Study Guide Block-III

M. ISLAM DENTAL COLLEGE
MIDC
KNOWLEDGE HONOUR EXCELLENCE

BDS Year-1

BLOCK: III
Academic Year: 2026-27
Duration: 12 Weeks

DISCLAIMER

- **Developing a study guide is a dynamic process and undergoes iteration according to the needs and priorities.**
- **This study guide is subjected to the change and modification over the whole academic year.**
- **However, students are advised to use it as a guide for respective modules.**
- **It is to declare that the learning objectives (general and specific) and the distribution of assessment tools (both theory and practical) are obtained from M. Islam Dental College Gujranwala. These can be obtained from: https://www.uhs.edu.pk/**
- **The time tables are for guiding purpose. It is to advise that final timetables are always displayed over the notice boards of each lecture hall.**
- **Students are encouraged to provide feedback via module coordinator.**

Vision of UHS

"UHS is a leading University aiming to keep its graduates apt with the ever-emerging global health challenges, evolving educational methodologies, and emerging technological advancements to maintain its distinguishable position as a Medical University."

Mission of MIDC

To emerge as a globally acclaimed institute that prepares compassionate, knowledgeable & skilled dental professionals excelling in innovative research, patient care & community service

Program Outcomes:

At the end of the BDS program, the dental graduate should be able to:

1. **Clinical Competence:** Graduates will demonstrate essential clinical skills, knowledge, and attitude to provide safe, effective, and ethical dental care to diverse populations.
2. **Community-Oriented Care:** Students will develop a commitment to serving underserved communities, understanding the specific oral health challenges faced by Pakistan's population, and contributing to public health initiatives.
3. **Ethical and Professional Conduct:** Graduates will uphold high standards of ethical practice, showing respect, empathy, and accountability in all patient and professional interactions.
4. **Lifelong Learning:** Graduates will embrace lifelong learning, continually updating their skills and knowledge to keep pace with advances in dental science and technology.
5. **Leadership and Collaboration:** Students will be prepared to take on leadership roles within healthcare teams, collaborating effectively with other professionals to enhance patient care.
6. **Research and Innovation:** Graduates will engage in or support research and innovation in dental science, contributing to evidence-based practices that advance oral health in Pakistan.

MODULE COMMITTEE

Sr. No.	Name	Department & Designation	Role
1.	Prof. Dr. Rana Modassir	Principal	Curriculum Director
2.	Prof. Dr. M. Saif Ullah	HOD, DME	Assistant curriculum Director
3.	Prof. Dr Raheela	Assoc. Professor Oral Biology	Coordinator Block-I
4.	Dr. Shahid Saeed	Professor Physiology	Coordinator Block-II
5.	Dr. Shahid Saeed	Professor Physiology Dentistry	Coordinator Block-III
Module Team			
6.	Dr. Shahid Saeed	Professor Physiology	Member
7.	Dr Saveela Sadaqat	AP Biochemistry	Member
8.	Dr. Uzma Riaz	Professor Pharmacology	Member
9.	Dr Shmasa Mohsin	Professor Anatomy	Member
10.	Dr. Rabia Asad	Professor Community Dentistry	Member
11.	Dr Shamsa Mohsin	Professor Anatomy	Member
12.	Dr. Zahid	Professor Microbiology	Member
13.	Dr. Sobia Siddique	Professor Oral Pathology	Member
14.	Dr Ahmed Mehmood	Associate Professor Behavioral Science	Member
15.	Dr. Rabeet Asif	DME	Proof reading & Editing
16.	Dr. Nivish	DME	Developer Block-I

INTRODUCTION TO STUDY GUIDE

It is an aid to Inform students how student learning program of the module has been organized, to help students organize and manage their studies throughout the module and guide students on assessment methods, rules and regulations.

The Study Guide:

- Communicates information on organization and management of the module.
- This will help the student to contact the right person in case of any difficulty.
- Definesthe objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as lectures, small group teachings.

Module Outcomes:

- Provides a list of learning resources such as books, computer-assisted learning programs, web links, and journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous on the student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's performance.

Achievement of Objectives:

Focuses on information pertaining to examination policy, rules and regulations

Students will experience an integrated curriculum.

Integrated Curriculum:

An integrated curriculum is all about making connections, whether to real life or across the disciplines, about skills or about knowledge. An integrated curriculum fuses subject areas, experiences, and real-life knowledge together to make a more fulfilling and tangible learning environment for students. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have better understanding of basic sciences when they repeatedly learn in relation to clinical examples. Case based discussions, computer-based assignments, early exposure to clinics, wards, and skills acquisition in skills lab are characteristics of integrated teaching program.

TEACHING AND LEARNING STRATEGIES

The following teaching / learning methods are used to promote better understanding:

1. Interactive Lectures
2. Small Group Discussion
3. Practical
4. Skills session in skill labs
5. Case-Based Learning (tutorials)
6. Directed Self-Learning

- **Interactive lectures:**

  An interactive lecture is an easy way for instructors to intellectually engage and involve students as active participants in a lecture - based class of any size.

- **Small group discussion (SGD):**

  Students learn from each other. Everyone gets more practice at expressing their ideas. A two-way discussion is almost always more creative than individual thoughts. Social skills are practiced in a 'safe' environment e.g. tolerance, cooperation.

- **Skills session:**

  Skills relevant to respective module are observed and practiced where applicable in skills laboratory or Laboratories of various departments.

- **Case Based Learning (CBL):**

A small group discussion format where learning is focused on a series of questions based on a clinical scenario. Students discuss and answer the questions by applying relevant knowledge gained previously in clinical and basic health sciences during the module and construct new knowledge. The CBD will be provided by the concerned department. It is an active learning & teaching strategy which promotes application of foundational knowledge in relevant clinical scenarios.

- **Directed Self-learning (DSL):**

  Directed Self-learning, which involves studying with indirect supervision in a classroom/Library, is a valuable way to learn and is quickly growing in popularity among parents and students.

  Students' assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Centre, teachers and resource persons within and outside the college. Students can utilize the time within the

college scheduled hours of self-study

BLOCK III

Sr. No.	MODULES	WEEKS
1-	Blood & CVS-I	5
2-	GIT	4
3-	Occlusion	2
	Total	12 Weeks

Blood and Cardiovascular System-I

Specific Learning Objectives:

THEORY				
GROSS ANATOMY				
Topic	**Specific Learning Objectives**	**Teaching Strategy**	**Levels C/P/A**	**Assessment**
Circulatory System	**Describe the Blood components.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the structure of heart wall and functioning of heart.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Classify and exemplify various types of blood vessels.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe and exemplify various types of anastomoses	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe three circulatory routes.	**LGIS (LECTURE HALL 1)**	**C1**	**MCQS, OSPE, OSVE**
	Define portal system and describe its two varieties.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Describe the vascular supply of blood vessels.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe various components of lymph vascular system.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Phlebotomy	**Describe the boundaries and contents of cubital fossa.**	**LGIS (LECTURE**	**C2**	**MCQS, OSPE, OSVE**

		HALL 1)		
	Describe the clinical significance of cubital fossa: taking blood pressure and collecting blood sample.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Phlebotomy	**Describe the superficial veins, muscles, nerves and vessels of flexor/anterior compartment of forearm.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Describe the clinical significance of median forearm vein.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Phlebotomy	**Describe the superficial veins, muscles, tendons, vessels and nerves of dorsum of hand.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the boundaries, contents and clinical importance of anatomical snuff box.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the clinical importance of dorsal venous arch, cephalic and basilic veins.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

BIOCHEMISTRY

Topic	Specific Learning Objectives	Teaching Strategy	Levels C/P/A	Assessment
Chemistry & classification of amino acids	**Define Zwitter ion and isoelectric pH.**	**LGIS (LECTURE HALL 1)**	**C1**	**MCQS, OSPE, OSVE**
Classification of proteins	**Define limiting amino acids and provide suitable examples of**	**LGIS (LECTURE**	**C2**	**MCQS, OSPE, OSVE**

	limiting amino acids.	**HALL 1)**		
PEM	**Understand the nutritional importance of proteins and correlate this information to protein energy malnutrition.**	**LGIS (LECTURE HALL 1)/SGD**	**C3**	**MCQS, OSPE, OSVE**
	Compare and contrast the salient features of kwashiorkor and marasmus.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Conjugated Proteins	**Define conjugated proteins and provide suitable examples of conjugated proteins in the human body (lipoproteins, glycoproteins, nucleoproteins, chromoproteins, and metalloproteins).**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Structural organization of proteins	**Elaborate the role of chaperones in protein folding.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Protein misfolding	**Briefly describe the consequences of protein misfolding (Alzheimer's disease and prion diseases).**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Protein structure & denaturation	**Differentiate between denaturation and coagulation.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Plasma proteins	**Enlist the functions and give the clinical importance of plasma proteins (albumin, fibrinogen, and transferrin).**	**LGIS (LECTURE HALL 1)**	**C1**	**MCQS, OSPE, OSVE**
Immunoglobulin classes and their functions	**Draw and label the general structure of an antibody.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Enlist five major types of immunoglobulins and give functions/significance of each class	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

	separately.			
Lipid metabolism	**Explain the process of beta-oxidation of fatty acids and how it contributes to ATP production during sustained, low-intensity exercise.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Eicosanoids	**Define eicosanoids.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Outline classification and biomedical importance of eicosanoids.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enlist functions of prostaglandins, leukotrienes and thromboxanes.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain how low-dose aspirin therapy helps in the management of patients with IHD.	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
PHYSIOLOGY				
BLOOD				
Topic	**Specific Learning objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Resistance of the Body to Infection: I. Leukocytes, Granulocytes, the Monocyte-Macrophage System, and Inflammation	**Enumerate the types of white blood cells along with their normal blood count.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss their site of genesis.	**LGIS (LECTURE HALL 1)**	**C2**	

Resistance of the Body to Infection: I. Leukocytes, Granulocytes, the Monocyte Macrophage System, and Inflammation	**Describe the characteristics and functions of Neutrophils.**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	Explain the process of phagocytosis and lysis of invading agent by neutrophils.	**LGIS (LECTURE HALL 1)/SGD**	**C2**	
	Explain the process of phagocytosis and lysis of invading agent by macrophages.	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain the process of opsonization.	**LGIS (LECTURE HALL 1)**	**C2**	
	Describe the process of inflammation.	**LGIS (LECTURE HALL 1)**	**C2**	
	Enlist different lines of defense during inflammation.	**LGIS (LECTURE HALL 1)**	**C2**	
Resistance of the Body to Infection: I. Leukocytes, Granulocytes, the Monocyte-Macrophage System, and Inflammation	**Explain the process of Migration of neutrophils from the blood into inflamed tissue.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain the functions of eosinophils and basophils.	**LGIS (LECTURE HALL 1)**	**C2**	
	Give normal lifespan of white blood cells.	**LGIS (LECTURE HALL 1)**	**C2**	
Resistance of the Body to Infection II : Immunity & Allergy	**Classify lymphocytes.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Classify T lymphocytes and enlist their salient functions.	**LGIS (LECTURE HALL 1)**	**C2**	

	Define immunity.	**LGIS (LECTURE HALL 1)**	**C2**	
	Describe innate immunity.	**LGIS (LECTURE HALL 1)**	**C2**	
	Describe and classify acquired immunity.	**LGIS (LECTURE HALL 1)**	**C2**	
	Define passive immunity.	**LGIS (LECTURE HALL 1)**	**C2**	
Specific attributes of the B-lymphocyte system—humoral immunity and antibodies	**Discuss the role of T cells and B cells in acquired immunity.**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	Define plasma cells.	**LGIS (LECTURE HALL 1)/SGD**	**C2**	
	Describe the structure of antigen and immunoglobulin.	**LGIS (LECTURE HALL 1)**	**C2**	
	Enlist types of immunoglobulins.	**LGIS (LECTURE HALL 1)**	**C2**	
	Describe the mechanism of direct action of antibodies.	**LGIS (LECTURE HALL 1)**	**C2**	
Blood Types; Transfusion	**Enumerate different blood group types.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain the basis of ABO and Rh blood system.	**LGIS (LECTURE HALL 1)/SGD**	**C2**	
	Discuss the features and complications of mismatched	**LGIS (LECTURE**	**C2**	

	blood transfusion reaction.	**HALL 1)**		
	Enlist the Hazards of blood transfusion.	**LGIS (LECTURE HALL 1)**	**C2**	
	Discuss the pathophysiology, features and treatment of Rh incompatibility.	**LGIS (LECTURE HALL 1)**	**C3**	
Hemostasis and Blood Coagulation	**Define hemostasis.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enlist and explain the mechanisms that secure hemostasis.	**LGIS (LECTURE HALL 1)**	**C2**	
	Give characteristics and functions of platelets.	**LGIS (LECTURE HALL 1)**	**C2**	
	Mention normal platelet count in blood and life span of platelets.	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain the steps involved in formation of primary platelet plug to seal small vascular holes Define thrombocytopenia.	**LGIS (LECTURE HALL 1)**	**C2**	
	Enlist causes of thrombocytopenia.	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain consequences of thrombocytopenia.	**LGIS (LECTURE HALL 1)**	**C2**	
	Enlist the clotting factors in blood. **Name vitamin K dependent clotting factors.**	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain the Intrinsic & extrinsic	**LGIS (LECTURE**	**C2**	

	clotting pathway.	**HALL 1)**		
	Describe mechanism of clot formation after injury.	**LGIS (LECTURE HALL 1)**	**C2**	
	Name and give mechanism of anticoagulants (heparin, oxalate & citrate) used in laboratory.	**LGIS (LECTURE HALL 1)**	**C2**	
Conditions that cause excessive bleeding in humans	**Enlist and explain the conditions that cause excessive bleeding (Vitamin K deficiency, Hemophilia, Thrombocytopenia)**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	Define Prothrombin time and mention its significance.	**LGIS (LECTURE HALL 1)**	**C2**	

HEART				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Cardiac Muscle; The Heart as a Pump and Function of the Heart Valves	**Explain the physiological anatomy of cardiac muscle.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe and draw the phases of action potential of ventricle.	**LGIS (LECTURE HALL 1)**	**C2**	
Rhythmical Excitation of the Heart	**Describe and draw the phases of action potential of SA node along with explanation of the mechanism of selfexcitation/ Auto rhythmicity of SA node.**	**LGIS (LECTURE HALL 1)**	**C2**	
	Draw and explain the conducting system of heart	**LGIS (LECTURE**	**C2**	

		HALL 1)		
Cardiac Muscle; The Heart as a Pump and Function of the Heart Valves	**Describe the mechanism of excitation-contraction coupling in cardiac muscle.**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	Draw & explain pressure & volume changes of left ventricle during cardiac cycle.	**LGIS (LECTURE HALL 1)/SGD**	**C2**	
	Define & give the normal values of the cardiac output, stroke volume, end diastolic volume, end systolic volume and venous return	**LGIS (LECTURE HALL 1)/SGD**	**C2**	
	Describe the mechanism of excitation-contraction coupling in cardiac muscle.	**LGIS (LECTURE HALL 1)**	**C2**	
	Draw & explain pressure & volume changes of left ventricle during cardiac cycle.	**LGIS (LECTURE HALL 1)**	**C2**	
	Define & give the normal values of the cardiac output, stroke volume, end diastolic volume, end systolic volume and venous return	**LGIS (LECTURE HALL 1)**	**C2**	
	Describe the Frank starling mechanism.	**LGIS (LECTURE HALL 1)**	**C2**	
	Describe the autonomic regulation of heart pumping. Describe the effect of potassium, calcium ions & temperature on heart function.	**LGIS (LECTURE HALL 1)**		
Fundamentals of Electrocardio	**Define Electrocardiogram.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

graphy	**Enlist, draw, and explain the physiological basis & give durations of waves, intervals, and segments of normal ECG.**	**LGIS (LECTURE HALL 1)/SGD**		
Cardiac Arrhythmias	**Define tachycardia and enlist its causes.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Define bradycardia and enlist its causes.	**LGIS (LECTURE HALL 1)**		
	Define sinus arrhythmia and its physiological basis.	**LGIS (LECTURE HALL 1)**		
CIRCULATION				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Overview of the Circulation Nervous Regulation of the Circulation	**Explain the functional parts of circulation (arteries, arterioles, capillaries, veins, venules).**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Mention the pressures in systemic & pulmonary circulation.	**LGIS (LECTURE HALL 1)**	**C2**	
	Describe nervous regulation of blood vessels and functioning of vasomotor centers.	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain vasovagal syncope.	**LGIS (LECTURE HALL 1)**	**C2**	
The Microcirculation and Lymphatic System:	**Identify vessels constituting microcirculation.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enumerate starling forces (hydrostatic and osmotic forces) and	**LGIS (LECTURE**	**C2**	

Capillary Fluid Exchange, Interstitial Fluid, and Lymph Flow	**explain their role in capillary filtration and formation of interstitial fluid.**	**HALL 1)**		
	Define edema.	**LGIS (LECTURE HALL 1)**	**C2**	
Local and Humoral Control of Tissue Blood Flow	**Describe local control of blood flow in response to tissue needs.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss role of Humoral factors in control of blood flow.	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain acute mechanism of local blood flow control (tissue metabolism & oxygen/nutrient demand).	**LGIS (LECTURE HALL 1)**	**C2**	
	Describe autoregulation of blood flow during changes in arterial pressure—(metabolic and myogenic mechanisms).	**LGIS (LECTURE HALL 1)**	**C2**	
Clinical methods for measuring systolic and diastolic pressures	**Define blood pressure and its two primary determinants (cardiac output and total peripheral resistance).**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Define pulse pressure and mean arterial pressure.	**LGIS (LECTURE HALL 1)**	**C2**	
	Give normal blood pressure value and mean arterial pressure value.	**LGIS (LECTURE HALL 1)**	**C2**	
Primary (essential) Hypertension	**Define hypertension.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

Cardiac Output, Venous Return, and Their Regulation	**Define Cardiac output and venous return. Give their normal values.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enlist and explain factors that affect cardiac output and venous return.	**LGIS (LECTURE HALL 1)**		
Nervous regulation of the circulation and rapid control of arterial pressure	**Describe role of the nervous system in rapid control of arterial pressure.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enumerate nervous reflex mechanisms for regulation of blood pressure.	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain the role of baroreceptors in regulation of arterial blood pressure. Explain the role of chemoreceptors in regulation of arterial blood pressure	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain CNS ischemic response.	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain Cushing reaction.	**LGIS (LECTURE HALL 1)**	**C2**	
Role of the kidneys in long- term control of arterial pressure	**Describe role of renin-angiotensin aldosterone mechanism in blood pressure regulation.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain stress relaxation and capillary fluid shift.	**LGIS (LECTURE HALL 1)**	**C2**	
	Enlist immediate (seconds to minutes), intermediate (after several minutes) and long-term mechanism of blood pressure regulation.	**LGIS (LECTURE HALL 1)**	**C2**	
	Define & enlist different types of	**LGIS**	**C2**	**MCQS,**

	shock.	**(LECTURE HALL 1)**		**OSPE, OSVE**
Role of the kidneys in long- term control of arterial pressure	**Explain the causes, features, and pathophysiology of hypovolemic/hemorrhagic shock.**	**SGD (TUTORIAL ROOM)**	**C3**	
	Explain the causes, features, and pathophysiology of septic shock.	**SGD (TUTORIAL ROOM)**	**C2**	
	Explain the causes, features, and pathophysiology of neurogenic shock.	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain the causes and features of anaphylactic shock.	**LGIS (LECTURE HALL 1)**	**C2**	
	Explain cardiogenic shock	**LGIS (LECTURE HALL 1)**	**C2**	
Circulatory shock & it's treatment	**Explain stages of shock.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enlist & explain compensatory mechanisms during non-progressive shock.	**LGIS (LECTURE HALL 1)**		
The Coronary Circulation and Ischemic Heart Disease	**Define angina pectoris and myocardial infarction.**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
Heart valves and heart sounds	**Enlist the different types of heart sounds and explain the physiological basis of each Heart sounds.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enlist the causes of 3rd and 4th heart sounds.	**LGIS (LECTURE HALL 1)**	**C2**	

	Define murmur.	**LGIS (LECTURE HALL 1)**	**C2**	

PATHOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Disorders of WBCs	**Define white blood cell (WBC) disorders and classify them into benign and malignant types.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Recognize the causes of reactive leukocytosis (infections, stress, inflammation) that result in elevated WBC counts and its impact on planning and postoperative healing in dental patients.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Differentiate between reactive and neoplastic WBC disorders based on clinical and laboratory findings.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain the pathophysiology of leukemoid reactions and leukemias.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Disorders of WBCs	**Differentiate between reactive and neoplastic WBC disorders based on clinical and laboratory findings.**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	Explain the pathophysiology of leukemoid reactions and leukemias.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

Immunology	**Define the clinical aspects of innate and acquired immunity, including active and passive immunity.**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	List the types of immune cells, such as phagocytes, T cells, B cells, and NK cells, and explain their roles in immunity and disease progression.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the complement activa	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Immunology	**List the types of antibodies (IgG, IgA, IgM, IgE, IgD) and discuss their relevance in hypersensitivity reactions.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Hypersensitivity reactions	**Explain the types and pathogenesis of hypersensitivity reactions (Type I–IV) and their implications in dental conditions like latex allergies, drug reactions, and autoimmune oral lesions.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Blood grouping & complications of blood transfusion	**Define the principles of ABO and Rh blood grouping systems.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	State the importance of compatibility testing, including crossmatching, for safe transfusions.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Identify scenarios in dentistry where blood grouping knowledge is essential, such as surgeries or trauma management.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Hemodynamic	**Define thrombosis, embolism,**	**LGIS**	**C2**	**MCQS, OSPE,**

disorders	**infarction, and hemorrhage as hemodynamic disorders relevant to systemic and oral health.**	**(LECTURE HALL 1)**		**OSVE**
	Describe the types of thrombosis, including arterial and venous, and their potential impact on dental procedures, such as delayed healing or increased bleeding risks.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss the pathophysiology of thrombosis, focusing on Virchow's triad (endothelial injury, stasis, and hypercoagulability), and its relevance to dental patients with cardiovascular disorders.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Hemodynamics	**Explain the mechanisms and clinical features of embolism, including pulmonary and systemic embolism.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain the pathophysiology of embolism, including detachment of thrombi and subsequent vascular occlusion, and its potential effects on oral tissues or emergency scenarios during dental care.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Outline the types of infarctions (white and red) and their effects on oral tissues, such as necrosis or ischemic lesions.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

	Describe the pathophysiology of infarction, focusing on ischemia and necrosis in oral and systemic contexts.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Hemodynamics & platelet bleeding disorder	**Define bleeding disorders and their relevance to clinical dentistry.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Classify bleeding disorders into vascular, platelet, coagulation, and mixed types.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enlist causes of thrombocytopenia, such as decreased production, increased destruction, or sequestration of platelets.	**LGIS (LECTURE HALL 1)**	**C1**	**MCQS, OSPE, OSVE**
Hemodynamics	**List first-line laboratory investigations for bleeding disorders, including complete blood count (CBC), platelet count, bleeding time (BT), clotting time (CT), prothrombin time (PT), activated partial thromboplastin time (aPTT), and international normalized ratio (INR).**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss interpretation of laboratory findings and their clinical correlation in diagnosing bleeding disorders (platelet & coagulation related disorder) in dental patients.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**

Microbiology of blood relevance & implications in dentistry	**Apply knowledge of Streptococcus viridans and Staphylococcus aureus to recognize their role in infective endocarditis and bacteremia, and their implications for dental care.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Recognize oral manifestations of HIV, including candidiasis, hairy leukoplakia, and periodontal disease, in immunosuppressed patients.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Identify oral ulcerations caused by Cytomegalovirus (CMV) or Epstein-Barr Virus (EBV) in immunocompromised individuals.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Apply infection control protocols to prevent crosscontamination and transmission of bloodborne pathogens and parasites during dental procedures.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
CVS				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Haemodynamics	**Define and classify types of shock (hypovolemic, cardiogenic, septic) and evaluate their pathophysiology and relevance in dental emergencies.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

Microbiology related to CVS & Dentistry	Correlate septicemia caused by cardiovascular pathogens (e.g., Staphylococcus aureus, Pseudomonas aeruginosa) with oral manifestations such as petechiae or splinter hemorrhages.	LGIS (LECTURE HALL 1)	C2	MCQS, OSPE, OSVE
	Identify microbial causes of myocarditis, such as Coxsackievirus and their systemic effects influencing dental care.	LGIS (LECTURE HALL 1)	C2	MCQS, OSPE, OSVE
	Assess the role of oral pathogens like Treponema denticola and Porphyromonasgingivalis in contributing to cardiovascular diseases, including atherosclerosis, and integrate this knowledge into periodontal therapy.	LGIS (LECTURE HALL 1)	C2	MCQS, OSPE, OSVE
PHARMACOLOGY				
BLOOD				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Anticoagulants	Classify anti-clotting drugs.	LGIS (LECTURE HALL 1)	C2	MCQS, OSPE, OSVE
	Compare their usefulness in venous and arterial thrombosis.	LGIS (LECTURE HALL 1)	C2	MCQS, OSPE, OSVE
	Describe the mechanisms of action, clinical uses and adverse effects of anticoagulants.	LGIS (LECTURE HALL 1)	C3	MCQS, OSPE, OSVE
	Compare Unfractionated heparin, LMW heparins and oral	LGIS (LECTURE HALL 1)	C3	MCQS, OSPE, OSVE

	anticoagulants.			
	Compare and contrast the mechanism of action, clinical uses, and toxicities of the oral anticoagulants (warfarin, rivaroxaban, and dabigatran).	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain the pharmacokinetic and pharmacodynamic drug interactions of Warfarin.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Describe the mechanisms of action, clinical uses and adverse effects of antiplatelet drugs.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Illustrate where the 4 major classes of antiplatelet drugs act.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Differentiate between Clopidogrel and Ticlopidine.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss the mechanism of action, clinical uses, adverse effects and contraindications of Thrombolytics.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Tabulate differences between Streptokinase & recombinant tissue plasminogen activators.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Classify and give clinical uses of various iron preparations along with their adverse effects.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
CVS				

Topic	Specific Learning Objectives	Teaching strategy	Levels C/P/A	Assessment
Antihypertensive drugs-I **ACE inhibitors, AT receptor antagonist, Direct acting vasodilators**	**Classify vasodilators on the basis of site, route and mechanism of action.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the pharmacokinetic properties and side effects of vasodilators.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Classify the drugs acting on renin-angiotensin aldosterone system (RAAS).	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain their mechanisms of action, clinical indications, adverse effects and contraindications.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Antihypertensive drugs-II Sympatholyti c drugs, Diuretics, Ca++ Channel Blockers	**Classify antihypertensives according to site and mechanism of action.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the role of sympatholytic drugs in hypertension.	**SGD (TUTORIAL ROOM)**	**C2**	**MCQS, OSPE, OSVE**
	Recall the role of diuretics in hypertension.	**SGD (TUTORIAL ROOM)**	**C2**	**MCQS, OSPE, OSVE**
	Recount the relevance of calcium channel blockers in hypertension.	**LGIS (LECTURE HALL 1)/SGD**	**C3**	**MCQS, OSPE, OSVE**
	Tabulate the compensatory mechanisms of antihypertensive drugs.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

Anti-anginal drugs	**Classify the drugs used in the management of angina pectoris.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe important pharmacokinetic aspects of nitrates.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Explain mechanism of action of nitrates.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Give pharmacological basis for the use of nitrates in angina.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enumerate adverse and toxic effects of nitrates.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Drug treatment for heart Failure	**Explain briefly the pathophysiology of heart failure.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Recall the compensatory mechanisms in a failing heart.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Outline a treatment plan for patients with compensated or decompensated CHF.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enlist major drug groups used for management of congestive heart failure.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain the role of diuretics, angiotensin-converting enzyme inhibitors and beta blockers, in treating patients with congestive heart failure.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

Drug treatment for heart Failure	**Discuss digoxin and its use in long-term management of congestive heart failure.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the mechanism of action of Digoxin.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Recount the mechanical and electrical effects of Digoxin. Enumerate and explain the clinical uses of Digoxin.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Describe the important side-effects, contraindications & drug interactions of Digoxin.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain the treatment and management of digitalis toxicity.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Anti-arrythmic drugs	**Classify anti-arrhythmic drugs.**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	Describe cardiac, noncardiac effects of class I drugs (all subgroups).	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	Enumerate therapeutic uses and major side-effects of all class I antiarrhythmic drugs.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the important antiarrhythmic actions of class II drugs.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enumerate clinical indications and side-effects of class II drugs.	**LGIS (LECTURE**	**C2**	**MCQS, OSPE, OSVE**

		HALL 1)		
	Explain the actions, uses and side-effects of class III drugs(amiodarone).	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the actions, uses and adverse effects of calcium channel blockers (class IV drugs).	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe briefly the salient features of adenosine as an antiarrhythmic and its toxicity.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Antifibrinolytics	**Describe the mechanism of action, indications/clinical uses and adverse effects of tranexamic acid and aminocaproic acid**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Analgesics	**Identify cardiovascular risks associated with NSAID use and briefly explain the underlying pharmacological mechanisms.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the antiplatelet mechanism of action of lowdose aspirin and its role in the prevention of myocardial infarction	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Differentiate between the use of low-dose and highdose aspirin in cardiovascular vs. anti-inflammatory indications.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

PRACTICALS
ANATOMY

Topic	Specific Learning Objectives	Teaching strategy	Levels C/P/A	Assessment
Arteries	**Identify under light microscope/ draw and label arteries**	**Practical Lab**	**C3/P**	**OSPE**
Veins	**Identify under light microscope/ draw and label veins and capillaries**	**Practical Lab**	**C3/P**	**OSPE**
Infection control & PPE in clinical practice	**Demonstrate proper hand hygiene and use of personal protective equipment (PPE) during preparation for the procedure.**	**Practical Lab**	**C2/P**	**OSPE**
Venous access site & identification	**Identify appropriate venous access sites on a simulation model using surface anatomy and vein palpation techniques.**	**Practical Lab**	**C2/P**	**OSPE**
IV Cannulation procedure	**Perform intravenous cannulation on a simulation arm model, including: Patient preparation and positioning, Tourniquet application, Site cleaning and asepsis, Cannula insertion, flashback confirmation, and securing the IV line, Disposal of sharps and used materials.**	**Practical Lab**	**C3/P**	**OSPE**
Post IV cannulation Care & Complications management	**Manage post-procedure care, including documentation, patient monitoring, and recognizing signs of infiltration or complications.**	**Practical Lab**	**C3/P**	**OSPE**
Effective patient and team communication	**Communicate effectively and empathetically with simulated patients or team members before, during, and after the procedure.**	**Practical Lab**	**C2/P**	**OSPE**
Professional conduct in clinical skills	**Demonstrate confidence and competence in performing the procedure under faculty**	**Practical Lab**	**C2/P**	**OSPE**

	supervision.			
IV Access in Dental Medical Emergencies	**Reflect on the importance of IV access in medical emergencies related to dental practice (e.g., anaphylaxis, hypoglycemia, cardiac emergencies).**	**Practical Lab**	**C2/P**	**OSPE**
BIOCHEMISTRY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Introduction to Laboratory techniques	**Understand the principle, procedure and uses of electrophoresis (demonstration only).**	**Practical Lab**	**C3/P**	**OSPE**
Plasma proteins	**Describe the types of plasma proteins and explain their general functions.**	**Practical Lab**	**C2/P**	**OSPE**
Plasma proteins	**Describe serum albumin and globulins and explain their biological roles in the human body.**	**Practical Lab**	**C3/P**	**OSPE**
Lipid profile	**List the components of a lipid profile and describe the significance of cardiac enzyme markers (TropT, CKMB) in cardiovascular health.**	**Practical Lab**	**C2/P**	**OSPE**
PHYSIOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Blood Grouping Awareness in Clinical Dentistry	**Observe the demonstration of blood grouping procedure and explain its clinical relevance in dental practice, including its role in managing medical emergencies.**	**Practical Lab**	**C2/P**	**OSPE**
Bleeding Time	**Observe the demonstration of bleeding time measurement and**	**Practical Lab**	**C2/P**	**OSPE**

Awareness in Clinical Dentistry	**explain its importance in assessing bleeding risk in dental procedures.**			
Clotting Time Awareness in Clinical Dentistry	**Observe the demonstration of clotting time measurement and explain its relevance to safe dental practice.**	**Practical Lab**	**C2/P**	**OSPE**
ECG Waveform Recognition	**Observe and identify the normal waveforms and intervals on a sample ECG tracing.**	**Practical Lab**	**C2/P**	**OSPE**
ECG-Based Heart Rate Calculation	**Calculate heart rate from a provided normal ECG tracing and describe its clinical significance.**	**Practical Lab**	**C2/P**	**OSPE**
Cardiac Examination Basics	**Demonstrate how to locate and palpate the apex beat on a simulation model or peer under supervision.**	**Practical Lab**	**C2/P**	**OSPE**
Cardiac Auscultation Basics	**Demonstrate the correct method to auscultate the precordium for heart sounds under supervision.**	**Practical Lab**	**C2/P**	**OSPE**
Blood Pressure Measurement Techniques	**Demonstrate blood pressure measurement using palpatory and auscultatory methods in the sitting position under supervision.**	**Practical Lab**	**C2/P**	**OSPE**
Postural Influence on Blood Pressure	**Demonstrate the effect of posture on blood pressure measurement under supervision.**	**Practical Lab**	**C2/P**	**OSPE**
Pulse Examination Awareness	**Observe and describe the radial pulse characteristics, including rate, rhythm, and volume, under supervision.**	**Practical Lab**	**C2/P**	**OSPE**
Basic Life Support	**Demonstrate the basic steps of cardiopulmonary resuscitation**	**Practical Lab**	**C2/P**	**OSPE**

(BLS) Introduction	**(CPR) on a simulation model under supervision.**			
PATHOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Disorders of WBCs	**Perform differential WBC count and correlate findings with clinical cases of leukocytosis or leukopenia. (Practical)** **Identify oral manifestations of WBC disorders (e.g., gingival bleeding, delayed wound healing.** **Demonstrate infection control measures for patients with compromised immunity.**	**Practical Lab**	**C3/P**	**OSPE**
Immunology	**Demonstrate skin prick testing for Type I hypersensitivity reactions.** **Identify oral manifestations of autoimmune diseases.**	**Practical Lab**	**C2/P**	**OSPE**
Blood grouping & Transfusion Complications	**Perform blood typing and crossmatching procedures.**	**Practical Lab**	**C2/P**	**OSPE**
	Recognize clinical signs of transfusion reactions and their emergency management.		**C2/P**	
	Identify scenarios in dentistry requiring knowledge of blood grouping (e.g., trauma management.		**C2/P**	
Haemodynamic disorders	**Identify clinical signs of thrombosis, embolism, or hemorrhage during oral examinations.**	**Practical Lab**	**C2/P**	**OSPE**

	Interpret lab findings related to coagulation profiles(e.g., INR, PT, aPTT).		**C2/P**	
	Manage dental patients on anticoagulant therapy to minimize bleeding risks.		**C3/P**	
PHARMACOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Pharmacological Consideration s in Dental Practice	**Describe the common classes of antihypertensive and anticoagulant medications and their relevance to dental care.**	**Practical Lab**	**C2/P**	**OSPE**
Drug Interactions and Procedural Modifications	**Identify potential drug interactions and describe the importance of modifying dental procedures for patients on these medications.**	**Practical Lab**	**C3/P**	**OSPE**

GIT-I

Specific Learning Objectives:

THEORY				
ANATOMY				
Topic	**Specific Learning objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Oral Cavity Anatomy	**Describe the parts and boundaries of oral cavity.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Tongue Structure and Vascular Supply	**Describe the anatomical features of tongue with emphasis on its musculature, vascular supply and lymphatic drainage.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Extracranial Cranial Nerve Anatomy and Lesions	**Describe the extracranial course, distribution and branches of nerves with special reference to their lesions: Trigeminal, Glossopharyngeal, Hypoglossal, Vagus.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Palate Anatomy and Neurovascular Supply	**Describe the anatomical features of hard and soft palate with their neurovascular supply.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Muscles of Soft Palate	**Describe the attachments of muscles of soft palate along with their actions and nerve supply.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Salivary Glands Anatomy and Neurovascular Supply	**Describe anatomical features and neurovascular supply of salivary glands.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Parotid Gland Clinical Correlates	**Discuss the clinical correlates of parotid gland:** **Mumps, Frey's syndrome.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Submandibular	**Describe the location, roots and**	**LGIS**	**C3**	**MCQS, OSPE,**

and Otic Ganglia	**distribution of submandibular and otic ganglia.**	**(LECTURE HALL 1)**		**OSVE**
Pharynx Anatomy and Neurovascular Supply	**Name the parts of pharynx giving their extent, anatomical features, structure and neurovascular supply.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Muscles of Pharynx	**Describe the attachments of muscles of pharynx along with their actions and nerve supply.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Palatine Tonsil Anatomy and Vascular Supply	**Discuss the location, anatomical features and vascular supply of palatine tonsils.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Piriform Fossa and Tonsils Clinical Correlates	**Discuss the clinical correlates of piriform fossa and tonsils: Adenoids, Quincy, Tonsilitis.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Waldeyer's Ring of Lymphatic Tissue	**Enlist the structures forming the Waldeyer's ring of lymphatic tissue.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Cervical Esophagus Anatomy and Neurovascular Supply	**Describe the anatomical features of cervical part of esophagus with its neurovascular supply.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
HISTOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Oral Cavity	**Describe the light microscopic structure of lip**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the light microscopic structure of lip	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
EMBRYOLOGY				

Topic	Specific Learning Objectives	Teaching strategy	Levels C/P/A	Assessment
Oral Cavity	**Describe the development of tongue.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
ORAL BIOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Oral Mucosa	**Describe the introduction to oral mucosa.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Explain the morphological and histological structure of oral mucosa.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe and explain the component tissues and glands of oral mucosa.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enumerate and discuss the details of the nonkeratinocytes in the oral epithelium and lamina propria.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss the vasculature and innervations of oral mucosa along with the structural variations observed in it.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain the mucocutaneous junctions in the oral mucosa.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the age-related changes in oral mucosa	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Physiology of Taste	**Introduction to taste and its different events. What are the major taste support systems?**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss the four basic taste sensations/ taste stimuli	**LGIS (LECTURE**	**C2**	**MCQS, OSPE, OSVE**

		HALL 1)		
	Elaborate the structure and location of taste buds	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Explain the mechanism of taste	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	What do you know about abnormal taste sensations?	**LGIS (LECTURE HALL 1)**	**C1**	**MCQS, OSPE, OSVE**
	Enumerate or enlist the different conditions affecting taste	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Salivary Glands	**Describe the development of major & minor salivary Glands.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Describe the histology of major and minor salivary glands	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Elaborate its changes with age and its clinical considerations	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Saliva	**Discuss the mechanism of saliva formation and how the saliva modifies in the duct.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Physiology of Mastication	**Define Mastication and what are the structures involved in masticatory movement.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Elaborate chewing cycle of mastication.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	What are the different stages of mastication?	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	What are the different muscles involved	**LGIS**	**C2**	**MCQS,**

	in mastication? Give their origin, insertions, innervation, and functions	**(LECTURE HALL 1)**		**OSPE, OSVE**
	Briefly describe the neurological control of mastication.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Physiology of Swallowing	**Introduction to the term swallowing and deglutition.**	**LGIS (LECTURE HALL 1)**	**C1**	**MCQS, OSPE, OSVE**
	What are the stages of swallowing?	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Elaborate the pathway of swallowing and its neural control.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
PHYSIOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
General Principles of GIT Function - Motility, Nervous Control	**Describe physiologic anatomy of gastrointestinal tract.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss electrical activity of smooth muscles of GIT.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the mechanism of excitation of smooth muscle of gastrointestinal tract.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Discuss the factors that depolarize and hyperpolarize GI membrane.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Neural control of GIT function (Enteric Nervous system)	**Describe the role of autonomic nervous system in regulation of GIT's function.**	**LGIS (LECTURE HALL 1)/SGD**	**C3**	**MCQS, OSPE, OSVE**
GIT Hormones	**Describe enteric nervous system.**	**LGIS**	**C3**	**MCQS,**

		(LECTURE HALL 1)		**OSPE, OSVE**
	Describe the Meissner's plexus and differentiate between myenteric and Meissner's plexuses	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Enlist the gastrointestinal reflexes & explain the functions of these reflexes.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Give the stimuli, site of release and actions of cholecystokinin, Gastrin, Secretin & Motilin (enteroendocrine cells)	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Differentiate between sympathetic and parasympathetic modulation of the enteric nervous system and the effector organs of the GI tract	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Functional types of movements in the GI tract	**Discuss functional movements of GIT (propulsive & mixing)**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Esophagus	**Discuss the pathophysiology& features of achalasia & Mega esophagus.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Role of mucous and saliva	**Enlist the functions of saliva**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Vomiting Reflex	**Describe the stages of vomiting act.** **Appraise the location and function of vomiting center/ chemoreceptor trigger zone in the brain**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Motor Function of Stomach	**Explain motor function of stomach.** **Explain factors which regulate stomach**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**

	emptying			
Gastric Secretion	**Describe characteristics & functions of the gastric secretions.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Discuss the role of Intrinsic factor from gastric parietal cells	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Pathophysiology of stomach	**Define and discuss basic causes of gastritis and Pernicious anemia.**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	Define & enumerate the causes and pathophysiology of peptic ulcer	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Movements of small intestine General	**Enumerate the types of movements taking place in small intestine and mention their function.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	What is peristaltic rush and enteritis?	**LGIS (LECTURE HALL 1)**	**C1**	**MCQS, OSPE, OSVE**
Movements of Colon	**Enumerate the types of movements taking place in colon and give their functions**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss defecation reflex.	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**

BIOCHEMISTRY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Saliva	**Elaborate the composition and functions of saliva.**	**LGIS (LECTURE**	**C3**	**MCQS, OSPE, OSVE**

	Give etiology and clinical features of xerostomia.	**HALL 1)**	**C2**	
	Suggest the management options for patients suffering from xerostomia.		**C3**	
	Give biochemical explanation for rampant caries in cases of xerostomia.		**C2**	
Gastric secretions	**Give composition and functions of gastric juice. Correlate chronic use of NSAIDs with development of peptic ulcer**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Pancreatic juice, bile and succus entericus	**Give composition and functions of pancreatic juice, bile and succus entericus**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
Digestion & Absorption	**Describe the mechanism of digestion and absorption of dietary carbohydrates**	**LGIS (LECTURE HALL 1)/SGD**	**C3**	**MCQS, OSPE, OSVE**
	Give cause, clinical features, diagnosis and management of lactose intolerance.		**C2**	
	Describe the mechanism of digestion and absorption of dietary proteins.		**C3**	
	Give the causes and clinical features of: • **Hartnup Disease** • **Cystinuria**		**C2**	
	Explain the process of digestion and absorption of dietary lipids.			

PHARMACOLOGY & THERAPEUTICS				
Topic	**Specific Learning Objectives**	**Teaching Strategy**	**Levels C/P/A**	**Assessment**

APD	**Classify the drugs used for the treatment of Acid-Peptic Disease (APD).**	**LGIS (LECTURE HALL 1)/SGD**	**C2**	**MCQS, OSPE, OSVE**
	Explain their mechanism of action, uses and adverse effects.		**C3**	
	Correlate chronic use of NSAIDS with development of peptic ulcer.		**C3**	
	Write down Tripple and Quadruple regimen for APD.		**C2**	
Antiemetics & Prokinetics	**Classify antiemetics.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Describe the mechanism of action, clinical uses, and adverse effects of metoclopramide.		**C3**	
	Compare metoclopramide and Domperidone . Name the drugs used in the prevention of chemotherapy- or radiation-induced emesis.		**C2**	
	List prokinetic agents.		**C2**	
Laxatives & Antidiarrheals	**Classify Laxatives.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Classify antidiarrheals.		**C2**	

GENERAL PATHOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
GERD	**Define heartburn and describe its pathophysiology as a symptom of gastroesophageal reflux disease (GERD).**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Enumerate the etiology and clinical features of GERD and peptic ulcer disease.		**C2**	
Peptic ulcer	**Define peptic ulcer disease (PUD) and**	**LGIS**	**C2**	**MCQS,**

	distinguish between gastric and duodenal ulcers. **Discuss H. Pylori as Peptic Ulcer Disease causing organism, its epidemiology, virulence factors, pathogenesis, lab diagnosis & prevention.**	**(LECTURE HALL 1)/SGD**		**OSPE, OSVE**
	Enlist causes of PUD **Explain the pathogenesis of PUD**		**C2**	
IBD	**Discuss the pathophysiology of irritable bowel syndrome**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
MICROBIOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Oral Lesions	**Enlist different organisms causing oral lesions.**	**LGIS (LECTURE HALL 1)**	**C1**	**MCQS, OSPE, OSVE**
	Briefly discuss HPV, EBV, as disease causing organisms, their epidemiology, virulence factors, pathogenesis, lab diagnosis & prevention.		**C3**	
Diarrhea causing organisms	**Define terms as: constipation, Acute Diarrhea &** **Chronic Diarrhea, Vomiting and Dysentry**	**LGIS (LECTURE HALL 1)**	**C1**	**MCQS, OSPE, OSVE**
	Enlist different Diarrhea causing organisms.		**C1**	
	Briefly discuss E. coli with its epidemiology, virulence factors, pathogenesis, lab diagnosis & prevention.		**C3**	
	Briefly discuss Salmonella as diarrhea and typhoid causing organism, its epidemiology, virulence factors,		**C3**	

	pathogenesis, lab diagnosis & prevention.			
ORAL PATHOLOGY				
Topic	**Specific Learning Objectives**	**Teaching Strategy**	**Levels C/P/A**	**Assessment**
Abnormalities of Salivary Secretions	**Discuss clinical abnormalities of Salivary secretions.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Give etiology and clinical features of xerostomia.		**C1**	
Aphthous Ulcers	**Define and enlist the types of aphthous ulcers (minor, major, herpetiform). Enlist their distinguishing features.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Discuss the potential etiological factors, including stress, trauma, and nutritional deficiencies.		**C3**	

COMMUNITY DENTISTRY & PUBLIC HEALTH				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Epidemiology of Obesity & Related issues	**Define obesity, classify obesity**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
	Outline the epidemiology of obesity and related issues in respect of oral health.	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Understand hazards, prevention and control of obesity	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**

PRACTICALS				
MICROSCOPIC ANATOMY				
Topic	**Specific Learning Objectives**	**Teaching**	**Levels**	**Assessment**

		strategy	C/P/A	
Microscopic structure of a Lip.	**Identify under light microscope and draw and label the light microscopic structure of lip.**	**Practical Lab**	**C2/P**	**OSPE**
Microscopic structure of Tongue.	**Identify under light microscope and draw and label the light microscopic structure of tongue.**	**Practical Lab**	**C2/P**	**OSPE**
PHARMACOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Preparation of Carminative Mixtures	**Demonstrate the preparation and dispensing of three doses of Carminative mixture under supervision.**	**Practical Lab**	**C3/P**	**OSPE**
Preparation of Oral Rehydration Solution	**Demonstrate the preparation and dispensing of four doses of ORS solution under supervision.**	**Practical Lab**	**C3/P**	**OSPE**
Preparation of IV Solutions	**Demonstrate the preparation of Normal Saline or Dextrose Water solution under supervision.**	**Practical Lab**	**C3/P**	**OSPE**

PHYSIOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Cranial Nerve V (Trigeminal) Examination	**Demonstrate the examination of the sensory and motor parts of the Trigeminal nerve under supervision.**	**Practical Lab**	**C2/P**	**OSPE**
Cranial Nerve IX (Glossopharyngeal) Examination	**Demonstrate the examination of the sensory and motor parts of the Glossopharyngeal nerve under supervision.**	**Practical Lab**	**C2/P**	**OSPE**
Cranial Nerve X (Vagus)	**Demonstrate the examination of the sensory and motor parts of the Vagus**	**Practical Lab**	**C2/P**	**OSPE**

Examination	**nerve under supervision.**			
Cranial Nerve XII (Hypoglossal) Examination	**Demonstrate the examination of the sensory and motor parts of the Hypoglossal nerve under supervision.**	**Practical Lab**	**C2/P**	**OSPE**
ORAL HISTOLOGY & ORAL PHYSIOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Oral Epithelium and Specialized Mucosa	**Draw and label the keratinized and non-keratinized oral epithelium, specialized mucosa including tongue papillae and mucocutaneous junction.**	**Practical Lab**	**C2/P**	**OSPE**
Taste Bud Structure and Tongue Sensory Map	**Draw and label the histological structure of the taste bud, and mention the specificity of the tongue for different taste sensations.**	**Practical Lab**	**C2/P**	**OSPE**
Tongue Papillae and Taste Bud Identification	**Identify in images or slides the histological section of the tongue showing different tongue papillae and the location of taste buds.**	**Practical Lab**	**C1/P**	**OSPE**
Salivary Gland Histology	**Draw and label the histological section of major salivary glands, showing serous and mucous acini, serous demilunes, and cells of intercalated, striated, and excretory ducts.**	**Practical Lab**	**C3/P**	**OSPE**
Swallowing Mechanism Stages	**Identify the correct stage of swallowing on provided images or models.**	**Practical Lab**	**C2/P**	**OSPE**

Occlusion-I

Specific Learning Objectives:

THEORY				
ORAL BIOLOGY & TOOTH MORPHOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Occlusion	**Describe the basic concepts of occlusion and its importance and relevance in dentistry.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
Deciduous & Permanent incisors.	**Describe the crown morphology of deciduous & permanent incisors.**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, SEQS, OSPE, OSVE**
	Describe the key identification points of deciduous & permanent incisors	**LGIS (LECTURE HALL 1)**	**C2**	
	Describe the normal root and pulpal morphology of maxillary and mandibular incisors	**LGIS (LECTURE HALL 1)**	**C3**	
	Identify and classify common structural anomalies of incisors	**LGIS (LECTURE HALL 1)**	**C2**	
	Interpret periapical radiographs of incisors, recognizing normal anatomy and common anomalies.	**LGIS (LECTURE HALL 1)**	**C2**	
Deciduous & Permanent Canines	**Describe the crown morphology of deciduous & permanent canines**	**LGIS (LECTURE HALL 1)**	**C3**	**MCQS, OSPE, OSVE**
	Describe the normal root and pulpal morphology of maxillary and mandibular canines	**LGIS (LECTURE HALL 1)**	**C3**	
	Describe the key identification points of deciduous & permanent canines	**LGIS (LECTURE HALL 1)**	**C2**	

	Identify and classify common structural anomalies of canines	**LGIS (LECTURE HALL 1)**	**C2**	
	Interpret periapical radiographs of canines, recognizing normal anatomy and common anomalies.	**LGIS (LECTURE HALL 1)**	**C2**	
	Define and differentiate between overjet and overbite, and explain their clinical significance.	**LGIS (LECTURE HALL 1)**	**C2**	
Forensic Odontology	**Define forensic odontology and explain the significance of forensic odontology in dental identification and legal investigations.**	**LGIS (LECTURE HALL 1)**	**C2**	**MCQS, OSPE, OSVE**
PRACTICALS				
ORAL BIOLOGY & TOOTH MORPHOLOGY				
Topic	**Specific Learning Objectives**	**Teaching strategy**	**Levels C/P/A**	**Assessment**
Deciduous & Permanent incisors.	**Draw the outlines of all deciduous & permanent incisors: labial, lingual, mesial, distal & incisal aspects**	**Practical Lab**	**C2/P**	**OSPE**
	Label each aspect pointing their morphological features (Incisal corners, marginal ridges, fossa, cingulum, pit, developmental depressions, imbrication lines & contact points)		**C2/P**	
	Carve anatomically accurate models of incisors from soap blocks.		**C3/P**	
	Identification on models (Permanent Incisors)		**C2/P**	
Deciduous &	**Draw the outlines of all deciduous**		**C2/P**	**OSPE**

Permanent Canines	**& permanent canines: labial, lingual, mesial, distal & incisal aspects**			
	Label each aspect pointing their morphological features (Incisal slopes, labial/lingual ridges, marginal ridges, fossa, cingulum, developmental depressions, imbrication lines & contact points)	**Practical Lab**	**C2/P**	
	Identification on models (Permanent Canines)		**C2/P**	
	Carve anatomically accurate models of canines from soap blocks.		**C3/P**	
	Describe the principles and purpose of preparing ground sections of teeth.		**C2/P**	
	Prepare a ground section of a tooth with appropriate thickness for microscopic examination.		**C3/P**	
	Recognize key structural details of enamel, dentin, and cementum in the sectioned sample.		**C3/P**	

CFR-C

Sr. No.	CFR-C	Teaching Strategy	Levels C/P/A	Assessment
1.	Interpret Bleeding Time	SGD (Skills Lab)	C3/P	OSPE/OSCE
2.	Interpret Clotting Time	SGD (Skills Lab)	C3/P	OSPE/OSCE
3.	Blood Pressure Measurement Technique	SGD (Skills Lab)	C3/P	OSPE/OSCE
4.	Pulse Examination Awareness	SGD (Skills Lab)	C3/P	OSPE/OSCE
5.	Jaw Jerk Reflex	SGD (Skills Lab)	C1/P	OSPE/OSCE

ASSESSMENT POLICY

<table>
<tr><th colspan="9">BLOCK-III</th></tr>
<tr><th>Sr. No.</th><th colspan="3">Theory</th><th colspan="4">Practical</th><th>Total</th></tr>
<tr><td>1-</td><td>Blood & CVS-I</td><td>54 MCQs</td><td rowspan="3">120 Marks</td><td rowspan="3">Practical Clinical Examination</td><td>07 OSPE (9Marks each)</td><td>07 Stations *9= 63 Marks</td><td rowspan="3">120 Marks</td><td rowspan="3">300 Marks</td></tr>
<tr><td>2-</td><td>GIT</td><td>42 MCQs</td><td>01 OSCE-CFR-C (9 Marks each)</td><td>01 Station *9= 09 Marks</td></tr>
<tr><td>3-</td><td>Occlusion-I</td><td>24 MCQs</td><td>08 OSVE (9 Marks each)</td><td>08 Station *6= 48 Marks</td></tr>
<tr><td colspan="3">Internal Assessment 10%</td><td colspan="5">Internal Assessment 10%</td></tr>
<tr><td colspan="3">Islamic Studies/Civics</td><td colspan="4">3 LEQs of 20 Marks each</td><td>60 Marks</td><td>100 Marks</td></tr>
<tr><td colspan="3">Pakistan Studies</td><td colspan="4">2 LEQs of 20 Marks each</td><td>40 Marks</td><td></td></tr>
</table>

BLOCK EXAM TOTAL = 300 MARKS			
Theory Exam	**120 Marks**	**Practical/Clinical Exam**	**120 Marks**
Internal Assessment 10%	**30 Marks**	**Internal Assessment 10%**	**30 Marks**
Theory Exam = Internal Assessment	**150 Marks**	**Practical/Clinical Exam + Internal Assessment**	**150 Marks**

INTERNAL ASSESSMENT

It shall constitute 20% of the total assessment at the end of the academic year

	SCORING PARAMETER	WEIGHTAGE (PERCENTAGE)
Theory 10%	Attendance	75% attendance -1% >85% attendance -2%
	Block exam	5%
	Continuous assessment	3%
Practical 10%	Attendance	75% attendance -1% >85% attendance -2%
	Block Exam	5%
	Portfolio-Clinical Logbooks (CFRC,PRISME)	3%

Time Tables:

The timetables for the module will be shared via WhatsApp groups and the notice boards in advance.

ASSESSMENT TOOLS

In order to ensure transparency, validity, and reliability in student assessment, it is hereby notified that the following assessment tools shall be used as integral components of the BDS Assessment Program.

These assessment tools have been selected in accordance with the examination and assessment framework prescribed by University of Health Sciences Lahore

The following tools shall be employed for both **formative and summative assessments** of BDS students:

1. **Multiple Choice Questions (MCQs)** – to assess cognitive knowledge, clinical reasoning, and application of concepts.
2. **Short Answer Questions (SAQs)** – to evaluate analytical thinking, interpretation, and written expression of knowledge.
3. **Objective Structured Practical Examination (OSPE)** – to assess laboratory and practical competencies in basic and pre-clinical sciences.
4. **Objective Structured Clinical Examination (OSCE)** – to evaluate clinical skills, communication skills, professionalism, and patient-centered competencies.
5. **Objective Structured Viva Examination (OSVE)** – to assess conceptual understanding, clinical reasoning, and professional judgment through structured viva stations.

All HODs are directed to incorporate the above-mentioned tools in their internal assessments, send-up examinations, and professional examination preparation processes.

LEARNING RESOURCES FOR STUDENTS

ANATOMY

- Color Atlas of Anatomy by Mc Minn
- Clinically Oriented Development Anatomy by K. L. Moore
- Anatomy for Dental Students by D. R. Johnson & K. L. Moore
- Clinical Neuroanatomy by R. Snell
- High Yeild Neuroanatomy by James D Fix
- Last's Anatomy by R.M.H. McMinn
- Cunningham's Manual of Practical Anatomy
- Gray's Text Book of Anatomy
- Text Book of Anatomy by Hamilton
- Langman's Medical Embryology by Thomas W. Sadler

HISTOLOGY

- Colour Textbook of Histology (2nd Ed) 2001. Gartner & Hiatt. Published by Saunders. ISBN 0721688063
- Basic Histology (10th Ed) Junqueira, Carneiro Contopoulos. Published by Appleton & Lange. ISBN 0838503764
- Essential Histology (1993 Ed. Rev.) Published by Lippincott. ISBN 0397510624
- Wheater Functional Histology Text & Colour Atlas (4th Ed) 2000. Wheater, Burkitt, Young & Heath. Published by Churchill Livingstone. ISBN 0443056129
- Atlas of Functional Histology 1999 Kerr. Published by Mosby ISBN 0723430721
- Human Histology (2nd Ed) 1996 Stevens & Lowe. Published by Mosby. ISBN 0723424853

PHYSIOLOGY

- Textbook of Medical Physiology (10th Ed) Sept.2000 Guyton. Published by Saunders. ISBN 072168677X.
- Review of Medical Physiology (20th Ed) 2001 Ganong. Published by Appleton & Lange. ISBN 0838582826
- Physiology (2nd Revised Ed) 1998 Linda S Costanzo. Published by W B Sanders, ISBN 0721666116
- Lecture Notes on Human Physiology (4th Ed) Bray JJ, Cragg, PA, MacKnight ADC, Mills RG & Taylor D W. Published by Blackwell, ISBN 0865427755.
- Human Physiology (8th Ed) 1998. Vander, Sherman & Luciano. Published by McGraw Hill. ISBN 0071182543

- Principles of Physiology (3rd Ed)2000 Berne RM & Levy MW. Published by Mosby (HBJ). ISBN 0-323-00813-5
- Physiology (4th Ed) 1998. Berne R M & Levy M W. Published by Mosby (HBJ). ISBN 0815109520.
- Guyton and Hall - Physiology Review (MCQ Book)

BIOCHEMISTRY

- Lippincots illustrated Reviews, Biochemistry
- Basic and Applied Dental Biochemistry by Williams & Elliott Harper's Biochemistry
- Berg, Tymoczko & Stryer, 5th edition (2002). Biochemistry
- Essentials of Medical Biochemistry Vol 1,2 by Mushtaq Ahmed

ORAL BIOLOGY & TOOTH MORPHOLOGY

- Oral Histology Development, Structure & Function by Richard Ten Cate
- Orban's Oral Histology & Embryology by Orban
- Tooth Morphology by Fuller
- Wheeler's Atlas of Tooth Form by Wheeler
- Oral Physiology by Levalle

PATHOLOGY & MICROBIOLOGY

- Robbins & Cotran Pathologic Basis of Disease
- Review of Medical Microbiology and Immunology by Levinson
- Textbook of Pathology by Walter & Israel

COMMUNITY & PREVENTIVE DENTISTRY

- Textbook of Preventive and Community Dentistry by S.S. Hiremath
- Community Oral Health by Cynthia Pine & Rebecca Harris