



FIRST YEAR MBBS INTEGRATED CURRICULUM (2025-2026)

INTRODUCTION

1. Preamble

The recently revised standards of the Pakistan Medical and Dental Council (PM&DC) encourage the integration of major subjects both horizontally and longitudinally. This curriculum is aligned

with the Pakistan Medical and Dental Council standards 2024 and has been updated with Correlation as a minimum level of integration in MBBS. This curriculum is outcome based, patient centered, community relevant, promotes health and prevents disease. Our students, on completion of the program will develop the required competencies as defined worldwide in a graduate doctor.

It has been developed by the faculty of basic and clinical sciences, along with their respective HPE teams from the constituent/ affiliated colleges in collaboration with the NUMS Academic Directorate.

2. Curriculum perspective

NUMS curriculum is evolved taking into consideration constructivist and behaviorist with some element of cognitivist approach. It allows students to construct their own knowledge based on what they already know and to use that knowledge in purposeful activities requiring decision making, problem solving, and judgments.

3. Level of integration

NUMS will follow Correlation i.e level 7 of Harden's level of Integration in first three years. The emphasis remains on disciplines or subjects with subject-based courses taking up most of the curriculum time. Within this framework, an integrated teaching session or course is introduced in addition to the subject-based teaching. This session brings together areas of interest common to each of the subjects. Though the teaching is discipline based, topics are correlated and taught with clinical context for better understanding and application of concepts.

4. Curricular organization and structure

a. NUMS MBBS curriculum in the first three years shall be delivered in a System Based Modular Format with clinical relevance. However, in year III & IV, students shall get clinical exposure through rotations in the wards and OPDs and in Year V through clerkships

b. There will be three blocks in year I, each will have modules, duration of which depends upon the number and complexity of the objectives to be achieved in that module

c. The curriculum will be delivered by modular teams of multidisciplinary basic science faculty and relevant clinical faculty.

d. The planning and delivery will be coordinated by year coordinators who will guide module coordinators of their respective years for efficient implementation

e. Modular Coordinator will be responsible for teaching and assessment during each module. S/he will be appointed by HODs in coordination with HPE team

f. All NUMS colleges will provide study guides of each module to the students

g. To attain the integration in MBBS program, teaching shall be done in three spirals

h. Spiral I - Basis of Medicine (Years I & II). The syllabus will be integrated horizontally around systems of the body in which Anatomy, Physiology and Medical biochemistry will be taught with clinical relevance. Additional chunks of content will be added in a module that exactly does not fit in the central theme of the module.

i. Longitudinal themes (Understanding of Quran I, Introduction to Computers and Research Methodology & EBM) are an integral part of year I. However, assessment of these generic subjects will be the responsibility of institute itself

j. Islamiat and Pakistan Studies will be assessed by the University in second professional exam

k. Apart from attending daily scheduled sessions, students should engage in self-directed learning to achieve the desired objectives

5. Competencies The focus of this curriculum is on the roles of a general physician as identified by PMC. These are skillful, knowledgeable, community health promoter, critical thinker, professional and role model, researcher and leader. Competencies focused in year I and II are: -

a. Medical Knowledge

b. Procedural skills

c. Problem solving

d. Communication skills

e. Professionalism

f. Research

6. Learning Outcomes

By the end of years, I & II, students should be able to:

- Correlate anatomical, physiological, and biochemical foundations of major body systems to explain normal human structure and function in clinically relevant contexts.
- Perform basic physiological and biochemical procedures accurately and safely in the laboratory, adhering to principles of professionalism and patient safety
- Identify soft and bony landmarks through palpation to outline deep-seated anatomical structures on living subjects
- Interpret topographic anatomy using models and prosected specimens while demonstrating effective communication and teamwork
- Communicate effectively with peers and instructors through academic discussions, reflective sessions, and collaborative learning activities
- Engage in self-directed learning and reflective practice to foster professional identity formation, personal growth, and continuous improvement
- Demonstrate understanding of the Qur'an and apply its moral and ethical principles in personal, academic, and professional life.
- Apply Islamic ethical principles or equivalent moral frameworks for non-Muslims—in clinical, professional, and social decision-making.
- Demonstrate knowledge of Pakistan's history, culture, and governance, and relate these to contemporary social and healthcare contexts
- Communicate ideas clearly and effectively in academic and professional contexts through structured written expression.

- Demonstrate digital literacy and responsible use of information and health data systems for learning and professional communication.

CONTACT HOURS FOR FIRST YEAR MBBS

SUBJECTS	CONTACT HOURS
Anatomy	250
Physiology	225
Biochemistry	125
Medicine & Allied	50
Surgery & Allied	40
Basic of Radiology	15
Research Methodology & EBM	10
Behavioural Sciences	05
Communication Skills	05
Leadership and Management	05
Professionalism	05
Quran Kareem	25
Introduction to Computer	25
Islamiyat	25
Expository writing	25
Co- curricular activities/sports	40
Clinical Photography & Videography OR Strategies for Enhanced and Advanced Learning	25
Total Hours	900

1. BLOCK COORDINATORS FOR FIRST YEAR MBBS

BLOCK	NAMES	DESIGNATION
BLOCK I	Dr. Rabia Latif	Assistant Professor
BLOCK II	Dr. Amina Nadeem	Assistant Professor
BLOCK III	Dr. Hira Saeed	Assistant Professor

2. FOCAL PERSONS FOR FIRST YEAR MBBS

Subject: Anatomy

Name	Block
Dr. Tayyaba Mahmud/Dr. Shahmir A.Khan/Dr. Raffia Irfan	Block I
Dr. Tayyaba Mahmud/Dr. Shahmir A.Khan/Dr. Raffia Irfan/Dr. Rabia Latif	Block II
Dr. Tayyaba Mahmud/Dr. Shahmir A.Khan/Dr. Raffia Irfan/Dr. Rabia Latif	Block III

Subject: Physiology

Name	Block
Dr. Amna Nadeem/ Dr. Amna Quddus/ Dr. Faiza Habib/ Dr. Ujala Ali/ Dr. Jaweria Muhammad	Block I
Dr. Amna Quddus/ Dr. Faiza/ Dr. Ujala/ Dr. Jaweria	Block II
Dr. Amna Nadeem/ Dr. Amna Quddus/ Dr. Faiza Habib/ Dr. Ujala Ali/ Dr. Jaweria Muhammad	Block III

Subject: Biochemistry

Name	Block
Dr. Hira Saeed/Dr. Faiza Ahmed/ Dr. Maham Zulfiqar/ Dr. Adeeba Fatima/ Dr. Abida Asghar	Block I
Dr. Faiza Ahmed/ Dr. Maham Zulfiqar/ Dr. Adeeba Fatima/ Dr. Abida Asghar	Block II
Dr. Faiza Ahmed/ Dr. Maham Zulfiqar/ Dr. Adeeba Fatima/ Dr. Abida Asghar	Block III

ACADEMIC CALENDER OF FIRST YEAR MBBS (2025-2026)

Weeks	Details	Dates	
		From	To
Block I (02+07+05+01=15 weeks)			
01	Start of New Class	16 Feb 2026	
	Orientation Week Academic Classes Block I Module I (Foundation I) (01 wks)	16 Feb 2026 – 20 Feb 2026	
2-5	Academic Classes Block I (04 weeks) Module I (Foundation I) (01 wks) Module II (Cell Structure and Functions) (3/7 wks)	23 Feb 2026	19 Mar 2026
	Eid ul Fitr (Tentative)	20 Mar 2026	22 Mar 2026
6	Pakistan Day	23 March 2026	
	Spring Vacations	24 Mar 2026	27 Mar 2026
7-15	Academic Classes Block I (09 weeks) Module II (Cell Structure and Functions) (4/7 wks) Module III (MSK-1) (5 wks)	30 Mar 2026	26 May 2026
	Trifecta (CMH MUN)	10 & 12 April 2026	
	Olympiad	17 April 2026	
	Sports Day	23 April 2026	
	Labor Day	01 May 2026	
	Mushaira	06 May 2026	
	Quiz Competition	12 May 2026	
	Qiraat & Naat Competition	14 May 2026	
	Irtiqa	20 May 2026	
	Inter Med Fest	22 May 2026	
	Eid ul Azha (Tentative)	27-29 May 2026	
16-19	Summer Vacations (4x weeks)	01 June 2026	26 June 2026
	Ashura (Tentative)	24 -25 June 2026	
20	Block I Exam (1 Week) (Date Sheet will be finalized by IEC in YCC meeting)	29 June 2026	03 July 2026
Block II (09+01=10 weeks)			
21-29	Academic Classes Block II (09 weeks) Module I (Cardiovascular System- I) (09 wks)	06 July 2026	04 Sep 2026
	Life-line Symposium	01 July 2026	
	Purpose Over popularity	15 July 2026	
	Annual Research Conference	30 July 2026	
	Independence Day Event	13 Aug 2026	
	Independence Day	14 Aug 2026	
	12 th Rabi-ul-Awal (Tentative)	25 Aug 2026	

30	Block II Exam (1 Week) (Date Sheet will be finalized by IEC in YCC meeting)	07 Sep 2026	11 Sept 2026
Block III (04+05+01=10 weeks)			
31-39	Academic Classes Block III (09 weeks) Module I (Respiratory System- I) (04 wks) Module II (MSK-II) (05 wks)	14 Sept 2026	13 Nov 2026
40	Block III Exam (Written)	16 Nov 2026	
	Pre-Annual/ Send-up Leave	17 Nov 2026	20 Nov 2026
41-42	Pre-Annual/ Send-up Exam (Theory + OSPE) (Date Sheet will be finalized by IEC in YCC meeting)	23 Nov 2026	02 Dec 2026
43-45	Prep Leave Annual Exam	03 Dec 2026	25 Dec 2026
	NUMS Annual Professional Exam	28 Dec 2026	

WEEKLY SCHEDULES FOR FIRST YEAR MBBS

https://docs.google.com/spreadsheets/d/1U2_8O8fBdHkO9yFI0J2j9mGtDoNDVptQ/edit?usp=drive_link&ouid=114370490398002449630&rtpof=true&sd=true

LECTURE SCHEDULE OF ANATOMY

CMH LMC & IOD – DEPARTMENT OF ANATOMY
1st YEAR MBBS 2026 TEACHING PLAN BLOCK – I, MODULE – II

24th February 2026

DATE/DAY	TIME	TOPICS	ACTIVITY	FACILITATOR
23-02-26 Monday	0800 – 0840	Student Biometric Registration	Lecture	Prof. Dr. Ansa Rabia
24-02-26 Tuesday	0920 – 1000	Introduction to Department		Dr. Rabia Latif
	1020 – 1100	Gross – Anatomical Terms & Planes		
	1100 – 1140	Gross – Anatomical Terms & Planes	SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
25-02-26 Wednesday	1020 – 1100	Histology – Cell	Lecture	Dr. Tayyaba Mahmud
	1100 – 1140	Gross – Anatomical Terms & Planes	SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
26-02-26 Thursday	1140 – 1220	Gross – Skin & Fascia	Lecture	Dr. Rabia Latif
	1220 – 1300		SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
27-02-26 Friday	0910 – 0945	Embryology - Mitosis, Meiosis & Clinicals	Lecture	Prof. Dr. Ansa Rabia
02-03-26 Monday	0800 – 0840	Histology – Epithelium – I		Dr. Tayyaba Mahmud
	0920 – 1000	Introduction to Mentorship		Prof. Dr. Ansa Rabia
03-03-26 Tuesday	0920 – 1000	Embryology – Gametogenesis – I	SGD	Prof. Dr. Ansa Rabia
	1020 – 1140	Gross – Skin & Fascia		Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
04-03-26 Wednesday	1020 – 1100	Gross – Osteology	Lecture	Dr. Rabia Latif
	1100 – 1140	Gross – Osteology	SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
05-03-26 Thursday	1140 – 1300	Gross – Osteology		
06-03-26 Friday	0910 – 0945	Embryology – Gametogenesis – II	Lecture	Prof. Dr. Ansa Rabia
09-03-26 Monday	0800 – 0840	Histology – Epithelium – II		Dr. Tayyaba Mahmud
	0920 – 1000	Embryology – Week – I Development (I)		Prof. Dr. Ansa Rabia
10-03-26 Tuesday	1020 – 1100	Gross – Arthrology		Dr. Rabia Latif
	1100 – 1140	Gross – Arthrology	SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
11-03-26 Wednesday	1020 – 1140	Gross – Arthrology		

DATE/DAY	TIME	TOPICS	ACTIVITY	FACILITATOR
12-03-26 Thursday	1140 - 1220	Gross - Myology	Lecture	Dr. Rabia Latif
	1220 - 1300	Gross - Myology	SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
13-03-26 Friday	0910 - 0945	Embryology - Week - I Development (II)	Lecture	Prof. Dr. Ansa Rabia
16-03-26 Monday	0800 - 0840	Histology - Glands		Dr. Tayyaba Mahmud
17-03-26 Tuesday	0920 - 1000	Embryology - Week - I Development (III)		Prof. Dr. Ansa Rabia
18-03-26 Wednesday	1020 - 1140	Gross - Myology	SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
	1020 - 1140	Gross Modular Exam - I + Paper Discussion	Exam	
19-03-26 Thursday	1140 - 1300	Gross - Introduction to Upper Limb	SGD	
30-03-26 Monday	0800 - 0850	Histology - Connective Tissue - I	Lecture	Dr. Tayyaba Mahmud
31-03-26 Tuesday	0940 - 1030	Embryology - Week - II Development (I)		Prof. Dr. Ansa Rabia
01-04-26 Wednesday	1100 - 1240	Gross - Clavicle	SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
	1100 - 1240	Gross - Scapula		
02-04-26 Thursday	1310 - 1500	Gross - Humerus		
03-04-26 Friday	0940 - 1030	Embryology - Week - II Development (II)	Lecture	Prof. Dr. Ansa Rabia
06-04-26 Monday	0800 - 0850	Histology - Connective Tissue - II		Dr. Tayyaba Mahmud
07-04-26 Tuesday	0940 - 1030	Embryology - Week - III Development (I)		Prof. Dr. Ansa Rabia
	1100 - 1150	Gross - Pectoral region	SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
08-04-26 Wednesday	1150 - 1240	Gross - Axilla + Axillary fascia		
09-04-26 Thursday	1310 - 1500	Gross - Mammary Gland		
10-04-26 Friday	0940 - 1030	Embryology - Week - III Development (II)	Lecture	Prof. Dr. Ansa Rabia
13-04-26 Monday	0800 - 0850	Gross - Queries + Mammary Gland clinicals		Dr. Rabia Latif
14-04-26 Tuesday	0940 - 1030	Embryology - Week 3 to 8 Development (I)		Prof. Dr. Ansa Rabia
	1100 - 1240	Gross - Shoulder girdle, shoulder joint & rotator cuff	SGD	Dr. Rabia Latif Dr. Raffia Irfan Dr. Shahmir A. Khan Dr. Fatima Saleem
15-04-26 Wednesday	1100 - 1240	Gross - Scapular region (fascia, muscles, spaces & neurovasculature)		
16-04-26 Thursday	1310 - 1500	Gross - Brachial plexus		
20-04-26 Monday	0800 - 0850	Gross - Queries + Brachial plexus clinicals		Dr. Rabia Latif

CMH LMC & IOD -ANATOMY DEPARTMENT
1st YEAR MBBS (Session 2025)
HISTOLOGY LECTURE & PRACTICAL SCHEDULE BLOCK - I (Module-II)

Date: 7th February 2025

LECTURES					
Sr#	DATE	Day	TIME	Topics	Facilitator
1	11-02-2025	Tuesday	09:50 -10:45	Cell	Dr. Tayyaba Mahmud
2	17-02-2025	Monday	08:00-08:55	Epithelium-I	
3	24-02-2025	Monday	08:00-08:55	Epithelium-II	
4	03-03-2025	Monday	08:00-08:55	Glands	
5	10-03-2025	Monday	08:00-08:55	Connective Tissue-I	
6	17-03-2025	Monday	08:00-08:55	Connective Tissue-II	

PRACTICALS				
Sr#	Date/Day	Time	Topic	Facilitator
1	17 th -19 th Feb 2025 Monday - Wednesday	13:05-15:00	Microscope & Tissue Techniques	Dr. Tayyaba Mahmud Dr. Kiran Khan Dr. Imshal Farooq
2	24 th - 26 th Feb 2025 Monday - Wednesday		Simple Epithelium	
3	3 rd - 5 th March 2025 Monday - Wednesday		Stratified Epithelium	
4	10 th -12 th March 2025 Monday - Wednesday		Glands	
5	17 th - 19 th March 2025 Monday - Wednesday		Connective Tissue-I	
6	24 th -26 th March 2025 Monday - Wednesday		Connective Tissue-II	

Tayyaba
07/02/25

Ansa
07/02/25
Head of Anatomy Department
(Prof. Dr. Ansa Rabia)



CMH LMC & IOD – DEPARTMENT OF ANATOMY
1st YEAR MBBS CLASS (SESSION 2025) BLOCK - I, MODULE - II
EMBRYOLOGY LECTURES SCHEDULE

7th February 2025

SER	DATE	DAY	TIME	TOPIC	FACILITATOR
1	18-Feb-25	Tuesday	09:50 - 10:45	Mitosis, Meiosis - Clinicals	Prof. Dr. Ansa Rabia
2	21-Feb-25	Friday	09:40 - 10:30	Gametogenesis - I	
3	25-Feb-25	Tuesday	09:50 - 10:45	Gametogenesis - II	
4	28-Feb-25	Friday	09:40 - 10:30	Week - 1 Development (I)	
5	4-Mar-25*	Tuesday	09:50 - 10:45	Week - 1 Development (II)	
6	7-Mar-25*	Friday	09:40 - 10:30	Week - 1 Development (III)	
7	11-Mar-25*	Tuesday	09:50 - 10:45	Week - 2 Development (I)	
8	14-Mar-25*	Friday	09:40 - 10:30	Week - 2 Development (II)	
9	18-Mar-25*	Tuesday	09:50 - 10:45	Week - 3 Development (I)	
10	21-Mar-25*	Friday	09:40 - 10:30	Week - 3 Development (II)	
11	25-Mar-25*	Tuesday	09:50 - 10:45	Week - 3 to 8 Development (I)	
12	28-Mar-25*	Friday	09:40 - 10:30	Week - 3 to 8 Development (II)	

* Timing subject to change as per Ramadan Schedule

Checked By:

Assistant Professor
(Dr. Rabia Latif)

Rabia
7/2/2025

Ansa
07/02/25
Head of Anatomy Department
(Prof. Dr. Ansa Rabia)

Lecture schedule Physiology

	Dates	Topic	Lecturer	No. of Lectures	SGD	Module	SIGN
Block-I (12 weeks)	23rd Feb to 10th March	Cell	Dr Aamina Quddus	9	1	1	
	11th March to 18th March	Blood: RBC	Prof. Dr. Qudsia Umaira	7			
	1st April to 9th April	Blood: Immunity	Prof. Dr Ambreen Tauseef	6	1		
	10th April to 29th April	Blood: Coagulation and ABO	Prof. Dr Qudsia Umaira	7	1	1	
	30th April to 26th May	Nerve and Muscle	Prof. Dr. Ambreen Tauseef	11	1	1	
Block-II (9 weeks)	6th July to 22nd July	Heart	Dr. Aamina Quddus	5	2	1	
		ECG	Dr. Amna Nadeem	4			
	27th July to 4th September	Circulation-Intro	Dr. Masooma	9	2	1	
		Circulation-Applied	Dr. Amna Nadeem	10	1	1	
Block-III (9+2 Weeks)	14th to 18th September	Resp-I	Prof Dr. Ambreen Tauseef	4	1		
	18th Sep to 28th Oct	Resp- II	Prof Dr. Farhat Khurram	16	2	2	
	2nd Nov to 12th Nov	MSK-II	Dr. Sarah Saad	9	1		

LECTURE SCHEDULE OF BIOCHEMISTRY

BLOCK 1 (16 Feb 2026—03 July 2026)

Spring Vacation 24-27 March 26 **Eid ul Fitr** 20 - 22 March 26, **Pakistan Day** 23 March,
Labor day 1st May **Summer Vacation** 1-26 June 2026

Eid-ul-Adha 27-28 May 2026

Sr.	Topic	Facilitator	No. of Lec	Dates	Sign	Practical	Tutorial
MODULE I (Cell Structure & Functions) 4 weeks							
1.	Cell	Dr. Huma Ashraf	04	25,26,27 Feb 26 4 Mar 26		4	4
2.	Bioenergetics	Dr. Hira Saeed	05	5,6,11,12,13 Mar 2026			
3.	Enzymes	Prof. Huma Ashraf Dr. Mehvesh Rehan	05	18,19 Mar 2026 1,2,3 Apr 2026			
4.	Heme Proteins & Porphyrin	Dr. Hira Sohail	07	8,9,10,16,22,23,24 April			
5.	Mid- Module Test	1 st Year Team	01	15 April, 2026			
6.			05				
MODULE II (MSK-1) 9 Weeks							
7.	Carbohydrate Chemistry	Dr. Mehvesh Rehan	03	29,30 April, 6 May 2026		9	9
8.	Carbohydrate Metabolism	Dr. Mehvesh Rehan	05	7,8,15,20,21 May 2026			
9.	Glycogen Metabolism Monosaccharide & Disaccharide Metabolism	Dr. Mehvesh	03	7,8,14 May 2026			
10.	Mid-Modular	1 st Year	01	13 May 2026			

	Test - 2	Team					
11.	Plasma Proteins	Dr. Huma Ashraf	02	22 May 2026			
EXAM BLOCK 1		26 June – 3 July 2026					
OSPE							

BLOCK II (06 July— 04 Sep 2026)							
Independence Day 14 August, 2026 12 Rabi-ul-Awal 25 Aug 2026							
MODULE IV (CARDIOVASCULAR SYSTEM-I) 9 Weeks							
12.	Lipids Chemistry	Dr. Mehvesh Rehan	06	8,9,10,15,16,17 July, 2026		9	9
13.	Lipids Metabolism	Dr. Aamenah Malik	13	22,23,24,29,30,31 July, 2026 5,6,7,12,13,21,22 August, 2026			
14.	Mid-Module Test 3	1 st Year Team	01	20 August 2026			
15.	Muscle Amino Acids & Specialized Products	Dr. Hira Sohail	05	26,27,28 August, 2026 2,4 September 2026			
16.	Mid-Module Test 4	1 st Year Team	01	3 September, 2026			
EXAM BLOCK II Written Paper OSPE/Viva		7-11 Sep 2026					

BLOCK III (14 Sep —13 Nov 2026)						
MODULE V (RESPIRATORY SYSTEM) 4 Weeks						
17	Vitamins	Dr. Hira Saeed	07	16,17,18,23,24,25,30 September 2026	2	2
MODULE VI (MSK-II) 5 Weeks						

18 .	Minerals & Trace Elements	Dr. Huma Ashraf	07	1,2,7,8,9,14,16 October, 2026	6	6
19 .	Mid-Modular Test-5	1 st Year Team	01	15 October, 2026		
20 .	Protein Structure & Function	Dr. Hira Sohail	05	21,22,23,28,29 October 2026		
21 .	Fibrous Protein	Dr. Hira Sohail	02	30 October, 4 November, 2026		
22 .	Mid-Modular Test-6	1 st Year Team	01	5 November, 2026		
23 .	Revisions	1 st Year Team	04	6,11,12,13 November 2026		
Block III Exam Sendup Exam OSPE		13 November 2026				
Send Up Prep Leave		17-20 Nov 2026				
Sendup Exam		23-2 Dec 2026				
Prep leave NUMS		3-25 Dec 2026				
NUMS Annual Exam		28 Dec 2026				

LECTURE SCHEDULE OF MEDICINE

DEPARTMENT OF MEDICINE, CMH LAHORE MEDICAL COLLEGE

Clinical Lectures in Medicine in Medicine for 1st Year MBBS 2026

Days/Timings: Wednesdays (08:00-08:55)

Lecture Hall-B

Sr.	Date	Topic	Instructor
1	08-07-2026	Pericardial disease (pericarditis, cardiac tamponade)	Brig. M. Khalid Azam Khan (R)
2	15-07-2026	Hyperlipidemia	Lt. Col. Najma Parveen
3	22-07-2026	Clinical presentation and pericardial risk factors of coronary artery disease	Prof. Rizwana Kitchlew
4	29-07-2026	Cardiac arrhythmias	Dr. Mehreen Kamran
5	05-08-2026	Valvular heart disease	Lt. Col. Najma Parveen
6	12-08-2026	Hypertension	Dr. Saba Saif
7	19-08-2026	Edema	Dr. Aniqashfaq
8	26-08-2026	Heart failure	Dr. Saba Saif
9	02-09-2026	Shock	Dr. Wardah Salman

LECTURE SCHEDULE OF ISLAMIYAT

CMH LMC & IoD

Islamic Studies

MBBS -Year 1st

SR #	Topic Title & Unit	Day & Date
1.	Unit-1 st Introduction to Islam (Topic: Definition of Islam & Core beliefs)	24 th February 2026, Tuesday
2.	Unit-1 st Introduction to Islam (Topic: The Holy Quran Revelation & Compilation)	3 rd March 2026, Tuesday
3.	Unit-1 st Introduction to Islam (Topic: The Hadith Classification & Compilation)	10 th March 2026, Tuesday
4.	Unit-1 st Introduction to Islam (Topic: Key Theological Concepts; Tauheed, Risalah & Akhirah)	17 th March 2026, Tuesday
5.	Eid-ul-Fitr & Spring Vacations	20th March to 27th March
6.	Unit-1 st Introduction to Islam (Topic: Sirah of Holy Prophet PBUH)	31 st March 2026, Tuesday
7.	Unit-1 st Introduction to Islam (Topic: Life & Legacy of Holy Prophet PBUH)	7 th April 2026, Tuesday
8.	Unit-1 st Introduction to Islam (Topic: Role of Holy Prophet PBUH as Individual, educator, peace maker, leader)	14 th April 2026, Tuesday
9.	Unit-2 nd Islamic History & Civilization(Topic: World before Islam)	21 st April 2026, Tuesday
10.	Labour Day Holiday	1st May 2026, Friday
11.	Unit-2 nd Islamic History & Civilization (Topic: Rashidun Caliphate & Expansion of Islamic Rule)	28 th April 2026, Tuesday

12.	Unit-2 nd Islamic History & Civilization (Topic: Contribution of Muslim Scientists & Philosophers in Shaping World Civilization)	5 th May 2026, Tuesday
13.	Unit-3 rd Islamic Jurisprudence (Topic: Fundamental Sources of Islamic Jurisprudence)	12 th May 2026, Tuesday
14.	Unit-3 rd Islamic Jurisprudence (Topic: Pillars of Islam and their significance)	19 th May 2026, Tuesday
15.	Unit-3 rd Islamic Jurisprudence (Topic: Major Schools of Islamic Jurisprudence)	26 th May 2026, Tuesday
16.	Eid-ul-Adha & Summer Break	27th May 2026 to 26th June 2026
17.	Unit-3 rd Islamic Jurisprudence (Topic: Significance and principles of Ijtihad)	30 th June 2026, Tuesday
18.	Unit-4 th Family & Society in Islam (Topic: Status and rights of women in Islamic teachings)	7 th July 2026, Tuesday
19.	Unit-4 th Family & Society in Islam (Topic: Marriage, family and gender roles in Muslim Society)	14 th July 2026, Tuesday
20.	Unit-4 th Family & Society in Islam (Topic: Family structure and values in Muslim society)	21 st July 2026, Tuesday

CMH LMC & IoD

Understanding of Holy Quran-I

MBBS -Year 1st

SR #	Topic Title & Unit	Day & Date
1.	Unit -1st Writing the meaning of Quranic words Lesson -1 to 05 (Quranic Words)	27 th February 2026, Friday
2.	Unit -1st Writing the meaning of Quranic words Lesson -6 to 11 (Singular + Plural)	6 th March 2026, Friday
3.	Unit -1st Writing the meaning of Quranic words Lesson -12-14 (Two kinds of plural Concept of (و) “And” Common Noun, Demonstrative Noun (This & That for Masculine (هذا- هذـه) Demonstrative Noun (This & That for Feminine) (ذلك- تلك))	13 th March 2026, Friday
4.	Eid-ul-Fitr & Spring Vacations	20th March to 27th March & Spring Break
5.	Unit -1st Writing the meaning of Quranic words Lesson -15-16 (Demonstrative Noun (This & That for Masculine (هذا- هذـه) Demonstrative Noun (This & That for Feminine) (ذلك- تلك))	3 rd April 2026, Friday
6.	Unit -1st Writing the meaning of Quranic words Lesson -17 (Demonstrative Noun (This & That for Masculine (هذا- هذـه) Demonstrative Noun (This & That for Feminine) (ذلك- تلك))	10 th April 2026, Friday
7.	Unit -1st Writing the meaning of Quranic words Lesson -18 Laam for emphasis (لام التأكيد) Superlative Degree like أكبر Revision of all Quranic Sentences	17 th April 2026, Friday
8.	Unit -1st Writing the meaning of Quranic words Lesson -19 Laam for emphasis (لام التأكيد) Superlative Degree like أكبر Revision of all Quranic Sentences	24 th April 2026, Friday

9.	Labour Day Holiday	1st May 2026, Friday
10.	Unit -2nd Writing the meaning of Quranic words, phrases & Translation Lesson -1 Emphatic Particle (إن)	8 th May 2026, Friday
11.	Unit -2nd Writing the meaning of Quranic words, phrases & Translation Lesson -2 Preposition "For" (اللام)	15 th May 2026, Friday
12.	Unit -2nd Writing the meaning of Quranic words, phrases & Translation Lesson -3 Lesson 4,5,6 Preposition (على- من- إلى) Preposition (في)	22 nd May 2026, Friday
13.	Eid-ul-Adha & Summer Break	27th May 2026 to 26th June 2026
14.	Unit -2nd Writing the meaning of Quranic words, phrases & Translation Lesson 7,8,9 Preposition (الباء) Absolute Negation Particle Exceptive Particle (لا النافية (إلا) (ما النافية) (للجنس)	5 th July 2026, Friday
15.	Unit -2nd Writing the meaning of Quranic words, phrases & Translation Lesson 10,11,12,13 Subordinating Conjunction(أن), Was (كان), Vocative Particle (حرف النداء)	12 th July 2026, Friday
16.	Unit -3rd Writing the meaning of Quranic words, phrases & Translation Lesson 1-7 Quranic Adjective Compounds (صفة وموصوف) , Quranic Possessive Construction (مضاف ومضاف إليه)	19 th July 2026, Friday

17.	Ashurah Holidays (Tentative)	26th July 2026, Friday
18.	Unit -4th Writing the meaning of Quranic words, phrases & Translation Lesson 1-08 Personal Pronoun He (هو المنفصل) Possessive Pronoun His (به المتصل), Possessive Pronoun with prepositions like (في بيته) Pronoun "His" with prepositions like (فيه) Pronoun "you're" with (له، منه، فيه)	3 rd August 2026, Friday

	prepositions like لك، منك، فيك	
19.	Unit -4th Writing the meaning of Quranic words, phrases & Translation Lesson 9-17 Personal Pronoun She (هي المنفصل) Possessive Pronoun Her (ها المتصل) Possessive Pronoun with prepositions like في بيتها Pronoun “Her” with prepositions like لها، Personal Pronoun I (أنا المنفصل) Possessive Pronoun Her (ي المتصل) Possessive Pronoun with prepositions like في بيتي Pronoun “My” with prepositions like لي Adverb (حال)	3 rd August 2026, Friday
20.	Unit -5th Writing the meaning of Quranic phrases & sentences (Lesson 1-11) Masculine Plural جمع المذكر السالم و جمع المذكر السالم المسبوق بحرف الجر Possessive Construction with Plurals جمع المذكر السالم المسبوق بالإضافة Personal Pronoun They (هم المنفصل) Possessive Pronoun Their (هم المتصل) Possessive Pronoun with prepositions like في بيتهم Pronoun “Their” with prepositions like لهم Personal Pronoun You (أنتم المنفصل) Possessive Pronoun Your (كم المتصل) Possessive Pronoun with prepositions like في بيتكم	10 th August 2026, Friday

21.	Unit -5th Writing the meaning of Quranic phrases & sentences (Lesson 12-23) Pronoun “Your” with prepositions like لكم, Personal Pronoun We (نحن المنفصل) Possessive Pronoun Our (نا المتصل), Possessive Pronoun with prepositions like في بيتنا Pronoun “Our” with prepositions like لنا, Demonstrative Pronoun These, Those (هؤلاء - أولئك) ما / إلا، إن / إلا، إنما، (، هو لاء - أولئك) ليس، ما ، أ/أم، أن، بل، كأن	17 th August 2026, Friday
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	(ألا، أليس، اليوم، يومئذ، سبحان، ما بينهما، قل، إذن، بنس، نعم، كلا، ما أدراك، حسب، أعلم ب، مصير، مرجع، ديننا(تميز)	
22.	Unit-6th Writing the meaning of Quranic Verbs & Translation of Quranic Sentences & Verses (Lesson 1-3) (ألا، أليس، اليوم، يومئذ، سبحان، ما بينهما، قل، إذن، بنس، نعم، كلا، ما أدراك، حسب، أعلم ب، مصير، مرجع، ديننا(تميز)	24 th August 2026, Friday
23.	Unit-6th Translation of Quranic Sentences & Verses (Lesson 3-5) Introduction of Present Tense(فعل (جملة فعلية) & Verbal Sentence (مضارع	31 st August 2026, Friday

LECTURE SCHEDULE OF RESEARCH AND METHODOLOGY

Sr. No	Date	Time	Topic	Instructor Name
1	Monday, 23 February, 2026	10:00 - 10:40	Introduction to research & Difference between Qualitative and Quantitative Research Methods	Prof. Dr. Tahseen Haider Kazmi
2	Monday, 2 March, 2026	10:00 - 10:40	Fraining of Research Question / Hypothesis	Dr.Sana
3	Monday, 9 March, 2026	10:00 - 10:40	Effective Literature search 1	Dr.Sana
4	Monday, 16 March, 2026	10:00 - 10:40	Effective Literature search 2	Dr.Sana
5	Monday, 20 April, 2026	11:00 - 11:50	Selection of Appropriate study design according to the Research question	Prof. Dr. Tahseen Haider Kazmi
6	Monday, 27 April, 2026	11:00 - 11:50	Different Sampling Techniques	Dr Tahira Ahsan
7	Monday, 4 May, 2026	11:00 - 11:50	Different Sampling Techniques	Prof. Dr. Tahseen Haider Kazmi
8	Monday, 11 May, 2026	11:00 - 11:50	How to write a research paper 2	Prof. Dr. Tahseen Haider Kazmi
9	Monday, 18 May, 2026	11:00 - 11:50	How to Write referencing	Dr. Sana
10	Monday, 25 May, 2026	11:00 - 11:50	How to Write referencing	Dr. Sana

TABLE OF SPECIFICATION

FIRST YEAR MBBS

<u>First Professional MBBS Examination - 2026</u> PAPER - I Weightings; MCQs (70 %) & SAQs (30%)							
Total Marks: =150 Marks of theory paper =120 Internal Assessments (20%) =30 Pass Marks = 75		Paper Components Part-A : 84 x MCQs (1 mark each), (84 marks) Time = 90 min Part B: 09 x SAQs (4 marks each), (36 marks) Time = 90 min Total Duration = 180 min Cognitive level ○ MCQs: Recall: Application Ratio = 40: 60. ○ SAQs: 100% Application					
No.	Modules	Subjects (min 55 % in each subject)					
		Anatomy (including 4 MCQ of Surgery)		Physiology (including 3 MCQ of Medicine)		Biochemistry (including 1 MCQ of Medicine)	
		MCQs	SAQs	MCQs	SAQs	MCQs	SAQs
1	Cell Structure and Function	12	01	19	02	15	01
2	MSK-I	16	02	09	01	13	02
Total		28	3 x 4 = 12	28	3 x 4 = 12	28	3 x 4 = 12
* MCQ for Medicine/ Surgery may be selected from NUMS Medicine/ Surgery MCQ bank. However, paper setting shall be done by the Basic Science faculty along with medical educationist							

First Professional MBBS
Examination - 2026 PAPER - II
Weightings; MCQs (70 %) &
SAQs (30%)

Total Marks: 150 Marks Marks of theory paper 120 Internal Assessments (20%) =30 Pass Marks = 75	Paper Components Part-A : 84 x MCQs (1 mark each), (84 marks) Time = 90 min Part B: 09 x SAQs (4 marks each), (36 marks) Time = 90 min Total Duration =180 min Cognitive level ○ MCQs: Recall: Application Ratio = 40: 60. ○ SAQs: 100% Application
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No.	Modules	Subjects (min 55 % in each subject)					
		Anatomy (including 4 MCQ of Surgery)		Physiology (including 3 MCQ of Medicine)		Biochemistry (including 1 MCQ of Medicine)	
		MCQs	SAQs	MCQs	SAQs	MCQs	SAQs
1	CVS	28	03	28	03	28	03
Total		28	3 x 4 = 12	28	3 x 4= 12	28	3 x 4 = 12

** MCQ for Medicine/ Surgery may be selected from NUMS Medicine/ Surgery MCQ bank. However, paper setting shall be done by the Basic Science faculty along with medical educationist*

First Professional MBBS Examination - 2026

PAPER - III

Weightings; MCQs (70 %) & SAQs (30%)

Total Marks:	=150	Paper Components
Marks Marks of theory paper		Part-A : 84 x MCQs (1 mark each), (84 marks)
	=120	Cognitive level
Internal Assessments (20%)	=30	○ MCQs: Recall: Application Ratio = 40: 60.
Pass Marks	= 75	○ SAQs: 100% Application

No.	Modules	Subjects (min 55 % in each subject)					
		Anatomy (including 4 MCQ of Surgery)		Physiology (including 3 MCQ of Medicine)		Biochemistry (including 1 MCQ of Medicine)	
		MCQs	SAQs	MCQs	SAQs	MCQs	SAQs
1	Respiratory System	06	01	20	02	14	02
2	MSK II	22	02	08	01	14	01
Total		28	3x4=12	28	3x4 = 12	28	3 x 4 = 12

** MCQ for Medicine/ Surgery may be selected from NUMS Medicine/ Surgery MCQ bank. However, paper setting shall be done by the Basic Science faculty along with medical educationist*

Topic	Learning Outcomes	(I x F)	Category	Weightage	MCQs (Marks=28)	SEQs (Marks=12)
Cell Structure and Function						
General Anatomy	• Demonstrate the anatomical position • Name various planes of the body • Define the terms of position, movement, and laterality	2×1	Good To Know	2/28×12=0.85	1	1
General Histology • Cell • Epithelial tissue	• List various cell organelles along with their functions • Explain the structure and functions of various components of cytoskeleton • Classify epithelium with examples of each type • Classify Glands with examples. • Define polarity • List the structural modifications of apical, lateral and basal domains of the cell. • Classify the apical modifications according to motility • Name the component of cytoskeleton contributing in each apical modification • Define metaplasia and correlate it with its clinical importance. • Classify various types of cell junctions according to functions, providing examples of each.	2×3	Must Know	2.5	2	

General Embryology Gametogenesis	• Explain the sequence of events of mitosis and meiosis with the help of illustrations and models. • Elucidate the morphological changes in male and female gametes during their maturation • Define the following terms in relation to spermatogenesis and oogenesis: Haploid, Diploid, Euploid <u>Chromosomal Aberrations:</u> • List numerical and structural chromosomal disorders, Aneuploid, Triploid, Polyploid, Nondisjunction, Monosomy, • Trisomy, Mosaicism, Translocation • Explain the embryological basis and clinical presentation of following syndromes: Down's, Klinefelter, Turner, Angelman, Prader Willi, Cri du chat	3×2	Must Know	2.5	2	
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Ovulation, Fertilization, development 1st week,	- Correlate the menstrual and ovarian cycles with each other - Describe the process of ovulation - Define corpus luteum and corpus albicans - Define fertilization. - Describe and illustrate the steps, and outcomes of fertilization					
Second week of Development	- Describe the basic principles behind various techniques of in vitro fertilization - Describe the process of implantation. - List the sites of abnormal implantation and describe their clinical significance. - Define cleavage, morula, blastula - Define Gastrulation	3×2	Must Know	2.5	2	

Third week development	- Describe the formation of notochord and the establishment of body axes. - Recognize the embryological basis of sacrococcygeal teratoma, Holoprosencephaly, caudal dysgenesis, Situs inversus					
General Histology Connective tissue	formation of neural plate, neural tube and neural crest cells	2×2 3×3	Good To Know Must Know	1.7 3.8	2 3	

III Musculoskeletal System – I (MSK – I)					
Topic	Learning Outcomes	(I x F)	Category	Weightage	MCQs
GENERAL ANATOMY ▪ Skin, fascia, bones, muscles and joints	• Comprehend general concept of structure of skin, fascia, bones, muscles and joints • Describe the organization of nervous system. • Enumerate components of central and peripheral nervous system & describe their general features • Describe the origin, course, and distribution of a typical	1×2	Nice to know	1.1	1

	spinal nerve with the help of a diagram. • Define: Dermatomes, Receptors, and effectors					
Histology of Muscular tissue	• Describe the • Tabulate the microscopic differences between three types of muscles	2×2	Good to know	2.2	2	
Gross Anatomy • Bones of upper limb	Determine the side of clavicle, scapula, humerus, radius ulna • Identify important bony landmarks on these bones • Locate attachments of major muscles and ligaments attached on these bones • Discuss the clinical implications in fractures of these bones at different sites	2×1	Nice to Know	1.1	1	

Pectoral region	• Comprehend the structure of breast tissue • Justify the importance of fibrous septa in breast in relation to its carcinoma • Describe the blood supply and lymphatic drainage of breast • Justify the clinical importance of sentinel lymph node • Trace the possible routes of metastasis of breast cancer • Tabulate the attachments, nerve supply and actions of muscles attaching upper limb to thoracic wall. • Describe attachments of pectoral fascia	3× 3	M ust Kn ow	5.1	5	
<u>Scapular region</u>	Tabulate the attachments, nerve supply and actions of muscles attaching upper limb to vertebral column • Tabulate the attachments, nerve supply and actions of	3×3	M ust Kn ow	9		2

	muscles attaching scapula to the humerus • Identify the boundaries and contents of quadrangular and triangular spaces • Trace the route and anatomical relationships of arteries and nerves present in this region • Describe the structure of acromioclavicular and sternoclavicular joints • Justify the stability of clavicular joints in case of direct blow to clavicle and resultant fracture • Describe type, ligaments, articular surfaces, blood supply and nerve supply of shoulder joint • Elucidate the movements at shoulder joint with reference to axis and muscles producing them • Justify the clinical presentation of shoulder joint dislocation on anatomical basis • Justify the stability of the shoulder joint in spite of wide range of movements it offers by describing the factors responsible • Define rotators cuff and list its components • Justify the clinical presentation of rotator cuff injuries, frozen shoulder and calcific supraspinatus tendinitis based on the anatomical knowledge • Illustrate the anastomosis around shoulder joint/scapula					
<u>Axilla</u>	• Appraise the shape and extent of axilla • Enumerate different structures forming various	3×3	Must Know	9		

	walls of axilla and identify their inter-relationship - Enumerate different contents of axilla - Describe the relations and distribution of vessels of axilla - Describe the formation and name the branches of brachial plexus - Illustrate the brachial plexus - Elucidate the drainage area of each group of axillary lymph nodes - Analyze the anatomical basis of clinical presentation in case of injury to long thoracic nerve				
<u>Arm & Forearm</u>	Tabulate the attachments, nerve supply and actions of muscles of arm and forearm - Trace the route and relations of the neurovascular structures of arm and forearm - Analyze the anatomical basis of clinical presentation in case of injury to various nerves of arm and forearm - Describe the type, capsule and ligaments of elbow, superior and inferior radio-ulnar joints - Explain the movements of these joints with reference to axis and muscles performing these movements - Describe the blood supply and nerve supply of elbow joint - Justify the anatomical basis of carrying angle - Correlate the anatomy of these joints with clinical presentations of their Dislocation	2×3	Must Know	3.4	3

	• Outline the boundaries and contents of cubital fossa in a sequential order • Justify the clinical importance of blood vessels present in cubital fossa • Recognize the boundaries of anatomical snuff box and bony landmarks in its floor • Describe the attachments of, and structures passing deep to flexor and extensor retinacula in a sequential order • Elucidate the anatomical basis of clinical presentation of compartment syndrome of forearm, Volk mann's ischemic contracture, rupture of various tendons and tennis elbow. • Highlight the clinical significance of radial artery with reference to pulse and BP monitoring and coronary angiography					
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<u>Hand</u>	• Explain the clinical significance of injury to scaphoid and hamate • Elucidate the salient features of skin of palm and dorsum of hand and discuss its cutaneous innervation • Describe palmar aponeurosis • Enumerate the small muscles of hand with their actions and nerve supply • Describe the fibrous and synovial flexor sheaths of the hand • Explain the carpal tunnel with reference to its formation and contents • Analyze the anatomical basis of Dupuytren's contracture, carpal tunnel syndrome, trigger finger and tenosynovitis of synovial sheaths of flexor tendons • Describe boundaries & contents of spaces of palm • Analyze the anatomical basis of palmar, Parona and pulp spaces in case of wound, resultant infections, and route of surgical drainage. • Revisit the insertion of long flexor and extensor tendons • Describe the blood supply of hand • Trace the pathway and distribution of radial, median, and ulnar nerves in hand and correlate with clinical presentation of their injuries	2×2	Good To Know	2.2	2
<u>Wrist Joint</u>	Describe the type, capsule, and ligaments of wrist joint • Explain the movements of wrist joint with reference to axis and muscles responsible • Describe the blood supply and nerve supply of wrist joint	1×1	Nice to Know	0.5	

<u>Wrist Joint</u>	Describe the type, capsule, and ligaments of wrist joint • Explain the movements of wrist joint with reference to axis and muscles responsible • Describe the blood supply and nerve supply of wrist joint	1×1	Nice to Know	0.5		
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	- Correlate the anatomical knowledge with clinical presentation of wrist joint dislocation - Enumerate the structures endangered in case of fall on outstretched hand					
<u>Cutaneous innervation of upper limb</u>	<u>Cutaneous innervation of upper limb</u> - Correlate the dermatomes with the cutaneous innervation of specific nerves in Arm & forearm - Illustrate cutaneous innervation and dermatomes of upper limb - Identify the area of sensory loss in case of injury to different nerves	2×2	Good to Know	2.2		
<u>Injuries to brachial plexus and its branches</u>	<u>Injuries to brachial plexus and its branches</u> - Revisit the formation and branches of brachial plexus - Identify the points of injury and justify peculiar positions of upper limb in cases of Klumpke paralysis & Erb-Duchenne palsy with anatomical reasoning - Identify the anatomical sites where different branches of brachial plexus are vulnerable to injury / compression - Correlate the lesion of following nerves with respective areas of sensory and motor loss and peculiar positions of different parts of upper limb: - Axillary, Long thoracic, Musculocutaneous, Ulnar, Median, Radial	2×2	Good to Know	2.2	2	
<u>Venous and lymphatic drainage of upper limb</u>	<u>Venous and lymphatic drainage of upper limb</u> Recap the veins in various parts to describe the venous	1×1	Nice to Know	0.5		

drainage of upper limb as a whole					
• Identify the veins commonly used for cannulation • Discuss the lymphatic drainage of upper limb in detail in correlation with infection and malignant spread					
TOTAL					28
					3

Paper-I (Physiology)
BLUEPRINT, YEAR I-BLOCK I (YI BI) 2026
THEORY (MCQs + SAQs/ SEQs)

Topic	Learning Outcomes	(I x F)	Category	Total Weight	MCQs (Marks=28)	SEQs (Marks=12)
Cell Structure and Functions						
Homeostasis, Cell Organelle, Cytoskeleton and cell locomotion	- Appreciate the role of homeostatic feedback mechanisms in maintaining the functional organization of the Human Body and Control of the "Internal Environment" - Relate the structure of cell and its various components to metabolic processes and locomotion	3x2	Must Know	1.05	1	02
Genetic Control of cell function	- Comprehend Genetic control of cell functions and cell division - Compare and contrast apoptosis & necrosis - Explain the pathophysiology of cancer and aging (General disorders), polycystic kidney disease.	2x2	Good to Know	0.7	1	
Cell membrane and transport of substances through cell membrane	- Describe the composition of a human cell membrane - Differentiate the different type of transport mechanism across the cell membrane for the movement of micro & macromolecules.	3x2	Must Know	1.05	1	
Active Transport of substances through membranes	Differentiate the different type of active transport mechanism across the cell membrane with example of each mechanism.	3x2	Must Know	1.05	1	
Composition & Functions of blood	- Describe the cellular and fluid composition and general functions of blood. - Describe the genesis of blood cells.	2x2	Good to Know	0.7	1	

Erythropoiesis in bone marrow	- Describe the Morphology and Genesis of Red Blood Cells - Identify the factors in regulation of erythropoiesis and maturation of RBC with relative importance of hypoxia in inducing erythropoiesis.	3x3	Must Know	1.58	2
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Anemia & Polycythemia	- Classify anemia based on their morphological findings, RBC indices & etiology. - Classify polycythemia into primary and secondary polycythemia and discuss its effects on circulatory system - Explain the effect of anemia and polycythemia on circulatory system.	3x3	Must Know	1.58	1
WBCs Leukocytosis / Leucopenia	- Enlist different types of white blood cells and discuss their physiological characteristics. - Describe the role and functions of white blood cells in providing protection to the body against invading organism.	3x2	Must Know	1.05	1
Inflammation and Innate immunity + complement system	- Discuss causes, cellular features and five cardinal signs of inflammation. - Define innate immunity. Discuss the mechanisms involved in innate immunity. - Appraise the composition and functions of reticulo-endothelial system.	3x3	Must Know	1.58	1
Acquired Immunity	- Concept of T & B lymphocytes Active & passive immunity - Discuss the mechanisms through which antibodies directly attack an invading agent. - Explain role of helper T cells, cytotoxic T cells and suppressor T cells in T cells immunity.	3x3	Must Know	1.58	2

Autoimmunity & Transplant rejection	- Define autoimmunity. Discuss the pathophysiological process involved in development of autoimmunity - Discuss the pathophysiological process involved in transplant rejection of tissues by human body.	2x2	Good to Know	0.7		
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	Discuss the mechanisms involved in immune tolerance.					
Allergy / Hypersensitivity	- Explain different - Discuss the allergy & hypersensitivity.	2x3	Must Know	1.05	1	
Blood groups	- Describe the principles of blood grouping and cross matching. - Tabulate the genotype & phenotypes of ABO blood group system.	3x2	Must Know	1.05	1	
Rh blood group system	- Comprehend different Rh blood group systems and their significance - Discuss the pathophysiology of Erythroblastosis Fetalis, its treatment and precautions.	2x3	Must Know	1.05	1	

Hemostasis	• Discuss the four steps involved in blood coagulation. • Coagulation pathway • Comprehend the physiology of clotting factors and mechanism of blood clotting. • Compare & contrast intrinsic and extrinsic pathway of clotting.	3x3	Must Know	1.58	2
Bleeding disorder	• Discuss the effect of deficiency of platelets and clotting factors in hemostasis. • Discuss the pathophysiology of blood dyscrasias like Vitamin K deficiency, Hemophilia and Thrombocytopenia • Compare & • Correlate deficiencies of clotting factors VIII & IX with its varied clinical manifestations (Hemophilia)	3x3	Must Know	1.58	2
MSK - 1					

Neuron & Synapse	- Review the physiological structure and working of neuron and synapse - Elucidate structural and functional changes taking place in nerve fibers after injury.	3x3	Must Know	1.58	2	01
RMP- Resting Membrane Potential	- Explain the ionic and mechanical mechanisms of generation of resting membrane potential in excitable tissue (nerves & muscle). - Explain how the abnormal function of ion channels (channelopathies) can alter the resting membrane potential	2x2	Good to Know	0.7	1	
Action Potential	- Explain different phases of action potential and ionic & electrical changes occurring during each phase of action potential - Differentiate between absolute and relative refractory periods - Understand the concept of all or nothing - Explain the concept of saltatory conduction	3x2	Must Know	1.05	1	
Neuromuscular Junction	- Illustrate neuromuscular junction, sequence of events taking place during neuromuscular transmission and factors affecting this process - Explain pathophysiology of myasthenia gravis.	2x3	Must Know	1.05	1	

Skeletal muscle morphology	• Illustrate the physiologic anatomy of skeletal muscle • Tabulate macroscopic, microscopic, functional differences of various types of muscles	2x1	Nice to Know	0.35	1	
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Paper-I (Medical Biochemistry)
BLUEPRINT CELL STRUCTURE & FUNCTION (MODULE II) + MSK-I
(MODULE III) YEAR I-BLOCK I 2025 THEORY
(MCQs + SAQs)

Explain the biochemical role of isoenzymes in clinical enzymology and their significance in disease diagnosis and treatment	2×1=2	NK	0.03	1	
Summarize the roles of minerals as cofactors and vitamins (B1, B2, B3, B6, biotin, and pantothenic acid) as coenzymes in biochemical processes	2×2=4	GK	0.06		
Give a brief account of chemistry of Porphyrins	2×1=2	NK	0.03	1	
Discuss the biochemical aspects of porphyrias, hyperbilirubinaemia, and jaundice, and provide an overview of the roles of iron, vitamins B9, B12, C, and K in nutritional anemia and bleeding disorders	2×2=4	GK	0.06		

Explain the process of heme biosynthesis, its degradation into bile pigments, and analyze the types, transport, and excretion of bile pigments in biochemical and clinical contexts	3×2=6	MK	0.09	1
Define free energy and its biochemical significance ; differentiate ΔG and ΔG° ; distinguish endergonic and exergonic reactions with examples; and explain ATP's role as the universal energy currency that couples these reactions to drive metabolism	2 x 1 = 2	NK	0.03	1
Describe the structure, components, and sequence of the electron transport chain (ETC), its energetics, ATP yield, and spatial	3 x 3 = 9	MK	0.14	2

arrangement in the inner mitochondrial membrane. Explain the chemiosmotic hypothesis linking proton gradient formation to ATP synthesis and oxidative phosphorylation				
Describe oxidative phosphorylation and its difference from substrate-level phosphorylation. Explain ATP synthase's role in energy conversion, identify ETC inhibitors and uncouplers with their effects, outline inherited defects of oxidative phosphorylation, and explain mitochondrial shuttle systems especially the G3P shuttle and its energetic significance	3 x 3 = 9	MK	0.14	2
MSK I				

Discuss the structure and functions of monosaccharides, disaccharides, oligosaccharides, and polysaccharides, including their derivatives, and analyze their biochemical roles in cellular and physiological processes	3×3=9	MK	0.1	2	2
Comprehend the clinical significance of Monosaccharides, disaccharides and Polysaccharides: Sorbitol, Mannitol, Inulin, Dextran, Hyaluronic acid & Heparin	2×1=2	NK	0.02		
Overview of digestion and absorption of Carbohydrates	3×2=6	MK	0.06	1	
Describe the fundamental processes of carbohydrate metabolism and explain their importance in energy production and regulation in the body	3×3=9	MK	0.1	1	

Outline the phase reactions of glycolysis and explain the regulation of key enzymes, while comparing and contrasting aerobic and anaerobic glycolysis, highlighting their bioenergetics and biochemical significance.	3×3=9	MK	0.1	1	
Describe the HMP shunt (pentose phosphate pathway), its role in producing NADPH and ribose sugars, and explain its importance in protecting cells from oxidative damage	3×2=6	MK	0.06	1	
Explain the fate of pyruvate and lactic acid in the context of metabolic pathways, including their role in energy production and the Cori cycle	3×2=6	MK	0.06	1	

Outline the reactions of the citric acid cycle, describe its role in cellular respiration and ATP production, and discuss its energetics, regulation, and significance, focusing on its anaplerotic and amphibolic functions Explain the clinical relevance of the citric acid cycle (TCA) and its involvement in metabolic disorders	3×3=9	MK	0.1	1	
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Explain the processes of gluconeogenesis, glycogen metabolism (glycogenesis and glycogenolysis), and the metabolism of fructose, galactose, and lactose, emphasizing key reactions, regulatory mechanisms, and their roles in maintaining blood glucose levels. Describe the clinical significance of gluconeogenesis, focusing on disorders related to this pathway	3×3=9	MK	0.1	1	
Describe the structure and metabolism of glycosaminoglycans, proteoglycans, and glycoproteins, emphasizing their biological functions and importance in cellular communication and structure.	3×3=9	MK	0.1	2	
Discuss the clinical significance of glycolysis, including conditions such as pyruvate kinase deficiency, arsenic poisoning, and lactic acidosis	2×1=2	NK	0.02	1	
Discuss biochemical basis of Hemolytic anemia (G6PD deficiency)	2×2=4	GK	0.04		
Correlate the metabolism of fructose, galactose, and lactose with relevant metabolic disorders and enzyme deficiencies	2×2=4	GK	0.04		
Discuss disorders of glycogen metabolism, specifically, glycogen storage diseases and their clinical manifestations	2×1=2	NK	0.02	1	
TOTAL				28	3

Topic	Learning Outcomes	Impact x Frequency	Category	Total Weight	MCQs (Marks=28)	SEQs (Marks=12)
Thoracic wall	Correlate the cartilaginous, bony and muscular framework of the thoracic cage with its functional and clinical aspects.	3 x 3 = 9	MK	0.07	1	1
	Explain the gross features of thoracic wall including its blood supply, innervation & lymphatic drainage	2 x 2 = 4	GK	0.03	1	
Mediastinum	Relate the topographic anatomy of major longitudinal structures running through the thoracic cavity to their clinical conditions	2 x 2 = 4	GK	0.03	1	
	Trace the primary drainage routes of lymph from the organs and wall of the thoracic cavity to the points of venous connection	1 x 1=1	NK	0.01	1	
Pericardium & heart	Relate the topographic anatomy of pericardium with its functional and clinical aspects.	2 x 1=2	NK	0.02	1	1
	Explain the gross features of borders, surfaces, apex and base of heart.	3 x 3 = 9	MK	0.07	2	
	Explain the internal features of various chambers of heart.	2 x 2 = 4	GK	0.03	1	

	Describe the arterial s	3 x 3 = 9	MK	0.07	1	
	Relate the histomorphological features of heart to their clinical significance	2 x 2 = 4	GK	0.03	1	
	Correlate the development of heart with its congenital anomalies	2 x 2 = 4	GK	0.03	2	
	Interpret the anatomical basis of coronary artery disease/ coronary heart disease (angina pectoris and myocardial infarction).	3 x 3 = 9	MK	0.07	2	
	Apply your knowledge of anatomy to appraise Cardiac catheterization, Coronary angiography,	2 x 2 = 4	GK	0.03	1	
Vascular System	Classify blood vessels on anatomical and functional basis with the help of examples.	2 x 1= 2	NK	0.02	1	
	Explain the development of vascular system	2 x 1=2	NK	0.02	1	
	Justify the needs of sites of mixing of oxygenated and deoxygenated blood in the fetus	2 x 1=2	NK	0.02	1	
	Compare the circulatory changes before and after birth	2 x 2 = 4	GK	0.03	1	
	Correlate the microscopic features of arteries, veins capillaries, lymphatics with their functional & clinical aspects	2 x 2 = 4	GK	0.03	1	1

Lymphoid organs	Relate the histomorphological features of various lymphoid organs to their functional & clinical aspects	3 x 2 = 6	MK	0.05	1	
Fetal period	Summarize the monthly changes in fetal period	2 x 2 = 4	GK	0.03	1	
	Calculate the expected date of delivery/ time of birth	3 x 3 = 9	MK	0.07	1	
	Relate the changes in trophoblast to preeclampsia & its complications	3 x 2 = 6	MK	0.05	1	
Placenta and fetal membranes	Relate the structure of placenta to its functional & clinical relevance	3 x 3 = 9	MK	0.07	2	
	Interpret the embryological basis of abnormalities associated with multiple pregnancies	2 x 1=2	NK	0.02	1	
	Interpret the embryological basis of abnormalities related with amniotic fluid volume	3 x 3 = 9	MK	0.07	1	
Total				1.00	28	03

Impact (I)	Frequency (F)
Less important for clinical years = 1	Rarely applied in clinical years = 1
Important for clinical years = 2	Commonly applied in clinical years = 2
Very important for clinical years = 3	Frequently applied in clinical years = 3

Impact Fctor (I * F)	Category	Required Criteria
6,9	Must Know	60%
3,4	Good To Know	30%
1,2	Nice To Know	10%

Paper - II (Physiology)

CVS (2026)

Topic	Learning Outcomes	(I x F)	Category	Total Weight		MCQs	SEQs
						(Marks=28)	(Marks=12)
Cardiac Muscles	Compare cardiac,	2*2	4	Good to know	0.023	1	01
Myocardium	Discuss the properties of myocardium.	2*2	4	Good to know	0.023	1	
Cardiac Action Potential	Compare the ionic basis of pacemaker and ventricular action potential	2*2	4	Good to know	0.023	1	
Heart Valves	Discuss the basic functional anatomy of the atrioventricular and semilunar valves and heart sounds produced.	3*3	6	Must to know	0.034	1	
Valvular Heart	Describe the expected auscultation sounds that define mitral stenosis, mitral	3*3	6	Must to know	0.034	1	

diseases	insufficiency, aortic stenosis, and aortic insufficiency and their physiological basis.						
Congenital Heart diseases	Comprehend congenital heart diseases like Patent Ductus arteriosus and Tetralogy of Fallot.	3*3	6	Must to know	0.034		
Cardiac Impulse	Trace path of spread of cardiac impulse through conductive system, atrial and ventricular myocardium	2*2	4	Good to know	0.023	1	

	with conducting speed and delay throughout associate it with the function of heart.						
Regulation of Heart	Explain the intrinsic and extrinsic regulation of heart	2*2	4	Good to know	0.023	1	

	functioning.						
Cardiac Cycle	Compare the various phases of ventricular systole and ventricular diastole in a cardiac cycle with the help of Wigger's Diagram and pressure volume loop.	1*1	1	Nice to know	0.006	3	
ECG	Draw and label normal ECG with waves, intervals and segments with their normal values and	3*3	9	Must to know	0.051	1	01

	changes in different leads.						
coronary circulation	Describe the phasic flow of blood to the ventricular myocardium through an entire cardiac cycle (coronary circulation).	3*3	9	Must know	0.051	1	
Arrhythmias	Explain the alteration in normal physiology movement	3*3	9	Must know	0.051	1	
	Discuss the basis of common cardiac arrhythmias and relate with ECG changes.	3*3	9	Must know	0.051	1	

Myocardia I Ischemia and infarction	Explain them from changes in infarction.	3*3	9	Must to know	0.051	1	
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Hemodynamics	Link the relationship between pressure, flow, and resistance in the vasculature and apply on the arteries, arterioles, capillaries, venules, and veins	2*2	4	Good to know	0.023	1	
	Discuss the physiology of vascular compliance, changes in compliance of blood vessels with age & comparison b/w the compliance of arteries versus veins.	2*2	4	Good to know	0.023	1	
local blood flow Control	Discuss the mechanisms of acute and chronic control of local blood flow.	2*2	4	Good to Know	0.023	1	

Microcirculation	Describe the principles of capillary dynamics considering Starling's forces for fluid exchange across the capillary membrane and factors affecting thereof and its consequences	3*3	9	Must to know	0.051	1	
Edema	Summarize different types of edema, and safety factors preventing edema formation.	3*3	9	Must to know	0.051	1	
Cardiac Output & Venous Return	Correlate the factors affecting venous return and cardiac output to heart and its mutual relationship.	3*3	9	Must to know	0.051	1	
Arterial Pressure	Explain the mechanisms regulating blood pressure on short, intermediate and long-term basis.	3*3	9	Must to know	0.051	2	
Hypertension	Compare the primary and secondary hypertension.	3*3	9	Must to know	0.051	1	01

Heart Failure	• Explain the development.	3*3	9	Must to know	0.051	1	
	• Differentiate between right and left heart failure based on their pathophysiology and clinical manifestation.	3*3	9	Must to know	0.051	1	
Shock	• Differentiate compensated and uncompensated shock	3*3	9	Must to know	0.051	1	
	• Outline the etiology, presentation and management of: ○ Hypovolemic shock ○ Cardiogenic shock ○ Neurogenic shock ○ Septic shock ○ Anaphylactic Shock	3*3	9	Must to know	0.051	1	
Total						28	03

Paper-II (Medical Biochemistry) Block II, Module IV,
Cardiovascular System - (Theory)

Topic	Los	Impact x Frequency	Category	Weight age IF/22	Total Marks Weight * 28	No. of MCQs	No. of SEQs / SAQs
Cardiac Isozymes	Analyze the role of cardiac biomarkers in therapeutic applications related to lipid metabolism	3 x 1 = 3	Nice to Know	0.13	3.64	3 (1 From Medicine)	1
Chemistry of Lipids	Evaluate the biochemical significance of various lipids in maintaining health and contributing to disease	3 x 2 = 6	Must Know	0.27	7.56	8	
Digestion and Absorption of Lipids	Integrate the absorption with their clinical implications	2 x 2 = 4	Good to Know	0.18	5.04	4	
Metabolism of Lipids	Critically appraise the biochemical pathways of lipid metabolism to identify the underlying mechanisms of relevant metabolic disorders	3x3= 9	Must Know	0.40	11.20	10 (2 From Medicine)	2

Plasma Proteins	Describe the structure, classification, biochemical functions and associated clinical disorders of Plasma proteins & Immunoglobulins	3x3= 9	Must Know	0.13	3.64	3	-
Total						28	3

Practicals	
Analyze the biochemical mechanisms underlying the rancidity of fats	Practical Performance/ OSPE
Interpret the results of serum cholesterol, lipid profile, LDH, CK, and Trop T estimation to assess and diagnose clinical conditions related to lipid metabolism and cardiac health.	Practical Performance/ OSPE

Paper-III (ANATOMY)

Respiratory Module and MSK-II, Assessment and Blueprinting

To	Learning Outcome	Impact I	Frequency F	IXF	Category	Weight	ITEM/M CQ (6)	SEQ(4)
Anatomy pleura and diaphragm	Correlate the gross features of the lungs, pleura and diaphragm	3	2	6 (60%)	Must know	(6÷17)X 6=2.1	2	1X4
Gross Anatomy	with its functional and clinical aspects.	3	2	6	Must know	(6÷17)X 6=2.1	2	

Development & histology of respiratory system	Correlate the normal developmental anatomy conditions.	2	2	4(30%)	Should know	$(4 \div 17) \times 6 = 1.4$	1
Development of body cavities & skeletal system (ribs & vertebrae)	Relate the developmental events of body cavities & skeletal system (ribs & vertebrae) to their clinical significance.	1	1	1(10%)	Nice to know	$(4 \div 17) \times 6 = 1.4$	1

Topics	Learning Outcomes	(I x F)	Value=IxF/T	Value x total number of MCQ	MCQs (Marks=22)	SEQ
Bone And cartilage	Correlate microscopic structure of bone and cartilage with their function and dysfunction	2x3=6	6/135=0.044	0.044x22=0.88	1	02
Development of limbs	Correlate the development of limbs with the related congenital anomalies	1x3=3	3/135=0.022	0.022x22=0.48	1	
Development of muscles	Correlate the development of muscles with its anomalies	2x2=4	4/135=0.029	0.029x22=0.63	1	
Birth defects	Identify the congenital malformations associated with various common teratogens	3x3=9	9/135=0.066	0.066x22=1.45	1	
Hip bone Femur Tibia fibula, Patella	Appraise the topographic orientation of major bones of lower limb, their attachments and	3x2=6	6/135=0.044	0.044x22=0.88	1	

	their articulations				
Hip joint	Apply anatomical knowledge of hip joint in various clinical scenarios	3x3=9	9/135=0.066	0.066x22=1.45	1
Fascia Of Lower limb	Correlate the attachments, and modifications superficial & deep fascia of lower limb with their clinical significance	3x1=3	3/135=0.022	0.022x22=0.48	1
Gluteal Region	Correlate the topographic anatomy of muscles and neurovascular structures of Gluteal region with their clinical conditions	2x3=6	6/135=0.044	0.044x22=0.88	1
Thigh	Correlate the muscular and neurovascular contents of all compartments of thigh with relevant clinical scenarios	2x3=6	6/135=0.044	0.044x22=0.88	1
Femoral triangle	Correlate the gross anatomy of femoral triangle and femoral sheath with its clinical significance	3x3=9	9/135=0.066	0.066x22=1.45	1
Popliteal Fossa	Explain the location, boundaries & contents of popliteal fossa	2x3=6	6/135=0.044	0.044x22=0.88	1

Knee joint	Relate the gross anatomical knowledge of knee joint to relevant injuries	2x1=2 3x3=9	2/135=0.014 9/135=0.066	0.014x22=0.30 0.066x22=1.45	2	
Leg	Apply the knowledge of gross anatomy of leg in analyzing relevant clinical scenarios	3x3=9 3x3=9	9/135=0.066 9/135=0.066	0.066x22=1.45 0.066x22=1.45	2	
Ankle joint	Correlate the anatomical knowledge of ankle joint with relevant ankle injuries	3x3=9	9/135=0.066	0.066x22=1.45	1	
Foot	Correlate the anatomical knowledge of foot with its clinical significance	1x2=2	2/135=0.014	0.014x22=0.30	1	
Cutaneous Innervations Of Lower limb	Correlate the knowledge of dermatomes of lower limb to sensory loss	3x3=9	9/135=0.066	0.066x22=1.45	1	
Nerves & plexuses Of Lower limb	Correlate the distribution of lower limb nerves with effects of relevant nerve injuries	2x2=4	4/135=0.029	0.029x22=0.63	1	
Arterial supply of lower limb	Correlate the blood supply of lower limb with effects of occlusion damage	3x1=3	3/135=0.022	0.022x22=0.48	1	
Venous Drainage Of Lower limb	Correlate the anatomical knowledge of superficial & deep veins of lower limb with their surgical significance	3x3=9	9/135=0.066	0.066x22=1.45	1	
Lymphatic Drainage Of Lower limb	Appreciate the clinical importance of lymphatics in lower limb	3x1=3	3/135=0.022	0.022x22=0.48	1	
TOTAL		135				

Paper-III (Physiology)

ASSESSMENT BLUE PRINT (RESPIRATION)

Topics/ Theme	Learning outcomes	I X F	Category	Weightage	MCQ	SE Q
Pulmonary mechanics –I& II	Analyze lung volume and pressure changes during quiet and forceful breathing and the factors leading to them	3x3=9	Must know	9/81*20=2.2	2	2
Pulmonary Compliance	Critique various factors determining pulmonary compliance	3x3=9	Must know	9/81*20=2.2	2	
Lung volumes and capacities	Correlate the various lung volumes and capacities with the tracing of the spirogram	2x2=4	Good to know	4/81*20=0.9	1	
Pulmonary capillary dynamics + pulmonary edema	Evaluate fluid exchange mechanisms in pulmonary system and outline clinical significance of pulmonary edema	2x2=4	Good to know	4/81*20=0.9	1	
Pulmonary blood flow	Correlate the pulmonary blood flow in different zones of lungs with different states of physical activity.	2x2=4	Good to know	4/81*20=0.9	1	
Dead space and alveolar ventilation	Elaborate the concepts of dead space and alveolar ventilation.	1x1=1	Nice to know	1/81*20=0.2	1	
Principles of gas exchange + gas laws	Discuss the factors affecting gas diffusion through respiratory membrane	1x1=1	Nice to know	1/81*20=0.2	1	
V _A /Q ratio	Compare and contrast physiological dead space and physiological shunt.	3x3=9	Must know	9/81*20=2.2	2	

Nervous and Chemical regulation of respiration	Compare the chemical and neural regulation of respiration during rest and exercise.	3x3=9	Must know	9/81*20=2.2	2
Abnormal breathing patterns	Correlate respiratory basis with abnormalities in breathing.	2x2=4	Good to know	4/81*20=0.9	2
Oxygen and Carbon dioxide transport	Compare the different modes of gas transport in blood. (Oxygen and carbon dioxide)	3x3=9	Must know	9/81*20=2.2	2
Hypoxia + Hyperbaric oxygen therapy Cyanosis/Dyspnea/Hypercapnia	Distinguish between various respiratory abnormalities	3x3=9	Must know	9/81*20=2.2	1
Obstructive and Restrictive lungs disease	Differentiate between obstructive lung disease (causes, pathophysiology and spirometry findings)	3x3=9	Must know	9/81*20=2.2	2

Paper-III (Physiology)
ASSESSMENT BLUE PRINT,
YEAR I-BLOCK III 2026
THEORY (MCQs + SAQs/
SEQs)

Topics	Learning Outcomes	(I x F)	Value= IXF/T	No of MCQs=Value x total no of MCQs	MCQs (Marks= 08)	SEQs (05 marks each)
Exercise Physiology	Correlate the various muscle metabolic systems used as energy substrates with the type of exercise i.e. aerobic and anaerobic	3x2=6	6/37=0.16	0.16x8=1.28	01	01
	Explain how each of the above can alter exercise performance in various types of exercises keeping in view the gender and genetic (slow and fast twitch fibers)	3x2=6	6/37=0.16	0.16x8=1.28	01	

	differences.				
	Discuss the cardiovascular and respiratory changes during exercise with emphasis on the principal of VO₂max.	3x3=9	9/37=0.24	0.24x8=1.92	02
	Discuss the concept of oxygen debt Clinical Relevance Elucidate the sweat glands adaptation in warm climate leading to electrolyte imbalance	2x1=2	2/37=0.05	0.05x8=0.4	01
Acclimatization at high altitude	Compare the physiological basis of high altitude	3x2=6	6/37=0.16	0.16x8=1.28	01

	acclimatization in natives & nonnatives				
	Compare and contrast acute and chronic mountain sickness (HACE & HAPE)				
Aviation/ Space Physiology & artificial respiration	Elucidate the effects of G forces and microgravity on the body	2x2=4	4/37=0.10	0.10x8=0.8	01
Deep sea physiology & other hyperbaric conditions	- Discuss the effects of increased pressure on deep sea divers. - Explain the functioning of SCUBA diving - Interpret O₂ and CO₂ toxicity occurring at high pressures in sea depth - Discuss the pathophysiology	2x2=4	4/37=0.10	0.10x8=0.8	01

	of Caissons disease				
	Discuss different modes of artificial respiration				
TOTAL				08	01

Paper-III (Medical Biochemistry)

ASSESSMENT BLUE PRINT (RESPIRATION)

Topics/Themes	Learning outcomes	IxF	CATEGORY	WEIGHTAGE	MCQ	SEQ
WATER SOLUBLE VITAMINS	Relate the knowledge soluble vitamins understanding of water orits Deficiency And excess manifestations	3x3	MUST KNOW	9/28=0.32 0.32×14=4.8	5	02
FAT SOLUBLE VITAMINS	Relate the knowledge of water soluble vitamins or understanding of its Deficiency And excess manifestations	3x3	MUST KNOW	9/28=0.32 0.32×14=4.8	4	
Phospholipids	Relate the knowledge of Chemistry and Metabolism of phospholipids with respect to respiratory system	2×3	GOOD TO KNOW	6/28=0.21 .21X14=2.9	3	
Respiratory Proteins	Relate the knowledge of biochemical basis of Respiratory proteins II alpha 1 anti- trypsin, Hb, IgA' CytochromeOxidase, Elastin)	2×2	NICE TO KNOW	4/28=0.14 0.14×14=1.96	2	

Topics	Learning Outcomes	(I x F)	Value=IX F/T	No of MCQs= Value x total no of MCQs	MCQs (Marks=13)	SEQs (Marks=5 each)

Minerals&Trace Elements	Classify minerals	3x2=6	6/89=0.067	0.067x15=1.005	05	01
	Write down the sources, biochemical role and related diseases of Macro minerals (Na, K, Ca, Cl) in human body	3x3=9	9/89=0.10	0.10x15=1.5		
	Write down the sources, biochemical role and related diseases of Macro minerals PO₄, S, Mg) in human body	3x3=9	9/89=0.10	0.10x15=1.5		
	Write down the sources, biochemical role and related diseases of Micro minerals (Fe, Cu, Zn, Mn , Cr, F)	3x3=9	9/89=0.10	0.10x15=1.5		
	Write down the sources, biochemical role and related diseases of ultra-trace minerals(I, Mo, Se, Co, Cd)	3x2=6	6/89=0.067	0.067x15=1.005		
Muscle amino acids	Metabolism of branched chain amino acids and related disorders	2x3=6	6/89=0.067	0.067x15=1.005	02	
Specialized Products	Explain synthesis and degradation of creatine	2x2=4	4/89=0.044	0.044x15=0.66		
Protein Structure and Functions	Classify Amino acids and explain their Biochemical functions	2x2=4	4/89=0.044	0.044x15=0.66	04	

	- Discuss amino acid isomers - Explain the buffering action of amino acids - Discuss protein structure	2x3=6	6/89=0.067	0.067x15=1.005	
	Elaborate Protein misfolding	2x4=8	8/89=0.089	0.089x15=1.335	
	Separation techniques for proteins (gel electrophoresis, centrifuge, chromatography, salting out)	1x2=2	2/89=0.022	0.022x15=0.33	
Fibrous Protein	Discuss in detail the biochemical structure and function of collagen and related disorders	2x4=8	8/89=0.089	0.089x15=1.335	02
	Discuss in detail the biochemical structure and function of elastin and related disorder	2x2=4	4/89=0.044	0.044x15=0.66	
Globular proteins	Overview of globular heme proteins	2x2=4	4/89=0.044	0.044x15=0.66	01

	ns • Globin gene organization • Myoglobin structure						
TOTAL				85		14	03

Integrated Practical Exam – I

Marks of Practical and Viva =120

Internal Assessment = 30

Total Marks = 150

Pass Marks = 75

Modules	Physiology		Biochemistry	
	Observed	Unobserved	Observed / Performance	Unobserved
Cell Structure and Function	2 x 4	6 x 2	1	2
MSK I	(8 Marks)	(12 Marks)	2	2
Haematology	-		1	2
Total	2 x 4 (8 Marks)	6 x 2 (12 Marks)	2 x 4 (8 Marks)	6 x 2 (12 Marks)

Anatomy						
Topics	OBSERVED		UN-OBSERVED			TOTAL MARKS
	Station-1	Station-2	Station-3	Station-4	Station-5	
Gross Anatomy	Surface Marking		8 spots (0.5 each)	2 spots Radiology (0.5 each)		07
Marks	02		04	01		
Histology		Slide identification			Identification 4 slides (01 each)	10
Marks		01			04	
Embryology				6 spots (0.5 each)		03
Marks				03		
TOTAL MARKS	02	06	04	04	04	20

Osteology will be assessed in viva

Integrated Practical Exam – II

Marks of Practical and Viva =120

Internal Assessment = 30

Total Marks = 150

Pass Marks = 75

Module s	Physiology		Biochemistry				
	Observed	Unobserved	Observ ed / Perfor mance	Unobserved			
CVS	2 x 4 (8 Marks)	6 x2 (12 Marks)	2 x 4 (8 Marks)	6 x2 (12 Marks)			
Total	2 x 4 (8 Marks)	6 x2 (12 Marks)	2 x 4 (8 Marks)	6 x2 (12 Marks)			
Anatomy							
Topics	OBSERVED			UN-OBSERVED			TOTAL MARKS
	Station-1	Station-2		Station-3	Station-4	Station-5	
Gross Anato my	SurfaceMarking			8 spots (0.5 each)	2 spots Radiology (0.5 each)		07
Marks	02			04	01		
Histology		Slide identificatio n	Viva			Identifi cation 4 slides (01 each)	10
Marks		01	05			04	
Embryology					6 spots (0.5 each)		03
Marks					03		
TOTAL MARKS	02	06		04	04	04	20
Osteology will be assessed in viva							

Integrated Practical Exam – III

Marks of Practical and Viva =120

Internal Assessment = 30

Total Marks = 150

Pass Marks = 75

Modules	Physiology		Biochemistry	
	Observed	Unobserved	Observed / Performance	Unobserved
Respiratory System	2 x 4 (8 Marks)	6 x2 (12 Marks)	1	4
MSK II			1	2
Total	2 x 4 (8 Marks)	6 x2 (12 Marks)	2 x 4 (8 Marks)	6 x2 (12 Marks)

Anatomy							
Topics	OBSERVE D			UN-OBSERVED			TOTAL MARKS
	Station-1	Station-2		Station-3	Station-4	Station-5	
Gross Anatomy	Surface Marking			8 spots (0.5 each)	2 spots Radiology (0.5 each)		07
Marks	02			04	01		
Histology		Slide identification	Viva			Identification 4 slides (01 each)	10
Marks		01	05			04	
Embryology					6 spots (0.5 each)		03
Marks					03		
TOTAL MARKS	02	06		04	04	04	20

Osteology will be assessed in viva

Internal Assessment (Theory) – MBBS Year I

Criteria	Percentage	Blocks I / II/ III
Continuous assessment : (Average score of class tests/ quizzes etc)	03 %	Marks obtained* 3 / Total Marks
EOB Exam; For each discipline;	05 %	Marks obtained* 5 / Total Marks
Attendance	02 %	95 % = 02 90- 94 % = 1.5 85 - 89 % = 01
Pre annual Exam : Theory Paper I, II & III	10 %	Marks obtained*10 /Total Marks
Final IA	20%	

Internal Assessment (Practical) – MBBS Year I

Criteria	Percentage	Blocks I / II/ III
Continuous assessment (EOB)	05%	Marks obtained * 5/Total Marks
Attendance	02 %	95 % = 02 90- 94 % = 1.5 85 - 89 % = 01
Practical books/Logbooks	01%	Obtained marks * 01 / Total marks
Discipline/Attitude, Responsibility and Teamwork	02 %	Obtained marks* 02 / Total marks

▪ Pre Annual Practicals	10%	Marks obtained* 10 /Total Marks
▪ Final IA	20%	