HITEC

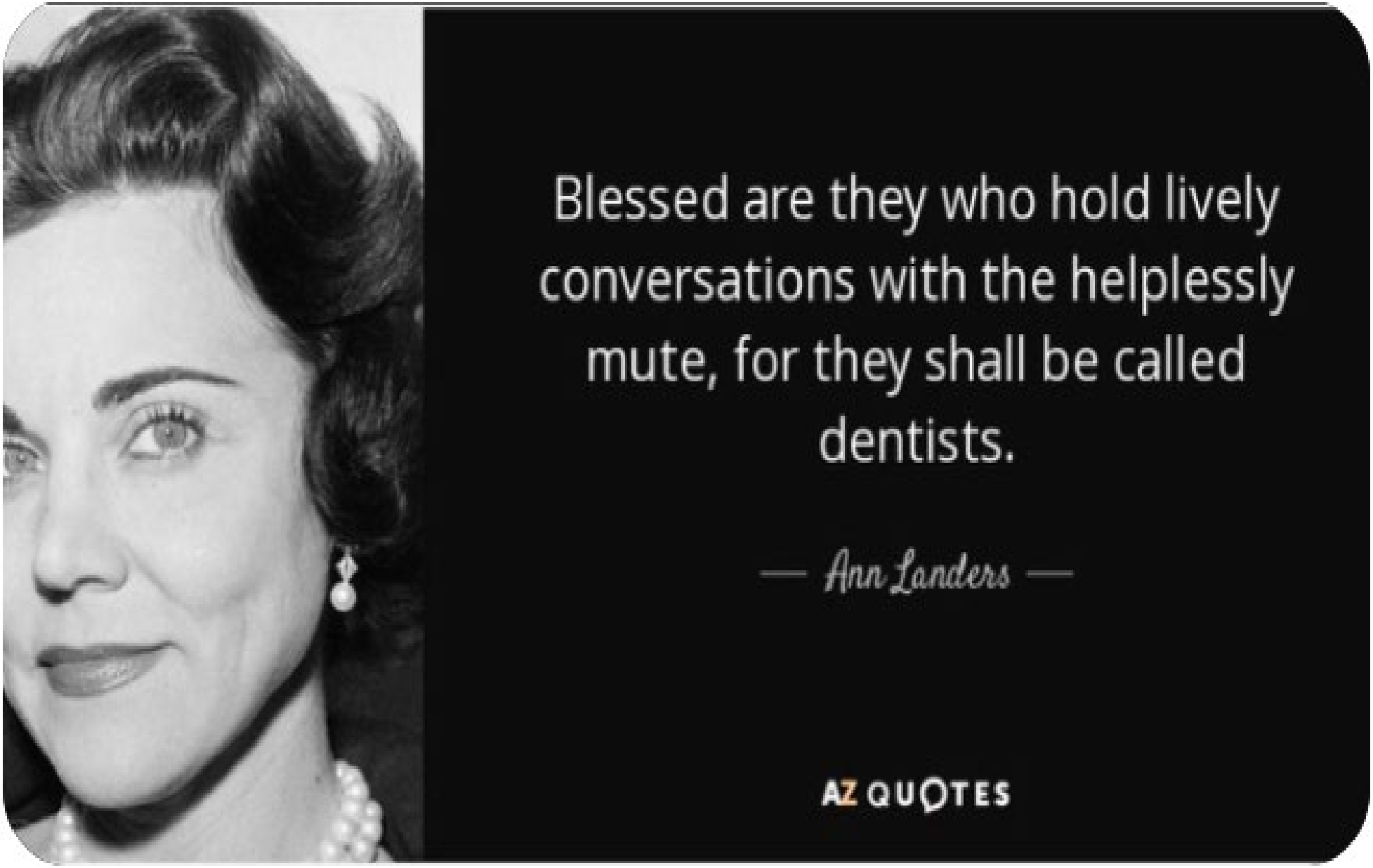
Institute of Medical Sciences Taxila

DENTAL COLLEGE HITEC-IMS

Study Guide Y2 – B1 - D24

2nd Year BDS

Coordinator: Dr. Shahreen Zahid


Blessed are they who hold lively conversations with the helplessly mute, for they shall be called dentists.
— Ann Landers —
AZ QUOTES

CONTENTS

LIST OF ABBREVIATIONS

- PMCD Pakistan Medical & Dental Council
- 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 Maria Rabbani**	Assistant Professor	Community Dentistry	0334-5439118
3.	**Dr Shahreen Zahid**	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.	**Miss Amna Fayyaz**	Lecturer	Behavioural Sciences	0343-0701997
10.	**Muhammed Haseeb**	Student	CR, 2nd Year	03164840201
11.	**Maryam Zia**	Student	GR, 2nd Year	0333-5482253

Curriculum Overview/Implementation

Preface

The curriculum meets the standards of the Pakistan Medical & dental council, 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.

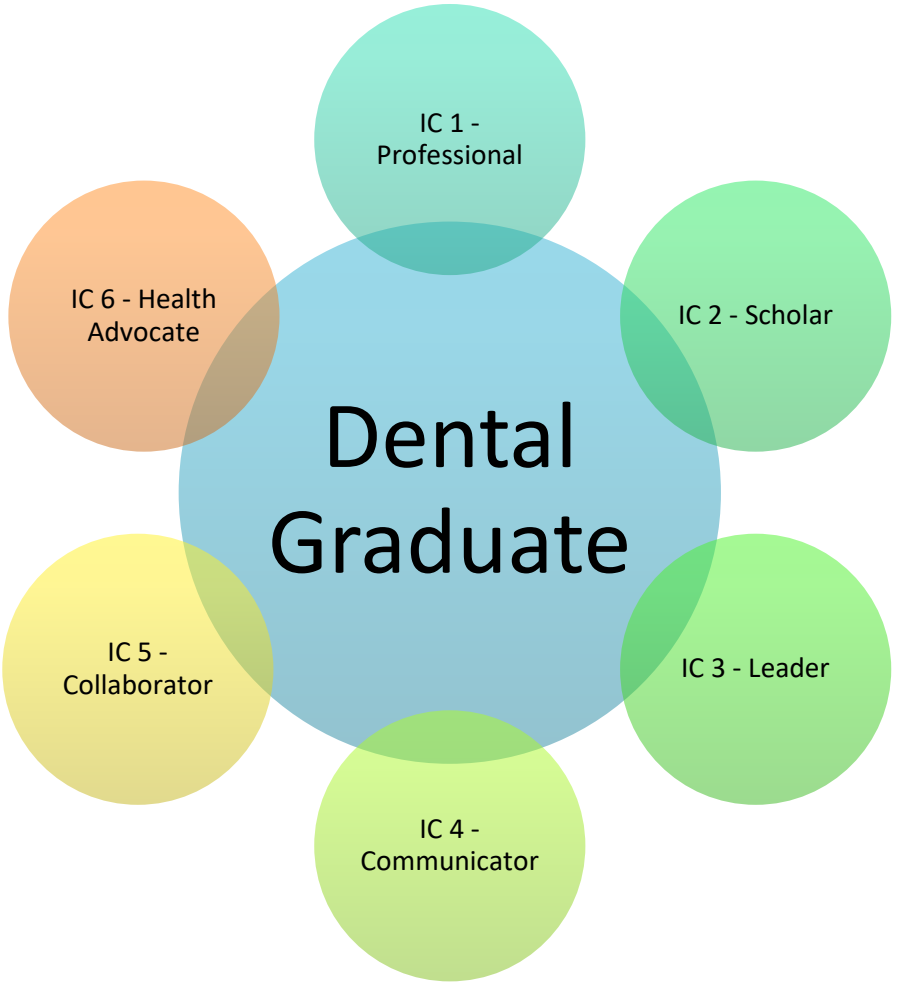
Teaching Strategies

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 – 29th January 2024			
BLOCK - 1 (11+1=12 WEEKS)			
(29th January 2024 to 26th April 2024)			
Activity	**Duration**	**From**	**To**
Academics	11 weeks	29th January 2024	26th April 2024
Sports Week	01 week	26th Feb 2024	4th March 2024
Block Assessment	01 week	29th April 2024	6th May 2024
Eid ul Fitr	1 week	8th April 2024	12th April 2024
Block - 2 (11+1=12Weeks)			
(7th May 2024 to 19th August 2024)			
Academics	11weeks	7th May 2024	15th August 2024
Eid-Ul Azha+ Summer Vacations	04 weeks	15th June 2024	14th July 2024
Block Assessment	01 week	16th August 2024	23rd August 2024
Block - 3 (12+2=14 Weeks)			
(26th August 2024 to 15th Nov 2024)			
Academics	12 weeks	26th August 2024	15th November 2024
Send-Up	02 weeks	18th November 2024	29th Nov 2024
Pre-Prof Leave	4 weeks	30th Nov 2024	30th Dec 2024
2nd Professional Exam (Tentative)	31st Dec 2024		

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	**Community-A / Dental materials-B**	**Pharmacology**	**Break**	**Dental Materials**	**Community Dentistry**	**Break**	**Pharmacology**
	Practical	LGIS		LGIS	LGIS		Tutorial
	A-(Topic)						
	B-(Topic)						
Tuesday	**Dental materials-B / Community-A**	**Pathology**		**Dental Materials**	**Community Dentistry**		**Pathology**
	Practical	LGIS		LGIS	LGIS		Tutorial
	B-(Topic)						
	A-(Topic)						
Wednesday	**Jr.Operative –B /Jr Prosthodontics- A integrated with DM** A-(Topic) B- (Topic)	**Pharmacology**		**Pathology**	**Community Dentistry integrated Research**		**Community Dentistry**
		LGIS		LGIS	LGIS		Tutorial
Thursday	**Dental materials**	**Pharmacology**		**DM LGIS/Mentoring session Slot in the second week of month**	**General Pathology**		**Pathology-A/Pharmacology B Practical A- (Topic) B-(Topic)**
	Tutorial/SGD	LGIS			LGIS		
Friday	**Jr Operative-A/ Jr Prosthodontics-B Integrated with DM**	**Jr Operative**		**Jr. Prosth**	**Behavioural Sciences**		**Pathology-B/Pharmacology-A**
	Skill Lab	LGIS		LGIS	LGIS		Practical
	B-(Topic)						A-(Topic)
	A-(Topic)						B(Topic)

Dr Shahreen Zahid Khan	Dr Shazana	Dr Amir	Dr. Sharaz	Dr. Sadia	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.

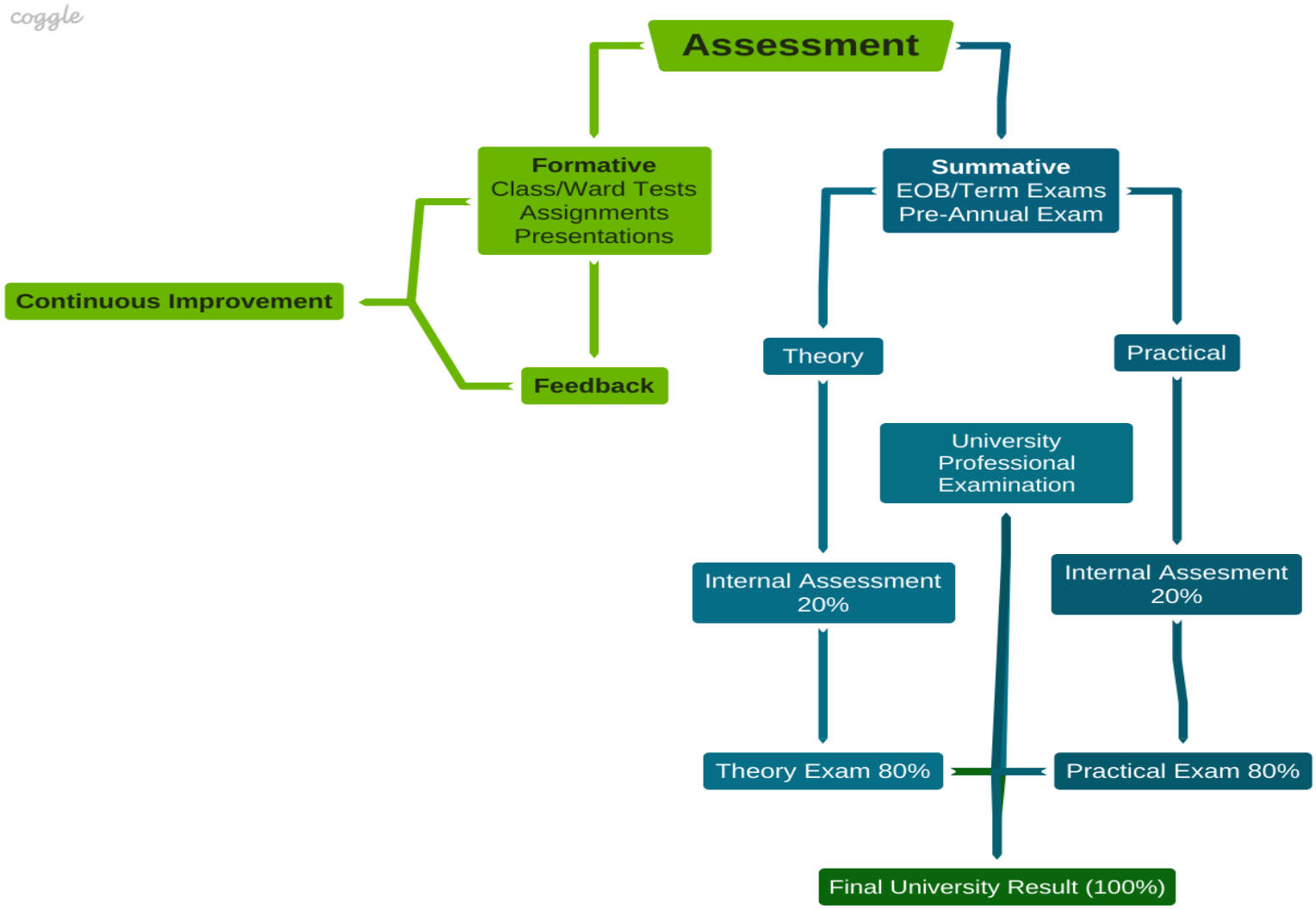
Students must secure 50% marks in exams, as per university criteria.

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



BLOCK - I

Management of Cariology & Medical Pathologies

1. Structured Summary - Block I

Block Code	**Y2-B1-D24**
Block Title	Management Of Cariology and Medical Pathologies 1
Duration Of Block	12weeks(11+1)
Important Dates	29th January 2024 to 26th April 2024
Horizontally Integrated Themes/Topics	General Pathologies and Management Community Diseases and Prevention Cariology and Management
Vertically Integrated Themes/Topics	Preclinical Operative Dentistry Preclinical Prosthodontics Research Methodology Behavioural sciences (Communication Skills)
Prerequisite Blocks	All 1st Year Blocks

2. TENTATIVE TEST SCHEDULE[1]

DATE	SUBJECT	DAY
8-2-24	Community Dentistry	Monday
12-2-24	Dental Materials	Thursday
15-2-24	Pharmacology	Thursday
19-2-24	General Pathology	Monday
22-2-24	Preclinical Operative Dentistry & Prosthodontics	Monday

DATE	SUBJECT	DAY
4-3-24	Community Dentistry	Thursday
8-3-24	Dental Materials	Monday
11-3-24	Pharmacology	Wednesday
14-3-24	General Pathology	Wednesday
18-3-24	Preclinical Operative dentistry and prosthodontics	Friday

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

3. END OF BLOCK (EOB) EXAM TENTATIVE SCHEDULE[2]

Dates	Subject	Timings
29-4-24	Pharmacology	Starting at 8:30
30-4-24	Community Dentistry	Starting at 8:30
2-5-24	Dental Materials	Starting at 8:30
3-5-24	General Pathology	Starting at 8:30
6-5-24	Preclinical Operative and Prosthodontics	Starting at 8:30

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

LEARNING OUTCOMES FOR BLOCK I

1. DENTAL MATERIALS

S. No.	Topics/Theme	Learning Outcomes	Learning Objectives	IC Codes	MIT	Assessment Tools
1	Introduction to Science of Dental Materials	At the end of the session, students will be able to: • Describe ideal properties of dental materials • Classify the types of dental materials available, i.e., Auxiliary Materials, Restorative Materials, Preventive Materials • Describe the role of dental materials in modern dentistry • Analyse the logical sequence to select appropriate material	**Knowledge** • Describe classification of dental materials • Discuss the properties of the materials used in dentistry • Analyse the process of selection of appropriate material	IC 2 IC 4	LGIS SGD	MCQs SEQs Viva
			Skill • Demonstrate the use of weighing scale, cylinders, and beakers for manipulation of materials	IC 1 IC 4	Practical Demonstration Virtual Audio Video Demonstration	OSPE
2	Properties Used to Characterize Materials Requirements for direct filling materials Synthetic polymers	• Characterize different dental materials • Describe mechanical properties of different materials • Describe the chemical and physical principles that form the foundation of the clinical behaviour and	**Knowledge** • Describe the primary classification of different preventive and restorative materials in dentistry • Compare the Mechanical properties of different materials, i.e., metals, ceramics, polymers, and composites	IC 2 IC 4	LGIS SGD CBL	MCQs SEQs Viva

		application of dental materials
		
		• Analyse thermoplastic and thermosetting phenomena of materials
		• Describe the process and stages of polymerization
		  ○ activation
		  ○ initiation
		  ○ propagation
		  ○ termination
		• Compare the difference between addition & condensation polymerization
		• Explain the chain lengthening, chain branching and cross-linking mechanisms
		• Describe the physical changes which occur during polymerization
		• Discuss the structure and properties of polymers and factors affecting, such as molecular weight, glass transition temperature, plasticizers etc
			• Define stress and strain and their relevance with dental materials used in the oral cavity
			• Explain various mechanical properties of a material on the stress-strain curve
			• Explain the rheological properties of dental materials
			• Explain the optical and thermal properties of materials
			• Describe the structure of matter and the principles of adhesion amongst dental materials
			• Discuss the concept of adhesion with clinical relevance
			• Describe the fundamental biological and chemical principles that make the foundation of the clinical behaviour and application of dental materials
			• Explain the physical principles that make the foundation of the clinical			

			behaviour and application of dental materials • Discuss the range of biological considerations regarding the selection and performance of dental materials for clinical applications • Explain the safety, biocompatibility, and biomechanics of materials • Describe requirements of direct filling materials • Explain the polymerization reactions • Explain the physical changes occurring during the polymerization • Describe the structure and properties of synthetic polymers • Discuss methods of fabricating polymers			
			Skill Perform wire bending activity (Bend Stainless Steel wire to make different alphabets A, C, D, S, T and X)	IC 1 IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
3	Composites		**Knowledge**	IC 2	LGIS SGD	MCQs SEQs

	Dentin bonding agents and adhesive dentistry	• Define what is meant by composite materials
		• Recall composition of Dental composites.
		• Classify dental composite based on
		  ○ Activation methods
		  ○ filler particle sizes
		  ○ newer generations (flowable, Packable, Bulk-fill)
		• Analyse the evolution of light-curing systems
		• Relate the properties of resin-based composites to clinical situations
		• Explain the basic mechanisms of bonding
		• Infer the ideal adhesive characteristics
		• Review in detail the enamel and dentine bonding systems
		• Discuss the evolution of Bonding systems
		• Classify adhesive systems
			• Describe the history and classification of restorative composites
			• Discuss the properties of different components of restorative composites
			• Describe the history and classification of restorative composites
			• Discuss the properties of different components of restorative composites
			• Compare the characteristics and clinical applications for composite restorative materials
			• Explain different modifications concerning restorative composites
			• Describe finishing and polishing procedures for restorative composites
			• Explain the biocompatibility issue related to restorative composites
			• Describe the recent advances in restorative composites
						Viva

			• Describe the concept of bonding and adhesion in dentistry • Define enamel and dentine bonding • Describe the significance and rationale behind enamel and dentine bonding • Describe the various types and generations of dentine bonding • Describe the significance of biodegradation of restorative resins • Explain recent advancements in dentine bonding agents			
			Skill • Identify all the components in a dental composite kit • Demonstrate the steps of composite manipulation	IC 2 IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
4	Dental Amalgam	At the end of the session, students will be able to: • Classify different amalgam alloys based different criteria	**Knowledge** • Describe the history, composition, and classification of dental amalgams	IC 2 IC 4	LGIS SGD	MCQs SEQs Viva

		• Discuss composition of amalgam • Explain the setting reaction of amalgam • Recall the microstructure and amalgamation reaction of low copper, high copper admixed, and single composition alloys with mercury • Summarize the properties of dental amalgam and factors which affect their properties • Demonstrate manipulation technique of Dental Amalgam • Discuss the effect of mercury/Alloy ratio, Trituration, Condensation, Carving and Finishing on the final restoration • Describe Mercury Toxicity • Differentiate corrosion and creep, phenomena of ditching	• Explain the setting mechanisms of different types of amalgams • Explain the clinical manipulation and factors affecting the properties of dental amalgams • Analyse the issues related to amalgam hygiene in clinical practice • Explain electrochemical cell formation in the oral cavity and its clinical relevance • Describe the mechanism of galvanism • Explain the biocompatibility issues related to dental amalgam • Identify recent advancements in dental amalgams			
			Skill • Identify dental amalgam kit and armamentarium • Perform hand-trituration of dental amalgam	IC 2 IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE

			Attitude • Practice lab safety protocol Identify possible laboratory hazards linked to mercury	IC 1 IC 3	Practical Demonstration Virtual Audio Video Demonstration	OSPE

5	Cements	At the end of the session, students will be able to:
		• Differentiate between liners, bases, and varnish
		• Classify dental cements
		• Recall composition, setting reactions, properties, advantage and disadvantages of:
		  ○ Cements based on phosphoric acid
		  ○ Cements based on organometallic chelates
		  ○ Cements based on polycarboxylate
		• Demonstrate manipulation of various dental cements
			Knowledge
			• Recall the objectives and basic terminologies related to dental cements
			• Compare the setting mechanism of various dental cements as well as their clinical application
			• Discuss the general requirements, and types of different dental cements
			• Compare the properties, advantages, and disadvantages of different dental cements
			• Describe the concept of bases and liners for different clinical application
			• Compare different luting agents and their properties
			• Compare the use of temporary restorative materials, properties, and their uses
				IC 2	LGIS
					SGD
						MCQs
						SEQs
						Viva

			• Describe A-traumatic restorative techniques (ART) with their uses			
			Skill • Demonstrate mixing of Zinc phosphate cement • Demonstrate manipulation and placement of glass ionomer cement • Perform manipulation and placement technique of calcium hydroxide liner • Practice manipulation technique of zinc phosphate on slab/paper pad	IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
6	Endodontic Materials	At the end of the session, students will be able to discuss: • Endodontic materials • Preventive materials • Materials used for finishing and polishing	**Knowledge** • Discuss the use of various endodontic materials in dentistry	IC 2	LGIS	MCQs SEQs Viva
			Skill • Identify all endodontic and preventive materials	IC 2 IC 4 IC 5	Practical Demonstration Virtual Audio Video Demonstration	OSPE
7	Introduction to materials used in diagnostics and treatment planning	At the end of the session, students will be able to: • Describe materials used for diagnostics	**Knowledge** • Identify materials used in diagnostics and treatment planning	IC 2	LGIS SGD	MCQs SEQ Viva

2. COMMUNITY DENTISTRY

S. No.	Content/ Topic	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
		At the end of this block students will be able to:				
1	Introduction to Community Dentistry	Discuss the basic concepts of Community Dentistry	**Knowledge** • Describe the concept, history and scope of community dentistry	IC 2	LGIS SGD	MCQs SEQs Viva
2	Health Disease Infection	Discuss basic concepts in health, disease, and infection	**Knowledge** • Define health • Explain different dimensions of health • Describe determinants of health • Discuss Indicators of health • Define disease • Discuss different concept of disease • Describe natural history of disease • Describe Iceberg phenomenon of disease • Define infection • Describe modes of transmission of infection • Explain Stages of infection	IC 2	LGIS SGD	MCQs SEQs Viva

3	Ergonomics Basics	• Demonstrate the knowledge and practicalskills related to Ergonomics	**Knowledge** • Define ergonomics and its effects • Discuss musculoskeletal disorders	IC 2	LGIS SGD	MCQs SEQs Viva
			Skill • Perform exercise of different positioning	IC 2 IC 4 IC 6	Demonstration	OSPE
4	Introduction to Public and Dental Public Health Public Health Dental Public Health	• Demonstrate knowledge regarding scope of Public and Dental PublicHealth	**Knowledge** • Define public health • Define the vision and mission ofpublic health • Discuss essential public healthservices • Describe different characteristics of public healthmethods • Describe public health techniques • Define objectives of public health dentistry • Define of dental public health • Discuss core areas in public health dentistry	IC 2	LGIS SGD	MCQs SEQs Viva

5	History Taking	• Discuss the Practical application of history taking	**Skill** • Perform history taking on patient • Practice different components of history taking	IC 1 to IC 6	Demonstration	OSPE
			Attitude • Explain ethical considerations while taking history	IC 1 to IC 6	Demonstration	OSPE
6	Epidemiology of Oral Diseases Introduction to Epidemiology	• Discuss the basic principles of Epidemiology	**Knowledge** • Define epidemiology • Explain history of epidemiology of oral diseases	IC 2	LGIS SGD	MCQs SEQs Viva
7	Epidemiology of Dental Caries	Discuss the basic principles and epidemiology of dental caries	**Knowledge** • Define dental caries • Describe epidemiological triad of dental caries • Outline theories related tocausation • Identify factors associated with dental caries • Explain prevalence of caries in Pakistan & its associated factors • Discuss the mechanism of caries • Classify caries	IC 2 IC 4 IC 5 IC 6	LGIS SGD	MCQs SEQs Viva

			• Discuss the mechanism of caries • Classify caries • Explain the clinical manifestation of caries process • Interpret the role of diet on caries and of sugar on caries • Describe indicators for increased caries risk • Explain the categories for caries risk assessment • Discuss the concept of Cariogram • Describe the advantages of caries activity test • Explain the various caries activity tests			
8	Examination	• Apply the knowledge of oral & extra oral examination	**Affective** • Obtain informed consent from patient before examination	IC 1 IC 4	Demonstration	OSPE
9	Epidemiology Of Periodontal Diseases	• Discuss the basic principles and epidemiology of Periodontal Diseases	**Knowledge** • Define periodontal disease • Describe epidemiological triad of periodontal disease • Explain the prevalence of periodontal diseases in Pakistan and their associated factors	IC 2 IC 4 IC 6	LGIS SGD	MCQs SEQs Viva

10	Epidemiology of Oral Cancer	• Describe the basic principles and epidemiology of Oral Cancer	**Knowledge** • Define oral cancer • Identify the signs and symptoms of oral cancer • Enlist different types of carcinomas • Outline the epidemiology of oral cancer in Pakistan • Describe agent, host and environmental factors related to oral cancer • Outline the risk factors and contributory factors of oral cancer	IC 2 IC 4 IC 6	LGIS SGD	MCQs SEQs Viva
11	Epidemiology of Malocclusion	• Discuss the basic principles and epidemiology of Malocclusion	**Knowledge** • Classify malocclusion • Discuss causes of malocclusion • Describe the epidemiological triad of malocclusion and oro-facial defects • Explain the prevalence of malocclusion in Pakistan and its associated factors	IC 2 IC 6	LGIS SGD	MCQs SEQs Viva
12	Epidemiology of Tooth Wear	• Describe the basic principles and epidemiology of tooth wear	**Knowledge** • Define tooth wear, attrition, abrasion & erosion. • Discuss the epidemiology of	IC 2	LGIS SGD	MCQs SEQs Viva

			tooth wear			
13	Examination	• Illustrate Practical application oforal & extra Oral examination	**Skill** • Perform extra oral and intraoral examination on patient	IC 1 IC 2 IC 3 IC 4	Demonstration	OSPE
14	Oral Indices Introduction of Oral indices Oral Hygiene Indices	• Apply the knowledge of Oral Indices	**Knowledge** • Define an index • Explain the ideal requirements of an index • Describe uses of an index • Describe the classification of oral indices • Define the PI index, PHP index and OHI-S index • Describe the procedure to determine the score of PI, PHP and OHI-S indices • Identify the index teeth to be examined • Discuss the scoring criteria of oral indices • Describe the nominal scale for interpretation of oral indices	IC 2 IC 4 IC 5 IC 6	Demonstration	OSPE
15	Indices for Gingival Diseases Oral Indices	• Apply the knowledge of Oral Indices • Demonstrate the skill regarding Oral Indices	**Knowledge** • Define gingival index and SBI • Explain gingival index & Scoring criteria • Describe the nominal scale forinterpretation of gingival	IC 2 IC 4 IC 5 IC 6	LGIS SGD	MCQs SEQs Viva

			index score			
			Skill • To calculate PI on models	IC 2 IC 4 IC 5	Demonstration	OSPE
16	Indices for Periodontal Diseases	• Apply the knowledge of Oral Indices	**Knowledge** • Define the Russell's PI index • Explain the procedure to measure the Russell's periodontal index • Describe the scoring criteria of Russell's index • Explain the nominal scale for the interpretation of Russell's index • Define CPITN Index • Identify instruments used for its measurement • Explain the procedure to measure the score CPITN index • Discuss the scoring criteria of CPITN index	IC 2 IC 4 IC 5 IC 6	LGIS SGD	MCQs SEQs Viva

17	Oral Indices Indices for Dental Caries Index for Dental Fluorosis Index for Malocclusion Oral Indices	• Demonstrate the skill regarding Oral Indices. • Apply the knowledge of Oral Indices	**Knowledge** • Identify different indices used for diagnosis of dental caries • Define the DMFT and DFT Index • Explain the procedure to measure the score of DMFT index • Discuss index teeth to be examined • Describe Dean's Fluorosis Index • Explain the procedure to measure the score of Dean Fluorosis Index • Identify index teeth to be examined and scoring criteria of Dean's Index • Describe the Angle's classification	IC 2 IC 4 IC 6	LGIS SGD	MCQs SEQs Viva
			Skill • Illustrate the calculation of DMFT and dental fluorosis score on models • Identify different types of CPITN probes • Practice the measurement	IC 4 IC 6	Demonstration	OSPE

			of CPITN score on models			
18	Health Education	• Outline basic Principles &Objectives of Health Education	**Knowledge** • Define health education • Outline the objectives and keymessages in health education • Explain general educational theories • Describe principles involved in health education • Enlist the different methods and materials used in health education • Describe the steps involved in planning oral health education	IC 2	LGIS SGD	MCQs SEQs Viva
19	Health Promotion	• Outline Strategy of Health Promotion	**Knowledge** • Define health promotion • Outline the principles of healthpromotion • Identify different approaches of health promotion • Discuss the declaration of Ottawa charter and its components	IC 2 IC 6	LGIS SGD	MCQs SEQs Viva

3. PHARMACOLOGY

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
General Pharmacology						
1.	Pharmacology: Historical overview	• Discuss basics of pharmacology	**Knowledge** • Define pharmacology and differentiate it from pharmacy • Explain the concept of modern pharmacology • Define drug • Discuss the historical development of pharmacology • Discuss the contribution of muslim scientists in the field of pharmacology • Describe the components of the rational drug therapy	IC 2	LGIS	SAQ MCQ Viva
2.	Pharmacology: Branches/division of Pharmacology, Role in Medicine	• Discuss branches of pharmacology	**Knowledge** • Define pharmacokinetics, pharmacodynamics, therapeutics, chemotherapy, toxicology, clinical pharmacology, pharmacy, pharmacognosy, pharmacogenomics, pharmacoepidemiology, comparative pharmacology, animal pharmacology, pharmacoeconomics and posology	IC 2	LGIS	SAQs MCQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Describe the clinical importance of branches of pharmacology			
3.	Active Principles & sources of Drugs	• Discuss active principles and sources of drugs	**Knowledge** • Define active principles of drugs • Discuss characteristics of active principles with examples	IC 2	SGD	MCQs SAQs Viva
4.	Dosage forms & doses of drugs	• Describe doses and dosage forms	**Knowledge** • Define dosage forms • Describe various dosage forms with examples	IC 2	SGD	MCQs SAQs Viva
5.	Routes of drug administration	• Describe clinical applications of routes of administration	**Knowledge** • Classify routes of administration of drugs • Describe the advantages and disadvantages of different routes of drug administration • Discuss different factors governing the choice of route	IC 2 IC 5	LGIS	MCQs SAQs Viva
6.	Absorption of drug process Factors modifying drug absorption	• Discuss process of absorption of drugs	**Knowledge** • Recall the structure of cell membrane • Define absorption of drug • Enumerate transport mechanisms involved in drug absorption • Describe factors affecting the absorption of drug	IC 2	LGIS	MCQs SEQs Viva
7.	Bioavailability: clinical	• Explain clinical significance of	**Knowledge** • Define bioavailability	IC 2	LGIS	MCQs SEQs

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
	significance and factors affecting	bioavailability of drugs	• Explain bioavailability with help of formula • Discuss the importance of bioavailability • Tabulate factors affecting bioavailability of drugs • Differentiate between bioequivalence, therapeutic equivalence, chemical equivalence			Viva
8.	Distribution and plasma protein binding of drugs	Discuss distribution of drugs	**Knowledge** • Define distribution of drug • Recall the distribution of total body water • Define volume of distribution and express with formula • Recall the clinical application of Volume of distribution in dosing regimens (calculation of loading dose) • Discuss factors affecting drug distribution • Identify plasma proteins with affinity for drugs. • Discuss the effect of plasma protein binding on volume of distribution	IC 2	LGIS	MCQs SEQs Viva
9.	Biotransformation of drugs	Describe biotransformation of drugs	**Knowledge** • Define biotransformation/ metabolism of drug	IC 2	LGIS	MCQs SAQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Enlist the sites of metabolism of drugs • Describe the outcomes/objectives of biotransformation • Identify types of biochemical reactions responsible for drug metabolism			
10.	Factors modifying biotransformation	• Discuss biotransformation of drugs	**Knowledge** • Enumerate the determinants of biotransformation	IC 2	LGIS	MCQs SEQs Viva
11.	Half-life of drugs: factors affecting and clinical significance.	• Explain clinical significance of plasma half life	**Knowledge** • Define plasma half life • Explain the formula of half-life • Discuss pharmacokinetic parameters of drug predicted by half-life (time to reach steady state concentration, zero/first order kinetics, time of elimination) • Describe factors modifying half life	IC 2	LGIS	MCQs SEQs Viva
12.	Excretion of drugs (Drug clearance)	• Describe excretion and clearance of drugs	**Knowledge** • Explain excretion of drug • Classify major and minor routes of excretion • Enumerate processes involved in renal excretion • Discuss the role of enterohepatic circulation in excretion of drug • Define drug clearance	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Explain the significance of drug clearance			
13.	Mechanism of drug actions I & II	• Discuss mechanism of drug action	**Knowledge** • Enumerate ways of cellular- drug interaction • Define receptor and its types and distribution • Define ligands • Describe types of drug receptor interaction • Analyse the concept of second messenger	IC 2	LGIS	MCQs SEQs Viva
14.	Factors modifying actions & doses of drugs	• Describe actions and doses of drugs	**Knowledge** • Classify the determinants affecting action of drug • Enumerate factors affecting pharmacokinetics of drugs (age, body size, genetic and environmental factors, diseases and co-morbid states, concomitantly administered drugs) • Tabulate factors responsible for pharmacodynamics variability (tolerance, synergism, antagonism etc)	IC 2	LGIS	MCQs SEQs Viva
15.	A.N.S: Introduction-I	• Describe the structure of autonomous nervous system.	**Knowledge** • Recall the main divisions of nervous system	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Enumerate the distinctive anatomical and chemical characteristics of sympathetic and parasympathetic nervous system • Enlist essential steps of neurotransmitter synthesis, storage, and release • Identify the visceral organs innervated by sympathetic and parasympathetic systems and functional responses of these organs to activation of either system • Explain the distribution of autonomic receptors and secondary messenger associated with them			
16.	Cholinergic drugs: Classification, cholinesters, alkaloids etc.	• Discuss the actions of direct cholinergic drugs	**Knowledge** • Recall the structural and functional differences between nicotinic and muscarinic receptors, their distribution and effects produced by activation • Classify cholinergic drugs/cholinomimetics • Differentiate between mechanism of action of direct and indirectly acting cholinomimetics • Describe the clinical uses and adverse effects of directly acting cholinomimetics	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Explain the salient features of acute and chronic nicotine toxicity			
17.	Anticholinesterase Organophosphate poisoning & Oximes	• Describe the actions of indirect cholinergic drugs	**Knowledge** • Tabulate the types of cholinesterase, their location in body and function • Explain the steps of breakdown of acetylcholine by cholinesterase • Classify anti-cholinesterase • Discuss the mechanism of reversible and irreversible inhibition of cholinesterase • Discuss the salient features of individual anti-cholinesterase • Explain the use of anti-cholinesterase in the diagnosis and treatment of myasthenia gravis • Describe the toxic pharmacological features of organophosphate poisoning • Discuss the sequence of drugs used in the management of organophosphate poisoning • Describe the mechanism of action of oximes as antidotes of organophosphate poisoning	IC 2	LGIS	MCQs SEQs Viva
18.	Cholinergic blockers; Natural	• Discuss basic pharmacology of	**Knowledge:**	IC 2	LGIS	MCQs SEQs

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
	alkaloids, Semisynthetic Anticholinergics I & II	anti-cholinergic drugs	• Classify anticholinergic drugs (therapeutic and chemical) • Explain the pharmacokinetic, mechanism and pharmacological action of prototype anticholinergic agent • Describe the major therapeutic uses and adverse effects of anti-cholinergic • Enumerate drug interactions and contraindications of cholinergic receptor blockers • Discuss the features of atropine poisoning and give its treatment • Compare and contrast atropine and hyoscine			Viva
19.	Skeletal Muscle Relaxants	• Explain the basics of skeletal muscle relaxants	**Knowledge:** • Classify skeletal muscle relaxants • Describe the pharmacokinetics and mechanism of action of prototype non-depolarizing and depolarizing muscle relaxants • Discuss the mechanism employed for termination of effects of skeletal muscle relaxants • Discuss the therapeutic clinical indications and adverse effects of each class of skeletal muscle relaxants	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Enlist centrally acting muscle relaxants • Describe salient features of benzodiazepines, baclofen and tizanidine as spasmolytics • Explain the unique role of dantrolene in hyperthermia syndromes			
20.	Catecholamines Adrenaline, Nor adrenaline, Dopamine & Dobutamine	• Describe the actions of catecholamines	**Knowledge:** • Define catecholamines • Enumerate catecholamines • Describe the chemistry, mechanism of action, organ system effects, clinical uses, and untoward effects of adrenaline • Compare and contrast the effects of adrenaline nor adrenaline and isoprenaline • Differentiate between dopamine and dobutamine with respect to source, pharmacokinetics, pharmacological effects, therapeutic indications, and adverse effects	IC 2	LGIS	MCQs SEQs Viva
21.	Non Catecholamines: Ephedrine, Amphetamines α receptor agonists etc	• Explain the actions of non-catecholamines	**Knowledge:** • Enumerate non-catecholamines • Tabulate differences between catecholamines and non-catecholamines • Describe the mechanism of action of indirectly acting sympathomimetics	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Classify indirectly acting sympathomimetics according to their therapeutic indications • Discuss the untoward effects of non-catecholamines			
22.	Adrenergic Blockers: Alpha-receptor Blockers	• Describe the actions of alpha blockers	**Knowledge** • Recall the distribution of alpha receptors and organ system effects produced by their activation • Classify alpha receptors • Discuss the principal clinical indications of alpha blockers with their mechanism of action • Discuss adverse effects of alpha blockers • Describe contraindications of alpha blockers	IC 2	LGIS	MCQs SEQs Viva
23.	Adrenergic Blockers: Beta receptor Blockers I & II	• Explain the basic pharmacology of beta blockers	**Knowledge** • Recall the distribution of beta receptors and organ system effects produced by their activation • Classify beta receptors • Identify important pharmacokinetic properties of beta blockers	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Explain the principal clinical indications of beta blockers with their mechanism of action • Describe the adverse effects of beta blockers • Discuss contraindications of beta blockers			
24.	Drugs used in cardiac failure I, II	• Explain the actions of drugs used for Congestive cardiac failure & its treatment	**Knowledge** • Define cardiac failure • Outline the pathophysiological basis for the development of cardiac failure • Identify the receptors on cardiac myocytes and their role in myocardial contraction • Classify drugs used in cardiac failure • Describe the mechanism of action of cardiac glycosides • Explain the adverse effects and drug interactions of digoxin • Discuss the toxicity of digoxin and its management • Explain the role of other drug groups useful in cardiac failure	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
25.	Anti-arrhythmic drugs I, II	• Discuss Arrhythmia & its treatment	**Knowledge** • Recall the electrophysiology of cardiac action potential • Classify anti-arrhythmic drugs by the mechanism of action • Discuss ion channels which serve as targets for anti-arrhythmic drugs • Explain general mechanism of action of anti-arrhythmic drugs • Discuss the major side effects of major antiarrhythmic drugs that limit their clinical usefulness	IC 2	LGIS	MCQs SEQs Viva
26.	Antihypertensive drugs, I, II	• Describe the actions of antihypertensive drugs	**Knowledge** • Define hypertensive in terms of currently applied criteria • Discuss determinants of blood pressure • Classify antihypertensive drugs and sub classify vasodilators • Discuss the mechanism employed by each class in lowering blood pressure • Discuss the rationale of preferring one class over the other in different hypertensive patients	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Enlist the adverse effects associated with antihypertensive drug groups • Enumerate the drugs used in hypertensive emergencies			
27.	Anti-angina Drugs, I, II	• Discuss the actions of anti-angina drugs	**Knowledge** • Define angina pectoris and its types with underlying pathology • Classify drugs used in angina • Describe the mechanism of action of nitrates in different types of anginas • Discuss the important points in pharmacokinetic of nitrates • Summarize the adverse effects of nitrates and suggest measures to minimize tolerance of nitrates • Discuss the role of beta blockers in angina • Explain the contraindications in Prinz metal angina • Discuss mechanism of action, clinical uses, and adverse effects of calcium channel blockers • Tabulate newer anti- angina drugs	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
28.	Diuretics I, II	• Explain the action of diuretic drugs	**Knowledge** • Explain the physiology of nephron (transepithelial movement of bicarbonate, H2O, H+, sodium, chloride, potassium, calcium, and magnesium in different segments of nephron) • Classify diuretics • Describe the site, mechanism of action and therapeutic indications of different classes of diuretics • Describe the adverse effects and conditions that interact with various diuretic drugs.	IC 2	LGIS	MCQs SEQs Viva
29.	Hematinic	• Explain the basic pharmacology of drugs used in anaemia	**Knowledge** • Recall the physiology of absorption and role of iron, vitamin B12 and folic acid in haematopoiesis • Define anaemia • Discuss common nutritional causes of anaemia • Enlist various oral and parenteral preparations of iron, Vitamin B12 and folic acid	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Describe the therapeutic role of iron, Vitamin b12 and folic acid in different types of anaemia • Describe the adverse effects and treatment of acute and chronic iron therapy			
30.	Anticoagulants I, II	• Discuss the basic and clinical pharmacology of drugs used in coagulation disorder	**Knowledge** • Explain the mechanism of haemostasis and coagulation pathways and trace the role of coagulating factors and platelets in it • Classify anticoagulant drugs • Describe the mechanism of action of heparin • Tabulate the difference between un-fractioned heparin and low molecular weight heparin • Summarize the indications for, precautions related to and potential adverse effects of heparin • Discuss ways of management of heparin induced thrombocytopenia • Explain direct thrombin inhibitors • Describe the mechanism of action of warfarin	IC 2	LGIS	MCQs SEQs Viva

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Discuss the major drug interactions of warfarin • Discuss the concept of INR (International Normalized Ratio) • Enlist the clinical uses of warfarin • Discuss the adverse effects of warfarin and suggest treatment of warfarin toxicity • Discuss alternative oral anticoagulants to warfarin • Enumerate thrombolytic drugs • Describe the mechanism of action, indications, and adverse effects of thrombolytic agents • Enlist anti-fibrinolytic agents/agents used for neutralizing action of thrombolytic drugs • Discuss the possible interaction of fibrinolytic agents with anticoagulant(heparin) and antiplatelet drugs(aspirin) • Recall the role of platelets in the coagulation • Classify anti-platelets • Discuss the mechanism of action of various groups of antiplatelet drugs			

Sr. No.	Topic/ Theme	Learning Outcome	Learning Objectives At the end of the session students should be able to:	IC Codes	MIT	Assessment Tools
			• Describe the clinical uses and adverse effects of different anti-platelet drugs.			

Practical

S.No	Topic/ Theme	Learning Outcome At the end of the session the students should be able to:	Learning Objectives	IC Codes	MITs	Assessment Tools
1	Active principles and sources of drugs	Identify the active principles and sources of drugs	**Knowledge** • Identify the natural and synthetic sources of drugs	IC 2	Practical demonstration/SGD	OSPE
2.	Dosage forms abbreviations, weight & measures	Demonstrate dosage forms abbreviations, weight & measures	**Skills** • Demonstrate knowledge of different dosage forms and their formulations	IC 2 IC 4 IC 5	Practical demonstration	OSPE
3.	Calculations	Calculate dose of I/V fluids	**Skills** • Calculate the dose of different I/V fluids	IC 4 IC 5	Practical demonstration	OSPE
4.	Prescription writing	Perform prescription writing	**Skills** • Practice the prescription writing of some important medical conditions	IC 1 IC 2 IC 4 IC 6	Practical demonstration	OSPE
5.	Pharmacy	Prepare pharmacy items	**Skills** • Prepare some important pharmacy items	IC 2 IC 5	Practical demonstration	OSPE

4. GENERAL PATHOLOGY

S. No.	Topics/Theme	Learning Outcomes	Learning Objectives	I C Codes	MITs	Assessment Tools
1	General Pathology & Microbiology Introduction	At the end of the session, students will be able to: • Describe the causes, mechanisms, triggers,	**Knowledge** • Discuss the terminologies used in pathology and microbiology • Discuss the role of pathology in diagnostics	IC 2	LGIS SGD	MCQs SEQs Viva

		and patterns of injury to cell & tissue • Correlate ischemic changes and its morphology	• Enlist the components of the general pathology and microbiology			
			Skill • Identify bacteria by use of microscopes	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
2	Cell Injury: • Aetiology, types & Mechanism of Cell Injury • Necrosis & Apoptosis	• Explain the mechanism involved in the process of cell injury • Analyse the pathological basis of apoptosis and necrosis	**Knowledge** • Define Cell injury • Enlist different causes of cell injury • Describe the sequence of events in cell injury • Differentiate between reversible & irreversible injury • Discuss general morphological features of necrosis • Enumerate the different types/morphological patterns of necrosis with examples • Describe the mechanism of action & morphological features of each type of necrosis	IC 2	LGIS SGD	MCQs SEQs Viva
			Skill • Identify fatty changes and hydropic changes (Reversible cell injuries) by using slides	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
3	Cellular Adaptations & Intracellular Pigmentation	• Discuss the pathological & physiological adaptation mechanism	**Knowledge** • Enumerate different cellular adaptations • Discuss different types of cellular adaptations with example	IC 2	LGIS	MCQs SEQs Viva

		and morphology with examples • Relate different types of cellular accumulations within the pathological/ physiological basis of disease	• Enumerate types of intracellular accumulation with the underlying mechanism of pathological factors, e.g., calcification			
			Skill • Identify cases of Atrophy & Hyperplasia by using histological slides • Identify pigmented lesions e.g., Melanin and Calcification, using histological slides	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
4	Inflammation • Introduction &Types • Acute inflammation (Vascular/Cellular events) • Chronic Inflammation Chemical Mediators of Inflammation	• Demonstrate knowledge of inflammation, steps and cells involved in acute & chronic inflammation • Discuss the systemic effects of inflammation on the human body and its pathogenesis	**Knowledge** • Enlist cardinal signs of inflammation & its causes • Compare various types of Inflammation • Differentiate between Transudate and exudate • Enlist morphological patterns of acute & chronic inflammation • Enlist the events involved in pathogenesis & cellular events • Describe processes of margination, rolling, adhesion, transmigration, chemotaxis & phagocytosis	IC 1 IC 2 IC 4 IC 6	LGIS	MCQs SEQs Viva
			Skill • Identify inflammatory cells by using slides	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
5			**Knowledge**	IC 2	LGIS	MCQs

	Healing and Repair	• Explain the process of wound healing and repair in the human body • Describe the factors affecting wound healing	• Describe different types of tissue cells with reference to proliferative activity • Describe steps involved in tissue healing • Define angiogenesis and the steps involved in it • Differentiate between primary and secondary intention healing		SGD	SEQs Viva
			Skill • Demonstrate process of wound healing • Identify gross and microscopic presentation of granulation tissue	IC 1 IC 4 IC 5	Practical Demonstration	OSPE
6.	General Bacteriology • Bacterial anatomy and physiology • Bacterial genetics • Bacterial growth	• Describe bacterial cell structure and functions • Discuss bacterial genetic system and process of bacterial growth and multiplication	**Knowledge** • Describe structure of bacteria • Differentiate between gram positive and gram-negative bacteria • Describe function of bacterial spores • Define plasmids and its types • Define different types of mutations • Different mechanisms of transfer of genetic material between bacterial cells	IC 2	LGIS	MCQs SEQs Viva
			Skill • Explain the procedure of gram staining • Demonstrate performance of gram staining	IC 2 IC 4 IC 5	Practical Demonstration	OSPE
7	Sterilization and Disinfection	At • Explain the procedure and methods of	**Knowledge** • Discuss the importance of normal flora	IC 2	LGIS	MCQs SEQs Viva

	Physical and chemical methods of sterilization and disinfection	sterilization and disinfections. • Discuss the importance of sterilization	• Describe the anatomic sites of medically important members of normal flora • Explain in detail three methods of sterilization • Classify disinfectants with their basic mechanism of action with few examples • Describe the uses of autoclave			
8	Special Bacteriology Classification of cocci <u>Gram + Cocci</u> • Staphylococci • Streptococci <u>Gram – Rods</u> • Shigella • Salmonella Vibrio • E.coli, Enterobacteriaceae • Helicobacter • Coliform • Proteus, Providencia, Morganella group	• Demonstrate knowledge of gram-positive and gram-negative cocci and their classification. • Interpret the diseases produced by the cocci • Describe characteristics of gram-negative rods of enteric tract along with their pathogenesis and lab diagnosis and diseases outside enteric tract	**<u>Knowledge</u>** • Recall basic concepts of special bacteriology • Classify gram positive and gram-negative cocci • Enlist the diseases they produce • Explain the role of different virulence factors possessed by them • Explain the pathogenesis of the diseases produced • Enlist the clinical features • Tabulate the tests that differentiate different species of Staphylococci • Discuss important points about MRSA • Enlist the antigens & names of pathogenic strains of E.coli	IC 2	LGIS	MCQs SEQs Viva
			<u>Skill</u> • Compare different types of culture media	IC 1 IC 4 IC 5	Practical Demonstration	OSPE

	• Hemophilus • Pseudomonas, Klebsiella		• Interpret the knowledge of selective and non-selective culture medias • Discuss the principle, performance, result & interpretation of oxidase test • Discuss the principle, performance, result & interpretation of Catalase test			

VERTICALLY INTEGRATED MODULES

1. PRECLINICAL OPERATIVE DENTISTRY

S. No.	Topic / Theme	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools

1	Introduction to Operative Dentistry	• Discuss the operative dentistry	**Knowledge** • Discuss the biologic basis of operative dentistry and importance of development of psychomotor skills	IC 2	LGIS	MCQs SAQs Viva
2	Cariology: Introduction, aetiology, classification, clinical characteristics of lesion, histopathology, diagnosis, prevention and management	• Discuss the introduction, aetiology, classification, clinical characteristics of lesion, histopathology, diagnosis, prevention and management of caries	**Knowledge** • Diagnose dental caries • Discuss different methods of prevention and management	IC 2 IC 4 IC 5 IC 6	LGIS	MCQs SAQs Viva
3	Fundamentals Of Tooth Preparation: Definition, classification, objective, stages & steps, factors affecting tooth preparation	• Discuss the fundamentals Of Tooth Preparation	**Knowledge** • Explain the method of cavity preparation • Discuss requirements of different armamentarium for specific cavity designs • Explain principles of long-term maintenance of restoration in oral cavity	IC 2	LGIS	MCQs SAQs Viva

4	Amalgam Restorative material: Terminology, Classification, composition, properties, clinical consideration, indication & contraindication, advantages & disadvantages Class I Cavity Preparation for Amalgam: Conservative class 1 preparation, steps of cavity preparation, restorative technique	• Discuss the amalgam restorative material based on terminology, classification, composition, properties, clinical consideration, indication & contraindication, advantages & disadvantages • Describe class I cavity preparation for amalgam	**Knowledge** • Discuss the use of Amalgam restorative material and its various clinical applications • Explain the accurate method of class 1 cavity preparation for Amalgam • Utilize the basic principles during cavity preparation • Explain manipulation of Amalgam in class 1 cavity	IC 2 IC 4	LGIS	MCQs SAQs Viva
5	Introduction to Operatory: Preliminary introduction, chair positioning	• Perform preliminary introduction and chair positioning	**Skill** • Identify the importance of development of psychomotor skills	IC 1 IC 4	Demonstration	OSPE
6	Armamentarium: Identification, classification, method of use, hand on performance	• Identify armamentarium used in operative dentistry	**Skill** • Illustrate equipment used in operative dentistry • Demonstrate the handling and cleaning of instruments	IC 1 IC 2 IC 4	Demonstration	OSPE

7	Rubber Dam Application: Introduction, identification, hands on performance, placement of rubber dam in molars & premolars	• Perform rubber dam application	**Skill** • Demonstrate the methods of isolation • Apply the knowledge of rubber dam for premolars and molars	IC 1 IC 2 IC 3	Demonstration	OSPE

2. PRECLINICAL PROSTHODONTICS

S. No.	Topic / Theme	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tools
1	Introduction to Prosthodontics	• Describe Prosthodontics	**Knowledge** ● Define prosthodontics ● Discuss branches of prosthodontics and their application in everyday life	IC 2 IC 4 IC 6	LGIS	MCQs SAQs Viva

			• Describe implication of not addressing tooth loss at appropriate time • Explain the effect of prosthetic replacement on quality of life of an individual			
2	Anatomical Landmarks of Maxillary and Mandibular arch	• Discuss anatomical landmarks of maxillary and mandibular arch	**Knowledge** • Describe anatomical landmarks of maxillary and mandibular arch • Describe limiting structures • Differentiate between primary stress bearing areas and secondary stress bearing areas	IC 2	LGIS	MCQs SAQs Viva
3	Impressions and Impression Trays	• Describe Impressions and Impression Trays	**Knowledge** • Describe the maxillary and mandibular impression trays • Describe the difference between dentate and edentulous impression trays • Describe the choice of selection of appropriate size of impression tray • Describe the difference between a stock tray and custom tray • Describe different materials used in the fabrication of custom tray	IC 2	LGIS	MCQs SAQs Viva
4	Dental Casts & Record Bases	• Discuss the use of Dental Casts & Record Bases	**Knowledge** • Define a dental cast • Discuss the types of casts • Enlist requirements of cast making • Enlist the parts of cast	IC 2	LGIS	MCQs SAQs Viva

			● Define record bases ● Describe the requirements of record bases ● Describe the types of record bases and their uses.			
5	Occlusal Rims	• Describe Occlusal Rims	**Knowledge** ● Define occlusal rims ● Describe the uses of occlusal rims ● Describe dimensions of occlusal rims for both maxillary and mandibular base plates ● Describe the steps in fabrication of occlusal rims	IC 2	LGIS	MCQs SAQs Viva
6	Articulators and Facebow	• Discuss articulators and facebow	**Knowledge** • Define an articulator • Discuss different types of articulators • Describe the concept behind the use of an articulator • Define facebow • Describe uses of a facebow	IC 2	LGIS	MCQs SAQs Viva
7	Occlusion in Complete Dentures	• Describe occlusion in complete dentures	**Knowledge** ● Define dental occlusion ● Describe the difference between occlusion and articulation ● Describe the objectives of establishing occlusion ● Differentiate between natural and artificial occlusion	IC 2	LGIS	MCQs SAQs Viva

			• Discuss the different types of complete denture occlusal schemes • Describe the factors affecting balanced occlusion			
8	Record Base Fabrication	• Perform record Base Fabrication	**Skill** • Illustrate the manipulation of auto polymerizing resin for the fabrication of record base	IC 1 IC 4	Demonstration	OSPE
9	Occlusal Rims Fabrication	• Perform occlusal Rims Fabrication	**Skill** • Perform occlusal rims fabrication using baseplate	IC 1 IC 4	Demonstration	OSPE
10	Articulation	• Articulation	**Skill** • Identify different types of articulators • Demonstrate the procedure of articulation	IC 1 IC 4	Demonstration	OSPE

3. RESEARCH METHODOLOGY

S. No.	Topic/Theme	Learning Outcomes	Learning Objectives	MIT	IC Codes	Assessment Tools
1.	Introduction to Research	• Discuss historical background of research in medicine	By the end of the block the students will be able to: **Knowledge** • Define research • Describe the historical background of research • Discuss Important terminologies regarding	LGIS	IC 2	MCQs
2.	Importance of Research	• Discuss significance of research in medicine	**Knowledge** • Describe the importance of evidence-based practice • Apply the knowledge of research in health sciences	LGIS	IC 2	MCQs
3.	Introduction to Research Process	• Explain the process and requirements of a good research for a doctor	**Knowledge** • Describe an overview of process of research • Discuss the characteristics of a good research • Illustrate the qualities of a good researcher	LGIS	IC 2	MCQs

4.	Types of Research	• Classify different types of research and its applications	**Knowledge** • Describe the characteristics of basic and applied research • Differentiate between quantitative and qualitative research • Discuss the characteristics of observational, and interventional research	LGIS	IC 2	MCQs

4. BEHAVIOURAL SCIENCES

S. No	Content/Topic	Learning Outcomes	Learning Objectives	IC Codes	MITs	Assessment Tool
Psychology						
1.	Medical Ethics and Professionalism	• Enhance doctor's own learning and clinical skills	**Knowledge** At the end of this block students will be able to: • Define sensation and sense organs • Explain perception and factors influencing perception • Describe attention and concentration • Define memory and its types • Explain thinking and thinking disorders • Describe cognition and cognitive levels • Discuss learning and its types	IC 2	LGIS	MCQs
2.	Principles of Psychology	• Identify factors affecting Personality development	**Knowledge** • Discuss human development of personality • Explain different theories of personality development • Discuss the significance of IQ and EQ in clinical practice	IC 2	LGIS	MCQs

3.	Medical Ethics, Professionalism and Reproductive Ethics	• Integrate the principles of medical ethics in professional life	**<u>Knowledge</u>** • Define the terms “in-vitro fertilization” and “surrogacy” • Enlist the potential ethical issues related to surrogacy • Discuss the implications of surrogacy from social, moral, legal and religious perspectives	IC 2 IC 6	LGIS	MCQs

BLOCK I SYLLABI

1. DENTAL MATERIALS

Week – 01			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	29-1-24	Introduction to Dental Materials Preclinical integrated	LGIS
2	30-1-24	Study skills	LGIS
3	1-2-24	Properties of dental materials.	LGIS
		Practical	
1	29-1-24	Introduction to Armamentarium & lab	SGD/ Practical
	29-1-24	Introduction to Armamentarium & lab	SGD / Practical
		Tutorial	
1	1-2-24	Introduction to Dental Materials Preclinical integrated	SGD / DEMONSTRATION
		Week – 02	
S. No	**Date**	**Topic/ Theme**	**MIT**
1	6-2-24	Introduction to polymers.	LGIS
2	8-2-24	Mechanical properties of dental materials.	LGIS
3	8-2-24	Mechanical properties	LGIS
		Practical	
1	6-2-24	Wire bending	SGD/Practical
		Wire bending	SGD/Practical
		Tutorial	
1		Mechanical properties of dental material	SGD
Week – 03			

S. No	Date	Topic/ Theme	MIT
1	12-2-24	Polymers	LGIS
2	13-2-24	Polymers	LGIS
3	15-2-24	Dental Amalgam	LGIS
Practical			
1	12-2-24	Wire bending	SGD/Practical
	13-2-24	Wire bending	SGD/Practical
Tutorial			
	15-2-24	Mechanical properties	SGD
Week – 04			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	19-2-24	Synthetic polymers	LGIS
2	20-2-24	Composites	LGIS
3	22-2-24	Dental Amalgam	LGIS
Practical			
1	19-2-24	Wire bending	SGD/ Practical
	20-2-24	Wire bending	SGD/Practical
Tutorial			
1	20-2-24	Composites	SGD
Week – 05 sports week 26th Feb to 1st March			
Week 06			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	4-3-24	Composite Restorative Composition and curing	LGIS
2.	5-3-24	Setting Shrinkage & Properties	LGIS
3	7-3-24	Dental Amalgam	LGIS
Practical			
	4-3-24	Manipulation of Amalgam	SGD/Practical

	5-3-24	Manipulation of Amalgam	SGD/Practical
Tutorial			
7-3-24		Adhesion	SGD
Week – 07			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	11-3-24	Composites	LGIS
2	12-3-24	Adhesion of composites	LGIS
3	14-3-24	Glass ionomer cements	LGIS
Practical			
	11-3-24	Manipulation Of Composites	SGD/Practical
	12-3-24	Manipulation Of Composites	SGD/Practical
Tutorial			
	14-3-24	Adhesion	SGD
Week – 08			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	18-3-24	GIC	LGIS
2	19-3-24	Clinical relevance of Cements, liners, base calcium hydroxide.	LGIS
3	21-3-24	Zinc Phosphate Cements	LGIS
Practical			
	18-3-24	Manipulation of GIC	SGD/Practical
	19-3-24	Manipulation of GIC	SGD/Practical
Tutorial			
	21-3-24	Amalgam	SGD
Week – 09			

S. No	Date	Topic/ Theme	MIT
1	25-03-24	Polycarboxylate cements	LGIS
2	26-03-24	Dental Cements	LGIS
	28-03-24	Dental cements	LGIS
Practical			
	25-03-24	Mixing of cements	SGD/Practical
	26-03-24	Mixing of cements	SGD/Practical
Week – 10			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	1-04-24	Generation of bonding agents	LGIS
2	2-04-24	RMGIC	LGIS
3	4-04-24	RMGIC	LGIS
Practical			
1	1-04-24	Dental Cements mixing	SGD/Practical
	2-04-24	Dental Cements mixing	SGD/ Practical
Tutorial			
1	4-04-24	Composites	SGD
Week – 11			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	15-04-24	Endodontic materials	LGIS
2	16-04-24	MTA, endodontic materials	LGIS
	17-04-24	Endodontic materials	LGIS
Practical			
1	15-04-24	Dental cements	SGD/Practical
	16-04-24	Dental cements	SGD/ Practical
	Tutorial		
	17-4-24	Significance of endodontic materials	SGD

Week – 12			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	22-04-24	Properties (revision)	LGIS
2	23-04-24	GIC (revision)	LGIS
1	25-04-24	Revision of Practical	SGD/Practical
	22-04-24	Revision of Practical	SGD/Practical
1	23-04-24	Cements	SGD/Tutorial
End of Block Exams: 29th May ----6th May 2024			
Sports Week: 26th Feb -1st March 2024			

2. COMMUNITY DENTISTRY

Week – 01			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	29-1-24	Introduction to Community Dentistry	LGIS
2	30-1-24	Concept and Dimensions of Health	LGIS
3	31-1-24	Determinants and Indicators of Health	LGIS
Practical			
1	29-1-24	Ergonomics Basics	SGD / DEMONSTRATION
	30-1-24	Ergonomics Basics	SGD / DEMONSTRATION
Tutorial			
1	31-1-24	Discussion	LGIS
Week – 02			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	6-2-24	Concept and Natural history of disease	LGIS
2	7-2-24	Iceberg Phenomena of Disease	LGIS

3	8-2-24	Concept, Mode of transmission and stages of infection	LGIS
Practical			
1	6-2-24	Ergonomics	SGD / DEMONSTRATION
		Ergonomics	SGD / DEMONSTRATION
Tutorial			
1	8-2-24	Discussion	LGIS
Week – 03			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	**12-2-24**	Concept and characteristics of Public health	LGIS
2	13-2-24	Objectives and core areas of Public health dentistry	LGIS
3	14-2-24	Stages of Public and Clinical health practice	LGIS
Practical			
1	12-2-24	History taking	SGD / DEMONSTRATION
	13-2-24	History taking	SGD / DEMONSTRATION
Tutorial			

1	14-2-24	PTT/Discussion	LGIS
Week – 04			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	19-2-24	Basic concept and uses of epidemiology	LGIS
2	20-2-24	Introduction to Oral Epidemiology	LGIS
3	21-2-24	Epidemiology of Dental caries	LGIS
Practical			
1	19-2-24	History taking	SGD / DEMONSTRATION
	20-2-24	History taking	SGD / DEMONSTRATION
Tutorial			
1	21-2-24	Discussion	LGIS
Week – 05 Sports week 26th Feb to 1st March			
Week 06			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	4-3-24	Etiology of Dental caries	LGIS

	5-3-24	Caries risk assessment	LGIS
2	6-3-24	Diet and Dental caries	LGIS
Practical			
1	11-3-24	Examination	SGD / DEMONSTRATION
	12-3-24	Examination	SGD / DEMONSTRATION
Tutorial			
1	13-2-24	PTT/Discussion	LGIS
Week – 07			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	18-3-24	Caries activity test	LGIS
2	19-3-24	Epidemiology of Periodontal disease	LGIS
3	20-3-24	Epidemiology of Oral cancer	LGIS
Practical			
1	18-3-24	Extra oral Examination	SGD / DEMONSTRATION
	19-3-24	Extra oral Examination	SGD / DEMONSTRATION

Tutorial			
1	20-3-24	Discussion	LGIS
Week – 08			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	25-3-24	Etiology of Oral cancer	LGIS
2	26-3-24	Epidemiology of malocclusion	LGIS
3	27-3-24	Epidemiology of Tooth Wear	LGIS
Practical			
1	25-3-24	Intra oral Examination	SGD / DEMONSTRATION
	26-3-24	Intra oral Examination	SGD / DEMONSTRATION
Tutorial			
1	27-3-24	Discussion	LGIS
Week 09			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	1-4-24	Oral Indices	LGIS

2	2-4-24	Plaque index	LGIS
3	3-4-24	Oral hygiene indices	LGIS
Practical			
1	1-4-24	Plaque index	SGD / DEMONSTRATION
	2-4-24	Plaque index	SGD / DEMONSTRATION
Tutorial			
1	3-4-24	PPT Presentations	LGIS
Week – 10			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	15-4-24	Oral hygiene indices	LGIS
2	16-4-24	Gingival indices	LGIS
3	17-4-24	Gingival indices	LGIS
Practical			
1	15-4-24	CPITN	SGD / DEMONSTRATION
	16-4-24	CPITN	SGD / DEMONSTRATION

Tutorial			
1	17-4-24	PPT Presentations	LGIS
Week – 11			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	22-4-24	Periodontal indices	LGIS
2	23-4-24	Periodontal indices	LGIS
3	24-4-24	CPITN	LGIS
Practical			
1	22-4-24	CPITN	SGD / DEMONSTRATION
	23-4-24	CPITN	SGD / DEMONSTRATION
Tutorial			
1	24-4-24	Discussion	LGIS
End of Block Exams: 29th April to 6th May			
Sports Week: 26th Feb to 4th March			

3. PHARMACOLOGY

Week – 01			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	29-01-24	Pharmacology: Historical overview Branches and subdivisions of pharmacology	LGIS
2	31-01-24	Absorption of drugs	LGIS
3	01-02-24	Bioavailability of drugs	LGIS
Practical			
1	01-02-24	Dosage forms & ROA of drugs	SGD / DEMONSTRATION
	02-02-24	Dosage forms & ROA of drugs	SGD / DEMONSTRATION
Tutorial			
1	29-01-24	Active principles & sources of drugs	SGD / DEMONSTRATION
Week – 02			
S. No	**Date**	**Topic/ Theme**	**MIT**
2	07-02-24		LGIS
Practical			
	09-02-24	Calculations	SGD / DEMONSTRATION
Tutorial			
Week – 03			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	12-02-24	Distribution and volume of distribution	LGIS
2	14-02-24	Plasma half-life of drugs	LGIS
3	15-02-24	Excretion of drugs	LGIS
Practical			
1	15-02-24	Calculations	SGD / DEMONSTRATION
	16-02-24	Calculations	SGD / DEMONSTRATION
Tutorial			

1	12-02-24	Biotransformation of drugs Factors affecting Biotransformation of drugs	SGD / DEMONSTRATION
Week – 04			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	19-02-24	Mechanism of drug action I	LGIS
2	21-02-24	Mechanism of drug action II	LGIS
3	22-02-24	Factors modifying action and doses of drugs I	LGIS
Practical			
1	22-02-24	Calculations	SGD / DEMONSTRATION
	23-02-24	Calculations	SGD / DEMONSTRATION
Tutorial			
1	19-02-24	PTT/Discussion	SGD / DEMONSTRATION
Week – 05 Sports week 26th Feb to 4th March			
Week 06			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	04-03-24	Factors modifying action and doses of drugs II	LGIS
	06-03-24	Introduction to ANS	LGIS
2	07-03-24	Cholinergic drugs I	LGIS
Practical			
1	07-03-24	Calculations	SGD / DEMONSTRATION
	08-03-24	Calculations	SGD / DEMONSTRATION
Tutorial			
1	04-03-24	Discussion	SGD / DEMONSTRATION
Week – 07			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	11-03-24	Cholinergic drugs II	LGIS
2	13-03-24	Anti-cholinergic drugs I	LGIS
3	14-03-24	Anti-cholinergic drugs II	LGIS

Practical			
1	14-03-24	Pharmacy preparation	SGD / DEMONSTRATION
	15-03-24	Pharmacy preparation	SGD / DEMONSTRATION
Tutorial			
1	11-03-24	PTT/Discussion	SGD / DEMONSTRATION
Week – 08			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	18-03-24	Catecholamines	LGIS
2	20-03-24	Non-catecholamines	LGIS
3	21-03-24	Alpha blockers	LGIS
Practical			
1	21-03-24	Pharmacy preparations	SGD / DEMONSTRATION
	22-03-24	Pharmacy preparations	SGD / DEMONSTRATION
Tutorial			
1	18-03-24	Skeletal muscle relaxants	LGIS
Week – 09			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	25-03-24	Beta blockers	LGIS
2	27-03-24	Diuretics I	LGIS
3	28-03-24	Diuretics II	LGIS
Practical			
1	28-03-24	Pharmacy preparation	SGD / DEMONSTRATION
	29-03-24	Pharmacy preparations	SGD / DEMONSTRATION
Tutorial			
1	25-03-24	PTT-/ Discussion	SGD / DEMONSTRATION
Week – 10			

S. No	Date	Topic/ Theme	MIT
1	01-04-24	Antihypertensive drugs I	LGIS
2	03-04-24	Antihypertensive drugs II	LGIS
3	04-04-24	Antianginal drugs I	LGIS
Practical			
1	04-04-24	Pharmacy preparations	SGD / DEMONSTRATION
	05-04-24	Pharmacy preparations	SGD / DEMONSTRATION
Tutorial			
1	01-04-24	PTT/ Discussions	SGD / DEMONSTRATION
	08-04-24	**To 12-04-24 =====EID -UL-FITER HOLIDAYS**	
Week – 11			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	15-04-24	Anti-anginal drugs II	LGIS
2	17-04-24	Drugs used in heart failure I	LGIS
3	18-04-24	Drugs used in heart failure II	LGIS
Practical			
1	18-04-24	Pharmacy preparation	SGD / DEMONSTRATION
	19-04-24	Pharmacy preparation	SGD / DEMONSTRATION
Tutorial			
1		Hematinics	LGIS
Week – 12			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	22-04-24	Antiarrhythmic drugs	LGIS
2	24-04-24	Anti-coagulants I	LGIS
3	25-04-24	Anti-coagulants II	LGIS
Practical			
1	25-04-24	Revision	SGD / DEMONSTRATION
2	26-04-24	Revision	SGD / DEMONSTRATION

Tutorial			
1		Anti-arrhythmic drugs	LGIS
End of Block Exams: 29-04-24			

4. GENERAL PATHOLOGY

Week – 01			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	30-1-24	General Pathology: Introduction	LGIS
2	31-1-24	Introduction & overview	LGIS
3	1-2-24	Apoptosis	LGIS
Practical			
1	1-2-24	Introduction to microscope Identification of bacteria	SGD / DEMONSTRATION
	2-2-24	Introduction to microscope Identification of bacteria	SGD / DEMONSTRATION
1	30-1-24	Tutorial	SGD / DEMONSTRATION
Week – 02			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	**6-2-24**	Necrosis	LGIS
2	7-2-24	Types of Necrosis	LGIS
3	8-2-24	Mechanism of cell Injury	LGIS
Practical			
1	8-2-24	Hydropic change Fatty change	SGD / DEMONSTRATION
	9-2-24	Hydropic change Fatty change	SGD / DEMONSTRATION
Tutorial			
1	6-2-24	Tutorial	SGD / DEMONSTRATION
Week – 03			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	**13-2-24**	Cellular Adaptation	LGIS
2	14-2-24	Intracellular Accumulation	LGIS
3	15-2-24	Introduction of Inflammation	LGIS

Practical			
1	15-2-24	Gram staining	SGD / DEMONSTRATION
	16-2-24	Gram staining	SGD / DEMONSTRATION
Tutorial			
1	13-2-24	Tutorial	SGD / DEMONSTRATION
Week – 04			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	20-2-24	Acute Inflammation	LGIS
2	21-2-24	Cellular events	LGIS
3	22-2-24	Chronic Inflammation	LGIS
Practical			
1	22-2-24	ZN staining	SGD / DEMONSTRATION
	23-2-24	ZN staining	SGD / DEMONSTRATION
Tutorial			
1	20-2-24	Tutorial	SGD / DEMONSTRATION
Week – 05 Sports week 26th Feb to 1st March			
Week 06			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	5-3-24	Chemical mediators	LGIS
2	6-3-24	Repair	LGIS
3	7-3-24	Inflammation (Revision)	LGIS
Practical			
1	7-3-24	Hyperplasia Atrophy	SGD / DEMONSTRATION
	8-3-24	Hyperplasia Atrophy	SGD / DEMONSTRATION
Tutorial			
1	5-3-24	Tutorial	SGD / DEMONSTRATION
Week – 07			

S. No	Date	Topic/ Theme	MIT
1	11-3-24	Bacterial Anatomy & Physiology	LGIS
2	12-3-24	Bacterial Genetics	LGIS
3	13-3-24	Bacterial Growth	LGIS
Practical			
1	13-3-24	Coagulative necrosis	SGD / DEMONSTRATION
	14-3-24	Coagulative necrosis	SGD / DEMONSTRATION
Tutorial			
1	11-3-24	Tutorial	SGD / DEMONSTRATION
Week – 08			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	19-3-24	Sterilization (Physical Method)	LGIS
2	20-3-24	Sterilization (Chemical Method)	LGIS
3	21-3-24	Normal Flora	LGIS
Practical			
1	21-3-24	Caseous necrosis	SGD / DEMONSTRATION
	22-3-24	Caseous necrosis	SGD / DEMONSTRATION
Tutorial			
1	19-3-24	Tutorial	LGIS
Week 9			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	26-3-24	Gram Positive Cocci	LGIS
2	27-3-24	Staphylococcus	LGIS
3	28-3-24	Staphylococcus Classification	LGIS
Practical			
1	28-3-24	Intracellular accumulation	SGD / DEMONSTRATION
	29-3-24	Intracellular accumulation	SGD / DEMONSTRATION

Tutorial			
1	26-3-24	Tutorial	SGD / DEMONSTRATION
Week – 10			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	2-4-24	Staphylococcus Classification	LGIS
2	3-4-24	Streptococci pneumonia	LGIS
3	4-4-24	Gram Negative Cocci	LGIS
Practical			
1	4-4-24	Calcification	SGD / DEMONSTRATION
	5-4-24	Calcification	SGD / DEMONSTRATION
Tutorial			
1	2-4-24	Tutorial	SGD / DEMONSTRATION
Week – 11			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	16-4-24	Enterobacteriaceae	LGIS
2	17-3-24	E. coli	LGIS
3	18-3-24	Salmonella	LGIS
Practical			
1	18-3-24	Oxidase test	SGD / DEMONSTRATION
	19-3-24	Oxidase test	SGD / DEMONSTRATION
Tutorial			
1	16-4-24	Tutorial	SGD / DEMONSTRATION
Week – 12			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	23-4-24	Shigella, Vibrio	LGIS
2	24-4-25	Helicobacter	LGIS
3	25-4-24	Proteus, Providencia, Morganella	LGIS

Practical			
1	25-4-24	Catalase test	SGD / DEMONSTRATION
	26-4-24	Catalase test	SGD / DEMONSTRATION
Tutorial			
1	23-4-24	Tutorial	SGD / DEMONSTRATION
End of Block Exams: 29th May to 6th May			
Sports Week: 26th feb to 1st march			

5. PRECLINICAL OPERATIVE DENTISTRY

Week – 01			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	2-2-24	Introduction to operative dentistry	LGIS
Practical			
1	1-2-24	Introduction to skill lab & chair positioning	SGD/ Practical
	31-1-24	Introduction to skill lab & chair positioning	SGD/Practical
Week – 02			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	**9-2-24**	Armamentarium	LGIS
Practical			
1	7-2-24	Armamentarium & rubber dam application	SGD/Practical
	9-2-24	Armamentarium & rubber dam application	SGD/Practical
Week – 03			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	**16-2-24**	Dental Cariology	LGIS
Practical			
1	14-2-24	Rubber dam application	SGD/Practical
	16-2-24	Rubber dam application	SGD/Practical
Week – 04			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	23-2-24	Caries	LGIS
Practical			
1	21-2-24	Rubber dam application	SGD/ Practical
	23-2-24	Rubber dam application	SGD/Practical
Week – 05 Sports week 26th Feb to 1st March			

		Week -06	
S. No	**Date**	**Topic/ Theme**	**MIT**
1	8-3-24	Caries Management	LGIS
Practical			
1	6-3-24	Class I cavity preparation	SGD/ Practical
	8-3-24	Class I cavity preparation	SGD/Practical
Week – 07			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	15-3-24	Fundamentals of tooth preparation	LGIS
Practical			
	13-3-24	Class I cavity preparation	SGD/ Practical
	15-3-24	Class I cavity preparation	SGD/ Practical
Week – 08			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	22-3-24	Fundamentals of tooth preparation part 2	LGIS
Practical			
	21-3-24	Class I cavity preparation	SGD/Practical
	22-3-24	Class I cavity preparation	SGD/Practical
Week 09			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	29-3-24	Amalgam Restoration	LGIS
Practical			
1	27-3-24	Class 1 tooth preparation	SGD/Practical
	29-3-24	Class 1 tooth preparation	SGD/Practical
Week – 10			
S. No	**Date**	**Topic/ Theme**	**MIT**

1	5-4-24	Amalgam Restoration	LGIS
Practical			
1	3-4-24	Restoration of Class 1	SGD/Practical
	5-4-24	Restoration of Class 1	SGD/Practical
Week – 11			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	19-4-24	Revision	LGIS
Practical			
1	17-4-24	Restoration of Class 1	SGD/Practical
	19-4-24	Restoration of Class 1	SGD/Practical
Week – 12			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	26-4-24	Revision	LGIS
Practical			
1	24-4-24	Quota completion	SGD/Practical
	26-4-24	Quota completion	SGD/Practical
End of Block Exams:			
Sports Week: 26th Feb to 1st March			

6. PRECLINICAL PROSTHODONTICS

Week – 01				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	02.02.2024	Introduction to Prosthodontics	LGIS	Dr Sameen Zehra
Practical				
1	01. 02.2024 03.02.2024	Orientation of Prosthodontic Laboratory & Identification of landmarks.	SGD/ Practical	Dr. Sameen/ Dr Abdul Muqeet
Week – 02				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	**09.02.2024**	Anatomical landmarks of Maxilla	LGIS	Dr. Abdul Muqeet
Practical				
1	07.02.2024 09.02.2024	Record base fabrication	SGD/Practical	Dr. Abdul Muqeet/ Dr. Naveed
Week – 03				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	**16.02.2023**	Anatomical Landmarks of Mandible	LGIS	Dr. Sameen Zehra
Practical				
1	**14.02.2024** **16.02.2023**	Record base fabrication	SGD/Practical	Dr. Abdul Muqeet/ Dr. Naveed
Week – 04				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	23.02.2024	Impressions and impression trays	LGIS	Dr. Abdul Muqeet

Practical				
1	21.02.2024 23.02.2024	Occlusal rim fabrication	SGD/ Practical	Dr. Abdul Muqeet/ Dr. Naveed
Week – 05				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	08.03.2024	Dental Casts	LGIS	Dr. Abdul Muqeet
	06.03.2024 08.03.2024	Articulation		Dr. Abdul Muqeet/ Dr. Naveed
Week – 06				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	15.03.2024	Record bases	LGIS	Dr. Abdul Muqeet
	13.03.2024 15.03.2024	Articulation		Dr. Abdul Muqeet/ Dr. Naveed
Week – 07				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	22.03.2024	Class test	LGIS	Dr. Sameen Zehra
	21.03.2024 22.03.2024	22.03.2024		Dr. Abdul Muqeet/ Dr. Naveed
Week – 08				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	29.03.2024	Occlusal rims	LGIS	Dr. Sameen Zehra
Practical				
1	27.03.2024	Anterior Teeth Arrangement	SGD/Practical	Dr. Abdul Muqeet/ Dr. Naveed

	29.03.2024			
Week – 09				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	05.04.2024	Articulators –I	LGIS	Dr. Sameen Zehra
Practical				
1	03.04.2024 05.04.2024	Anterior teeth arrangement	SGD/Practical	Dr. Abdul Muqeet/ Dr. Naveed
Week – 10				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	19.04.2024	Articulators –II	LGIS	Dr. Sameen Zehra
Practical				
1	17.04.2024 19.04.2024	Posterior teeth arrangement	SGD/Practical	Dr. Sameen Zehra
Week – 11				
S. No	**Date**	**Topic/ Theme**	**MIT**	**Name of instructor**
1	26.04.2024	Occlusion Of Complete Denture-I	LGIS	Dr. Sameen Zehra
Practical				
1	24.04.2024 26.04.2024	Posterior teeth arrangement	SGD/Practical	Dr. Abdul Muqeet/ Dr. Naveed
1		Finishing of teeth arrangement		Dr. Abdul Muqeet/ Dr. Naveed
End of Block Exams: 29th May 2024 to 6th May 2024				
Sports Week:26th Feb to 1st March				

7-BEHAVIORAL SCIENCES

Week – 01			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	01-Feb-2024	Introduction to behavioural sciences and its implication in health	LGIS
Week – 02: Election Holiday			
Week – 03			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	16-Feb-2024	Holistic and traditional medicine; Culture and medical practices	LGIS
Week – 04			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	23-Feb-2024	Healthcare models and their clinical application	LGIS
Week – 05: Sports Week			
Week – 06			
S. No	**Date**	**Topic/ Theme**	**MIT**

1	08-Mar-2024	Sensation and Sense Organs-I	LGIS
Week – 07			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	15-Mar-2024	Sensation and Sense Organ-II	LGIS
Week – 08			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	22-Mar-2024	Perception	LGIS
Week – 09			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	29-Mar-2024	Attention and Concentration	LGIS
Week – 10			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	05-Apr-2024	Human Memory	LGIS
Week – 11 Eid Holidays (Proposed)			
Week – 12			
S. No	**Date**	**Topic/ Theme**	**MIT**
1	19-Apr-2024	Revision	LGIS
Election Holiday: 08th Feb.2024			
Sports Week: 26th Feb to 1st March			
Eid-Ul-Fitr Holidays			

LEARNING RESOURCES

1. DENTAL MATERIALS

Books

Restorative Materials by Robert, Craig.

Phillips Skinner's Science of Dental Materials.

Clinical Handing of Dental Materials by B.N Smith.

Dental Chemistry by Cunningham.

Must have Books

M.Cabe Dental Materials

Preclinical Dental Sciences Work Book For Dental Students

Restorative Materials by Robert, Craig

Instruments

Glass slab

Cement Spatula

Plastic instrument

Articulator (Hinge and Hanau)

Modeling Wax 1 box

Pliers

Round, Straight and Adams. Wire cutter

Plaster and alginate mixing spatula,

Dycal applicator

Set of measuring Scoop

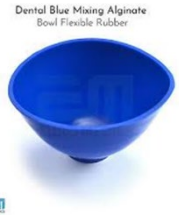
Alginate mixing spatula

Rubber Bowl

Measuring cylinder 100mlX2

Measuring Beaker 100ml

Plastic sheet

Gloves **Mask**	 **Dropper** **Scale, Marker, Pencil** **Mortar Pestle** 	 **Condenser** **Burnishers** **Carver** **Amalgam Carrier** **Matrix Band** **Matrix band retainer** **Articulating paper** **Impression Trays partial denture set**	 **1 Pack Alginate** **Gypsum/plaster of Paris 4kg** **Base former of model Upper and Lower arch** **flask** 

2. COMMUNITY DENTISTRY

Books

Textbooks

Textbook of Preventive and Community Dentistry.2nd edition. S.S Hiremath

A textbook of public health dentistry

Recommended Books

Burt, B. & Eklund, S. (1999) Dentistry, Dental Practice & The Community. 5th ed. Saunders.

Daly B, Watt R, Batchelor P & Treasure E (2002) Essential Dental Public Health, Oxford University Press.

Gluck G & Morganstein WM (2002) Jong's Community Dental Health 5th edition, Mosby.

Harris, N.O. & Christen, A.C. (1987) Primary Preventive Dentistry. 2nd ed. Reston Pub. Co.

Instruments

Examination Instruments

ART

Probes

Mirror

Probe

Tweezer

ART Instruments

Toothbrushing model

Dental Floss

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

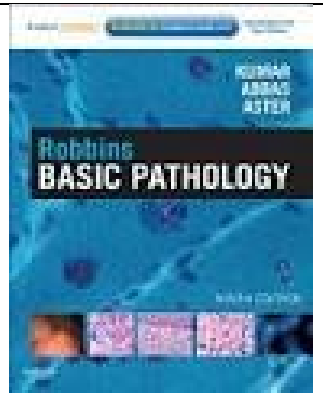
Textbook

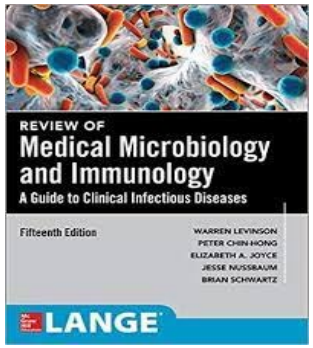
1. Lippincott Illustrated Reviews Pharmacology 6th Edition
2. Basic and clinical Pharmacology by Bertram G Katzung 14th Edition

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.

6- BEHAVIORAL SCIENCES

Recommended Books

1. Handbook of Behavioral Sciences by Mowadat H. Rana (3rd edition)
2. Willumsen, T., Årøen Lein, J. P., Gorter, R. C., & Myran, L. (Eds.). (2002). Oral Health Psychology: Psychological Aspects Related to Dentistry. Springer Publishers. https://doi.org/10.1007/978-3-031-04248-5