



DENTAL COLLEGE HITEC-IMS

Study Guide Y2 – B3 - D22

2nd Year BDS

Block 3

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

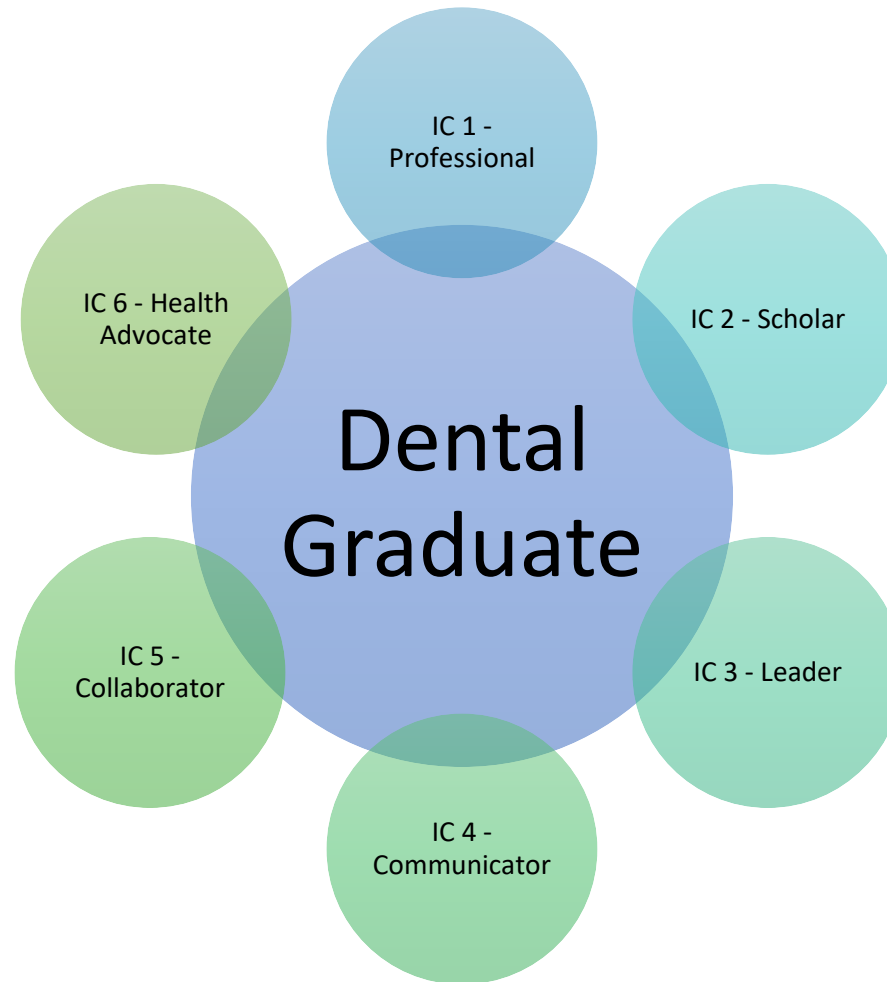
Multiple teaching strategies are used. LGIS are used to provoke thought, understanding and to standardise the delivery of the concept. It helps them to understand the general theme or subject matter, updated research, and best evidence medical information. We are teaching clinical implications of each 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 Prostho	
	Practical/SGD		LGIS				LGIS	LGIS						
	B-(Topic)													
	A-(Topic)													
	8:30-10:20	10:20-11:15					11:15-1:15					1:45-3:30		
Friday	Jr Operative-A/ Jr Prosthodontics-B Integrated		SDL		Break		Jr Operative-B/ Jr Prosthodontics-A Integrated		Break			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.

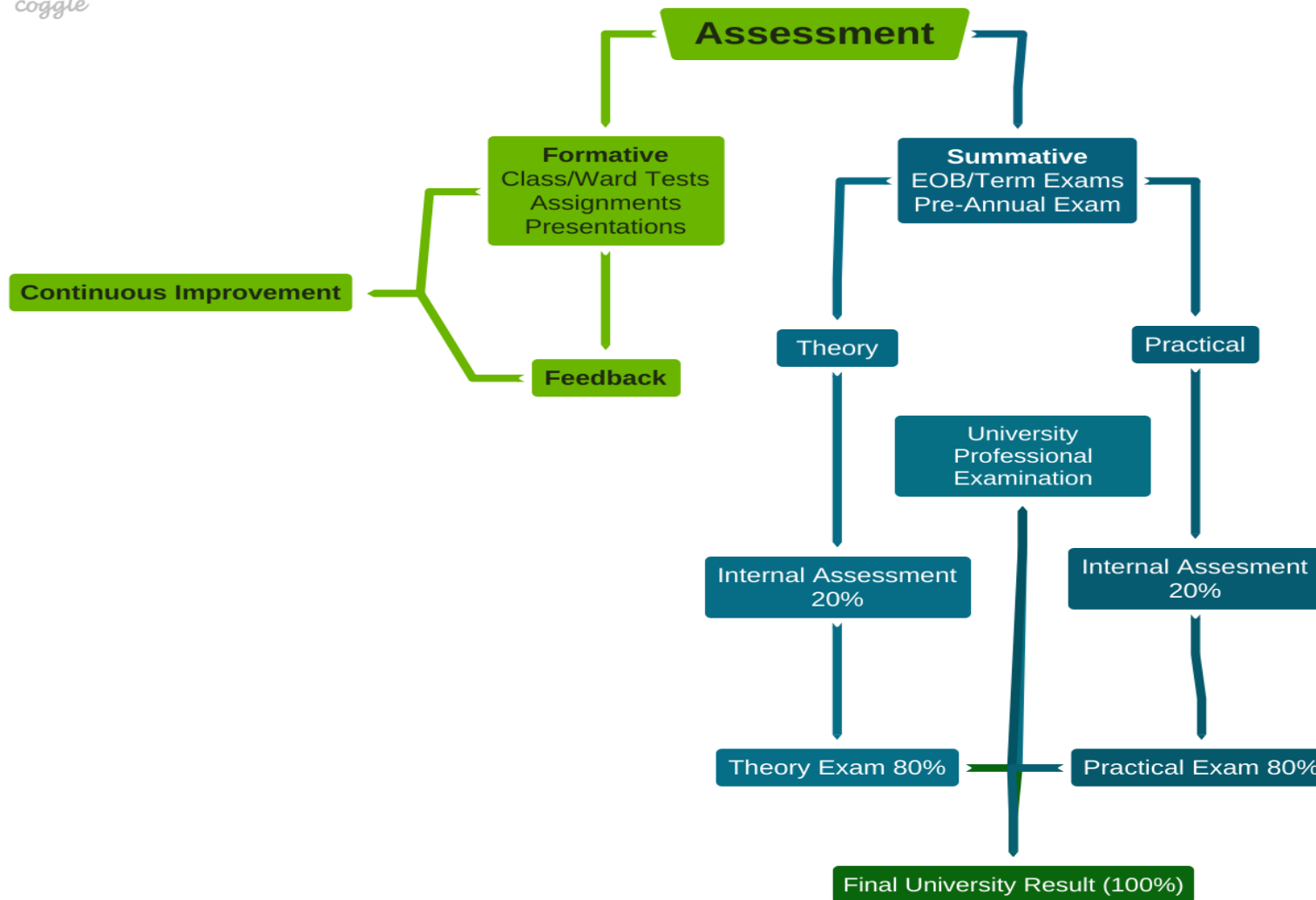
Internal assessment criteria for submission of internal assessment marks of Second Professional Examination NUMS:

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 - III

Evidence Based Dentistry and Medical Management



1. STRUCTURED SUMMARY - BLOCK III

Block Code	Y2-B3-D22
Block Title	Evidence Based Dentistry and Medical Management
Duration Of Block	13 (plus 2 weeks sendups)
Important Dates	25th July 2022 to 4th Nov 2022
Horizontally Integrated Themes	General Pathologies and management III Research methodology and biostatistics Cariology and management III Evidence based Dentistry
Vertically Integrated Themes	Preclinical Operative Dentistry Preclinical Prosthodontics Research Communication Skills
Prerequisite Blocks	All 1 st Year Blocks and 2 nd Year Block 1 and 2



2. TENTATIVE TEST SCHEDULE¹

Date	Subject	Day
4 th August 22	Community Dentistry	Thursday
11 th August-22	Dental Materials	Thursday
17 th August-22	Pharmacology	Wednesday
26 th August-22	General Pathology	Friday
2 nd September-22	Preclinical Operative dentistry and prosthodontics	Friday

Date	Subject	Day
8 th September-22	Community Dentistry	Thursday
5 th September -22	Dental Materials	Monday
14 th September -22	Pharmacology	Wednesday
22 nd September -22	General Pathology	Thursday
29 th September -22	Preclinical operative dentistry and prosthodontics	Thursday

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



3. SEND-UP EXAM TENTATIVE SCHEDULE²

Dates	Subject	Timings
24 th October 2022	Pharmacology Theory	Starting at 8:30
25 th October 2022	Pharmacology Practical	Starting at 8:30
26 th October 2022	General Pathology Theory	Starting at 8:30
27 th October 2022	General Pathology Practical	Starting at 8:30
28 th October 2022	Preclinical Operative and Prosthodontics Theory	Starting at 8:30
31 st October 2022	Dental Materials Theory	Starting at 8:30
1 st November 2022	Dental Materials Practical	Starting at 8:30

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



2 nd November 2022	Preclinical Operative and Prosthodontics Practical	Starting at 8:30
3 rd November 2022	Community Dentistry Theory	Starting at 8:30
4 th November 2022	Community Dentistry Practical	Starting at 8:30



LEARNING OUTCOMES FOR BLOCK III

1. DENTAL MATERIALS

S. No.	Topics/ Themes	Learning Outcomes	Learning Objectives	IC Codes	MIT	Assessment Tools
		At the end of the block, the student will be able to:				
Theme 1: Selection of a treatment protocol in dentistry/ Evidence based Dentistry						
	(Evidence based dentistry)	<ul style="list-style-type: none"> • Compare restorative materials including indirect (removable and fixed) and direct restorations (Amalgam and Composite) • Compare all impression materials • Compare all auxiliary materials • Compare all preventive dental materials 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Describe general classification of dental materials • Describe the process of selection of dental materials • Explain the importance of learning science behind dentistry • Correlate the harsh environment of oral cavity with requirements of dental materials • Differentiate among major types of materials • Describe the selection of materials based on properties and its impact on biology • Describe the reason behind keeping up to date with all the treatment options • Discuss the concept of characterization of dental materials 	<p>IC 2</p> <p>IC 4</p>	<p>LGIS</p> <p>SGD</p>	<p>MCOs</p> <p>SEQs</p> <p>Viva</p>



			<ul style="list-style-type: none"> • Discuss the importance of evidence-based dentistry <ul style="list-style-type: none"> • Compare the properties • Composition • Indications/contra-indications • Discuss the clinical Relevance of materials • Discuss the selection of materials based on evidence-based dentistry 			
			<p><u>Skill</u></p> <ul style="list-style-type: none"> • Apply prior knowledge regarding the logical method of material selection for specific clinical case from the given materials (direct, indirect, impression materials, auxiliary and preventive materials) 	IC 2 IC 4 IC 5	Practical Virtual Audio Video Demonstration	OSPE
2	Implant Materials	<ul style="list-style-type: none"> • Discuss dental implants • Describe osseointegration • Classify implants based on: <ul style="list-style-type: none"> • Implant designs • Tissue response • Material (Metal, ceramic, polymer, or composite) • Implants merits and demerits 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Describe the history of implants in dentistry • Define osseointegration and the factors affecting it • Demonstrate understanding regarding different types of implants • Demonstrate understanding regarding the different implant materials used in dentistry 	IC 2	LGIS SGD	MCQs SEQs Viva



			<p><u>Skill</u></p> <ul style="list-style-type: none"> Identify the components of dental implants 	<p>IC 2</p> <p>IC 4</p>	<p>Practical Demonstration</p>	<p>OSPE</p>
3	<p>Miscellaneous topics</p> <p>Finishing and polishing materials</p>	<ul style="list-style-type: none"> Demonstrate finishing and polishing of dental restorations and prosthesis 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Discuss the objectives for finishing and polishing of dental restorations and prosthesis Describe the classification, composition, and properties of abrasives and clinical applications for finishing and polishing materials Describe the principles of finishing and polishing of dental materials Identify different types of cutting and abrasive instruments Describe the biological hazards associated with dental abrasive and polishing materials 	<p>IC 2</p> <p>IC 4</p> <p>IC 6</p>	<p>LGIS</p> <p>SGD</p>	<p>MCQs</p> <p>SEQs</p> <p>Viva</p>
			<p><u>Skill</u></p>	<p>IC 4</p>	<p>Practical Demonstration</p>	<p>OSPE</p>



			<ul style="list-style-type: none"> • Demonstrate finishing and polishing of dental restorations and prosthesis 	IC 5		
Theme 2 - Management of Patient with Carious Teeth						
4	<p>Selection of material for carious teeth</p> <p>(Revisit of direct filling materials and synthetic polymers)</p>	<ul style="list-style-type: none"> • Discuss the characterization of different dental materials used • Discuss the mechanical properties of different material • Discuss the rheological properties of restorative materials • Discuss the optical and thermal properties • Discuss principles of adhesion • Discuss Biological properties • Discuss Chemical and physical principles that make the foundation of the clinical behaviour and application of dental materials • Describe Synthetics polymers and its application in dentistry 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Describe basic classification of different preventive and restorative materials in dentistry • Compare the mechanical properties of different materials i.e., metals, ceramics, polymers and composites • Define stress and their relevance with dental materials used in the oral cavity • Interpret various mechanical properties of a material on the stress-strain curve • Describe rheological properties of dental materials • Describe Optical and thermal properties of materials • Describe the structure of matter • Discuss the concept of adhesion with clinical relevance • Demonstrate knowledge of the fundamental biological and chemical principles that make the 	IC 2	<p>LGIS</p> <p>SGD</p>	<p>MCQs</p> <p>SEQs</p> <p>Viva</p>



			<p>foundation of the clinical behaviour and application of dental materials</p> <ul style="list-style-type: none"> • Demonstrate knowledge of physical principles that make the foundation of the clinical behaviour and application of dental materials • Demonstrate knowledge of the range of biological consideration regarding the selection and performance of dental materials for clinical applications • Interpret the safety, biocompatibility, and biomechanics of materials • Describe requirements of direct filling materials • Interpret the polymerization reactions • Interpret the physical changes occurring during the polymerization • Describe structure and properties of synthetic polymers • Discuss methods of fabricating polymers 			
5	Revisit Composites - Dentin bonding	<ul style="list-style-type: none"> • Define composite material • Recall composition of Dental composites • Classify dental composite based on 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Describe the history and classification of restorative composites 	IC 2 IC 4	LGIS SGD	MCQs SEQs Viva



	<p>agents and adhesive dentistry</p>	<ul style="list-style-type: none"> • Activation methods • filler particle sizes, • newer generations (flowable, Packable, Bulk-fill) • Discuss the evolution of light curing systems • Correlate the properties of resin-based composites to clinical situations • Describe the basic mechanisms of bonding • Discuss the ideal adhesive characteristics • Describe the enamel and dentine bonding systems • Discuss the evolution of Bonding systems • Classify adhesive systems 	<ul style="list-style-type: none"> • Describe 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 • Describe different modifications in relation to restorative composites • Describe finishing and polishing procedures for restorative composites • Describe the biocompatibility issue related to restorative composites • Describe the recent advances in restorative composites • 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 			
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			<ul style="list-style-type: none"> Describe the significance of biodegradation of restorative resins Describe and explore recent advancements in dentine bonding agents 			
			<p>Skill</p> <ul style="list-style-type: none"> Identify all the components in a dental composite kit Identify the steps of composite manipulation 	IC 2 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
6	Dental Amalgam	<ul style="list-style-type: none"> Classify different amalgam alloys Discuss composition of amalgam Describe 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 effect their properties 	<p>Knowledge</p> <ul style="list-style-type: none"> Describe the history, composition, and classification of dental amalgams Interpret the setting mechanisms of different types of amalgams Describe clinical manipulation and factors effecting the properties of dental amalgams Discuss the issues related to amalgam hygiene in clinical practice Describe the formation of electrochemical cell in the oral cavity and its clinical relevance 	IC 2 IC 4	LGIS SGD Students Presentations	MCQs SEQs Viva

		<ul style="list-style-type: none"> • Demonstrate manipulation technique of Dental Amalgam • Discuss the effect of mercury/Alloy ratio, Trituration, Condensation, Carving and Finishing on final restoration • Discuss mercury toxicity • Differentiate corrosion and creep phenomena of ditching 	<ul style="list-style-type: none"> • Describe the mechanism of galvanism • Describe the biocompatibility issues related to dental amalgam • Discuss recent advancements in dental amalgams 			
7	Selection of cements using concept of evidence-based dentistry and acquired knowledge	<ul style="list-style-type: none"> • Differentiate between liners, bases, and varnish • Classify dental cements • Recall the composition, setting reactions, properties, advantage/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"> • Describe the objectives and basics terminologies related to dental cements • Describe the general requirements, types of different dental cements • Compare the properties of different dental cements • Compare the setting mechanism of different dental cements • Compare the properties, advantages, and disadvantages of different dental cements • Identify the clinical applications of different dental cements • Discuss the concept of bases and liners for different clinical application 	IC 2	LGIS SGD	MCCs SEQs Viva



			<ul style="list-style-type: none"> • Compare luting agents, types, and their properties • Discuss the use of temporary restorative materials, properties, and their uses • Discuss atraumatic restorative techniques (ART) and its uses 			
			<p><u>Skill</u></p> <ul style="list-style-type: none"> • Demonstrate mixing of Zinc phosphate cement • Identify glass ionomer cement • Demonstrate manipulation and placement of glass ionomer cement • Practice proper manipulation and placement technique calcium hydroxide liner • Practice proper manipulation technique of zinc phosphate on slab/paper pad 	IC 1 IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
8	Selection of Endodontic Materials using concept of evidence-based dentistry and	<ul style="list-style-type: none"> • Discuss endodontic materials, preventive materials and materials used for finishing and polishing 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Discuss the use of different endodontic materials in dentistry 	IC 2	LGIS SGD	MCQs SEQ Viva
			<p><u>Skill</u></p> <ul style="list-style-type: none"> • Identify all endodontic and preventive material 	IC 2	Practical Demonstration	OSPE



	acquired knowledge					
Theme 3 - Selection of materials used in the management of a patient coming to dental department with ectodermal dysplasia						
9	Selection of materials used in diagnostics and treatment planning using concept of evidence-based dentistry and acquired knowledge	<ul style="list-style-type: none"> Recall the materials used for diagnostics 	<u>Knowledge</u> <ul style="list-style-type: none"> Recall the materials used in diagnostics and treatment planning 	IC 2	LGIS SGD Student Presentations	MCQs SEQs Viva
10	Selection of Impression Materials using concept of evidence-based	<ul style="list-style-type: none"> Identify ideal properties of impression materials Classify impression materials based on: <ul style="list-style-type: none"> Mechanical Properties Viscosity 	<u>Knowledge</u> <ul style="list-style-type: none"> Discuss the significance of impression taking and impression materials in dentistry Describe the general requirements for an ideal impression material 	IC 2	LGIS	MCQs SEQs Viva



	dentistry and acquired knowledge	<ul style="list-style-type: none"> • Elastic properties and non-elastic behaviour • Setting Reaction ● Identify various impression materials ● Demonstrate sound knowledge of each impression material and their properties ● Classify Non-elastic Impression Materials: <ul style="list-style-type: none"> • Impression Compound • Impression Plaster, • Zinc-Oxide Eugenol Paste, • Impression Waxes ● Classify Elastic Impression Materials: <ul style="list-style-type: none"> • Reversible & Irreversible Hydrocolloids • Non-aqueous Elastomers (Polysulfide, Polyether, Addition Silicon, Condensation Silicon) ● Recall the types of impression trays ● Recall the different types of impression techniques 	<ul style="list-style-type: none"> • Explain the clinical application of different types of impression materials and compare them 			
			<p><u>Skill</u></p> <ul style="list-style-type: none"> • Demonstrate proper techniques used for mixing, handling • Demonstrate the manipulation of impression material (Zinc Oxide Eugenol) • Demonstrate proper techniques used for mixing, handling and manipulation of impression materials (Alginate) • Identify various impression materials 	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
			<p><u>Knowledge</u></p>	IC 2	LGIS	MCQs



11	Selection of Waxes using concept of evidence-based dentistry and acquired knowledge	<ul style="list-style-type: none"> Describe the method of recording functional or supporting form of an edentulous ridge by using a secondary impression material Identify the impression material for relining the finished removable partial denture to obtain support from the underlying tissues Describe the composition of various types of waxes, their properties, and various applications in dentistry 	<ul style="list-style-type: none"> Discuss the classification and types of waxes used in dentistry Describe the composition, properties of different types of dental waxes Discuss the applications of different types of dental waxes 			SEQs Viva
			<p>Skill</p> <ul style="list-style-type: none"> Fabricate wax pattern for acrylic partial dentures Identify the types of waxes available in dental laboratory 	IC 2 IC 4 IC 5	Practical Demonstration	OSPE
			<p>Attitude</p> <ul style="list-style-type: none"> Follow laboratory safety protocol Identify possible laboratory hazards linked to burners 	IC 1	Demonstration	OSPE
12	Selection of Denture Base Acrylic resins or metals using concept of evidence-based dentistry and	<ul style="list-style-type: none"> Describe the physical, chemical, and mechanical properties of denture base materials Describe the classification of denture base materials Discuss the possible defects during denture processing Enumerate the repair materials for dentures 	<p>Knowledge</p> <ul style="list-style-type: none"> Discuss the procedures involved in fabrication of denture base materials Discuss clinical application, manipulation, processing, and care of dentures for laboratory processed prosthetic resins Describe biocompatibility issues associated with denture base materials 	IC 2	LGIS	MCQs SEQs Viva

	acquired knowledge		<ul style="list-style-type: none"> Describe various methods of polymerization of denture base materials 			
			<p>Skill</p> <ul style="list-style-type: none"> Perform manipulation of acrylic (polymer and liquid) and identify the physical changes taking place during the mixing and setting of polymers Demonstrate mixing of heat cure acrylic resin Demonstrate the steps of denture fabrication 	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
13	Selection of Denture relining and rebasing materials, Tissue conditioners, separating media using concept of evidence-based dentistry and	<ul style="list-style-type: none"> Discuss the requirements of denture lining materials Enumerate the types of available denture relining materials Describe the indications and requirements of separating media 	<p>Knowledge</p> <ul style="list-style-type: none"> Discuss relining and rebasing procedures for dentures Describe various types of relining and rebasing dental materials Describe manipulation and properties of relining and rebasing materials Discuss biocompatibility issues associated with relining and rebasing materials Illustrate the steps of clinical manipulation of tissue conditioners Describe the rationale behind the use of separating media in dentistry 	IC 2 IC 4	LGIS Student Presentations	MCOs SEQs Viva

	acquired knowledge		<ul style="list-style-type: none"> • Explain the rationale behind the use of separating media in dentistry • Discuss various types of separating media used in dentistry including their composition, mechanism of action and properties and techniques for application of separating media 			
			<p>Skill</p> <ul style="list-style-type: none"> • Perform manipulation of acrylic (polymer and liquid) and identify the stages involved • Demonstrate the steps involved in manipulation of separating media 	IC 2 IC 4 IC 5	Practical Demonstration	OSPE
14	Metals and Alloys revisit and its clinical applications	<ul style="list-style-type: none"> • Outline the structure and properties of metals and alloys • Differentiate between cooling curves of metals alloys • Discuss the importance of grain boundary and Grain Refining • Identify traditional gold alloys • Recall the properties of gold alloys used in dentistry 	<p>Knowledge</p> <ul style="list-style-type: none"> • Discuss the basic concepts related to processing and solidification of dental alloys • Identify the different types of metals and alloys used in fabrication of dental prosthesis • Describe the alloy-phase diagrams • Analyse the clinical applications of high noble and noble metal alloys • Describe the types, processing, and clinical applications of base metal alloys 	IC 2 IC 4	LGIS	MCQs SEQs Viva

		<ul style="list-style-type: none"> • Enlist gold alloys employed in various prosthesis • Discuss the composition of Co/Cr and Ni/Cr • Summarize the properties of base metal alloys • Compare base metal alloys with casting gold alloys • Explain the biocompatibility of base metal alloys • Discuss the role of base metal casting alloys in dentistry 	<ul style="list-style-type: none"> • Discuss the types, processing, and clinical applications of wrought metal alloys • Identify the types, processing, and clinical applications of stainless steel in dentistry • Identify the types, processing and clinical applications of titanium and its alloys in dentistry • Interpret the properties and composition of various orthodontic wires • Discuss the casting procedures for metal alloys 			
			<p><u>Skill</u></p> <ul style="list-style-type: none"> • Identify the metals (clasps and connectors) • Identify the differences between NiTi and SS wires 	IC 2 IC 4 IC 5	Practical Demonstration	OSPE
15	Selection of Investments and Refractory materials using concept of evidence-based	<ul style="list-style-type: none"> • Define refractory materials • Differentiate between the types of investment materials • Describe the requirements of investment materials 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Describe the investment materials used in dentistry • Different types of investment materials used in dentistry • Describe the steps and methods involved in casting procedures • Summarize the ways to compensate for shrinkage during casting process 	IC 2	LGIS	MCOs SEQs Viva



	dentistry and acquired knowledge		<ul style="list-style-type: none"> Discuss the defects which may occur during casting 			
			<p>Skill</p> <ul style="list-style-type: none"> Perform Wire Bending activity (Students would be able to bend Stainless Steel wire to make different alphabets) A, C, D, S, T and X 	IC 1 IC 5	Practical Demonstration SGD Virtual Audio Video Demonstration PBL	OSPE
16	Ceramics and CAD/CAM dentistry using concept of evidence-based dentistry and acquired knowledge	<ul style="list-style-type: none"> Classify dental ceramics Compare dental porcelain based on: <ul style="list-style-type: none"> Composition Processing of Porcelain Fused to metal prosthesis Interpret processing of all-ceramic prosthesis <ul style="list-style-type: none"> Sintering Casting and Slip Casting Hot Pressing CAD/CAM Properties of Dental Ceramics Toughening mechanism of Dental Ceramics 	<p>Knowledge</p> <ul style="list-style-type: none"> Illustrate the basic chemistry and composition of ceramics and their classification Discuss the general procedures involved in fabrication of dental ceramics Describe the procedures of ceramic bonding Discuss the methods of strengthening ceramics 	IC 2	LGIS	MCQs SEQs Viva
			<p>Skill</p> <ul style="list-style-type: none"> Identify different materials used in ceramic laboratory 	IC 4 IC 5	Practical Demonstration	OSPE

		<ul style="list-style-type: none"> ○ Methods of strengthening ceramics 	<ul style="list-style-type: none"> ● Identify the steps in construction of a PFM crown in a ceramic workshop 			
17	PFM casting and cementing crowns	<ul style="list-style-type: none"> ● Describe the steps of investment and basic casting ● Discuss the factors which effect the final cast ● Discuss the compensation for shrinkage during casting process ● Identify the defects of casting 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> ● Illustrate the procedure of casting ● Identify the defects which may occur during casting 	IC 2	LGIS	MCQs SEQs Viva
			<p><u>Skill</u></p> <ul style="list-style-type: none"> ● Identify steps of fabrication of porcelain fused to metal (PFM) crown 	IC 2 IC 4 IC 5		

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	Healthcare Delivery System National Health Policy of Pakistan Problems In Health Care System	<ul style="list-style-type: none"> Discuss primary health care and health care delivery system of Pakistan 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Describe components of Health care system Discuss Health care delivery Describe National health policy of Pakistan system of Pakistan Identify Problems in health care system of Pakistan 	IC 2	LGIS SGD	MCQs SEQs Viva
2	Primary Health Care	<ul style="list-style-type: none"> Discuss primary healthcare & healthcare delivery system of Pakistan 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define primary health care Discuss Elements of primary health care Discuss principles of primary health care Describe WHO strategy for PHC 	IC 2	LGIS SGD	MCQs SEQs Viva
3	Dental Instruments and Dental Materials	<ul style="list-style-type: none"> Demonstrate knowledge and skills related to dental materials and instruments 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Identify the parts of instruments Describe the indications of their use 	IC 2	LGIS	MCQs SEQs

						Viva
			<u>Skill</u> <ul style="list-style-type: none"> Demonstrate the use of dental instruments 	IC 1 IC 5	Practical demonstration	OSPE
4	Need Assessment	<ul style="list-style-type: none"> Discuss health needs 	<u>Knowledge</u> <ul style="list-style-type: none"> Define concept of need & demand Outline types of needs Describe health need assessment 	IC 2 IC 4 IC 6	LGIS SGD	MCQs SEQs Viva
5	Health Planning and Survey Health Planning Survey Evaluation	<ul style="list-style-type: none"> Outline the concepts of Health Planning and Survey Demonstrate knowledge related to evaluation 	<u>Knowledge</u> <ul style="list-style-type: none"> Define health planning Describe purpose of planning Enumerate basic steps in the planning cycle Define survey Outline Advantages Describe modes of data collection & Types of investigations Outline special characteristics of oral health surveys Discuss Path finder surveys, Index age groups for survey Define evaluation List the reasons for conductionof evaluation 	IC 2 IC 4 IC 6	LGIS SGD	MCQs SEQs Viva



			<ul style="list-style-type: none"> • Discuss the WHO criteria for evaluation of dental services • Describe the different types of evaluation • Enumerate the guidelines for evaluation • Describe the different steps involved in evaluation process 			
6	Cross Infection Control Hand Washing And PPE	<ul style="list-style-type: none"> • Demonstrate the knowledge and skills regarding cross infection control 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Outline the basic concepts of cross infection control • Describe special instructions of hand washing 	IC 2	LGIS	MCQs
				IC 6	SGD	SEQs Viva
			<p><u>Skill</u></p> <ul style="list-style-type: none"> • Demonstrate the technique of hand washing • Demonstrate method to put on mask and gloves • Demonstrate sequence of donning PPE • Demonstrate Sequence of donning off PPE 	IC 1	Practical demonstration	OSPE

7	Dental Auxiliaries	<ul style="list-style-type: none"> Demonstrate the knowledge and skills related to dental auxiliaries 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define dental auxiliaries Describe types of auxiliaries & WHO classification of dental auxiliaries 	IC 2 IC 6	LGIS SGD	MCQs SEQs Viva
8	Financing In Health Care	<ul style="list-style-type: none"> Outline the basic concept of payment in healthcare 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Classify payment plans Discuss mechanism of payment for dental care Outline reimbursement of dentist 	IC 2	LGIS SGD	MCQs SEQs Viva
9	Cross Infection Control Needle Stick Injury	<ul style="list-style-type: none"> Demonstrate knowledge and skills related to needle stick injury 	<p><u>Skill</u></p> <ul style="list-style-type: none"> Demonstrate the management protocol of needle stick injury 	IC 1 IC 3 IC 4	Virtual Audio/ Video Demonstration	OSPE
10	Dental Office Management	<ul style="list-style-type: none"> Outline the concept of management of dental office 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Discuss the dental office establishment, location selection Discuss financial assistance Describe design of dental office, personnel management Discuss how record management is done 	IC 2	LGIS SGD	MCQs SEQs Viva



			<ul style="list-style-type: none"> Describe the accounting and other financial aspects what factors are associated with successful dental practice Identify factors influence the dental practice 			
11	Comprehensive Health Care	<ul style="list-style-type: none"> Outline the concept of comprehensive dental care 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define comprehensive health care Describe levels and stages of comprehensive health care Outline the challenges and limitations 	IC 2	LGIS SGD	MCQs SEQs
12	Research Methodology and Basics Of Biostatistics General Epidemiology	<ul style="list-style-type: none"> Demonstrate the basic knowledge of Research Methodology & Biostatistics 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define epidemiology Outline the aims of Epidemiology Define incidence and prevalence Discuss the types of studies Describe the classification of epidemiological studies 	IC 2	LGIS SGD	MCQs SEQs Viva
13	Cross Infection Control Waste Disposal	<ul style="list-style-type: none"> Demonstrate the knowledge and skills related to waste disposal 	<p><u>Skill</u></p> <ul style="list-style-type: none"> Perform the activity of waste characterization Practice the colour coding system 	IC 1 IC 4 IC 5	Virtual Audio/ Video Demonstration	OSPE

14.	Descriptive Epidemiology	<ul style="list-style-type: none"> • Discuss the descriptive epidemiology 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Discuss the concept of descriptive studies & types of studies • Outline procedures in descriptive epidemiology • Describe uses of descriptive epidemiology • Discuss the designs of descriptive Epidemiology 	IC 2	LGIS SGD	MCQs SEQs Viva
15.	Analytical Epidemiology	<ul style="list-style-type: none"> • Demonstrate the basic concepts of Analytical studies 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Discuss analytical studies • Describe case-control study • Outline the indications, advantages, and disadvantages of study designs • Define bias and list its different types • Discuss cohort study • Outline general consideration while selection of cohorts • Describe types of cohort studies & elements of cohort studies • Outline Indications, advantages, and disadvantages of cohort studies and the estimation of risk 	IC 2	LGIS SGD	MCQs SEQs Viva



16.	Experimental Studies	<ul style="list-style-type: none"> Describe the of basic principles of epidemiology 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define experimental studies Outline the types & aim of experimental research Discuss the study design of randomized control trials Define bias & types Discuss non-randomized controlled trials 	IC 2	LGIS SGD	MCQs SEQs Viva
17.	Cross Infection Control Disinfection Of Dental Unit	<ul style="list-style-type: none"> Demonstrate knowledge and skill of disinfection of dental unit 	<p><u>Skill</u></p> <ul style="list-style-type: none"> Perform the method of cleaning clinical surfaces 	IC 1 IC 4 IC 5	Virtual Audio/ Video Demonstration	OSPE
18.	Research Proposal	<ul style="list-style-type: none"> Outline the concept related to research proposal 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define research proposal Discuss the method of writing a research proposal 	IC 2	LGIS SGD	MCQs SEQs Viva
19.	Biostatistics Introduction To Biostatistics Sampling	<ul style="list-style-type: none"> Outline the basic concepts of Biostatistics 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define data Outline the types and presentation of data Define variables and its Types Discuss the measure of central tendency 	IC 2	LGIS SGD	MCQs SEQs Viva

			<ul style="list-style-type: none"> • Calculate these measures • Describe the measure of dispersion and its uses • Define sampling & its types • Describe sample size calculation, sampling frame & sampling error • Outline normal distribution & normal distribution curve • Define probability and its significance • Outline statistical testing • Discuss types of parametric and non-parametric test • Outline the application of these tests 			
20	Cross Infection Control Disinfection And Sterilization	<ul style="list-style-type: none"> • Demonstrate the knowledge and skill of cross infection control 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Outline the classification of patient care items • Define disinfection • Describe types of disinfection • Describe the concept of sterilization • Discuss the methods of sterilization 	IC 2 IC 6	LGIS SGD	MCQs SEQs Viva



21	Plagiarism SPSS	<ul style="list-style-type: none"> Outline the basic concepts of plagiarism Demonstrate the basic knowledge regarding SPSS 	<p>Knowledge</p> <ul style="list-style-type: none"> Define plagiarism Outline the basics concepts of plagiarism Outline the features and basic operations of SPSS 	IC 1 IC 2	LGIS	MCQs SEQs Viva
22	Systematic Review Endnote	<ul style="list-style-type: none"> Outline the basic concept of systematic review Outline the basic concept of endnote 	<ul style="list-style-type: none"> Describe the concept and basics of systematic review Define endnote and advantages to use it 	IC 2	LGIS	MCQs SEQs Viva



3. PHARMACOLOGY

S. No	Topic/ Theme	Learning Outcome	Learning Objectives	IC Codes	MITs	Assessment Tools
		By the end of this block, the students will be able to:				
Analgesics						
1.	Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) I, II	<ul style="list-style-type: none"> Discuss the basic pharmacology of analgesics 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define pain Recognize the role of cyclo-oxygenase and prostaglandins in the pathology of pain, inflammation, and fever Identify the role of prostaglandins in the homeostatic regulation of gastric function, kidney function and regulation of vasomotor tone and platelet functions Define the term NSAIDs and classify them. Describe the general mechanism of action of NSAID and differentiating points of aspirin and paracetamol Discuss the pharmacokinetics, therapeutic uses and adverse effects of aspirin and paracetamol Identify the indications preferring use of COX-2 inhibitors 	IC 2	LGIS	SAQ MCQ Viva



2.	Opioids I, II	<ul style="list-style-type: none"> Discuss basic pharmacology and clinical application of opioids analgesics 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> State afferent and efferent pain pathways Recall the distribution of opioid receptors and their naturally occurring ligands Recall the classification of opioid analgesics Describe the mechanism of analgesic action of opioids and differentiate it from that of NSAIDs Discuss therapeutic uses of different opioids Identify the major adverse effects of opioids (common, self-resolving and requiring treatment) Enumerate the cardinal signs of opioid overdose and steps of management Enlist opioid antagonists Match the pharmacological effects of opioid antagonists with their uses 	IC 2	LGIS	SAQs MCQs Viva
Drugs Used in GIT Disorders						
5.	Anti-diarrheal drugs	<ul style="list-style-type: none"> Discuss the basic pharmacology of drugs used in diarrhoea 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Recall the physiology of gastrointestinal motility Define diarrhoea 	IC 2	LGIS	SAQs MCQs Viva

			<ul style="list-style-type: none"> • Categorize diarrhoea on basis of cause and onset of symptoms • Classify anti-diarrheal drugs • Describe the mechanism of various drug groups used for diarrheal attacks • Outline approaches to treat diarrhoea • Recall the role and effectiveness of drugs in the treatment of various types of diarrhoea • Enumerate adverse effects of anti-diarrheal drugs 			
6.	Purgatives/ Laxatives	<ul style="list-style-type: none"> • Discuss the basic pharmacology of purgatives/ Laxatives 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Recall the physiology of gastrointestinal motility • Define constipation • Identify the underlying pathophysiological mechanism of constipation • Define and classify purgative/laxatives • Describe the site, onset, and mechanism of action of various groups of purgatives. • Analyse the clinical application of purgatives/ laxatives • Identify adverse effects and contraindications of purgatives/ laxatives 	IC 2	LGIS	MCQs SAQs Viva



7.	Drugs Used in Peptic Ulcer I, II	<ul style="list-style-type: none"> Discuss the basic pharmacology of drugs used in peptic ulcer 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Discuss the physiology of gastric acid secretion and natural protective mechanisms against it Identify location and role of different receptors on various gastric cells Define peptic ulcer disease (PUD) State etiological factors of PUD (H.pylori, stress and drug induced) Outline nonpharmacological and pharmacological treatment options for PUD Categorize drugs used for PUD Describe mechanism of action, therapeutic uses, adverse effects, and drug interactions of various drug groups used for PUD Outline the triple and quadruple drug regimens of H. pylori induced ulcers 	IC 2	LGIS	SAQs MCQs Viva
8.	Anti-emetics	<ul style="list-style-type: none"> Discuss the basic pharmacology of drugs used in emesis 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define nausea and emesis Enlist aetiologies associated with occurrence of nausea and vomiting Summarize stimuli, pathways, and key events in vomiting Describe the role of CTZ, NTS and VC in vomiting 	IC 2	LGIS	SAQs MCQs Viva



			<ul style="list-style-type: none"> • Enlist the therapeutic classes of anti-emetic drugs • Describe mechanism of action of various groups of anti-emetic drugs • Enumerate the adverse effects of drugs used for nausea and vomiting 			
Drugs Used in Respiratory Disorders						
9.	Expectorants & Anti-tussive	<ul style="list-style-type: none"> • Discuss the basic pharmacology of drugs used in cough 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Define cough and classify it • Outline the important components of cough reflex • Define the term antitussives, mucolytic and expectorants • Enumerate drugs used as antitussives, expectorants, and mucolytic agents • Describe the mechanism of action of respective drug groups • Identify different respiratory conditions requiring the use of antitussives, mucolytic and expectorants • Recall adverse effects associated with these drugs 	IC 2	LGIS	SAQs MCQs Viva
10.	Anti-asthmatic drugs I, II	<ul style="list-style-type: none"> • Discuss basic pharmacology of drugs used in asthma 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Recall the distribution of autonomic receptors in lungs and their role in control of bronchial smooth muscle tone 	IC 2	LGIS	SAQs MCQs

			<ul style="list-style-type: none"> • Define asthma and identify its types and pathological basis • Classify anti-asthma drugs into bronchodilators and anti-inflammatory drugs • Enumerate drugs used for prophylaxis and treatment of asthma • Discuss the mechanism of action of different anti- asthma drugs • Describe the adverse effects and special considerations associated with these drugs • Outline appropriate drugs used in the management of acute severe asthma 			Viva
Miscellaneous						
11	Antihistamines	<ul style="list-style-type: none"> • Discuss the basic pharmacology of antihistamines 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Recall the site of action and physiological and pathophysiological role of histamine • Identify conditions causing release of histamine release • Locate the distribution of histamine receptors in body and their associated actions • Classify antihistamine drugs • Describe the mechanism of action and pharmacological effects of antihistamines 	IC 2	LGIS	SAQs MCQs Viva

			<ul style="list-style-type: none"> Identify the various therapeutic uses of antihistamine therapy Discuss the adverse effects of both generations of antihistamine 			
Central Nervous System						
12	Central Neurotransmission	<ul style="list-style-type: none"> Discuss neurotransmitters and ion channels 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define neurotransmitters Enlist different excitatory and inhibitory neurotransmitters Describe the site and action of neurotransmitters in CNS 	IC 2	LGIS	MCQs SAQs Viva
13	General anaesthetics I, II	<ul style="list-style-type: none"> Discuss the basic pharmacology of general anaesthetics 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define anaesthesia in terms of its components Enumerate the stages of anaesthesia and identify the stage required for surgery Determine the role of pre-anaesthetic medications Classification of agents used for general anaesthesia Define MAC and its relationship with potency of anaesthetic Identify the pharmacokinetic factors affecting action of general anaesthetics Identify drugs used for induction and maintenance of anaesthesia depending upon their properties 	IC 2	LGIS	MCQs SAQs Viva

			<ul style="list-style-type: none"> • Tabulate the advantages and disadvantages for clinically used inhaled and intravenously administered general anaesthetics 			
14	Local anaesthetics I, II	<ul style="list-style-type: none"> • Discuss the rational use of local anaesthetics 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Define local anaesthesia (LA) • Classify local anaesthetic agents • Relate the structure activity of LA with mechanism of action • Identify the differential sensitivity of nerve fibres to LA • Rationalise the use of addition of vasoconstrictor with LA • Describe uses of LA in different conditions • Discuss the factors affecting action of LA • Discuss the adverse effects of different LA 	IC 2	LGIS	<p>MCQs</p> <p>SAQs</p> <p>Viva</p>
15	Sedative & Hypnotics I, II	<ul style="list-style-type: none"> • Discuss the basic pharmacology of drugs in anxiety and sleep disorder 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Define sedation & hypnosis • Classify benzodiazepines (BDZ) and barbiturates • Draw the pentameric structure of GABA receptor and indicate the site of attachment of GABA, BDZ and barbiturates • Differentiate between the mechanism of action of BDZ and barbiturates • Describe the valid clinical uses of BDZ and barbiturates • Enumerate the side effects of BDZ and barbiturates 	IC 2	LGIS	<p>MCQs</p> <p>SAQs</p> <p>Viva</p>

			<ul style="list-style-type: none"> Identify safer of the two agents and trace the reason for better safety profile of BDZ 			
16	Antiepileptic drugs I, II	<ul style="list-style-type: none"> Discuss the basic pharmacology of drugs in seizure disorders 	<p>Knowledge</p> <ul style="list-style-type: none"> Define seizure and epilepsy Name different types of epilepsy Discuss the therapeutic classification of anti-epilepsy drugs Enlist the general mechanism of anti-epilepsy drugs 	IC 2	LGIS	MCQs SAQs Viva
17	Anti-Depressants	<ul style="list-style-type: none"> Discuss the basic pharmacology of drugs used in depression 	<p>Knowledge</p> <ul style="list-style-type: none"> Define depression Identify main neurotransmitters in the pathology of depression Classify anti-depressant drugs Describe the mechanism of action of different classes of anti –depressant drugs Enlist the therapeutic uses and adverse effect of these drugs Indicate the important drug interactions of antidepressants and precautionary measures 	IC 2	LGIS	MCQs SAQs Viva
18	Drug treatment of migraine	<ul style="list-style-type: none"> Discuss drug management of migraine 	<p>Knowledge</p> <ul style="list-style-type: none"> Define migraine Enumerate drugs used in the prophylaxis and treatment of migraine Describe the mechanism of action of triptans and ergotamine 	IC 2	LGIS	MCQs SAQs Viva



			<ul style="list-style-type: none">List the contraindications of triptans and ergotamine			
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4. GENERAL PATHOLOGY

S. No	Topics/ Theme	Learning Outcomes	Learning Objectives	I C Codes	MITs	Assessment Tools
		At the end of this block, the students will be able to:				
1	<u>Diseases of Immune System</u> <ul style="list-style-type: none"> ● Cells of immune system ● Types of immunity ● Hypersensitivity Reaction I, II, III & IV ● Immunodeficiency diseases ● AIDS 	<ul style="list-style-type: none"> ● Illustrate the immune system and process of immune response of our body ● Describe the mechanisms and differences of hypersensitivity reactions ● Discuss the mechanisms and clinical features of acquired immunodeficiency syndromes 	<u>Knowledge</u> <ul style="list-style-type: none"> ● Define the types and functions of cells involved in immune system ● Define the types, structure, and functions of immunoglobulins ● Define the different types of immunity, cells involved & mechanism in adaptive and innate immunity ● Describe in detail the mechanism, clinical features & clinical conditions of all type of hypersensitivity ● Enlist the preventive measures ● Describe the mechanism involved in acquired immunodeficiency disorders 	IC 2	LGIS	MCQs SEQs Viva

S. No	Topics/ Theme	Learning Outcomes	Learning Objectives	I C Codes	MITs	Assessment Tools
		At the end of this block, the students will be able to:				
			<ul style="list-style-type: none"> Difference between HIV infection and AIDS with preventive measures 			
			<p>Skill</p> <ul style="list-style-type: none"> Illustrate the principal of Leishman stain Demonstrate the use of Leishman staining Perform clinical interpretation of result 	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
2	<p><u>Haematology</u></p> <ul style="list-style-type: none"> Anaemias Anaemias typing Acute leukaemia Bleeding disorders Coagulation disorders 	<ul style="list-style-type: none"> Describe the haematological disorders including anaemias, leukaemia and bleeding disorders Describe the aetiology, pathology, types, and diagnosis 	<p>Knowledge</p> <ul style="list-style-type: none"> Define anaemias Classify anaemias Describe the clinical features & lab diagnosis of anaemias Define leukaemia Classify leukaemia Describe the lab diagnoses of leukaemia Define haemostasis 	IC 2	LGIS	MCQs SEQs Viva

S. No	Topics/ Theme	Learning Outcomes	Learning Objectives	I C Codes	MITs	Assessment Tools
		At the end of this block, the students will be able to:				
		<ul style="list-style-type: none"> Interpret the complete blood counts parameters 	<ul style="list-style-type: none"> Define bleeding & platelet disorders Describe Clotting factors defects 			
			<p>Skill</p> <ul style="list-style-type: none"> Perform microscopic identification of normal and abnormal red cell morphology Describe procedure and interpretation of ESR 	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
3	<u>Genetics</u> <ul style="list-style-type: none"> Terminologies Autosomal disorders Chromosomal disorders 	<ul style="list-style-type: none"> Describe the basic terms in genetic disorders, differentiate autosomal and chromosomal disorders Discuss the congenital anomalies, infections & syndromes 	<p>Knowledge</p> <ul style="list-style-type: none"> Define genetics Define the terminologies used in genetic disorders Describe the types & aetiology of autosomal disorders & sex chromosomes Discuss the diseases and clinical features of autosomal disorders 	IC 2	LGIS	MCQs SEQs Viva
			<p>Skill</p> <ul style="list-style-type: none"> Identify the gross and microscopic features of amyloidosis 	IC 4 IC 5	Practical Demonstration	OSPE



S. No	Topics/ Theme	Learning Outcomes	Learning Objectives	I C Codes	MITs	Assessment Tools
		At the end of this block, the students will be able to:				
			<ul style="list-style-type: none"> Demonstrate the procedure and interpretation of complete blood counts 			
4	<ul style="list-style-type: none"> Microbiology, Virology (hepatitis viruses, rabies virus, herpes virus, HIV) and Fungi (cutaneous mycosis, deep mycosis, opportunistic infections) 	<ul style="list-style-type: none"> Recall the basic concepts, clinical features, and laboratory diagnosis of virology Describe the major fungal infections, their laboratory diagnosis and prevention 	<p>Knowledge</p> <ul style="list-style-type: none"> Define virology Describe the types, laboratory diagnosis, immunization, and prevention of hepatitis viruses Describe the laboratory diagnosis & prevention from HIV Describe the clinical feature & prevention of rabies Describe the types, clinical features & prevention of herpes viruses Define mycology Classify fungi Describe the types, causative agents, and clinical features of mycosis 	IC 2	LGIS	MCQs SEQs Viva



VERTICALLY INTEGRATED MODULES

1. PRECLINICAL OPERATIVE DENTISTRY

S. No	Topic / Theme	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
1	Composite Restorative Material	<ul style="list-style-type: none"> Comprehend the use of Composite Restorative Material 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Discuss the use of different restorative materials according to different clinical situations Describe the terminology and classification of composite Recall the composition structure and properties Interpret the clinical considerations, indications and contraindications Discuss the advantages and disadvantages 	IC 2	LGIS	MCQs SAQs Viva
2	Class III Cavity Preparation for Composite	<ul style="list-style-type: none"> Describe Class III Cavity Preparation for Composite 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Describe the accurate method of cavity preparation in aesthetic zones of oral cavity Describe the manipulation of tooth coloured restoration, finishing and polishing 	IC 2	LGIS	MCQs SAQs Viva

			<ul style="list-style-type: none"> • Discuss the conventional class iii tooth preparation, bevelled conventional class iii tooth preparation, modified class iii tooth preparation • Describe the restorative technique, etching, bonding agent application, matrix application, placement and curing of composite • Discuss the method of finishing and polishing of restorations 			
2	Class IV Cavity Preparation for Composite	<ul style="list-style-type: none"> • Describe Class IV Cavity Preparation for Composite 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Describe the accurate method of cavity preparation in the aesthetic zones of oral cavity • Discuss the manipulation of tooth coloured restoration (composite) and importance of polishing of aesthetic restoration • Interpret the conventional class iv tooth preparation, bevelled conventional iv tooth preparation, modified class iv tooth preparation • Analyse the restorative technique, etching, priming, placing adhesive, matrix 	IC 2	LGIS	<p>MCQs</p> <p>SAQs</p> <p>Viva</p>



			<p>application, placement and curing of composite</p> <ul style="list-style-type: none"> • Discuss the finishing and polishing of restoration 			
3	Class V Composite Restoration	<ul style="list-style-type: none"> • Describe Class V Cavity Preparation for Composite 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> • Describe the accurate method of Class V cavity preparation • Discuss the manipulation of tooth coloured restoration (composite) • Interpret the use of sandwich technique for deep class v cavities • Describe the conventional class v tooth preparation, bevelled conventional class v tooth preparation, modified class v tooth preparation • Discuss the restorative technique; sandwich technique 	IC 2	LGIS	<p>MCQs</p> <p>SAQs</p> <p>Viva</p>
4	Class III Preparation	<ul style="list-style-type: none"> • Perform Class III Cavity Preparation for Composite 	<p><u>Skill</u></p> <ul style="list-style-type: none"> • Demonstrate the hands on procedure of class III cavity preparation • Demonstrate the methods of determining different cavity dimension 	<p>IC 1</p> <p>IC 3</p> <p>IC 4</p>	Practical Demonstration	OSPE

			<ul style="list-style-type: none"> • Demonstrate the application of matrix system • Perform the placement of composite matrix • Demonstrate the application of lining materials • Perform the placement of composite materials • Demonstrate the composite restoration finishing and polishing 			
5	Class IV Preparation	<ul style="list-style-type: none"> • Perform Class IV Cavity Preparation for Composite 	<p>Skill</p> <ul style="list-style-type: none"> • Illustrate the accurate method of cavity design and preparation • Illustrate the finishing and polishing of composite restoration • Perform the hands on performance of class iv cavity preparation • Demonstrate the methods of determining different cavity dimension • Perform the application of matrix system • Perform the placement of composite matrix • Demonstrate the application of lining materials 	IC 1 IC 3 IC 4 IC 5	Practical Demonstration	OSPE



			<ul style="list-style-type: none"> • Demonstrate the placement of composite materials • Demonstrate the composite restoration finishing and polishing 			
6	Class V Preparation	<ul style="list-style-type: none"> • Perform Class V Cavity Preparation for Composite 	<p><u>Skill</u></p> <ul style="list-style-type: none"> • Demonstrate the accurate method of cavity design and preparation • Demonstrate the finishing and polishing of the restoration • Demonstrate the hands-on performance of class v cavity preparation • Demonstrate the methods of determining different cavity dimension • Demonstrate the application of matrix system • Demonstrate the placement of composite matrix • Demonstrate the application of lining materials • Demonstrate the placement of composite materials • Demonstrate the composite restoration finishing and polishing 	IC 1 IC 3 IC 4 IC 5	Practical Demonstration	OSPE



7	Finishing & Polishing	<ul style="list-style-type: none"> Perform finishing and polishing of composite restorations 	<p>Skill</p> <ul style="list-style-type: none"> Demonstrate the steps of finishing and polishing of composite restoration 	IC 1 IC 3 IC 4 IC 5	Practical Demonstration	OSPE
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2. PRECLINICAL PROSTHODONTICS

S. No	Topic/ Theme	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
1	Major Connectors	<ul style="list-style-type: none"> Describe major connectors 	<p>Knowledge</p> <ul style="list-style-type: none"> Define major connectors Discuss the characteristics of major connectors that contribute to the well-being of patients Enlist maxillary and mandibular major connectors 	IC 2	LGIS	MCQs SAQs Viva
2	Minor Connectors	<ul style="list-style-type: none"> Explain minor Connectors 	<p>Knowledge</p> <ul style="list-style-type: none"> Define minor connectors Describe functions and forms of minor connectors 	IC 2	LGIS	MCQs SAQs Viva



3	Direct Retainers	<ul style="list-style-type: none"> Describe direct retainers 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define direct retainers Classify direct retainers Enlist parts of clasps Enumerate functions of reciprocal clasp arm Enumerate the principles of clasp design Discuss factors that affect flexibility of clasps 	IC 2	LGIS	MCQs SAQs Viva
4	Indirect Retainers	<ul style="list-style-type: none"> Discuss indirect retainers 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define indirect retainers Enumerate functions of indirect retainers Discuss different forms of indirect retainers 	IC 2	LGIS	MCQs SAQs Viva
5	Denture Base	<ul style="list-style-type: none"> Explain denture Base 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define a denture base Enlists functions of denture base Differentiate between tooth-supported and distal extension denture base Discuss factors affecting support of a distal extension denture base Differentiate between metal and acrylic denture bases Enumerate methods of attaching teeth to denture base 	IC 2	LGIS	MCQs SAQs Viva
6	Surveying	<ul style="list-style-type: none"> Comprehend surveying 	<p><u>Knowledge</u></p> <ul style="list-style-type: none"> Define Surveying Enlist different parts of surveyor 	IC 2	LGIS	MCQs SAQs

			<ul style="list-style-type: none"> • Differentiate between supra-bulge and infra-bulge areas • Discuss the objectives of surveying • Enlist factors effecting path of insertion and removal • Describe different types of tripoding 			Viva
7	Clasp Fabrication For removable partial dentures (RPD)	<ul style="list-style-type: none"> • Comprehend clasp fabrication for Removable Partial Denture (RPD) 	<p><u>Skill</u></p> <ul style="list-style-type: none"> • Demonstrate the fabrication of different types of clasps used in removable partial dentures 	IC 1 IC 4 IC 5	Demonstration	OSPE
8	Record Base, Occlusal Rim and Articulation For RPD	<ul style="list-style-type: none"> • Perform record base, occlusal rim and articulation for Removable Partial Denture (RPD) 	<p><u>Skill</u></p> <ul style="list-style-type: none"> • Demonstrate the use of baseplate wax for occlusal rims fabrication, auto-polymerizing resin for record bases and dental plaster for articulation of RPD • Identify the different types of articulators used for fabrication of Removable Partial Denture • Demonstrate the procedure of articulation 	IC 1 IC 2 IC 5	Demonstration	OSPE
9	Teeth Arrangement For RPD	<ul style="list-style-type: none"> • Perform steps of teeth arrangement for RPD 	<p><u>Skill</u></p> <ul style="list-style-type: none"> • Demonstrate the process of teeth arrangement for patients requiring removable partial dentures 	IC 1 IC 2 IC 5	Demonstration	OSPE



10	Laboratory Procedures Flacking, Dewaxing, Packing, Curing, Finishing and Polishing	<ul style="list-style-type: none"> Demonstrate laboratory procedures (flacking, dewaxing, packing, curing, finishing and polishing) 	<u>Skill</u> <ul style="list-style-type: none"> Demonstrate the procedures of flasking, dewaxing, packing, curing, finishing, and polishing of partial dentures Identify the prosthesis processing errors 	IC 1 IC 2 IC 4 IC 5	Demonstration	OSPE



3. RESEARCH METHODOLOGY

Sr. No	Content/ Topic	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
		At the end of this block students will be able to:				
1	Descriptive Epidemiology	<ul style="list-style-type: none"> Discuss the descriptive epidemiology 	<p>Knowledge</p> <ul style="list-style-type: none"> Discuss the concept of descriptive studies & types of studies Outline procedures in descriptive epidemiology Describe uses of descriptive epidemiology Discuss the designs of descriptive Epidemiology 	IC 2	LGIS SGD	MCQs SEQs Viva
2	Analytical Epidemiology	<ul style="list-style-type: none"> Demonstrate the basic concepts of Analytical studies 	<p>Knowledge</p> <ul style="list-style-type: none"> Discuss analytical studies Describe case-control study Outline the indications, advantages, and disadvantages of study designs Define bias and list its different types Discuss cohort study Outline general consideration while selection of cohorts Describe types of cohort studies & Elements of cohort studies 	IC 2 IC 4	LGIS SGD	MCQs SEQs Viva

			<ul style="list-style-type: none"> Outline Indications, advantages, and disadvantages of cohort studies and the estimation of risk 			
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4. BEHAVIOURAL SCIENCES

Sr. No	Content/ Topic	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
		At the end of this block students will be able to:				
Sociology						
1	Health planning and evaluation <ul style="list-style-type: none"> Health economics Health system planning Health policies Determinants of health 	<ul style="list-style-type: none"> Comprehend the procedures of health planning and evaluation Analysis of demographics 	<u>Knowledge</u> <ul style="list-style-type: none"> Interpret the key concepts of health economics Discuss equity considerations in health system Discuss macro level policies Discuss Economic health planning 	IC 2	LGIS	MCQs



			<ul style="list-style-type: none">• Discuss demographic and economic factors influencing health			
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BLOCK III SYLLABI

1. DENTAL MATERIALS

S. No	Date	Topic/ Theme	MIT
1	25-7-22	Introduction to evidence-based dentistry	LGIS
2	26-7-22	Selection of preventive dental materials	LGIS
3	28-7-22	Comparison of preventive dental materials	LGIS
Practical			
1	26-7-22	Manipulation & clinical application of Pits & fissure sealants	SGD/ Practical
	27-7-22	Manipulation & clinical application of Pits & fissure sealants	SGD/ Practical
Tutorial			
1	28-7-22	Different types of fluoride agents, their mode of action and application	SGD
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	01-08-22	Selection of direct restorative materials for different types of cavities	LGIS
2	02-08-22	Comparison of Different direct restorative materials	LGIS
3	04-08-22	Selection & comparison of Dental cements	LGIS



Practical			
1	02-07-22	Manipulation & application of restorative materials	SGD/Practical
	03-01-22	Manipulation & application of restorative materials	SGD/Practical
Tutorial			
1	04-07-22	Restorative materials	LGIS
Week – 03			
S. No	Date	Topic/ Theme	MIT
1	8-08-22	Composition & properties of Denture base materials	LGIS
2	09-08-22	The procedures involved in fabrication of denture base materials	LGIS
3	11-08-22	Clinical application, manipulation, processing, and care of dentures	LGIS
Practical			
1	09-08-22	Perform manipulation of acrylic (polymer and liquid) and identify the physical changes taking place	SGD/Practical
	10-08-22	Perform manipulation of acrylic (polymer and liquid) and identify the physical changes taking place	SGD/Practical
Tutorial			
1.	11-8-22	Denture base polymers	Presentations
Week – 04			



S. No	Date	Topic/ Theme	MIT
1	15-08-22	Selection of different types of metals and alloys used in fabrication of dental prosthesis	LGIS
2	16-08-22	Comparison of different types of metals & alloys	LGIS
3	18-08-22	Clinical application of metals in dentistry	LGIS
Practical			
1	16-08-22	Identification & use of metals	SGD/ Practical
	17-08-22	Identification & use of metals	SGD/ Practical
Tutorial			
1	18-8-22	Metals	PPT
Week – 05			
S. No	Date	Topic/ Theme	MIT
1	22-08-22	Basic chemistry and composition of ceramics and their classification	LGIS
2.	23-08-22	The procedures of ceramic bonding	LGIS
3	25-08-22	The methods of strengthening ceramics	LGIS
Practical			
1.	23-8-22	Steps of porcelain fused to metal crown	SGD/ Practical



2.	24-8-22	Steps of porcelain fused to metal crown	SGD/ Practical
Tutorial			
3.	25-8-22	PFM & casting	LGIS
Week – 06			
S. No	Date	Topic/ Theme	MIT
1	29-08-22	Selection of Different impression materials	LGIS
2	30-08-22	Comparison of impression materials	LGIS
3	01-09-22	Clinical application of impression materials	LGIS
Practical			
1	30-8-22	Manipulation of impression materials	SGD/ Practical
2	1-9-22	Manipulation of impression materials	SGD/ Practical
Tutorial			
1	1-9-22	Impression materials	LGIS
Week – 07			
S. No	Date	Topic/ Theme	MIT
1	05-09-22	Selection of auxiliary dental materials	LGIS



2	06-09-22	Comparison of auxiliary dental materials	LGIS
3	08-09-22	Clinical implications of auxiliary dental materials	LGIS
Practical			
1	6-09-22	Manipulation of waxes and gypsum	SGD/ Practical
2	07-09-22	Manipulation of waxes and gypsum	SGD/ Practical
Tutorial			
1	08-09-22	Auxiliary materials	Presentation
Week – 08			
S. No	Date	Topic/ Theme	MIT
1	12-09-22	Types of investments used in dentistry	LGIS
2	13-09-22	Clinical application of investment materials	LGIS
3.	15-09-22	Casting	LGIS
Practical			
1	13-09-22	Methods involved in casting	SGD/ Practical
	14-09-22	Methods involved in casting	SGD/ Practical
Tutorial			



1	15-09-22	Defects in casting	SGD
Week – 09			
S. No	Date	Topic/ Theme	MIT
1	19-09-22	Revision of properties of dental materials	LGIS
2	20-09-22	Revision of properties of dental materials	LGIS
3	22-09-22	Revision of Auxiliary materials	LGIS
Practical			
1	20-09-22	Revision	SGD/ Practical
	21-09-22	Revision	SGD/ Practical
Tutorial			
1	22-09-22	Tests of properties & auxiliary materials	SGD
Week – 10			
S. No	Date	Topic/ Theme	MIT
1	26-09-22	Revision of Restorative materials	LGIS
2	27-09-22	Revision of Restorative materials	LGIS
3	29-09-22	Revision of Restorative materials	LGIS



Practical			
1	27-09-22	OSPE practice	SGD/ Practical
	28-09-22	OSPE practice	SGD/ Practical
Tutorial			
1	29-09-22	Test on restorative materials	
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	03-10-22	Revision impression materials	LGIS
2	04-10-22	Revision impression materials	LGIS
3	6-10-22	Revision impression materials	LGIS
Practical			
1	04-10-22	OSPE practice	SGD/ Practical
	05-10-22	OSPE Practice	SGD/ Practical
Tutorial			
1	06-10-22	Test of impression materials	SGD
Week 12			



S.No.	Date	Topic/Theme	MIT
1	10-10-22	Revision of polymers	LGIS
2	11-10-22	Revision of polymers	LGIS
3	13-10-22	Revision of polymers	LGIS
Practical			
1	11-10-22	OSPE practice	SGD/ Practical
2	12-10-22	OSPE practice	SGD/ Practical
Tutorial			
1	13-10-22	Test of polymers	



2. COMMUNITY DENTISTRY

Week - 01			
S. No	Date	Topic/ Theme	MIT
1	25-07-22	Health Care Delivery System	LGIS
2	26-07-22	National Health policy of Pakistan	LGIS
3	27-07-22	Problems in Healthcare system of Pakistan	LGIS
Practical			
1	26-07-22	Dental instruments and Dental Materials	SGD/ Practical
	27-07-22	Dental instruments and Dental Materials	SGD/ Practical
Tutorial			
1	25-07-22	Discussion	LGIS
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	01-08-22	Primary Health Care	LGIS
2	02-08-22	Dental Needs and resources	LGIS
3	03-08-22	Health Planning	LGIS



Practical			
1	02-08-22	Hand washing	SGD/ Practical
	03-08-22	Hand washing	SGD/ Practical
Tutorial			
1	01-08-22	Discussion	LGIS
Week – 03			
S. No	Date	Topic/ Theme	MIT
1	08-08-22	Health Planning and Survey	LGIS
2	09-08-22	Evaluation	LGIS
3	10-08-22	Dental Auxiliaries	LGIS
Practical			
1	09-08-22	PPE	SGD/ Practical
	10-08-22	PPE	SGD/ Practical
Tutorial			
1	08-08-22	Discussion	LGIS
Week – 04			



S. No	Date	Topic/ Theme	MIT
1	15-08-22	Introduction to Epidemiology	LGIS
2	16-08-22	Incidence and Prevalence	LGIS
3	17-08-22	Financing in Health Care	LGIS
Practical			
1	16-08-22	Needle stick injury	SGD/ Practical
	17-08-22	Needle stick injury	SGD/ Practical
Tutorial			
1	15-08-22	Discussion	LGIS
Week – 05			
S. No	Date	Topic/ Theme	MIT
1	22-08-22	Classification of epidemiological studies	LGIS
	23-08-22	Descriptive epidemiology	LGIS
2	24-08-22	Dental Practice management	LGIS
Practical			



1	23-08-22	Waste Disposal management	SGD/ Practical
	24-08-22	Waste Disposal management	SGD/ Practical
Tutorial			
1	22-08-22	PTT/Discussion	LGIS
Week – 06			
S. No	Date	Topic/ Theme	MIT
1	29-08-22	Analytical Epidemiology	LGIS
2	30-08-22	Experimental Epidemiology	LGIS
3	31-08-22	Comprehensive Dental Care	LGIS
Practical			
1	30-08-22	Disinfection of dental unit	SGD/ Practical
	31-08-22	Disinfection of dental unit	SGD/ Practical
Tutorial			
1	29-08-22	Discussion	LGIS
Week – 07			
S. No	Date	Topic/ Theme	MIT



1	05-09-22	Research proposal Writing	LGIS
2	06-09-22	Biostatistics	LGIS
3	07-09-22	Biostatistics	LGIS
Practical			
1	06-09-22	Disinfection	SGD/ Practical
	07-09-22	Disinfection	SGD/ Practical
Tutorial			
1	05-09-22	Discussion	LGIS
Week – 08			
S. No	Date	Topic/ Theme	MIT
1	12-09-22	Biostatistics	LGIS
2	13-09-22	Types and presentation of Data	LGIS
3	14-09-22	Variables	LGIS
Practical			
1	13-09-22	Sterilization	SGD/ Practical
	14-09-22	Sterilization	SGD/ Practical



Tutorial			
1	12-09-22	PPT Presentations	LGIS
Week – 09			
S. No	Date	Topic/ Theme	MIT
1	19-09-22	Measures of Central tendency	LGIS
2	20-09-22	Measures of Central tendency	LGIS
3	21-09-22	Measures of Dispersion	LGIS
Practical			
1	20-09-22	Colour coding system	SGD/ Practical
	21-09-22	Colour coding system	SGD/ Practical
Tutorial			
1	19-09-22	PPT Presentations	LGIS
Week – 10			
S. No	Date	Topic/ Theme	MIT
1	26-09-22	Sampling	LGIS
2	27-09-22	Normal distribution	LGIS



3	28-09-22	Probability	LGIS
Practical			
1	27-09-22	Immunization	SGD/ Practical
	28-09-22	Immunization	SGD/ Practical
Tutorial			
1	26-09-22	Discussion	LGIS
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	03-10-22	Statistical Testing	LGIS
2	04-10-22	Statistical Testing	LGIS
3	05-10-22	Statistical Testing	LGIS
Practical			
1	04-10-22	Revision	SGD
	05-10-22	Revision	SGD
Tutorial			
1	03-10-22	Discussion	SGD



Week – 12			
S. No	Date	Topic/ Theme	MIT
1	10-19-22	Systematic review	LGIS
2	11-10-22	Plagiarism	LGIS
2	12-10-22	End note	LGIS
Practical			
1	11-10-22	Revision	SGD/ Practical
2	12-10-22	Revision	SGD/ Practical
Tutorial			
1	10-1-22	Discussion	
Week – 13			
S. No	Date	Topic/ Theme	MIT
1	17-10-22	SPSS	LGIS
2	18-10-22	Evidence based Dentistry	LGIS
3	19-10-22	Revision	LGIS
Practical			



1	18-10-22	Revision	SGD/ Practical
2	19-10-22	Revision	SGD/ Practical
Tutorial			
1	17-10-22	Discussion	SGD

3. PHARMACOLOGY

Week - 01			
S. No	Date	Topic/ Theme	MIT
1	25-07-2022	Introduction to CNS	LGIS
2	27-07-2022	Sedative & hypnotics I	LGIS
3	28-07-2022	Sedative & hypnotics II	LGIS
Practical			
1	25-07-2022	Prescription writing	SGD/ Practical
	26-07-2022	Prescription writing	SGD/ Practical
Tutorial			
1	27-07-2022	Discussion	SGD
Week - 02			
S. No	Date	Topic/ Theme	MIT
1	01-08-2022	General anaesthetics I	LGIS
2	03-08-2022	General anaesthetics II	LGIS
3	04-08-2022	Local anaesthetics I	LGIS
Practical			



1	01-08-2022	Prescription writing	SGD/ Practical
	02-08-2022	Prescription writing	SGD/ Practical
Tutorial			
1	03-08-2022	PTT/ Discussion	SGD
Week - 03			
S. No	Date	Topic/ Theme	MIT
1	15-08-2022	Local anaesthetics II	LGIS
2	17-08-2022	Anti-epileptic drugs I	LGIS
3	18-08-2022	Anti-epileptic drugs II	LGIS
Practical			
1	15-08-2022	Prescription writing	SGD/ Practical
	16-08-2022	Prescription writing	SGD/ Practical
Tutorial			
1	17-08-2022	PTT/ Discussion	SGD
Week - 04			
S. No	Date	Topic/ Theme	MIT
1	22-08-2022	Anti-depressant drugs	LGIS
2	24-08-2022	Opioid analgesics I	LGIS
3	25-08-2022	Opioid analgesics II	LGIS
Practical			
1	22-08-2022	Prescription writing	SGD/ Practical
	23-08-2022	Prescription writing	SGD/ Practical
Tutorial			
1	24-08-2022	PTT/ Discussion	SGD
Week - 05			



S. No	Date	Topic/ Theme	MIT
1	29-08-2022	NSAIDs I	LGIS
2	31-08-2022	NSAIDs II	LGIS
3	01-09-2022	Drug treatment of migraine	LGIS
Practical			
1	29-08-2022	Prescription writing	SGD/ Practical
	30-08-2022	Prescription writing	SGD/ Practical
Tutorial			
1	31-08-2022	PTT/ Discussion	SGD
Week - 06			
S. No	Date	Topic/ Theme	MIT
1	05-09-2022	Emetics & anti-emetics	LGIS
2	07-09-2022	Drugs used in acid peptic disease I	LGIS
3	08-09-2022	Drugs used in acid peptic disease II	LGIS
Practical			
1	05-09-2022	Prescription writing	SGD/ Practical
	06-09-2022	Prescription writing	SGD/ Practical
Tutorial			
1	07-09-2022	PTT/ Discussion	SGD
Week - 07			
S. No	Date	Topic/ Theme	MIT
1	12-09-2022	Laxatives / purgatives	LGIS
2	14-09-2022	Anti-diarrheal drugs	LGIS
3	15-09-2022	Antihistamine agents	LGIS
Practical			



1	12-09-2022	Prescription writing	SGD/ Practical
	13-09-2022	Prescription writing	SGD/ Practical
Tutorial			
1	14-09-2022	PTT/ Discussion	SGD
Week - 08			
S. No	Date	Topic/ Theme	MIT
1	19-09-2022	Mucolytics, expectorants, anti-tussives	LGIS
2	21-09-2022	Drugs used in asthma I	LGIS
3	22-09-2022	Drugs used in asthma II	LGIS
Practical			
1	19-09-2022	OSPE Revision	SGD/ Practical
	20-09-2022	OSPE Revision	SGD/ Practical
Tutorial			
1	21-09-2022	Discussion	SGD
Week - 09			
S. No	Date	Topic/ Theme	MIT
1	26-09-2022	Drug -drug interactions	LGIS
2	28-09-2022	Revision	LGIS
3	29-09-2022	Revision	LGIS
Practical			
1	26-09-2022	OSPE Revision	SGD/ Practical
	27-09-2022	OSPE Revision	SGD/ Practical
Tutorial			
1	28-09-2022	Discussion	SGD
Week-10			



S. No	Date	Topic/ Theme	MIT
1	03-10-2022	Revision	LGIS
2	05-10-2022	Revision	LGIS
3	06-10-2022	Revision	LGIS
Practical			
1	03-10-2022	OSPE Revision	SGD/ Practical
	04-10-2022	OSPE Revision	SGD/ Practical
Tutorial			
1	05-10-2022	PTT/ Discussion	SGD
Week-11			
S. No	Date	Topic / Theme	MIT
1	10-10-2022	Revision	LGIS
2	12-10-2022	Revision	LGIS
3	13-10-2022	Revision	LGIS
Practical			
1	10-10-2022	OSPE Revision	SGD/ Practical
	11-10-2022	OSPE Revision	SGD/ Practical
Tutorial			
1	12-10-2022	Revision	SGD
Week-12			
S. No	Date	Topic/ Theme	MIT
1	17-10-2022	Revision	LGIS
2	19-10-2022	Revision	LGIS
3	20-10-2022	Revision	LGIS
Practical			



1	17-10-2022	OSPE Revision	SGD/ Practical
	18-10-2022	OSPE Revision	SGD/ Practical
Tutorial			
1	19-10-2022	Revision	SGD



4. GENERAL PATHOLOGY

S. No	Date	Topic/ Theme	MIT
Week - 01			
1	25-07-22	Cells of Immune System	LGIS
2	26-07-22	Immunoglobulins	LGIS
3	27-07-22	Hypersensitivity I	LGIS
Practical			
1	25-07-22	Acute Inflammation, Granulation Tissue	SGD/ Practical
	26-07-22	Acute Inflammation, Granulation Tissue	SGD/ Practical
Tutorial			
1	29-07-22	Tutorial	SGD
Week - 02			
S. No	Date	Topic/ Theme	MIT
1	02-08-22	Hypersensitivity II & III	LGIS
2	03-08-22	Hypersensitivity IV	LGIS
3	04-08-22	Immunodeficiency disorders	LGIS
Practical			
1	01-08-22	Motility Test	SGD/ Practical
	02-08-22	Motility Test	SGD/ Practical
Tutorial			
1	05-08-22	Tutorial	SGD
S. No	Date	Topic/ Theme	MIT
1	09-08-22	AIDs & HIV	LGIS
2	10-08-22	Genetic	LGIS
3	11-08-22	Genetics (Mandelian disorders)	LGIS



Practical			
1	08-08-22	Oedema & Congestion	SGD/ Practical
	09-08-22	Oedema & Congestion	SGD/ Practical
Tutorial			
1	12-08-22	Tutorial	SGD
Week – 04			
S. No	Date	Topic/ Theme	MIT
1	16-08-22	Chromosomal disorders	LGIS
2	17-08-22	Anaemia 1	LGIS
3	18-08-22	Anaemia II	LGIS
Practical			
1	15-08-22	Thrombosis	SGD/ Practical
	16-08-22	Thrombosis	SGD/ Practical
Tutorial			
1	19-08-22	Tutorial	SGD
S. No	Date	Topic/ Theme	MIT
1	23-08-22	Benign vs Malignant Tumours	LGIS
2	24-08-22	Oncogenes, Etiology of Tumour	LGIS
Practical			
1	22-08-22	Sugar Test	SGD/ Practical
	23-08-22	Sugar Test	SGD/ Practical
Tutorial			
1	26-08-22	Tutorial	SGD
Week – 06			



S. No	Date	Topic/ Theme	MIT
1	30-08-22	Molecular Basis of Cancer(I)	LGIS
2	31-08-22	Molecular Basis of Cancer (II)	LGIS
Practical			
1	29-08-22	Amyloidosis	SGD
	30-08-22	Amyloidosis	SGD
Tutorial			
1	02-09-22	Tutorial	SGD
Week - 07			
S. No	Date	Topic/ Theme	MIT
1	06-09-22	Grading and staging of tumours	LGIS
2	07-09-22	Miscellaneous Tumours	LGIS
Practical			
1	05-09-22	Urine R/E	SGD/ Practical
	06-09-22	Urine R/E	SGD/ Practical
Tutorial			
1	09-09-22	Tutorial	LGIS
Week - 08			
S. No	Date	Topic/ Theme	MIT
1	26-09-22	Introduction and classification of Gram-Positive Rods	LGIS
2	28-09-22	Spore forming/ non-Spore forming gram positive rods	LGIS
Practical			
1	30-09-22	Lipoma	SGD/ Practical
	31-09-22	Lipoma	SGD/ Practical
Tutorial			



1	03-10-22	Tutorial	SGD
Week – 09			
S. No	Date	Topic/ Theme	MIT
1	07-10-22	Mycobacterium I, II, III	LGIS
2	09-10-22	Actinomycosis/Nocardia	LGIS
Practical			
1	06-10-22	Leiomyoma	SGD/ Practical
	07-10-22	Leiomyoma	SGD/ Practical
Tutorial			
1	10-10-22	Tutorial	SGD
S. No	Date	Topic/ Theme	MIT
1	14-10-22	Introduction to Parasitology	LGIS
2	16-10-22	Environmental diseases	LGIS
Practical			
1	13-10-22	Basal Cell Carcinoma	SGD/ Practical
	14-10-22	Basal Cell Carcinoma	SGD/ Practical
Tutorial			
1	17-10-22	Tutorial	SGD
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	21-10-22	Introduction to Parasitology	LGIS
2	22-10-22	Environmental diseases	LGIS
Practical			
1	20-10-22	Basal Cell Carcinoma	SGD/ Practical
	21-10-22	Basal Cell Carcinoma	SGD/ Practical



Tutorial			
1	23-10-22	Tutorial	SGD
Week – 12			
S. No	Date	Topic/ Theme	MIT
1	28-10-22	Introduction to Parasitology	LGIS
2	30-10-22	Environmental diseases	LGIS
Practical			
1	29-10-22	Basal Cell Carcinoma	SGD/ Practical
	30-10-22	Basal Cell Carcinoma	SGD/ Practical
Tutorial			
1	31-10-22	Tutorial	SGD
Week – 13			
S. No	Date	Topic/ Theme	MIT
1	14-06-22	Introduction to Parasitology	LGIS
2	16-06-22	Environmental diseases	LGIS
Practical			
1	13-06-22	Basal Cell Carcinoma	SGD
	14-06-22	Basal Cell Carcinoma	SGD
Tutorial			
1	17-06-22	Tutorial	SGD



5. PRECLINICAL OPERATIVE DENTISTRY

Week – 01			
S. No	Date	Topic/ Theme	MIT
1	28-07-22	Composite Restorative material	LGIS
Practical			
1	29-07-22	Completion of amalgam restoration	SGD/ Practical
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	04-08-22	Composite Restorative material	LGIS
Practical			
1	05-08-22	Class III & class IV preparation	SGD/Practical
Week – 03			
S. No	Date	Topic/ Theme	MIT
1	11-08-22	Composite Restorative material	LGIS
Practical			
1	12-08-22	Steps of composite placement	SGD/Practical



Week – 04			
S. No	Date	Topic/ Theme	MIT
1	18-08-22	Class III cavity preparation	LGIS
Practical			
1	19-08-22	Restoration of class III & IV	SGD/ Practical
Week – 05			
S. No	Date	Topic/ Theme	MIT
1	25-08-22	Class IV cavity preparation	LGIS
Practical			
1	26-08-22	Finishing & polishing of composite restoration	SGD/ Practical
Week – 06			
S. No	Date	Topic/ Theme	MIT
1	01-09-22	Class V restoration	LGIS
Practical			
S. No	Date	Topic/ Theme	MIT
1	02-09-22	Diastema closure	SGD/ Practical



Week – 07			
S. No	Date	Topic/ Theme	MIT
1	08-09-22	Revision lecture	LGIS
Practical			
1	09-09-22	Completion of quota	SGD/ Practical
Week – 08			
S. No	Date	Topic/ Theme	MIT
1	15-09-22	Revision lecture	LGIS
Practical			
1	16-09-22	Completion of quota	SGD/ Practical
Week – 09			
S. No	Date	Topic/ Theme	MIT
1	22-09-22	Revision	LGIS
Practical			
1	23-09-22	Completion of quota	SGD/ Practical
Week – 10			



S. No	Date	Topic/ Theme	MIT
1	29-09-22	Revision	LGIS
Practical			
1	30-09-22	Completion of quota	SGD/ Practical
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	06-10-22	Revision	LGIS
Practical			
1	07-10-22	Completion of quota	SGD/ Practical
Week – 12			
S. No	Date	Topic/ Theme	MIT
1	13-10-22	Revision	LGIS
Practical			
1	14-10-22	Completion of quota	SGD/ Practical
Week – 13			
S. No	Date	Topic/ Theme	MIT



1	20-10-22	Revision	LGIS
Practical			
1	21-10-22	Completion of quota	SGD/ Practical

6. PRECLINICAL PROSTHODONTICS

Week – 01			
S. No	Date	Topic/ Theme	MIT
1	28-07-22	Major connectors I	LGIS
Practical			
1	29-07-22	Clasp fabrication for RPD	SGD/ Practical
Week – 02			
S. No	Date	Topic/ Theme	MIT
1	04-08-22	Major connectors-II	LGIS
Practical			
1	05-08-22	Record base, occlusal rim, and articulation for RPD	SGD/ Practical
Week – 03			
S. No	Date	Topic/ Theme	MIT
1	11-08-22	Minor connectors	LGIS
Practical			
1	12-08-22	Teeth arrangement for RPD	SGD/ Practical
Week – 04			



S. No	Date	Topic/ Theme	MIT
1	18-08-22	Direct retainers I	LGIS
Practical			
1	19-08-22	Teeth arrangement for RPD	SGD/ Practical
Week – 05			
S. No	Date	Topic/ Theme	MIT
1	25-08-22	Direct retainers -II	LGIS
Practical			
1	26-08-22	Flasking and dewaxing	SGD/ Practical
Week – 06			
S. No	Date	Topic/ Theme	MIT
1	01-09-22	Indirect retainers	LGIS
Practical			
1	02-09-22	Packing and curing	SGD/ Practical
Week – 07			
S. No	Date	Topic/ Theme	MIT
1	08-09-22	Denture bases I	LGIS
Practical			
1	09-09-22	Finishing and polishing of RPD	SGD/ Practical
Week – 08			
S. No	Date	Topic/ Theme	MIT
1	15-09-22	Denture bases-II	LGIS
Practical			
1	16-09-22	Finishing and polishing of RPD	SGD/ Practical
Week – 09			



S. No	Date	Topic/ Theme	MIT
1	22-09-22	Surveying-I	LGIS
Practical			
1	23-09-22	Completion of quota	SGD/ Practical
Week – 10			
S. No	Date	Topic/ Theme	MIT
1	29-09-22	Surveying-II	LGIS
Practical			
1	30-09-22	Completion of quota	SGD/Practical
Week – 11			
S. No	Date	Topic/ Theme	MIT
1	06-10-22	Revision	LGIS
Practical			
1	07-10-22	Completion of quota	SGD/ Practical
Week – 12			
S. No	Date	Topic/ Theme	MIT
1	13-10-22	Revision	LGIS
Practical			
1	14-10-22	Completion of quota	SGD/ Practical
Week – 13			
	20-10-22	BLOCK EXAM	














7. BEHAVIOURAL SCIENCES

Week	Topic/ Theme	MIT
Week 1	Health system	LGIS
Week 2	Health system	LGIS
Week 3	Health system	LGIS
Week 4	Health system	LGIS
Week 5	Health system	LGIS
Week6	Health system	LGIS
Week 7	Health system	LGIS
Week 8	Demographic and economic factors	LGIS
Week 9	Demographic and economic factors	LGIS
Week 10	Demographic and economic factors	LGIS
Week 11	Research methodology	LGIS
Week 12	Research methodology	LGIS
Week 13	Research methodology	LGIS




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> 
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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

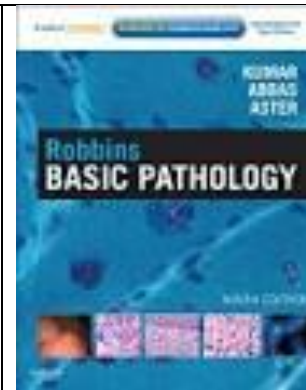
Reference book

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

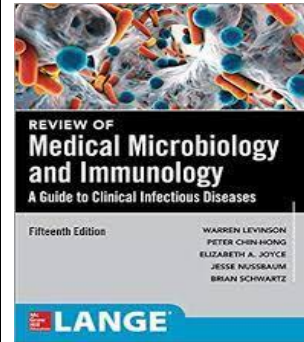
4. GENERAL PATHOLOGY

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.