiple teaching strategies are used. First, LGIS are used to provoke thought and understanding among students. These help to understand topics which need effort including basic sciences review along with updated research, and best evidence medical information. Second, we are teaching clinical implications 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 (7<sup>th</sup> February to 5<sup>th</sup> June)

DURATION	<b>7<sup>th</sup> February to 6<sup>th</sup> March (4 weeks)</b>			
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	A	B	C	D

DURATION	<b>7<sup>th</sup> March to 3<sup>rd</sup> April (4 weeks)</b>			
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	D	A	B	C

DURATION	<b>4<sup>th</sup> April to 1<sup>st</sup> May (4 weeks)</b>			
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	C	D	A	B

DURATION	<b>9<sup>th</sup> May to 5<sup>th</sup> June (4 weeks)</b>			
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	B	C	D	A



**2<sup>nd</sup> Clinical Rotation (6<sup>th</sup> June to 12<sup>th</sup> November)**

DURATION	<b>6<sup>th</sup> June to 25<sup>th</sup> June &amp; 18<sup>th</sup> July to 31<sup>st</sup> July (5 weeks)</b>			
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	A	B	C	D

DURATION	<b>1<sup>st</sup> August to 4<sup>th</sup> September (5 weeks)</b>			
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	D	A	B	C

DURATION	<b>5<sup>th</sup> September to 9<sup>th</sup> October (5 weeks)</b>			
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	C	D	A	B

DURATION	<b>10<sup>th</sup> October to 12<sup>th</sup> November (5 weeks)</b>			
DEPARTMENT	Operative Dentistry	Prosthodontics	Orthodontics	OMFS
GROUP	B	C	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 12<sup>th</sup> 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.

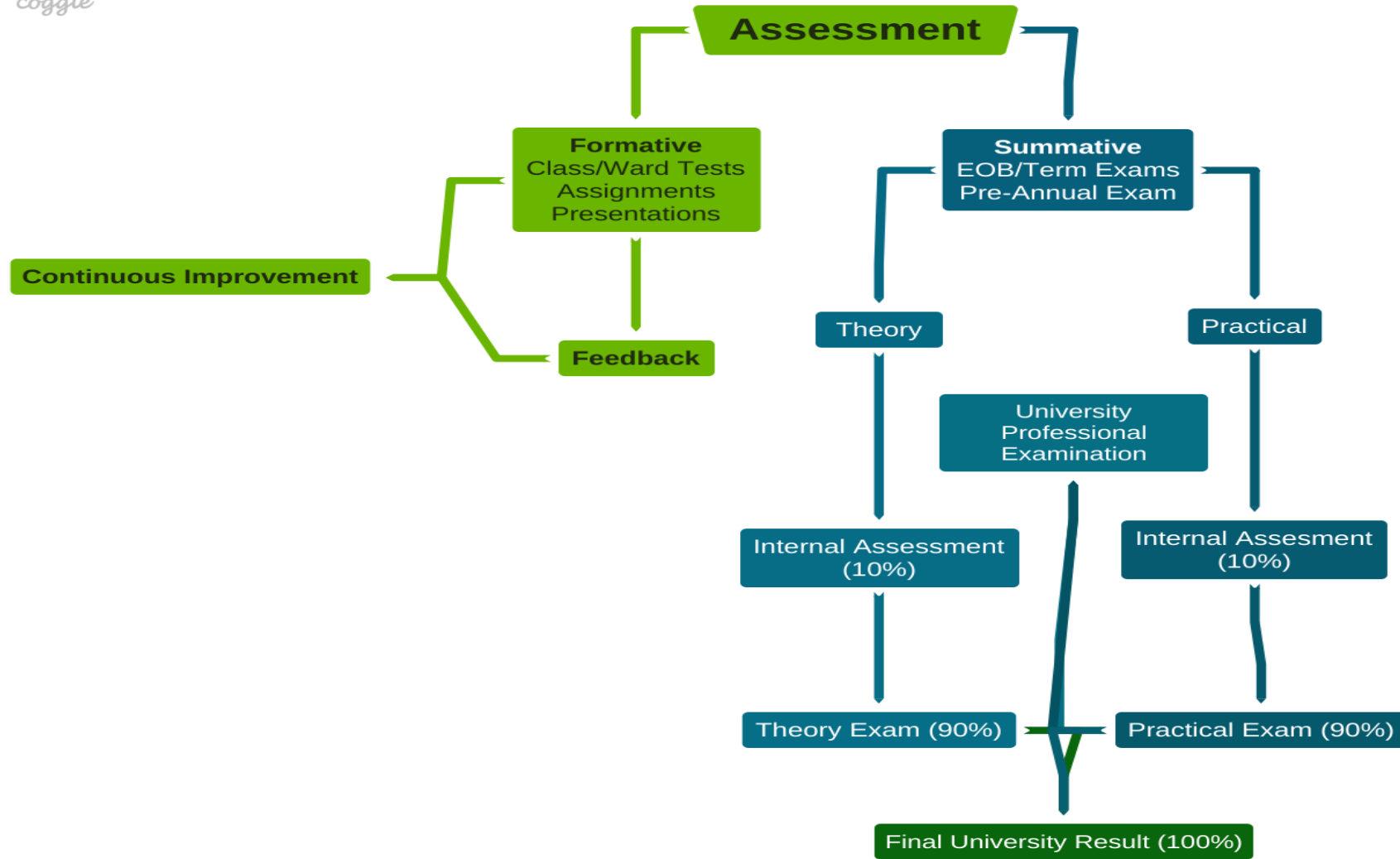
Internal assessment criteria for submission of internal assessment marks of final Professional Examination NUMS:

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

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## Academic Calendar

### Final Year BDS CLASS-2022

Academic Event	Duration
Commencement of new academic year	7th February 2022 Start of Session
<b>First-term—12Weeks</b>	<b>7<sup>th</sup> February 22 to 30<sup>th</sup> April 22</b>
Sports week	28 <sup>th</sup> March to 31 <sup>st</sup> March 25 <sup>th</sup> April to 29 <sup>th</sup> April 1 <sup>st</sup> term exam
Eid ul Fitr holidays 1 Week	1 <sup>st</sup> May 22 to 8 <sup>th</sup> May 22
<b>Second term --12 Weeks + 3 Weeks</b>	<b>9<sup>th</sup> May 22 to 19<sup>th</sup> August 22</b>
Academics 7/12	9-5-22 to 24-6-22
Summer break + Eid ul Adha holidays	25 <sup>th</sup> June 22 to 17 <sup>th</sup> July 22
Academics 5 /12 Second Term exams	18-7-22 to 21-8-22
<b>Third term---12 Weeks</b>	<b>22<sup>nd</sup> August 22 to 11<sup>th</sup> November 22</b>
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 (07<sup>th</sup> Feb 2022 to 11<sup>th</sup> Feb 2022)  
DENTAL COLLEGE HITEC-IMS

DAY/DATE	8:30 – 9:15	9:15 – 10:00	10:00 -10:20	10:20 – 3:30		
<b>MONDAY</b> 07-02-22	<b>Operative Dentistry</b> Orientation and intro to Operative Dentistry (Dr. <u>Beenish</u> )	<b>Prosthodontics</b> Orientation & intro to FPD (Dr. <u>Aamir</u> )	<b>Break</b>	<b>CLINICS</b>		
<b>TUESDAY</b> 08-02-22	<b>Orthodontics</b> Orientation and Intro to orthodontics (Dr. <u>Waheed</u> )	<b>OMFS</b> Orientation and Exodontia (Dr. <u>Maimoona</u> )		<b>GROUP-A (Operative Dentistry)</b>		
<b>WEDNESDAY</b> 09-02-22	<b>Prosthodontics</b> Systemic health consideration in CD patient (Dr. <u>Sameen</u> )	<b>Operative Dentistry</b> Infection control (Dr. <u>Beenish</u> )		<ul style="list-style-type: none"> <li>• Orientation to dept. chair positioning</li> <li>• History taking &amp; clinical examination</li> <li>• Clinical quota</li> </ul>		
<b>THURSDAY</b> 10-02-22	<b>OMFS</b> Exodontia (Dr. <u>Maimoona</u> )	<b>Orthodontics</b> Intro to orthodontics (Dr. <u>Waheed</u> )		<b>GROUP-B (Prosthodontics)</b>		
<b>FRIDAY</b> 11-02-22	<b>Prosthodontics</b> History taking & medical exam (Dr. <u>Aamir</u> )	<b>Operative Dentistry</b> Infection control (Dr. <u>Beenish</u> )		<ul style="list-style-type: none"> <li>• Crown preparation</li> </ul>		
				<b>GROUP-C (Orthodontics)</b>		
				<b>GROUP-D (OMFS)</b>		
				<ul style="list-style-type: none"> <li>• Orientation to dept. chair positioning</li> <li>• History taking &amp; clinical examination</li> <li>• Pre –perioperative patient evaluation</li> </ul>		
				10:20-1:00	1:00-2:00	2:00-3:30
				<b>Clinics</b>	<b>Jumma Break</b>	<b>Small Group Discussion/CBL</b>
						Diagnosis and treatment planning CPD designing Patient evaluation Macro-esthetics

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

\_\_\_\_\_  
Dr. Beenish Qureshi

\_\_\_\_\_  
Dr. Waheed Ullah

\_\_\_\_\_  
Dr. Aamir Rafique

\_\_\_\_\_  
Dr. Mudassar Saleem

Vice Principal

Principal



# **Term – I**

## **Overview of Clinical Sciences**



## Structured Summary – Term I

<b>Term Code</b>	Y4-T1-D22
<b>Term Title</b>	Fundamentals of Clinical Sciences
<b>Duration Of Term</b>	12 weeks
<b>Important Dates</b>	7 <sup>th</sup> February 2022 – 30 <sup>th</sup> April 2022
<b>Horizontally Integrated Themes</b>	<ol style="list-style-type: none"> <li>1. Occlusion</li> <li>2. Local anaesthesia</li> <li>3. Management of medically compromised patients</li> <li>4. Dental anomalies</li> <li>5. Radiology</li> </ol>
<b>Vertically Integrated Themes</b>	Research Communication Skills* Professionalism*
<b>Prerequisite Blocks</b>	All 1 <sup>st</sup> 2 <sup>nd</sup> & 3 <sup>rd</sup> year blocks

**\*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 Schedules<sup>1</sup>

### Final Year BDS - 1<sup>st</sup> term - 2022

#### Theory exam schedule:

DATE/DAY	SUBJECT	TIME
25 <sup>th</sup> April 22 / Monday	Operative Dentistry	8:45am to 11:45am
26 <sup>th</sup> April 22 /Tuesday	Orthodontics	8:45am to 11:45am
28 <sup>th</sup> April 22 / Thursday	Prosthodontics	8:45am to 11:45am
29 <sup>th</sup> April 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 a practical exam for the first term.

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<sup>1</sup> This is a tentative schedule. Therefore, it is subject to change.



## Learning Outcomes for Term I

### 1. Operative Dentistry

S. No.	Topic / Theme	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
		At the end of term, the student will be able to:	At the end of term, the student will be able to:			
1	Introduction to Operative Dentistry	<ul style="list-style-type: none"> <li>Demonstrate basic knowledge of Operative Dentistry</li> <li>Follow infection control protocol while working in clinical areas</li> </ul>	<b>Knowledge</b> <ul style="list-style-type: none"> <li>Define Operative Dentistry</li> </ul>	IC 2	LGIS	MCQs Viva
			<b>Skill</b> <ul style="list-style-type: none"> <li>Apply techniques of sterilization and cross infection control within clinical departments</li> </ul>	IC 1 to IC 6	Practical	OSCE
2	Cariology	<ul style="list-style-type: none"> <li>Apply knowledge of dental caries &amp; its types and causes</li> <li>Develop diagnosis &amp; treatment planning for dental carious lesions</li> </ul>	<b>Knowledge</b> <ul style="list-style-type: none"> <li>Define aetiology, tooth habitats and types of dental caries</li> <li>Define salivary functions</li> <li>Describe enamel caries and dentin caries</li> <li>Classify caries by ICDAS</li> </ul>	IC 2	LGIS / SGD / CBL	MCQs SEQs VIVA
			<b>Skill</b> <ul style="list-style-type: none"> <li>Detect clinically active carious lesions</li> <li>Perform different diagnostic tests</li> </ul>	IC 1 to IC 6	Demonstration / Clinical Quota	OSCE
			<b>Attitude</b> <ul style="list-style-type: none"> <li>Behave respectfully with all patients</li> </ul>	IC 1 IC 4	Demonstration / Clinical Quota	OSCE



3	Prevention of caries	<ul style="list-style-type: none"> <li>Apply knowledge for treatment of dental caries &amp; preventive protocols for dental caries</li> <li>Apply knowledge about caries risk assessment, Mechanism of action of fluoride for caries prevention</li> <li>Apply knowledge of pits &amp; fissure sealants &amp; preventive resin restorations in clinical settings</li> </ul>	<p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>Enlist the preventive protocols and modalities for caries</li> <li>Describe mechanism of action of fluoride to prevent dental disease</li> <li>Enlist indications &amp; contraindications of pits &amp; fissure sealants</li> </ul>	IC 2	LGIS / SGD / CBL	MCQs SEQs
			<p><b>Skills</b></p> <ul style="list-style-type: none"> <li>Demonstrate Caries treatment by medical model</li> <li>Apply clinical considerations in treatment &amp; prevention of caries</li> </ul>	IC 1 to IC 6	Practical / Demonstration / Clinical Quota	OSCE / Practical exam
			<p><b>Attitude</b></p> <ul style="list-style-type: none"> <li>Discuss the diet management of high caries risk patient with respect</li> </ul>	IC 1 to IC 6	Practical / Demonstration / Clinical Quota	OSCE / Practical exam
4	Diseases of pulp and peri radicular tissues	<ul style="list-style-type: none"> <li>Demonstrate knowledge about causes of pulpal &amp; periradicular diseases</li> </ul>	<p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>Identify etiologic factors causing pulp inflammation</li> <li>Explain the mechanism of spread of inflammation in the pulp</li> <li>Classify pulpal diseases</li> <li>Classify periradicular diseases</li> </ul>	IC2	LGIS / SGD / CBL	MCQs SEQs VIVA



		<ul style="list-style-type: none"> <li>Apply the basic knowledge to classify pulpal &amp; periradicular diseases and give treatment options</li> </ul>	<p><b>Skill</b></p> <ul style="list-style-type: none"> <li>Diagnose pulpal &amp; periradicular diseases</li> <li>Plan treatment for pulpal and periradicular diseases</li> </ul>	IC 1 TO IC 6	Demonstration / Clinical Quota	OSCE / Practical exam
			<p><b>Attitude</b></p> <ul style="list-style-type: none"> <li>Respect the confidentiality of patient</li> </ul>	IC 1	Demonstration/ Practical	OSCE
5	Evidence based dentistry in restorative materials Restorative materials Amalgam & composites Dental cements	<ul style="list-style-type: none"> <li>Demonstrate knowledge about Amalgam &amp; composites applied chemistry</li> <li>Discuss hazards related to mercury</li> <li>Describe various uses of restorative materials</li> </ul>	<p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>Describe properties of amalgam</li> <li>Define Indications and contraindications</li> <li>Define advantages and disadvantages of Amalgam</li> <li>Classify composites</li> <li>Describe components and setting characteristics of composites</li> <li>Describe important properties of composites</li> <li>Enumerate the steps for composite restorations</li> <li>Describe the applied chemistry of dental cements</li> </ul>	IC 2	LGIS / SGD / CBL	MCQs SEQs VIVA
			<p><b>Skill</b></p> <ul style="list-style-type: none"> <li>Application of different cements as indicated</li> </ul>	IC1 to IC 6	Demonstrations/ Practical	OSCE / Practical
			<p><b>Attitude</b></p> <ul style="list-style-type: none"> <li>Avoid wastage of material</li> </ul>	IC 1 IC 6	Demonstration/ Practical	OSCE



6	Dental anomalies Behaviour management	<ul style="list-style-type: none"> <li>• Demonstrate the knowledge affecting child behavior</li> <li>• Explain the methods of achieving behavior management</li> </ul>	<b>Knowledge</b> <ul style="list-style-type: none"> <li>• Demonstrate classification of child behaviour</li> <li>• Enlist factors influencing child behaviour</li> <li>• Enlist objectives of behaviour management</li> <li>• Identify the clinical condition &amp; give treatment options</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
			<b>Skill</b> <ul style="list-style-type: none"> <li>• Demonstrate methods of achieving behaviour management with clinical application</li> <li>• Perform the non-pharmacological behavior management techniques independently</li> </ul>	IC1 to IC 6	Demonstration / Practical	OSCE
			<b>Attitude</b> <ul style="list-style-type: none"> <li>• Take consent from child &amp; parent before doing any procedure</li> </ul>	IC1 to IC 6	Demonstration	OSCE
7	Occlusion	<ul style="list-style-type: none"> <li>• Apply basic principles of normal &amp; abnormal occlusion for restorative procedures</li> </ul>	<b>Knowledge</b> <ul style="list-style-type: none"> <li>• Define normal and abnormal occlusion</li> </ul>	IC 2	LGIS	MCQs
			<b>Skill</b> <ul style="list-style-type: none"> <li>• Application of basic principles of occlusion for restorative procedures</li> </ul>	IC1 to IC 6	Demonstration / Practical	OSCE
			<b>Attitude</b> <ul style="list-style-type: none"> <li>• Show respect to patients</li> </ul>	IC 1 IC 4 IC 5	Demonstration / Practical	OSCE



8	Adhesion to enamel & dentin	<ul style="list-style-type: none"> <li>Demonstrate the knowledge of Components of bonding</li> <li>Apply the knowledge of Enamel &amp; dentin bonding in clinical practice</li> </ul>	<b>Knowledge</b> <ul style="list-style-type: none"> <li>Describe types of Adhesion</li> <li>Enumerate components of bonding</li> <li>Describe Enamel Adhesion</li> <li>Describe Dentin Adhesion</li> <li>Enumerate the various generations of bonding agent</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
			<b>Skill</b> <ul style="list-style-type: none"> <li>Perform steps of enamel and dentin bonding on patients teeth</li> </ul>	IC1 to IC 6	Demonstration	OSCE
			<b>Attitude</b> <ul style="list-style-type: none"> <li>Explain procedure to patient</li> </ul>	IC 1 to IC 6	Demonstration	OSCE
9	Vital pulp therapies	<ul style="list-style-type: none"> <li>Apply the knowledge of vital pulp therapy for primary &amp; young permanent dentition to treat patients</li> <li>Demonstrate correct use of materials for pulpotomy</li> </ul>	<b>Knowledge</b> <ul style="list-style-type: none"> <li>Enlist indications &amp; contraindications for vital &amp; non-vital pulp therapy</li> <li>Describe the materials used</li> </ul>	IC2	LGIS / SGD / CBL	MCQs SEQs VIVA
			<b>Skill</b> <ul style="list-style-type: none"> <li>Observe / assist the dentist while doing apexification and apexogenesis in young permanent teeth</li> </ul>	IC1 to IC6	Demonstration	OSCE
			<b>Attitude</b> Describe the procedure to the child at his level of understanding	IC1 to IC6	Demonstration	OSCE



10.	Medically compromised patient	<ul style="list-style-type: none"> <li>Discuss the management of a medically compromised patient</li> </ul>	<b>Knowledge</b> <ul style="list-style-type: none"> <li>Explain the steps taken in management of medically compromised patients</li> </ul>	IC2	LGIS / SGD	MCQs SEQs VIVA
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### Practical

Weeks	Topic /Theme	Learning Objectives	IC Codes	MITs	Assessment Tools
Week 1	Orientation to Operative department Diagnosis & Treatment planning	<ul style="list-style-type: none"> <li>Demonstrate familiarity with instruments &amp; appliances</li> <li>Perform proper techniques of history taking &amp; clinical examination with professional attitude and ensure empathy towards patients</li> </ul>	IC 1 to IC 6	Demonstration / Clinical Quota	OSCE/ Practical exam
Week 2	Sterilization & Infection control	<ul style="list-style-type: none"> <li>Apply knowledge about cross infection control, sterilization technique and the use of PPE</li> </ul>	IC 1, IC 6	Demonstration / Clinical Quota	OSCE / Practical
Week 3	Instruments used in operative dentistry Fundamentals of cavity preparation Matrix band application & its importance	<ul style="list-style-type: none"> <li>Identify instrument design, function, and formula</li> <li>Enumerate knowledge of Class I-Class V cavity designs and restorations</li> </ul>	IC 1 to IC 6	Demonstration / Clinical Quota	OSCE/ Practical
Week 4	Prevention of dental diseases	<ul style="list-style-type: none"> <li>Follow the preventive protocols and different preventive modalities</li> <li>Describe mechanism of action of fluoride to prevent dental disease</li> </ul>	IC 1 IC 2 IC 3 IC 4 IC 6	Demonstration / Clinical Quota	OSCE/ Practical



## 2. Prosthodontics

S. No.	Topic / Theme	Learning Outcomes	Learning objectives	IC Codes	MITs	Assessment Tools
		At the completion of the session, the students should be able to:	At the completion of the session, the students should be able to:			
<b>FIXED PROSTHODONTICS</b>						
1	Introduction to fixed partial denture	<ul style="list-style-type: none"> <li>Describe fixed prosthodontics and its terminologies</li> <li>Describe prosthodontics diagnostic index</li> </ul>	<u><b>KNOWLEDGE</b></u> <ul style="list-style-type: none"> <li>Define prosthodontics and describe its branches</li> <li>Describe Prosthodontic Diagnostic Index for partially dentate and completely dentate patient</li> <li>Describe different terminologies used in prosthodontics</li> </ul>	IC 2	LGIS	MCQs SEQs
2	Diagnosis and treatment planning of FPD	<ul style="list-style-type: none"> <li>Plan treatment for missing tooth/teeth considering factors affecting</li> </ul>	<u><b>KNOWLEDGE</b></u> <ul style="list-style-type: none"> <li>Describe treatment options for:               <ul style="list-style-type: none"> <li>A single and multiple missing teeth</li> <li>Missing tooth with mesially tilted abutments</li> <li>Pier abutments</li> </ul> </li> <li>Describe Ante's Law</li> <li>Describe factors which affect replacement of multiple missing teeth</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
3	Principles of Occlusion	<ul style="list-style-type: none"> <li>Describe various principles of occlusion</li> </ul>	<u><b>KNOWLEDGE</b></u> <ul style="list-style-type: none"> <li>Describe Posselt's envelope of motion</li> <li>Enumerate the determinants of mandibular movement</li> </ul>	IC 2	LGIS/ SGD	MCQs SEQs VIVA



			<ul style="list-style-type: none"> <li>Describe various occlusal schemes for fixed prosthodontics</li> </ul>			
4	Principles of Tooth Preparation	<ul style="list-style-type: none"> <li>Describe various considerations of tooth preparations</li> </ul>	<p><b>KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>Describe biological considerations of tooth preparation</li> <li>Describe mechanical considerations of tooth preparation</li> <li>Describe advantages of supragingival margins</li> <li>Describe indications for subgingival margins</li> <li>Compare different margin designs</li> <li>Describe esthetic considerations of tooth preparation</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
5	Crown preparation	<ul style="list-style-type: none"> <li>Describe and perform crown preparation</li> </ul>	<p><b>KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>Enlist advantages, disadvantages, indications and contraindications of complete cast crown, metal ceramic crown and all ceramic crown</li> <li>Describe steps of complete cast crown metal ceramic crown and all ceramic crown preparation</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
			<p><b>SKILL</b></p> <ul style="list-style-type: none"> <li>Perform tooth preparation for metal ceramic crown on typhodonts</li> </ul>	IC 1 to IC 4	Clinical Demonstrations	OSCE
6	Tissue management and impression making	<ul style="list-style-type: none"> <li>Describe tissue management protocols during impression making in FPD</li> </ul>	<p><b>KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>Describe various methods for displacement of gingival tissues</li> <li>Describe various methods for isolation/saliva</li> </ul>	IC 2 IC 4	LGIS / SGD	MCQs SEQs VIVA



			<ul style="list-style-type: none"> <li>Describe Recommended disinfection methods according to impression materials</li> </ul>			
7	Pontic design	<ul style="list-style-type: none"> <li>Describe various pontic designs</li> </ul>	<p><b>KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>Describe biologic, mechanical and esthetic considerations for successful pontic design</li> <li>Classify pontics</li> <li>Enlist indications, contraindications, advantages and disadvantages of various pontic designs</li> </ul>	IC 2 IC 4	LGIS / SGD	MCQs SEQs VIVA
<b>COMPLETE DENTURE</b>						
8	Systemic health aspects and nutritional considerations	<ul style="list-style-type: none"> <li>Describe various systemic health conditions affecting complete denture</li> </ul>	<p><b>KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>Enumerate oral systemic conditions that influence an adaptive prosthodontic experience</li> <li>Describe management of Systemic lupus erythematosus, burning mouth syndrome, oral movement disorders, salivary dysfunction</li> <li>Explain nutritional guidelines for patients undergoing removable prosthodontic treatment</li> <li>Enlist risk factors for malnutrition in patients with dentures</li> </ul>	IC 2	LGIS	MCQs SEQs VIVA
9	Sequelae of wearing complete dentures	Describe direct and indirect sequelae of wearing complete denture	<p><b>KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>Discuss direct and indirect sequelae caused by wearing removable prosthesis</li> <li>Traumatic ulcers</li> <li>Denture irritation hyperplasia</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA



			<ul style="list-style-type: none"> <li>• Denture stomatitis</li> <li>• Kelly's syndrome</li> <li>• Residual ridge reduction</li> <li>• Xerostomia</li> <li>• Gag</li> </ul>			
10	Treatment Planning and Improving Denture-Bearing Area	<ul style="list-style-type: none"> <li>• Describe the management of abused tissues and requirement of different pre-prosthetic surgery procedures</li> </ul>	<p><b><u>KNOWLEDGE</u></b></p> <ul style="list-style-type: none"> <li>• Describe management of abused oral tissues before fabrication of a new denture.</li> <li>• Enlist objectives of pre-prosthetic surgical prescriptions</li> <li>• Explain surgical correction of conditions that</li> <li>• preclude optimal prosthetic function</li> <li>• Describe the methods used for the enlargement of denture bearing area</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
11	Overdentures	<ul style="list-style-type: none"> <li>• Discuss the concept of overdentures</li> </ul>	<p><b><u>KNOWLEDGE</u></b></p> <ul style="list-style-type: none"> <li>• Enlist patients' signs and symptoms that frequently preclude an adaptive complete denture experience</li> <li>• Define overdentures</li> <li>• Enlist advantages and disadvantages of overdentures</li> <li>• Enumerate indications and contraindications for overdentures</li> <li>• Describe the criteria for selection of teeth as overdenture abutments</li> <li>• Describe preparation of overdenture abutments to enhance retention</li> </ul>	IC 2 IC 4	LGIS	MCQs SEQs VIVA



			<ul style="list-style-type: none"> <li>Describe long-term Complications associated with overdenture abutments</li> </ul>			
12	Immediate denture	<ul style="list-style-type: none"> <li>Discuss the concept of immediate dentures</li> </ul>	<p><b>KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>Define immediate dentures</li> <li>Differentiate between various types of immediate dentures</li> <li>Enumerate advantages and disadvantages of immediate denture treatment</li> <li>Enlist indications and contraindications to immediate denture treatment</li> <li>Describe treatment planning protocol for providing an immediate denture</li> <li>Describe immediate and long-term postoperative care in an immediate denture case</li> </ul>	IC 2 IC 4	LGIS	MCQs SEQs VIVA

### Practical

Weeks	Topic /Theme	Learning Objectives	IC Codes	MITs	Assessment Tools
Week 1	<ul style="list-style-type: none"> <li>Orientation to the prosthodontic department</li> <li>History taking &amp; clinical examination</li> <li>Primary impressions of edentulous patients</li> <li>Custom tray fabrication</li> <li>Secondary impression</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate familiarity with instruments &amp; appliances</li> <li>Follow the techniques of history taking &amp; clinical examination</li> <li>Perform taking a primary impression using impression compound</li> <li>Perform fabrication of custom tray using auto polymerising resins</li> </ul>	IC 1 to IC 6	Demonstration	OSCE/ Practical





Weeks	Topic /Theme	Learning Objectives	IC Codes	MITs	Assessment Tools
		<ul style="list-style-type: none"> <li>Take a secondary impression with zinc oxide eugenol using the green stick as a border moulding material</li> </ul>			
Week 2	<ul style="list-style-type: none"> <li>Maxillomandibular relationship</li> <li>Teeth setup</li> </ul>	<ul style="list-style-type: none"> <li>Practice recording maxillomandibular relations using biometric guidelines</li> <li>Practice teeth setup using records obtained from patients and utilising the biometric guidelines</li> </ul>	IC1 to IC 6	Demonstration	OSCE/ Practical
Week 3	<ul style="list-style-type: none"> <li>Try-in</li> <li>Laboratory procedures for denture processing</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate the verification of esthetics, phonetics, centric record &amp;VDO at try-in of dentures</li> <li>Perform flasking, dewaxing, packing, curing, and finishing of dentures</li> </ul>	IC1 to IC 6	Demonstration	OSCE/ Practical
Week 4	<ul style="list-style-type: none"> <li>Insertion of dentures and follow up</li> </ul>	<ul style="list-style-type: none"> <li>Demonstrate knowledge of the process of insertion of dentures and post-insertion follow-up management</li> </ul>	IC1 to IC 6	Demonstration	OSCE/ Practical



### 3. Orthodontics

S. No.	Topic / Theme	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
		At the end of the term, the students will be able to:	At the end of the lecture, the students will be able to:			
1	Introduction to Orthodontics	<ul style="list-style-type: none"> <li>• Demonstrate the basic knowledge of fundamentals of Orthodontics and its terminologies</li> <li>• Discuss the need of Orthodontic treatment</li> </ul>	<p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>• Define Orthodontics and describe its branches</li> <li>• Identify the aim and need of orthodontic treatment (IOTN)</li> <li>• Describe different terminologies used in Orthodontics</li> </ul>	IC 2	LGIS	MCQs SEQs VIVA
2	Growth & Development	<ul style="list-style-type: none"> <li>• Correlate the concepts of growth and development of the craniofacial region with the development of dento-facial problems</li> </ul>	<p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>• Discuss the concept of normal and abnormal pattern of growth and development of craniofacial complex</li> <li>• Define growth site and centers</li> <li>• Describe growth theories</li> <li>• Describe pre and post-natal growth of cranium, naso-maxillary complex, palate and mandible</li> <li>• Explain different growth assessment parameters</li> <li>• Describe growth of facial soft tissues</li> </ul>	IC 2	LGIS	MCQs SEQs VIVA



			<ul style="list-style-type: none"> <li>Discuss the concept of later stages of growth</li> <li>Explain the growth rotations of the jaws</li> </ul>			
3	Development of Dentition	<ul style="list-style-type: none"> <li>Apply the knowledge of development of dentition in the development of orthodontic problems</li> </ul>	<p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>Explain the features of primary, mixed and permanent dentition</li> <li>Describe tooth development and eruption, variation in development including size, number form and position of teeth and factors affecting development</li> <li>Describe the dimensional changes in dental arches during different dentition periods</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
4	Occlusion	<ul style="list-style-type: none"> <li>Elaborate the knowledge of normal occlusion</li> <li>Apply the concept of development of occlusion in the development of orthodontic problems</li> </ul>	<p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>Define normal and abnormal occlusion</li> <li>Describe Andrew's Six Keys of Occlusion</li> <li>Classify malocclusion</li> <li>Explain different causes of malocclusion</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
			<p><b>Skill</b></p> <ul style="list-style-type: none"> <li>Identify different types of malocclusions on casts</li> </ul>	IC 1 to IC 5	Demonstrations / Practical	OSCE/Practical exam
5	Diagnostic aids in Orthodontics	<ul style="list-style-type: none"> <li>Apply the use of different diagnostic aids in</li> </ul>	<p><b>Knowledge</b></p> <ul style="list-style-type: none"> <li>Describe different radiographs used in Orthodontics</li> </ul>	IC 2	LGIS SGD	MCQs SEQs VIVA



		the orthodontic diagnosis, treatment planning and evaluation of treatment outcomes	<ul style="list-style-type: none"> <li>Describe the indications, advantages and limitations of various radiographs</li> <li>Describe the radiation hazards</li> </ul>			
			<p><b>Skill</b></p> <ul style="list-style-type: none"> <li>Perform interpretation of different radiographs</li> <li>Perform cephalometric analysis and give its interpretation</li> <li>Perform different cast analysis</li> </ul>	IC 1 to IC 5	Demonstrations / Practical	OSCE / Practical exam

### Practical

	Weeks	Topic /Theme	Learning Objectives	IC Codes	MITs	Assessment Tools
Month – 01	Week 1	Orientation to the Orthodontic department	<ul style="list-style-type: none"> <li>Develop familiarity with orthodontic instruments &amp; appliances</li> <li>Demonstrate knowledge of the techniques of history taking &amp; clinical examination</li> </ul>	IC1 to IC 6	Demonstration	OSCE/Practical exam
	Week 2	Impression taking & Radiology	<ul style="list-style-type: none"> <li>Demonstrate the techniques of impression taking &amp; bite registration</li> <li>Interpret different radiographs</li> <li>Demonstrate skills in lateral cephalometric tracing</li> </ul>	IC1 to IC 6	Demonstration	OSCE/Practical exam



	Week 3	Lateral Cephalometry	<ul style="list-style-type: none"><li>• Demonstrate skills in lateral cephalometric tracing</li><li>• Perform the lateral cephalometric analysis</li></ul>	IC1 IC 2 IC 4	Demonstration	OSCE/Practical exam
	Week 4	Basic wire bending exercises	<ul style="list-style-type: none"><li>• Demonstrate skills of basic wire bending in Orthodontics</li></ul>	IC1 IC2	Demonstration	OSCE/Practical Ward Test



## 4. Oral & Maxillofacial Surgery

S. No.	Topic/ theme	Learning Outcome At the end of term, student will be able to:	Learning Objective At the end of lecture, student should be able to:	IC Code	MITs	Assessment Tool
1	Orientation to Oral & Maxillofacial Surgery	At the end of term, student will be able to: <ul style="list-style-type: none"> <li>Discuss the significance of Oral &amp; Maxillofacial Surgery and its application</li> </ul>	At the end of lecture, student should be able to: <p><b><u>KNOWLEDGE</u></b></p> <ul style="list-style-type: none"> <li>Describe role of maxillofacial surgery in health care system, domains of OMFS</li> <li>Describe multidisciplinary team role/approach in a health care setting</li> </ul>	IC 2	LGIS	MCQs SEQs VIVA
2	Exodontia Simple Exodontia	<ul style="list-style-type: none"> <li>Diagnose open extraction with profound anesthesia</li> <li>Ascertain difficulty index of impacted teeth and complicated exodontia along with appropriate referral to Oral &amp; Maxillofacial Surgeon when required</li> <li>Make appropriate referral and seek</li> </ul>	<p><b><u>KNOWLEDGE</u></b></p> <ul style="list-style-type: none"> <li>Define Exodontia</li> <li>Describe steps of history taking &amp; patient examination</li> <li>Order and Interpret relevant laboratory and radiological investigations</li> <li>Enlist indications &amp; contraindication for closed/simple extractions</li> <li>Describe Open &amp; Closed extraction</li> <li>State the protocol to manage anxious patients before and during complicated exodontia</li> </ul>	IC 2	LGIS / SGD / CBL	MCQs SEQs VIVA



		consultation from primary consultant in case of underlying other medical condition/disease, when required	<ul style="list-style-type: none"> <li>• Describe various physical forces and their application in forceps and elevators used for exodontia</li> <li>• Describe radiographic interpretation in exodontia</li> <li>• State the justification for leaving rootfragments in the socket</li> <li>• Enlist indications &amp; contra-indications for open extractions</li> <li>• Describe the etiology and management of Dry-socket</li> </ul>			
3	Complex Exodontia		<p><b><u>KNOWLEDGE</u></b></p> <ul style="list-style-type: none"> <li>• Define Impacted tooth</li> <li>• Enlist Etiology of impaction</li> <li>• Enlist teeth most common impacted teeth</li> <li>• Demonstrate mucoperiosteal flap in the oral cavity related to exodontia</li> <li>• Classify impacted 3<sup>rd</sup> molar</li> <li>• Determinethe the level of difficulty for extraction of Maxilla &amp; Mandible impacted teeth</li> <li>• Describe the management of a patientwith an impacted third molar</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
4			<b><u>KNOWLEDGE</u></b>	IC 2	LGIS /	MCQs



			<ul style="list-style-type: none"> <li>• Discuss the importance of prevention of complications</li> <li>• Manage the following complications during and after exodontia:             <ul style="list-style-type: none"> <li>• Soft tissue injuries</li> <li>• Root fracture/               <ul style="list-style-type: none"> <li>○ displacement</li> </ul> </li> <li>• Injury to adjacent teeth</li> <li>• Injury to adjacent osseous structures</li> <li>• Oro-antral communications</li> <li>• Postoperative bleeding</li> <li>• Delayed healing and infection</li> <li>• Fracture of the mandible</li> </ul> </li> <li>• Classify impacted canine</li> <li>• Describe the various methods (clinical / radiological) to locate an impacted canine</li> <li>• Enlist appropriate treatment option for a patient with an impacted canine</li> <li>• Plan the sequence of multiple extractions</li> </ul>		SGD	SEQs VIVA
			<p><b>SKILL</b></p> <ul style="list-style-type: none"> <li>• Take appropriate medical history and perform examination related to patient requiring exodontia</li> </ul>	IC1 to IC6	Clinical quota / Demonstration	OSCE / Practical exam





			<ul style="list-style-type: none"> <li>• Manage anxiety patient using anxiety reduction protocol with oral medication</li> <li>• Identify appropriate armamentarium of Exodontia</li> <li>• Order appropriate investigations (laboratory &amp; radiological) in view of patient previous history (medical &amp; dental) and examination findings</li> <li>• Interpret radiographs to decide if a tooth requires extraction</li> <li>• Determine difficulty index of Impacted 3<sup>rd</sup> molar tooth by radiological and clinical means</li> <li>• Demonstrate correct use of elevators and forceps according to general and mechanical principles</li> <li>• Manage a simple exodontia patient from pre-operative ,intra-operative to post-operative phase</li> <li>• Diagnose and manage dry socket</li> <li>• Perform close extraction of a patient reporting in OPD for tooth extraction</li> </ul>			
			<p><b>ATTITUDE</b></p> <ul style="list-style-type: none"> <li>• Respect all patients</li> </ul>	IC 1	Clinical Demonstration	OSCE



			<ul style="list-style-type: none"> <li>Acquire Informed Consent</li> </ul>			
5	Local Anesthesia		<p><b>KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>Describe Local Anaesthesia(LA) dosages, toxicity and systemic manifestations</li> <li>Describe landmark of various LA Block techniques of maxilla</li> <li>Describe landmark of various LA Block techniques of mandible</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA
			<p><b>SKILL</b></p> <ul style="list-style-type: none"> <li>Identify the anatomical land marks on patient for appropriate LA Technique</li> <li>Choose appropriate LA technique for relevant tooth extraction</li> <li>Perform appropriate LA technique</li> </ul>	IC 1 to IC 6	Clinical quota / Demonstration	OSCE / Practical exam
			<p><b>ATTITUDE</b></p> <ul style="list-style-type: none"> <li>Respect patients</li> <li>Acquire informed consent</li> </ul>	IC 1	Clinical Demonstration	OSCE
6	Principles of Basic Surgical Skills	<ul style="list-style-type: none"> <li>Design an appropriate surgical flap according to procedure , with application of flap principles</li> </ul>	<p><b>KNOWLEDGE</b></p> <ul style="list-style-type: none"> <li>Develop a surgical diagnosis</li> <li>Describe basic necessities and armamentarium for surgery</li> <li>Describe basic principles of incisions in oral surgery</li> <li>Define these terms related to oral surgery flaps: height, base, width (apex), length, triangular,</li> </ul>	IC 2	LGIS / SGD	MCQs SEQs VIVA



		<ul style="list-style-type: none"> <li>Identify various suturing techniques and their application</li> <li>Apply the principles of cross infection control clinically</li> <li>Discuss tissue injury, its type and management</li> <li>Obtain informed consent from patient related to exodontia and capable of making a referral when required</li> </ul>	<ul style="list-style-type: none"> <li>rectangular, submarginal, semi-lunar, corners, and sides</li> <li>Describe principles of Flap Design</li> <li>Describe various suturing material Techniques used in Oral Cavity</li> <li>Describe basic principles of suturing</li> </ul>			
			<p><b>SKILL</b></p> <ul style="list-style-type: none"> <li>Draw and label the following flaps used in oral surgery               <ol style="list-style-type: none"> <li>3 &amp; 4 corner flaps and their variations</li> <li>Envelop flap</li> <li>Sub marginal/semilunar flaps</li> <li>Y flap for tori removal</li> <li>Flap for impacted maxillary canines.</li> <li>1st and 2nd stage implant surgery</li> <li>Flap for impacted wisdom teeth</li> </ol> </li> <li>Perform the following Suturing techniques on rubber sheet/napkin:               <ol style="list-style-type: none"> <li>Figure of eight</li> <li>Interrupted</li> <li>Continuous locking</li> <li>Continuous Non Locking</li> <li>Vertical Matrix</li> <li>Horizontal Matrix</li> </ol> </li> </ul>	IC 1 to IC 6	Clinical quota/ Demonstration	OSCE /Practical exam
7			<b>KNOWLEDGE</b>	IC 2	LGIS / SGD	MCQs SEQs



			<ul style="list-style-type: none"> <li>Describe the means of achieving hemostasis and management of dead space</li> <li>Enlist physical and chemical causes if tissue damage</li> <li>Describe the physiology of wound (soft tissues &amp; bone) repair: primary intention, secondary intention, healing of an extraction wound and osseointegration</li> <li>Describe the factors that impair wound healing</li> <li>Classify nerve injuries (Seddon &amp; Sunderland)</li> <li>Assess a patient with neural deficit</li> <li>Describe the principles of management of a nerve injury</li> <li>Describe consent, and its types</li> <li>Describe components of informed consent</li> <li>Describe basic pillars of medical ethics</li> <li>Describe the requirement of referral, and how to make a referral</li> </ul>			VIVA
			<p><b>SKILL</b></p> <ul style="list-style-type: none"> <li>Obtain informed consent from patients</li> <li>Write a referral letter to a medical/dental specialist</li> <li>Apply the principles of infection control &amp; aseptic techniques in surgical practice</li> </ul>	IC 1 to IC 6	Clinical quota/ Demonstration	OSCE/ Practical exam



			<b>ATTITUDE</b> <ul style="list-style-type: none"> <li>• Takes consent from patient</li> <li>• Greets patient Introduce himself to patient</li> </ul>	IC 1 IC 4 IC 5	Clinical Demonstration	OSCE
8			<b>KNOWLEDGE</b> <ul style="list-style-type: none"> <li>• Define sterilization and disinfection</li> <li>• Describe various sterilization techniques, tests to ensure sterilization</li> <li>• Describe various disinfection means and methods</li> <li>• Describe AUTOCLAVE, its principle and use</li> <li>• Define clean and sterile techniques and their application in oral surgery</li> <li>• Describe Universal Precautions and Cross Infection Control</li> <li>• Describe a Needle Stick Injury, its prevention &amp; management</li> </ul>	IC2	LGIS / SGD	MCQs SEQs VIVA
			<b>SKILL</b> <ul style="list-style-type: none"> <li>• Follow the principles of Cross Infection control &amp; Aseptic Techniques in surgical practice Management of Needle Stick Injury</li> </ul>	IC 1 to IC 6	Clinical quota / Demonstration	OSCE / Practical exam
09	Prevention & Management of Medical Emergency in a Dental Setting	<ul style="list-style-type: none"> <li>• Prevent a medical emergency in a dental setting by appropriate history taking and management accordingly</li> </ul>	<b>KNOWLEDGE</b> <ul style="list-style-type: none"> <li>• Evaluate a dental patient by Medical history &amp; Physical examination</li> <li>• Order appropriate investigations according to medical history</li> </ul>	IC2	LGIS / SGD	MCQs SEQs VIVA



		<ul style="list-style-type: none"> <li>• Manage a chair-side Medical Emergency as a team member</li> </ul>	<ul style="list-style-type: none"> <li>• Discuss the conditions when referral/ consultation to primary physician is required</li> </ul>			
10			<p><b><u>KNOWLEDGE</u></b></p> <ul style="list-style-type: none"> <li>• Prevent with appropriate management for the expected medical emergency in dental patient with problems of the following systems:             <ul style="list-style-type: none"> <li>• CVS</li> <li>• Pulmonary</li> <li>• Renal</li> <li>• Hepatic</li> <li>• Hematological</li> <li>• Neurological</li> <li>• Patients taking steroids, blood thinners</li> </ul> </li> <li>• Manage pregnant and postpartum dental patient</li> <li>• Endocrine Disorders</li> </ul>	IC2	LGIS / SGD	MCQs SEQs VIVA
11			<p><b><u>KNOWLEDGE</u></b></p> <ul style="list-style-type: none"> <li>• Discuss the equipment and drugs of an emergency cart</li> <li>• Discuss role of team work in a medical emergency management</li> <li>• Discuss the management of following medical emergencies in a dental setting             <ol style="list-style-type: none"> <li>I. Vasovagal Syncope</li> <li>II. Hypoglycemia</li> </ol> </li> </ul>	IC2	LGIS / SGD	MCQs SEQs VIVA



			III. Chest Pain IV. Loss of consciousness V. Hyperventilation VI. Angina Pectoris VII. Myocardial Infarction VIII. COPD IX. Asthma X. Foreign Body Aspiration XI. Anaphylaxis XII. Adrenal Crisis			
			<b><u>SKILL</u></b> <ul style="list-style-type: none"> <li>• Work as team member in management of a medical emergency</li> <li>• Identify relevant emergency drug from emergency cart</li> <li>• Obtain appropriate medical and drug history for prevention and management of any medical emergency</li> </ul>	IC1 to IC6	Clinical quota / Demonstration	OSCE / Practical exam
			<b><u>ATTITUDE</u></b> <ul style="list-style-type: none"> <li>• Respect patients</li> <li>• Always acquire informed consent from patients</li> </ul>	IC 1 IC 4	Clinical quota / Demonstration	OSCE / Practical exam



## Practical

	Week	Topic/ Theme	Learning Objective	IC Codes	MITs	Assessment Tools
M O N T H  01	01	Orientation to OMFS	<ul style="list-style-type: none"> <li>• Perform chair &amp; operator positioning</li> <li>• Obtain appropriate history perform clinical examination</li> <li>• Practice prescription writing</li> </ul>	IC 1 to IC 6	Demonstrations Practical	OSCE
	02	Local Anaesthesia	<ul style="list-style-type: none"> <li>• Identify and apply LA               <ul style="list-style-type: none"> <li>• Armamentarium</li> <li>• Dosage</li> <li>• Complications</li> <li>• Techniques of Nerve Blocks &amp; Landmarks</li> </ul> </li> </ul>	IC 1 to IC 6	Demonstrations Practical CBL	OSCE
	03	Exodontia	<ul style="list-style-type: none"> <li>• Identify and select appropriate Armamentarium</li> <li>• Apply principles of instruments used in exodontia</li> <li>• Handle elevators &amp; forceps</li> <li>• Interpret radiological findings related to exodontia(periapical &amp; OPG)</li> </ul>	IC 1 to IC 6	Demonstrations Practical CBL	OSCE
	04	Medical Management of Compromised Patients	<ul style="list-style-type: none"> <li>• Describe common Medical Emergencies with Diagnosis &amp; prevention</li> <li>• Manage medical Emergencies, which commonly occur in a Dental setting</li> <li>• Identify Emergency trolley drugs</li> <li>• Operate &amp; handle Oxygen Cylinder</li> </ul>	IC 1 to IC 6	Demonstrations Practical CBL	OSCE



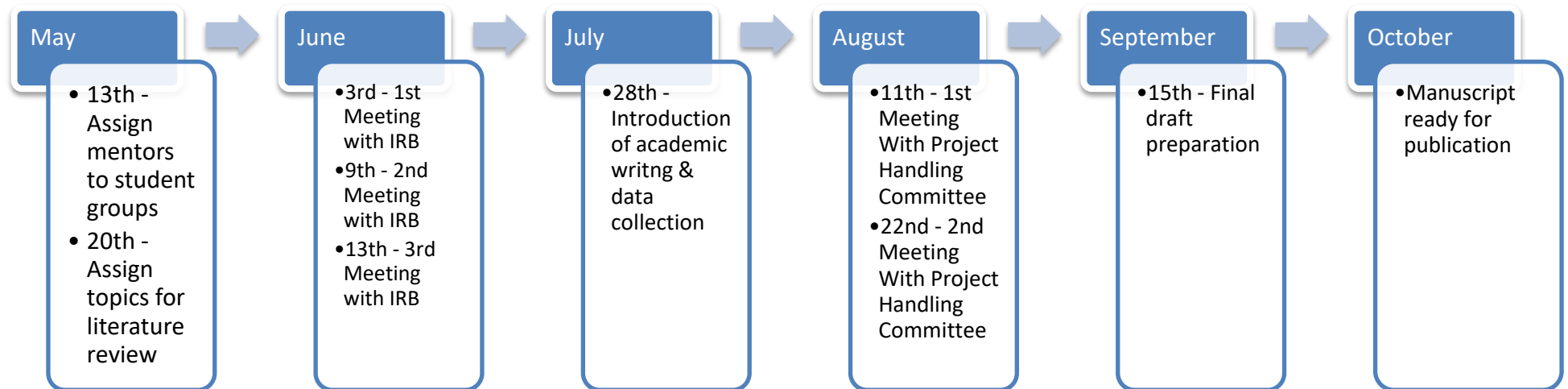


## Vertically Integrated Modules

### Research Methodology

After studying research methodology in 1<sup>st</sup> & 2<sup>nd</sup> Year of BDS, students' interest groups are developed in third and final year to inculcate research culture among students. Research mentors from each year are also allocated. The mentors are available for students throughout the course and help and guide them in every step of research, from the topic selection to data collection and writing the manuscript. A timeline for different steps of research is given to them. Each year students are advised to complete & submit their research proposals by the end of October before their final term. Specific time slots for research are available for students during their academic period.

#### Timeline Research Methodology - Student Research Interest Group





## Term I Syllabi

### 1. Operative Dentistry

Week	Topic	No. of Lectures
<b>1<sup>ST</sup> TERM</b>		
1 <sup>st</sup> week	Introduction to Operative Dentistry	01
	Sterilization & Cross infection control	02
2 <sup>nd</sup> week	Cariology	03
3 <sup>rd</sup> week	Prevention of Caries	03
4 <sup>th</sup> week	Diseases of pulp & peri radicular tissues	03
5 <sup>th</sup> week	Diseases of pulp & peri radicular tissues	03
6 <sup>th</sup> week	Evidence-based dentistry in restorative materials	01
	Restorative materials	02
	Amalgam & composites	
	Dental cements	
7 <sup>th</sup> week	Dental anomalies	02
	Behaviour management	01
<b>(SPORTS WEEK)</b>		
8 <sup>th</sup> week	Vital pulp therapies	02
	Occlusion	01
9 <sup>th</sup> week	Adhesion to enamel & dentin	03
10 <sup>th</sup> Week	Management of medically compromised pts	01
	Local anaesthesia & sedation	02
11 <sup>th</sup> Week	Discolouration of teeth	03
12 <sup>th</sup> Week	1 <sup>ST</sup> Term Exam	



## 2. Prosthodontics

Weeks	Topic
WEEK 1	<ul style="list-style-type: none"> <li>• Introduction to Fixed Partial dentures</li> <li>• History taking and clinical examination</li> </ul>
	<ul style="list-style-type: none"> <li>• Systemic health aspects in complete denture I</li> </ul>
WEEK 2	<ul style="list-style-type: none"> <li>• Treatment planning for a single missing tooth</li> <li>• Ante's Law. Treatment planning for mesially tilted abutment &amp; pier abutment</li> </ul>
	<ul style="list-style-type: none"> <li>• Systemic health aspects in complete denture-II</li> </ul>
WEEK 3	<ul style="list-style-type: none"> <li>• Treatment planning for multiple missing teeth</li> <li>• Principles of tooth preparation</li> </ul>
	<ul style="list-style-type: none"> <li>• Nutritional considerations</li> </ul>
WEEK 4	<ul style="list-style-type: none"> <li>• Principles of occlusion</li> </ul>
	<ul style="list-style-type: none"> <li>• Sequelae of wearing complete dentures I</li> </ul>
WEEK 5	<ul style="list-style-type: none"> <li>• Principles of occlusion</li> <li>• Principles of tooth preparation</li> </ul>
	<ul style="list-style-type: none"> <li>• Sequelae of wearing complete denture-II</li> </ul>
WEEK 6	<ul style="list-style-type: none"> <li>• Principles of tooth preparation</li> <li>• Complete cast crown preparation</li> </ul>
	<ul style="list-style-type: none"> <li>• Sequelae of wearing complete denture-III</li> </ul>
WEEK 7	<ul style="list-style-type: none"> <li>• Metal ceramic crown preparation</li> <li>• All ceramic crown preparation</li> </ul>
	<ul style="list-style-type: none"> <li>• Management of abused oral tissues</li> </ul>
WEEK 8	<ul style="list-style-type: none"> <li>• All ceramic crown preparation</li> </ul>
	<ul style="list-style-type: none"> <li>• Pre prosthetic surgery-II</li> </ul>
WEEK 9	<ul style="list-style-type: none"> <li>• Tissue management and impression making</li> </ul>
	<ul style="list-style-type: none"> <li>• Management of abused oral tissue</li> </ul>
WEEK 10	<ul style="list-style-type: none"> <li>• Tissue management and impression making</li> </ul>
	<ul style="list-style-type: none"> <li>• Immediate denture</li> </ul>



WEEK 11	<ul style="list-style-type: none"> <li>• Method for gingival tissue retraction</li> <li>• Disinfection of impression materials</li> <li>• Over dentures</li> <li>• Pontic design</li> </ul>
WEEK 12	1st Term Exam

### 3. Orthodontics

Weeks	Date	Topic
1 <sup>st</sup> Week	8 -02-2022	Orientation
	10-02-2022	Introduction to Orthodontics <ul style="list-style-type: none"> <li>• Definition &amp; its branches</li> <li>• Basic terminologies</li> </ul>
2 <sup>nd</sup> Week	15-02-2022	Introduction to Orthodontics <ul style="list-style-type: none"> <li>• Epidemiology of malocclusion</li> <li>• IOTN</li> </ul>
	17-02-2022	Growth & development <ul style="list-style-type: none"> <li>• Growth pattern, variability &amp; timing</li> <li>• Methods of studying growth</li> </ul>
3 <sup>rd</sup> Week	22-02-2022	Growth & development <ul style="list-style-type: none"> <li>• Sites, centres, theories</li> </ul>
	24-02-2022	Growth of cranial base & vault



4 <sup>th</sup> Week	1-03-2022	Growth of maxilla & mandible
	3-03-2022	Growth of facial soft tissues
5 <sup>th</sup> Week	8-03-2022	Later stages of growth <ul style="list-style-type: none"> <li>● Stages of adolescence in girls &amp; boys</li> <li>● Jaw rotations</li> </ul>
	10-03-2022	Later stages of growth <ul style="list-style-type: none"> <li>● Maturational &amp; ageing changes</li> </ul>
6 <sup>th</sup> Week	15-03-2022	Development of dentition <ul style="list-style-type: none"> <li>● Prenatal dental development</li> <li>● Primary, mixed &amp; permanent dentition</li> </ul>
	17-03-2022	Development of dentition <ul style="list-style-type: none"> <li>● Stages of dental eruption</li> <li>● Dimensional changes in dental arches</li> <li>● Dental age</li> <li>● Nolla stages</li> </ul>
7 <sup>th</sup> Week	22-03-2022	Developmental abnormalities <ul style="list-style-type: none"> <li>● Variations in number, size, shape, and structure of teeth</li> </ul>
	24-03-2022	Occlusion <ul style="list-style-type: none"> <li>● Ideal occlusion</li> <li>● Canine guided &amp; group guided occlusion</li> <li>● CO-CR</li> </ul>



8 <sup>th</sup> Week	29-03-2022	Occlusion <ul style="list-style-type: none"> <li>● Andrew's six keys of occlusion</li> </ul>
	31-03-2022	Classification of malocclusion
9 <sup>th</sup> Week	5-04-2022	Aetiology of malocclusion <ul style="list-style-type: none"> <li>● Specific causes</li> </ul>
	7-04-2022	Aetiology of malocclusion <ul style="list-style-type: none"> <li>● Hereditary and Environmental causes</li> </ul>
10 <sup>th</sup> Week	12-04-2022	Radiology <ul style="list-style-type: none"> <li>● Cephalometry</li> </ul>
	14-04-2022	Radiology <ul style="list-style-type: none"> <li>● OPG and PA Cephalometry</li> </ul>
11 <sup>th</sup> Week	19-04-2022	Radiology <ul style="list-style-type: none"> <li>● Hand &amp; wrist radiograph</li> </ul>
	21-04-2022	Radiology <ul style="list-style-type: none"> <li>● CVM stages</li> </ul>
12 <sup>th</sup> Week	26-04-2022	1 <sup>ST</sup> TERM EXAM
	28-04-2022	



#### 4. Oral & Maxillofacial Surgery

Week	Topic	No. of Lectures
<b>1<sup>st</sup> Term</b>		
1 <sup>st</sup> week	Introduction to Oral & Maxillofacial Surgery Exodontia (simple)	01 01
2 <sup>nd</sup> week	Exodontia (simple)	02
3 <sup>rd</sup> week	Exodontia (complex)	02
4 <sup>th</sup> week	Exodontia (complex)	02
5 <sup>th</sup> week	Local Anaesthesia	02
6 <sup>th</sup> week	Local Anaesthesia Principles of Basic Surgical Skills	01 01
7 <sup>th</sup> week	Principles of Basic Surgical Skills	02
8 <sup>th</sup> week	Principles of Basic Surgical Skills	02
9 <sup>th</sup> week	Principles of Basic Surgical Skills CLASS TEST	01 01
10 <sup>th</sup> Week	Management of medically compromised patients	02
11 <sup>th</sup> Week	Prevention & management of medical emergency in dental setting	03
12 <sup>th</sup> Week	<b>1<sup>st</sup> Term Exam</b>	



## Learning Resources

### 1. Operative Dentistry Department

- 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, 7<sup>th</sup> Edition, James R. Hupp
2. Handbook of Local Anesthesia, 7<sup>th</sup> Edition, Stanley F. Malamed
3. Fractures of the Facial Skeleton, 2<sup>nd</sup> Edition, Peter Banks
4. Scully's Medical Problems in Dentistry, 7<sup>th</sup> 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. Prosthodontics

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