AVICENNA MEDICAL & DENTAL COLLEGE

STUDY GUIDE

2026

RENAL-1

BLOCK- 4 MODULE-7

Program: MBBS Integrated Curriculum
Year: 2nd Professional Year
Batch No: M-24
Session: 2025-2026

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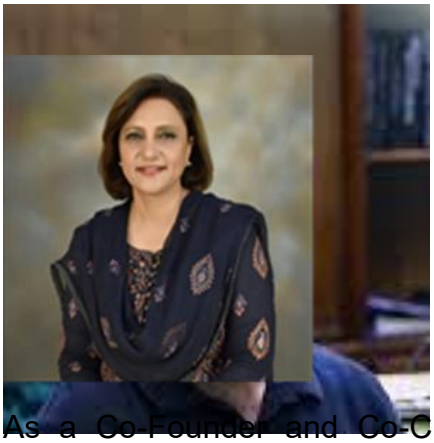
About Avicenna Medical College

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 is registered under the Societies Act with the Registrar of Societies. The Trust is legalized through a Trust Deed that bears the necessary rectifications. The Trust Deed is further supported by its Memorandum and Articles 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 are currently serving in the country and abroad, while several have opted for post-graduation and are on the road to progress. We have achieved several milestones since 2009, including the recognition of our College for FCPS training by the College of Physicians and Surgeons of Pakistan (CPSP), the establishment of the College of Nursing, and Avicenna Dental College.

Principal
Prof. Dr. Gulfreen Waheed
MBBS, FCPS, MHPE, PhD Scholar - HPE
Avicenna Medical & Dental College

Message from the Chairman

The Avicenna Medical & Dental College is a project of Abdul Waheed Trust, which is a Non-profit, 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 the 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 radius. 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 and 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

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 Syndrome
	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	cytomegalovirus
	CNS	Central Nervous System
	CO	Carbon monoxide
	CO2	Carbon dioxide
	CODIS	combined DNA index system
	COPD	Chronic obstructive pulmonary disease
	COVID-19	Coronavirus Disease 2019
	COX	Cyclooxygenase
	CPR	Cardiopulmonary Resuscitation
	CR	Clinical Rotation
	CRP	Clinical Rotation CSF C- Reactive Protein
	CSF	Cerebrospinal 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

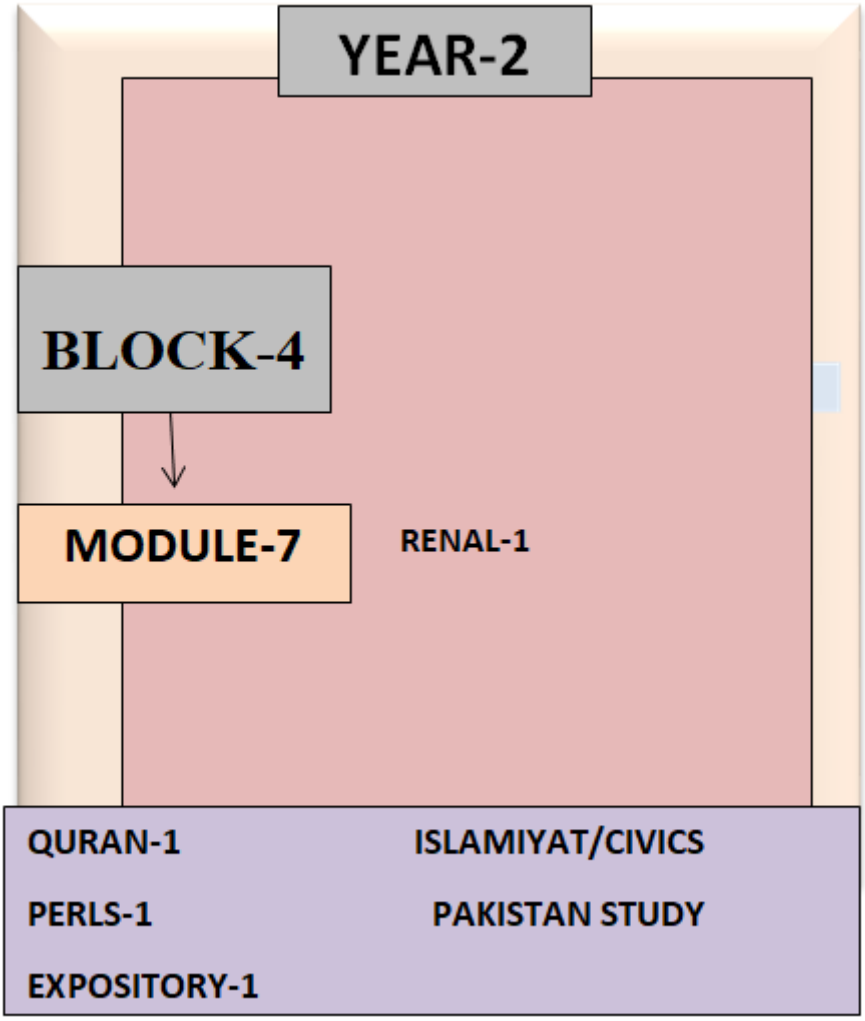
	DCM	Dilated Cardiomyopathy Dorsal Colu
	DCMLS	Dorsal column medial lemniscus system
	DLC	Differential Leukocyte Count
	DMARDs	Disease Modifying Anti-Rheumatic Drugs
	DNA	DeoxyRibonucleic Acid
	DOTS	Directly Observed Treatment Short-course
	DTP	Diphtheria, Tetanus, Pertussis
	DVI	Disaster Victim Identification
	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**	Intracellular 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 Necrosis Factor
	TNM	Tumor Necrosis 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 and understanding of 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 the 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.

- Skillful / Care Provider.
- Knowledgeable / Decision Maker.
- Community Health Promoter / Community Leader.
- Critical Thinker / Communicator
- Professional / Lifelong learner.
- Scholar / Researcher
- Leader/ Role Model / Manager

Outcomes of Module-7

- Discuss the gross and microscopic anatomy of the kidney and urinary system.
- Explain the embryological development of the kidney and urinary tract
- Explain common developmental abnormalities of the renal system
- Identify the role of the renal system in maintaining blood pressure and acid-base balance
- Enlist the functions of the kidney and pathologies related to them.
- Explain the method of electrolyte balance and pathologies related to it.
- Highlight pathologies related to the kidneys and their distinctive clinical features
- Interpret investigations done to diagnose abnormal structural and functional presentations.

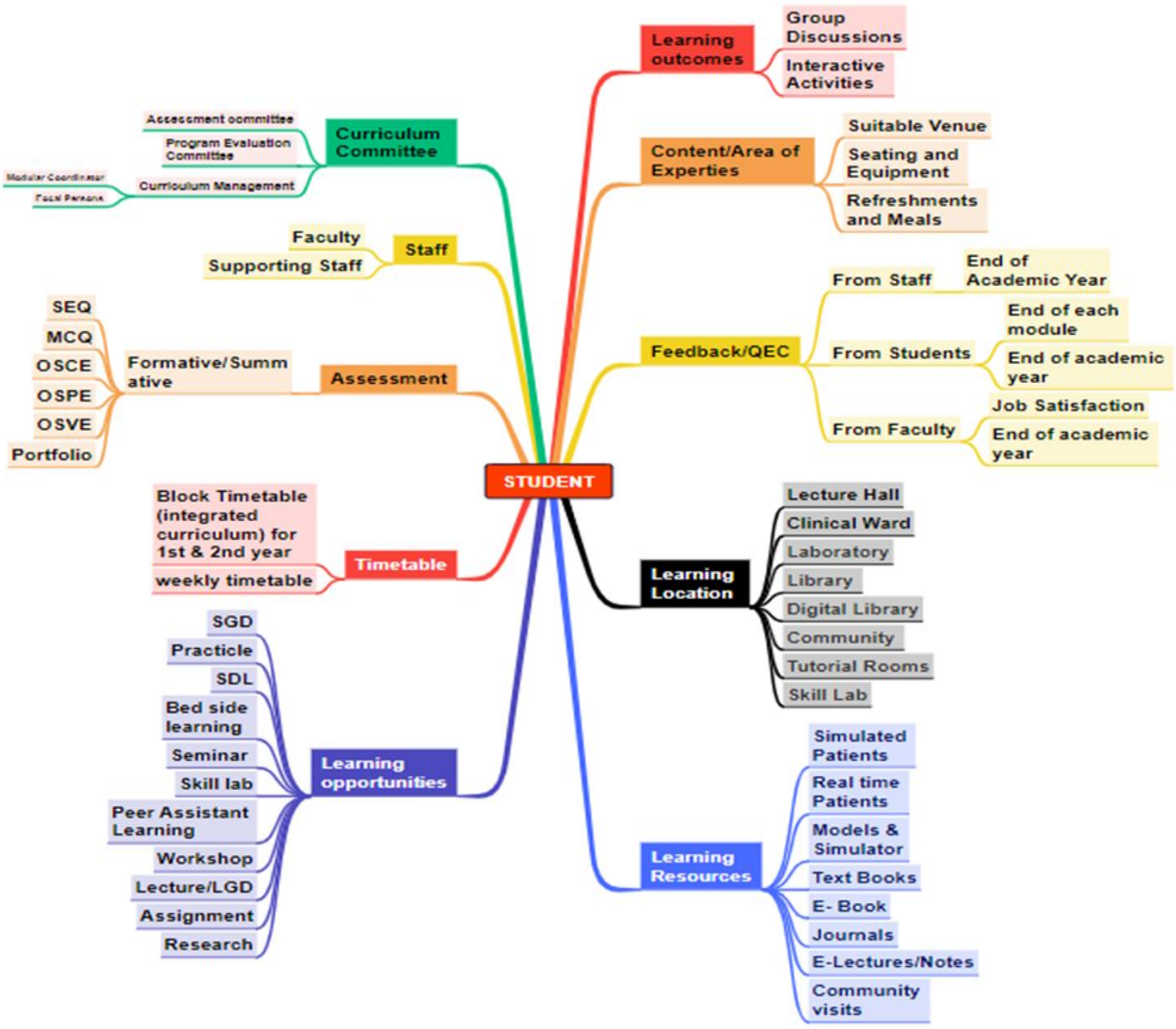
Module Committee

Name	Designation	Department
Prof. Dr. Gulfreen Waheed	Principal & Director DME	Medical Education
Dr. Saba Iqbal	Associate 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. Huma Fatima	Demonstrator	Medical Education
Mr. Adeel	Incharge	Student Affairs
Prof. Dr. Razia	HOD	Anatomy
Dr. Kalsoom	Focal Person	Anatomy
Prof. Dr. Sadia Zafer	HOD	Physiology
Dr. Shaheena	Focal Person	Physiology
Prof. Sadia Amir	HOD	Biochemistry
Dr. Yusra	Focal Person	Biochemistry
Prof. Dr. Saeed Afzal	HOD	Pathology

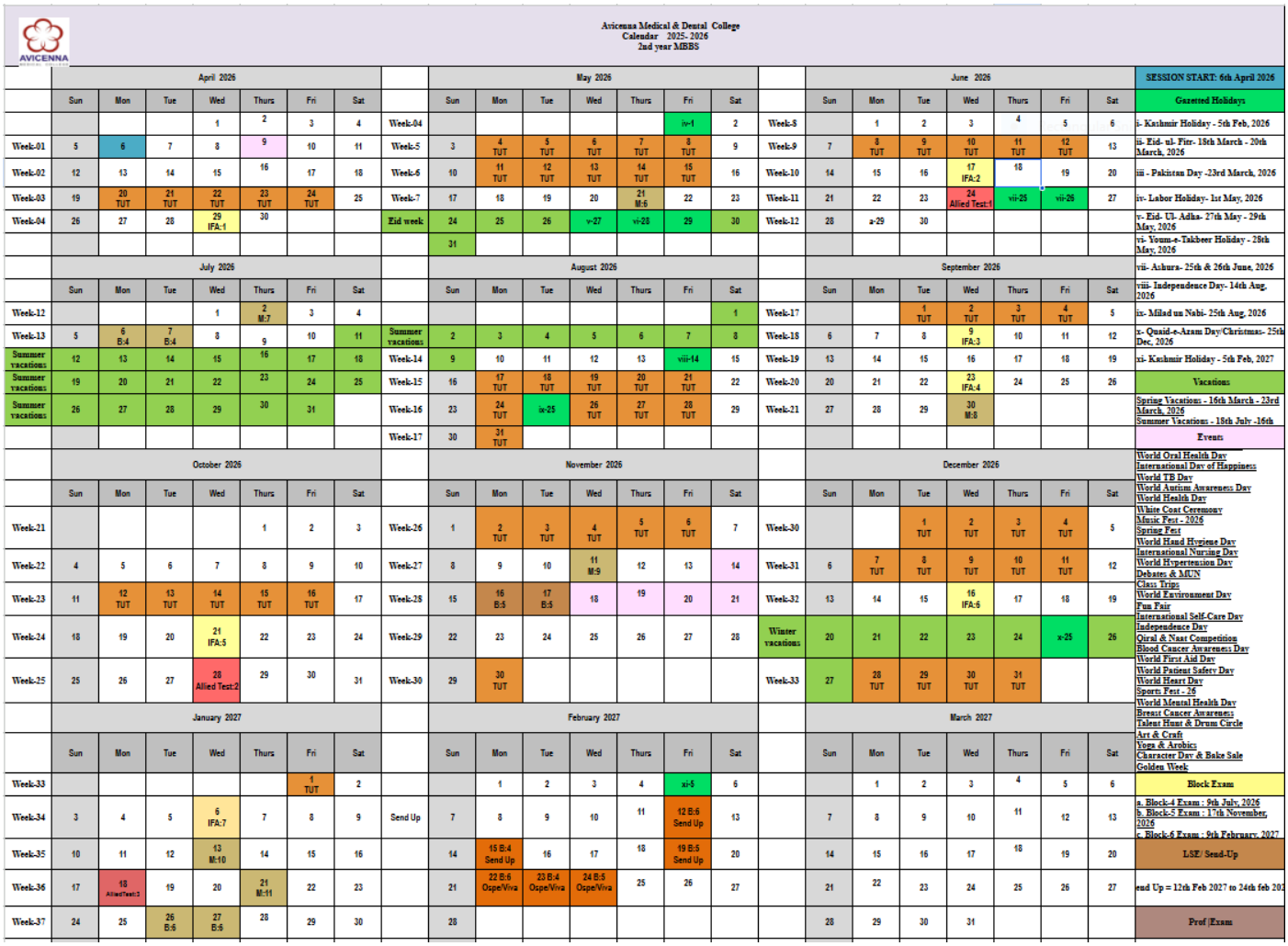
Dr. Nadia salam	Focal Person	Pathology
Prof. Dr. Asma Saeed	HOD	Pharmacology
Dr. Azka	Focal Person	Pharmacology
Prof. Dr. Rana Akhtar	HOD	Community Medicine
Dr. Sana	Focal Person	Community Medicine
Dr. Uzma	Focal Person	General Surgery
Prof. Dr. Muzammil	HOD	Medicine Unit-1
Dr. Asim	Focal Person	General Medicine
Dr. Farhat Mihas	HOD	Behavioural Sciences

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 the systems for the undergraduate programs offered at four colleges on campus are as follows:


STUDENT
Learning outcomes
Group Discussions
Interactive Activities
Content/Area of Experties
Suitable Venue
Seating and Equipment
Refreshments and Meals
Feedback/QEC
From Staff
End of Academic Year
From Students
End of each module
End of academic year
From Faculty
Job Satisfaction
End of academic year
Learning Location
Lecture Hall
Clinical Ward
Laboratory
Library
Digital Library
Community
Tutorial Rooms
Skill Lab
Learning Resources
Simulated Patients
Real time Patients
Models & Simulator
Text Books
E- Book
Journals
E-Lectures/Notes
Community visits
Learning opportunities
SGD
Practicle
SDL
Bed side learning
Seminar
Skill lab
Peer Assistant Learning
Workshop
Lecture/LGD
Assignment
Research
Timetable
Block Timetable (integrated curriculum) for 1st & 2nd year
weekly timetable
Assessment
Formative/Summative
SEQ
MCQ
OSCE
OSPE
OSVE
Portfolio
Staff
Faculty
Supporting Staff
Curriculum Committee
Assessment committee
Program Evaluation Committee
Curriculum Management
Modular Coordinator
Focal Persons

Academic Calendar



Avicenna Medical & Dental College
Calendar 2025- 2026
2nd year MBBS

	April 2026								May 2026								June 2026							SESSION START: 6th April 2026
	Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Gazeted Holidays
				1	2	3	4	Week-04						iv-1	2	Week-8		1	2	3	4	5	6	i- Kashmir Holiday - 5th Feb, 2026
Week-01	5	6	7	8	9	10	11	Week-5	3	4 TUT	5 TUT	6 TUT	7 TUT	8 TUT	9	Week-9	7	8 TUT	9 TUT	10 TUT	11 TUT	12 TUT	13	ii- Eid. ul- Fitr- 18th March - 20th March, 2026
Week-02	12	13	14	15	16	17	18	Week-6	10	11 TUT	12 TUT	13 TUT	14 TUT	15 TUT	16	Week-10	14	15	16	17 IFA:2	18	19	20	iii - Pakistan Day -23rd March, 2026
Week-03	19	20 TUT	21 TUT	22 TUT	23 TUT	24 TUT	25	Week-7	17	18	19	20	21 M:6	22	23	Week-11	21	22	23	24 Allied Test:1	vii-25	vii-26	27	iv- Labor Holiday- 1st May, 2026
Week-04	26	27	28	29 IFA:1	30			Eid week	24	25	26	v-27	vi-28	29	30	Week-12	28	a-29	30					v- Eid- Ul- Adha- 27th May - 29th May, 2026
									31															vi- Youm-e-Takbeer Holiday - 28th May, 2026
	July 2026								August 2026								September 2026							vii- Ashura- 25th & 26th June, 2026
	Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat	viii- Independence Day- 14th Aug, 2026
Week-12				1	2 M:7	3	4								1	Week-17			1 TUT	2 TUT	3 TUT	4 TUT	5	ix- Milad un Nabi- 25th Aug, 2026
Week-13	5	6 B:4	7 B:4	8	9	10	11	Summer vacations	2	3	4	5	6	7	8	Week-18	6	7	8	9 IFA:3	10	11	12	x- Quaid-e-Azam Day/Christmas- 25th Dec, 2026
Summer vacations	12	13	14	15	16	17	18	Week-14	9	10	11	12	13	viii-14	15	Week-19	13	14	15	16	17	18	19	xi- Kashmir Holiday - 5th Feb, 2027
Summer vacations	19	20	21	22	23	24	25	Week-15	16	17 TUT	18 TUT	19 TUT	20 TUT	21 TUT	22	Week-20	20	21	22	23 IFA:4	24	25	26	Vacations
Summer vacations	26	27	28	29	30	31		Week-16	23	24 TUT	ix-25	26 TUT	27 TUT	28 TUT	29	Week-21	27	28	29	30 M:8				Spring Vacations - 16th March - 23rd March, 2026
								Week-17	30	31 TUT														Summer Vacations - 18th July -16th
	October 2026								November 2026								December 2026							Events
	Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat	World Oral Health Day International Day of Happiness World TB Day World Autism Awareness Day World Health Day
Week-21					1	2	3	Week-26	1	2 TUT	3 TUT	4 TUT	5 TUT	6 TUT	7	Week-30			1 TUT	2 TUT	3 TUT	4 TUT	5	White Coat Ceremony Music Fest - 2026 Spring Fest
Week-22	4	5	6	7	8	9	10	Week-27	8	9	10	11 M:9	12	13	14	Week-31	6	7 TUT	8 TUT	9 TUT	10 TUT	11 TUT	12	World Hand Hygiene Day International Nursing Day World Hypertension Day Debates & MUN
Week-23	11	12 TUT	13 TUT	14 TUT	15 TUT	16 TUT	17	Week-28	15	16 B:5	17 B:5	18	19	20	21	Week-32	13	14	15	16 IFA:6	17	18	19	Class Trips World Environment Day Fun Fair
Week-24	18	19	20	21 IFA:5	22	23	24	Week-29	22	23	24	25	26	27	28	Winter vacations	20	21	22	23	24	x-25	26	International Self-Care Day Independence Day Qiral & Naat Competition
Week-25	25	26	27	28 Allied Test:2	29	30	31	Week-30	29	30 TUT						Week-33	27	28 TUT	29 TUT	30 TUT	31 TUT			Blood Cancer Awareness Day World First Aid Day World Patient Safety Day World Heart Day
	January 2027								February 2027								March 2027							Sports Fest - 26 World Mental Health Day Breast Cancer Awareness Talent Hunt & Drums Circle
	Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat		Sun	Mon	Tue	Wed	Thurs	Fri	Sat	Art & Craft Yoga & Aerobics Character Day & Bake Sale Golden Week
Week-33						1 TUT	2			1	2	3	4	xi-5	6			1	2	3	4	5	6	Block Exam
Week-34	3	4	5	6 IFA:7	7	8	9	Send Up	7	8	9	10	11	12 B:6 Send Up	13		7	8	9	10	11	12	13	a. Block-4 Exam : 9th July, 2026 b. Block-5 Exam : 17th November, 2026 c. Block-6 Exam : 9th February, 2027
Week-35	10	11	12	13 M:10	14	15	16		14	15 B:4 Send Up	16	17	18	19 B:5 Send Up	20		14	15	16	17	18	19	20	LSE/ Send-Up
Week-36	17	18 AlliedTest:3	19	20	21 M:11	22	23		21	22 B:6 Ospe/Viva	23 B:4 Ospe/Viva	24 B:5 Ospe/Viva	25	26	27		21	22	23	24	25	26	27	end Up = 12th Feb 2027 to 24th feb 202
Week-37	24	25	26 B:6	27 B:6	28	29	30		28								28	29	30	31				Prof /Exam

Time Table:

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-07		M-24 2nd Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # IV		MODULE - 07	
		08:00 - 09:00	09:00 - 10.00	10.00-11.00	11:00 - 11:30	11:30 - 12:30	12:30-01:30	1.30-2.30	2:30 - 3.30	3:30 - 5.00	5:00 - 6.00
18-May-26	Mon	Lecture Physiology	Lecture Embryology	Lecture Biochemistry	BREAK	Lecture Physiology	Practical Histology Biochemistry Physiology		Tutorial Anatomy Biochemistry Physiology		CFRC
		08:00 - 09:00	09:00 - 10.00	10.00-11.00		11:30 - 12:30	12:30-01:30	1.30-2.30	2:30 - 3.30		5:00 - 6.00
19-May-26	Tues	Lecture Histology	Lecture Biochemistry	Lecture Physiology		Lecture Pathology	Practical Histology Biochemistry Physiology		Tutorial Anatomy Biochemistry Physiology		CFRC
		08:00 - 09:00	09:00 - 10.00	10.00-11.00		11:30 - 12:30	12:30-01:30	1:30 - 2:30	2:30 - 3.30		5:00 - 6.00
20-May-26	Wed	Lecture Physiology	Lecture Gross Anatomy	Lecture Community Medicine		Lecture Physiology	Practical Histology Biochemistry Physiology		Tutorial Anatomy Biochemistry Physiology	BREAK	CFRC
		08:00 - 11:00		11.00-12.30		12:30 - 2:00		2.00-3.30			5:00 - 6.00
21-May-26	Thur	MODULE - 06 THEORY		MODULE - 06 OSPE / OSVE BATCH - A		MODULE - 06 OSPE / OSVE BATCH - B		MODULE - 06 OSPE / OSVE BATCH - C			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
22-May-26	Fri	Lecture Biochemistry	Lecture Histology	Lecture Physiology	Lecture Pathology	Lecture PERL Professionalism	JUMMA BREAK		Lecture Quran		CFRC

AVICENNA MEDICAL & DENTAL COLLEGE											
TIME TABLE WEEK-08		M-24 2nd Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # IV		MODULE - 07	
		08:00 - 09:00	09:00 - 10.00	10.00-11.00	11:00 - 11:30	11:30 - 12:30	12:30-01:30	1.30-2.30	2:30 - 3.30	3:30 - 5.00	5:00 - 6.00
1-Jun-26	Mon	Lecture Physiology	Lecture Embryology	Lecture Biochemistry	BREAK	Lecture Pathology	Practical Histology Biochemistry Physiology		Tutorial Anatomy Biochemistry Physiology		CFRC
		08:00 - 09:00	09:00 - 10.00	10.00-11.00		11:30 - 12:30	12:30-01:30	1.30-2.30	2:30 - 3.30		5:00 - 6.00
2-Jun-26	Tues	Lecture Histology	Lecture Biochemistry	Lecture Physiology		Lecture Pharmacology	Practical Histology Biochemistry Physiology		Tutorial Anatomy Biochemistry Physiology		CFRC
		08:00 - 09:00	09:00 - 10.00	10.00-11.00		11:30 - 12:30	12:30-01:30	1:30 - 2:30	2:30 - 3.30		5:00 - 6.00
3-Jun-26	Wed	Lecture Physiology	Lecture Biochemistry	Lecture Physiology		Practical Histology Biochemistry Physiology		Clinical Skill	Tutorial Anatomy Biochemistry Physiology	BREAK	CFRC
		08:00 - 09:00	09:00 - 10.00	10.00-11.00		11:30 - 12:30	12:30-01:30	1:30 - 2:30	2:30 - 3.30		5:00 - 6.00
4-Jun-26	Thur	Lecture Biochemistry	Lecture Physiology	Lecture Gross Anatomy		Lecture Behavioural Science	Lecture Pathology	Clinical Skill	Lecture PERL Ethics		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
5-Jun-26	Fri	Lecture Histology	Lecture Biochemistry	Lecture Physiology	Lecture Gross Anatomy	Lecture Medicine Integration	JUMMA BREAK		Club Activity		CFRC

AVICENNA MEDICAL & DENTAL COLLEGE

TIME TABLE WEEK-09		M-24 2nd Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # IV		MODULE - 07	
		08:00 - 09:00	09:00 - 10.00	10.00-11.00	11:00 - 11:30	11:30 - 12:30	12:30-01:30	1.30-2.30	2:30 - 3.30	3:30 - 5.00	5:00 - 6.00
8-Jun-26	Mon	Lecture Biochemistry	Lecture Gross Anatomy	Lecture Physiology	BREAK	Lecture Pathology	Practical Histology Biochemistry Pathology		Tutorial Anatomy Biochemistry Physiology	BREAK	CFRC
9-Jun-26	Tues	Lecture Biochemistry	Lecture Physiology	Lecture Community Medicine		Lecture Physiology	Practical Histology Biochemistry Pathology		Tutorial Anatomy Biochemistry Physiology		CFRC
10-Jun-26	Wed	Lecture Physiology	Lecture Biochemistry	Lecture Physiology		Practical Histology Biochemistry Pathology		Clinical Skill	Tutorial Anatomy Biochemistry Physiology		CFRC
11-Jun-26	Thur	Lecture Histology	Lecture Physiology	Lecture Biochemistry		Lecture Pathology	Lecture Pharmacology	Clinical Skill	Lecture PERL Leadership		CFRC
12-Jun-26	Fri	Lecture Gross Anatomy	Lecture Biochemistry	Lecture Physiology	Lecture Embryology	Lecture Physiology	JUMMA BREAK		Club Activity		CFRC

AVICENNA MEDICAL & DENTAL COLLEGE

TIME TABLE WEEK-10		M-24 2nd Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # IV		MODULE - 07	
		08:00 - 09:00	09:00 - 10.00	10.00-11.00	11:00 - 11:30	11:30 - 12:30	12:30-01:30	1.30-2.30	2:30 - 3.30	3:30 - 5.00	5:00 - 6.00
15-Jun-26	Mon	Lecture Histology	Lecture Physiology	Lecture Biochemistry	BREAK	Lecture Pharmacology	Tutorial Anatomy Biochemistry Physiology	Practical Histology Biochemistry Pharmacology		BREAK	CFRC
16-Jun-26	Tues	Lecture Physiology	Lecture Biochemistry	Lecture Physiology		Lecture Pathology	Tutorial Anatomy Biochemistry Physiology	Practical Histology Biochemistry Pharmacology			CFRC
17-Jun-26	Wed	Integrated Formative Assessment 02	Lecture Embryology	Lecture Physiology		Practical Histology Biochemistry Pharmacology		Clinical Skill	Tutorial Anatomy Biochemistry Physiology		CFRC
18-Jun-26	Thur	Lecture Biochemistry	Lecture Physiology	Lecture Pathology		Lecture Physiology	Lecture PERL Research	Clinical Skill	Lecture PERL Leadership		CFRC
19-Jun-26	Fri	Lecture Physiology	Lecture Gross Anatomy	Lecture Community Medicine	Lecture Pathology	Lecture Medicine Integration	JUMMA BREAK		Club Activity		CFRC

AVICENNA MEDICAL & DENTAL COLLEGE

TIME TABLE WEEK-11		M-24 2nd Year MBBS		SESSION 2025-2026				Theme:			
DATE	DAY							BLOCK # IV		MODULE - 07	
		08:00 - 09:00	09:00 - 10.00	10.00-11.00	11:00 - 11:30	11:30 - 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	Lecture Physiology	Lecture Biochemistry	Lecture Urology Intergration	BREAK	Lecture Pharmacology	Tutorial Anatomy Biochemistry Physiology	Practical Histology Biochemistry Physiology		BREAK	CFRC
		08:00 - 09:00	09:00 - 10.00	10.00-11.00		11:30 - 12:30	12:30-01:30	1.30-2.30	2:30 - 3.30		5:00 - 6.00
23-Jun-26	Tues	Lecture Biochemistry	Lecture Physiology	Lecture Radiology Intergration		Lecture Behavioural Science	Tutorial Anatomy Biochemistry Physiology	Practical Histology Biochemistry Physiology			CFRC
		08:00 - 09:00	09:00 - 10.00	10.00-11.00		11:30 - 12:30	12:30-01:30	1:30 - 2:30	2:30 - 3.30		5:00 - 6.00
24-Jun-26	Wed	Allied Subjects Integrated Formative Assessment 01	Computer Science	Lecture Physiology Aging		Lecture Pathology	Tutorial Anatomy Biochemistry Physiology	Practical Histology Biochemistry Physiology			CFRC
		08:00 - 09:00	09:00 - 10.00	10.00-11.00	11:00 - 11:30	11:30 - 12:30	12:30-01:30	1:30 - 2:30	2:30 - 3.30	3:30 - 5.00	5:00 - 6.00
25-Jun-26	Thur	ASHURA									
		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
26-Jun-26	Fri	ASHURA									

Allocation of Hours

AVICENNA MEDICAL COLLEGE, LAHORE

2ND YEAR MBBS

	Anatomy			Biochemistry			Physiology			Path			Pharm		Bh.Sc.	C.M.	Clinical Lectures	PERL				Quran	Islamiyat	Pak Std	Clinical Skills	Clinical Rotatio n	Comp. Sc.	EEW	Sports	Exam	Total
Wk #	Lec	Tut	Prac	Lec	Tut	Prac	Lec	Tut	Prac	Lec	Tut	Prac	Lec	Prac				Prof	Ethics	Research	Lead										
1	9		2	6		2	5		2	1					1	1						1	1		2	5		1			39
2	7	1	2	6	1	2	4	1	2	1					1			2				1			2	5	1				39
3	7	2	2	5	1	2	3	1	2	1					1	1			2			1			2	5		1			39
4	5	1	2	4	1	2	1	1		1		2	1		1						2	1			2	4				1	32
5	8	1	2	7	1	2	2	1						2	1	1					1	1	1	1	2	5					39
6	8	2	2	8	1	2	2	1	2						1	1				1				1	2	5					39
7	4	1	2	3	1	2	6	1	2	2						1		1				1				5				7	39
8	5	1	2	5	1	2	7	1	2	2			1		1				1						2	5			1		39
9	4	1	2	5	1	2	8	1		2		2	1			1					1				2	5			1		39
10	3	1	2	3	1	2	8	1		3			1	2		1				1	1				2	5			1	1	39
11	2	1	2	2	1	2	2	1	2	1			1		1		1									3	1			1	24
12	6		2	4		2	6			1		2						1					1			5		1	1	7	39
13	6	1	1	2	1	1	4	1		1		1						1				1	1			5	1		1	10	39
14	5	1	2	2	1		5	1	2	2		2	1							1		1			2	4					32
15	7	1	2	3	1		6	1		1		2	1	2		1				1		1			2	5	1		1		39
16	6	1	2	2	1	2	4	1		1		2									1				2	4		1	1		31
17	6	1	2	3	1	2	6	1	2	2		2				1					1		1	1		5	1		1		39
18	6	1	1	2	1		6	1	2	1		2		1		1		1				1	1	1	2	5	1		1	1	39
19	6	1	1	3	1		6	1	2	1		2		1		1					1	1	1	1	2	5	1		1		39
20	7	1		3	1		9	1		2					1	1	1				1	1		1	2	5			1	1	39
21	12		2	1		2	4		2	1						1					1					5			1	7	39
22	11	2	2	1	1	2	4	1	2	1						1				1						5			5		39
23	9	2	2		1	2	3	1	2							1					1					4			11		39
24	12	2	2		1	2	5	1	2	1						1		1				1			2	5				1	39
25	13	2	2	1	1	2	4	1	2						1			1				1			2	5				1	39
26	13	2	2		1	2	5	1	2						1		1		1					1	2	5					39
27	8		1	2		1	8		1									1	2	1		1		1		5				7	39
28	4	1	1	1	1	1	6	1	1												1	1	1	1	2	5		1		10	39
29	9	1	1	3	1	1	9	1	1				1								1	1	1		2	5		1			39
30	8	1	1	3	1	1	9	1	1	1											1	1	1		2	5	1	1			39
31	8	1	1	2	1	1	9	1	1	1					1						1	1	1		2	5	1	1			39
32	9	1	1	2	1	1	7	1	1		1				1	1						2			2	5	1	1		1	39
33	4	1	1	2	1	1	8	1	1		1				1	1	6					1		1	2	5		1			39
34	3		1	1						6		1	3	1		2				1		4	1	2	2	5	1	4		1	39
35	2		1	1						6		1	3	1	1	1						2	1	1	2	5	1	2		8	39
36																														17	17
37																														34	34
38																														27	27
39																														14	14
	242	36	56	98	29	48	181	29	41	43	2	21	14	10	15	21	9	9	6	7	15	28	13	13	52	169	12	16	28	157	1420
	AL	AT	AP	BL	BT	BP	PL	PT	PP	PtL	PtT	PtP	PhL	PhP	Bh.Sc.	C.M.	Clin Lec	Prof	Ethics	Research	Lead	Quran	Isl	PS	Cl SK	Cl Rota	CS	EEW	Sports	Exam	1263
	278		56	127		48	210		41	45		21	24					37													65
	334			175			251			66																					1328

Learning Objectives

NORMAL STRUCTURE			
GROSS ANATOMY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 14 DISCIPLINE	TOPIC
R-A-001	Describe the fascia of the posterior abdominal wall with its clinical significance-Psoas Fascia & Tuberculosis. Describe the posterior abdominal wall muscles, arteries (abdominal aorta), and veins (inferior vena cava), lymphatics, & clinical correlates.	Human Anatomy	Posterior Abdomen Wall
	Describe gross features and facial coverings of kidneys.		
	Compare and contrast the relations of right and left kidneys.		

R-A-002	Describe the blood supply, lymphatics, and nerve supply of the kidney	Human Anatomy	Kidney
	Discuss the clinical aspects of the kidneys		
	Demonstrate the surface marking and radiographic anatomy of the kidney. Identify the side of the kidney		
R-A-003	Compare and contrast the relations of right and left ureter	Human Anatomy	Ureter
	Give the constrictions of the ureter		
	Describe the blood supply, nerve supply, and Lymphatics of the ureter		
	Identify the ureter.		
R-A-004	Describe the gross anatomical features, relations, surfaces, blood supply, nerve supply, and lymphatics of the urinary bladder	Human Anatomy	Urinary bladder
	Give the clinical correlates of the urinary bladder		
	Identify the gross features and surfaces of the urinary system bladder		

R-A-005	Interpret basic urological signs/symptoms & investigations.	Integrate with urology	Sign/symptom/investigations
R-A-006	Describe the etiology and management of urinary retention.		Urinary retention

R-A-007	Identify and describe the various anatomic landmarks of the renal system on radiographs.	Integrate with Radiology	radiograph
R-A-008	Describe the parts of the urethra.	Human Anatomy	Urethra

EMBRYOLOGY & POST-NATAL DEVELOPMENT

CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 05	
		DISCIPLINE	TOPIC
R-A-009	Describe the development of intermediate mesoderm and its derivatives	Embryology	Development of the urinary system
	Describe the development of the pronephros. mesonephros and metanephros	Embryology	
	Describe positional changes during the descent of the kidney with correlation to its blood supply Describe the molecular regulation of the kidney development.	Embryology	
	Describe the development of the urinary bladder and urethra	Embryology	
	List and describe the common congenital anomalies of the kidney, urinary bladder, and urethra.	Embryology	

MICROSCOPIC STRUCTURE

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 04	
		DISCIPLINE	TOPIC

R-A-010	Describe the histological, structural organization, and Functions of the kidney with clinicals.	Histology	Structure of the kidney
R-A-011	Describe the light and ultrastructure of the Juxtaglomerular apparatus and glomerular filtration barrier	Histology	Juxtaglomerular apparatus

R-A-012	Describe the histological structure of the ureter	Histology	Structure of the ureter
R-A-013	Describe the histological structure of the urinary bladder. Discuss clinical correlates (Cystitis, Urinary bladder cancer, Urinary Tract Infections (UTIs))	Histology	Structure of the urinary bladder

NORMAL FUNCTION			
MEDICAL PHYSIOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 36 DISCIPLINE	TOPIC
R-P-001	Explain the general organization of the kidney and urinary tract Explain the physiological anatomy of the nephron		Physiological anatomy of the kidneys
R-P-002	Explain the renal blood supply		Renal Blood Supply
	Describe the major composition of intracellular and extracellular fluids		
	Define Hypo and hypernatremia		

R-P-003	Explain the causes of hypo & hypernatremia and their Effects on the composition of body fluid compartments	Physiology	Body fluid compartment
	Describe the difference between iso-osmotic, hyper- osmotic, hypo-osmotic fluids		
	Enlist the methods to measure body fluid volumes.		
R-P-004	Enumerate causes of Intracellular and extracellular edema	Integrate with Medicine	Edema
	Describe safety factors that prevent edema		
R-P-005	Explain the functions of the kidney	Physiology	Function
R-P-006	Describe the mechanism of micturition and its control		Micturition reflex
	Explain the role of the higher center in micturition		
	Explain the physiological anatomy and innervation of bladder		
	Discuss the voluntary control of micturition		
R-P-007	Explain the causes, pathophysiology, and features of an atonic bladder. Discuss the causes, pathophysiology, and features of an automatic bladder.	Physiology	Abnormalities of micturition

	Write the causes, pathophysiology, and features of uninhibited neurogenic bladder		
	Enlist the steps of urine formation		

R-P-008	Explain the physiological anatomy and functions of glomerular capillary membrane Discuss the composition of the filtrate Explain the minimal change nephropathy and increase permeability to plasma protein	Physiology	Urine formation
R-P-009	Define Glomerular Filtration Rate (GFR). Describe the determinants of GFR Explain the factors affecting GFR Discuss the hormones and autocoids that affect GFR Explain the mechanisms of autoregulation of GFR Enlist the physiological and pathological factors that decrease GFR Explain the effects of an angiotensin II blocker on GFR during renal hypoperfusion	Physiology	Glomerular filtration
	Enumerate different types of transport along the kidney tubules for reabsorption Explain the reabsorption and secretion along different parts of the Nephron Explain the regulation of tubular reabsorption Discuss the forces/pressure and hormones that determine renal tubular reabsorption Explain the reabsorption of water along different parts of nephron		

R-P-010	Define obligatory and facultative reabsorption	Physiology	Reabsorption
	Discuss the characteristics of late distal tubules and cortical collecting ducts		
	Discuss the characteristics of medullary collecting ducts		
R-P-011	Explain the use of the clearance method to quantify kidney function	Physiology	Clearance method

R-P-012	Describe the mechanism of reabsorption of sodium along different parts nephrons	Physiology	Transport maximum
	Define and explain the term Transport maximum for the substances		
	Define the filtered load for the substance		
	Justify the difference between the transport maximum and renal clearance threshold of glucose in renal tubules		
R-P-013	Explain the renal mechanisms for excreting Dilute urine	Physiology	Urine concentration and dilution
	Explain the mechanism for forming a concentrated urine		
	Discuss the role of urea in the process of counter current multiplier mechanism		

	Describe the countercurrent exchange in the vasa Recta to preserve the hyperosmolarity of the renal medulla		
R-P-014	Define and explain the term obligatory urine volume. Define and explain free water clearance. Define Urine specific gravity.	Physiology	Obligatory urine volume
R-P-015	Enumerate different abnormalities of urinary concentrating ability	Physiology	Disorders of urine concentrating ability
R-P-016	Enumerate the types of Diabetes insipidus	Integrate with Medicine	Diabetes insipidus
	Enlist the features of diabetes insipidus		
	Explain the pathophysiology and treatment of central diabetes insipidus		
	Discuss the pathophysiology of nephrogenic diabetes insipidus		
R-P-017	Make the flow chart to show the Osmoreceptor- antidiuretic hormone (*ADH*) feedback mechanism for regulating extracellular fluid osmolarity in response to a water deficit.	Physiology	Osmoreceptor- ADH Feedback System
	Enlist the factors that increase and decrease the release of ADH	Physiology	Thirst

R-P-018	Explain the mechanism of thirst		
R-P-019	Enumerate the factors that can alter potassium distribution between the intracellular and extracellular fluids		Renal regulation of potassium
	Discuss the process of secretion of potassium by renal tubules Explain the regulation of internal potassium distribution and potassium secretion		
R-P-020	Explain the control of extracellular fluid osmolarity and sodium concentration		Control of ECF osmolarity
R-P-021	Explain the integration of the renal mechanisms for control of Extracellular Fluid (ECF)		Control of ECF
	Explain the importance of pressure natriuresis and diuresis in maintaining body sodium and fluid balance		
R-P-022	Explain the renal handling of calcium concentration to regulate plasma calcium concentration		Renal regulation of calcium Renal regulation of phosphate
	Enumerate the factors that alter renal calcium		
	Enlist the factors that alter renal phosphate excretion		
R-P-023	Explain the nervous and hormonal factors that increase the effectiveness of renal body fluid feedback control		Renal body fluid feedback control

R-P-024	Explain the conditions that cause a large increase in blood volume and ECF volume Explain the conditions that cause a large increase in ECF volume, but with normal blood volume	Physiology	ECF and blood volume
R-P-025	Explain the renal handling of H^+ ions.		Acid-base balance
R-P-026	Analyze the acid-base disturbances on the basis of pH, HCO3 and CO2	Physiology	Acid-base disturbance
	Explain the causes and compensation of metabolic acidosis		
	Explain the causes and compensation of metabolic alkalosis		
	Explain the causes and compensation of respiratory acidosis		
	Explain the causes and compensation of respiratory alkalosis		
	Explain the causes and compensation of mixed acid base disorder		
R-P-027	Define and explain anion gap	Physiology	Anion gap

MEDICAL BIOCHEMISTRY			
		TOTAL HOURS = 23	
CODE	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC

R-B-001	Discuss the synthesis and degradation of purines (De-Novo and salvage pathway)	Medical Biochemistry	Purine metabolism
R-B-002	Discuss the synthesis and degradation of pyrimidine (De-Novo and salvage pathway)		Pyrimidine metabolism
R-B-003	Outline the sequence of reactions that convert IMP to AMP and GMP and to their corresponding triphosphates		Nucleotide metabolism
R-B-004	Discuss the regulation of purine and pyrimidine biosynthesis and degradation		Regulation of purine and pyrimidine
R-B-005	Interpret the Lesh-Nhyan syndrome. Gout, SCID/ADA on the basis of sign symptoms and data		Purine metabolism disorders
R-B-006	Interpret Orotic aciduria in relevance to nucleotides and urea Differentiate between CPS I and II	Medical Biochemistry	Pyrimidine metabolism disorders
R-B-007	Interpret the role of synthetic analogues of nucleotides in medicine based on sign/symptoms and data e.g Methotrexate, 5-Fluorouracil, and Allopurinol.		Analogues of nucleotides
	Interpret the role of PABA analogs and mycophenolic acid in purine biosynthesis		

R-B-008	Discuss the role of Ribonucleotide reductase in Nucleotide metabolism (hydroxyurea)		Role of Ribonucleotide reductase
R-B-009	Define acidosis and alkalosis. Classify acid-base disorders. Enlist causes of metabolic acidosis and give their compensation. Enlist causes of respiratory acidosis and give its compensation. Enlist causes of metabolic alkalosis and give their compensation. Enlist causes of respiratory alkalosis and give their compensation.	Biochemistry/integrate with Medicine	Acid Base balance imbalance/ Types of acid base disorders
R-B-010	Interpret metabolic and respiratory disorders of acid-base balance on the basis of signs, symptoms, and arterial blood gas (ABG) findings Give a biochemical explanation for tetany associated with alkalosis	Biochemistry	Acid Base balance imbalance/ Tetany in Alkalosis
PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**TOTAL HOURS = 14** **DISCIPLINE**	**TOPIC**

R-Ph-001	Classify diuretics Describe a carbonic anhydrase inhibitor. MOA, clinical uses, and adverse effects	Pharmacology & Therapeutics	Diuretics
	Describe Thiazide & loop diuretics, their Mechanism of Action, clinical uses, and adverse effects.		
	Describe Potassium-sparing and osmotic diuretics their mechanism of action, clinical uses, and adverse effects.		
R-Pa-001	Discuss the etiology and pathogenesis of different types of stones.	Pathology	Renal Stones

R-Pa-002	Identify the causes, morphological aspect & outcome of hydronephrosis.		Hydronephrosis
R-Pa-003	Define pyelonephritis and enumerate its types. Describe the morphological features of acute and chronic pyelonephritis		Pyelonephritis
R-Pa-004	Define acute and chronic cystitis. Describe the morphological features of different types of cystitis.		Cystitis
R-Pa-005	Enlist common causative agents of urinary tract infections and describe the pathogenesis and clinical features of common causative agents of UTI.	Microbiology	UTI causative agents

R-Pa-006	Define various presentations of glomerulonephritis e.g., asymptomatic proteinuria or hematuria detected during routine testing, nephrotic syndrome, acute nephritic syndrome, and rapidly progressive glomerulonephritis (RPGN). Define nephrotic and nephritic syndrome.	Integrate with Medicine	Glomerulonephritis
R-Pa-007	Define AKI (acute kidney injury) Identify various risk factors and causes for AKI. Outline management strategies.		Acute Kidney Injury
R-Pa-008	Define UTI (Urinary Tract Infection)		Urinary tract infection
	Identify various risk factors and causes of UTI.		
	Describe the signs and symptoms of UTI.		
	Outline management strategies.		

DISEASE PREVENTION AND IMPACT			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**TOTAL HOURS = 04**	
		DISCIPLINE	**TOPIC**
R-CM-001	Discuss the significance of quality of life in disease and treatment settings. Measures of health status. Disability-Adjusted Life Year (DALY) and Quality-Adjusted Life Year (QALY)	Community Medicine and Public Health	Quality of life

	Life expectancy.		

R-BhS-001	To identify the behavioral abnormalities caused by renal function. To identify the cognitive abnormality. To identify the dangers for the patient, his family, and society.	Behavioral Sciences	Dementia, uremic encephalopathy, delusion, muscle paralysis & Societal impact

AGING			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 02	
		DISCIPLINE	TOPIC
R-Ag-001	To define preventive care in diseases related to the urinary system(adults). Primary, secondary, and tertiary prevention.	Community	Disease prevention
R-Ag-002	Define urinary incontinence. Outline management strategies.	Medicine	Urinary incontinence

HISTOLOGY			
CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 06	
		DISCIPLINE	TOPIC
R-A-014	Identify, draw, and label the histological structure of the kidney and enumerate points of identification	Practical	Kidney
R-A-015	Identify, draw, and label the histological structure of ureter and enumerate its points of identification	Practical	Ureter

R-A-016	Identify, draw, and label the histological structure of the urinary bladder and enumerate its points of identification	Practical	Urinary bladder
R-A-017	Diagram showing the site of action of diuretics, classification of diuretics, A table showing the effect of various diuretics on urinary electrolytes and ph.	Practical	Action, Classification, and effects of diuretics

PHYSIOLOGY

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 02	
		DISCIPLINE	TOPIC
R-P-028	Perform a complete examination of the urine sample URS-10 (using urine reagent-10) and interpret its report	Physiology Practical	Interpretation of the report
	Determine the specific gravity of urine		

BIOCHEMISTRY

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 10	
		DISCIPLINE	TOPIC
R-B-011	Estimate blood urea, creatinine & creatinine clearance and interpret the results.	Biochemistry Practical	Interpretation of results
	Determination of proteins in urine by the dipstick method and by		

	chemical methods, and interpret your results.		

	Estimate serum uric acid by the kit method		
PATHOLOGY			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**TOTAL HOURS = 01 + 01**	
		DISCIPLINE	**TOPIC**
R-Pa-009	Identify morphological features of acute pyelonephritis Identify morphological features of Chronic pyelonephritis	Pathology	Pyelonephritis
PHARMACOLOGY			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**TOTAL HOURS = 01 + 01**	
		DISCIPLINE	**TOPIC**
R-Ph-002	Label the diagram showing the site of action of diuretics, along with examples Tabulate the effects of various diuretics on urinary electrolytes and pH	Pharmacology	Diuretics

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 and encourages students to explore the 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 a 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 students' 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

Infrastructure Resources

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 and to facilitate hands-on learning.
4.	The 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 facilitating 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 with an opportunity to get entertained during their meal times.
8.	Gymnasium & Sports	We recognize sports as a pivotal key to shaping and maintaining students' personalities and good health. The College has indoor and outdoor sports facilities to help enhance 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.

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 workplace-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-2						
Block 4 **Modules** (GIT & Nutrition-I + Renal-I)	Part I MCQs (140)	140 Marks	Practical /Clinical Examination	11 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:

Avicenna Medical College

2nd Year MBBS – Exam Schedule – 2026/27

Week #	Date	Exam
3	20/4/26 to 24/4/26	Tutorial Test
4	29/4/26	Integrated Formative Assessment – 01
5	4/5/26 to 8/5/26	Tutorial Test
6	11/5/26 to 15/5/26	Tutorial Test
7	21/5/26	Module – 06 (Theory + OSPE/OSVE)
9	8/6/26 to 12/6/26	Tutorial Test
10	17/6/26	Integrated Formative Assessment – 02
11	24/6/26	Allied Subjects Integrated Formative Assessment – 01
12	2/7/26	Module – 07 (Theory + OSPE/OSVE)
13	6/7/26	**Block – IV (Theory)**
13	7/7/26	**Block – IV (OSPE / OSVE)**
15	17/8/26 to 21/8/26	Tutorial Test
16	24/8/26 to 28/8/26	Tutorial Test
17	31/8/26 to 4/9/26	Tutorial Test
18	9/9/26	Integrated Formative Assessment – 03
20	23/9/26	Integrated Formative Assessment – 04
21	30/09/26	Module – 08 (Theory + OSPE/OSVE)
23	12/10/26 to 16/10/26	Tutorial Test
24	21/10/26	Integrated Formative Assessment – 05
25	28/10/26	Allied Subjects Integrated Formative Assessment – 02
26	2/11/26 to 6/11/26	Tutorial Test
27	11/11/26	Module – 09 (Theory + OSPE/OSVE)
28	16/11/26	**Block – V (Theory)**
28	17/11/26	**Block – V (OSPE / OSVE)**
30	30/11/26 to 4/12/26	Tutorial Test
31	7/12/26 to 11/12/26	Tutorial Test
32	16/12/26	Integrated Formative Assessment – 06
33	28/12/26 to 1/1/27	Tutorial Test
34	6/1/27	Integrated Formative Assessment – 07
35	13/1/27	Module – 10 (Theory + OSPE/OSVE)
35	18/1/27	Allied Subjects Integrated Formative Assessment – 03
36	21/1/27	Module – 11 (Theory + OSPE/OSVE)
36	25/1/27	**Block – VI (Theory)**
36	26/1/27	**Block – VI (OSPE / OSVE)**

Table of Specification

MBBS 2nd Professional

Block-4

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	38	38	04	-	01	46
Normal Function	Physiology applied/clinical	28	28	03	-	01	38
	Biochemistry applied/clinical	37	37	02	-	01	30
Disease Burden & Prevention	Community Medicine & Public Health	06	06	-	-	-	-
	Behavioral Sciences	05	05	-	-	-	-
Pathophysiology & pharmacotherapeutics	Pathology	16	16	01	-	-	08
	Pharmacology	10	10	01	-	-	08
CFRC	CF-2	-	-	-	01	-	05
PERLs	PERLs-2	-	-	-	01	-	05
Total		**140**	**140**	**11 stations x 08 = 88**	**02 stations x 05 = 10**	**03 stations x 14=42**	**140**

Recommended Books & Reading Resources

Anatomy

Snell's Clinical Anatomy, 10th ed.

Langman's Medical Embryology, 12th ed

Medical Histology by Laiq Hussain Siddiqui, 8th edition.

General Anatomy by Laiq Hussain Siddiqui, 6th edition.

Biochemistry

Harpers Illustrated Biochemistry (latest edition). Rodwell. V.W. McGraw-Hill publishers.

Lippincott Illustrated Review (latest edition). Kluwer. W.

Essentials of Medical Biochemistry Vol 1 and 2 by Mushtaq Ahmed.

Pathology

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

Robbins and Cotran Pathological Basis of Disease. Kumar, V., Abbas, A., and Aster, J. Latest Edition

Richard Mitchall, Vinary Kumar, Abul K. Abbas, Nelson Fausto Robbins, and Cotran, Pocket Companion to Pathologic basis of diseases, Saunders Harcourt.

Walter and Israel. General Pathology. Churchill Livingstone.

Robbins & Kumar, Medical Microbiology and Immunology, Levinson.

General Medicine

Principles and Practice of Medicine by Davidson (latest edition)

Clinical Medicine by Parveen J Kumar & Michael Clark

Oxford Handbook of Medicine

Macleod's Clinical Examination book

Medicine and Toxicology by C.K. Parikh

Hutchison's Clinical Methods by Michael Swash. 21st edition

Pharmacology And Therapeutics

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

Basic and Clinical Pharmacology by Bertram G Katzung (case scenarios only) - 16th Edition-

Current Medical Diagnosis and Treatment- reference book –Edition-2024

Basic and Clinical Pharmacology by Bertram G Katzung (case scenarios only) - 15th Edition

Basic and Clinical Pharmacology by Katzung, McGraw-Hill. 16th Edition.

Pharmacology by Champe and Harvey, Lippincott Williams & Wilkins, 8th Edition.

Katzung Basic and Clinical Pharmacology, Lippincott Illustrated Reviews.

Clinical Pathology Interpretations by A. H. Nagi

Behavioural Sciences

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

Medical and Psychosocial Aspects of Chronic Illness and Disability, 6th edition by Donna R.Falvo and Beverly E. Holland,

Integrating behavioral sciences in healthcare, Asma Humayun,2003, 1st edition

Community medicine

Parks Textbook of Preventive and Social Medicine. K. Park

Public Health and Community Medicine by Ilyas Ansari

MSDS manual of the Government of Punjab

Textbook of Community Medicine by Park J E. Latest Edition

Surgery

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

Browse's Introduction to the Symptoms & Signs of Surgical Disease, 4th Edition

Bailey & Love Short Practice of Surgery, Clinical Surgery Pearls by Dayananda Babu RACS for Surgical Audits.

Patent Safety

Patient Safety Curriculum Guide: Multi-Professional Guide

Microbiology

Levinson's review of Microbiology

Medical Microbiology and Immunology by Levinson and Jawetz,

Pediatrics Medicine

Nelson Textbook of Pediatrics

Basis of Pediatrics by Pervez Akbar Khan

Gynecology

Gynecology by Ten Teachers

Infection Control

National Guidelines for Infection Prevention and Control, National Institute of Health, Pakistan

Biosafety

Biosafety in Microbiological and Biomedical Laboratories, 6th Edition (CDC, USA)

WHO Laboratory Biosafety Manual, Fourth Edition, And Associated Monographs

WHO safe management of wastes from healthcare facilities chapter 7 -8 page 77-99, 105-125)

Family medicine

Oxford Handbook of General Practice, 5th Edition

Orthopedics

Apley and Solomon's System of Orthopaedics and Trauma by Ashley Blom (Editor)

Rheumatology

Davidson's Principles and Practice of Medicine

Clinical Medicine by Parveen J Kumar & Michael Clark

Hutchison's Clinical Methods by Michael Swash

Radiology

Aids to Radiological Differential Diagnosis by Chapman S. and Nakielny R. 4th edition.

Elsevier Science Limited; 2003.

Forensic Medicine

Knight’s Forensic Pathology by Barnard Knight, 3rd edition

G. Principles and Practice of Forensic Medicine by Prof. NasibR. Awan,2nd edition

Forensic DNA Typing – 2nd Edition, Author: John M. Butler

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

Gun Shot Wounds 2nd edition by V.J.Deimaio

Knight B. Simpson’s Forensic Medicine.

Knight and Pekka. Principles of Forensic Medicine

Forensic Pathology

Forensic Pathology 2nd edition by V. J. Deimaio CRC Press Boca Raton, London, New York

Washington DC

Toxicology

Principles of Clinical Toxicology, 3rd edition, Thomas. Gossel CRC press Taylor and Francis group

Forensic Sciences

Fundamentals of Forensic Science- 3rd Edition: Author: Max M Houck, Jay A. Siegel

Textbook of Forensic Medicine and Toxicology Principles and Practice, 5th edition by Krishan Vig

Biomedical ethics

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

Evidence-Based Medicine

Databases for the latest articles/manuscripts

Clinical Practice Guidelines- local and international - (within last 3 years)

Books (Latest edition-within last 5 years)

Pediatrics

Nelson's Book of Pediatric 22nd edition, Illustrated book of Pediatrics, Pervaiz Akbar textbook peads medicine

Islamiyat

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

Ilmi Islamiyat(compulsory) for BA, BSc & equivalent