

AVICENNA MEDICAL & DENTAL COLLEGE



STUDY GUIDE

2026

CARDIOVASCULAR-1

BLOCK-3 MODULE-3



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

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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.

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.

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



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.

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

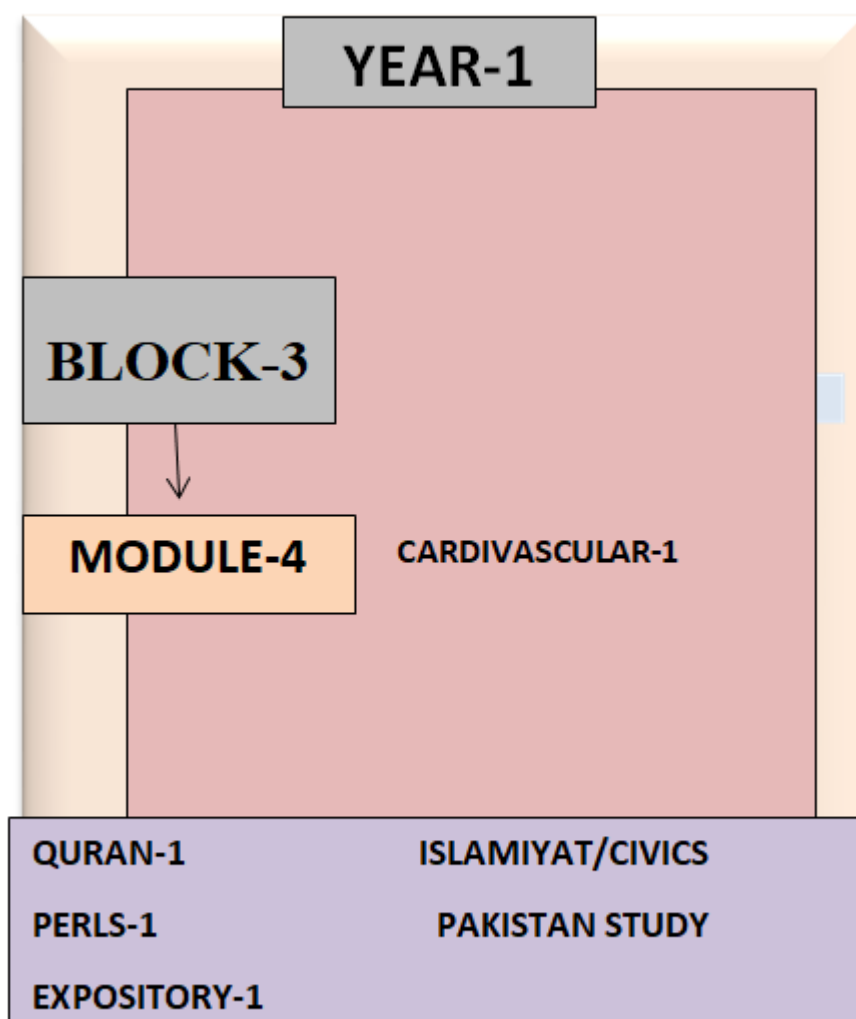
	DALY	Disability-Adjusted Life Year
	DCIS	Ductal Carcinoma in situ
	DCM	Dilated Cardiomyopathy Dorsal Colu
	DCMLS	Dorsal column medial lemniscus system
	DLC	Differential Leukocyte Count
	DMARDs	Disease Modifying Anti Rheumatic Drugs
	DNA	DeoxyRibonucleic Acid
	DOTS	Directly Observed Treatment Short-course
	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
	VSD	ventricular 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.

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.
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-4

- The module 4 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.

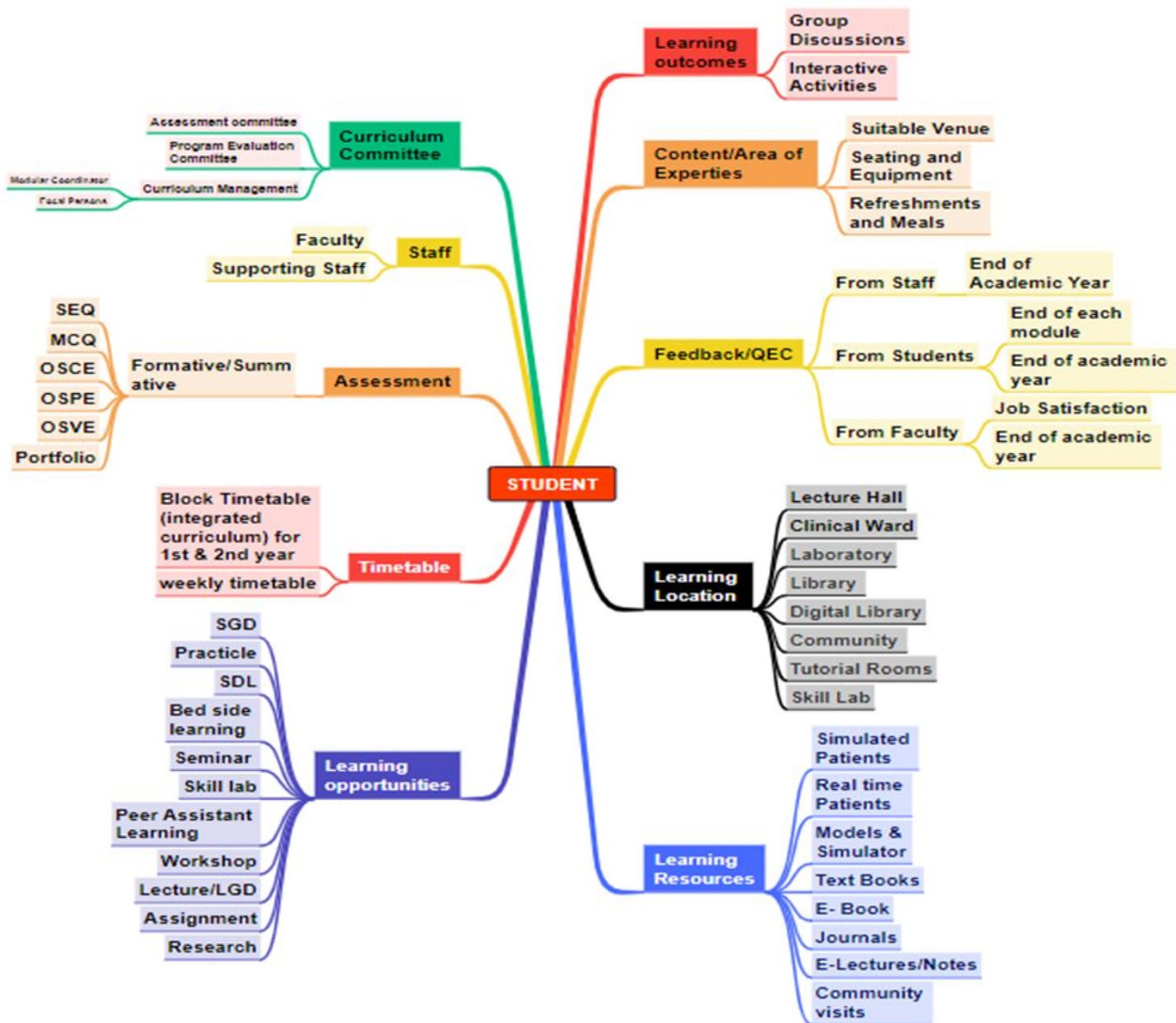
Module Committee

Name	Designation	Department
Prof. Dr. Gulfreen Waheed	Principal & Director DME	Medical Education
Dr. Saba Iqbal	Assistant Professor	Medical Education
Dr. Syed Hussain Raza Zaidi	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:

Aricenna Medical & Dental College Calendar First year MBBS 2025- 2026																											
January 2026								February 2026								March 2026							SESSION				
Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat	START, 9th	Gazetted			
				1	2	3	Orientatio n Week	1	2	3	4	5	6	7	Week-04	1	2	3	4	5	6	7	10th	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	11th	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	12th	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	13th	iv- Labor			
25	26	27	28	29	30	31									Week-07	29	30	31					14th	v- Eid- Ul- Adha			
																							15th	vi-			
April 2026								May 2026								June 2026							vii- Ashura- 25th				
Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat	26th June 2026	viii-			
Week-07			1	2	3	4	Week-11						1	2	Week-15		1	2	3	4	5	6	16th	ix- Milad un Nabi			
Week-08	5	6	7	8	9	10	Week-12	3	4	5	6	7	8	9	Week-16	7	8	9	10	11	12	13	17th	x- Qaid-e-Azam			
Week-09	12	13	14	15	16	17	Week-13	10	11	12	13	14	15	16	Week-17	14	15	16	17	18	19	20	18th	xi- Christmas			
Week-10	19	20	21	22	23	24	Week-14	17	18	19	20	21	22	23	Week-18	21	22	23	24	25	26	27	19th	Spring Vacations			
Week-11	26	27	28	29	30		Eid Week	24	25	26	27	28	29	30	Week-19	28	29	30					20th	Summer			
								31															21st	Winter Vacations			
July 2026								August 2026								September 2026							Events				
Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat	22nd Sept 2026	Annual Dinner			
Week-19			1	2	3	4								1	Week-24			1	2	3	4	5	23rd	White Coat			
Week-20	5	6	7	8	9	10	Week-21	2	3	4	5	6	7	8	Week-25	6	7	8	9	10	11	12	24th	Sports Week 2nd			
Summer	12	13	14	15	16	17	Week-22	9	10	11	12	13	14	15	Week-26	13	14	15	16	17	18	19	25th	Sports Day 16th			
Summer	19	20	21	22	23	24	Week-23	16	17	18	19	20	21	22	Week-27	20	21	22	23	24	25	26	26th	Wellness Week			
Vacations	26	27	28	29	30	31	Week-24	23	24	25	26	27	28	29	Week-28	27	28	29	30				27th	Module Exam			
								30	31														28th	Module 1 Exam -			
October 2026								November 2026								December 2026							13th Nov 2026				
Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat	14th Nov 2026	Module 2 Exam -			
Week-28				1	2	3	Week-33	1	2	3	4	5	6	7	Week-37			1	2	3	4	5	15th	Module 3 Exam -			
Week-29	4	5	6	7	8	9	Week-34	8	9	10	11	12	13	14	Week-38	6	7	8	9	10	11	12	16th	Module 4 Exam -			
Week-30	11	12	13	14	15	16	Week-35	15	16	17	18	19	20	21	Week-39	13	14	15	16	17	18	19	17th	Module 5 Exam -			
Week-31	18	19	20	21	22	23	Week-36	22	23	24	25	26	27	28	Winter Vacations	20	21	22	23	24	25	26	18th	Block Exam			
Week-32	25	26	27	28	29	30	Week-37	29	30							27	28	29	30	31			19th	a-Block:1 Exam- 11th & 12th Nov			
																							20th	b-Block:2 Exam- 7th & 8th			

Time Table:

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	08:00 - 09:00	09:00 - 10:30	10:30-11:30	11:30-12:30	12:30-1:30	1:30-2:30		2:30-3:30	5:00 - 6:00	
		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		
AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-20		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # III		MODULE - 04	
		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
6-Jul-26	Mon	Lecture Physiology	Lecture Anatomy	Lecture Biochemistry	Lecture Physiology	BREAK	Tutorial Anatomy Biochemistry Physiology	Practical Histology Biochemistry Physiology	Computer Science	BREAK	CFRC
7-Jul-26	Tues	08:00 - 11:00 BLOCK - II THEORY			Lecture Physiology		12:30-01:30	1:30-2:30	2:30 - 3:30		5:00 - 6:00
						Tutorial Anatomy Biochemistry Physiology	Practical Histology Biochemistry Physiology	English Expository Writing	CFRC		
8-Jul-26	Wed	08:00 - 10:30 BLOCK - II OSPE / OSVE BATCH B		10:30-11:00 BREAK	11:00 - 01:00 BLOCK - II OSPE / OSVE BATCH C		01:00-01:30 BREAK	1:30-3:30 BLOCK - II OSPE / OSVE BATCH A		5:00 - 6:00	
										CFRC	
9-Jul-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	5:00 - 6:00	
		Lecture Anatomy	Lecture Physiology	Lecture Biochemistry	Lecture Behavioural Science	BREAK	Lecture Medicine Integration	Computer Science	Lecture Quran	CFRC	
10-Jul-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 Biochemistry	Lecture Physiology	Lecture Anatomy	Tutorial Anatomy Biochemistry Physiology	Practical Histology Biochemistry Physiology	JUMMA BREAK	Lecture Pakistan Studies	CFRC		

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-22		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY			Rectangular Snip				BLOCK # III		MODULE - 04	
17-Aug-26	Mon	08:00 - 09:00 Lecture Physiology	09:00 - 10:00 Lecture Biochemistry	10:00-11:00 Lecture Physiology	11:00 - 12:00 Lecture Pathology	12:00 - 12:30 BREAK	12:30-01:30 Tutorial Anatomy Biochemistry Physiology	1:30-2:30 Clinical Skill	2:30 - 3:30 Practical Histology Biochemistry Physiology	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
18-Aug-26	Tues	08:00 - 09:00 Lecture Biochemistry	09:00 - 10:00 Lecture Physiology	10:00-11:00 Lecture Community Medicine	11:00 - 12:00 Lecture PERL (Ethics)	BREAK	12:30-01:30 Tutorial Anatomy Biochemistry Physiology	1:30-2:30 Clinical Skill	2:30 - 3:30 Practical Histology Biochemistry Physiology	BREAK	5:00 - 6:00 CFRC
19-Aug-26	Wed	08:00 - 09:00 Lecture Physiology	09:00 - 10:00 Lecture Anatomy	10:00-11:00 Lecture Physiology	11:00 - 12:00 Lecture Pathology	BREAK	12:30-01:30 Tutorial Anatomy Biochemistry Physiology	1:30 - 2:30 Practical Histology Biochemistry Physiology	2:30 - 3:30 Lecture Pakistan Studies	BREAK	5:00 - 6:00 CFRC
20-Aug-26	Thur	08:00 - 09:00 Lecture Anatomy	09:00 - 10:00 Lecture Physiology	10:00-11:00 Lecture Community Medicine	11:00-12:00 Lecture Medicine Integration	BREAK	12:30-01:30 Computer Science	1:30 - 2:30 English Expository Writing	2:30 - 3:30 Lecture Islamiyat	BREAK	5:00 - 6:00 CFRC
21-Aug-26	Fri	08:00 - 09:00 Lecture Physiology	09:00 - 10:00 Lecture Anatomy	10:00-11:00 Lecture Physiology	11:00-12:00 Lecture Pharmacology	12:00-1:00 Lecture Quran	1:00-2:30 JUMMA BREAK	2:30 - 3:30 Lecture Quran	BREAK	BREAK	5:00 - 6:00 CFRC

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-23		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY			Rectangular Snip				BLOCK # III		MODULE - 04	
24-Aug-26	Mon	08:00 - 09:00 Lecture Biochemistry	09:00 - 10:00 Lecture Anatomy	10:00-11:00 Lecture Physiology	11:00 - 12:00 Lecture Community Medicine	12:00 - 12:30 BREAK	12:30-01:30 Tutorial Anatomy Biochemistry Physiology	1:30-2:30 Practical Histology Biochemistry Physiology	2:30 - 3:30 Lecture Islamiyat	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
25-Aug-26	Tues	Eid Milad un Nabi Holiday									
26-Aug-26	Wed	08:00 - 09:00 Lecture Physiology	09:00 - 10:00 Lecture Biochemistry	10:00-11:00 Lecture Physiology	11:00 - 12:00 Lecture Pathology	12:00 - 12:30 BREAK	12:30-01:30 Tutorial Anatomy Biochemistry Physiology	1:30 - 2:30 Practical Histology Biochemistry Physiology	2:30 - 3:30 Lecture PERL (Leadership)	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
27-Aug-26	Thur	08:00 - 09:00 Lecture Anatomy	09:00 - 10:00 Lecture Physiology	10:00-11:00 Lecture Pathology	11:00-12:00 Lecture Community Medicine	BREAK	12:30-01:30 Tutorial Anatomy Biochemistry Physiology	1:30 - 2:30 Practical Histology Biochemistry Physiology	2:30 - 3:30 Lecture Pakistan Studies	BREAK	5:00 - 6:00 CFRC
28-Aug-26	Fri	08:00 - 09:00 Lecture Medicine Integration	09:00 - 10:00 Lecture Pharmacology	10:00-11:00 Lecture Physiology	11:00-12:00 Lecture PERL (Leadership)	12:00-1:00 Lecture Quran	1:00-2:30 JUMMA BREAK	2:30 - 3:30 Lecture Quran	BREAK	BREAK	5:00 - 6:00 CFRC

AVICENNA MEDICAL & DENTAL COLLEGE												
TIME TABLE WEEK-24		M-25 1st Year MBBS		SESSION 2025-2026 <i>Practicals and Skills</i>				Theme:				
DATE	DAY							BLOCK # III		MODULE - 04		
31-Aug-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	BREAK	5:00 - 6:00	
		Integrated Formative Assessment OS	Lecture Medicine Integration	Lecture Pathology	Lecture Physiology	BREAK	Tutorial Anatomy Biochemistry Physiology	Clinical Skill	Practical Histology Biochemistry Physiology		CFRC	
1-Sep-26	Tues	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00		BREAK	12:30-01:30	1:30-2:30		2:30 - 3:30	5:00 - 6:00
		Lecture Physiology	Lecture Biochemistry	Lecture Physiology	Lecture PERL (Leadership)			Tutorial Anatomy Biochemistry Physiology	Clinical Skill		Practical Histology Biochemistry Physiology	CFRC
2-Sep-26	Wed	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00 - 12:00			BREAK	12:30-01:30		1:30 - 2:30	2:30 - 3:30
		Lecture Anatomy	Lecture Physiology	Lecture Community Medicine	Lecture Physiology				Tutorial Anatomy Biochemistry Physiology	Lecture Pakistan Studies	Practical Histology Biochemistry Physiology	CFRC
3-Sep-26	Thur	08:00 - 09:00	09:00 - 10:00	10:00-11:00	11:00-12:00	BREAK			12:30-01:30	1:30 - 2:30	2:30 - 3:30	5:00 - 6:00
		Lecture Physiology	Lecture Anatomy	Lecture Physiology	Lecture Community Medicine		Lecture Islamiyat		English Expository Writing	Computer Science	CFRC	
4-Sep-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 Biochemistry	Lecture Physiology	Lecture Anatomy	Lecture Pharmacology		Lecture Quran	JUMMA BREAK	Lecture Pakistan Studies	CFRC		

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-25		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # III		MODULE - 04	
		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
7-Sep-26	Mon	Lecture Physiology	Lecture Pathology	Lecture Physiology	Tutorial Anatomy Biochemistry Physiology	BREAK	Lecture Community Medicine	Clinical Skill	Lecture Islamiat	BREAK	CFRC
8-Sep-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 Anatomy	Lecture Physiology	Lecture Community Medicine	Tutorial Anatomy Biochemistry Physiology		Lecture Pharmacology	Clinical Skill	Computer Science		CFRC
9-Sep-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 Biochemistry	Lecture Pathology	Tutorial Anatomy Biochemistry Physiology		Lecture PERL (Leadership)	Practical Histology Biochemistry Physiology Pathology			CFRC
10-Sep-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 Physiology	Practical Histology Biochemistry Physiology Pathology		Lecture PERL (Leadership)	Practical Histology Biochemistry Physiology Pathology		CFRC		
11-Sep-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 Medicine Integration	Lecture Anatomy	Practical Histology Biochemistry Physiology Pathology		Lecture Quran	JUMMA BREAK	Lecture Quran	CFRC		

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-26		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # III		MODULE - 04	
14-Sep-26	Mon	08:00 - 09:00 Integrated Formative Assessment 06	09:00 - 10:00 Lecture Medicine Integration	10:00-11:00 Lecture Physiology	11:00 - 12:00 Tutorial Anatomy Biochemistry Physiology	12:00 - 12:30 BREAK	12:30-01:30 Lecture Community Medicine	1:30-2:30 Clinical skill	2:30 - 3:30 Lecture Islamiyat	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
15-Sep-26	Tues	08:00 - 09:00 Lecture Physiology	09:00 - 10:00 Lecture Pathology	10:00-11:00 Lecture Physiology	11:00 - 12:00 Tutorial Anatomy Biochemistry Physiology	12:00 - 12:30 BREAK	12:30-01:30 Computer Science	1:30-2:30 Clinical skill	2:30 - 3:30 Lecture Quran	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
16-Sep-26	Wed	08:00 - 09:00 Lecture Biochemistry	09:00 - 10:00 Lecture Physiology	10:00-11:00 Lecture Anatomy	11:00 - 12:00 Tutorial Anatomy Biochemistry Physiology	12:00 - 12:30 BREAK	12:30-01:30 Lecture PERL (Research)	Practical Histology Biochemistry Physiology Pharmacology		3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
17-Sep-26	Thur	08:00 - 09:00 Lecture Physiology	09:00 - 10:00 Lecture Anatomy	Practical Histology Biochemistry Physiology Pharmacology		11:00 - 12:00	12:30-01:30 English Expository Writing	Practical Histology Biochemistry Physiology Pharmacology		3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
18-Sep-26	Fri	08:00 - 09:00 Lecture Anatomy	09:00 - 10:00 Lecture Physiology	10:00-11:00 Lecture Pathology Integration	Practical Histology Biochemistry Physiology Pharmacology		12:00-1:00 JUMMA BREAK	1:00-2:30	2:30 - 3:30 Lecture Quran	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-27		M-25 1st Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY			* Rectangular Snip				BLOCK # III		MODULE - 04	
21-Sep-26	Mon	08:00 - 09:00 Allied Subjects Integrated Formative Assessment	09:00 - 10:00 Lecture Anatomy	10:00-11:00 Lecture Physiology	11:00 - 12:00 Lecture Pathology	12:00 - 12:30 BREAK	12:30-01:30 Tutorial Anatomy Biochemistry Physiology	1:30-2:30 Clinical skill	2:30 - 3:30 Practical Histology Biochemistry Physiology	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
22-Sep-26	Tues	08:00 - 09:00 Lecture Physiology	09:00 - 10:00 Lecture Anatomy	10:00-11:00 Lecture Physiology	11:00 - 12:00 Lecture Pharmacology	12:00 - 12:30 BREAK	12:30-01:30 Tutorial Anatomy Biochemistry Physiology	1:30-2:30 Clinical skill	2:30 - 3:30 Practical Histology Biochemistry Physiology	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
23-Sep-26	Wed	08:00 - 09:00 Lecture Biochemistry	09:00 - 10:00 Lecture Physiology	10:00-11:00 Lecture Anatomy	11:00 - 12:00 Lecture Medicine Integration	12:00 - 12:30 BREAK	12:30-01:30 Tutorial Anatomy Biochemistry Physiology	1:30 - 2:30 Lecture Pakistan Studies	2:30 - 3:30 Practical Histology Biochemistry Physiology	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
24-Sep-26	Thur	08:00 - 09:00 Lecture Physiology	09:00 - 10:00 Lecture Biochemistry	10:00-11:00 Lecture Physiology	11:00 - 12:00 Lecture Anatomy	12:00 - 12:30 BREAK	12:30-01:30 Lecture Islamiyat	1:30 - 2:30 English Expository Writing	2:30 - 3:30 Computer Science	3:30 - 5:00 BREAK	5:00 - 6:00 CFRC
25-Sep-26	Fri	08:00 - 09:00 Lecture Anatomy	09:00 - 10:00 Lecture Physiology	10:00-11:00 Lecture Community Medicine	11:00 - 12:00 Lecture Physiology	12:00-1:00 Lecture Quran	1:00-2:30 JUMMA BREAK	2:30 - 3:30 Lecture Pakistan Studies		3:30 - 5:00 BREAK	5:00 - 6:00 CFRC

Allocation of Hours

AVICENNA MEDICAL COLLEGE, LAHORE

1ST YEAR MBBS

	Anatomy			Biochemistry			Physiology			Path		Pharm		Bh.Sc.	C.M.	Clinical Lectures	PERL				Quran	Islamiyat	Pak Std	Clinical Skills	Clinical Rotation	Comp. Sc.	EEW	Sports	Exam	Total	
Wk #	Lec	Tut	Prac	Lec	Tut	Prac	Lec	Tut	Prac	Lec	Prac	Lec	Prac				Prof	Ethics	Research	Lead											
1	9		2	5		2	5		2	1				1	1		1					1			2	5	1	1		39	
2	8	1	4	4	1	1	5	1	1	1				1	1		1					2			2	5				39	
3	8	1	2	3	1	2	4	1	2	2				1	1		1						1	2	5	1	1			39	
4	5	1	4	5	1		4	1	1	2	1	1		1	1			1				2			2	5			1	39	
5	5	1	2	4	1	1	5	1	2	2		1	1	1	1					1	1			2	5	1	1			39	
6	5	1	2	3	1	1	2	1	2	2	1	1		1	1					1	1		1		4					31	
7	5	1	4	3	1		4	1		2		1	2	1	1					1	1	1		2	5	1	1		1	39	
8	5	1	2	4	1	2	4	1	2					1	1								2	4					1	32	
9	1		2	7		2	6		2	2				1	1					1	1	1			5				7	39	
10	2		2	9		2	8		2	2		1		1	1				1		1	1	1		5					39	
11			2	4		2	6		2	1		1			1				1					4					7	32	
12	11		1	3		1	3		1					1	2		1							5					10	39	
13	14	1	2	3	1	1	3	1	1	1				1	2			1						5							39
14	16	1	2	3	1	1	3	1		1			1	1	2					1				5							39
15	17	1	2	3	1		2	1		1	1	1	1		2					1				5							39
16	15	1	1	2	1	1	2	1		1	1	1	1		2				1				2	5					1	39	
17	16	4		2	2		3	2		1		1			2			1						5							39
18	8	2		2	2		3	2		1		1												3							24
19	6	4		3	2		3	2		1					2	3							2	5					6	39	
20	3	1	1	3	1	1	6	1	1					1								1		1	5	2	1		10	39	
21	3	1	1	3	1	1	8	1	1					1	1		2					1	1	2	4						32
22	3	1	1	2	1	1	9	1	1	2		1			2			1				2	1	1	2	5	1	1			39
23	2	1	1	2	1	1	6	1	1	2		1			2					2	2	1	1		4						31
24	3	1	1	2	1	1	9	1	1	1		1			2					1	1	1	2	2	5	1	1		1	39	
25	2	1	2	2	1	2	6	1	2	2	2	1			2					2	2	1		2	5	1					39
26	3	1	2	1	1	2	8	1	2	1			2		1				1			2	1		2	5	1	1		1	39
27	5	1	1	2	1	1	9	1	1	1		1			1						1	1	2	2	5	1	1		1	39	
28	5			2			7			2		1		2	2			1							5				5	7	39
29	5	1	1	2	1	1	9	1	1	1		1		1	1			1						2	5				5	39	
30	3	1	1	1	1	1	7	1	1	1		1			1		1							2	4				11	1	39
31	6	1	2	3	1	2	7	1	2	1		1			1							1		2	5	1			1	1	39
32	6	1	2	2	1	2	8	1	2	1		1		1	1							1		2	5	1			1		39
33	3	1		1	1		2	1									1		1				1	2	4				3	10	31
34																														20	20
35																														20	20
36																														20	20
37																														20	20
	208	34	52	100	30	35	176	30	36	39	6	20	8	19	42	3	8	6	5	12	22	12	12	42	156	13	9	26	146	1307	
	AL	AT	AP	BL	BT	BP	PL	PT	PP	PtL	PtP	PhL	PhP	Bh.Sc.	C.M.	Clin Lec	Prof	Ethics	Research	Lead	Quran	Isl	PS	Clin Sk	Clin Rota	CS	EEW	Sports	Exam	1161	
	242	52		130	35		206	36		45		28							31											66	
	294			165			242																								1227

Module Outcome

MODULE OUTCOMES

- Describe the microscopic features of nerve cells, muscle cells, general features of epithelia of the body.
- Appraise the functional characteristics of various components of cell membrane and organelles of cell.

- Differentiate between the dynamics of various transport mechanisms along the cell membrane.
- Compare the functional differences between RBCs, WBCs and blood groups.
- Explain the significance of homeostatic mechanisms in keeping body's internal environment nearly constant.
- 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		
		TOTAL HOURS = 10

CODE	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
CV-A-001	Define mediastinum giving its boundaries and compartments. List the contents of its various compartments.	Human Anatomy	Mediastinum
	Describe the formation, tributaries, and termination of superior vena cava		
	Describe the formation, branches, and relations of ascending aorta, aortic arch and descending thoracic aorta.		
	Discuss the distribution of ascending aorta, aortic arch and descending thoracic aorta in reference to their branches		
	Describe formation, course and tributaries of azygous, hemizygous and accessory hemizygous veins.		
	Describe the course, relations, and distribution of vagus and thoracic splanchnic nerves in relation to nerve supply of heart.		

CV-A-002	Describe Pericardium and its parts with emphasis on their nerve supply.	Human Anatomy	Pericardium
	Describe the pericardial cavity mentioning transverse and oblique sinuses. Discuss their clinical significance		
	Describe the anatomical correlates of various pericardial conditions like pericardial rub, pericardial pain, pericarditis, pericardial effusion, and cardiac tamponade.	Integrate with Medicine	
	Describe the anatomical basis for Paracentesis /pericardiocentesis.		
CV-A-003	Describe the external features of heart.	Human Anatomy	Heart
	List various chambers of heart mentioning their salient features and openings.		

	Describe the arterial supply of heart: coronary arteries and their distribution with special emphasis on collaterals established during ischemia.		
	Describe the sites of anastomosis between right and left coronary arteries with the participating vessels.		

	Discuss the anatomical correlates of cardiac arterial supply	Integrate with cardiology/ Medicine	
	Describe the anatomical correlates of electrocardiography, cardiac referred pain.	Integrate with Cardiology/ Medicine	
	Describe the anatomical basis for angioplasty, and coronary grafts.		
	Describe the features of angina pectoris and myocardial infarction and correlate them anatomically	Human Anatomy	
	Describe the venous drainage of heart.		
	Describe the alternative venous routes to the heart		
	Identify the vessels supplying the heart with their origins/terminations.		
	Describe the formation, relations, and distribution of cardiac plexus.		
	Describe components and significance of fibrous skeleton of heart		
	Describe the cardiac valves		
	Explain the anatomical basis for valvular heart diseases	Integrate with Cardiology/ Medicine	
	Perform surface marking of various anatomical landmarks of heart and great vessels	Human Anatomy	

	Perform percussion and auscultation of heart	Integrate with Medicine	
	Identify the salient features of heart and great vessels on Computed tomography/ Magnetic Resonance Imaging CT/ MRI	Integrate with Radiology	

EMBRYOLOGY & POST-NATAL DEVELOPMENT			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 14	
		DISCIPLINE	TOPIC
CV-A-004	Describe the early development of heart and blood vessels	Human Embryology	Introduction
	Describe the development of pericardial cavity	Human Embryology	
CV-A-005	Define parts of primitive heart tube and give its folding	Human Embryology	Development of Heart
	Describe the development of various chambers of heart with emphasis on their partitioning		
	Identify various parts of developing heart tube and structures derived from them during embryonic and fetal life (Models and specimens)		

CV-A-006	Describe the embryological basis of dextrocardia and ectopia cordis	Human Embryology	Development of Heart and Development of Lymphatic System
	Describe the partitioning of primordial heart: atrioventricular canal and atrium		
	Describe the development of sinus venosus		
	List clinically significant types of atrial septal defects along with their embryological basis and features. Describe probe patent foramen ovale	Integrate with Pediatrics	
	Describe the partitioning of truncus arteriosus and bulbus cordis	Human Embryology	
	Describe the formation of ventricles and interventricular septum		
	Describe the clinical features and embryological basis of ventricular septal defects	Integrate with Pediatrics	
	Describe the development of cardiac valves and conducting system.	Human Embryology	
	Describe the development of lymphatic system	Human Embryology	
CV-A-007	Describe the embryological correlates and clinical presentation of developmental defects of heart:	Integrate with Pediatrics	

	Tetralogy of Fallot, Patent ductus arteriosus, Unequal division of arterial trunks, Transposition of great vessels and Valvular stenosis, Coarctation of aorta		Develop ment of Arteries
	Describe the formation and fate of pharyngeal arch arteries	Human Embryology	
	Describe the anomalies of great arteries emerging from heart: Coarctation of aorta, anomalous arteries	Integrate with Cardiology/ Medicine	
CV-A-008	Describe the development of embryonic veins associated with developing heart: Vitelline veins, Umbilical Veins and Common cardinal vein and their fate	Human Embryology	Develo pme nt of Vein s
	Describe the formation of superior & inferior vena cava and portal vein with their congenital anomalies		
	With the help of diagrams illustrate the development of superior vena cava, inferior vena cava and portal vein		
	List the derivatives of fetal vessels and structures: Umbilical vein, ductus venosus, umbilical artery, foramen ovale, ductus arteriosus	Human Embryology	

CV-A-009	Describe Fetal and neonatal circulation mentioning transitional neonatal circulation with its clinical implication	Integrate with Pediatrics/Obgyn	Fetal Vessels & Circulation
CV-A-010	List clinically significant types of atrial septal defects along with their embryological basis and features. Describe patent foramen ovale.	Pediatrics	Congenital Heart defects
	Describe the embryological correlates and clinical presentation of developmental defects of heart: Tetralogy of Fallot, Persistent ductus arteriosus, Unequal division of arterial trunks, Transposition of great vessels and Valvular stenosis		

MICROSCOPIC ANATOMY (HISTOLOGY & PATHOLOGY)			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 04	
		DISCIPLINE	TOPIC

CV-A-011	Describe microscopic structure of Heart wall (Endocardium, Myocardium, Epicardium) Describe histology of Cardiac skeleton, SA (sinoatrial) node, AV (atrioventricular) node, Purkinje fibers.	Histology	Heart & Cardiac Muscle
	Describe the microscopic and ultramicroscopic structure of cardiac muscle emphasizing on Tubules, sarcoplasmic reticulum and intercalated discs. Identify, draw and label histological structure of cardiac muscle		
CV-A-012	Describe general histological organization of blood vessels: Tunica intima, media and adventitia.	Histology	Blood Vessels Organization
	Identify, draw and label histological sections of elastic artery, muscular artery, arterioles, vein, capillaries and sinusoids		
CV-A-013	Describe histological features of arteries: Muscular arteries, elastic arteries, Arterioles	Histology	Arteries
	Describe histological features of veins and exchange vessels: large veins, medium sized veins, venules,		

CV-A-014	Capillaries, and sinusoids	Histology	Veins
	Compare and contrast the light microscopic structure of arteries and veins		
CV-A-015	Describe the histopathological basis of thrombus and embolus formation.	Integrate with Pathology	Thrombus/ Embolus formation
CV-A-016	Explain the histological basis of arteriosclerosis and atherosclerosis. Describe role of arterioles in hypertension	Histology	Arteriosclerosis atherosclerosis Hypertension
CV-A-017	Describe histological features of Lymph vascular system (Lymph capillaries, Lymph vessels & Lymphatic duct)		Lymph vascular System

NORMAL FUNCTION			
MEDICAL PHYSIOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 68	
		DISCIPLINE	TOPIC
	Explain the physiological anatomy of cardiac muscle.		
	Explain the functional importance of intercalated discs.		
	Discuss the properties of cardiac muscles.		

CV-P-001	Describe and draw the phases of action potential of ventricle.	Physiology	Cardiac Muscle
	Describe and draw the phases of action potential of SA node along with explanation of the mechanism of self-excitation/ Auto rhythmicity of SA node.		
	Define and give the duration of the Absolute and relative refractory period in cardiac muscle.		
	Describe the mechanism of excitation-contraction coupling and relaxation in cardiac muscle.		
	Draw & explain pressure & volume changes of left ventricle during cardiac cycle.		
	Explain & draw relationship of ECG (Electrocardiography) with cardiac cycle.		
	Explain & draw the relationship of heart sounds with cardiac cycle.		
	Enlist, draw, and explain the physiological basis of atrial pressure waves in relation to cardiac cycle.		
	Define & give the normal values of the cardiac output, stroke volume,		

	end diastolic volume & end systolic volume	Integrate with Medicine	
CV-P-002	Describe the Frank starling mechanism.	Physiology	Regulation of heart pumping
	Describe the autonomic regulation of heart pumping.		
	Describe the effect of potassium, calcium ions & temperature on heart function.		
	Define chronotropic effect-positive and negative.		

	Define the inotropic effect: positive and negative.		
	Define dromotropic effect: positive and negative		
	Describe the location of adrenergic & cholinergic receptors in heart.		
	Name the receptors present in coronary arterioles.		
	Explain sympathetic & parasympathetic effects on heart rate & conduction velocity		
CV-P-003	Draw and explain the conducting system of heart	Physiology	Conducting system of heart
	Describe the physiological basis and significance of AV nodal delay.		
	Explain the ectopic pacemaker	Integrate with Cardiology/Medicine	

CV-P-004	Enlist, draw, and explain the physiological basis & give durations of waves, intervals, and segments of normal ECG.	Physiology	Fundamentals of ECG
	Describe the standard limb leads, Augmented limb leads & precordial leads.		
	Define Einthoven's Triangle & Einthoven's law.		
	Explain the physiological basis of upright T wave in normal ECG.		
	Describe the location and significance of J point in ECG.		
	Explain the physiological basis of current of injury.		
	Enlist the ECG changes in angina pectoris.	Integrate with Medicine	
	Enlist the ECG changes in myocardial infarction.		
	Plot the mean cardiac axis.	Physiology	
	Enlist the physiological & pathological causes of right axis deviation of heart.		
	Enlist the physiological & pathological causes of left axis deviation of heart		
	Describe the abnormalities of T wave and their causes		

CV-P-005	Describe the effect of hypokalemia and hyperkalemia on ECG		
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	Describe the effect of hypocalcemia and hypercalcemia on ECG.	Integrate with Biochemistry	Effect of electrolyte on ECG
	Define tachycardia and enlist its causes.	Integrate with Medicine	
	Define bradycardia and enlist its causes.		
	Classify arrhythmias	Physiology	
	Explain the physiological basis of sinus arrhythmia.		
	Explain the physiological basis of reflex bradycardia in Athletes.		
	Explain the carotid sinus syndrome.		
	Enlist the causes of atrioventricular block.	Integrate with Cardiology/ Medicine	
	Explain the types of atrioventricular blocks.		
	Explain the ECG changes in 1 st , 2 nd & 3 rd degree heart block.		
	Explain the cause, physiological basis & ECG changes in Stokes Adam syndrome/ventricular escape.	Physiology	
	Enlist the causes of premature contractions.	Integrate with Cardiology/ Medicine	
	Explain the causes and ECG changes of premature atrial contractions.		

CV-P-006	Explain the physiological basis of pulses deficit.	Physiology	Cardiac arrhythmia
	Explain the causes and ECG changes in Premature Ventricular Contraction (PVC)	Integrate with Cardiology/ Medicine	
	Enlist the causes and ECG findings in Long QT syndrome.		
	Explain the causes, physiological basis, features, ECG changes & management of premature heartbeat.		
	Explain the causes, physiological basis, features, ECG changes & management of atrial fibrillation.		
	Explain the causes, physiological basis, features & ECG changes of ventricular fibrillation.		
	Explain the physiological basis, features & ECG changes of atrial flutter.	Physiology	
	Compare Flutter and Fibrillations	Physiology	

CV-P-007	Explain the functional parts of circulation (arteries, arterioles, capillaries, veins, venules).	Physiology	Organization of Circulation
CV-P-008	Explain the pressures in systemic & pulmonary circulation.	Physiology	Blood flow
	Explain the types of Blood flow and significance of Reynolds number.		

CV-P-009	Describe local control of blood flow according to tissue needs.	Physiology	Local & Humoral Control of Blood flow
	Discuss humoral control of local blood flow.		
	Explain long term control of local blood flow.		
	Describe vascular control by ions and other chemical factors.		
	Name the organs in which auto regulation of blood flow occurs during changes in arterial pressure (metabolic & myogenic mechanisms).		
CV-P-010	Explain the role of autonomic nervous system for regulating the circulation.	Physiology	Nervous Regulation of circulation
	Explain the vasomotor center.		
	Explain the control of vasomotor center by higher nervous centers.		
	Explain emotional fainting/vasovagal syncope.		
	Identify vessels constituting micro-capillaries. Enumerate hydrostatic and osmotic factors that underlie starling's hypothesis for capillary function.		
	Explain the role of nervous system in rapid control of arterial blood pressure.		

CV-P-011	Explain the regulation of arterial blood pressure during exercise.	Physiology	Rapid control of arterial blood pressure
	Enlist different mechanisms for short term regulation of arterial blood pressure.		
	Explain the role of baroreceptors in regulation of arterial blood pressure.		
	Explain the role of chemoreceptors in regulation of arterial blood pressure.		

	Make a flow chart to discuss the role of Atrial volume reflexes/ Bainbridge reflex in control of blood pressure.		
	Make a flow chart to show the reflex responses to increased blood volume which increase blood pressure and atrial stretch.		
	Describe the role of CNS ischemic response in regulation of the blood pressure.		
	Explain the Cushing reflex		
	Explain the role of abdominal compression reflex to increase the arterial blood pressure.		

CV-P-012	Make a flow chart to discuss the role of renin angiotensin system for long term control of blood pressure.	Physiology	Role of kidneys in long term Regulation of Arterial Blood Pressure
	Make a flow chart to show the regulation of blood pressure in response to increase in ECF (Extra Cellular Fluid) volume.		
	Make a flow chart to show the regulation of blood pressure in response to increase in salt intake.		
CV-P-013	Define cardiac output, cardiac index & venous return with their normal values.	Integrate with Cardiology/ Medicine	Cardiac output
	Discuss the factors regulating cardiac output		
	Discuss factors regulating venous return	Physiology	
CV-P-014	Explain the regulation of skeletal muscle blood flow at rest & during exercise.	Physiology	Skeletal muscle Circulation
CV-P-015	Explain the physiological anatomy of coronary circulation.	Physiology	Coronary circulation
	Explain the regulation of coronary blood flow.		
	Explain the physiological basis of angina, myocardial & subendocardial infarction		
	Define & enlist different types of shock.		

CV-P-016	Explain the causes, features, and pathophysiology of hypovolemic/hemorrhagic shock.	Physiology	Circulatory shock
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	Explain the causes, features, and pathophysiology of septic shock.		
	Explain the causes, features, and pathophysiology of neurogenic shock.	Integrate with Pathology	
	Explain the causes, features, and pathophysiology of anaphylactic shock.		
	Discuss the treatment of different types of shock.	Integrate with Medicine	
	Explain the different stages of shock.	Physiology	
	Explain the mechanisms that maintain the cardiac output & arterial blood pressure in non-progressive shock.		

	Enlist different types of positive feedback mechanisms that can lead to the progression of shock.		
CV-P-017	Enlist the different types of heart sounds and explain the physiological basis of each.	Physiology	Heart sounds
	Enlist the causes of 3 rd and 4 th heart sounds.		
	Explain the causes & physiological basis of murmurs caused by valvular lesions.		
	Enumerate abnormal heart sounds and describe the physiological basis of each.	Integrate with Medicine	
MEDICAL BIOCHEMISTRY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 21	
		DISCIPLINE	TOPIC
CV-B-001	Classify lipids	Biochemistry	Classification of lipids
CV-B-002	Discuss the biomedical functions & properties of lipids	Biochemistry	Functions of lipids & Properties of lipids
CV-B-003	Classify fatty acids. Discuss the role of trans saturated, saturated,	Biochemistry	Classification of fatty acids &

	poly- and mono-unsaturated fatty acids in diet on lipid profile.		
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CV-B-004	Discuss lipid peroxidation and its significance	Biochemistry	Lipid peroxidation
CV-B-005	Explain the biochemical and therapeutic roles of eicosanoids (prostaglandins, leukotrienes, thromboxane, and prostacyclin)	Biochemistry	Eicosanoids
CV-B-006	Discuss Lipoprotein metabolism	Biochemistry	Lipoprotein metabolism
	Discuss role of oxidized LDL in atherosclerosis	Biochemistry	
CV-B-007	Discuss the signs and symptoms of hyperlipidemia	Biochemistry	Type I to V hyperlipidemias
	Interpret data related to hyperlipidemia		
CV-B-008	Discuss the sources, biomedical importance, active states, deficiency and excess of fat-soluble vitamins (excluding Vitamin K).	Biochemistry	Fat soluble vitamins
CV-B-009	Discuss the sources, biomedical importance, active states, deficiency and excess of water-soluble vitamins (excluding B6, B9 & B12 and Vitamin C).	Biochemistry	Water soluble vitamins

CV-B-010	Discuss the sources, biomedical importance, active states, deficiency and excess of minerals and trace elements especially zinc, Mg, Na, K, I, Ca, P, Se, S, Cu and Cl.	Biochemistry	Minerals and trace elements
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AGING			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 05	
		DISCIPLINE	TOPIC
CV-Ag-001	Discuss the effect of age on blood vessels with reference to hypertension	Physiology/ Geriatrics/ Medicine	Hypertension
CV-Ag-002	Discuss the risk of cardiac attack in old age and weather conditions		Cardiac Attack
CV-Ag-003	Discuss the effect of age on valvular system of the heart.		Valvular diseases
CV-Ag-004	Discuss the effect of age on neural conduction of the heart in relation to arrhythmia.		Arrhythmia
CV-Ag-005	Discuss the protective role of female hormone against CVS diseases in women of reproductive age group	Physiology/ Obstetrics and Gynecology	Role of female hormone on CVS disease
PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS			
		TOTAL HOURS = 14	

CODE	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
CV-Pa-001	Define Inflammation Enumerate cardinal signs of acute inflammation Enlist types of Inflammation	Pathology	Inflammation
	Enumerate causes & outcomes of inflammation Differentiate acute & chronic inflammation		
	Describe general concept of vascular & cellular events of acute inflammation Enumerate chemical mediators of inflammation along with their principal functions		
CV-Pa-002	Classify types of thrombosis, embolism, and infarction	Pathology/	Atherosclerosis
	Discuss the pathophysiology of thrombosis, embolism, and infarction		
	Identify the types and causes of hypertension		

CV-Pa-003	Discuss the clinical consequences of hypertension and atherosclerosis	Integrate with medicine	Hypertension
CV-Pa-004	Discuss the pathophysiology of shock		Shock
	Classify the types of heart failure		

CV-Pa-005	Identify the causes leading to heart failure		Cardiac Failure
CV-Pa-006	Identify the types of ischemic heart disease		Ischemic Heart Disease
	Discuss the pathophysiology of different types of ischemic heart disease		
CV-Pa-007	Explain the pathological causes of high & low cardiac output.		Cardiac Output
CV-Ph-001	Classify antihypertensive drugs.	Pharmacology	Anti-hypertensive drugs
CV-Ph-002	Classify antianginal drugs.		Antianginal drugs
CV-Ph-003	Classify antiarrhythmic drugs.		Antiarrhythmic mics drugs
CV-Ph-004	Classify drugs used in cardiac failure.		Drugs for cardiac failure
DISEASE PREVENTION AND IMPACT			
CODE	COMMUNITY MEDICINE & BEHAVIORAL SCIENCE	TOTAL HOURS = 11+2=13	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
CV-CM-001	Describe the various strategies and models to prevent diseases.		Disease Prevention Models
	Describe primordial prevention and its application to preventing CVS diseases.		

CV-CM-002	Depict the concept of primary prevention in context to CVS and able to apply on CVS diseases.	Community Medicine and Public Health	Primordial Prevention
CV-CM-003	Discuss the basic concept of health promotion and its application to CVS.		Health Promotion
CV-CM-004	Discuss various methods of behavioural change interventions at community level.		Behavioural Change Intervention

CV-CM-005	To apply secondary and tertiary preventions on CVS diseases (coronary heart disease, ischemic heart disease, hypertension)		Secondary & Tertiary Prevention
CV-CM-006	Describe the concept of cardiovascular diseases as non-communicable diseases		Noncommunicable disease
CV-CM-007	Identify the risk factors in the community for CVS diseases.		Risk factor assessment of CVS diseases
	Learn and apply interventions to prevent the risk factors in community.		
CV-BhS-001	Identify and deal with the various psychosocial aspects of Cardiovascular conditions (such as Hypertension, Coronary artery disease, Heart failure, Arrhythmias,	Behavioral Sciences	Personal, Psychosocial and vocational issues

	and other cardiovascular conditions) on Individual, Family and Society.		
CV-BhS-002	Psychological basis of emotional fainting & its impact		Emotional fainting

HISTOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 03	
		DISCIPLINE	TOPIC
CV-A-018	Identify, draw and label histological structure of cardiac muscle	Histology	Histological features of Cardiac Muscle
CV-A-019	Identify, draw and label histological sections of elastic artery, muscular artery, arterioles, vein, capillaries and sinusoids	Histology	Histological features of Blood Vessels
PHYSIOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 10	
		DISCIPLINE	TOPIC

CV-P-018	Record an electrocardiogram (ECG) by correct lead placement and connections. Perform auscultation of the chest to recognize normal heart sounds.	Physiology	ECG & Heart Sounds
CV-P-019	Determine the effect of posture and exercise on blood pressure by auscultatory method.		Blood Pressure
CV-P-020	Measure the blood pressure of the subject by palpatory and auscultatory methods.		Blood Pressure
CV-P-021	Examine arterial pulse to recognize normal characteristics of pulse.		Arterial Pulse
CV-P-022	Examine neck veins to determine Jugular Venous Pulse (JVP)		JVP

BIOCHEMISTRY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 10	
		DISCIPLINE	TOPIC

CV-B-011	Perform cardiac markers Creatine Kinase and Lactate Dehydrogenase (CK and LDH) Interpret lab reports based on enzymes for diseases like cardiac disorders and hyperlipidemias	Biochemistry	Performance Interpretation of Lab report
PATHOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 01	
		DISCIPLINE	TOPIC
CV-Pa-008	Identify the pathological changes of infarction (microscopic)	Pathology	Hemodynamics
	Identify the pathological changes of thrombosis (microscopic)		
PHARMACOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 01	
		DISCIPLINE	TOPIC
CV-Ph-004	Illustrate mechanism of action of antihypertensive drugs.	Pharmacology	Anti-hypertensive drugs
CV-Ph-005	Illustrate mechanism of action of antianginal drugs.		Antianginal drugs
CV-Ph-006	Illustrate mechanism of action of drugs used in cardiac failure.		Drugs for cardiac failure

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.

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-3 Modules (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

Table of Specification

MBBS 1st Professional

Block-3

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	32	32	03	-	01	38
Normal Function	Physiology applied/clinical	51	51	04	-	01	46
	Biochemistry applied/clinical	29	29	02	-	01	30
Disease Burden & Prevention	Community Medicine & Public Health	06	06	-	-	-	-
	Behavioral Sciences	02	02	-	-	-	-
Pathophysiology & pharmacotherapeutics	Pathology	15	15	01	-	-	08
	Pharmacology	05	05	01	-	-	08
CFRC	CF-I	-	-	-	01	-	05
PERLs	PERLs-I	-	-	-	01	-	05
Total		140	140	011 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
2 nd May 2026	Saturday	8:30 am to 2:30 pm	Batch F	Skills Lab	Prof. Ameena & Ms. Mahwish /PGR

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

Vinay 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

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 Publish

Sr .	Infrastructure Resources	Description
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.