

AVICENNA MEDICAL & DENTAL COLLEGE



STUDY GUIDE

2026

MUSCULOSKELETAL & LOCOMOTION-1

BLOCK- 2 MODULE-3



Program: MBBS Integrated Curriculum
Year: 1st Professional Year
Batch No: M-25
Session: 2025-2026

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List of Abbreviations

Letter	Abbreviations	Subjects
A	A	Anatomy
	ABCDE	Airway, Breathing, Circulation, Disability, Exposure
	ABG	Arterial blood gas
	ACS	Acute Coronary Syndromes
	Ag	Aging
	AKI	Acute kidney injury
	ALT	Alanine transaminase
	AMI	Acute Myocardial Infarction
	AMP	Adenosine monophosphate
	ANA	Antinuclear Antibody
	ANCA	Anti-neutrophil Cytoplasmic Antibodies
	ANS	Autonomic Nervous System
	AO	Association of osteosynthesis
	APTT	Activated Partial Thromboplastin Clotting Time
	ARDS	Acute Respiratory Distress Syndrom
	ARVC	Arrhythmogenic Right ventricular Cardiomyopathy
	ASD	Atrial Septal Defect
	AST	Aspartate aminotransferase
	ATLS	Advanced Trauma Life Support
	Au	Autopsy
	AUC	Area under the curve
	AV	Atrioventricular
B	B	Biochemistry
	BhS	Behavioral Sciences
	BHU	Basic Health Unit
	BSL	Biological Safety Level
C	C	Civics
	C-FRC	Clinical-Foundation Rotation Clerkship
	C.burnetii	Clostridium burnetii
	C.neoformans	Clostridium neoformans
	C.pneumoniae	Clostridium pneumoniae
	C.psittaci	Clostridium psittaci
	C.trachomatis	Clostridium trachomatis
	CA	cancer
	CABG	coronary artery bypass grafting
	CAD	coronary artery disease
	CBC	Complete Blood Count
	CCR5	cysteine-cysteine chemokine receptor
	CD31	cluster of differentiation 31
	CD34	cluster of differentiation 34
	CD4	cluster of differentiation 4
	CF	cystic fibrosis
	CK	Creatine kinase
	CLED	cystine lactose electrolyte deficient

	CLL	chronic lymphocytic leukemia
	CM	Community Medicine
	CML	chronic myeloid leukemia
	CMV	cytomegalo virus
	CNS	Central Nervous System
	CO	Carbon monoxide
	CO2	Carbon dioxide
	CODIS	combined DNA index system
	COPD	Chronic obstructive pulmonary disease
	COVID-19	Corona Virus Disease 2019
	COX	Cyclooxygenase
	CPR	Cardiopulmonary Resuscitation
	CR	Clinical Rotation
	CRP	Clinical Rotation CSF C- Reactive Protein
	CSF	Cerebro Spinal Fluid
	CT	Computed tomography
	CV	Cardiovascular
	CVA	Cerebral vascular accident
	CVS	Cerebrovascular system
D	D.medinensis	Dracunculus Medinensis
	DALY	Disability-Adjusted Life Year
	DCIS	Ductal Carcinoma in situ
	DCM	Dilated Cardiomyopathy Dorsal Colu
	DCMLS	Dorsal column medial lemniscus system
	DLC	Differential Leukocyte Count
	DMARDs	Disease Modifying Anti Rheumatic Drugs
	DNA	DeoxyRibonucleic Acid
	DOTS	Directly Observed Treatment Short-course
	DTP	Diphtheria, Tetanus, Pertussis
	DVI	Disaster Victim Identification
	DVT	Deep Vein Thrombosis
E	E.coli	Escherichia coli
	ECF	Extracellular Fluid
	ECG	Electrocardiography
	ECP	Emergency contraceptive pills
	ED50	Median Effective Dose
	EEG	Electroencephalogram
	EIA	Enzyme Immunoassay
	ELISA	Enzyme Linked Immunosorbent Assay
	EnR	Endocrinology & Reproduction
	ENT	Ear Nose Throat
	EPI	Expanded Programme on Immunization
	ER	Emergency Room
F	F	Foundation
	FAST	Focused Assessment with Sonography
	FEV1	Forced Expiratory Volume 1
	FM	Family Medicine
	For	Forensic Medicine
	FPIA	Fluorescent Polarization Immunoassay

	FS	Forensic Serology
	FSc	Forensic Science
	FVC	Forced Vital Capacity
G	GCS	Glasgow Coma Scale
	GFR	Glomerular Filtration Rate
	GIT	Gastrointestinal tract
	GL-MS	Gas Liquid Mass Spectrometry
	GLC	Gas Liquid Chromatography
	GLP	Guanosine Monophosphate
	GMP	Guanosine monophosphate
	GO	Gynecology and Obstetrics
	GP	General Practitioner
	GPE	General Physical Examination
	GTO	Golgi Tendon Organ
	Gynae & Obs	Gynecology and Obstetrics
H	H & E	Hematoxylin and eosin
	H. influenzae	Haemophilus influenzae
	H.pylori	Helicobacter pylori
	HAI	Healthcare Associated Infections
	HbC	Hemoglobin C
	HbS	Sickle Hemoglobin
	HbSC	Hemoglobin Sickle C Disease
	HCL	Hydrochloric Acid
	HCM	Hypertrophic Cardiomyopathy
	HHV	Human Herpesvirus
	HIT	Hematopoietic, Immunity and Transplant
	HIV	Human Immunodeficiency Virus
	HL	Hematopoietic & Lymphatic
	HLA	Human Leukocyte Antigen
	HMP	Hexose Monophosphate
	HNSS	Head & Neck and Special Senses
	HPLC	High Pressure Liquid Chromatography
I	ICF	Intra Cellular Fluid
	ID	Infectious Diseases
	IE	Infective Endocarditis
	IL	Interleukin
	ILD	Interstitial Lung Disease
	IN	Inflammation
	INR	International Normalized Ratio
	INSTIs	Integrase Strand Transfer Inhibitors
	IPV	Intrauterine Device
	IUD	Intrauterine device
	IUGR	Intra-Uterine Growth Restriction
J	JVP	Jugular Venous Pulse
L	L	Law
	LD50	Median Lethal Dose
	LDH	Lactate Dehydrogenase
	LSD	Lysergic acid diethylamide
M	M	Medicine
	MALT	Mucosa Associated Lymphoid Tissue

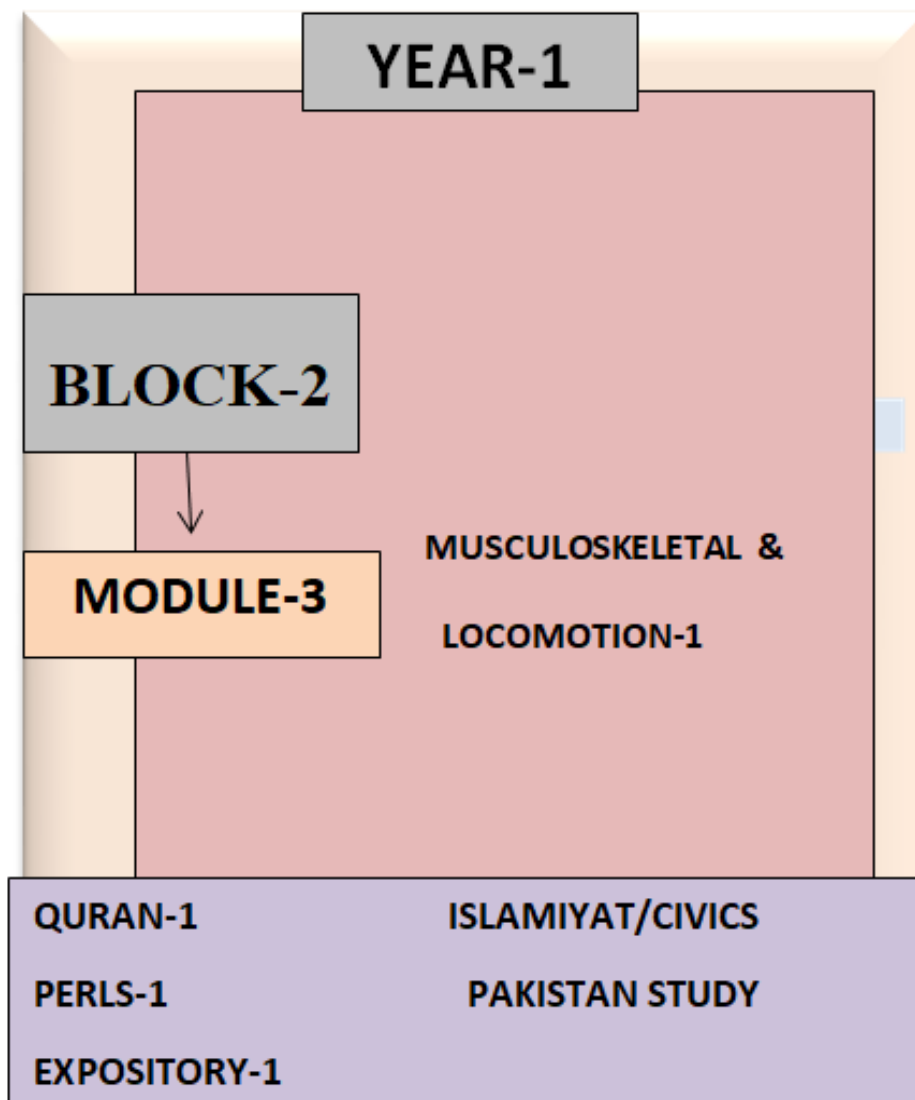
	MBBS	Bachelor of Medicine, Bachelor of Surgery
	MCH	Mean corpuscular hemoglobin
	MCHC	Mean Corpuscular Hemoglobin Concentration
	MCV	Mean Corpuscular Volume
	MHO2001	Mental Health Ordinance 2001
	MoA	Mechanism of action
	MRI	Mechanism of action
	MS	Musculoskeletal
	MSD	Musculoskeletal disorders
	MSDS	Minimum Service Delivery Standards
	MSK	Musculoskeletal
N	N	Neoplasia
	NEAA	Non-Essential Amino Acids
	NK cells	Natural Killer Cells
	NNRTI	Non-nucleoside Reverse Transcriptase Inhibitors
	NRTIs	Nucleoside Reverse Transcriptase Inhibitors
	NS	Neurosciences
	NSAIDs	Non-steroidal Anti-Inflammatory Drugs
O	O	Ophthalmology
	OA	Osteoarthritis
	OPC	Organophosphate
	OPV	Oral poliovirus vaccine
	Or	Orientation
	Orth	Orthopaedic
P	P	Physiology
	P.jiroveci	Pneumocystis jiroveci
	Pa	Pathology
	PAD	Pathology
	PAF	Platelet activating factor
	PBL	Problem Based Learning
	PCH	Psychiatry
	PCR	Polymerase Chain Reaction
	PDA	Patent Ductus Arteriosus
	PDGF	Platelet derived growth factor
	Pe	Pediatrics
	PEM	Protein Energy Malnutrition
	PERLs	Professionalism, Ethics, Research, Leadership
	PET	Positron Emission Tomography
	Ph	Pharmacology
	Ph	Pharmacology
	PI	Personal Identity
	PID	Pelvic inflammatory disease
	PIs	Protease inhibitors
	PMC	Pakistan Medical Commission
	PMDC	Pakistan Medical and Dental Council
	PMI	Post-Mortem Interval
	PNS	Peripheral Nervous System
	PPD	Paraphenylenediamine
	PPE	Personal Protective Equipment

	Psy	Psychiatry
	PT	Prothrombin Time
	PVC	Premature Ventricular Contraction
	PVD	Peripheral Vascular Diseases
Q	QALY	Quality-Adjusted Life Year
	QI	Quran and Islamiyat
R	R	Renal
	Ra	Radiology
	RA	Radiology
	RBCs	Red Blood cells
	RCM	Restrictive Cardiomyopathy
	RDA	Recommended Dietary Allowance
	Re	Respiratory
	RF	Rheumatoid factor
	RFLP	Restriction Fragment Length Polymorphism
	Rh	Rheumatology
	RHC	Rural Health Center
	RIA	Radioimmunoassay
	RMP	Resting Membrane Potential
	RNA	Ribonucleic Acid
	RTA	Road Traffic Accident
S	S	Surgery
	S.pneumonia	Streptococcus pneumoniae
	SA	Sinoatrial
	SCC	Squamous-cell carcinoma
	Se	Sexology
	Sec	Section
	SIDS	Sudden Infant Death Syndrome
	SLE	Systemic Lupus Erythematosus
	SOP	Standard Operating Procedure
T	TB	Tuberculosis
	TBI	Traumatic Brain Injury
	TCA	Tricarboxylic acid cycle
	TCBS	Thiosulphate Citrate Bile salts Sucrose
	TD50	Median Toxic Dose
	TGA	Transposition of the Great Arteries
	Th	Thanatology
	TLC	Thin Layer Chromatography
	TNF	Tumor Necrotic Factor
	TNM	Tumor Necrotic Factor
	TOF	Tetralogy of Fallot
	Tox	Toxicology
	Tr	Traumatology
	TSI	Triple Sugar Iron
U	USG	Ultrasonography
	UTI	Urinary Tract Infections
	UV	Ultraviolet
V	VAP	Ventilator-Associated Pneumonia
	Vd	Volume of Distribution
	VEGF	Vascular Endothelial Growth Factor

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	VSD	ventricvular septal defect
W	W. bancroft	Wuchereria bancroft
	WBCs	White Blood Cells
	WHO	World Health Organization
Z	ZN Staining	Ziehl-Neelsen Staining

Curriculum Framework



Introduction to the Study Guide

Welcome to the Avicenna Medical & Dental College Study Guide!

This guide serves as your essential resource for navigating the complexities of your medical education at Avicenna Medical & Dental College. It integrates comprehensive details on institutional framework, curriculum, assessment methods, policies, and resources, all meticulously aligned with UHS, PMDC and HEC guidelines.

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Each subject-specific study guide is crafted through a collaborative effort between the Department of Medical Education and the respective subject departments, ensuring a harmonized and in-depth learning experience tailored to your academic and professional growth.

Objectives of the Study Guide

1. Institutional Understanding:

- Gain insight into the college's organizational structure, vision, mission, and graduation competencies as defined by PMDC, setting the foundation for your educational journey.

2. Effective Utilization:

- Master the use of this guide to enhance your learning, understanding the collaborative role of the Department of Medical Education and your subject departments, in line with PMDC standards.

3. Subject Insight:

- Obtain a comprehensive overview of your courses, including detailed subject outlines, objectives, and departmental structures, to streamline your academic planning.

4. Curriculum Framework:

- Explore the curriculum framework, academic calendar, and schedules for clinical and community rotations, adhering to the structured guidelines of UHS & PMDC.

5. Assessment Preparation:

- Familiarize yourself with the various assessment tools and methods, including internal exam and external exam criteria, and review sample papers to effectively prepare for professional exams.

6. Policies and Compliance:

- Understand the institutional code of conduct, attendance and assessment policies, and other regulations to ensure adherence to college standards and accrediting body requirements.

7. Learning Resources:

- Utilize the learning methodologies, infrastructure resources, and Learning Management System to maximize your educational experience and academic success.

This guide, meticulously developed in collaboration with your subject departments, is designed to support your academic journey and help you achieve excellence in accordance with the highest standards set by PMDC and HEC.

7-Star Doctor Competencies (PMDC)

According to national regulatory authority PMDC, a Pakistani medical/dental graduate who has attained the status of a 'seven-star doctor' is expected to demonstrate a variety of attributes within each competency. These qualities/ generic competencies are considered essential and must be exhibited by the individual professionally and personally.

1. Skillful / Care Provider.
2. Knowledgeable / Decision Maker.

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- 3. Community Health Promoter / Community Leader.
- 4. Critical Thinker / Communicator
- 5. Professional / Lifelong learner.
- 6. Scholar / Researcher
- 7. Leader/ Role Model / Manager

Introduction to Module-3

- The module 3 is designed to build upon and consolidate the foundational knowledge acquired in the earlier years of medical education, particularly from the Foundation-I module.
- As students transition into their clinical years, it is crucial to reinforce and deepen their understanding of basic medical sciences to support the integration of new, clinically relevant concepts.
- This module serves as a bridge, revisiting core topics in general Pharmacology, Pathology, and Forensic medicine with an emphasis on their clinical applications.
- By doing so, it ensures that students develop a more comprehensive understanding, which is vital for the advanced study of organ systems in subsequent modules (e.g., CVS 2, Respiratory-2, GIT-2, Neurosciences-2, and Reproduction 2).
- Mastery of these topics is essential before students can effectively approach the complexities of clinical scenarios.
- The revisiting of these concepts throughout the curriculum ensures a robust and integrated understanding, laying a solid foundation for clinical competence.

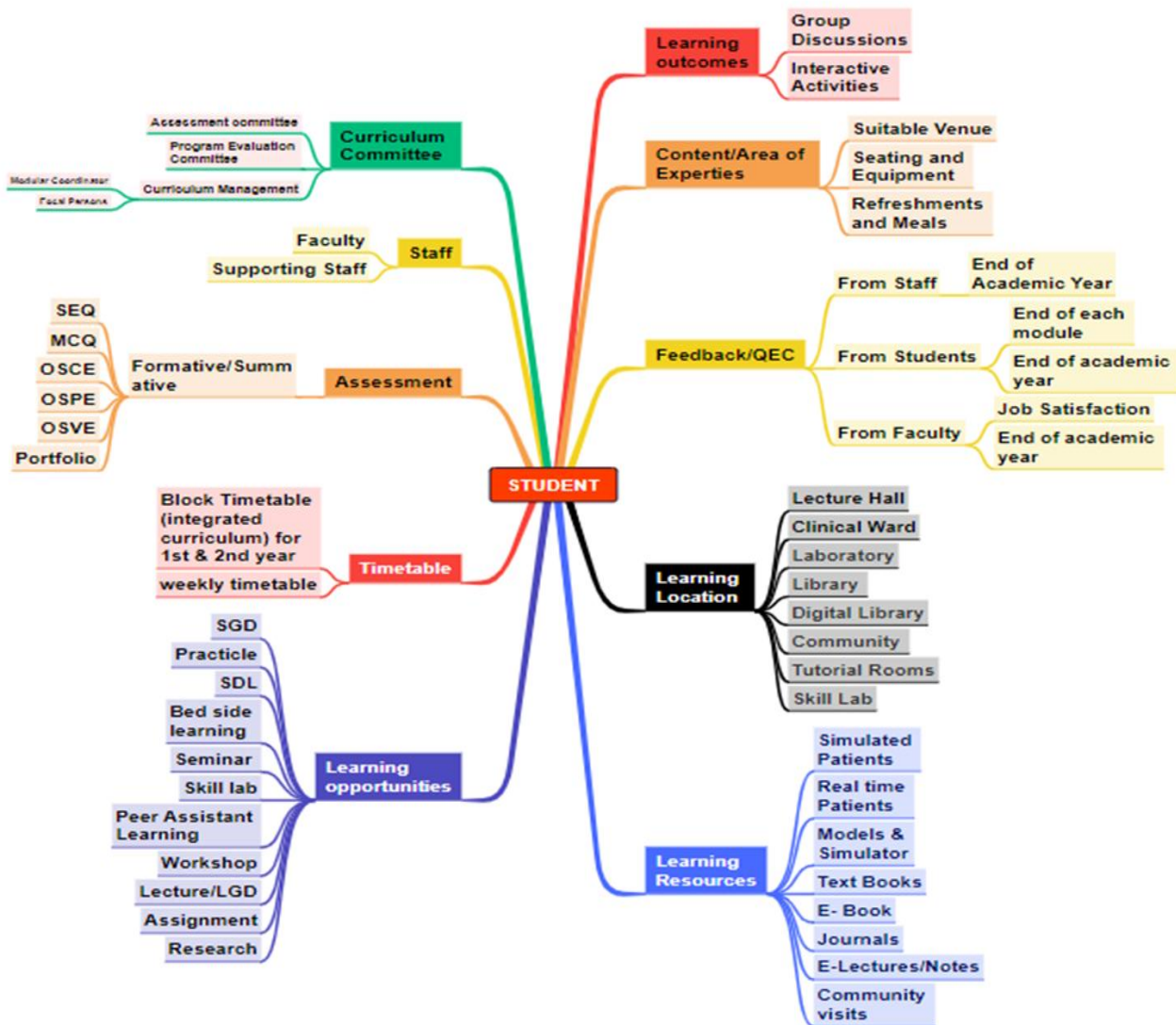
Module Committee

Name	Designation	Department
Prof. Dr. Gulfreen Waheed	Principal & Director DME	Medical Education
Dr. Saba Iqbal	Assistant Professor	Medical Education
Dr. Syed Hussain Raza	Assistant Professor	Medical Education
Dr. Ijlal Zehra	HOD	Assessment Cell
Dr. Javaid Shabkhez Rab	Coordinator	Medical Education
Dr. Salar Arsalan	Demonstrator	Medical Education

Dr. Huma Fatima	Demonstrator	Medical Education
Mr. Adeel	Incharge	Student Affairs
Prof. Dr. Saeed Afzal	HOD	Pathology
Dr. Majid	Focal Person	Pathology
Prof. Dr. Asma Saeed	HOD	Pharmacology
Dr. Azka	Focal Person	Pharmacology
Prof. Dr.Rana Akhtar	HOD	Community Medicine
Dr. Usman Sheikh	Focal Person	Community Medicine
Prof. Dr. Zainab	HOD	Forensic Medicine
Dr. Anwar	Focal Person	Forensic Medicine
Prof. Dr.Hassan Khan	HOD	Surgery Unit-1
Prof. Dr.Khalid Nizami	HOD	Surgery Unit-2
Dr. Uzma	Focal Person	General Surgery
Prof. Dr. Muzammil	HOD	Medicine Unit-1
Prof. Dr. Waheed Ahmed	HOD	Medicine Unit-2
Dr. Usman	Focal Person	General Medicine
Dr. Usman Aslam	Focal Person	Psychiatry
Dr. Farhat Mihas	HOD	Behavioural Sciences
Dr. Mavrah Zafar	Focal Person	Paediatrics

Curriculum Map

This pictorial, vertical and horizontal presentation of the course content and extent shows the sequence in which various systems are to be covered. Curricular map to cover all the subjects and modules and the time allocated to study of the systems for the undergraduate programs offered at four colleges at campus are as follows:



Academic Calender:

Avicenna Medical & Dental College Calendar First year MBBS 2025- 2026																																			
January 2026							February 2026							March 2026							SESSION START: 6th														
Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Gazetted							
				1	2	3	Orientation Week-01	1	2	3	4	5	6	7	Week-04	1	2	3	4	5	6	7	i- Kashmir												
4	5	6	7	8	9	10	Week-01	8	9	10	11	12	13	14	Week-05	8	9	10	11	12	13	14	ii- Eid-ul-Fitr												
11	12	13	14	15	16	17	Week-02	15	16	17	18	19	20	21	Spring Vacations	15	16	17	18	19	20	21	iii- Pakistan Day												
18	19	20	21	22	23	24	Week-03	22	23	24	25	26	27	28	Week-06	22	23	24	25	26	27	28	iv- Labor												
25	26	27	28	29	30	31									Week-07	29	30	31					v- Eid-ul-Adha												
																							vi-												
																							vii- Ashura- 25th												
																							viii-												
																							ix- Milad un Nabi												
																							x- Quaid-e-Azam												
																							Vacations												
																							Spring Vacations - 14th March - 23rd												
																							Summer												
																							Vacations - 11th												
																							Winter Vacations - 10th Dec - 27th												
																							Events												
																							Annual Dinner - 6th April 2026												
																							White Coat												
																							Sports Week 2nd - 14th Oct 2026												
																							Sports Day 16th Oct 2026												
																							Wellness Week - 14-21 Nov 2026												
																							Module Exam												
																							Module 1 Exam - 13th April 2026												
																							Module 2 Exam - 6th June 2026												
																							Module 3 Exam - 3rd July 2026												
																							Module 4 Exam - 19th September												
																							Module 5 Exam - 8th November												
																							Block Exam												
																							a-Block:1 Exam- 11th & 15th Mar												
																							b-Block:2 Exam- 7th & 8th												

Time Table:

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-13		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # II		MODULE - 03	
11-May-26	Mon	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00	12:00 - 12:30	12:30-01:30	1:30 - 2:30	2:30 - 3:30	3:30 - 5:00	5:00 - 6:00
		Lecture Gross Anatomy	Lecture Physiology	Lecture Gross Anatomy		BREAK	Tutorial Anatomy Biochemistry Physiology	Clinical Skill	Practical Anatomy Histology Biochemistry Physiology	BREAK	CFRC
12-May-26	Tues	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Physiology	Lecture Biochemistry	Lecture Gross Anatomy			Tutorial Anatomy Biochemistry Physiology	Clinical Skill	Practical Anatomy Histology Biochemistry Physiology		CFRC
13-May-26	Wed	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Histology	Lecture Biochemistry	Lecture Gross Anatomy			Tutorial Anatomy Biochemistry Physiology	Lecture Gross Anatomy	Practical Anatomy Histology Biochemistry Physiology		CFRC
14-May-26	Thur	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Biochemistry	Lecture Gross Anatomy		Lecture Pathology		Lecture Embryology	Lecture Community Medicine	Practical Anatomy Histology Biochemistry Physiology		CFRC
15-May-26	Fri	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00		12:00-1:00	1:00-2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Gross Anatomy		Lecture Physiology	Lecture Behavioural Science	Lecture Community Medicine	JUMMA BREAK	Lecture PERL (Ethics)	CFRC		
AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-14		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # II		MODULE - 03	
18-May-26	Mon	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00	12:00 - 12:30	12:30-01:30	1:30-2:30	2:30 - 3:30	3:30 - 5:00	5:00 - 6:00
		Lecture Gross Anatomy	Lecture Histology	Lecture Gross Anatomy		BREAK	Tutorial Anatomy Biochemistry Physiology	Lecture Biochemistry	Practical Anatomy Histology Biochemistry Pharmacology	BREAK	CFRC
19-May-26	Tues	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		12:30-01:30	1:30-2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Biochemistry	Lecture Embryology	Lecture Gross Anatomy			Tutorial Anatomy Biochemistry Physiology	Lecture Physiology	Practical Anatomy Histology Biochemistry Pharmacology		CFRC
20-May-26	Wed	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Gross Anatomy	Lecture Physiology	Lecture Gross Anatomy			Tutorial Anatomy Biochemistry Physiology	Lecture Gross Anatomy	Practical Anatomy Histology Biochemistry Pharmacology		CFRC
21-May-26	Thur	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Physiology	Lecture Biochemistry	Lecture Gross Anatomy			Lecture Community Medicine	Lecture Pathology	Practical Anatomy Histology Biochemistry Pharmacology		CFRC
22-May-26	Fri	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00		12:00-1:00	1:00-2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Gross Anatomy	Lecture Community Medicine	Lecture Gross Anatomy		Lecture Behavioural Science	JUMMA BREAK	Lecture PERL (Leadership)	CFRC		

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-15		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # II		MODULE - 03	
1-Jun-26	Mon	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00	12:00 - 12:30	12:30-01:30	1:30 - 2:30	2:30 - 3:30	3:30 - 5:00	5:00 - 6:00
		Lecture Gross Anatomy	Lecture Embryology	Lecture Gross Anatomy		BREAK	Tutorial Anatomy Biochemistry Physiology	Lecture Pharmacology	Practical Anatomy Histology Pharmacology Pathology	BREAK	CFRC
2-Jun-26	Tues	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Biochemistry	Lecture Gross Anatomy	Lecture Gross Anatomy			Tutorial Anatomy Biochemistry Physiology	Lecture Physiology	Practical Anatomy Histology Pharmacology Pathology		CFRC
3-Jun-26	Wed	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Histology	Lecture Embryology	Lecture Gross Anatomy			Tutorial Anatomy Biochemistry Physiology	Lecture Biochemistry	Practical Anatomy Histology Pharmacology Pathology		CFRC
4-Jun-26	Thur	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Physiology	Lecture Biochemistry	Lecture Gross Anatomy			Lecture Community Medicine	Lecture Gross Anatomy	Practical Anatomy Histology Pharmacology Pathology		CFRC
5-Jun-26	Fri	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00		12:00-1:00	1:00-2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Gross Anatomy	Lecture Community Medicine	Lecture Gross Anatomy		Lecture Pathology	JUMMA BREAK	Lecture PERL (Leadership)	CFRC		

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-16		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # II		MODULE - 03	
8-Jun-26	Mon	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00	12:00 - 12:30	12:30-01:30	1:30-2:30	2:30 - 3:30	3:30 - 5:00	5:00 - 6:00
		Integrated Formative Assessment 03	Lecture Gross Anatomy	Lecture Gross Anatomy		BREAK	Tutorial Anatomy Biochemistry Physiology	Clinical Skill	Practical Histology Biochemistry Pharmacology Pathology	BREAK	CFRC
9-Jun-26	Tues	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		12:30-01:30	1:30-2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Physiology	Lecture Biochemistry	Lecture Gross Anatomy			Tutorial Anatomy Biochemistry Physiology	Clinical Skill	Practical Histology Biochemistry Pharmacology Pathology		CFRC
10-Jun-26	Wed	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Histology	Lecture Embryology	Lecture Gross Anatomy			Tutorial Anatomy Biochemistry Physiology	Lecture Physiology	Practical Histology Biochemistry Pharmacology Pathology		CFRC
11-Jun-26	Thur	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture PERL (Research)	Lecture Pharmacology	Lecture Gross Anatomy		Lecture Community Medicine	Lecture Pathology	Practical Histology Biochemistry Pharmacology Pathology	CFRC		
12-Jun-26	Fri	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00	12:00-1:00	1:00-2:30		2:30 - 3:30	5:00 - 6:00	
		Lecture Gross Anatomy	Lecture Community Medicine	Lecture Gross Anatomy		Lecture Anatomy	JUMMA BREAK		Lecture Biochemistry	CFRC	

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-17		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # II		MODULE - 03	
		08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00	12:00 - 12:30	1:30-2:30	1:30-2:30	2:30 - 3:30	3:30 - 5:00	5:00 - 6:00
15-Jun-26	Mon	Lecture Gross Anatomy	Lecture Histology	Lecture Gross Anatomy		BREAK	Lecture Biochemistry	Tutorial Anatomy Embryology Biochemistry Physiology		BREAK	CFRC
		08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		1:30-2:30	1:30-2:30	2:30 - 3:30		5:00 - 6:00
16-Jun-26	Tues	Lecture Biochemistry	Lecture Embryology	Lecture Gross Anatomy			Lecture Physiology	Tutorial Anatomy Embryology Biochemistry Physiology			CFRC
		08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		1:30 - 2:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
17-Jun-26	Wed	Lecture Gross Anatomy	Lecture Community Medicine	Lecture Gross Anatomy			Lecture Pharmacology	Tutorial Anatomy Embryology Biochemistry Physiology			CFRC
		08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
18-Jun-26	Thur	Lecture Physiology	Lecture Pathology	Lecture Gross Anatomy			Lecture Gross Anatomy	Tutorial Anatomy Embryology Biochemistry Physiology			CFRC
		08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00	12:00-1:00	1:00-2:30		2:30 - 3:30	5:00 - 6:00	
19-Jun-26	Fri	Lecture Gross Anatomy	Lecture Community Medicine	Lecture Gross Anatomy		Lecture Physiology	JUMMA BREAK		Lecture PERL (Ethics)	CFRC	

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-18		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # II		MODULE - 03	
		08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00	12:00 - 12:30	12:30-01:30	1:30-2:30	2:30 - 3:30	3:30 - 5:00	5:00 - 6:00
22-Jun-26	Mon	Allied TEST	Lecture Physiology	Lecture Gross Anatomy		BREAK	Lecture Gross Anatomy	Tutorial Anatomy Biochemistry Physiology		BREAK	CFRC
23-Jun-26	Tues	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		12:30-01:30	1:30-2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Gross Anatomy	Lecture Pathology	Lecture Gross Anatomy			Lecture Medicine Integration	Tutorial Anatomy Biochemistry Physiology			CFRC
24-Jun-26	Wed	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
		Lecture Physiology	Lecture Pharmacology	Lecture Gross Anatomy			Lecture Biochemistry	Tutorial Anatomy Biochemistry Physiology			CFRC
25-Jun-26	Thur	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00	12:00 - 12:30	12:30-01:30	1:30 - 2:30	2:30 - 3:30	3:30 - 5:00	5:00 - 6:00
		ASHURA HOLIDAY									
26-Jun-26	Fri	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00	12:00-1:00	1:00-2:30	2:30 - 3:30		3:30 - 5:00	5:00 - 6:00
		ASHURA HOLIDAY									

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AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-19		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # II		MODULE - 03	
		08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00	12:00 - 12:30	12:30-01:30	1:30-2:30	2:30 - 3:30	3:30 - 5:00	5:00 - 6:00
29-Jun-26	Mon	Lecture Physiology	Lecture Biochemistry	Tutorial Anatomy Embryology Biochemistry Physiology		BREAK	Lecture Community Medicine	Clinical Skill	Lecture Medicine AGING	BREAK	CFRC
30-Jun-26	Tues	Integrated Formative Assessment 04	Lecture Biochemistry	Tutorial Anatomy Embryology Biochemistry Physiology			12:30-01:30	1:30-2:30	2:30 - 3:30		5:00 - 6:00
							Lecture Pathology	Clinical skill	Lecture Medicine AGING		CFRC
1-Jul-26	Wed	Lecture Biochemistry	Lecture Gross Anatomy	Lecture Gross Anatomy			12:30-01:30	1:30 - 2:30	2:30 - 3:30		5:00 - 6:00
							Lecture Forensic Medicine Integration	Tutorial Anatomy Embryology Biochemistry Physiology			CFRC
2-Jul-26	Thur	Lecture Gross Anatomy	Lecture Physiology	Lecture Gross Anatomy		12:30-01:30	1:30 - 2:30	2:30 - 3:30	5:00 - 6:00		
						Lecture Community Medicine	Tutorial Anatomy Embryology Biochemistry Physiology		CFRC		
3-Jul-26	Fri	MODULE - 03 THEORY		MODULE - 03 OSPE / OSVE BATCH - A	MODULE - 03 OSPE / OSVE BATCH - B	MODULE - 03 OSPE / OSVE BATCH - C	JUMMA BREAK	Lecture Medicine AGING		CFRC	

Allocation of Hours

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- Appraise the formation and functions of autonomic nervous system.
- Correlate the structural design of each organ to its function.
- Acquire information about the different fascial planes in the different regions of the body & their surgical importance.
- Use descriptive anatomical terms of position to describe the different body structures in relation to each other.
- Describe the movements of body using proper anatomical terms of movement.
- Describe and demonstrate the various bony landmarks.
- Describe the types of joints and correlate them to the mechanisms of movement.
- Classify the bone, joints and muscles based on the structure, function, phylogenetic origin.
- Describe the structures associated with muscles and explain their functional correlations.
- Classify and describe the cardiovascular system and correlate it functionally.
- Amplify the anatomical basis for radiological, cross-sectional, anatomy.
- Correlate clinicopathologically the apoptosis in health & diseases.

Learning Objectives

NORMAL STRUCTURE			
GROSS ANATOMY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 105	
		DISCIPLINE	TOPIC
UPPER LIMB			
	Describe the topographical anatomy of Pectoral Region		
	Perform dissection of the Pectoral Region or use models to identify the key structures		

MS-A-001	Describe muscles of the Pectoral Region with their origin, insertion, nerve supply and actions.	Human Anatomy	Pectoral Region
MS-A-002	Describe the cutaneous nerves. and Superficial veins of the Upper Limb.	Human Anatomy	Dermatomes and cutaneous innervation of Upper Limb
	Describe the extent, attachments, and structures passing through Clavipectoral Fascia	Human Anatomy	
MS-A-003	Define the boundaries of auscultation and state its clinical significance	Integrate with Medicine	Pectoral region & Back
	Describe the osteology of the bones in pectoral region. Enumerate the superficial muscles of back, connecting shoulder girdle with vertebral column. Describe the 1. Attachments 2. Nerve supply Actions of Trapezius, Latissimus Dorsi, Rhomboid major and minor. Mention the neurovascular supply of pectoral region and Correlate with important clinical conditions. Describe superficial muscles of the back with their origin, insertion, nerve supply and actions.	Human Anatomy	

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MS-A-004	Descriptive	1	Osteology	Clavicle	Human	
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	(Morphological features, side determination, attachments, ossification)	Anatomy	Bones of Upper Limb: Clavicle & Scapula
	Describe the correlates functions of Clavicle (clavicle fracture, its role in terms of weight transmission of upper limb, compression of neurovascular structures)		
	Describe the Osteology of Scapula (morphological features, attachments, ossification)		
	Determine the side and identify the landmarks of scapula		
	Describe the movements of Scapula associated with movements of Shoulder Girdle		
	Tabulate the muscles of scapular region and give their attachments, nerve supply and action		
	Tabulate the attachments, origin, insertion, innervation, and actions of Anterior Axio-appendicular Muscles		

	Describe the Sternoclavicular Joint in terms of articulating surfaces, ligaments, articular disc, nerve supply.	Human Anatomy	Bones of thorax, Joints of Upper Limb: Sternoclavicular Joint
	Develop clear concepts of the topographical anatomy of Axilla and its contents	Human Anatomy	Axila
	Describe the boundaries of Axilla. (Identification of muscles forming the boundaries of axilla)		
	List the contents of Axilla		
	Perform dissection/ Identify the Axilla and its contents		
	Describe Axillary Artery with reference to its 3 parts their relations, branches, and anastomoses		
	Describe the formation, tributaries, and drainage of Axillary Vein	Human Anatomy	
	Identify and demonstrate the course/ relation and branches/tributaries of axillary vessels		
	Describe the Axillary Lymph Nodes in terms of location, grouping, areas of drainage and clinical significance		

	Describe the course, relations, root value and distribution of Axillary nerve. Describe the boundaries and contents of quadrangular space.		
MS-A-007	Describe the Osteology of Humerus (Side Determination, morphological features, attachments, ossification)	Human Anatomy	Bones of upper limb: Humerus
MS-A-008	Describe the Shoulder Joint under the following headings: Articulation, Type/ Variety, Capsule, Ligaments, Innervation, Blood supply, Movements. Describe the 3 parts of Deltoid Muscle and correlate them with its unique functions. Explain its role in abduction of shoulder joint. Explain mechanism of Abduction of arm		Joints of Upper Limb: Shoulder Joint

	Identify and demonstrate the movements of scapula and shoulder joint.		
	Draw and label the arterial anastomosis around shoulder joint		
	Describe, in detail, the Scapula-Humeral Mechanism in relation to movement of abduction. Discuss important clinical conditions		
MS-A-009	Describe Rotator Cuff Muscles, state their Anatomical significance and explain Rotator Cuff Tendinitis	Human Anatomy	Rotator Cuff
	Clinical correlates of shoulder joint. (shoulder joint stability, dislocation and shoulder pain)	Integrate with Surgery	
MS-A-010	Describe the formation of Brachial Plexus; Infra and Supraclavicular parts. Discuss Brachial plexus injuries	Human Anatomy	Nerves of Upper Limb
	Demonstrate and identify the formation of brachial plexus and its branches		

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	List the branches of brachial plexus and give their areas of distribution and muscles they innervate		
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	Enlist and tabulate the muscles of anterior compartment of arm with their attachments, nerve supply and action. Identify & Describe Musculocutaneous Nerve in terms of its Origin, Course, Termination, Relations, Branches, and distribution. Describe and illustrate the cutaneous innervation of the arm.		
MS-A-011	Describe the Brachial Artery in terms of its course, relations, branches, and distribution		Blood supply of arm
	Tabulate the attachments, innervation, and actions of Triceps brachii as a muscle of Posterior Fascial Compartment of Arm		

	Identify & Describe the Profunda Brachii Artery giving its course, relations, branches, and distribution	Human Anatomy	
MS-A-012	Describe Cubital Fossa with emphasis on its boundaries, contents, and clinical significance		Muscles of Arm
	Demonstrate surface marking of superficial veins of arm and forearm for IV (Intra venous) injections		
	Demonstrate biceps brachi reflex, triceps reflex and brachioradialis reflex		
MS-A-013	Determine the side and identify the landmarks of radius and ulna. Describe the Osteology of Radius (Side Determination, morphological features, attachments).	Human Anatomy	Bones of Forearm
	Describe the Osteology of Ulna (Side Determination, morphological features, attachments).		

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MS-A-014	Describe osseofascial compartment of forearm. Tabulate flexor and pronators muscles of forearm, their attachments, actions and nerve supply. Describe the action of paradox with examples	Human Anatomy	Muscle of Anterior/Flex or Compartment of Forearm
MS-A-015	Tabulate the attachments, innervation, and actions of Extensor Muscles of the Forearm Tabulate the attachments, innervation, and actions of Lateral Muscles of the Forearm		Muscle of Lateral and Posterior/Extensor

			Compartment of Forearm
MS-A-016	Identify the muscles and nerves of flexor and extensor compartments of forearm Describe and illustrate the cutaneous innervation of the Forearm Describe ulnar, median and radial nerves in forearm.		Nerves of Forearm

MS-A-017	Describe the Origin, Course, Relations, and branches of Ulnar and radial Artery in Forearm Describe the Origin, Course, Relations and list the tributaries of veins of Forearm. Surface marking of Brachial artery, Cephalic, Median cubital, Basilic Vein, Radial & Ulnar arteries, anterior & posterior interosseous artery		Blood supply of forearm
MS-A-018	Identify the Extensor & Flexor Retinacula and describe their attachments and relations	Human Anatomy	Retinacula of Forearm
MS-A-019	Demonstrate the formation of carpal tunnel and identify the contents Describe Carpel Tunnel Syndrome	Human Anatomy- Integrate with surgery	Carpal tunnel syndrome
	Describe the features, attachments, relations and structures passing under Flexor Retinaculum		

MS-A-020	Describe the Origin, Course, Relations, and branches of Ulnar Artery in Forearm	Human Anatomy	Forearm: Blood supply and Venous drainage
	Describe the Origin, Course, Relations and list the tributaries of veins of Forearm		
	Surface marking of Brachial artery, Cephalic, Median cubital, Basilic Vein, Radial & Ulnar arteries, anterior & posterior interosseous artery		
	Describe the Elbow Joint in terms of articular surfaces, type, variety, ligaments, muscles producing movements, blood supply {Anastomosis around elbow joint}, nerve supply and radiological imaging.	Human Anatomy	Joints of Upper Limbs: Elbow Joint

MS-A-021	Describe Carrying Angle and justify its importance in limb movement	Integrate with Surgery	
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MS-A-022	Describe the Radioulnar Joints in terms of articular surfaces, type, variety, ligaments, muscles producing movements, nerve supply and radiological imaging. Describe the wrist joint in terms of articular surfaces, type, variety, ligaments, muscles producing movements, nerve supply and radiological imaging.	Human Anatomy	Joints of Upper Limbs: Radioulnar Joint
	Demonstrate mechanisms of movements of Pronation & Supination		
MS-A-023	Describe the features of Interosseous Membrane with structures that pierce through it	Human Anatomy	Interosseous membrane
MS-A-024	Describe the features and explain the importance of Fibrous Flexor Sheaths, synovial flexor sheaths and extensor expansion	Human Anatomy	Fascia & Muscles of Hand

MS-A-025	Demonstrate the attachments and actions of the muscles of hand Identify the muscles and neurovasculature of palm. Explain the morphology and tabulate the attachments, innervation and actions of intrinsic muscles of hand. Explain the fascial spaces of palm and pulp space of fingers Describe Dupuytren contracture, mallet finger and buttonaire deformity.	Human Anatomy	Hand & Actions of Muscles of Upper Limb as a Functional Unit
MS-A-026	Describe hand as a functional unit. (position of hand, movement of thumb and fingers while performing different functions) Discuss cupping of hand and fist formation.	Human Anatomy	Blood vessels of forearm and hand

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	region		
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	Describe the Ulnar Artery's Course, relation and termination in hand with its clinical significance in the region		
	Describe the formation, branches, and areas of distribution of Superficial and Deep Palmar Arch		
MS-A-027	Describe the course, relations and branches of Ulnar, Median and Radial Nerves in the Hand	Human Anatomy	Nerves of forearm and hand
MS-A-028	Describe the First Carpometacarpal Joint in terms of; Type, Variety, Articular Surfaces, Ligaments, Relations, Blood Supply, Innervation, movements.	Human Anatomy	Joints of Hands
	Demonstrate the movements of the 1st carpometacarpal joint		

	Describe the Metacarpophalangeal & interpharyngeal Joints in terms of; Type, Variety, Articular Surfaces, Ligaments, Relations, Blood Supply, Innervation & Movements		
MS-A-029	Palpate the arteries of the upper limb on a subject	Integrate with Medicine	Skills
	Identify the topographical features of upper limb in a cross-sectional model/ specimen.	Integrate with Radiology	
	Demonstrate and identify the anatomical landmarks of upper limb on radiographs/ CT (Computed tomography)/ MRI (Magnetic resonance imaging)		
	Mark the anatomical landmarks and surface marking on a subject/ simulated model	Human Anatomy	
LOWER LIMB			

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CODE	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
MS-A-030	Draw and label the Parts of the hip bone, with its attachments.	Human Anatomy	Hip Bone
	Describe the parts, attachments of hip bone		
	Identify the parts and bony features of the hip bone, with its attachments, important relations		
	Demonstrate the side determination of hip bone, its bony features, attachments		

MS-A-031	Describe the parts, attachments, side determination of femur	Human Anatomy	Femur
	Identify the parts and bony features of the femur, with its attachments.		
	Demonstrate the side determination of femur, its bony features, attachments, and important relations (correlate these with fractures)		

	Describe coxa Vara and coxa valga and their clinical significance		
MS-A-032	Describe the extent, attachments, and modifications of Fascia Lata	Human Anatomy	Fascia Lata
	Demonstrate the attachment of fascia Lata, iliotibial tract		
MS-A-033	Describe the cutaneous nerves and vessels of thigh	Human Anatomy	Neurovascular Supply of thigh
	Draw and label the cutaneous nerve supply of thigh and lumbar plexus.		
	Describe the formation, course, relations, tributaries, and termination of the superficial veins		
	Explain the anatomical justification of venesection, varicose veins, and saphenous venous grafts		
	Describe the lymphatic drainage of the region with special emphasis on afferent and efferent of inguinal lymph nodes		

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	Identify the superficial and deep lymph nodes		
	Explain the anatomical justification for enlargement of inguinal lymph nodes		
MS-A-034	Describe and identify the Boundaries and contents of femoral triangle	Human Anatomy	Femoral Triangle & Canal
	Draw and label the Boundaries and contents of femoral triangle		
	Identify the femoral sheath with its compartments		
	Describe the formation of femoral sheath and its significance		

	Describe the formation of femoral canal and its contents and significance		
	Describe the formation and significance of femoral ring		
	Compare and contrast the anatomical features of femoral and inguinal hernias	Integrate with Surgery	

MS-A-035	Tabulate the muscles of anterior compartment of thigh with their attachments, nerve supply and actions	Human Anatomy	Muscles of Anterior Compartment of Thigh
	Demonstrate and identify the muscles of anterior compartment of thigh with their proximal and distal attachments		
	Demonstrate the actions of muscles of anterior compartment of thigh		
	Explain the anatomical basis of psoas abscess	Integrate with Surgery	
MS-A-036	Identify and demonstrate the nerves and vessels of anterior compartment of thigh along with their branches	Human Anatomy	Neurovascular supply of Anterior Compartment of Thigh
	Describe the origin, course, relations, branches, distribution, and termination of femoral artery		
	Describe the origin, course, relations, tributaries, area of drainage and termination of femoral vein		
	Describe the origin, course, relations, branches, distribution, and termination of femoral nerve		

	Tabulate the muscles of anterior compartment of thigh with their attachments, nerve supply and actions.		
MS-A-037	Describe the formation, boundaries, contents of adductor canal	Human Anatomy	Adductor Canal
	Identify and demonstrate the boundaries and contents of adductor canal		
MS-A-038	Describe Muscles of medial compartment of thigh with their proximal and distal attachments, innervation and actions		Muscles of Medial Compartment of Thigh

	Identify the muscles of medial compartment of thigh with their proximal and distal attachments		
	Demonstrate the actions of the muscles of the compartment on self/ subject		
	Describe the origin, course, relations, branches/ tributaries, distribution, and termination of neurovascular structures of medial compartment of thigh		Neurovascular

MS -A- 039	Identify the nerves and vessels of medial compartment of thigh along with their branches Describe and identify the lumbar and sacral plexus and its branches supplying the lower limb Describe the cutaneous nerve supply and lymphatics of the region		supply of Medial Compartment of Thigh
MS -A- 040	List the structures passing through the greater and lesser sciatic foramen. Describe the muscles of gluteal region with their proximal and distal attachments, innervation, and actions Identify the muscles of gluteal region with their proximal and distal attachments Describe the origin, course, relations, branches/ tributaries, distribution, and termination of neurovascular structures of gluteal region Demonstrate the actions of the muscles of gluteal region	Human Anatomy	Gluteal Region

	Explain the anatomical basis of the consequences of wrongly placed gluteal intramuscular injections Damage to Gluteus medius & minimus due to poliomyelitis	Integ rat e wit h Me dic ine	
	Demonstrate and identify the origin, course, relations, branches/tributaries and termination of nerves and vessels of gluteal region	Hum an Anat omy	
MS -A- 041	Describe the Attachments of muscles of posterior compartment of thigh with the innervation and action	Hum an Anat omy	Mu scl es of Po ste rio r

	Identify the muscles of posterior compartment of thigh with their proximal and distal attachments		Com pa rt m en t of Th igh
	Demonstrate the actions of muscles of posterior compartment of thigh		
	Describe the anatomical basis of signs and symptoms of sciatica.	Integ ra te wi th S	

		ur ge ry	
MS- A- 042	Describe the origin, course, relations, branches, distribution, and termination of Profunda femoris artery	Hum an Anat omy	Blood supply of Posterior compartment thigh
	Describe blood supply on back of thigh		
MS- A- 043	Describe the origin, course, relations, branches, distribution, and termination of sciatic nerve	Hum an Anat omy	Sciatic Nerve
	Describe the anatomical basis, signs and symptoms of compression of or injury to sciatic nerve	Integ ra te wi th S ur ge ry	
	Describe the hip joint with its type, articulations, ligaments, stabilizing factors		
	Movements, and neuro-vascular supply with clinical significance.		

MS-A-044	Perform the movements of hip joint at various angles and be able to describe the muscles producing the movement. Discuss important associated clinical conditions (Hip dislocation, Arthritis, Hip joint stability and Trendelenburg sign) movements, and neuro-vascular supply with clinical significance.	Human Anatomy	Hip Joint
MS-A-045	Describe the Boundaries and contents of popliteal fossa. Discuss clinical correlates (Popliteal aneurysm, Palpation of Popliteal artery, semi membranous bursa swelling and Baker's cyst	Human Anatomy	Popliteal Fossa
	Draw and label boundaries and contents of popliteal fossa		
	Identify the boundaries and contents of popliteal fossa		

	Describe the origin, course, relations, branches/tributaries, distribution and termination of popliteal artery and vein		
MS -A- 046	Describe parts of tibia and fibula, with their attachments, important relations and side determination	Hum an Anat omy	Knee Joint
	Identify the parts and bony features of the tibia & fibula, their bony features, attachments, important relations.		
	Draw and label Parts of patella with its attachments		
	Describe features of patella, and name the factor responsible for stabilizing Patella		
	Describe the knee joint with its type, articulations, ligaments, movements, and neuro-vascular supply		
	Explain the mechanism of locking and unlocking of knee joint with the foot on ground and off the ground		

	Describe the attachments and role of popliteus in locking and unlocking of the knee joint		
	Describe the factors responsible for stability of knee joint. Discuss important associated clinical conditions.		
MS -A- 047	Describe the Muscles of anterior, lateral, and posterior compartments of leg with their proximal & distal attachments, innervation, and actions	Human Anatomy	Muscles of leg
	Identify the muscles of anterior, lateral, and posterior compartments of leg with their proximal and distal attachments		Neurovascular supply of Leg
MS -A- 048	Describe the origin, course, relations, branches/tributaries and termination of nerves and vessels of anterior, lateral, and posterior compartments of leg- Compartment Syndrome, Foot Drop		Neurovascular supply of Leg

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	Describe the cutaneous nerves and veins of leg.		
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	Draw and label the cutaneous nerve supply and dermatomes of leg		
MS-A-049	Identify the extensor, flexor, and peroneal retinacula and demonstrate the structures related to them		Flexor , Extensor, and peroneal Reticula
	Describe the attachments, relations, and structures passing under cover of, extensor, peroneal, and flexor retinacula		
	Identify and demonstrate the nerves and vessels of anterior, lateral, and posterior compartments of leg along with their branches		
	Describe the formation of noncalcaneous (Achilles tendon)		
MS-A-050	Describe the articulations, muscles and nerve supply and movements at Tibiofibular joints	Human Anatomy	Tibiofibular Joints

			n t
MS-A-051	Describe the ankle joint with its type, articulations, ligaments, movements, and nerve supply	Human Anatomy	Ankle Joint
	Describe the factors stabilizing the ankle joint. Discuss important associated clinical conditions.		
	Identify and demonstrate the articulating surfaces and ligaments of ankle joint		
MS-A-052	Describe the formation, attachments, and clinical significance of plantar aponeurosis	Human Anatomy	Plantar Fascia
	Explain the anatomical basis of the signs and symptoms of plantar fasciitis.	Integrate with Orthopedics	
MS-A-053	Identify the parts and bony features, attachments, and important relations of the articulated foot	Human Anatomy	Muscles of foot
	Describe the muscles of the dorsum and sole of foot with their proximal & distal attachments, innervation and actions emphasizing the role of interossei and lumbricals.		
	Draw and label the muscles of the layers of sole of foot		

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	Demonstrate and identify the muscles and tendons with their proximal and distal attachments in the sole of foot		
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MS-A-054	Describe the interphalangeal, subtalar and midtarsal joints with their types, articulation, movements, ligaments.	Human Anatomy	S
MS-A-055	Describe the formation, components, stabilizing and maintaining factors of the arches of foot	Integrate with Orthopedics	Arches of foot
	Describe the clinical significance of arches of foot with respect to flat foot, claw foot.		
MS-A-056	Describe the fibrous flexor sheaths, extensor expansions and synovial flexor sheaths	Human Anatomy	Retinacula of foot
	Describe the origin, course, relations,		

MS -A- 057	branches/tributaries, distribution, and termination of plantar vessels	Hum an Anato my	Neurova scular supply of foot
	Identify the nerves and vessels on the foot along with their branches		
	Describe the cutaneous nerves of foot		
	Draw and label the cutaneous nerve supply and dermatomes of foot		
	Identify the nerves and vessels in the sole of foot along with their branches		
	Describe the palpation of dorsalis pedis artery & explain the clinical significance of dorsalis pedis artery		
MS -A- 058	Describe the surface anatomy, course, relations, tributaries, and communications of the superficial veins of the lower limb	Hum an Anato my	Arterial and Venous drainag e of lower limb
	Draw a concept map of the superficial veins of lower limb		
	List the factors favoring venous return of the lower limb		
	Explain the anatomical basis of the formation,		

MS -A- 059	and signs and symptoms of deep venous thrombosis	Integrate with Surgery	Human Gait
	Discuss Clinical correlations of Lower Limb Arteries (palpation of femoral, popliteal, posterior tibial &	Integrate with Medicine	

	dorsalis pedis arteries, collateral circulation, intermittent claudication, occlusive arterial disease)		
MS-A-060	Draw a concept map of the lymphatic drainage of lower limb	Human Anatomy	Lymphatic drainage of lower limb
MS-A-061	Draw and label the cutaneous nerves & dermatomes of the lower limb Discuss clinical correlates of Lower limb nerves (Femoral nerve injury, Sciatic Nerve injury, Common fibular, tibial & obturator nerve injury) Describe the anatomical basis of knee jerk, ankle jerk, and plantar reflex		Cutaneous dermatomes & nerve supply of lower limb

MS-A-062	Demonstrate the surface marking of nerves and vessels of lower limb	Human Anatomy	Topographical and radiological anatomy of lower limb
	Demonstrate the surface marking of bony landmarks of lower limb		
	Identify the topographical features of lower limb in a cross-sectional model		
	Demonstrate and identify the features of bones and joints of lower limb on radiograph/ CT scan/ MRI	Integrate with Radiology	
MS-A-063	Describe the common fractures of the following bone with the risk factors, clinical presentations, and management: 1. Clavicle 2. Humerus 3. Radius 4. Ulna 5. Small bones of hand 6. Hip bone 7. Femur 8. Tibia 9. Fibula 1. Small bones of foot	Orthopedics and trauma	Bone Fracture

MS-A-064	Describe the dislocations of the following joints with the risk factors and clinical presentations, and brief management: Shoulder joint 1. Elbow joint 2. Interphalangeal joint of hand 3. Hip joint 4. Knee joint 1. Ankle joint	Orthopedics and trauma	Joint Dislocation
EMBRYOLOGY & POST-NATAL DEVELOPMENT			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 06	
		DISCIPLINE	TOPIC
MS-A-065	Describe the development of skeletal muscle and innervation of axial skeletal Muscles-developmental basis of myotome	Human Embryology	Development of Muscles
	Briefly discuss the development of cardiac and smooth muscle (Detail to be covered in respective modules later).		

MS-A-066	Describe the process of limb development and limb growth	Human Embryology	Developm ent of Limb
MS-A-067	Describe the embryological basis of cutaneous innervation of limb	Human Embryology	Development of Nerve supply of limbs
	Describe the embryological basis of blood supply of limbs and concept of axial artery		
MS-A-068	Describe the embryological basis of congenital anomalies related to muscular system.	Human Embryology	Congenital anomalies of limbs
	Describe the clinical presentations and embryological basis of; i. Amelia ii. Meromelia iii. Phocomelia	Integrate with Paedriatic s	

	iv. Cleft Hand and Foot v. Polydactyly, Brachydactyly, Syndactyly i. Congenital club foot		
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MS-A-069	Describe the developmental process of cartilage and bone	Human Embryology	Development of Cartilage
	Describe the process of histogenesis of cartilage and bone		
MICROSCOPIC ANATOMY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 06	
		DISCIPLINE	TOPIC
MS-A-070	Describe the microscopic structure and ultramicroscopic structure of skeletal muscle	Histology	Histology of Muscles
	Explain the basis of myasthenia gravis.	Integrate with Medicine	
	Describe the microscopic and ultramicroscopic structure of cardiac muscle	Histology	
	Describe the microscopic and ultramicroscopic structure of smooth muscle		
	Compare and contrast the histological features of three types of muscle tissue		

MS-A-071	Describe Myosatellite Cells & their role in regeneration of muscle, hyperplasia, and hypertrophy of muscle fiber	Histology/ Integrate with Pathology	Functional Histology
	Explain the histopathological basis of leiomyoma	Histopatholog y	
MS-A-072	Describe the light and electron microscopic structure of bone cells Describe the light and electron microscopic structure of compact and spongy bone	Histology	Histology of Osseous tissue
	Describe the histological justification for osteoporosis, Osteopetrosis	Integrate with Patholog y	
	Describe the histological basis for bone repair after fractures.		

	Compare and contrast the microscopic features of compact and spongy bone		
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MS-A-073	Explain the characteristic features of ossification (Intramembranous & Endochondral ossification)	Histology	Histology of Bone
	Describe the zones seen in an epiphyseal growth plate		
MS-A-074	Describe the metabolic role of bone -	Integrate with Medicine	Functional Histology of Bone
	Describe the clinical presentation of osteoporosis, osteopenia	Integrate with Orthopedics	
MS-A-075	Describe the microscopic and ultramicroscopic structure of all types of cartilage	Histology	Histology of Cartilage
	Compare and contrast the structure of cartilage and bone matrix		
	Tabulate the differences between three types of cartilage		
MS-A-076	Describe the histological basis for bone & Cartilage growth and repair	Histology	Mechanism of Bone growth
NORMAL FUNCTION			

MEDICAL PHYSIOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 32	
		DISCIPLINE	TOPIC
MS-P-001	Explain the Physiological basis of membrane potential	Medical Physiology	Diffusion / Equilibrium Potentials
	Explain diffusion potentials of Na & K		
MS-P-002	Define Nernst potential		Nernst potential
	Explain Physiological Basis of Nernst potential		
	Write the Nernst equation.		
	Calculate Nernst potential for Na & K		
	Explain the effects of altering the concentration of Na ⁺ , K ⁺ , Ca on the equilibrium potential for that ion		
MS-P-003	Describe the normal distribution of Na ⁺ , K ⁺ , Ca and Cl ⁻ across the cell membrane		Goldman Equation

	Explain physiological basis of Goldman equation		
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	Clarify the role of Goldman equation in generation of Resting Membrane Potential (RMP).		
MS-P-004	Describe the Physiological basis of generation of RMP.		Resting Membrane Potential Neuron
	Explain the effects of hyperkalemia and Hypokalemia on the Resting Membrane Potential (RMP)		
	Name the membrane stabilizers		
	Explain the physiological basis of action of Local Anesthetics.	Medical Physiology Integrate with Anesthesiology	
MS-P-005	Describe the Physiological anatomy of Neurons		Neuron
	Discuss the axonal transport		
	Enlist & give functions of Neuroglial cells		
	Explain process of myelination in Central Nervous System (CNS) & Peripheral Nervous System (PNS)		
MS-P-006	Classify neurons functionally.		Classification of Neurons Fiber
	Classify nerve fibers according to Erlanger & Gasser Classification		
	Enlist properties of nerve fibers.		

MS-P-007	Discuss Components of ANS (Autonomic nervous system) Explain the physiological anatomy of sympathetic and parasympathetic nervous system Describe the types of adrenergic and cholinergic receptors and their functions Explain the effects of sympathetic and parasympathetic on various organs/ system of body	Medical Physiology	Autonomic nervous system
MS-P-008	Define Action Potential Enlist the properties of action potential Describe the ionic basis of an action potential. Explain the phases of action potential. Explain the effects of hyperkalemia and Hypokalemia on the action potential.		Action Potential of Neuron

	Draw monophasic action potential.		
	Explain absolute and relative refractory period		
MS-P-009	Explain the role of other ions in action potential. Elaborate the effect of hypocalcemia on neuron excitability.		Role of other ions in action potential

MS-P-010	Explain Physiological basis& properties of Graded potential	Medical Physiology	Local / Graded potentials
	Draw & explain Physiological basis & properties of compound action potential.		
	Contrast between action potential and graded potential		
	Describe the ionic basis of excitatory Post Synaptic Potential (EPSP), Inhibitory Post Synaptic Potential (IPSP), End Plate Potential (EPP).		
MS-P-011	Classify and explain Physiological basis of different types of synapses	Medical Physiology	Synapse
	Elaborate how signal transmission takes place across chemical synapse		
MS-P-012	Explain the mechanism of conduction of Nerve impulse in myelinated and unmyelinated nerve fibers.		Conduction of Nerve Impulse
	Elaborate significance of saltatory conduction		
MS-P-013	Enlist the types of nerve injury	Medical Physiology Integrate with Medicine	Nerve Degeneration
	Explain Wallerian degeneration.		
	Describe the process of regeneration of nerve fiber.		
	Describe the causes, features & pathophysiology of Multiple sclerosis, GB syndrome.		

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MS-P-014	Discuss the physiological anatomy of skeletal muscles.	Medical Physiology	Skeletal muscle
	Discuss the physiological anatomy of skeletal, smooth, and cardiac muscles.		
	Describe the structure of Sarcomere		
MS-P-015	Differentiate between isometric and isotonic contraction by giving examples.		

	Compare the fast and slow muscle fibers.		Characteristics of whole muscle contraction
MS-P-016	Explain the mechanism of summation and Tetanization.	Medical Physiology	Mechanics of muscle contraction
	Describe staircase effect/Treppe phenomena		
	Discuss the mechanism of skeletal muscle fatigue.		
	Explain the remodeling of skeletal muscle to match the function. Describe the development of macro motor units in poliomyelitis.		
	Explain the physiological basis of rigor mortis	Medical Physiology Integrate with Forensic Medicine	
	Describe the physiological anatomy of Neuro Muscular Junction (NMJ)		

MS-P-017	Mechanism of Neuromuscular transmission & generation of End Plate Potential	Medical Physiology	Neuromuscular junction
	Explain features, pathophysiology & treatment of myasthenia Gravis	Medical Physiology Integrate with Medicine	
	Describe the enhancers or blockers of neuromuscular transmission at the neuromuscular junction.	Medical Physiology	
	Discuss the steps/ events of excitation contraction coupling in skeletal muscle.	Medical Physiology	
MS-P-018	Differentiate between types of smooth muscles.	Medical Physiology	Smooth Muscle
	Describe mechanism of smooth muscle contraction in comparison to skeletal muscle.		
	Explain the physiological anatomy of neuromuscular junction of smooth muscle		
	Explain the excitatory and inhibitory transmitters secreted at Neuro Muscular Junction (NMJ) of smooth muscles.		
	Explain the depolarization of multiunit smooth muscles without action potentials.		

	Explain the local tissue factors and hormones that can cause smooth muscle contraction without action potential.		
	Explain the regulation of smooth muscle contraction by calcium ions.		
	Explain membrane potential and action potentials in smooth muscles.		
	Explain the phenomena of stress relaxation and reverse stress relaxation in smooth muscles.		
	Explain the LATCH mechanism		
	Describe the significance of LATCH mechanism.		
	Explain the nervous and hormonal control of Smooth Muscle Contraction.		
MEDICAL BIOCHEMISTRY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 30	
		DISCIPLINE	TOPIC

MS-B-001	Classify carbohydrates along with the structure and biomedical importance of each class	Biochemistry	Classification carbohydrates
MS-B-002	Explain the isomerization of carbohydrates	Biochemistry	Carbohydrates
MS-B-003	Describe the physical and chemical properties of carbohydrates	Biochemistry	Extracellular matrix
	Differentiate between proteoglycan and glycoproteins		
	Describe the components of extracellular matrix: 1. Describe structure, function s and clinical significance of glycosaminoglycans 2. Discuss structure and functions of Fibrous proteins (collagen and Elastin) 3. Interpret diseases associated with them on	Biochemistry	

	basis of sign/symptoms and data 4. Interpret the importance of vitamin C in collagen synthesis 5. Describe sources, active form, functions and deficiency diseases of vitamin C		
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	1. Identify the defects in collagen synthesis based on given data (Osteogenesis Imperfecta)		Biochemistry
	Interpret genetic basis of Duchene muscular dystrophy		
	Explain the transport and uptake of glucose in cells,		

	steps of glycolysis and citric acid cycle along with enzymes, co enzymes and cofactors involved		
MS-B-004	Discuss the provision of energy to the muscles and cells through glycolytic pathway and TCA cycle	Biochemistry	Glycolysis and Tricarboxylic acid cycle (TCA)
MS-B-005	Describe the digestion and absorption of proteins Discuss the uptake of amino acids by cells Define amino acid pool and nitrogen balance. Explain ATP - dependent & ATP independent systems of protein degradation.	Biochemistry	Protein Digestion & Transport across cell

MS-B-006	Explain following reactions with enzymes involved in it: 1. Transamination 2. Deamination decarboxylation 3. Deamidation 4. Transdeamination. 1. Oxidative deamination.	Biochemistry	Reactions involve in catabolism
MS-B-007	Explain the role of pyridoxal phosphate, glutamate, glutamine, alanine and discuss the mechanism of transport of ammonia to liver	Biochemistry	Transportation of ammonia to liver
MS-B-008	Illustrate steps of urea cycle with enzymes and its importance Discuss ammonia intoxication	Biochemistry	Urea cycle

MS-B-009	Interpret different types of hyperammonemia on basis of sign symptoms and data		
MS-B-010	Discuss the metabolism of aliphatic, aromatic, branched chain, sulfur containing, hydroxyl group containing amino acids with the products formed and enzymes and vitamins involved in them	Biochemistry	Protein metabolism

MS-B-011	Interpret the following on basis of given data: 1. Phenylketonuria 2. Tyrosinemia 3. Albinism 4. Homocystinuria 5. Maple syrup urine disease 1. Alkaptonuria	Biochemistry	Inborn errors of amino acid metabolism
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PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS

THEORY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 4+7=11	
		DISCIPLINE	TOPIC
MS-Ph-001	Explain the mechanism by which drugs can stimulate NMJ.	Pharmacology & Therapeutics	Drugs acting on Neuromuscular Junction (NMJ)
	Explain the mechanism by which drugs can block NMJ.		
MS-Ph-002	Discuss briefly the therapeutic effect of drugs used in myasthenia gravis.		Drugs in Myasthenia Gravis
MS-Ph-003	Discuss briefly the therapeutic effect of drugs used as local anesthetics.		Local Anesthetics
MS-Pa-001	Describe the hyperplasia, hypertrophy, and atrophy of muscle fiber		Muscle remodeling
	Explain the histopathological basis of leiomyoma		
MS-Pa-002	Describe the histological basis of Duchenne Muscular Dystrophy.		Diseases of Muscle

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MS-Pa-003	Describe the clinical presentation and histological justification for osteoporosis, osteopetrosis	Pathology	Diseases of Bone
	Briefly enlist the steps of repair.		
MS-Pa-004	Describe the histological basis for bone repair after fracture and cartilage growth and repair		Disease of Cartilage
AGING			
THEORY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 04	

		DISCIPLINE	TOPIC
MS-Ag-01	Discuss the effect of age on bone fragility and its implications with management.		Bone
MS-Ag-02	Discuss the effect of age on loss of cartilage resilience and its implications and management		Cartilage
MS-Ag-03	Discuss the effect of age on Muscular strength and its implications and management		Muscle

MS-Ag-04	Explain the protective effect of estrogen (female sex hormone) on bone mineral density and relate it to increased prevalence of postmenopausal fractures in women.	Geriatrics/ Medicine/ Biochemistry	Effect of estrogen on BMD
DISEASE PREVENTION AND IMPACT			
CODE	COMMUNITY MEDICINE & BEHAVIORAL SCIENCE	TOTAL HOURS = 14+3=17	
	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
MS-CM-001	Explain causes of low back pain	Community Medicine and Public Health	Back Pain
	Describe prevention of low back pain		
MS-CM-002	Describe work related musculoskeletal disorders addition with its burden/epidemiology		Work related Musculoskeletal disorders
	Identify risk factors of Musculoskeletal disorders MSD at workplace		
	Describe prevention of exposure to risk factors related to workplace		

MS-CM-003	Describe MSD related to mobile addition with its burden/epidemiology	Community Medicine and Public Health	MSD related to mobile usage
	Describe MSD related to mobile usage (Text neck, Trigger thumb, DeQuervain Syndrome, Carpel Tunnel Syndrome)		
	Identify risk factors related to MSD due to excessive mobile usage.		
	Describe the preventive strategies for mobile addiction-related MSD.		

MS-CM-004	Describe the application of ergonomics in MSD related to the above disorders.	Community Medicine and Public Health	Ergonomics
MS-CM-005	Describe the concept of non-communicable Musculoskeletal diseases		Noncommunicable disease
MS-CM-006	Identify the risk factors in the community for Osteoporosis		Risk factor assessment of Musculoskeletal diseases
	Learn and apply interventions to prevent the risk factors for various		

	musculoskeletal diseases in the community.		
MS-BhS-001	Identify and deal with the various psychosocial aspects of Musculoskeletal conditions (such as Osteoarthritis, Osteomyelitis, Rheumatoid arthritis, Gout, chronic back pain, psychosomatic complaints) and Neuromuscular conditions (Muscular dystrophy, Myasthenia Gravis, Sclerosis) on Individual, Family and Society	Behavioral Sciences	Psychosocial factors influencing chronic illnesses
MS-BhS-002	Identify the psychosocial risk factors as mediating factors between illness and its effect.		Psychosocial Impact of Disease and its management
	Discuss the role of psychological variables like coping, social support, and other health cognitions in mediating between illness and its effect.		

HISTOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 08	
		DISCIPLINE	TOPIC
MS-A-077	Draw and label the histology of skeletal muscle	Histology	Histology of Muscles
	Draw and label the histology of smooth muscle		
	Draw and label the histology of cardiac muscle		
MS-A-078	Draw and label the histological picture of compact bone	Histology	Histology of Bones
	Draw and label the histological picture of spongy bone		
MS-A-079	Draw and label the microscopic structure of hyaline cartilage	Histology	Histology of Cartilage
	Draw and label the microscopic structure of elastic cartilage		
	Draw and label the microscopic structure of fibro		

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	cartilage		
PHYSIOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS=02	
		DISCIPLINE	TOPIC
MS-P-019	Demonstrate and categorize the following movements: Pushing against the wall, Biceps curls, squats, yoga chair pose, standing on toes, running on an inclined treadmill, yoga tree pose, deadlift as isotonic and isometric skeletal muscle contraction.	Physiology	Locomotion
MS-P-020	Interpret the graph of local/action potential/compound action potential from the recording of nerve fibers, & nerve trunk.	Physiology	Nerve Fibers

MS-P-021	Interpret the graph of local/action potential from the recording of skeletal, & smooth muscles.	Physiology	
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MS-P-022	Interpret the graph of frequency summation and tetanization	Physiology	Muscles
BIOCHEMISTRY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS=04	
		DISCIPLINE	TOPIC
MS-B-012	Estimate total proteins by kit method.	Biochemistry	Total proteins
MS-B-013	Estimate serum albumin level. Calculate serum globulin level.		Albumin/ globulin
PHARMACOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS=03	
		DISCIPLINE	TOPIC
MS-Ph-004	Label the diagram of the neuromuscular junction showing non depolarizing/depolarizing blockage.	Pharmacology	
	Enumerate drugs for Myasthenia Gravis. Label the diagram to show the effect of Neostigmine in the treatment of Myasthenia Gravis		

	Identify Ampules of neuromuscular blocking agents (e.g., Succinylcholine and Atracurium) and local anesthetics (or their pictures) with their MOA, clinical uses and adverse effects.		NMJ Blockers
PATHOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS=02	
		DISCIPLINE	TOPIC
MS-Pa-005	Identify the salient gross and microscopic features of Leiomyoma.	Pathology	Leiomyoma
MS-Pa-006	Identify the salient gross and microscopic features of steps of bone healing (Pictorial) with factors and complications affecting bone healing.		Bone healing

Operational Definition

Traditional & Innovative Teaching Methodologies

Sr.	Pedagogical Methodologies	Description
1.	Lectures	Traditional method where an instructor presents information to a large group of students (large group teaching). This approach focuses on

		delivering theoretical knowledge and foundational concepts. It is very effective for introducing new topics.
2.	Tutorial	Tutorials involve small group discussion (SGD) where students receive focused instruction and guidance on specific topics.
3	Demonstrations	Demonstrations are practical displays of techniques or procedures, often used to illustrate complex concepts or practices, particularly useful in dental education for showing clinical skills.
4	Practicals	Hands-on sessions where students apply theoretical knowledge to real-world tasks. This might include lab work, clinical procedures, or simulations. Practicals are crucial for developing technical skills and understanding the application of concepts in practice.
5.	Student Presentations	Students prepare and deliver presentations on assigned topics. This method enhances communication skills, encourages students to explore topic in-depth. It also provides opportunities for peer feedback and discussion.
6.	Assignment	Tasks given to students to complete outside of class. Assignments can include research papers, case studies, or practical reports. They are designed to reinforce learning, assess understanding, and develop critical thinking and problem-solving skills.
7.	Self-directed Learning	Students take initiative and responsibility for their own learning process. Students are encouraged to seek resources, set goals, and evaluate their progress. This is a learner-centered approach where students take the initiative to plan, execute, and assess their own learning activities. This method promotes independence, critical thinking, and lifelong learning skills.
8.	Flipped Classroom	In this model, students first engage with learning materials at home (e.g., through videos, readings) and then use class time for interactive activities, discussions, or problem-solving exercises. This approach aims to maximize in-class engagement and application of knowledge.
9.	Peer-Assisted Learning (PAL)	A collaborative learning approach where students help each other understand course material. PAL involves structured peer tutoring, study groups, or collaborative tasks. It enhances comprehension through teaching, reinforces learning, and builds teamwork skills.
10.	Team-based Learning (TBL)	A structured form of small group learning where students work in teams on application-based tasks and problems. Teams are responsible for achieving learning objectives through collaborative efforts, promoting accountability, and deeper understanding of the material.
11.	Problem-based Learning (PBL)	Students work on complex, real-world problems without predefined solutions. They research, discuss, and apply knowledge to develop solutions. PBL fosters critical thinking, problem-solving skills, and the ability to integrate knowledge from various disciplines.

12.	Academic Portfolios	A collection of student's work that showcases learning achievements, reflections, and progress over time. Portfolios include assignments, projects, and self-assessments. They provide a comprehensive view of student development, highlight strengths and areas for improvement, and support reflective learning (experiential learning)
13.	Seminar	A seminar is an academic or professional setting where individuals discuss, present, and explore specific topics, often with expert guidance

Assessment Policy

Introduction

This policy outlines the guidelines for internal assessment of students at Avicenna Medical and Dental College. Internal assessment plays a crucial role in evaluating a student's progress, understanding their strengths and weaknesses, and providing timely feedback. This policy aims to ensure fairness, consistency, and transparency in the internal assessment process.

Internal Assessment Components

The internal assessment for each course will be comprised of the following components:

1. Attendance

- Attendance will be recorded regularly and will contribute to the overall internal assessment score.
- Students are expected to maintain a minimum attendance of 75% to be eligible for internal assessment marks.

2. Continuous Assessment

- Continuous assessment will be based on regular assignments, quizzes, presentations, and other activities conducted throughout the semester.
- These assessments will evaluate students' understanding of the course material, their critical thinking skills, and their ability to apply knowledge to real-world scenarios.

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3. Grand Test and Module Exams

- Grand tests and module exams will be conducted to assess students' comprehensive understanding of the course content.
- These exams will be designed to evaluate both theoretical knowledge and practical skills.

4. Attitude and Behavior

- Students' attitude towards learning, participation in class activities, and adherence to college rules and regulations will be assessed.
- This component will evaluate students' professionalism, teamwork skills, and ethical conduct.

5. Logbook and Portfolio

- Students will be required to maintain a logbook and portfolio to document their learning journey.
- The logbook will include reflections on lectures, tutorials, and practical sessions.
- The portfolio will showcase students' best work, including assignments, projects, and research papers.

Assessment Criteria and Weighting

The following table outlines the weighting of each component in the internal assessment:

Component	Marks	Percentage
Attendance	6	2%
Continuous Assessment	12	4%
Grand Test and Module Exams	30	10%

Attitude and Behavior	10	3%
Logbook and Portfolio	2	1%
Total	60	20%

Assessment Procedures

- **Faculty Responsibility:** Faculty members will be responsible for designing and administering the internal assessments in accordance with the course syllabus and this policy.
- **Marking and Grading:** Faculty members will mark and grade the assessments using a transparent and consistent marking scheme. Candidates shall be required to score at least 50% marks in the internal assessment in each subject to become eligible for admission to professional examinations.
- **Feedback:** Faculty members will provide timely and constructive feedback to students on their performance.
- **Record-Keeping:** Faculty members will maintain accurate records of all internal assessments, including marks and feedback.
- **Moderation:** Internal assessments will be moderated by the course coordinator or the head of the department to ensure fairness and consistency.

Appeal Process

Students who have concerns about their internal assessment marks may appeal to the concerned faculty member or the head of the department. The appeal process will be handled promptly and fairly.

The internal assessment policy is designed to promote student learning, assess their progress, and provide a fair and transparent evaluation system. Faculty members and students are expected to adhere to this policy to ensure the integrity of the internal assessment process.

Attendance Requirement & Internal Assessment Criteria

The institution follows the regulations for examinations of the UHS in letter and spirit. The students require **75% attendance** in all academic sessions and **50% passing marks** with

internal assessments and send-up examinations to be eligible for the UHS Professional Examinations.

Assessment Guidelines

Assessment in medical & dental education is a critical component designed to ensure that medical & dental students acquire the necessary knowledge, skills, and competencies required for effective medical & dental practice.

Assessment drives learning! – George E. Millar

You will encounter a variety of assessment methods, each serving a specific purpose.

- Written examinations, including multiple-choice and essay questions, will test your grasp of theoretical concepts and subject matter.
- Practical assessments will require you to demonstrate your clinical skills and ability to apply knowledge in real-world scenarios.
- Clinical exams will evaluate your communication skills and reasoning abilities through case discussions and problem-solving exercises.
- Clinical skills and work-place based assessments will observe your hands-on proficiency and patient management capabilities.

At Avicenna Medical & Dental College, internal assessments are systematically conducted throughout each academic year of the MBBS program, as per the guidelines established by the University of Health Sciences (UHS). These assessments, overseen by the Assessment Cell, adhere to either the Annual Subject-Based System or the Integrated/Modular System, depending on the curriculum structure.

Notably, beginning with the 2024-25 academic year, the weightage of internal assessments will be increased from 10% to 20%. The UHS administers professional examinations independently, organizing them at designated neutral sites and appointing external examiners to ensure objectivity and fairness.

Internal Assessment Weightage	20%	100%
External Assessment Weightage	80%	

MBBS YEAR-1						
SUBJECT	THEORY		PRACTICAL			TOTAL
Block-2 Module (CARDIOAVASCULAR-1 & RESPIRATORY-1)	Part 1 MCQs (140)	140 marks	Practical/Clinical examination	011 OSPE 02 OSCE 03 OSVE	Marks 88 10 42	350
	Internal Assessment 10%	35 Marks	Internal Assessment 10%	35 Marks		
	Total	175	Total	175		

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 (OSCE / OSPE / OSVE / Short case)	5 %
	Portfolio-clinical logbooks (CFRC / PERLs / Clinical Clerkship)	3 %

Assessment Schedule:

1st Year MBBS – Exam Schedule – 2026/27

Date	Assessment
2 nd March 2026	IFT 1
30 th March 2026	IFT 2
6 th April 2026	Allied subjects' exam
13 th April 2026	Module Exam 1

6 th May 2026	Module Exam 2
11 th May 2026	Block 1 Exam Written
12 th May 2026	Block 1 Exam OSPE/Viva
8 th June 2026	IFT 3
30 th June 2026	IFT 4
3 rd July 2026	Module Exam 3
7 th July 2026	Block 2 Exam Written
8 th July 2026	Block 2 Exam OSPE/Viva
31 st August 2026	IFT 5
14 th September 2026	IFT 6
21 st September 2026	Allied subjects' exam
28 th September 2026	Module Exam 4
12 th October 2026	IFT 7
19 th October 2026	Allied subjects' exam
4 th November 2026	Module Exam 5
6 th November 2026	Block 3 Exam Written
9 th November 2026	Block 3 Exam OSPE/Viva
11 th November 2026	Internal Assessment Test 1
13 th November 2026	Internal Assessment Test 2
16 th November 2026	Internal Assessment Test 3
18 th November 2026	Internal Assessment Test 4
20 th November 2026	Internal Assessment Test 5
23 rd November 2026	Send up Block 1 Written
24 th November 2026	Send up Block 1 OSPE/Viva
27 th November 2026	Send up Block 2 Written
30 th November 2026	Send up Block 2 OSPE/Viva
3 rd December 2026	Send up Block 3 Written
4 th December 2026	Send up Block 3 OSPE/Viva

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Table of Specification

Rectangular Strip

MBBS 1st Professional

Block-2

Theme	Subject	Written Exam		Oral/Practical/Clinical Exam			
		MCQ (1 mark)	Marks	OSPE (8 marks each observed)	OSCE (5 marks each observed)	OSVE (14 marks each observed)	Marks
Normal Structure	Anatomy applied/clinical	55	55	05	-	01	54
Normal Function	Physiology applied/clinical	27	27	02	-	01	30
	Biochemistry applied/clinical	23	23	02	-	01	30
Disease Burden & Prevention	Community Medicine & Public Health	06	06	-	-	-	-
	Behavioral Sciences	04	04	-	-	-	-
Pathophysiology & pharmacotherapeutics	Pathology	15	15	01	-	-	08
	Pharmacology	10	10	01	-	-	08
CFRC	CF-I	-	-	-	01	-	05
PERLs	PERLs-I	-	-	-	01	-	05
Total		140	140	11 stations x 08 = 88	02 stations x 05 = 10	03 stations x 14=42	140

Mandatory workshop

First year MBBS – CFR/BLS Workshop Schedule

All First year Cardiac First Response / Basic Life Support Mandatory Workshop schedule as follows:

Date	Day	Time	Batch	Venue	Facilitators
28 th March 2026	Saturday	8:30 am to 2:30 pm	Batch A	Skills Lab	Prof. Ameena & Ms. Mahwish /PGR
4 th April 2026	Saturday	8:30 am to 2:30 pm	Batch B	Skills Lab	Dr. Asad & Ms. Mahwish /PGR
11 th April 2026	Saturday	8:30 am to 2:30 pm	Batch C	Skills Lab	Prof. Ameena & Ms. Mahwish /PGR
18 th April 2026	Saturday	8:30 am to 2:30 pm	Batch D	Skills Lab	Dr. Asad & Ms. Mahwish /PGR
25 th April 2026	Saturday	8:30 am to 2:30 pm	Batch E	Skills Lab	Prof. Ameena & Ms. Mahwish /PGR

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2 nd May 2026	Saturday	8:30 am to 2:30 pm	Batch F	Skills Lab	Prof. Ameena & Ms. Mahwish /PGR
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Workshops have been scheduled as per the above-mentioned timetable. Students must strictly follow their allocated group and timings.

Note: As per UHS instructions, attendance in this workshop is mandatory for all students. Only those students who complete this workshop will be eligible for referral of UHS Professional Examination.

Recommended Books & Reading Resources

ANATOMY

Snell's Clinical Anatomy
 Netter's Atlas of Human Anatomy
 Langman's Medical Embryology
 Laiq Hussain Histology

PHYSIOLOGY

Guyton & Hall Textbook of Medical Physiology
 Ganong's Review of Medical Physiology (optional reference)

BIOCHEMISTRY

Lippincott's Illustrated Reviews: Biochemistry
 Harper's Illustrated Biochemistry (reference)

Pathology

Vinary Kumar, Abul K. Abbas and Nelson Fausto Robbins and Cotran, Pathologic basis of disease. WB Saunders.

Pharmacology

Katzung and Trevor's Pharmacology: Examination and Board Review- 15th Edition

Biomedical ethics

Principles of Biomedical ethics, 8th edition by Tom. L. Beauchamp, James F. Childress.

Islamiyat

Standard Islamiyat (compulsory) for B.A, BSc, MA, MSc, MBBS by Prof M Sharif Islahi.

Behavioural Sciences

Handbook of Behavioural Sciences by Prof. Mowadat H.Rana, 3rd Edition

Community medicine

Parks Textbook of Preventive and Social Medicine. K. Park

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Surgery

Bailey & Love's Short Practice of Surgery (latest edition)

Microbiology

Medical Microbiology and Immunology by Levinson and Jawetz

Pediatrics Medicine

Nelson Textbook of Pediatrics

Family medicine

Oxford Handbook of General Practice, 5th Edition

Gynecology

Gynecology by Ten Teachers

Forensic Medicine

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology by C.K. Parikh 6th Ed., CBS Publisher.

About Avicenna Medical College

Avicenna Medical & Dental College is a purpose-built, fully equipped institution with experienced and excellence-driven faculty to train high-quality dental professionals in Pakistan.

Avicenna Medical & Dental College runs under the umbrella of Abdul Waheed Trust. Abdul Wahid Trust is a non-profit social welfare organization and registered under the Societies Act with the Registrar of Societies. The Trust is legalized through a Trust Deed that bears necessary rectifications. The Trust Deed is further supported by its Memorandum and Article of Association that authorizes the establishment and operation of the Medical College, the Dental College, the Nursing College, the Allied Health Sciences College, and other activities in the healthcare sector.

In 2009, Avicenna Medical & Dental College was recognized by the Pakistan Medical & Dental Council. With the advent of advanced tools and technology in every field of health science, medicine today has shot up to the greater end of the gamut with superior choice and promises in medical therapy in the very vicinity of the common man. AVMDC promises to be one such neighborhood.

Infrastructure Resources

Sr .	Infrastructure Resources	Description
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1.	Lecture Hall	Each year has a dedicated lecture hall, totaling five lecture halls for the five professional years. These halls are equipped with modern audiovisual aids to support effective teaching and learning.
2.	Tutorial Room	The college's tutorial rooms, each with a capacity of 30, are specifically designed to support small group discussions and interactive sessions. These rooms facilitate personalized instruction, enabling more engaged and effective learning through direct interaction between students and instructors.
3.	Lab	The college is equipped with state-of-the-art laboratories for practical and clinical work. Each lab is designed to support various disciplines, to facilitate hands-on learning.
4.	Library on campus	A huge library occupies a full floor and has 260 seats including study carrels and group-discussion tables. Latest reference books of Basic and Clinical Sciences along with national & international journals are available in the library.
5.	Digital Library	The digital library offers access to a vast collection of e-books, online journals, research databases, and other digital resources. It supports remote access and provides tools for academic research and learning.
6.	Learning Management System (LMS)	The LMS is a comprehensive online platform that supports course management, content delivery, student assessment, and communication. It provides tools for tracking progress, managing assignments, and facilitates ongoing academic activities.
6.	Phantom Labs	Specialized Phantom Labs are available for advanced simulation and practice in dental procedures. These labs provide high-fidelity models and simulators that help students refine their clinical skills in a controlled environment.
7.	Mess & Cafeteria	The College has its own on-campus Mess which caters to 600 students. All food items including dairy, meat, and vegetables are sourced organically and bought in at the time of cooking, in order to ensure that students get freshly cooked meals at all times Students form the Mess committee which decides the mess menu in consultation with other students. The Mess offers fresh food to all residents three times a day. However, day scholars are also welcome to use the Mess facility at a reasonable cost. Two 50- inch LCD screens provide students an opportunity to get entertained during their meal times.
8.	Gymnasium & Sports	We recognize sports as a pivotal key to shape and maintain students' personality and good health. The College has indoor and outdoor sports facilities to help enhance the cognition and capacity to learn.

		There is a proper sports section for various games like basketball, football, volleyball, and cricket. The gym itself is fully equipped with modern machinery both for students and faculty.
9.	IT Lab	The IT Lab is equipped with modern computers and software available for students who need access for academic purposes.
10	Auditorium	The college has a spacious auditorium equipped with advanced audio-visual facilities. It is used for large-scale lectures, guest presentations, and academic conferences, providing a venue for students to engage with experts and participate in important educational events.
11	Examination Halls	The college provides dedicated examination halls that are designed to accommodate a large number of students comfortably. These halls are equipped with necessary facilities to ensure a smooth and secure examination process, including proper seating arrangements, monitoring systems, and accessibility features.

Message from the Principal

As a Co-Founder and Co-Chairperson, I have been involved in planning, construction and accreditation of Avicenna Medical College by the Pakistan Medical and Dental Council (PM&DC) and its affiliation with the esteemed University of Health Sciences (UHS). It is a pleasure to see Avicenna Medical College develop, progress and achieve maximum academic excellence in a short period since its inception in 2009. The institution has lived up to its mission of training and producing medical graduates of international standards. Three batches have passed out as Doctors, who currently are serving in the country and abroad while several have opted for post-graduation and are on road to progress. We have achieved several milestones since 2009 including the recognition of our College for FCPS training by College of Physicians and Surgeons of Pakistan (CPSP), establishment of College of Nursing and Avicenna Dental College.



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Principal

Prof. Dr. Gulfreen Waheed

MBBS, FCPS, MHPE, PhD Scholar - HPE

Avicenna Medical & Dental Colleg

Message from the Chairman

The Avicenna Medical & Dental College is a project of Abdul Waheed Trust which is a Non-profitable, Non-governmental, Non -political & Social organization, working for the welfare of Humanity and based on Community empowerment. Avicenna Medical College has its own 530 bedded Avicenna teaching Hospital (Not for Profit hospital) within the College Campus & 120 bedded Aadil Hospital, at 15 minutes' distance. Separate comfortable hostels for boys & girls are provided on the campus.

Our students benefit from the state of the art College Library with facilities of Internet & online Journals that remain open 15 hours a day, for our students & faculty members. I am particularly pleased with the hard work by the Faculty and Students in the achievement of historic 100% results for all the classes. It is a rare achievement and speaks of dedication of the Faculty and Staff. Our motto is Goodness prevails and we aim at producing Doctors' who are knowledgeable, competent in clinical skills and ethical values.

Avicenna Medical College & Hospital was founded to provide quality health care services to the deserving patients belonging to the rural areas near Avicenna Hospital as well as to provide quality medical education of international standard to our students. The Hospital provides all medical services and Lab diagnostics to the local population at minimal cost. So far by the grace of Allah Almighty the number of patients being treated and operated upon at our Hospital is increasing every day as there is no other public or charity hospital in the circumference of 20km. We have already established two Satellite Clinics in the periphery which are providing outdoor care while admission cases are brought to the Hospital in Hospital transport.

Following the success of our reputable Medical College and Hospital, we were able to successfully establish Avicenna Dental College which is recognized by the Pakistan medical & Dental Council & University of Health Sciences. To date, we have enrolled five batches in our dental college and we aim to achieve the same level of success for our dental students as our medical students.

Chairman

Abdul Waheed Sheikh

Avicenna Medical & Dental College

Vision & Mission



Avicenna Medical & Dental College



Vision

The vision of **Avicenna Medical & Dental College** is to become a college that thrives to achieve improvement in healthcare of masses through creative delivery of educational programs, innovative research, commitment to public service and community engagement in a environment that supports diversity, inclusion, creative thinking, social accountability, life-long learning and respect for all.

Mission

The mission of **Avicenna Medical and Dental College** is to educate and produce competent, research oriented healthcare professionals with professional commitment and passion for life-long learning from a group of motivated students through quality education, research and service delivery for the improvement of health status of the general population.