



DENTAL COLLEGE HITEC-IMS

Study Guide Y2 – B1 - D22

2nd Year BDS

Coordinator: Dr. Shahreen Zahid



Blessed are they who hold lively
conversations with the helplessly
mute, for they shall be called
dentists.

— *Ann Landers* —

AZ QUOTES



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LIST OF ABBREVIATIONS

- PMC Pakistan Medical Commission
- NUMS National University of Medical Sciences
- LGIS Large Group Interactive Session
- SGD Small Group Discussion
- SDL Self-Directed Learning
- CBL Case Base Learning
- LGIF Large Group Instructional Format
- MIT Mode of Information Transfer
- EOB End of Block Examination
- TOS Table of Specification
- OSPE Objectively Structured Practical Examination
- OSCE Objectively Structured Clinical Examination
- SEQ Structured Essay Questions
- SAQ Short Answer Question
- MCQ Multiple Choice Question
- ANS Automatic Nervous System
- GIT Gastrointestinal Tract
- EECS Early Exposure to Clinical Skills
- FGD Focus Group Discussion
- 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



Block Committee

Coordinator, Chair Block Curriculum Committee: **Associate Professor Dr. Shahreen Zahid Khan**

Head of Department, Dental Materials. Contact No: 0333-4341988

S. No.	Name	Designation	Departments	Contact Number
1.	Dr Rai Tariq	Professor	Community Dentistry	0333-5718658
3.	Dr Shahreen Zahid	Associate Professor	Dental Materials	0333-4341988
4.	Dr Shazana Rana	Associate Professor	Pharmacology	0332-5272131
5.	Dr Sadia Israr	Assistant Professor	General Pathology	0320-5079151
6.	Dr Sharaz Ahmed	Assistant Professor	Preclinical Operative	0335-5067704
7.	Dr Sameen Zahra	Assistant Professor	Preclinical Prosthodontics	0333-5641998
8.	Dr Faizan Munir	Assistant Professor	Dental Education	0334-0031031
9.	Dr Fatima Tuz Zahra	Lecturer	Behavioural Sciences	0307-5887485
10.	Aima Kashif	Student	GR, 3 rd Year	0310-0045550
11.	Nafay Qazi	Student	CR, 3 rd Year	0301 9122214



Curriculum Overview/Implementation

Preface

The curriculum meets the standards of the Pakistan Medical Commission, the Higher Education Commission of Pakistan, and the World Federation of Medical Education. Therefore, upon completing the program, our students have the required competencies defined worldwide in a graduate doctor.

Model

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

Organization

The curriculum is organized and integrated along important vertical and horizontal dimensions. The content taught is integrated concurrently in a horizontal organization and vertically across the four years of BDS program. The course of the second year is divided into three blocks. In each block, the sequencing of the content is logical and integrated.

Teaching Strategies

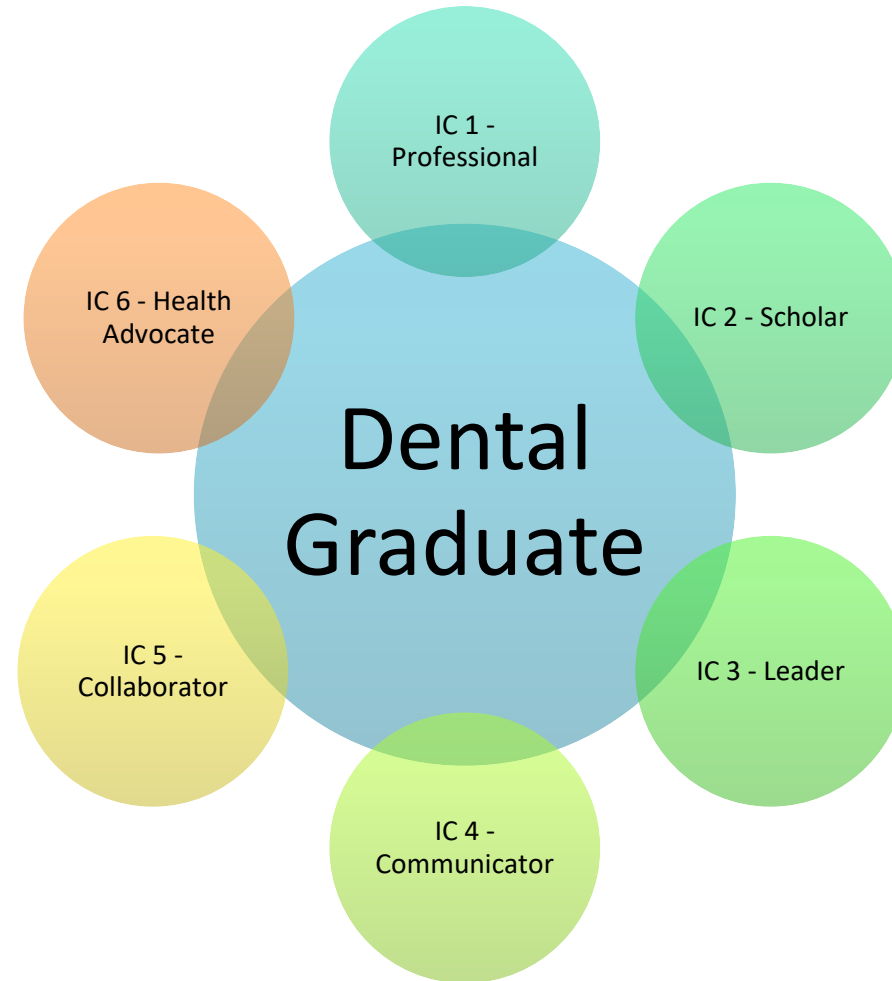
Multiple teaching strategies are used. LGIS are used to provoke thought, understanding and to standardise the delivery of the concept. It helps them to understand the general theme or subject matter, updated research, and best evidence medical information. We are teaching clinical implications of each topic to integrate basic and clinical sciences. This encounter is based on experience that is contextual, realistic, and relevant. Small group discussions encourage students to learn socially and refine their schemas. Working in laboratories provides experiential and hands-on learning.

Assessment

The summative assessment includes end block and pre-annual examination. Formative assessment is based on assignments, presentations, flipped classroom, journal clubs, quizzes, and class tests. After the block exams and the end of the academic year, a pre-annual examination will be conducted according to the standards outlined by NUMS.



1. Institutional Competency Framework





2. Alignment of Block Outcomes with Institutional Competencies

S. No.	Block Outcomes	Institutional Competencies
1.	Correlate the management of general pathological and community based diseases in subsequent years of training and practice	IC 1 to IC 6
2.	Correlate the basic properties of auxiliary and restorative materials with their application in the laboratory and relevant clinical conditions in a spiral manner	IC 1, IC 2, IC 6
3.	Explain the use of instruments in restorative work with specific relevance to caries	IC 1 to IC 6
4.	Integrate the fundamental concepts of sociology, anthropology and psychology with ethical, medical and dental practice considerations	IC 1 to IC 6
5.	Apply a constructivist approach to developing academic writing skills along with biostatistics	IC 1, IC 2, IC 4



3. Academic Calendar

Commencement of Classes – 27th December 2021			
BLOCK - 1 (14 WEEKS)			
(27th Dec 2021 to 1st April 2022)			
Activity	Duration	From	To
Academics	12 weeks	27th Dec 2021	18th March 2022
Sports Week	01 week	28th March 2022	1st April 2022
Public Holiday	Nil	-----	----
Block Assessment	01 week (09 days)	21 st March 2022	27 th March 2022
Block - 2 (11 Weeks)			
(4th April 2022 to 22nd July 2022)			
Academics	10 weeks	4 th April 2022	19 th June 2022
Eid Ul Fitr	01 week	2 nd May 2022	6 th May 2022
Public Holidays	Nil	----	-----
Eid-UI Azha+ Summer Vacations	04 weeks	20 th June 2022	15 th July 2022
Block Assessment	01 week	18 th July 2022	22 nd July 2022
Block - 3 (13 Weeks)			
(25th July 2022 to 4th Nov 2022)			
Academics	13 weeks	25 th July 2022	23 rd October 2022
Public Holiday	Nil	-----	-----
Send-Up	02 weeks	24 th Oct 2022	4 th Nov 2022
Pre-Prof Leave	4 weeks	5 th Nov 2022	4 th Dec 2022
2nd Professional Exam (Tentative)	5 th of December 2022		



4. Sample Timetable

Day	8:30-9:20	9:20-10:15	10:15-11:05	11:05-11:20	11:20-12:10	12:10-1:00	1:00-1:30	1:30-2:30	2:30-3:30					
Monday	Pathology-A / Pharmacology-B		Pharmacology	Break	Dental Materials Integrated	Community Dentistry	Break	Community Dentistry						
	Practical		LGIS		LGIS	LGIS		Tutorial						
	A-(Topic)													
	B-(Topic)													
Tuesday	Pathology-B / Pharmacology-A		Pharmacology		Break	Dental Materials		Community Dentistry	Break	Community-A/Dental Materials-B				
	Practical		LGIS			LGIS		LGIS		Practical/SGD				
	B-(Topic)													
	A-(Topic)													
Wednesday	Pharmacology	Dental Materials	Dental Materials			Break		Pathology		Community Dentistry	Break	Pharmacology		
	LGIS	Tutorial/Lecture	Tutorial					LGIS		LGIS		Tutorial		
Thursday	Community-B/ Dental Material-A		Pathology	Break			Pathology	Behavioural Sciences		Break		Jr Operative	Jr Prosthodontics	
	Practical/SGD		LGIS				LGIS	LGIS						
	B-(Topic)													
	A-(Topic)													
	8:30-10:20		10:20-11:15		Break		11:15-1:15		Break			1:45-3:30		
Friday	Jr Operative-A/ Jr Prosthodontics-B Integrated		SDL				Jr Operative-B/ Jr Prosthodontics-A Integrated					Pathology		
	Skill Lab		SDL				Skill Lab					Tutorial		
	B-(Topic) (Dr. Sharaz)		SDL				B-(Topic) (Dr. Sameen & Dr. Qudsia)							
	A-(Topic) (Dr. Sameen & Dr. Qudsia)					A-(Topic) (Dr. Sharaz)								
Dr Shahreen Zahid Khan		Dr Shazana	Dr Amir			Dr. Sharaz	Dr. Sunia	Dr Rai Tariq			Dr Irfan Shah			
Coordinator 2nd Year BDS & HoD Dental Materials		HoD Pharmacology	HoD Prosthodontics			Pre-clinical Operative	HoD Pathology	Vice Principal & HoD Community Dent			Principal			



Assessment

Types and Schedules



Assessment is continuous via class tests, quizzes, and assignments by the department. Continuous assessment is separate from the block exam at the end of 13 weeks of instruction. The purpose of continuous assessment is formative and summative.

Formative assessment tests may be surprise tests/written assignments/self-reflection and presentations and feedback to the students during the teaching time. The purpose of formative assessment is to provide feedback to the students for improvement and for teachers to identify areas where students need further guidance.

From the 2nd week onwards, the class tests of Community Dentistry, Pharmacology, Dental Materials, Preclinical subjects, and General Pathology will be held on a rotation basis, respectively. Finally, the 13th week will be dedicated to end-of-block (EOB) exams. Above mentioned assessment tools will form part of continuous summative assessment and, along with pre-annual exams, will contribute to marks in internal assessment to be submitted to the university.

Students must secure 50% marks in exams, as per university criteria.

The students who fail in the end of the block exam will be allowed to attend the next block; however, their internal assessment will be affected accordingly.

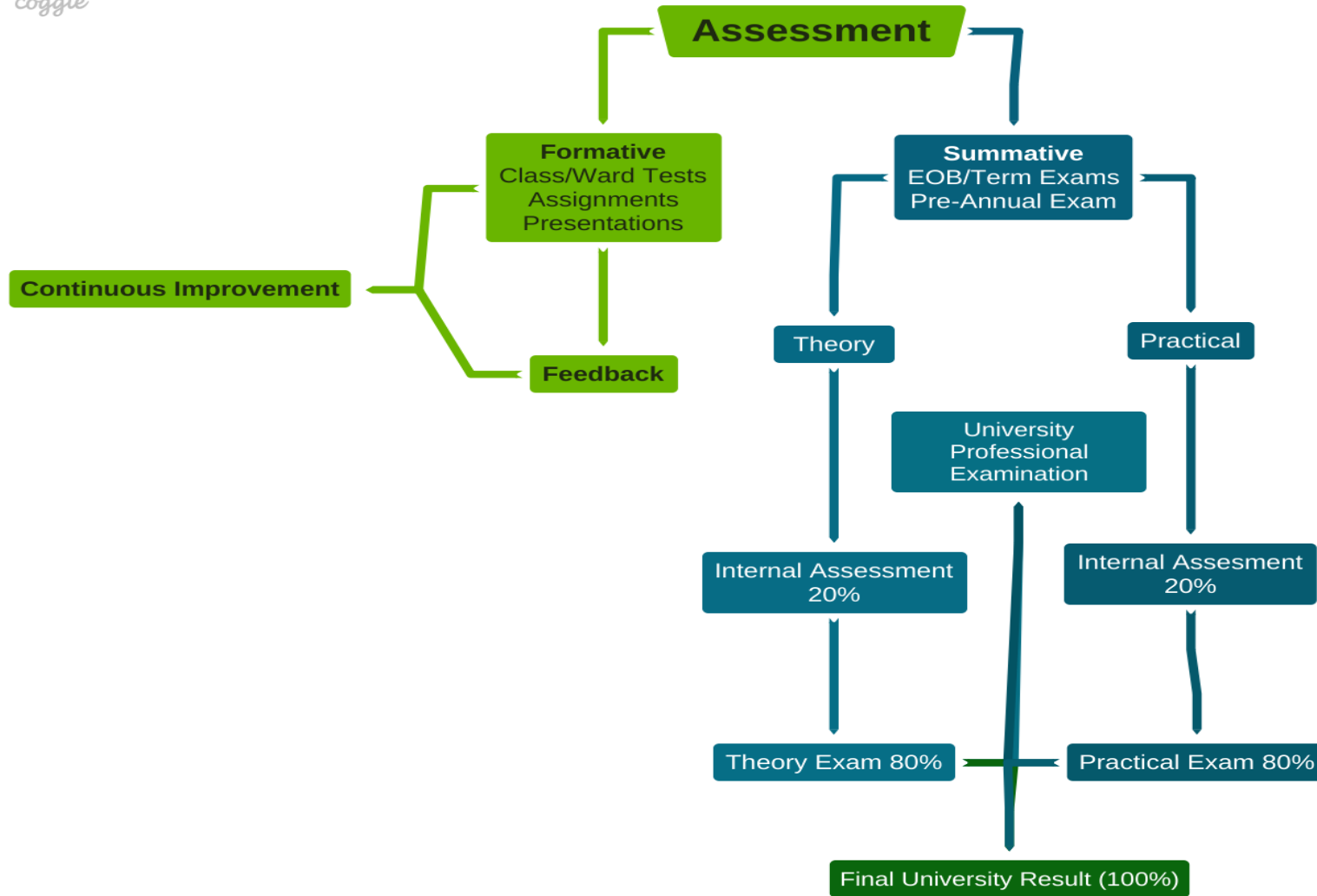
Internal assessment criteria for submission of internal assessment marks of Second Professional Examination NUMS:

1. The weightage of internal assessment shall be 20 marks for a 100 marks paper (20%) in the annual examination.
2. Class tests, end-of-block examinations, and pre-annual examination shall contribute to internal assessment.



1. Assessment Map

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BLOCK - I

Management of Cariology & Medical Pathologies



1. Structured Summary - Block I

Block Code	Y2-B1-D22
Block Title	Management Of Cariology and Medical Pathologies 1
Duration Of Block	14 weeks
Important Dates	27th Dec 2021 to 1 st April 2022
Horizontally Integrated Themes/Topics	General Pathologies and Management Community Diseases and Prevention Cariology and Management
Vertically Integrated Themes/Topics	Preclinical Operative Dentistry Preclinical Prosthodontics Research Methodology Behavioural sciences (Communication Skills)
Prerequisite Blocks	All 1 st Year Blocks



2. TENTATIVE TEST SCHEDULE¹

DATE	SUBJECT	DAY
6 th Jan 22	Community Dentistry	Thursday
17 th Jan-22	Dental Materials	Monday
6 th Jan-22	Pharmacology	Wednesday
3 rd Feb-22	General Pathology	Thursday
10 th Feb-22	Preclinical Operative Dentistry & Prosthodontics	Thursday

DATE	SUBJECT	DAY
24 th Feb-22	Community Dentistry	Thursday
28 th April 22	Dental Materials	Monday
10 th March 22	Pharmacology	Wednesday
17 th March-22	General Pathology	Thursday
31 st March-22	Preclinical Operative dentistry and prosthodontics	Thursday

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



3. END OF BLOCK (EOB) EXAM TENTATIVE SCHEDULE²

Dates	Subject	Timings
21st March 2022	Dental Materials	Starting at 8:30
22nd March 2022	Community Dentistry	Starting at 8:30
24th March 2022	Pharmacology	Starting at 8:30
25th March 2022	General Pathology	Starting at 8:30
26th March 2022	Preclinical Operative and Prosthodontics	Starting at 8:30

² This is a tentative schedule. Therefore, it is subject to change.



LEARNING OUTCOMES FOR BLOCK I

1. DENTAL MATERIALS

S. No.	Topics/Theme	Learning Outcomes	Learning Objectives	IC Codes	MIT	Assessment Tools
1	Introduction to Science of Dental Materials	At the end of the session, students will be able to:	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Describe classification of dental materials Discuss the properties of the materials used in dentistry Analyse the process of selection of appropriate material 	IC 2 IC 4	LGIS SGD	MCOs SEQs Viva
		<ul style="list-style-type: none"> Describe ideal properties of dental materials Classify the types of dental materials available, i.e., Auxiliary Materials, Restorative Materials, Preventive Materials 	<p><u>Skill</u></p> <ul style="list-style-type: none"> Demonstrate the use of weighing scale, cylinders, and beakers for manipulation of materials 	IC 1 IC 4	Practical Demonstration Virtual Audio Video Demonstration	OSPE
2	Properties Used to Characterize Materials Requirements for direct filling materials Synthetic polymers	<ul style="list-style-type: none"> Characterize different dental materials Describe mechanical properties of different materials Describe the chemical and physical principles that form the foundation of the clinical behaviour and 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Describe the primary classification of different preventive and restorative materials in dentistry Compare the Mechanical properties of different materials, i.e., metals, ceramics, polymers, and composites 	IC 2 IC 4	LGIS SGD CBL	MCOs SEQs Viva

		<p>application of dental materials</p> <ul style="list-style-type: none"> • Analyse thermoplastic and thermosetting phenomena of materials • Describe the process and stages of polymerization <ul style="list-style-type: none"> ○ activation ○ initiation ○ propagation ○ termination • Compare the difference between addition & condensation polymerization • Explain the chain lengthening, chain branching and cross-linking mechanisms • Describe the physical changes which occur during polymerization • Discuss the structure and properties of polymers and factors affecting, such as molecular weight, glass transition temperature, plasticizers etc 	<ul style="list-style-type: none"> • Define stress and strain and their relevance with dental materials used in the oral cavity • Explain various mechanical properties of a material on the stress-strain curve • Explain the rheological properties of dental materials • Explain the optical and thermal properties of materials • Describe the structure of matter and the principles of adhesion amongst dental materials • Discuss the concept of adhesion with clinical relevance • Describe the fundamental biological and chemical principles that make the foundation of the clinical behaviour and application of dental materials • Explain the physical principles that make the foundation of the clinical 			
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			<p>behaviour and application of dental materials</p> <ul style="list-style-type: none"> • Discuss the range of biological considerations regarding the selection and performance of dental materials for clinical applications • Explain the safety, biocompatibility, and biomechanics of materials • Describe requirements of direct filling materials • Explain the polymerization reactions • Explain the physical changes occurring during the polymerization • Describe the structure and properties of synthetic polymers • Discuss methods of fabricating polymers 			
			<p><u>Skill</u> Perform wire bending activity (Bend Stainless Steel wire to make different alphabets A, C, D, S, T and X)</p>	IC 1 IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
3	Composites		<p><u>Knowledge</u></p>	IC 2	LGIS SGD	MCQs SEQs

	<p>Dentin bonding agents and adhesive dentistry</p>	<ul style="list-style-type: none"> • Define what is meant by composite materials • Recall composition of Dental composites. • Classify dental composite based on <ul style="list-style-type: none"> ○ Activation methods ○ filler particle sizes ○ newer generations (flowable, Packable, Bulk-fill) • Analyse the evolution of light-curing systems • Relate the properties of resin-based composites to clinical situations • Explain the basic mechanisms of bonding • Infer the ideal adhesive characteristics • Review in detail the enamel and dentine bonding systems • Discuss the evolution of Bonding systems • Classify adhesive systems 	<ul style="list-style-type: none"> • Describe the history and classification of restorative composites • Discuss the properties of different components of restorative composites • Describe the history and classification of restorative composites • Discuss the properties of different components of restorative composites • Compare the characteristics and clinical applications for composite restorative materials • Explain different modifications concerning restorative composites • Describe finishing and polishing procedures for restorative composites • Explain the biocompatibility issue related to restorative composites • Describe the recent advances in restorative composites 			<p>Viva</p>
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			<ul style="list-style-type: none"> Describe the concept of bonding and adhesion in dentistry Define enamel and dentine bonding Describe the significance and rationale behind enamel and dentine bonding Describe the various types and generations of dentine bonding Describe the significance of biodegradation of restorative resins Explain recent advancements in dentine bonding agents 			
			<p>Skill</p> <ul style="list-style-type: none"> Identify all the components in a dental composite kit Demonstrate the steps of composite manipulation 	IC 2 IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
4	Dental Amalgam	At the end of the session, students will be able to: <ul style="list-style-type: none"> Classify different amalgam alloys based different criteria 	<p>Knowledge</p> <ul style="list-style-type: none"> Describe the history, composition, and classification of dental amalgams 	IC 2 IC 4	LGIS SGD	MCQs SEQs Viva

		<ul style="list-style-type: none"> • Discuss composition of amalgam • Explain the setting reaction of amalgam • Recall the microstructure and amalgamation reaction of low copper, high copper admixed, and single composition alloys with mercury • Summarize the properties of dental amalgam and factors which affect their properties • Demonstrate manipulation technique of Dental Amalgam • Discuss the effect of mercury/Alloy ratio, Trituration, Condensation, Carving and Finishing on the final restoration • Describe Mercury Toxicity • Differentiate corrosion and creep, phenomena of ditching 	<ul style="list-style-type: none"> • Explain the setting mechanisms of different types of amalgams • Explain the clinical manipulation and factors affecting the properties of dental amalgams • Analyse the issues related to amalgam hygiene in clinical practice • Explain electrochemical cell formation in the oral cavity and its clinical relevance • Describe the mechanism of galvanism • Explain the biocompatibility issues related to dental amalgam • Identify recent advancements in dental amalgams 			
			<p>Skill</p> <ul style="list-style-type: none"> • Identify dental amalgam kit and armamentarium • Perform hand-trituration of dental amalgam 	IC 2 IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE



			<p><u>Attitude</u></p> <ul style="list-style-type: none"> Practice lab safety protocol <p>Identify possible laboratory hazards linked to mercury</p>	<p>IC 1 IC 3</p>	<p>Practical Demonstration Virtual Audio Video Demonstration</p>	<p>OSPE</p>
5	Cements	<p>At the end of the session, students will be able to:</p> <ul style="list-style-type: none"> Differentiate between liners, bases, and varnish Classify dental cements Recall composition, setting reactions, properties, advantage and disadvantages of: <ul style="list-style-type: none"> Cements based on phosphoric acid Cements based on organometallic chelates Cements based on polycarboxylate Demonstrate manipulation of various dental cements 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Recall the objectives and basic terminologies related to dental cements Compare the setting mechanism of various dental cements as well as their clinical application Discuss the general requirements, and types of different dental cements Compare the properties, advantages, and disadvantages of different dental cements Describe the concept of bases and liners for different clinical application Compare different luting agents and their properties Compare the use of temporary restorative materials, properties, and their uses 	<p>IC 2</p>	<p>LGIS SGD</p>	<p>MCOs SEQs Viva</p>



			<ul style="list-style-type: none"> Describe A-traumatic restorative techniques (ART) with their uses 			
			<p>Skill</p> <ul style="list-style-type: none"> Demonstrate mixing of Zinc phosphate cement Demonstrate manipulation and placement of glass ionomer cement Perform manipulation and placement technique of calcium hydroxide liner Practice manipulation technique of zinc phosphate on slab/paper pad 	IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
6	Endodontic Materials	At the end of the session, students will be able to discuss: <ul style="list-style-type: none"> Endodontic materials Preventive materials Materials used for finishing and polishing 	<p>Knowledge</p> <ul style="list-style-type: none"> Discuss the use of various endodontic materials in dentistry 	IC 2	LGIS	MCQs SEQs Viva
			<p>Skill</p> <ul style="list-style-type: none"> Identify all endodontic and preventive materials 	IC 2 IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
7	Introduction to materials used in diagnostics and treatment planning	At the end of the session, students will be able to: <ul style="list-style-type: none"> Describe materials used for diagnostics 	<p>Knowledge</p> <ul style="list-style-type: none"> Identify materials used in diagnostics and treatment planning 	IC 2	LGIS SGD	MCQs SEQ Viva



2. COMMUNITY DENTISTRY

S. No.	Content/ Topic	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
		At the end of this block students will be able to:				
1	Introduction to Community Dentistry	Discuss the basic concepts of Community Dentistry	<u>Knowledge</u> <ul style="list-style-type: none"> Describe the concept, history and scope of community dentistry 	IC 2	LGIS SGD	MCQs SEQs Viva
2	Health Disease Infection	Discuss basic concepts in health, disease, and infection	<u>Knowledge</u> <ul style="list-style-type: none"> Define health Explain different dimensions of health Describe determinants of health Discuss Indicators of health Define disease Discuss different concept of disease Describe natural history of disease Describe Iceberg phenomenon of disease Define infection Describe modes of transmission of infection Explain Stages of infection 	IC 2	LGIS SGD	MCQs SEQs Viva



3	Ergonomics Basics	<ul style="list-style-type: none"> Demonstrate the knowledge and practical skills related to Ergonomics 	Knowledge <ul style="list-style-type: none"> Define ergonomics and its effects Discuss musculoskeletal disorders 	IC 2	LGIS SGD	MCQs SEQs Viva
			Skill <ul style="list-style-type: none"> Perform exercise of different positioning 	IC 2 IC 4 IC 6	Demonstration	OSPE
4	Introduction to Public and Dental Public Health Public Health Dental Public Health	<ul style="list-style-type: none"> Demonstrate knowledge regarding scope of Public and Dental Public Health 	Knowledge <ul style="list-style-type: none"> Define public health Define the vision and mission of public health Discuss essential public health services Describe different characteristics of public health methods Describe public health techniques Define objectives of public health dentistry Define of dental public health Discuss core areas in public health dentistry 	IC 2	LGIS SGD	MCQs SEQs Viva

5	History Taking	<ul style="list-style-type: none"> Discuss the Practical application of history taking 	Skill <ul style="list-style-type: none"> Perform history taking on patient Practice different components of history taking 	IC 1 to IC 6	Demonstration	OSPE
			Attitude <ul style="list-style-type: none"> Explain ethical considerations while taking history 	IC 1 to IC 6	Demonstration	OSPE
6	Epidemiology of Oral Diseases Introduction to Epidemiology	<ul style="list-style-type: none"> Discuss the basic principles of Epidemiology 	Knowledge <ul style="list-style-type: none"> Define epidemiology Explain history of epidemiology of oral diseases 	IC 2	LGIS SGD	MCQs SEQs Viva
7	Epidemiology of Dental Caries	Discuss the basic principles and epidemiology of dental caries	Knowledge <ul style="list-style-type: none"> Define dental caries Describe epidemiological triad of dental caries Outline theories related to causation Identify factors associated with dental caries Explain prevalence of caries in Pakistan & its associated factors Discuss the mechanism of caries Classify caries 	IC 2 IC 4 IC 5 IC 6	LGIS SGD	MCQs SEQs Viva

			<ul style="list-style-type: none"> • Discuss the mechanism of caries • Classify caries • Explain the clinical manifestation of caries process • Interpret the role of diet on caries and of sugar on caries • Describe indicators for increased caries risk • Explain the categories for caries risk assessment • Discuss the concept of Cariogram • Describe the advantages of caries activity test • Explain the various caries activity tests 			
8	Examination	<ul style="list-style-type: none"> • Apply the knowledge of oral & extra oral examination 	<p><u>Affective</u></p> <ul style="list-style-type: none"> • Obtain informed consent from patient before examination 	IC 1 IC 4	Demonstration	OSPE
9	Epidemiology Of Periodontal Diseases	<ul style="list-style-type: none"> • Discuss the basic principles and epidemiology of Periodontal Diseases 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Define periodontal disease • Describe epidemiological triad of periodontal disease • Explain the prevalence of periodontal diseases in Pakistan and their associated factors 	IC 2 IC 4 IC 6	LGIS SGD	MCQs SEQs Viva

10	Epidemiology of Oral Cancer	<ul style="list-style-type: none"> Describe the basic principles and epidemiology of Oral Cancer 	<p>Knowledge</p> <ul style="list-style-type: none"> Define oral cancer Identify the signs and symptoms of oral cancer Enlist different types of carcinomas Outline the epidemiology of oral cancer in Pakistan Describe agent, host and environmental factors related to oral cancer Outline the risk factors and contributory factors of oral cancer 	IC 2 IC 4 IC 6	LGIS SGD	MCQs SEQs Viva
11	Epidemiology of Malocclusion	<ul style="list-style-type: none"> Discuss the basic principles and epidemiology of Malocclusion 	<p>Knowledge</p> <ul style="list-style-type: none"> Classify malocclusion Discuss causes of malocclusion Describe the epidemiological triad of malocclusion and oro-facial defects Explain the prevalence of malocclusion in Pakistan and its associated factors 	IC 2 IC 6	LGIS SGD	MCQs SEQs Viva
12	Epidemiology of Tooth Wear	<ul style="list-style-type: none"> Describe the basic principles and epidemiology of tooth wear 	<p>Knowledge</p> <ul style="list-style-type: none"> Define tooth wear, attrition, abrasion & erosion. Discuss the epidemiology of 	IC 2	LGIS SGD	MCQs SEQs Viva



			tooth wear			
13	Examination	<ul style="list-style-type: none"> Illustrate Practical application of oral & extra Oral examination 	Skill <ul style="list-style-type: none"> Perform extra oral and intraoral examination on patient 	IC 1 IC 2 IC 3 IC 4	Demonstration	OSPE
14	Oral Indices Introduction of Oral indices Oral Hygiene Indices	<ul style="list-style-type: none"> Apply the knowledge of Oral Indices 	Knowledge <ul style="list-style-type: none"> Define an index Explain the ideal requirements of an index Describe uses of an index Describe the classification of oral indices Define the PI index, PHP index and OHI-S index Describe the procedure to determine the score of PI, PHP and OHI-S indices Identify the index teeth to be examined Discuss the scoring criteria of oral indices Describe the nominal scale for interpretation of oral indices 	IC 2 IC 4 IC 5 IC 6	Demonstration	OSPE
15	Indices for Gingival Diseases Oral Indices	<ul style="list-style-type: none"> Apply the knowledge of Oral Indices Demonstrate the skill regarding Oral Indices 	Knowledge <ul style="list-style-type: none"> Define gingival index and SBI Explain gingival index & Scoring criteria Describe the nominal scale for interpretation of gingival 	IC 2 IC 4 IC 5 IC 6	LGIS SGD	MCQs SEQs Viva



			index score			
			Skill <ul style="list-style-type: none"> To calculate PI on models 	IC 2 IC 4 IC 5	Demonstration	OSPE
16	Indices for Periodontal Diseases	<ul style="list-style-type: none"> Apply the knowledge of Oral Indices 	Knowledge <ul style="list-style-type: none"> Define the Russell's PI index Explain the procedure to measure the Russell's periodontal index Describe the scoring criteria of Russell's index Explain the nominal scale for the interpretation of Russell's index Define CPITN Index Identify instruments used for its measurement Explain the procedure to measure the score CPITN index Discuss the scoring criteria of CPITN index 	IC 2 IC 4 IC 5 IC 6	LGIS SGD	MCQs SEQs Viva

17	Oral Indices Indices for Dental Caries Index for Dental Fluorosis Index for Malocclusion Oral Indices	<ul style="list-style-type: none"> • Demonstrate the skill regarding Oral Indices. • Apply the knowledge of Oral Indices 	<p>Knowledge</p> <ul style="list-style-type: none"> • Identify different indices used for diagnosis of dental caries • Define the DMFT and DFT Index • Explain the procedure to measure the score of DMFT index • Discuss index teeth to be examined • Describe Dean's Fluorosis Index • Explain the procedure to measure the score of Dean Fluorosis Index • Identify index teeth to be examined and scoring criteria of Dean's Index • Describe the Angle's classification 	IC 2 IC 4 IC 6	LGIS SGD	MCQs SEQs Viva
			<p>Skill</p> <ul style="list-style-type: none"> • Illustrate the calculation of DMFT and dental fluorosis score on models • Identify different types of CPITN probes • Practice the measurement 	IC 4 IC 6	Demonstration	OSPE



			of CPITN score on models			
18	Health Education	<ul style="list-style-type: none"> Outline basic Principles & Objectives of Health Education 	<p>Knowledge</p> <ul style="list-style-type: none"> Define health education Outline the objectives and key messages in health education Explain general educational theories Describe principles involved in health education Enlist the different methods and materials used in health education Describe the steps involved in planning oral health education 	IC 2	LGIS SGD	MCQs SEQs Viva
19	Health Promotion	<ul style="list-style-type: none"> Outline Strategy of Health Promotion 	<p>Knowledge</p> <ul style="list-style-type: none"> Define health promotion Outline the principles of health promotion Identify different approaches of health promotion Discuss the declaration of Ottawa charter and its components 	IC 2 IC 6	LGIS SGD	MCQs SEQs Viva



3. PHARMACOLOGY

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives	IC Codes	MIT	Assessment Tools
			At the end of the session students should be able to:			
General Pharmacology						
1.	Pharmacology: Historical overview	<ul style="list-style-type: none"> Discuss basics of pharmacology 	<u>Knowledge</u> <ul style="list-style-type: none"> Define pharmacology and differentiate it from pharmacy Explain the concept of modern pharmacology Define drug Discuss the historical development of pharmacology Discuss the contribution of muslim scientists in the field of pharmacology Describe the components of the rational drug therapy 	IC 2	LGIS	SAQ MCQ Viva
2.	Pharmacology: Branches/division of Pharmacology, Role in Medicine	<ul style="list-style-type: none"> Discuss branches of pharmacology 	<u>Knowledge</u> <ul style="list-style-type: none"> Define pharmacokinetics, pharmacodynamics, therapeutics, chemotherapy, toxicology, clinical pharmacology, pharmacy, pharmacognosy, pharmacogenomics, pharmacoepidemiology, comparative pharmacology, animal pharmacology, pharmacoconomics and posology 	IC 2	LGIS	SAQs MCQs Viva

			<ul style="list-style-type: none"> Describe the clinical importance of branches of pharmacology 			
3.	Active Principles & sources of Drugs	<ul style="list-style-type: none"> Discuss active principles and sources of drugs 	<p>Knowledge</p> <ul style="list-style-type: none"> Define active principles of drugs Discuss characteristics of active principles with examples 	IC 2	SGD	MCQs SAQs Viva
4.	Dosage forms & doses of drugs	<ul style="list-style-type: none"> Describe doses and dosage forms 	<p>Knowledge</p> <ul style="list-style-type: none"> Define dosage forms Describe various dosage forms with examples 	IC 2	SGD	MCQs SAQs Viva
5.	Routes of drug administration	<ul style="list-style-type: none"> Describe clinical applications of routes of administration 	<p>Knowledge</p> <ul style="list-style-type: none"> Classify routes of administration of drugs Describe the advantages and disadvantages of different routes of drug administration Discuss different factors governing the choice of route 	IC 2 IC 5	LGIS	MCQs SAQs Viva
6.	Absorption of drug process Factors modifying drug absorption	<ul style="list-style-type: none"> Discuss process of absorption of drugs 	<p>Knowledge</p> <ul style="list-style-type: none"> Recall the structure of cell membrane Define absorption of drug Enumerate transport mechanisms involved in drug absorption Describe factors affecting the absorption of drug 	IC 2	LGIS	MCQs SEQs Viva
7.	Bioavailability: clinical significance and factors affecting	<ul style="list-style-type: none"> Explain clinical significance of bioavailability of drugs 	<p>Knowledge</p> <ul style="list-style-type: none"> Define bioavailability Explain bioavailability with help of formula Discuss the importance of bioavailability 	IC 2	LGIS	MCQs SEQs Viva

			<ul style="list-style-type: none"> • Tabulate factors affecting bioavailability of drugs • Differentiate between bioequivalence, therapeutic equivalence, chemical equivalence 			
8.	Distribution and plasma protein binding of drugs	Discuss distribution of drugs	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Define distribution of drug • Recall the distribution of total body water • Define volume of distribution and express with formula • Recall the clinical application of Volume of distribution in dosing regimens (calculation of loading dose) • Discuss factors affecting drug distribution • Identify plasma proteins with affinity for drugs. • Discuss the effect of plasma protein binding on volume of distribution 	IC 2	LGIS	MCQs SEQs Viva
9.	Biotransformation of drugs	Describe biotransformation of drugs	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Define biotransformation/ metabolism of drug • Enlist the sites of metabolism of drugs • Describe the outcomes/objectives of biotransformation • Identify types of biochemical reactions responsible for drug metabolism 	IC 2	LGIS	MCQs SAQs Viva



10.	Factors modifying biotransformation	<ul style="list-style-type: none"> Discuss biotransformation of drugs 	<p>Knowledge</p> <ul style="list-style-type: none"> Enumerate the determinants of biotransformation 	IC 2	LGIS	MCQs SEQs Viva
11.	Half-life of drugs: factors affecting and clinical significance.	<ul style="list-style-type: none"> Explain clinical significance of plasma half life 	<p>Knowledge</p> <ul style="list-style-type: none"> Define plasma half life Explain the formula of half-life Discuss pharmacokinetic parameters of drug predicted by half-life (time to reach steady state concentration, zero/first order kinetics, time of elimination) Describe factors modifying half life 	IC 2	LGIS	MCQs SEQs Viva
12.	Excretion of drugs (Drug clearance)	<ul style="list-style-type: none"> Describe excretion and clearance of drugs 	<p>Knowledge</p> <ul style="list-style-type: none"> Explain excretion of drug Classify major and minor routes of excretion Enumerate processes involved in renal excretion Discuss the role of enterohepatic circulation in excretion of drug Define drug clearance Explain the significance of drug clearance 	IC 2	LGIS	MCQs SEQs Viva
13.	Mechanism of drug actions I & II	<ul style="list-style-type: none"> Discuss mechanism of drug action 	<p>Knowledge</p> <ul style="list-style-type: none"> Enumerate ways of cellular- drug interaction Define receptor and its types and distribution Define ligands 	IC 2	LGIS	MCQs SEQs Viva



			<ul style="list-style-type: none"> Describe types of drug receptor interaction Analyse the concept of second messenger 			
14.	Factors modifying actions & doses of drugs	<ul style="list-style-type: none"> Describe actions and doses of drugs 	<p>Knowledge</p> <ul style="list-style-type: none"> Classify the determinants affecting action of drug Enumerate factors affecting pharmacokinetics of drugs (age, body size, genetic and environmental factors, diseases and co-morbid states, concomitantly administered drugs) Tabulate factors responsible for pharmacodynamics variability (tolerance, synergism, antagonism etc) 	IC 2	LGIS	MCQs SEQs Viva
15.	A.N.S: Introduction-I & II	<ul style="list-style-type: none"> Describe the structure of autonomous nervous system. 	<p>Knowledge</p> <ul style="list-style-type: none"> Recall the main divisions of nervous system Enumerate the distinctive anatomical and chemical characteristics of sympathetic and parasympathetic nervous system Enlist essential steps of neurotransmitter synthesis, storage, and release Identify the visceral organs innervated by sympathetic and parasympathetic systems and functional responses of these organs to activation of either system Explain the distribution of autonomic receptors and secondary messenger associated with them 	IC 2	LGIS	MCQs SEQs Viva



16.	Cholinergic drugs: Classification, cholinesters, alkaloids etc.	<ul style="list-style-type: none"> Discuss the actions of direct cholinergic drugs 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Recall the structural and functional differences between nicotinic and muscarinic receptors, their distribution and effects produced by activation Classify cholinergic drugs/cholinomimetics Differentiate between mechanism of action of direct and indirectly acting cholinomimetics Describe the clinical uses and adverse effects of directly acting cholinomimetics Explain the salient features of acute and chronic nicotine toxicity 	IC 2	LGIS	MCQs SEQs Viva
17.	Anticholinesterase Organophosphate poisoning & Oximes	<ul style="list-style-type: none"> Describe the actions of indirect cholinergic drugs 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Tabulate the types of cholinesterase, their location in body and function Explain the steps of breakdown of acetylcholine by cholinesterase Classify anti-cholinesterase Discuss the mechanism of reversible and irreversible inhibition of cholinesterase Discuss the salient features of individual anti-cholinesterase Explain the use of anti-cholinesterase in the diagnosis and treatment of myasthenia gravis Describe the toxic pharmacological features of organophosphate poisoning 	IC 2	LGIS	MCQs SEQs Viva

			<ul style="list-style-type: none"> Discuss the sequence of drugs used in the management of organophosphate poisoning Describe the mechanism of action of oximes as antidotes of organophosphate poisoning 			
18.	Cholinergic blockers; Natural alkaloids, Semisynthetic Anticholinergics I & II	<ul style="list-style-type: none"> Discuss basic pharmacology of anti-cholinergic drugs 	<p>Knowledge:</p> <ul style="list-style-type: none"> Classify anticholinergic drugs (therapeutic and chemical) Explain the pharmacokinetic, mechanism and pharmacological action of prototype anticholinergic agent Describe the major therapeutic uses and adverse effects of anti-cholinergic Enumerate drug interactions and contraindications of cholinergic receptor blockers Discuss the features of atropine poisoning and give its treatment Compare and contrast atropine and hyoscine 	IC 2	LGIS	MCQs SEQs Viva
19.	Skeletal Muscle Relaxants	<ul style="list-style-type: none"> Explain the basics of skeletal muscle relaxants 	<p>Knowledge:</p> <ul style="list-style-type: none"> Classify skeletal muscle relaxants Describe the pharmacokinetics and mechanism of action of prototype non-depolarizing and depolarizing muscle relaxants 	IC 2	LGIS	MCQs SEQs Viva

			<ul style="list-style-type: none"> • Discuss the mechanism employed for termination of effects of skeletal muscle relaxants • Discuss the therapeutic clinical indications and adverse effects of each class of skeletal muscle relaxants • Enlist centrally acting muscle relaxants • Describe salient features of benzodiazepines, baclofen and tizanidine as spasmolytics • Explain the unique role of dantrolene in hyperthermia syndromes 			
20.	Catecholamines Adrenaline, Nor adrenaline, Dopamine & Dobutamine	<ul style="list-style-type: none"> • Describe the actions of catecholamines 	<p><u>Knowledge:</u></p> <ul style="list-style-type: none"> • Define catecholamines • Enumerate catecholamines • Describe the chemistry, mechanism of action, organ system effects, clinical uses, and untoward effects of adrenaline • Compare and contrast the effects of adrenaline nor adrenaline and isoprenaline • Differentiate between dopamine and dobutamine with respect to source, pharmacokinetics, pharmacological effects, therapeutic indications, and adverse effects 	IC 2	LGIS	MCQs SEQs Viva
21.	Non Catecholamines: Ephedrine,	<ul style="list-style-type: none"> • Explain the actions of non-catecholamines 	<p><u>Knowledge:</u></p> <ul style="list-style-type: none"> • Enumerate non-catecholamines • Tabulate differences between catecholamines and non-catecholamines 	IC 2	LGIS	MCQs SEQs Viva



	Amphetamines α receptor agonists etc		<ul style="list-style-type: none"> Describe the mechanism of action of indirectly acting sympathomimetics Classify indirectly acting sympathomimetics according to their therapeutic indications Discuss the untoward effects of non-catecholamines 			
22.	Adrenergic Blockers: Alpha-receptor Blockers	<ul style="list-style-type: none"> Describe the actions of alpha blockers 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Recall the distribution of alpha receptors and organ system effects produced by their activation Classify alpha receptors Discuss the principal clinical indications of alpha blockers with their mechanism of action Discuss adverse effects of alpha blockers Describe contraindications of alpha blockers 	IC 2	LGIS	MCQs SEQs Viva
23.	Adrenergic Blockers: Beta receptor Blockers I & II	<ul style="list-style-type: none"> Explain the basic pharmacology of beta blockers 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Recall the distribution of beta receptors and organ system effects produced by their activation Classify beta receptors Identify important pharmacokinetic properties of beta blockers 	IC 2	LGIS	MCQs SEQs Viva



			<ul style="list-style-type: none"> • Explain the principal clinical indications of beta blockers with their mechanism of action • Describe the adverse effects of beta blockers • Discuss contraindications of beta blockers 			
24.	Drugs used in cardiac failure I, II	<ul style="list-style-type: none"> • Explain the actions of drugs used for Congestive cardiac failure & its treatment 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Define cardiac failure • Outline the pathophysiological basis for the development of cardiac failure • Identify the receptors on cardiac myocytes and their role in myocardial contraction • Classify drugs used in cardiac failure • Describe the mechanism of action of cardiac glycosides • Explain the adverse effects and drug interactions of digoxin • Discuss the toxicity of digoxin and its management • Explain the role of other drug groups useful in cardiac failure 	IC 2	LGIS	MCQs SEQs Viva
25.	Anti-arrhythmic drugs I, II	<ul style="list-style-type: none"> • Discuss Arrhythmia & its treatment 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Recall the electrophysiology of cardiac action potential • Classify anti-arrhythmic drugs by the mechanism of action 	IC 2	LGIS	MCQs SEQs Viva

			<ul style="list-style-type: none"> • Discuss ion channels which serve as targets for anti-arrhythmic drugs • Explain general mechanism of action of anti-arrhythmic drugs • Discuss the major side effects of major antiarrhythmic drugs that limit their clinical usefulness 			
26.	Antihypertensive drugs, I, II	<ul style="list-style-type: none"> • Describe the actions of antihypertensive drugs 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Define hypertensive in terms of currently applied criteria • Discuss determinants of blood pressure • Classify antihypertensive drugs and sub classify vasodilators • Discuss the mechanism employed by each class in lowering blood pressure • Discuss the rationale of preferring one class over the other in different hypertensive patients • Enlist the adverse effects associated with antihypertensive drug groups • Enumerate the drugs used in hypertensive emergencies 	IC 2	LGIS	MCQs SEQs Viva
27.	Anti-angina Drugs, I, II	<ul style="list-style-type: none"> • Discuss the actions of anti-angina drugs 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Define angina pectoris and its types with underlying pathology • Classify drugs used in angina 	IC 2	LGIS	MCQs SEQs Viva



			<ul style="list-style-type: none"> • Describe the mechanism of action of nitrates in different types of anginas • Discuss the important points in pharmacokinetic of nitrates • Summarize the adverse effects of nitrates and suggest measures to minimize tolerance of nitrates • Discuss the role of beta blockers in angina • Explain the contraindications in Prinz metal angina • Discuss mechanism of action, clinical uses, and adverse effects of calcium channel blockers • Tabulate newer anti- angina drugs 			
28.	Diuretics I, II	<ul style="list-style-type: none"> • Explain the action of diuretic drugs 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Explain the physiology of nephron (transepithelial movement of bicarbonate, H₂O, H⁺, sodium, chloride, potassium, calcium, and magnesium in different segments of nephron) • Classify diuretics • Describe the site, mechanism of action and therapeutic indications of different classes of diuretics 	IC 2	LGIS	MCQs SEQs Viva

			<ul style="list-style-type: none"> Describe the adverse effects and conditions that interact with various diuretic drugs. 			
29.	Hematinic	<ul style="list-style-type: none"> Explain the basic pharmacology of drugs used in anaemia 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Recall the physiology of absorption and role of iron, vitamin B12 and folic acid in haematopoiesis Define anaemia Discuss common nutritional causes of anaemia Enlist various oral and parenteral preparations of iron, Vitamin B12 and folic acid Describe the therapeutic role of iron, Vitamin b12 and folic acid in different types of anaemia Describe the adverse effects and treatment of acute and chronic iron therapy 	IC 2	LGIS	<p>MCQs SEQs Viva</p>
30.	Anticoagulants I, II	<ul style="list-style-type: none"> Discuss the basic and clinical pharmacology of drugs used in coagulation disorder 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Explain the mechanism of haemostasis and coagulation pathways and trace the role of coagulating factors and platelets in it Classify anticoagulant drugs Describe the mechanism of action of heparin 	IC 2	LGIS	<p>MCQs SEQs Viva</p>



			<ul style="list-style-type: none">• Tabulate the difference between unfractionated heparin and low molecular weight heparin• Summarize the indications for, precautions related to and potential adverse effects of heparin• Discuss ways of management of heparin induced thrombocytopenia• Explain direct thrombin inhibitors• Describe the mechanism of action of warfarin• Discuss the major drug interactions of warfarin• Discuss the concept of INR (International Normalized Ratio)• Enlist the clinical uses of warfarin• Discuss the adverse effects of warfarin and suggest treatment of warfarin toxicity• Discuss alternative oral anticoagulants to warfarin• Enumerate thrombolytic drugs• Describe the mechanism of action, indications, and adverse effects of thrombolytic agents• Enlist anti-fibrinolytic agents/agents used for neutralizing action of thrombolytic drugs			
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			<ul style="list-style-type: none"> • Discuss the possible interaction of fibrinolytic agents with anticoagulant (heparin) and antiplatelet drugs (aspirin) • Recall the role of platelets in the coagulation • Classify anti-platelets • Discuss the mechanism of action of various groups of antiplatelet drugs • Describe the clinical uses and adverse effects of different anti-platelet drugs. 			
Practicals						
S.No	Topic/ Theme	Learning Outcome	Learning Objectives	IC Codes	MITs	Assessment Tools
		At the end of the session the students should be able to:				
1	Active principles and sources of drugs	Identify the active principles and sources of drugs	<u>Knowledge</u> <ul style="list-style-type: none"> • Identify the natural and synthetic sources of drugs 	IC 2	Practical demonstration/SGD	OSPE
2.	Dosage forms abbreviations, weight & measures	Demonstrate dosage forms abbreviations, weight & measures	<u>Skills</u> <ul style="list-style-type: none"> • Demonstrate knowledge of different dosage forms and their formulations 	IC 2 IC 4 IC 5	Practical demonstration	OSPE
3.	Calculations	Calculate dose of I/V fluids	<u>Skills</u> <ul style="list-style-type: none"> • Calculate the dose of different I/V fluids 	IC 4 IC 5	Practical demonstration	OSPE



4.	Prescription writing	Perform prescription writing	<u>Skills</u> <ul style="list-style-type: none">Practice the prescription writing of some important medical conditions	IC 1 IC 2 IC 4 IC 6	Practical demonstration	OSPE
5.	Pharmacy	Prepare pharmacy items	<u>Skills</u> <ul style="list-style-type: none">Prepare some important pharmacy items	IC 2 IC 5	Practical demonstration	OSPE



4. GENERAL PATHOLOGY

S. No.	Topics/Theme	Learning Outcomes	Learning Objectives	I C Codes	MITs	Assessment Tools
1	General Pathology & Microbiology Introduction	At the end of the session, students will be able to: <ul style="list-style-type: none"> Describe the causes, mechanisms, triggers, and patterns of injury to cell & tissue Correlate ischemic changes and its morphology 	<u>Knowledge</u> <ul style="list-style-type: none"> Discuss the terminologies used in pathology and microbiology Discuss the role of pathology in diagnostics Enlist the components of the general pathology and microbiology 	IC 2	LGIS SGD	MCQs SEQs Viva
			<u>Skill</u> <ul style="list-style-type: none"> Identify bacteria by use of microscopes 	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
2	Cell Injury: <ul style="list-style-type: none"> Aetiology, types & Mechanism of Cell Injury Necrosis & Apoptosis 	<ul style="list-style-type: none"> Explain the mechanism involved in the process of cell injury Analyse the pathological basis of apoptosis and necrosis 	<u>Knowledge</u> <ul style="list-style-type: none"> Define Cell injury Enlist different causes of cell injury Describe the sequence of events in cell injury Differentiate between reversible & irreversible injury Discuss general morphological features of necrosis Enumerate the different types/morphological patterns of necrosis with examples 	IC 2	LGIS SGD	MCQs SEQs Viva

			<ul style="list-style-type: none"> Describe the mechanism of action & morphological features of each type of necrosis 			
			<p>Skill</p> <ul style="list-style-type: none"> Identify fatty changes and hydropic changes (Reversible cell injuries) by using slides 	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
3	Cellular Adaptations & Intracellular Pigmentation	<ul style="list-style-type: none"> Discuss the pathological & physiological adaptation mechanism and morphology with examples Relate different types of cellular accumulations within the pathological/physiological basis of disease 	<p>Knowledge</p> <ul style="list-style-type: none"> Enumerate different cellular adaptations Discuss different types of cellular adaptations with example Enumerate types of intracellular accumulation with the underlying mechanism of pathological factors, e.g., calcification 	IC 2	LGIS	MCQs SEQs Viva
			<p>Skill</p> <ul style="list-style-type: none"> Identify cases of Atrophy & Hyperplasia by using histological slides Identify pigmented lesions e.g., Melanin and Calcification, using histological slides 	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
4	Inflammation <ul style="list-style-type: none"> Introduction & Types Acute inflammation 	<ul style="list-style-type: none"> Demonstrate knowledge of inflammation, steps and cells involved in acute & chronic inflammation 	<p>Knowledge</p> <ul style="list-style-type: none"> Enlist cardinal signs of inflammation & its causes Compare various types of Inflammation Differentiate between Transudate and exudate 	IC 1 IC 2 IC 4 IC 6	LGIS	MCQs SEQs Viva

	(Vascular/Cellular events) • Chronic Inflammation Chemical Mediators of Inflammation	<ul style="list-style-type: none"> Discuss the systemic effects of inflammation on the human body and its pathogenesis 	<ul style="list-style-type: none"> Enlist morphological patterns of acute & chronic inflammation Enlist the events involved in pathogenesis & cellular events Describe processes of margination, rolling, adhesion, transmigration, chemotaxis & phagocytosis 			
			<p>Skill</p> <ul style="list-style-type: none"> Identify inflammatory cells by using slides 	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
5	Healing and Repair	<ul style="list-style-type: none"> Explain the process of wound healing and repair in the human body Describe the factors affecting wound healing 	<p>Knowledge</p> <ul style="list-style-type: none"> Describe different types of tissue cells with reference to proliferative activity Describe steps involved in tissue healing Define angiogenesis and the steps involved in it Differentiate between primary and secondary intention healing 	IC 2	LGIS SGD	MCQs SEQs Viva
			<p>Skill</p> <ul style="list-style-type: none"> Demonstrate process of wound healing Identify gross and microscopic presentation of granulation tissue 	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
6.	General Bacteriology • Bacterial anatomy and physiology	<ul style="list-style-type: none"> Describe bacterial cell structure and functions Discuss bacterial genetic system and process of bacterial growth and multiplication 	<p>Knowledge</p> <ul style="list-style-type: none"> Describe structure of bacteria Differentiate between gram positive and gram-negative bacteria Describe function of bacterial spores Define plasmids and its types 	IC 2	LGIS	MCQs SEQs Viva

	<ul style="list-style-type: none"> Bacterial genetics Bacterial growth 		<ul style="list-style-type: none"> Define different types of mutations Different mechanisms of transfer of genetic material between bacterial cells 			
			<p>Skill</p> <ul style="list-style-type: none"> Explain the procedure of gram staining Demonstrate performance of gram staining 	IC 2 IC 4 IC 5	Practical Demonstration	OSPE
7	<p>Sterilization and Disinfection</p> <p>Physical and chemical methods of sterilization and disinfection</p>	<p>At</p> <ul style="list-style-type: none"> Explain the procedure and methods of sterilization and disinfections. Discuss the importance of sterilization 	<p>Knowledge</p> <ul style="list-style-type: none"> Discuss the importance of normal flora Describe the anatomic sites of medically important members of normal flora Explain in detail three methods of sterilization Classify disinfectants with their basic mechanism of action with few examples Describe the uses of autoclave 	IC 2	LGIS	MCQs SEQs Viva
8	<p>Special Bacteriology</p> <p>Classification of cocci</p> <p><u>Gram + Cocci</u></p> <ul style="list-style-type: none"> Staphylococci Streptococci <p><u>Gram – Rods</u></p> <ul style="list-style-type: none"> Shigella 	<ul style="list-style-type: none"> Demonstrate knowledge of gram-positive and gram-negative cocci and their classification. Interpret the diseases produced by the cocci Describe characteristics of gram-negative rods of enteric tract along 	<p>Knowledge</p> <ul style="list-style-type: none"> Recall basic concepts of special bacteriology Classify gram positive and gram-negative cocci Enlist the diseases they produce Explain the role of different virulence factors possessed by them Explain the pathogenesis of the diseases produced 	IC 2	LGIS	MCQs SEQs Viva



<ul style="list-style-type: none"> • Salmonella • Vibrio • E.coli, • Enterobacteriaceae • Helicobacter • Coliform • Proteus, • Providencia, • Morganella group • Hemophilus • Pseudomonas, Klebsiella 	<p>with their pathogenesis and lab diagnosis and diseases outside enteric tract</p>	<ul style="list-style-type: none"> • Enlist the clinical features • Tabulate the tests that differentiate different species of Staphylococci • Discuss important points about MRSA • Enlist the antigens & names of pathogenic strains of E.coli 			
		<p><u>Skill</u></p> <ul style="list-style-type: none"> • Compare different types of culture media • Interpret the knowledge of selective and non-selective culture medias • Discuss the principle, performance, result & interpretation of oxidase test • Discuss the principle, performance, result & interpretation of Catalase test 	<p>IC 1 IC 4 IC 5</p>	<p>Practical Demonstration</p>	<p>OSPE</p>



VERTICALLY INTEGRATED MODULES

1. PRECLINICAL OPERATIVE DENTISTRY

S. No.	Topic / Theme	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
1	Introduction to Operative Dentistry	<ul style="list-style-type: none"> Discuss the operative dentistry 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Discuss the biologic basis of operative dentistry and importance of development of psychomotor skills 	IC 2	LGIS	MCQs SAQs Viva
2	Cariology: Introduction, aetiology, classification, clinical characteristics of lesion, histopathology, diagnosis, prevention and management	<ul style="list-style-type: none"> Discuss the introduction, aetiology, classification, clinical characteristics of lesion, histopathology, diagnosis, prevention and management of caries 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Diagnose dental caries Discuss different methods of prevention and management 	IC 2 IC 4 IC 5 IC 6	LGIS	MCQs SAQs Viva
3	Fundamentals Of Tooth Preparation: Definition, classification, objective, stages & steps, factors	<ul style="list-style-type: none"> Discuss the fundamentals Of Tooth Preparation 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Explain the method of cavity preparation Discuss requirements of different armamentarium for specific cavity designs 	IC 2	LGIS	MCQs SAQs Viva



	affecting tooth preparation		<ul style="list-style-type: none"> Explain principles of long-term maintenance of restoration in oral cavity 			
4	<p>Amalgam Restorative material: Terminology, Classification, composition, properties, clinical consideration, indication & contraindication, advantages & disadvantages</p> <p>Class I Cavity Preparation for Amalgam: Conservative class 1 preparation, steps of cavity preparation, restorative technique</p>	<ul style="list-style-type: none"> Discuss the amalgam restorative material based on terminology, classification, composition, properties, clinical consideration, indication & contraindication, advantages & disadvantages Describe class I cavity preparation for amalgam 	<p>Knowledge</p> <ul style="list-style-type: none"> Discuss the use of Amalgam restorative material and its various clinical applications Explain the accurate method of class 1 cavity preparation for Amalgam Utilize the basic principles during cavity preparation Explain manipulation of Amalgam in class 1 cavity 	IC 2 IC 4	LGIS	MCQs SAQs Viva
5	Introduction to Operatory: Preliminary introduction, chair positioning	<ul style="list-style-type: none"> Perform preliminary introduction and chair positioning 	<p>Skill</p> <ul style="list-style-type: none"> Identify the importance of development of psychomotor skills 	IC 1 IC 4	Demonstration	OSPE



6	Armamentarium: Identification, classification, method of use, hand on performance	<ul style="list-style-type: none"> Identify armamentarium used in operative dentistry 	<p><u>Skill</u></p> <ul style="list-style-type: none"> Illustrate equipment used in operative dentistry Demonstrate the handling and cleaning of instruments 	IC 1 IC 2 IC 4	Demonstration	OSPE
7	Rubber Dam Application: Introduction, identification, hands on performance, placement of rubber dam in molars & premolars	<ul style="list-style-type: none"> Perform rubber dam application 	<p><u>Skill</u></p> <ul style="list-style-type: none"> Demonstrate the methods of isolation Apply the knowledge of rubber dam for premolars and molars 	IC 1 IC 2 IC 3	Demonstration	OSPE



2. PRECLINICAL PROSTHODONTICS

S. No.	Topic / Theme	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
1	Introduction to Prosthodontics	<ul style="list-style-type: none"> Describe Prosthodontics 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define prosthodontics Discuss branches of prosthodontics and their application in everyday life Describe implication of not addressing tooth loss at appropriate time Explain the effect of prosthetic replacement on quality of life of an individual 	IC 2 IC 4 IC 6	LGIS	MCQs SAQs Viva
2	Anatomical Landmarks of Maxillary and Mandibular arch	<ul style="list-style-type: none"> Discuss anatomical landmarks of maxillary and mandibular arch 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Describe anatomical landmarks of maxillary and mandibular arch Describe limiting structures Differentiate between primary stress bearing areas and secondary stress bearing areas 	IC 2	LGIS	MCQs SAQs Viva
3	Impressions and Impression Trays	<ul style="list-style-type: none"> Describe Impressions and Impression Trays 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Describe the maxillary and mandibular impression trays Describe the difference between dentate and edentulous impression trays Describe the choice of selection of appropriate size of impression tray 	IC 2	LGIS	MCQs SAQs Viva



			<ul style="list-style-type: none"> Describe the difference between a stock tray and custom tray Describe different materials used in the fabrication of custom tray 			
4	Dental Casts & Record Bases	<ul style="list-style-type: none"> Discuss the use of Dental Casts & Record Bases 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define a dental cast Discuss the types of casts Enlist requirements of cast making Enlist the parts of cast Define record bases Describe the requirements of record bases Describe the types of record bases and their uses. 	IC 2	LGIS	MCQs SAQs Viva
5	Occlusal Rims	<ul style="list-style-type: none"> Describe Occlusal Rims 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define occlusal rims Describe the uses of occlusal rims Describe dimensions of occlusal rims for both maxillary and mandibular base plates Describe the steps in fabrication of occlusal rims 	IC 2	LGIS	MCQs SAQs Viva
6	Articulators and Facebow	<ul style="list-style-type: none"> Discuss articulators and facebow 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define an articulator Discuss different types of articulators Describe the concept behind the use of an articulator Define facebow Describe uses of a facebow 	IC 2	LGIS	MCQs SAQs Viva



7	Occlusion in Complete Dentures	<ul style="list-style-type: none"> Describe occlusion in complete dentures 	Knowledge <ul style="list-style-type: none"> Define dental occlusion Describe the difference between occlusion and articulation Describe the objectives of establishing occlusion Differentiate between natural and artificial occlusion Discuss the different types of complete denture occlusal schemes Describe the factors affecting balanced occlusion 	IC 2	LGIS	MCQs SAQs Viva
8	Record Base Fabrication	<ul style="list-style-type: none"> Perform record Base Fabrication 	Skill <ul style="list-style-type: none"> Illustrate the manipulation of auto polymerizing resin for the fabrication of record base 	IC 1 IC 4	Demonstration	OSPE
9	Occlusal Rims Fabrication	<ul style="list-style-type: none"> Perform occlusal Rims Fabrication 	Skill <ul style="list-style-type: none"> Perform occlusal rims fabrication using baseplate 	IC 1 IC 4	Demonstration	OSPE
10	Articulation	<ul style="list-style-type: none"> Articulation 	Skill <ul style="list-style-type: none"> Identify different types of articulators Demonstrate the procedure of articulation 	IC 1 IC 4	Demonstration	OSPE



3. RESEARCH METHODOLOGY

S. No.	Topic/Theme	Learning Outcomes	Learning Objectives	MIT	IC Codes	Assessment Tools
1.	Introduction to Research	<ul style="list-style-type: none"> Discuss historical background of research in medicine 	<p>By the end of the block the students will be able to:</p> <p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define research Describe the historical background of research Discuss Important terminologies regarding 	LGIS	IC 2	MCQs
2.	Importance of Research	<ul style="list-style-type: none"> Discuss significance of research in medicine 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Describe the importance of evidence-based practice Apply the knowledge of research in health sciences 	LGIS	IC 2	MCQs
3.	Introduction to Research Process	<ul style="list-style-type: none"> Explain the process and requirements of a good research for a doctor 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Describe an overview of process of research Discuss the characteristics of a good research Illustrate the qualities of a good researcher 	LGIS	IC 2	MCQs



4.	Types of Research	<ul style="list-style-type: none">Classify different types of research and its applications	<p><u>Knowledge</u></p> <ul style="list-style-type: none">Describe the characteristics of basic and applied researchDifferentiate between quantitative and qualitative researchDiscuss the characteristics of observational, and interventional research	LGIS	IC 2	MCQs
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4. BEHAVIOURAL SCIENCES

S. No	Content/Topic	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tool
Psychology						
1.	Medical Ethics and Professionalism	<ul style="list-style-type: none"> Enhance doctor's own learning and clinical skills 	<p>Knowledge At the end of this block students will be able to:</p> <ul style="list-style-type: none"> Define sensation and sense organs Explain perception and factors influencing perception Describe attention and concentration Define memory and its types Explain thinking and thinking disorders Describe cognition and cognitive levels Discuss learning and its types 	IC 2	LGIS	MCQs
2.	Principles of Psychology	<ul style="list-style-type: none"> Identify factors affecting Personality development 	<p>Knowledge</p> <ul style="list-style-type: none"> Discuss human development of personality Explain different theories of personality development Discuss the significance of IQ and EQ in clinical practice 	IC 2	LGIS	MCQs



3.	Medical Ethics, Professionalism and Reproductive Ethics	<ul style="list-style-type: none">Integrate the principles of medical ethics in professional life	Knowledge <ul style="list-style-type: none">Define the terms “in-vitro fertilization” and “surrogacy”Enlist the potential ethical issues related to surrogacyDiscuss the implications of surrogacy from social, moral, legal and religious perspectives	IC 2 IC 6	LGIS	MCQs
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BLOCK I SYLLABI

1. DENTAL MATERIALS

Week – 01			
S. No	Date	Topic/ Theme	MIT
1	27-12-21	Study skills	LGIS
2	28-12-21	Properties of Dental Materials	LGIS
3	29-12-21	Introduction to Dental Materials Preclinical integrated	LGIS
Practical			
1	28-12-21	Introduction to Lab and Wire Bending	SGD/ Practical
	30-12-21	Introduction to Lab and Wire Bending	SGD / DEMONSTRATION
Tutorial			
1	29-12-21	Introduction to Dental Materials Preclinical integrated	SGD / DEMONSTRATION
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	03-01-22	Mechanical properties of dental materials	LGIS
2	04-01-22	Chemical properties of dental materials.	LGIS
3	05-01-22	Ideal properties of restorative materials, Introduction to composites	LGIS
Practical			
1	04-01-22	Wire bending	SGD/Practical
	06-01-22	Wire bending	SGD/Practical
1	05-01-22	Rheological properties of dental material	SGD
Week – 03			



S. No	Date	Topic/ Theme	MIT
1	10-01-22	Rheological Properties of dental materials	LGIS
2	11-01-22	Adhesion	LGIS
3	12-01-22 13-1-22	Dental composites Dental Amalgam	LGIS
Practical			
1	11-01-22	Wire bending	SGD/Practical
	13-01-22	Wire bending	SGD/Practical
Week – 04			
S. No	Date	Topic/ Theme	MIT
1	17-01-22	Rheological properties of dental materials.	LGIS
2	18-01-22	Amalgam	LGIS
3	19-01-22	Synthetic polymers/Composites	LGIS
1	18-01-22	Manipulation of restorative materials	SGD/ Practical
	20-01-22	Manipulation of restorative materials	SGD/Practical
Week – 05			
S. No	Date	Topic/ Theme	MIT
1	24-01-22	Composite Restorative Composition and curing	LGIS
2.	25-01-22	Setting Shrinkage & Properties	LGIS
3	26-01-22	Composite, Principles of Adhesion (Bonding)	LGIS
4	25-01-22	Dental Cements	LGIS
Week – 06			
S. No	Date	Topic/ Theme	MIT
1	31-01-22	Adhesion of restorative materials to the tooth	LGIS
2	01-02-22	Glass ionomer cements	LGIS
3	03-02-22	Glass ionomer cements	LGIS
Week – 07			
S. No	Date	Topic/ Theme	MIT



1	07-02-22	Cements Zinc Phosphate Cements	LGIS
2	08-02-22	Clinical relevance of Cements, liners, base calcium hydroxide.	LGIS
3	10-02-22	Cements Zinc Phosphate Cements	LGIS
Week – 08			
S. No	Date	Topic/ Theme	MIT
1	14-02-22	Polycarboxylate cements	LGIS
2	15-02-22	Dental Cements	LGIS
Practical			
1	15-02-22	Composites	SGD/Practical
	17-02-22	Composites	SGD/Practical
Tutorial			
1	16-02-22	Mixing of cements	SGD
Week – 09			
S. No	Date	Topic/ Theme	MIT
1	21-02-22	Properties of materials. (revision)	LGIS
2	22-02-22	Dental amalgam (revision)	LGIS
3	24-02-22	Dental Cements	LGIS
Practical			
1	22-02-22	Dental Cements	SGD/Practical
	24-02-22	Dental Cements	SGD/ Practical
Tutorial			
1	24-02-22	Significance of endodontic materials	SGD
Week – 10			
S. No	Date	Topic/ Theme	MIT
1	01-03-22	Endodontic materials	LGIS
2	03-03-22	Composites	SGD
Practical			



1	01-03-22	Dental cements	SGD/Practical
	02-03-22	Dental cements	SGD/ Practical
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	07-03-22	Generation of bonding agents	LGIS
2	08-03-22	MTA, endodontic materials	LGIS
Practical			
1	08-03-22	Revision of Practical	SGD/Practical
	09-03-22	Revision of Practical	SGD/Practical
Tutorial			
1	10-03-22	Composite & polymers	SGD
End of Block Exams: 21st March to 27th March			
Sports Week: 28th March 2022 to 1st April 2022			



2. COMMUNITY DENTISTRY

Week – 01			
S. No	Date	Topic/ Theme	MIT
1	27-12-21	Introduction to Community Dentistry	LGIS
2	28-12-21	Concept and Dimensions of Health	LGIS
3	30-12-21	Determinants and Indicators of Health	LGIS
Practical			
1	28-12-21	Ergonomics Basics	SGD / DEMONSTRATION
	29-12-21	Ergonomics Basics	SGD / DEMONSTRATION
Tutorial			
1	27-12-21	Discussion	LGIS
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	03-01-22	Concept and Natural history of disease	LGIS
2	04-01-22	Iceberg Phenomena of Disease	LGIS



3	05-01-22	Concept, Mode of transmission and stages of infection	LGIS
Practical			
1	04-01-22	Ergonomics	SGD / DEMONSTRATION
	06-01-22	Ergonomics	SGD / DEMONSTRATION
Tutorial			
1	03-01-22	Discussion	LGIS
Week – 03			
S. No	Date	Topic/ Theme	MIT
1	10-01-22	Concept and characteristics of Public health	LGIS
2	11-01-22	Objectives and core areas of Public health dentistry	LGIS
3	12-01-22	Stages of Public and Clinical health practice	LGIS
Practical			
1	11-01-22	History taking	SGD / DEMONSTRATION
	13-01-22	History taking	SGD / DEMONSTRATION
Tutorial			



1	10-01-22	PTT/Discussion	LGIS
Week – 04			
S. No	Date	Topic/ Theme	MIT
1	17-01-22	Basic concept and uses of epidemiology	LGIS
2	18-01-22	Introduction to Oral Epidemiology	LGIS
3	19-01-22	Epidemiology of Dental caries	LGIS
Practical			
1	18-01-22	History taking	SGD / DEMONSTRATION
	20-01-22	History taking	SGD / DEMONSTRATION
Tutorial			
1	17-01-22	Discussion	LGIS
Week – 05			
S. No	Date	Topic/ Theme	MIT
1	24-01-22	Etiology of Dental caries	LGIS
	25-01-22	Caries risk assessment	LGIS



2	26-01-22	Diet and Dental caries	LGIS
Practical			
1	25-01-22	Examination	SGD / DEMONSTRATION
	26-01-22	Examination	SGD / DEMONSTRATION
Tutorial			
1	24-01-22	PTT/Discussion	LGIS
Week – 06			
S. No	Date	Topic/ Theme	MIT
1	31-01-22	Caries activity test	LGIS
2	01-02-22	Epidemiology of Periodontal disease	LGIS
3	02-02-22	Epidemiology of Oral cancer	LGIS
Practical			
1	01-01-22	Extra oral Examination	SGD / DEMONSTRATION
	02-02-22	Extra oral Examination	SGD / DEMONSTRATION
Tutorial			



1	31-02-22	Discussion	LGIS
Week – 07			
S. No	Date	Topic/ Theme	MIT
1	07-02-22	Etiology of Oral cancer	LGIS
2	08-02-22	Epidemiology of malocclusion	LGIS
3	09-02-22	Epidemiology of Tooth Wear	LGIS
Practical			
1	08-02-22	Intra oral Examination	SGD / DEMONSTRATION
	09-02-22	Intra oral Examination	SGD / DEMONSTRATION
Tutorial			
1	07-02-22	Discussion	LGIS
Week – 08			
S. No	Date	Topic/ Theme	MIT
1	14-02-22	Oral Indices	LGIS
2	15-02-22	Plaque index	LGIS



3	16-02-22	Oral hygiene indices	LGIS
Practical			
1	15-02-22	Plaque index	SGD / DEMONSTRATION
	16-02-22	Plaque index	SGD / DEMONSTRATION
Tutorial			
1	14-02-22	PPT Presentations	LGIS
Week – 09			
S. No	Date	Topic/ Theme	MIT
1	21-02-22	Oral hygiene indices	LGIS
2	22-02-22	Gingival indices	LGIS
3	23-02-22	Gingival indices	LGIS
Practical			
1	22-02-22	CPITN	SGD / DEMONSTRATION
	23-02-22	CPITN	SGD / DEMONSTRATION
Tutorial			



1	21-02-22	PPT Presentations	LGIS
Week – 10			
S. No	Date	Topic/ Theme	MIT
1	28-02-22	Periodontal indices	LGIS
2	01-03-22	Periodontal indices	LGIS
3	02-03-22	CPITN	LGIS
Practical			
1	01-03-22	CPITN	SGD / DEMONSTRATION
	02-03-22	CPITN	SGD / DEMONSTRATION
Tutorial			
1	28-02-22	Discussion	LGIS
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	07-03-22	Dental caries index	LGIS
2	08-03-22	Angle's system of classification	LGIS



3	09-03-22	Index for Dental fluorosis	LGIS
Practical			
1	08-03-22	DMFT	SGD / DEMONSTRATION
	09-03-22	DMFT	SGD / DEMONSTRATION
Tutorial			
1	07-03-22	Discussion	LGIS
Week – 12			
S. No	Date	Topic/ Theme	MIT
1	14-03-22	Health education	LGIS
2	15-03-22	Health education theories	LGIS
3	16-03-22	Health Promotion	LGIS
Practical			
1	15-03-22	Dental Fluorosis	SGD / DEMONSTRATION
	16-03-22	Dental Fluorosis	SGD / DEMONSTRATION
Tutorial			



1	14-03-22	Revision	LGIS
End of Block Exams: 21st March to 27th March			
Sports Week: 28th March 2022 to 1st April 2022			



3. PHARMACOLOGY

Week – 01			
S. No	Date	Topic/ Theme	MIT
1	27-12-21	Pharmacology: Historical overview Branches and subdivisions of pharmacology	LGIS
2	28-12-21	Absorption of drugs	LGIS
3	29-12-21	Factors affecting absorption of drugs	LGIS
Practical			
1	27-12-21	Active principles and sources of drugs	SGD / DEMONSTRATION
	28-12-21	Active principles and sources of drugs	SGD / DEMONSTRATION
Tutorial			
1	29-12-21	Dosage forms of drugs Routes of administration of drugs	SGD / DEMONSTRATION
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	03-01-22	Bioavailability of drugs	LGIS
2	04-01-22	Distribution and volume of distribution	LGIS
3	05-01-22	Biotransformation of drugs	LGIS
Practical			
1	03-01-22	Calculations	SGD / DEMONSTRATION
	04-01-22	Calculations	SGD / DEMONSTRATION
Tutorial			
1	05-01-22	PTT/ Discussion	SGD / DEMONSTRATION
Week – 03			
S. No	Date	Topic/ Theme	MIT
1	10-01-22	Factors affecting Biotransformation of drugs	LGIS
2	11-01-22	Plasma half-life of drugs	LGIS



3	12-01-22	Excretion of drugs	LGIS
Practical			
1	10-01-22	Calculations	SGD / DEMONSTRATION
	11-01-22	Calculations	SGD / DEMONSTRATION
Tutorial			
1	12-01-22	PTT/ Discussion	SGD / DEMONSTRATION
Week – 04			
S. No	Date	Topic/ Theme	MIT
1	17-01-22	Mechanism of drug action I	LGIS
2	18-01-22	Mechanism of drug action II	LGIS
3	19-01-22	Factors modifying action and doses of drugs I	LGIS
Practical			
1	17-01-22	Calculations	SGD / DEMONSTRATION
	18-01-22	Calculations	SGD / DEMONSTRATION
Tutorial			
1	19-01-22	PTT/Discussion	SGD / DEMONSTRATION
Week – 05			
S. No	Date	Topic/ Theme	MIT
1	24-01-22	Factors modifying action and doses of drugs II	LGIS
	25-01-22	Introduction to ANS	LGIS
2	26-01-22	Cholinergic drugs I	LGIS
Practical			
1	24-01-22	Calculations	SGD / DEMONSTRATION
	25-01-22	Calculations	SGD / DEMONSTRATION
Tutorial			
1	26-01-22	Discussion	SGD / DEMONSTRATION
Week – 06			



S. No	Date	Topic/ Theme	MIT
1	31-01-22	Cholinergic drugs II	LGIS
2	01-02-22	Anti-cholinergic drugs I	LGIS
3	03-02-22	Anti-cholinergic drugs II	LGIS
Practical			
1	31-01-22	Pharmacy preparation	SGD / DEMONSTRATION
	01-02-22	Pharmacy preparation	SGD / DEMONSTRATION
Tutorial			
1	02-02-22	PTT/Discussion	SGD / DEMONSTRATION
Week – 07			
S. No	Date	Topic/ Theme	MIT
1	07-02-22	Skeletal muscle relaxants I	LGIS
2	08-02-22	Skeletal muscle relaxants II	LGIS
3	09-02-22	Catecholamines	LGIS
Practical			
1	07-02-22	Pharmacy preparations	SGD / DEMONSTRATION
	08-02-22	Pharmacy preparations	SGD / DEMONSTRATION
Tutorial			
1	09-02-22	PTT/Discussion	LGIS
Week – 08			
S. No	Date	Topic/ Theme	MIT
1	14-02-22	Non-catecholamines	LGIS
2	15-02-22	Alpha blockers	LGIS
3	16-02-22	Beta blockers	LGIS
Practical			
1	14-02-22	Pharmacy preparations	SGD / DEMONSTRATION
	15-02-22	Pharmacy preparations	SGD / DEMONSTRATION



Tutorial			
1	16-02-22	PTT-/ Discussion	SGD / DEMONSTRATION
Week – 09			
S. No	Date	Topic/ Theme	MIT
1	21-02-22	Diuretics I	LGIS
2	22-02-22	Diuretics II	LGIS
3	23-02-22	Antihypertensive drugs I	LGIS
Practical			
1	21-02-22	Pharmacy preparations	SGD / DEMONSTRATION
	22-02-22	Pharmacy preparations	SGD / DEMONSTRATION
Tutorial			
1	23-02-22	PTT/ Discussions	SGD / DEMONSTRATION
Week – 10			
S. No	Date	Topic/ Theme	MIT
1	28-02-22	Antihypertensive drugs II	LGIS
2	01-03-22	Antianginal drugs I	LGIS
3	02-03-22	Anti-anginal drugs II	LGIS
Practical			
1	28-02-22	Pharmacy preparation	SGD / DEMONSTRATION
	01-03-22	Pharmacy preparation	SGD / DEMONSTRATION
Tutorial			
1	02-03-22	Discussion	SGD / DEMONSTRATION
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	07-03-22	Drugs used in heart failure I	LGIS
2	08-03-22	Drugs used in heart failure II	LGIS
3	09-03-22	Antiarrhythmic drugs I	LGIS



Tutorial			
1	09-03-22	Drugs used in anaemias	SGD / DEMONSTRATION
End of Block Exams: 21st March to 27th March			
Sports Week: 28th March 2022 to 1st April 2022			



4. GENERAL PATHOLOGY

Week – 01			
S. No	Date	Topic/ Theme	MIT
1	27-12-21	General Pathology: Introduction	LGIS
2	28-12-21	Introduction & overview	LGIS
3	29-12-21	Apoptosis	LGIS
Practical			
1	27-12-21	Introduction to microscope Identification of bacteria	SGD / DEMONSTRATION
	28-12-21	Introduction to microscope Identification of bacteria	SGD / DEMONSTRATION
1	31-12-21	Tutorial	SGD / DEMONSTRATION
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	05-01-22	Necrosis	LGIS
2	06-01-22	Types of Necrosis	LGIS
3	06-01-22	Mechanism of cell Injury	LGIS
Practical			
1	03-01-22	Hydropic change Fatty change	SGD / DEMONSTRATION
	04-01-22	Hydropic change Fatty change	SGD / DEMONSTRATION
Tutorial			
1	07-01-22	Tutorial	SGD / DEMONSTRATION
Week – 03			
S. No	Date	Topic/ Theme	MIT
1	12-01-22	Cellular Adaptation	LGIS
2	13-01-22	Intracellular Accumulation	LGIS
3	13-01-22	Introduction of Inflammation	LGIS



Practical			
1	10-01-22	Gram staining	SGD / DEMONSTRATION
	11-01-22	Gram staining	SGD / DEMONSTRATION
Tutorial			
1	14-01-22	Tutorial	SGD / DEMONSTRATION
Week – 04			
S. No	Date	Topic/ Theme	MIT
1	19-01-22	Acute Inflammation	LGIS
2	20-01-22	Cellular events	LGIS
3	20-01-22	Chronic Inflammation	LGIS
Practical			
1	17-01-22	ZN staining	SGD / DEMONSTRATION
	18-01-22	ZN staining	SGD / DEMONSTRATION
Tutorial			
1	21-01-22	Tutorial	SGD / DEMONSTRATION
Week – 05			
S. No	Date	Topic/ Theme	MIT
1	26-01-22	Chemical mediators	LGIS
2	27-01-22	Repair	LGIS
3	27-01-22	Inflammation (Revision)	LGIS
Practical			
1	24-01-22	Hyperplasia Atrophy	SGD / DEMONSTRATION
	25-01-22	Hyperplasia Atrophy	SGD / DEMONSTRATION
Tutorial			
1	28-01-22	Tutorial	SGD / DEMONSTRATION
Week – 06			
S. No	Date	Topic/ Theme	MIT



1	02-01-22	Bacterial Anatomy & Physiology	LGIS
2	03-02-22	Bacterial Genetics	LGIS
3	03-02-22	Bacterial Growth	LGIS
Practical			
1	31-01-22	Coagulative necrosis	SGD / DEMONSTRATION
	01-02-22	Coagulative necrosis	SGD / DEMONSTRATION
Tutorial			
1	04-02-22	Tutorial	SGD / DEMONSTRATION
Week – 07			
S. No	Date	Topic/ Theme	MIT
1	09-02-22	Sterilization (Physical Method)	LGIS
2	10-02-22	Sterilization (Chemical Method)	LGIS
3	10-02-22	Normal Flora	LGIS
Practical			
1	07-02-22	Caseous necrosis	SGD / DEMONSTRATION
	08-02-22	Caseous necrosis	SGD / DEMONSTRATION
Tutorial			
1	11-02-22	Tutorial	LGIS
Week - 08			
S. No	Date	Topic/ Theme	MIT
1	16-02-22	Gram Positive Cocci	LGIS
2	17-02-22	Staphylococcus	LGIS
3	17-02-22	Staphylococcus Classification	LGIS
Practical			
1	14-02-22	Intracellular accumulation	SGD / DEMONSTRATION
	15-02-22	Intracellular accumulation	SGD / DEMONSTRATION
Tutorial			
1	18-02-22	Tutorial	SGD / DEMONSTRATION



Week - 09			
S. No	Date	Topic/ Theme	MIT
1	23-02-22	Staphylococcus Classification	LGIS
2	24-02-22	Streptococci pneumonia	LGIS
3	24-02-22	Gram Negative Cocci	LGIS
Practical			
1	21-02-22	calcification	SGD / DEMONSTRATION
	22-02-22	calcification	SGD / DEMONSTRATION
Tutorial			
1	25-02-22	Tutorial	SGD / DEMONSTRATION
Week - 10			
S. No	Date	Topic/ Theme	MIT
1	02-03-22	Enterobacteriaceae	LGIS
2	03-03-22	E. coli	LGIS
3	03-03-22	Salmonella	LGIS
Practical			
1	28-02-22	Oxidase test	SGD / DEMONSTRATION
	01-03-22	Oxidase test	SGD / DEMONSTRATION
Tutorial			
1	04-03-22	Tutorial	SGD / DEMONSTRATION
Week - 11			
S. No	Date	Topic/ Theme	MIT
1	09-03-22	Shigella, Vibrio	LGIS
2	10-03-22	Helicobacter	LGIS
3	10-03-22	Proteus, Providencia, Morganella	LGIS
Practical			
1	07-03-22	Catalase test	SGD / DEMONSTRATION



	08-03-22	Catalase test	SGD / DEMONSTRATION
Tutorial			
1	11-03-22	Tutorial	SGD / DEMONSTRATION
Week - 12			
S. No	Date	Topic/ Theme	MIT
1	16-03-22	Gram Negative Rods	LGIS
2	17-03-22	Revision	LGIS
3	17-03-22	Revision	LGIS
Practical			
1	14-03-22	Culture media	SGD / DEMONSTRATION
	15-03-22	Culture media	SGD / DEMONSTRATION
Tutorial			
1	18-03-22	Revision	SGD / DEMONSTRATION
End of Block Exams: 21st March to 27th March			
Sports Week: 28th March 2022 to 1st April 2022			



5. PRECLINICAL OPERATIVE DENTISTRY

Week – 01			
S. No	Date	Topic/ Theme	MIT
1	30-12-21	Introduction to operative dentistry	LGIS
Practical			
1	31-12-21	Introduction to skill lab & chair positioning	SGD/ Practical
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	06-01-22	Armamentarium	LGIS
Practical			
1	07-01-22	Armamentarium & rubber dam application	SGD/Practical
Week – 03			
S. No	Date	Topic/ Theme	MIT
1	13-01-22	Dental Cariology	LGIS
Practical			
1	14-01-22	Rubber dam application	SGD/Practical
Week – 04			
S. No	Date	Topic/ Theme	MIT
1	20-01-22	Caries	LGIS
Practical			
1	21-01-22	Rubber dam application	SGD/ Practical
Week – 05			
S. No	Date	Topic/ Theme	MIT
1	27-01-22	Caries Management	LGIS
Practical			
1	28-01-22	Class I cavity preparation	SGD/ Practical



Week – 06			
S. No	Date	Topic/ Theme	MIT
1	04-02-22	Fundamentals of tooth preparation	LGIS
Week – 07			
S. No	Date	Topic/ Theme	MIT
1	02-11-22	Fundamentals of tooth preparation part 2	LGIS
Week – 08			
S. No	Date	Topic/ Theme	MIT
1	17-02-22	Amalgam Restoration	LGIS
Practical			
1	18-02-22	Class 1 tooth preparation	SGD/Practical
Week – 09			
S. No	Date	Topic/ Theme	MIT
1	24-02-22	Amalgam Restoration	LGIS
Practical			
1	25-02-22	Tooth Preparation	SGD/Practical
Week – 10			
S. No	Date	Topic/ Theme	MIT
1	03-03-22	Revision	LGIS
Practical			
1	04-03-22	Tooth Preparation	SGD/Practical
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	10-03-22	Revision	LGIS
Practical			
1	11-03-22	Revision of Class 1	SGD/Practical



Week – 12			
S. No	Date	Topic/ Theme	MIT
1	14-03-22	Revision	LGIS
Practical			
1	16-03-22	Revision of preparation	SGD/Practical
End of Block Exams: 21st March to 27th March			
Sports Week: 28th March 2022 to 1st April 2022			



6. PRECLINICAL PROSTHODONTICS

Week – 01			
S. No	Date	Topic/ Theme	MIT
1	30-12-21	Introduction to Prosthodontics	LGIS
Practical			
1	31-12-21	Orientation of Prosthodontic Laboratory & Identification of landmarks.	SGD/ Practical
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	06-01-22	Anatomical landmarks of Maxilla	LGIS
1	07-01-22	Landmarks identification on casts	SGD/Practical
Week – 03			
S. No	Date	Topic/ Theme	MIT
1	13-01-22	Anatomical Landmarks of Mandible	LGIS
Practical			
1	14-01-22	Record base fabrication	SGD/Practical
Week – 04			
S. No	Date	Topic/ Theme	MIT
1	20-01-22	Impressions and impression trays	LGIS
Practical			
1	21-01-22	Occlusal rim fabrication	SGD/ Practical
Week – 05 (ONLINE LECTURE)			
S. No	Date	Topic/ Theme	MIT
1	28-01-22	Dental Casts	LGIS
Week – 06(ONLINE LECTURE)			






S. No	Date	Topic/ Theme	MIT
1	04-02-22	Record bases Occlusal rims	LGIS
Week – 07(ONLINE LECTURE)			
S. No	Date	Topic/ Theme	MIT
1	02-11-22	Artificial teeth	LGIS
Week – 08			
S. No	Date	Topic/ Theme	MIT
1	17-02-22	Articulators -I	LGIS
Practical			
1	18-02-22	Articulation	SGD/Practical
Week – 09			
S. No	Date	Topic/ Theme	MIT
1	24-02-22	Articulators –II	LGIS
Practical			
1	25-02-22	Anterior teeth arrangement	SGD/Practical
Week – 10			
S. No	Date	Topic/ Theme	MIT
1	03-03-22	Arrangement of teeth	LGIS
Practical			
1	04-03-22	Arrangement of teeth	SGD/Practical
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	10-03-22	Class test	LGIS
Practical			
1	11-03-22	Arrangement of teeth	SGD/Practical
Week – 12			











S. No	Date	Topic/ Theme	MIT
1	15-03-22	Revision	LGIS
End of Block Exams: 21st March to 27th March			
Sports Week: 28th March 2022 to 1st April 2022			





LEARNING RESOURCES

1. DENTAL MATERIALS

<p>Books</p> <p>Restorative Materials by Robert, Craig.</p> <p>Phillips Skinner’s Science of Dental Materials.</p> <p>Clinical Handling of Dental Materials by B.N Smith.</p> <p>Dental Chemistry by Cunningham.</p> <p>Must have Books</p> <p>M.Cabe Dental Materials</p> <p>Preclinical Dental Sciences Work Book For Dental Students</p> <p>Restorative Materials by Robert, Craig</p>	<p>Pliers</p> <p>Round, Straight and Adams. Wire cutter</p>  <p>Plaster and alginate mixing spatula,</p> <p>Dycal applicator</p>	 <p>Beale Carver 15cm</p> <p>Zahle Carver 12.5cm</p> <p>Lecron Carver 15.5cm</p> <p>Cerment Spatula 17.5cm</p> <p>Fahen Wax Knife Small 13cm</p> <p>Fahen Wax Knife Large 18cm</p> <p>Plaster Spatula 21cm</p> 
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<p>Instruments</p> <p>Glass slab</p> <p>Cement Spatula</p> <p>Plastic instrument</p> <p>Articulator (Hinge and Hanau)</p> <p>Modeling Wax 1 box</p> <p>Gloves</p> <p>Mask</p>	 <p>Set of measuring Scoop</p>  <p>Dropper</p> <p>Scale, Marker, Pencil</p> <p>Mortar Pestle</p> 	<p>Alginate mixing spatula</p>  <p>Rubber Bowl</p> <p>Dental Blue Mixing Alginate Bowl Flexible Rubber</p>  <p>Condenser</p> <p>Burnishers</p> <p>Carver</p> <p>Amalgam Carrier</p> <p>Matrix Band</p> <p>Matrix band retainer</p> <p>Articulating paper</p> <p>Impression Trays partial denture set</p>	<p>Measuring cylinder 100mlX2</p> <p>Measuring Beaker 100ml</p>  <p>Plastic sheet</p>  <p>1 Pack Alginate</p> <p>Gypsum/plaster of Paris 4kg</p> <p>Base former of model Upper and Lower arch</p> <p>flask</p> 
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2. COMMUNITY DENTISTRY

<p>Books</p> <p>Textbooks</p> <p>Textbook of Preventive and Community Dentistry. 2nd edition. S.S Hiremath</p> <p>A textbook of public health dentistry</p> <p>Recommended Books</p> <p>Burt, B. & Eklund, S. (1999) Dentistry, Dental Practice & The Community. 5th ed. Saunders.</p> <p>Daly B, Watt R, Batchelor P & Treasure E (2002) Essential Dental Public Health, Oxford University Press.</p> <p>Gluck G & Morganstein WM (2002) Jong's Community Dental Health 5th edition, Mosby.</p> <p>Harris, N.O. & Christen, A.C. (1987) Primary Preventive Dentistry. 2nd ed. Reston Pub. Co.</p>	<p>Instruments</p> <p>Examination Instruments</p> <p>ART</p> <p>Probes</p>  <p>Mirror</p> <p>Probe</p> <p>Tweezer</p>	<p>ART Instruments</p> 
		<p>Toothbrushing model</p>  <p>Dental Floss</p> 

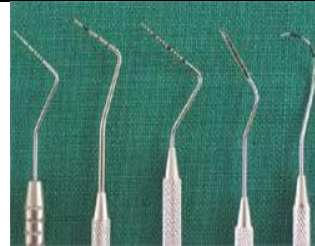
Kent GC, AS Blinkhorn. (1993) The Psychology of Dental Care. 2nd edition, Wright Publication, London.

Murray, J.I. (ed.) (1996) Prevention of Oral Diseases. 3rd ed. Oxford University Press.

Phoon WO & PCY Chen (Eds). (1986) Textbook of Community Medicine in South East Asia. John Wiley & Sons.

Pine CM (ed.). (1997) Community Oral Health. Oxford: Wright Publication.

Scrambler Graham. (2003) Sociology as Applied to Medicine. 5th ed. WB Saunders Company.



CPITN-E and C

Michigan probe

Periodontal probe



Mouthwash





3. PHARMACOLOGY


Textbook

1. Lippincott Illustrated Reviews Pharmacology 6th Edition
2. Basic and clinical Pharmacology by Bertram G Katzung 14th Edition

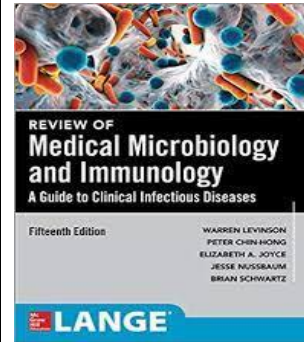
Reference book

1. The Pharmacological Basis of Therapeutics by Goodman & Gilman 12th Edition
2. Davidson's Principles & Practice of Medicine 22nd Edition

4. GENERAL PATHOLOGY

Books For General Pathology	
Robbins Basic Pathology: with STUDENT CONSULT Online Access (Robbins Pathology)	

Review of Medical Microbiology and Immunology (Lange Medical Books)



5. PRECLINICAL PROSTHODONTICS & OPERATIVE DENTISTRY

Recommended Books

1. Sturdevant's Art and Science, South Asian Edition.
2. Prosthodontic treatment for edentulous patients by Zarb 13th Edition.
3. McCracken's Removable Partial Prosthodontics 13th Edition.