STUDY GUIDE INTEGRATED 2026

1ST YEAR BDS

BLOCK I

LAHORE
MEDICAL & DENTAL
COLLEGE

TABLE OF CONTENTS

STUDY GUID INTRODUCTION

What is a **study guide**?

The study guide is an important academic tool that aids students for different educational activities they are engaged in. It provides pertinent details on the module's structure, assisting students in planning their academic activities accordingly. Another purpose of study guide is to guide students about different rules and regulations as well as teaching and assessment techniques.

Purpose of study guide:

· Conveys details about the organization and management of the module.

· Helps the learners about departmental representatives who can be contacted in case of difficulty.

· Define the learning objectives that should be accomplished by the end of the module.

· Identifies learning methodologies such as lectures, small group discussion, practical that will be implemented during the module.

· Provide a list of learning resource to maximize their learning

· Includes information on the assessment methods and examination related rules and regulations

Time Allocation and Academic Framework

The First Professional BDS academic year consists of a minimum of 1,200 teaching hours, conducted in affiliated colleges. The curriculum is structured into three blocks, each further divided into modules with defined learning outcomes for each subject**.**

ANATOMY

THEORY			BOOKS General Anatomy by Laiq Hussain 7th Edition
GENERAL ANATOMY			
CODE	**SPECIFIC LEARNING OUTCOMES**	**TOPIC**	
F1-A-001	Define the various branches of Anatomy. Describe the anatomical position, anatomical planes of the body, and anatomical terms related to position, movement, and laterality.	Introduction to Human Anatomy: Definitions, Terminology, and Planes	Pg 4-10 Pg 11-30
F1-A-002	Classify bones based on region, size and shape providing examples of each from the head and neck Discuss the structural characteristics of compact and spongy bones Describe the structure of an adult long bone. Define ossification and rule of ossification. Describe the blood supply of various types of long bones	Osteology	Pg 34-40 Pg 32 Pg 45-54
F1-A-003	Describe the structural classification of Joints (fibrous, cartilaginous and synovial) along with their sub-classifications with examples of each Enlist the general characteristics of synovial joints Enlist the factors stabilizing a synovial joint Describe Hilton's Law	Joints	Pg 57-75
F1-A-004	Discuss and differentiate the gross features of hyaline, elastic and Fibrocartilage.	Cartilage	Pg 55-56
HISTOLOGY			**Medical Histo. by Laaiq Hussain 9th Edition**
CODE	**SPECIFIC LEARNING OUTCOMES**	**TOPIC**	
F1-A-005	List the membranous and non-membranous organelles of the cell, describe their structure, and correlate each with its function	Cell	Pg 7-33

	Describe the structure of different types of cell junctions		
F1-A-006	Classify and exemplify the epithelia with their histological structure, locations, and functions	Epithelia	Pg 35-45
	Describe apical specializations of epithelia (microvilli, stereocilia and cilia) and the basement membrane.		
	Classify and exemplify the exocrine glands on the basis of the shape of secretory portions and ducts, mode of s		Pg 47-50
F1-A-007	List the cells of connective tissue with their functions.	Connective Tissue	Pg 51-58
	Describe the composition of the ground substance and the types and structure of fibers in connective tissue.		
	Classify connective tissue and describe its functions and provide relevant examples.		

EMBRYOLOGY			**Langman's Med. Embryo. 15th Edition**
CODE	**SPECIFIC LEARNING OUTCOMES**	**TOPIC**	
F1-A-008	Briefly describe mitosis and meiosis.	Cell Division and Gametogenesis	Pg 15-18
	Describe oogenesis, spermatogenesis, spermiogenesis, and embryological basis of teratoma.		Pg 26-34
F1-A-009	Define fertilization, phases of fertilization, capacitation and acrosomal reaction.	Fertilization and Early Development	Pg 38-50
	Explain outcomes of fertilization.		
	Describe cleavage, morula, blastocyst formation, and implantation.		
F1-A-010	Describe embryonic disc, amniotic cavity, yolk sac, and gastrulation.	Formation of the Embryonic Disc and Germ Layers	Pg 51 -97
	Explain gastrulation and derivatives of the three germ layers.		
	Explain derivatives of ectoderm, mesoderm, and endoderm.		

PRACTICALS / LAB WORK			Medical Histo. by Laaiq Hussain 9th Edition
HISTOLOGY			
CODE	**SPECIFIC LEARNING OUTCOMES**	**TOPIC**	
F1-A-011	Draw and label light microscopic diagram of epithelia	Epithelium	Pg 35-45
F1-A-012	Draw and label light microscopic diagram of different types of Connective Tissue	Connective Tissue	Pg 51-58

Module 2

THEORY			Snells Clinical Anatomy by Regions 12th Ed. (2026-27)
GROSS ANATOMY			
CODE	**SPECIFIC LEARNING OUTCOMES**	**TOPIC**	
CF1-A-001	Describe the gross anatomy of the skull, its features, foramina, and applied aspects relevant to head and neck anatomy.	Skull	Pg 620-632
	Describe the features and structures of different views of skull (Anterior, Posterior, Superior, Inferior, Lateral)		
	Discuss the sutures and fontanelles of skull, their age changes and clinical significance.		
CF1-A-002	Describe the bony features of mandible.	Mandible	Pg 634-635
CF1-A-003	Enlist names of the cranial nerves.	Cranial Nerves	Pg 669
EMBRYOLOGY			**Langmanns**

CODE	SPECIFIC LEARNING OUTCOMES	TOPIC	Med. Embryo. 15th Edition
CF1-A-004	Describe neurulation, formation of the neural tube, and migration of neural crest cells.	Neurulation and Early Organogenes is	Pg 74-86
	Enlist derivatives of neural crest cells.		
	Describe development of the head and neck region, including contributions of pharyngeal arches, pouches, and cranial nerves.		
	Explain development of the skull and r craniosynostosis correlation), and vasculogenesis (basic).		
CF1-A-005	Discuss growth and differentiation of the embryonic disc, trophoblast development and anomalies (situs inversus, sirenomelia, holoprosencephaly).	Advanced Development and Anomalies	Pg 54-58
	Describe the embryological basis of hydatidiform mole and its pathological significance.		
	Describe common chromosomal anomalies related to early embryonic development.		

HISTOLOGY			Medical Histo. by Laaiq Hussain 9th Edition
CODE	**SPECIFIC LEARNING OUTCOMES**	**TOPIC**	
CF1-A-006	Describe the microscopic and ultramicroscopic structure of all types of cartilages	Cartilages	Pg 63-69
	Draw and label light microscopic diagram of different types of cartilages		
CF1-A-007	List the bone cells and their origin along with their functions	Bones	Pg 69-79
	Describe the composition of bone matrix (organic, inorganic)		
	Describe the histology of compact and spongy bone		
CF1-A-008	Describe the microscopic structure and ultramicroscopic structure of skeletal, cardiac, and smooth muscles	Muscles	Pg 91-101
CF1-A-009	Describe the layers and microscopic structure of the epidermis and dermis of the skin.	Skin	Pg 151-163
PRACTICALS / LAB WORK			**Snells Clinical Anatomy by Regions 12th Ed. (2026-27)**
GROSS ANATOMY			
CODE	**SPECIFIC LEARNING OUTCOMES**	**TOPIC**	
CF1-A-010	Demonstrate the ability to accurately orient a dry human skull in normal verticals, occipitalis, frontalis, lateralis, and basalis views; and identify key anatomical and surface landmarks, sutures, and foramina with their content relevant to each view	Skull	Pg 620-632
	Identify and describe the anatomical features, boundaries, and foramina of the anterior, middle, and posterior cranial fossae, including the grooves of the dural venous sinuses		
	Identify and enlist all the foramina of the skull along with their neurovascular contents		

CF1-A-011	Identify and locate the major anatomical landmarks, foramina (with their contents), and surface features of the mandible; articulate it the skull	Mandible	Pg 634-635
HISTOLOGY			**Medical Histo. by Laaiq Hussain 9th Edition**
CODE	**SPECIFIC LEARNING OUTCOMES**	**TOPIC**	
CF1-A-012	Draw and label light microscopic diagram of compact and spongy bones	Bones	Pg 69-79
CF1-A-013	Draw and label light microscopic diagram of cartilage	Cartilage	Pg 63-69
CF1-A-014	Draw and label light microscopic diagram of muscle	Muscle	Pg 91-101
CF1-A-015	Draw and label light microscopic diagram of thick and thin skin	Skin	Pg 151-163

BIOCHEMISTRY

CODE	SPECIFIC LEARNING OUTCOMES	RESOURCES
F1-B-001	Define & classify carbohydrates	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 7 Introduction to carbohydrates Page. No: 92 to 94 • Handouts
	Draw the straight chain & pyranose form of D-glucose.	
	Define and quote suitable examples of the followings: • Aldo-keto isomers • D & L isomers (Enantiomers) • Epimers • Alpha & beta Anomers	
	Define and quote suitable examples of: • Reducing sugars • Non-reducing sugars	
	Give sources, structure & importance of glucose, galactose, fructose & ribose.	Harper's Illustrated Biochemistry (31st edition) Chapter No: 15 Carbohydrates of physiologic significance Page No. 144 • Handouts
	Give normal fasting blood sugar level. Enumerate types of Diabetes mellitus & give cause of hyperglycemia in each type.	Lippincott Illustrated
	Describe the formation, hydrolysis, naming & types of glycosidic bond (N & O-glycosidic bonds). Give importance of glycosidic bond.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 7 Introduction to carbohydrates Page. No: 94, 95 • Handouts
	Enumerate sources, linkages & building blocks of maltose, iso maltose, lactose, lactulose & sucrose. Give importance of maltose, iso-maltose, lactose, lactulose & sucrose.	Harper's Illustrated Biochemistry (31st edition) Chapter No: 15 Carbohydrates of physiologic significance Page No. 146. • Handouts

	Give significance of oligosaccharides in cell membrane.	Harper's Illustrated Biochemistry (31st edition) Chapter No: 15 Carbohydrates of physiologic significance Page No. 145-147. • Handouts
	Give sources, structure & importance of dextrins & dextrans. Enlist sources of starch. Elaborate the structure of starch. Give importance of starch in human diet.	
	Elaborate the structure of glycogen.	
	Give importance of glycogen in human body.	
	Give structure & sources of cellulose.	
	Appraise the role of dietary fiber in health & disease.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 27 Nutrition: Overview & macronutrients Page. No: 410, 411 • Handouts
	Elaborate the structure & enlist the functions of Glycosaminoglycans (GAGs).	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 14 Glycosaminoglycans, proteoglycans & glycoproteins Page. No: 173-176
	Define glycemic index. Evaluate the effect of various dietary carbohydrates on blood sugar level (BSL) & appraise their clinical significance.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 27 Nutrition: Overview & macronutrients Page. No: 410, 411 • Handouts
F1-B-002	Define lipids & give their classification along with biological importance of main classes.	Harper's Illustrated Biochemistry (31st edition). Chapter No: 21 Lipids of physiologic

		significance Page. No: 195 to 197 • Handouts
F1-B-003	Define vitamins & classify vitamins according to their solubility.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 28 Micronutrients: Vitamins Page. No: 423 • Handouts
F1-B-004	Describe the biochemical structures of cell membranes. Explain biochemical compartmentalization.	Harper's Illustrated Biochemistry (31st edition). Chapter No: 40 Membranes: structure & function Page. No: 459-466 • Handouts
F1-B-005	Describe receptors & signal transduction pathways (Gs, Gq).	Harper's Illustrated Biochemistry (31st edition). Chapter No: 42 Hormone action & signal transduction Page. No: 502-508 • Handouts

MODULE 2 (CRANIOFACIAL-I)- 4 WEEKS

CODE	SPECIFIC LEARNING OUTCOMES	RESOURCES
CF1-B-001	Differentiate between anabolism & catabolism, & list the metabolic pathways associated with each process.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 8 Introduction to metabolism & glycolysis Page. No: 100-102
CF1-B-002	Explain metabolism: glycolysis & TCA cycle (steps, regulation, energetics).	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 8 Introduction to metabolism & glycolysis Page. No: 107-115 Chapter No: 9 TCA & pyruvate dehydrogenase complex Page. No: 123-125
	Differentiate aerobic & anaerobic glycolysis.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 8 Introduction to metabolism & glycolysis Page. No: 107-115
	Describe the transport systems for glucose entry into cells, including sodium- & ATP-independent (GLUTs) and sodium- & ATP dependent cotransport.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 8 Introduction to metabolism & glycolysis Page. No: 105-107
CF1-B-003	Define amino acids & classify standard amino acids according to side chain & nutritional importance.	Harper's Illustrated Biochemistry (31st edition). Chapter No: 3 Amino acids & peptides Page. No: 14-17 Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 20 Amino acids: Degradation & synthesis Page. No: 290-291 • Handouts

CF1-B-004	Explain the levels of protein organization (primary, secondary, tertiary, & quaternary structures) & their relevance to protein function. Define conjugated proteins & provide suitable examples of conjugated proteins in the human body (lipoproteins, glycoproteins, nucleoproteins, chromoproteins, & metalloproteins).	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 2 Protein structure Page. No: 14-21 • Handouts
	Elaborate the role of chaperones in protein folding.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 2 Protein structure Page. No: 21
	Differentiate between denaturation & coagulation.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 2 Protein structure Page. No: 20 • Handouts
	Define limiting amino acids & provide suitable examples of limiting amino acids.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 27 Nutrition: overview & macronutrients Page. No: 411-414 • Handouts
	Understand the nutritional importance of proteins & correlate this information to protein energy malnutrition.	
	Compare and contrast the salient features of kwashiorkor & marasmus.	
CF1-B-005	Explain enzyme structure, classification with examples, properties, mechanisms of action, kinetics, regulation, & inhibitors.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 5 Enzymes Page. No: 57-72
	Add diagnostic & therapeutic roles of enzymes (ALT, AST, CK-MB, ALP, LDH).	
CF1-B-006	Describe vitamins (B1, B2, B3, B5, B7), their active forms, sources, RDA, biochemical roles, & deficiency manifestations.	Lippincott Illustrated Reviews Biochemistry (8th edition). Chapter No: 28 Micronutrients: vitamins Page. No: 429-432 • Handouts

MODULE 3 (CARIOLOGY-I) 2 WEEKS

CODE	SPECIFIC LEARNING OUTCOMES	RESOURCES
Car1-B-001	Explain cariogenic potential of carbohydrates.	CAWSON'S essentials of oral pathology and oral medicine (9^{th} edition) Chapter 4 Page:59
Car1-B-002	Explain biochemical mechanism of fluoride in disrupting bacterial glycolysis & acid production.	Lippincott Illustrated Reviews Biochemistry (8^{th} edition). Chapter No: 29 Micronutrients: Minerals Page. No: 452 Chapter No: 8 Introduction to metabolism & glycolysis Page. No: 112

PHYSIOLOGY

CODE	SPECIFIC LEARNING OUTCOMES	TOPIC	REFERENCE	CHAPTER PAGE NUMBER
F1-P-001	Define homeostasis and explain its importance in maintaining the internal environment.	Homeostasis: Control of Internal Environment	Guyton and Hall 15^{th} Edition	Chapter 1 Page: 4-7
	Differentiate between extracellular and intracellular Fluids (with special emphasis on comparing the concentration of sodium, potassium, and calcium ions)			Chapter 1 Page: 3-4
F1-P-002	Explain the principles of positive, negative, and feed-forward control	Control Systems of the	Guyton and Hall 15^{th}	Chapter 1

	mechanisms with examples.	Body	Edition	Page: 8-10
F1-P-003	Describe the functions of cell organelles, including nucleus, endoplasmic reticulum, Golgi apparatus, lysosomes, peroxisomes, mitochondria, and ribosomes.	Cell and its Organelles and their Functions	Guyton and Hall 15th Edition	Chapter 2 Page: 16-21
	Differentiate between the functions of smooth and rough endoplasmic reticulum			Chapter 2 Page: 23
F1-P-004	Enumerate the components and functions of the cytoskeleton	Cell Structure and Membrane Organization	Guyton and Hall 15th Edition	Chapter 2 Page: 19-20
	Describe the structure of the cell membrane and fluid mosaic model.			Chapter 2 Page: 14-16
F1-P-005	Explain the mechanisms of endocytosis and exocytosis, including pinocytosis and phagocytosis.	Functional Systems of Cell	Guyton and Hall 15th Edition	Chapter 2 Page: 21-22
F1-P-006	Describe the mechanisms of simple diffusion, facilitated diffusion, osmosis, and active transport, and ion channels	Transport of Substances through Cell Membrane	Guyton and Hall 15th Edition	Chapter 4 Page:51-62
	Compare features of simple and facilitated diffusion with examples			
	Describe primary and secondary active transport with examples			
F1-P-007	Enlist the composition of blood, its cellular elements, and plasma. (Expanded with hematocrit, PCV, plasma proteins).	Composition and Properties of Blood	Lecture slides	
F1-P-008	Explain the structure, morphology, and lifespan of red blood cells, including factors affecting RBC	Red Blood Cells	Guyton and Hall 15th Edition	Chapter 33 Page:447-453

	production and destruction.			
F1-P-009	Classify anemia; describe mechanisms of iron deficiency anemia, hemolytic anemia, and megaloblastic anemia at a basic level. Define sickle cell anemia Discuss the effects of anemia on circulation Define and enlist types of polycythemias Discuss the effects of polycythemias on circulation	Anemias and Polycythemias	Guyton and Hall 15th Edition	Chapter 33 Page:445-455
F1-P-010	Explain erythropoiesis and regulation by erythropoietin. Enumerate and elaborate role of factors/nutrients that are required and regulate erythropoiesis	Erythropoiesis and Its Regulation		Chapter 33 Page:449-451
F1-P-011	Define blood indices mentioned as: MCV (mean corpuscular volume), MCH (mean corpuscular hemoglobin), and MCHC (mean corpuscular hemoglobin concentration). Give their normal values & enumerate the conditions in which these values are disturbed	Blood Indices and Diagnostic Interpretation	Lecture slides	

ORAL BIOLOGY

Foundation-1 Module 1 (5 weeks)

Code	Learning objectives	Topic	Book and Page no.
F1-OB-001	Describe the oral tissues, including oral mucosa, salivary glands, bones of the jaws, temporomandibular joint, enamel, dentin, cementum, and periodontal ligament.	Structure of Oral Tissues (A Brief Introduction)	Ten Cate 9th Edition Chapter 1 page 1- 6
F1-OB-002	Describe the structure, types, and functions of the cytoskeleton, including microfilaments, intermediate filaments, and microtubules, within oral tissues.	Cytoskeleton	Ten Cate 9th Edition Chapter 4 Page 42
F1-OB-003	Describe intercellular junctions, including tight junctions, adherens junctions, desmosomes, gap junctions, and the role of desmosomes and hemidesmosomes in oral epithelium.	Cell Junctions	Ten Cate 9th Edition Chapter 4 Page 42-46
F1-OB-004	Describe the structure, secretory functions, and role of fibroblasts in the maintenance of the extracellular matrix in oral tissues Describe collagen synthesis and assembly briefly, highlighting its importance in oral connective tissue.	Fibroblast	Ten Cate 9th Edition Chapter 4 Page 46-50 Ten Cate 9th Edition Chapter 4 Page 54
F1-OB-005	Name the three major functions of the human dentition Describe various ways of classifying human dentition. Define the three dentition periods (deciduous, mixed, permanent). Identify each period's approximate time	Introduction and Nomenclature of dentition	Concise Dental Anatomy and morphology by Fuller, 5th Edition, Unit 1, Page 3-11

	intervals, initiation, and termination events. Differentiate primary vs permanent dentition, including timing. Describe the dental Formula for permanent and Deciduous dentition Define "Succedaneous" and identify Succedaneous teeth Describe the eruption pattern of primary and permanent dentition Demonstrate understanding of various dental numbering systems (e.g., universal, FDI, Palmer).		
Practical's			
F1-OB-006	Identify, draw, and label structures of the tooth on models.	Structure of Tooth	Ten Cate 9th Edition Chapter, page 2, Fig 1.2
F1-OB-007	Draw & label the diagram of cytoskeletal elements.	Cytoskeleton	Ten Cate 9th Edition Chapter 4 Fig 4.2 A, 4.3 A, 4.4
F1-OB-008	Draw & label the diagram of tight junctions, desmosomes, hemidesmosomes, and gap junctions.	Junctions	Ten Cate 9th Edition Chapter 4, Fig 4.6 A, B, C, 4.8 B, 4.9 C, E

Craniofacial-1 Module 2 (4 weeks)

Code	Learning objectives	Topic	Book and Page no.
CF1-OB-001	Describe the primary epithelial band and explain its role in the initiation of tooth development. Explain the mechanisms involved in initiation of tooth Describe the process of regionalization of the oral epithelium and its significance in tooth development. Explain the instructive signals for patterning and odontogenic potential	Early Tooth Development	Ten Cate 9th Edition Chapter 5, pg. no. 68-77
CF1-OB-002	Explain the hard tissue formation through histodifferentiation Explain nerve and vascular contributions to tooth development during early developmental stages. Describe root development, Hertwig's epithelial root sheath, and supporting tissues.	Tooth Development	Ten Cate 9th Edition Chapter 5, pg. no. 76-84
CF1-OB-003	Describe the embryonic development of the face, palate & tongue, contributions of key structures (lateral lingual swellings, tuberculum impar, and copula), muscle derivation, and sensory/motor innervation and Developmental Defects associated with it, like Ankyloglossia.	Formation of the Face, Palate and Tongue	Ten Cate 9th Edition Chapter 3, pg. no. 28-34
CF1-OB-004	Describe the role of Meckel's cartilage in mandibular development and the process of intramembranous ossification in forming the	Development of the Maxilla and Mandible	Ten Cate 9th Edition Chapter 3, pg. no. 35-39

	mandible and maxilla. Define jaw size anomalies and their embryological basis and clinical impact (Micrognathia and Macrognathia).		
CF1-OB-005	Describe basic developmental anomalies relevant to the craniofacial region (e.g., cleft palate, anomalies of tooth number and size).	Craniofacial anomalies	Concise Dental Anatomy and morphology By Fuller ,5Th Edition Unit 11 page 192 -194
Practical			
CF1-OB-006	Identify congenital defects (cleft lip/palate, tongue anomalies).	Development of Human embryo with special emphasis on tooth-related structures	Ten Cate 9th Edition Ch 3 Fig 3.33 and 3.34
CF1-OB-007	Draw and label stages of tooth development and root formation.	Tooth & Root Development	Ten Cate 9th Edition, Ch 5, Fig 5.11, 5.12, 5.13, 5.15, 5.19, 5.20, 5.27, 5.28

Cariology-1 Module 3 (2 weeks)

Code	Learning objectives	Topic	Book and Page no.
Car1-OB-001	Describe physical and chemical properties of enamel; explain their role in caries resistance and susceptibility. Describe structural organization of enamel; identify enamel on radiographs. Explain differentiation and life cycle of	Enamel	Ten Cate 9th Edition Chapter 7, pg. no. 118-152

	ameloblasts Describe amelogenesis stages (pre-secretory, secretory, maturation), Tom's process, and pH regulation. Describe enamel proteins; explain incremental lines, Hunter-Schreger bands, tufts, lamellae, spindles, and gnarled enamel. Explain fluoride effects, enamel etching, age changes and repair		
Car1-OB-002	Describe the anatomical surfaces and landmarks of both anterior and posterior teeth, including the roots, using standardized dental terminology. Identify and name tooth surfaces and thirds of tooth surfaces from diagrams or descriptions Differentiate between the crown surfaces of teeth by matching them with their correct general shape (triangular, trapezoidal, or rhomboidal), or by relating the shape to the specific function of the tooth. Identify and name line and point angles, embrasures and curves basedon diagrams or descriptions. Define elevations and depressions on the tooth surface. Describe lobes, contact points, embrasures, cervical line, pits, andfissures and relate to caries susceptibility. Describe the components, boundaries and functions of interproximalspace and embrasures.	Tooth Morphology	Concise Dental Anatomy and morphology By Fuller, 5Th Edition Unit 1, Page 7-20
Practical			

Car1-OB-003	Identify major morphological features of teeth — including the lobes, contact areas, embrasures, height of contour, and the cervical and gingival lines — using models and anatomical specimens. Locate pits, fissures, and different types of embrasures on teeth through direct inspection of specimens/ typodont models/clinical images.	Tooth Morphology and Structural Features	Concise Dental Anatomy and morphology By Fuller, 5Th Edition, Unit 1, Page 7-20
Car1-OB-004	Draw and label lifecycle of ameloblast Draw and label Secretory stage ameloblast Draw and label Maturation stage ameloblast Draw and label different histological/ organizational features of the enamel (enamel rods, striae of Retzius, Hunter-Schreger bands, gnarled enamel, DEJ, enamel tufts, lamellae, spindles, & neonatal lines.)	Enamel	Ten Cate 9th Edition Chapter 7, Fig 7.14, 7.27, 7.44, 7.49, 7.50, 7.53, 7.56, 7.58, 7.60,

GENERAL PATHOLOGY/ MICROBIOLOGY

Sr.#	Topic	Reading Material
F1-Pa-001	Define the terms: pathology, etiology & pathogenesis	Robbin's BASIC PATHOLOGY 10TH edition pg 1 and 31
F1-Pa-002	Define cell injury. Differentiate between reversible and irreversible cell injury. Discuss mechanism of cell injury.	Robbin's BASIC PATHOLOGY 10TH edition pg # 33 - 34 Pg# 41
F1-Pa-003	Define necrosis with examples. Classify; describe briefly morphological features of coagulative, liquefactive, caseous and fat necrosis. Give their pathway. Define apoptosis with examples; describe mechanism and morphological features. Give their pathway.	Robbin's BASIC PATHOLOGY 10TH edition pg # 35 – 36 pg # 37 – 40
F1-Pa -004	Identify necrosis.	Practical

MODULE 2 CRANIOFACIAL

Sr. #	Topic	Reference book
CF1-Pa-001	Define genetic disorders and their causes.	Robbin's BASIC PATHOLOGY 10TH edition CHP 7 Pg.# 244
CF1-Pa-002	Describe types of mutations (point, insertions, deletions)	Robbin's BASIC PATHOLOGY 10TH edition CHP 7 Pg # 247
CF1-Pa - 003	Explain Mendelian principals applied on Autosomal and X linked disorders.	Robbin's BASIC PATHOLOGY 10TH edition Pg # 246-258
CF1-Pa-004	Define genetic testing methods: PCR, Sequencing, karyotyping, biochemical tests, prenatal screening	WEB SOURCES

ORAL PATHOLOGY

Sr no.	Learning objectives	Reading materials
CF-OP-001	Discuss the clinical presentation of numerical and structural chromosomal abnormalities.	Contemporary Oral and Maxillofacial Pathology Chp.1 Developmental Disturbances of the Oral Region Page:37-41
Car 1-OP-001	Describe etiology and pathogenesis enamel hypoplasia. Explain Amelogenesis Imperfecta (Types, clinical and radiological features)	CONTEMPORARY ORAL AND MAXILLOFACIAL PATHOLOGY Chp 1 : Developmental Disturbances of the Oral Region Page:15-20
Car1-OP-002	Describe etiology and pathogenesis of dental caries	CAWSON'S ESSENTIALS OF ORAL PATHOLOGY AND ORAL MEDICINE . Chp 4

		Page:53-70
Car1-OP-002	Describe microbiological aspects of caries; the role and characteristic of cariogenic bacterias.	CAWSON'S ESSENTIALS OF ORAL PATHOLOGY AND ORAL MEDICINE Chp 4 Page:53-70
Car1-OP-002	Define Plaque and stages of Plaque development	CAWSON'S ESSENTIALS OF ORAL PATHOLOGY AND ORAL MEDICINE Chp 4 Page:53-70
Car1-OP-002	Describe the changes that develop in enamel and dentin of erupted teeth in association with microorganism	CAWSON'S ESSENTIALS OF ORAL PATHOLOGY AND ORAL MEDICINE Chp 4 Page:53-70
Car1-OP-002	Describe histopathological changes in enamel during dental caries with emphasis on microbial invasion	CAWSON'S ESSENTIALS OF ORAL PATHOLOGY AND ORAL MEDICINE Chp 4 Page:53-70

PHARMACOLOGY & THERAPEUTICS

CODE	SPECIFIC LEARNING OUTCOMES	TOPIC
F1-PH-001	Define pharmacology along with major branches and explain its scope, importance, and applications in dentistry and medicine.	General Pharmacology
	Describe sources of drugs and active principles.	
	Enumerate advantages and disadvantages of various routes of administration.	
F1-PH-002	Define Pharmacokinetics. Briefly explain Mechanisms of Drugs Transport/ Permeation Sources of Drugs/ Active Principles Drugs Enumerate advantages and disadvantages of various Routes of drug Administration	Pharmacokinetics & Drug Transport/ Permeation
F1-PH-003	Define drug absorption & Bioavailability and factors affecting them. Define and explain Distribution and Volume of Distribution Define and explain Redistribution and Plasma Protein Binding	Drug Absorption & Bioavailability
F1-PH-004	Explain the concept of Metabolism & Biotransformation Describe the clinical significance of enzyme induction and enzyme inhibition with their examples	Drug Metabolism & Bio transformation
F1-PH-005	Define drug excretion. Enlist routes & processes of drug excretion through the kidneys Describe factors affecting glomerular filtration & tubular reabsorption Describe the Clinical Significance of Glomerular Filtration, Active Tubular Secretion and Passive Tubular	Drug excretion & its clinical significance of glomerular filtration
F1-PH-006	Describe Reabsorption of Drugs Explain steady state plasma concentration	Drug Reabsorption
F1-PH-007	Define & Explain Elimination and Orders of Elimination – First & Zero Order Kinetics with examples Order Kinetics	Drug Elimination
F1-PH-008	Define, explain & calculate maintenance dose and loading dose using appropriate formula Maintenance dose	Drug Maintenance

COMMUNITY DENTISTRY

CODE	SPECIFIC LEARNING OUTCOMES	TOPIC
F1-CD-001	Define dental public health and describe its scope and importance.	Introduction to Dental Public Health
F1-CD-002	Describe the dimensions of health (physical, mental, social, etc.) and differentiate between illness and disease.	Concepts of Health and Disease
F1-CD-003	Differentiate between clinical dentistry and public health dentistry.	Public Health vs Clinical Practice
F1-CD-004	Describe criteria that make a disease important from a public health perspective.	Disease Importance in Public Health
F1-CD-005	Explain levels of prevention (primordial, primary, secondary, tertiary) with relevant dental examples.	Levels of Prevention
F1-CD-006	Define and explain the principles of health promotion and disease prevention strategies at individual and community levels.	Health Promotion Principles
F1-CD-007	Apply principles of health promotion and health education to oral and dental health contexts.	Health Education and Promotion
F1-CD-008	Describe methods of health education and communication in community dentistry; explain their importance and application.	Health Education and Communication
F1-CD-009	Describe school oral health programs and preventive strategies at the community level.	School and Community-Based Programs

CODE	SPECIFIC LEARNING OUTCOMES
Car1CD-001	Explain the role of diet in dental caries, including the Stephen curve, cariogenic potential of sugars, and dietary modification strategies.
Car1-CD-002	Describe the role of dental biofilm in demineralization and remineralization; explain oral hygiene measures and Keyes' triad in caries prevention.
Car1-CD-003	Explain and apply the principles of dental caries prevention in individual and community settings.

Car1-CD-004	Explain the role of systemic and topical fluoride in the prevention of dental caries; apply knowledge of community-based preventive measures (e.g., water fluoridation, school programs).
Car1-CD-005	Describe correct toothbrushing and flossing techniques in relation to caries prevention.

OPERATIVE DENTISTRY

S. NO	DISCUSSION TOPIC	READING MATERIALS
1	Describe the anatomy of pits and fissures, explain their role in caries susceptibility, and outline preventive strategies such as sealant application and fluoride use.	ART AND SCIENCE chapter 2
2	Describe etiology, risk factors, and clinical features of smooth surface caries; explain role of fluoride in prevention.	ART AND SCIENCE chapter 2
3	Describe etiology, clinical features, and progression of root caries.	ART AND SCIENCE chapter 2
4	Differentiate active caries based on clinical features; explain clinical significance; outline management strategies. identify the factors that promote caries arrest.	ART AND SCIENCE chapter 2
5	Differentiate arrested caries; describe biological processes and contributing factors.	ART AND SCIENCE chapter 2

S. NO	HANDS ON EXERCISES/SMALL GROUP DISCUSSIONS
1	Identify fluoride gel and demonstrate application procedure.
2	Identify pits, fissures, smooth surface, and root caries on models, or images
3	Differentiate active versus arrested caries on prepared slides or images

BEHAVIOURAL SCIENCES

Code	Specific Learning Outcomes	Topic
Car1-BhS-001	Explain the bio-psycho-social model and its relevance to holistic dental care	Introduction to Behavioural Sciences
Car1-BhS-002	Describe how psychology, sociology, and anthropology contribute to understanding oral health behaviour	Determinants of Oral Health Behaviour
Car1-BhS-003	Differentiate between normal and abnormal behaviour an discuss their implications for dental care	Understanding Human Behaviour
Car1-BhS-004	Recognize the influence of emotions and behavior on patient-dentist interactions and oral health outcomes	Emotional and behavioral Factors in Dentistry
Car1-BhS-005	Demonstrate effective communication and interpersonal skills in clinical and community dental settings	Communication Skills
Car1-BhS-006	Apply principles of empathy and emotional intelligence in role play.	Emotional Intelligence
Car1-BhS-007	Describe ethical principles, professional roles and responsibilities of a dentist	Professional Ethics and Responsibilities

CFRC

Sr. no	
1	**Hand washing** Demonstrate steps of hand washing
2	**Gloving** Perform the procedure of wearing gloves
3	**Tooth Brushing Techniques** Demonstrate correct tooth brushing techniques in relation to carries prevention.
4	**Flossing Techniques** Demonstrate correct flossing techniques in relation to carries prevention.
5	**Communication Skills** Demonstrate counseling skills related to oral hygiene.

PRISME

Evidence Based Dentistry	
Year	**Learning Objectives**
I	• Define Evidence-Based Dentistry. • Explain the significance of EBD in clinical decision-making. • Identify the components of EBD: best available evidence, clinical expertise, and patient preferences.

Social Responsibility, Cultural Sensitivity, Ethics & Jurisprudence	
Sr. no	**Learning Outcomes(LOs)**
1	Describe role of dentist in public health promotion

Research	
Sr. no	**Learning Outcomes(Los)**
1	Define research, inquiry, and evidence-based dentistry
2	Recognize importance of research in dentistry

ASSESSMENT POLICY/ STATUTES

Regulations:

1. Professional examination shall be open to any student who: -

   a. has been enrolled/registered and completed one academic year preceding the concerned professional examination in a constituent/affiliated college of the University.

   b. has his/her name submitted to the Controller of Examinations, for the purpose of examination, by the Principal of the college in which he / sheis enrolled & is eligible as per all prerequisites of the examination.

   c. has his/her marks of internal assessment in all the Blocks/Clinical Clerkships sent to the Controller of Examinations through office of the Principal of the concerned college, at the end of each Block/Clinical Clerkships, as well as at the conclusion of the academic session along with the admission form for the professional examination.

   d. Has been certified by the principal of his/her college:

      (i) of good character;

      (ii) of having attended not less than cumulative 75%* of the full course of lectures delivered, practical and clinical rotations conducted in the particular academic session, while maintaining 75 % attendance in each Block/Clinical Clerkship,

      (iii) of having appeared at the Block/Clinical Clerkship Examinations conducted by the college of enrolment with at least 50 % marks* in each Block/Clinical Clerkship examination, as well as in aggregate score of all Blocks/Clinical Clerkships examinations for the concerned year;

2. Written/Theory paper in all Professional Examinations in Modular Integrated MBBS or BDS Curricula shall consist of MCQs alone, with effect from Annual 2026 Examinations. (Ref: No. UHS/REG-25/2379, dated 17.11.2025)

3. The minimum number of marks required to pass the professional examination for each Block/Clinical Clerkship shall be fifty percent (50%) in Written and fifty percent (50%) in the 'Oral/Practical/Clinical' examinations and fifty percent (50%) in aggregate, independently and concomitantly, at one and the same time. (Clinical Exam of Long & Short cases)

4. A candidate failing in one or more Blocks/Clinical Clerkships in the annual examination shall be provisionally allowed to join the next professional class till the commencement of supplementary examinations. The candidate, however, shall have to pass the failed Block/s or Clinical Clerkship in this supplementary examination failing which he / she shall be detained in the professional year. Under no circumstances, a candidate shall be promoted to the next professional class till he/she has previously passed all the Blocks/Clinical Clerkships in the preceding professional examination.

If a student appears in the Supplementary Examination for the first time as he/she did not appear in the annual examination for any reason and failed in any Block/Clinical Clerkship in the Supplementary Examination, he/she will be detained in the same class and will not be promoted to the next class.

**Notification No.UHS/REG-25/2351 Dated 13-11-2025*

5. Only one annual and one supplementary of each Professional Examination shall be allowed in a particular academic session. However, in exceptional situations, i.e., national calamities, war or loss of solved answer books in case of accident, special examination may be arranged after having observed due process of law. This will require permission of relevant authorities, i.e., Syndicate and Board of Governors.
6. Any student who fails to clear the First or Second Professional MBBS or BDS Examination, in four consecutive attempts, each, inclusive of both availed as well as un-availed attempts, after becoming eligible for the examination, and has been expelled on that account shall not be eligible for continuation of studies and shall not be eligible for admission as a fresh candidate in either MBBS or BDS.
7. The application for admission of each candidate to the professional examination shall be submitted to the Controller of Examination, through the Principal of the College, on the prescribed format, as per notified schedule, accompanied by the prescribed fee.
8. The candidates shall pay their examination fee through the Principal of their respective colleges, who shall forward the Examination Forms along with the duly paid challan of the examination fee generated from the Online Examination Form.
9. The continuous internal assessment through the Block/Clinical Clerkship, conducted by the college of enrollment, shall carry 20% weightage in the total allocated marks for the concerned Block/Clinical Clerkship in the Professional Examination conducted by the university. The score will be equally distributed to the Written and "Oral/Practical/Clinical" Examinations.
10. The marks of internal assessment through Blocks/Clinical Clerkships examination and attendance record shall be submitted to Controller of Examinations, along with question papers and keys for the Block/Clinical Clerkship examination, within two weeks of completion of each Blocks/Clinical Clerkships examination.
    Further, parent-teacher meetings shall be arranged by the colleges after every Block/Clinical Clerkship examination to share feedback on the progress of students with their parents. Minutes of parent teacher meetings, academic timetables/schedule of Blocks/Clinical Clerkships and academic year study guides shall be submitted to the Department of Medical Education UHS, as well.

11. It is emphasized that fresh internal assessment or a revision of assessment for supplementary examination shall not be permissible. However, a revised internal assessment for the detained students can be submitted. The internal assessment award in a particular year will not be decreased subsequently detrimental to the detainee candidate. A proper record of the continuous internal assessment shall be maintained by the concerned department/s in the colleges.

12. **The colleges may arrange remedial classes and one re-sit for each Block/Clinical Clerkship examination after fulfillment of prescribed requirements given below. The remedial classes and re-sit examination can be conducted during summer vacation/weekends, before or during preparatory leave for the concerned professional examination, subject to the following conditions:**

Block/Clinical Clerkship Attendance	Remedial Classes
<75%, ≥ 50% (50-74%)	i. Principal of the college may conduct remedial classes and submit result to the Examination Department, UHS, independently. ii. Principal of the college may conduct remedial classes for detained students, who have short attendance in the first Block/Clinical Clerkship of a professional year after detention. The college may submit record of the remedial classes to the Examination Department, UHS, independently.
<50%	i. Principal of the college may submit attendance record of such students to Department of Medical Education, UHS, seeking permission for conduct of remedial Classes. The conduct of remedial classes in such cases shall be arranged only after permission from the Competent Authority in the university. ii. The colleges shall also have to provide the university with the reasons submitted by the candidates for short attendance along with documentary evidence for the same duly verified by the principal. iii. The following shall be considered as valid reasons for short attendance of the students for consideration of permission for remedial classes: • Illness/accident/surgery of the student or sickness/death of an immediate relative/being afflicted by a natural/man-made calamity or disaster or detained students (missed the first Block/Clinical Clerkship of the year), students clearing their preceding professional examination in supplementary, or late admitted students who have been permitted for joining by UHS

Marks in Block/ Clinical Clerkship Examination	Re-sit Examination
<50% Marks/ Absence from Block /Clinical Clerkship Examination	i. Principal of the college may submit record of such students to Department of Medical Education, UHS, seeking permission for conduct of re-sit examination.

	ii. The conduct of re-sit examination in all cases shall be arranged only after permission from the Competent Authority in the university. iii. The colleges shall also have to provide the university with the reasons submitted by the candidates for absence from the Block/Clinical Clerkship examination, along with documentary evidence for the same duly verified by the principal. iv. The following shall be considered as valid reasons for absence of a student from Block/Clinical Clerkship examination, and for consideration of permission for re-sit examination: • Illness/accident/surgery of the student or sickness/death of an immediate relative/being afflicted by a natural/man-made calamity or disaster or detained students (missed the first Block/Clinical Clerkship of the year), students clearing their preceding professional examination in supplementary, or late admitted students who have been permitted for joining by UHS

13. **The following policy shall be applicable for transition of students From Traditional Subject-Based Scheme to the Modular Integrated Curriculum Scheme:**

i. **The students who fail in all subjects of the professional examination, either by taking the examination or due to non-appearance, and are detained in the respective professional year, shall follow the Modular Integrated Curriculum Scheme for their teaching and assessment.**

ii. **The students who fail in one or more subjects but not all the subjects of a professional examination, either by taking the examination or due to non-appearance, and are detained in the respective professional year, shall attend classes with students following the Modular Integrated Curriculum Scheme, but they will be examined in the failed subject/s according to their parent scheme, i.e., the Traditional Subject-Based Curriculum Scheme.**

A. **Block 2 (Craniofacial-I + Neurosciences + Alveo- cemental complex)**

The examination in Block 2 shall be as follows: -

I. One written paper of 120 marks having two parts:

i. Part I shall have eighty Multiple Choice Questions (MCQs) of total 80 marks (01 mark for each MCQ) and the time allotted shall be 80 minutes. There will be no negative marking.

i. Part II shall have Ten (10) Structured Essay Questions (SEQs) of total 40 marks (04 marks for each SEQ) and the time allotted shall be 110 minutes.

II. 'Oral/Practical/Clinical' examination shall have 120 marks in total.

III. The continuous internal assessment through '**Block Examination'**, conducted by the college of enrollment shall carry **60** marks, i.e., 20% of the total allocated marks (300) for the block. The score will be equally distributed to the Written and 'Oral/Practical/Clinical' Examination.

BDS Year-I						
Subject	**Theory**		**Practical**			**Total**
Block I Foundation I CranioFacial I Cariology I	MCQs (120)	120 Marks	Practical/Clinical Examination	08 OSPE (01 station - CFRC)	72	**300**
				08 OSVE	48	
	Internal Assessment 10%		Internal Assessment 10%			
Block II Foundation II CranioFacial II Neurosciences I Alveolocemental Complex I	MCQs (120)	120 Marks	Practical/Clinical Examination	08 OSPE (01 station - CFRC)	72	**300**
				08 OSVE	48	
	Internal Assessment 10%		Internal Assessment 10%			
Block III Blood & CVS I GIT Occlusion I	MCQs (120)	120 Marks	Practical/Clinical Examination	08 OSPE (01 station - CFRC)	72	**300**
				08 OSVE	48	
	Internal Assessment 10%		Internal Assessment 10%			
Islamic Studies/Civics & Pakistan Studies	Islamic Studies/Civics 03 LEQs of 20 marks each		60 marks			**100**
	Pakistan Studies 02 LEQs of 20 marks each		40 marks			
					Total Marks:	**1000**

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 Examination + Internal Assessment**	**150 Marks**

STUDY PLAN

Lahore Medical & Dental College
Canal Bank North, Tulspura, Lahore-53400
Contact No: +923464418891-98
E-mail: info@lmdc.edu.pk
No. LMDC/FD/ /26 dated

TIMETABLE 1st YEAR BDS Session 2025-2026 Block 1 w.e.f. 24-3-2026

Day	8:00 am -- 9:00 am	9:00 am -- 09:50 am	09:50 am -- 11:00am	11:00 am- 11:30 am	11:30 am -- 12:30 pm	12:30 pm -- 1:15 pm	1:15 pm -- 2:00 pm	2:00 pm -- 3:00 pm
Monday	Physiology Lecture Lecture Theatre 8	Anatomy Lecture/Tutorial Lecture Theatre 8	Histology Practical Histology Laboratory	BREAK	Community Dentistry Lecture Théâtre 8	Oral Biology Lecture Lecture Theatre 8	Oral Biology Tutorial Lecture Theatre 8	Oral Pathology Lecture Theatre 8
Tuesday	8:00 am -- 9:00 am	9:00 am to 10:00 am	10:00 am -- 11:00 am	11:00 am -- 11:30 am	11:30 am -- 12:30 pm	12:30 pm -- 1:15 pm	1:15 pm -- 3:00 pm	
	Physiology Lecture Lecture Theatre 8	Anatomy Lecture/Tutorial Lecture Theater 8	Anatomy Lecture/Tutorial Lecture Theatre 8	BREAK	Biochemistry Lecture Lecture Theatre 8	Pharmacology Lecture Lecture Theatre 8	PRACTICALS Oral Biology Oral Biology Lab	
Wednesday	8:00 am -- 8:50 am	8:50 am to 9:40 am	9:40 am -- 11:00 am	11:00 am -- 11:30 am	11:30 am -- 12:30 pm	12:30 pm -- 1:15 pm	1:15 pm -- 2:00 pm	2:00 pm -- 3:00 pm
	Behavioral Sciences Lecture Theatre 8	Biochemistry Lecture Lecture Theatre 8	Oral Biology Practical Oral Biology Lab	BREAK	Community Dentistry Lecture Theatre 8	Anatomy Lecture/Tutorial Lecture Theatre 8	Anatomy Lecture/Tutorial Lecture Theatre 8	PRISME Lecture Theatre 8
Thursday	8:00 am -- 8:50 am	08:50 am -- 9:40 am	9:40 am -- 11:00 am	11:00 am -- 11:30 am	11:30 am --12:30 pm	12:30 pm -- 1:15 pm	1:15 pm -- 2:00 pm	2:00 pm -- 3:00 pm
	Biochemistry Lecture Lecture Theater 8	Oral Biology Lecture Lecture Theater 8	LECTURE/ PRACTICAL Operative Dentistry	BREAK	Oral Biology Tutorial Lecture Theatre 8	Biochemistry Lecture Lecture Theatre 8	Anatomy Lecture/Tutorial Lecture Theatre 8	Anatomy Lecture/Tutorial Lecture Theatre 8
Friday	8:00 am -- 8:50 am	8:50 am -- 9:40 am	9:40 am -- 10:30am	10:30 am --11:15 am	11:15am -- 12:00 pm	12:00 pm -- 1:00 pm	1:00 pm -- 3:00 pm	
	Oral Biology Lecture Lecture Theater 8	Biochemistry Tutorial Lecture Theatre 8	Islamiyat/ Pak.Studies Lecture Theatre 8	Anatomy Lecture/Tutorial Lecture Theatre 8	Anatomy Lecture/Tutorial Lecture Theatre 8	Pharmacology Lecture Theatre 8	SDL	

NO. LMDC/FD/1064-82 /2026, Dated: 17-3-26

Copy for information to the:

1. Heads of all concerned departments.
2. Dental Education Department, LMDC, Lahore
3. Director Administration, Lahore Medical and Dental College, Lahore
4. Director I.T. Operation, LMDC
5. Assistant Director, Students' Affairs, LMDC.
6. M/S Ali Tours
7. Lecture Theatre In-charge.
8. Notice Board, LMDC, Lahore.
9. Class Representatives (Boys/ Girls)

PRINCIPAL / DEAN
(PROF. Dr. AQIB SOHAIL)
DENTAL COLLEGE, LMDC