

BAHAWALPUR MEDICAL COLLEGE (BMC) BAHAWALPUR





STUDY GUIDE FIRST YEAR MBBS CURRICULUM 2K23 BLOCK-2 MUSCULOSKELETAL SYSTEM 2023-2027

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	LIST OF ABBREVIATIONS					
Α	Anatomy					
Ag	Aging					
В	Biochemistry					
BhS	Behavioral Science					
С	Civics					
СМ	Community Medicine					
C-FRC	Clinical-Foundation, Rotation, Clerkship					
CVS	Cardio Vascular System					
CBL	Case Based Learning					
ENT	Ear Nose & Throat					
F	Foundation					
FM	Forensic Medicine					
GO	Gynecology & Obstetrics					
HL	Hemopoitic & Lymphatics					
LGIS	Large Group Interactive Session					
М	Medicine					
MS	Musculoskeletal					
0	Opthamology					
Р	Physiology					
Pa	Pathology					
Pe	Pediatrics					
PBL	Problem Based Learning					
PERLs	Professionalism, Ethics, Research and Leadership skills.					
Ph	Pharmacology					
Psy	Psychology					
QI	Quran & Islamiat					
R	Radiology					
Re	Respiratory					
SDL	Self-Directed Learning					
TBL	Team Based Learning					
S	Surgery					
UHS	University of Health Sciences					

### VISION STATEMENT

"UHS is a leading University aiming to keep its graduates apt with ever emerging global health challenges, evolving educational methodologies and emerging technological advancement to maintain its distinguishable position as Medical University."

### **MISSION STATEMENT**

"BMC is committed to produce humane healthcare professionals having empathy, high ethical values, technological standards and core competencies in patient management and research to cater the healthcare need of community."

## 1. OUTCOME OF MBBS PROGRAM

By the end of the five year the MBBS programs **BAHAWALPUR MEDICAL COLLEGE** (aims to produce medical graduates who are able to):

- 1. Demonstrate an appropriate Basics knowledge of medical sciences.
- 2. Elicit professional skills while providing patient centered care by relevant and comprehensive physical examination.
- 3. Exhibit ethical and moral values in health promotion and disease prevention at population level to the care of individual patients.
- 4. Evaluate the use of laboratory tests and imaging studies and interpret the results to arrive at clinical decision making.
- 5. Commit to lifelong learning to keep up to date with developments in medical practice and trends in disease at population level by strong leadership and management skills.
- 6. Perform the common medical and surgical techniques in clinical settings including the 'basic life support.
- 7. Engage in research activity aimed at improvement of quality of health care including behavior modification of individual and community for quality life.

## 2. CURRICULUM FRAMEWORK

- The University of Health Sciences Lahore has designed a five-year modular framework for Integrated Curriculum based on Specific Systems, Clinical Clerkships, Quran and Professionalism.
- The time calculation for completion of modules and blocks is based on 35 hours per week.
- Total hours of teaching, learning and formative/summative internal assessment to be completed in a year are 1200.
- Modular framework 2K23 has 44 modules spanning of five years. The horizontal Integration is evident in the modular configuration.

Year	Block	Modular Configuration
	1	Foundation-1
		Hematopoietic & Lymphatic
	2	Musculoskeletal & Locomotion-1
		Cardiovascular-1
Year-I	3	Respiratory-1
		PERLs 1
		Quran-1
		Islamiat & Pak Studies
		Clinical Skills Foundation C-FRC-1 (Clinical-Foundation, Rotation, Clerkship)
		GIT & Nutrition-I
		Renal-I
		Endocrinology & Reproduction-I
		Neurosciences-I
Year-2		Head & Neck Special Senses
		Inflammation
		PERLs-2
		Quran-2
		Islamiat & Pak Studies
		Clinical Skills Foundation C-FRC-2 (Clinical-Foundation, Rotation, Clerkship)
		Foundation-2
		Infectious Diseases
		Neoplasia
		Musculoskeletal & Locomotion-2
Vear-3		Hemopoitic, Immunity & Transplant-2
I Cal-J		Cardiovascular -2
		Respiratory-2
		Forensic Medicine
		Community Medicine & Family Health-1

		PERLs-3
		Quran-3
		Clinical Skills Foundation C-FRC-3 (Clinical-Foundation, Rotation, Clerkship)
		GIT & Nutrition-2
		Renal-2
		Endocrinology & Reproduction-2
		Neurosciences-2
Year-4		Maternal & Child Health
		Ophthalmology
		Otorhinolaryngology
		Community Medicine & Family Medicine-2
		Psychiatry & Behavioral Sciences
		PERLs-4
		Quran-4
		Clinical Skills Foundation C-FRC-4 (Clinical-Foundation, Rotation, Clerkship)
		Gynecology & Obstetrics
		Pediatrics
Year-5		Medicine
		Surgery
		Clinical Clerkships
		Clinical Skills Foundation C-FRC-5 (Clinical-Foundation, Rotation, Clerkship)

A few salient features that have been incorporated in Curriculum 2K23 for all the three domains of training after deliberations and through an iterative process by subject experts, medical educationists and the university lead as follows.

#### 1. Horizontal Integration- COGNITIVE:

The framework of Curriculum 2K23 has 44 modules spanning 05 years. The horizontal integration is evident in the modular configuration where different basic disciplines approach the themes simultaneously. Modules have been structured where all the basic disciplines are represented based on their respective weightage of content. Assessment framework ensures that the applied/clinical aspect also is inculcated in the concept development of the learner keeping the clinical relevance and context at the core.

#### 2. Clinical Relevance & Theme-COGNITIVE:

All module objectives are preceded by the recommended themes and clinical relevance. These are grounded in the rationale of the module so that pattern of learningcould be steered for a practical professional approach. However institutional discretiondoes not prohibit adopting any other thematic approach provided that the program outcomes are adequately achieved.

#### 3. Vertical Integration- COGNITIVE:

Spiral placement of the modules within the frameworkensures a revisit of the basic sciences. In the first step theapplied / clinical learning objectives orientate the learner and the repetitive module horizontally rhymes with the clinical rotations with a backdrop of basic sciences. The

final year of clerkship is the final revisit, which is primarily workplace based and principally involves the perfect integrated blend of tri-domain learning.

#### 4. C-FRC-PSYCHOMOTOR:

Clinical Skills follow a spiral which is entirely skills dominant. This spiral is the core of psychomotor training. The first two years will be of **Clinical Skills- Foundation** whichwill represent clinical orientation. The clinical orientation will be conducted in wards, skills lab and simulation centers (depending on the available resources). The clinical orientation along with the applied/clinical component of the knowledge base willchannelize the learner for the practical and professional aspect of learning.

The subsequent two years the spiral will move on to **Clinical Skills Rotations**. The rotations in different wards will be based on foundational developmental already commenced in pre-clinical years. The year 3 and year 4 which have the rotations will also have the second visitof the modules which would now be more clinically inclined with a stronger base of Pharmacology andPathology. Community oriented practices and family medicine will also be broadening the element of systems thinking and diversity of practice for ahealthcare leader of tomorrow.

**5. Clinical Clerkship:** Finally, **Clinical Clerkships** are aimed to be entirely facilitated in workplace environments. The clerkship model will involve the delegation of duties thus adding to the acquisition of professional accountability as a competency. The psychomotor training and skills acquisition will be the maximum in the year of clerkship. The entire process of C-FRC will be endorsed in a logbook which would be the training base of the learner for future references and exam evaluations.

#### 6. PERLs-AFFECTIVE:

Affective training has been formally inculcated in the curricular framework. The model of PERLs has been introduced so that the yield of doctors has a strong, resilient, ethically driven character. PERLs stands for Professionalism, Ethics, Research and Leadership skills. PERLs rounds up professional development for the effective application of the knowledge and skills base achieved. For a professional to be social accountable and to be able to play the healthcare leadership role for societal elementslike advocacy, equity or resources and healthcare access, a formal training is a must.

The categorical approach for this training has been achieved by rolling in the assessment of the competencies acquired along with development of portfolios. PERLs will run throughout the year via portfolio development. The portfolio development itself is a methodology which ensures student centered learning. The method of self-reflection which is integral for portfolio development places the learner in the right spot to steer his/her own learning needs.

The spiral of PERLs will be monitored directly by the respective department of Medical Education. However, the teaching sessions, and mentoring process, can and will be assigned to other disciplines. For example, communication skills can have an input from the faculty of Family Medicine and research can be facilitated by the Community Medicine & Public Health faculty. Ethics can be jointly covered by the Forensic department and Behavioral sciences. Leadership is an ambit where the students will be motivated if the institutional leads themselves get involved and can also have the input of the successful alumni. The Faculty of Medical Education will look after the entire process and will also engage in the teaching sessions, when and wherever required.

Type of evidence, activities to be performed, learning situation for the acquirement of the competencies, for the portfolio should be defined and enlisted by the academic council along with the help of the department of medical education. A 'mentoring platform' can flaunt the spirit of affective learning through the PERLS spiral. So it is recommended that a mentorship program should be developed at the respective institutes.

#### 7. Other Curricular Elements:

The framework of Curriculum 2K23 has certain other newer elements. These elements define our local context, our existing educational practices and conformity to evidence elating best international practices. Some will be commencing from the first year, however, rest will be a part of the following years. A few of these are:

- Quran
- Clinical
- Entrepreneur ship
- Family Medicine
- Minimal Service Delivery Standards Electives
- Basic Life Support

**Note:** All subjects, topics, laboratory, practical and clinical work to be examined regularly and credit to be accounted in internal evaluation.

## **3. INTRODUCTION TO STUDY GUIDE**

The purpose of this study guide is the logical integration of curriculum outlines includes learning objectives, learning strategies and assessment pattern.

The target audiences of this study guide are <u>The First Year MBBS Student</u>. The highly proficient teaching faculty will provide necessary guidance related to achieve intended learning objectives, effective use of teaching tools and integrated teaching methods. The curriculum includes teaching strategies such as Large Group Interactive Session (LGIS), small group interactive methods like Team Based Learning (TBL), Case Based Learning (CBL), Problem Based Learning (PBL), Tutorials, Reflective Writing, Bedside Teaching, Simulation, Skills Lab, Demonstrations, Laboratory Practical, Ward Rounds and Case Presentations. These are the modern and scientific teaching strategy. The study programs support social and moral development of a medical student besides achieving academic excellence. A team of highly trained and professional teachers act as mentors to guide students on social and academics related affairs.

The mandate of medical education is to equip medical professionals with requisite knowledge, skills and attitude. As a medical student it is expected of you to keep an exemplary character and honest morality. Plan and strive hard with full sincerity and devotion. This marks the beginning of your professional career where attitude defines your altitude and acts as a panacea in practical life.

## 4. INTRODUCTION OF MUSCULOSKELETAL MODULE

	MUSCULOSKELETAL SYSTEM (MSK) MODULE
Introduction	<ul> <li>The musculoskeletal system comprises the bones, muscles, cartilage, tendons, ligaments, and other connective tissues that provide the framework, support, and movement of the body.</li> <li>The initial learning activities will help in understanding the normal structure, development, and normal physiological mechanisms of the organs of the system.</li> </ul>
Rationale of MSK Module	<ul> <li>The anatomy of bones will help in better understanding &amp; possible pathological conditions of the system, including common injuries, diseases, and disorders that affect it, followed by discussion on some important group of drugs used for treatment and/or prevention of these conditions (administration route, mechanism of action and side effects).</li> <li>The impact of musculoskeletal diseases on society and the effect of ageing on occurrence of musculoskeletal diseases will be discussed.</li> <li>Emphasis has been given to incorporate deranged laboratory and imaging findings into the clinical problem solving.</li> </ul>
Target Students	First Year MBBS Students
Module Outcome	<ol> <li>Develop an understanding of the fundamental components of the musculoskeletal system</li> <li>Explain the development of the structure &amp; function of the musculoskeletal (MSK) components of limbs, back &amp; correlate it with organization and gross congenital anomalies of the limbs.</li> <li>Identify the anatomical features of bones, muscles &amp; neurovascular components of the limbs with clinical correlation.</li> <li>Describe how injury and disease alter the MSK structure &amp; function.</li> <li>Integrate concepts relating to various metabolic processes, their disorders and relevant lab investigations in the study of human MSK system</li> <li>Describe the role of the limbs (upper/lower) in musculoskeletal support, stability, and movements</li> <li>Describe the basic histology of muscle fibers including their molecular structure (Sarcomere).</li> <li>Explain the mechanism of excitation and contraction of skeletal and smooth muscles.</li> <li>Discuss the psychosocial impact of musculoskeletal diseases in society.</li> </ol>
Theme	4 Pectoral Region & Axilla
	<ul> <li>Upper limb</li> <li>Pelvic Girdle</li> <li>Lower Limb</li> </ul>
Clinical Relevance	+ Cardiac Failure
	Arrhythmias
	<ul> <li>Atherosclerosis &amp; Ischemic Heart Diseases</li> <li>Hupertension</li> </ul>
	+ Shock
	↓ Congenital Heart Diseases.
	+ Peripheral Arterial Diseases.
Duration	Seven weeks
Recommended	188
Minimum Hours	

## **5. CURRICULUM MAP**

#### PROPOSED YEAR WISE CURRICULUM OUTCOMES OF MBBS PROGRAM

COMPETENCIES	FIRST YEARSECOND YEARMBBSMBBS		THIRD YEAR MBBS	FOURTH YEAR MBBS	FINAL YEAR MBBS
	Correlate between gross Anatomy, Human Physiology & Pathology		Relate the effects & interactions of physical, emotional & social environments to health & disease of human being.	Apply Evidence Based Medicine Concept to provide best Possible Cost Effective Care.	Relate the effects and Interaction of Physical, Emotional & Social Environment to Health & Disease of Humanities.
	Differentiate between Normal & Abnormal Structure & Functions of the Body.		A & Relate the Natural History of the acute & chronic communicable, non-communicable diseases with respective etiologic agents and effects of appropriate intervention on the progress of the disease.		Relate the natural history of the acute & chronic communicable, non- communicable diseases with respective etiologic agents and effects of appropriate intervention on the progress of the disease.
KNOWLEDGEABLE	Differentiate between Normal & Abnormal Molecular, Cellular, Biochemical, Physiological & Pathophysiological Mechanisms		Apply Evidence Based Medicine Concept to provide best Possible Cost Effective Care.	Ensure Patient Safety & Infection Control in their Clinical Practice.	Apply Evidence Based Medicine Concept to provide best Possible Cost Effective Care.
	Differentiate between Normal & Abnormal Human Behavior.		Ensure compliance with the Legal System as it Impacts on Healthcare and the PM&DC Regulations.		Ensure compliance with the legal system as it impacts on healthcare and the PM&DC regulations.
	Differentiate between Biological & Social Determinants and Risk factors of Disease, Various Etiological Causes and Causative Agents for Specific Inquiries, Illnesses & Diseases.		Ensure Patient Safety & Infection Control in their Clinical Practice.		Ensure Patient Safety & Infection Control in their Clinical Practice.

	Perform basic radiological procedures related to normal & abnormal functions of the body.	• Take a focused history and identify the patient's risk factors with appreciation of the bio- psychosocial model.	Take a focused history and identify the patient's risk factors with appreciation of the bio- psychosocial model.	Perform Procedure with the Consent of Patient, ensuring Infection Control when giving Injections (I/V, I/M, S/C. I/D), Managing Infusion Lines and Blood Transfusions, providing first Aid, Basic Life Support, Including CPR, Nebulizers, NG Intubation, Wound Care and dressings. Catheterization
SKILLFUL	Perform practical procedures for handling instruments.	<ul> <li>Perform Physical &amp; Mental state examination in order to identify Specific Problems &amp; Differentiate from others.</li> <li>Identify Non Conformity to Anatomical &amp; Physiological configuration.</li> </ul>	<ul> <li>Perform Physical &amp; Mental state examination in order to identify Specific Problems &amp; Differentiate from others.</li> <li>Identify Non Conformity to Anatomical &amp; Physiological configuration.</li> </ul>	Critique the advantages & disadvantages, indications, contraindications, limitations, complications of the current treatment modalities, justify the use of each with best available scientific evidence
	Manage time and prioritize tasks & uses of resources.	• Formulate a Provisional Diagnosis with Justification and two to three likely differential diagnosis.	• Formulate a Provisional Diagnosis with Justification and two to three likely differential diagnosis.	Formulate management plan in partnership with patients ensuring their safety.
	Ensure Patient Safety always including Strict Infection Control Practices.	• Order appropriate investigations with the Consent of the Patient.	Order appropriate investigations with the Consent of the Patient.	Advice and counsel the patient & their family

Order appropriate investigations with the consent of the patient, ensuring infection control in giving injections (IV, IM, SC, ID), managing infection lines & blood transfusions, providing first aid, basic life support (including cardiopulmonary resuscitation, nebulizers, wound care, Monitoring Oxygen saturation/therapy, taking swabs and pap-smear, performing ECG and peak flow spirometry, blood sugar testing, catheterization, dipstick urine analysis and simple skin suturing	Educate the patient regarding their health problems, available options, management plan, self-care & use of prescribed drugs & equipment such as Inhalers.
Critique the advantages & disadvantages, indications, contraindications, limitations, complications of the current treatment modalities, justify the use of each with best available scientific evidence	Recognize & take into consideration issues of equity, equality & that opportunities are missed if not perceived to be useful by others.
Formulate management plan in partnership with patients ensuring their safety.	Describe & debate the reasons of success or failure of various approaches to increase prevention & to decrease social inequities.
Advice and counsel the patient & their family	

			Educate the patient regarding their health problems, available options, management plan, self- care & use of prescribed drugs & equipment such as Inhalers. Recognize & take into consideration issues of equity, equality & that opportunities are missed if not perceived to be useful by others.	
			Describe & debate the reasons of success or failure of various approaches to increase prevention & to decrease social inequities.	
			Manage time & prioritize the task & use of resources.	
			Ensure patient safety always including strict Infection Control Policies.	
CRITICAL	Adapt a Problem solving Approach in Discussing Problems/ Issues	Use of Information Obtained from & Correlated from different sources. Critical data evaluation (Interpret, Analyze, Synthesize and evaluate to form decisions).	Use of Information Obtained from & Correlated from different sources. Critical data evaluation (Interpret, Analyze, Synthesize and evaluate to form decisions).	Use of Information Obtained from & Correlated from different sources. Critical data evaluation (Interpret, Analyze, Synthesize and evaluate to form decisions).
THINKER	Use of Information & correlate them from different sources. Critical data evaluation (Interpret, Analyze, Synthesize and evaluate to form decisions).	Dealing Effectively with Complexity, Uncertainty & Probability in Medical Decision Making, Reflecting on the latest Evidence & Application to the Health Problem	Dealing Effectively with Complexity, Uncertainty & Probability in Medical Decision Making, Reflecting on the latest Evidence & Application to the Health Problem	Dealing Effectively with Complexity, uncertainty & probability in medical decision making, reflecting on the latest evidence & application to the health problem

	Regular Reflection on standards of me	on their own practice & dical practice.		Raising Concerns about Public Risks & Patient Safety.	Regular reflection on their own practice & on standards of medical practice
					Initiating Participating in or Adapting to Change as required, ensuring that the Profession and the Patient both Benefit.
					Flexibility and a Problem Solving Approach
					Commitment to Quality Assurance and Monitoring by Participating in Audits and Reporting critical Incidence to improve Medical Practice and Decrease Risk to Self, Patient and Public.
	Demonstrate Pract Writing	ices of Effective Academic	Critically Review Literature	Identify a Researchable problem & Critically review the literature.	Identify the Measurable Problem and Critically review the Literature.
	Discuss Importanc Academic Medicin	e of Research Process in e.	Identify Research Problem	Phrase Succinct Research Question	Phrase Succinct Research Question
	Identify Componer	nts of an Original Article	Formulate Research Question.	Formulate Hypothesis	Formulate Hypothesis
RESEARCHER	Critique on selected Original Article in Journal Club Meeting		Formulate Research Hypothesis	Identify the Appropriate Research Design(s) in Epidemiology and Analytical Test in Biostatistics to answer the Research Questions.	Identify the Appropriate Research Design(s) in Epidemiology and Analytical Test in Biostatistics to answer the Research Questions.
			Identify the Appropriate Research Design(s) in Epidemiology and Analytical Test in Biostatistics to answer the Research Questions.	Collect Analyze & Evaluate Data & Present Results where Possible	Collect Analyze & Evaluate Data & Present Results where Possible

				Demonstrate Ethics in Conducting Research and in Ownership of Intellectual Property.	Demonstrate Ethics in Conducting Research and in Ownership of Intellectual Property.
Professionalism & Ethics	Discuss the Role of Ethics in Medical Practice	Demonstrate principles of patient Autonomy, beneficence, nonmaleficence, distributive justice, confidentiality, informed consent and ethics.	Respect the views & interests of the Patient & the Patient's Family	Demonstrate Professional Values of Self & Professional Accountability, Honesty, Probity & Ethics without discrimination on the basis of Age, Gender, Religion or Beliefs , Color, Race, Ethnic or National origin, Cultural , Disability, Disease, Lifestyle, Marital and Parental status, Sexual Orientation and Social or Economic Status	Demonstrate professional values of Self & Professional Accountability, Honesty, Probity & Ethics without discrimination on the basis of Age, Gender, Religion or Beliefs , Color, Race, Ethnic or National origin, Cultural , Disability, Disease, Lifestyle, Marital and Parental status, Sexual Orientation and Social or Economic Status

## 6. TIME TABLE

### **BAHAWALPUR MEDICAL COLLEGE**

## FIRST PROFESSIONAL MBBS-2023-BATCH-2

## **MUSCULOSKELETAL & LOCOMOTION- MODULE-3**

## 5<sup>TH</sup>-9<sup>TH</sup>-JUNE- 2023 (15<sup>TH</sup>-WEEK SCHEDULE) (THEME: MUSCLE-II & JOINTS)

DAY	08:30-09:30	09:30-10:30	10:30	10:50-11:50	11:50-13:10	·		13:40-	15:30	15:30-16:00
VENUE	LECTURE HALL I	LECTURE HALL I	:10:5 0	LECTURE HALL I	PRACTICAL L	чВ	13:20- 13:40	DISECTIO	ON HALL	SELF-DIRECTED LEARNING
Monday 05-06-2023	DEVELOPMENT OF MUSCLES II MS-A-065 Prof Tazeen	PHYSIOLOGY Skeletal Muscle MS-P-012 AMQ		BIOCHEMISTRY Amino acids MS-B-001 DR maria	A=Anatomy(muscle H MS-A-079 B= Anatomy DH (clavicle, sca sternoclavicular MS-A-004,00 C=Biochemistry=Chromatog	i <b>stology)</b> i <b>pula, Humerus &amp;</b> joint) I5 ;raphy MS-B-011		A=DH(Flexor Com MS-A B=Museum(Flexor Arm) M C=Lecture H Compartment O	A=DH(Flexor Compartment Of Arm) MS-A-012 B=Museum(Flexor Compartment Of Arm) MS-A-012 C=Lecture Hall-II(Flexor Compartment Of Arm) MS-A-012	
Tuesday 06-06-2023	HISTOLOGY OF MUSCLES I MS-A-072 Dr Jameel AS	PHYSIOLOGY Saltatory Conduction MS-P-009,010 Prof Qaiser M		structural proteins MS-B-004 DR Ghazala	B=Anatomy(muscle histoli C= Anatomy DH (clavicle, sca sternoclavicular joint) N A=Biochemistry= Chromatoį	o <b>gy MS-A-079)</b> I <b>pula, Humerus &amp;</b> 1 <b>S-A-004,005</b> graphy MS-B-011	CH BREAK	B=DH(Extensor ( Arm) M C=Museum(Exten Of Arm) I A=Lecture Ha Compartment O	Compartment Of S-A-012 sor Compartment VIS-A-012 II-II(Extensor F Arm) MS-A-012	SDL
Wednesday 07-06-2023	GROSS ANATOMY Shoulder joint MS-A-008 Dr Sundus	INTEGRATION MEDICINE Myasthenia gravis MS-A-003 Dr Alamgir	BREAK	BIOCHEMISTRY Protein folding & misfolding MS-B-005 DR Ghazala	C=Anatomy (muscle histol A= Anatomy DH (clavicle, sca sternoclavicular joint) N B=Biochemistry= Chromatog	ogy MS-A-079) Ipula, Humerus & 1S-A-004,005 graphy MS-B-011	AMAZ & LUN	C=DH(Arterial Anastomosis Of Shoulder Joint) MS-A-008 A=Museum(Arterial Anastomosis Of Shoulder Joint) MS-A-008 B=Lecture Hall-II(Arterial Anastomosis Of Shoulder Joint) MS- A-008		SDL
		PHYSIOLOGY			11:40-12:30	12:30-13:20	Ż	13:40-14:40	14:40-15:40	15:40-16:00
	HISTOLOGY OF MUSCLES II	mechanism		DISEASE DREVENTION	LECT-HALL-II	LECT-HALL-II		P-STUDIES	TBL	
Thursday 08-06-2023	MS-A-072 Dr Sundus	MS-P-012 Dr Nimra		Back pain MS-CM-001 Dr Iqra-Z	INTEGRATION Medicine Triangle of Auscultation MS-A-003 Dr Alamgir	Psychosocial factors influencing chronic illnesses-II MS-BhS-001 Ms Faseeha		Sir Adnan Zahoor	A=Anatomy B=Physiology C=Biochemistry=	SDL
	EMBRYOLOGY	PHYSIOLOGY Types Of Muscle		PATHOLOGY	PHARMACO	BIOCHEMISTRY	13:20- 14:00	14:00-	15:30	15:30-16:00
Friday 09-06-2023	EMBRYOLOGY Types Of Muscle Development of Contraction limb-I MS-P-013, 014 MS-A-066 Dr Nimra Prof Tazeen			Hyperplasia, hypertrophy, and atrophy MS-Pa-001 Prof AG	THERAPEUTICS Drugs in Myasthenia Gravis MS-P-002 Dr Zafar Iqbal	AGING Effect of age on Muscular strength & its management MS-Ag-003	JUMMA BREAK	CSIM BODY TEM Dr Hibba & Dr B	-MSK PERATURE azla & Dr Nimra	SDL

FIRST PROFESSIONAL MBBS-2023-BATCH-2

**MUSCULOSKELETAL & LOCOMOTION- MODULE-3** 

## 12<sup>TH</sup>-16<sup>TH</sup>-JUNE- 2023 (16<sup>TH</sup>-WEEK SCHEDULE) (THEME: BONE & AXILLARY REGION)

DAY	08:30-09:30	09:30-10:30	10.20.	10:50-12:20	12:20	0-13:20		13:40-14:40	14:40-15:30	15:30-16:00
VENUE	LECTURE HALL I	LECTURE HALL I	10:30: 10:50	DISECTION HALL	ECE-HOSP	PITAL-BMDH	13:20- 13:40	PRACTICAL LAB	LECTURE HALL I	SDL
Monday 12-06-2023	EMBRYOLOGY Development of limb-ll MS-A-066 Prof Tazeen	PHYSIOLOGY Neuromuscular Junction MS-P-015 Prof Qaiser M		Osteology of Ulna MS-A-013 A=DH B=Museum C=Lecture Hall-I	A=Emergency-As B=Pediatrics- As: C=Surgery= Pa D=Gyn Assessme E=EYE- Asses:	A=Emergency-Assessment/Consent B=Pediatrics- Assessment/Consent C=Surgery= Palpation of Breast D=Gynecology- Assessment/Consent E=EYE- Assessment/Consent		A=Anatomy (Histology of Bone-I) MS-A-075 B= Anatomy DH (rotator cuff) MS-A-009 C=Biochemistry Total proteins MS-B-012	BIOCHEMISTRY Elastin metabolism with disorders MS-B-003 Dr Ghazala	SDL BONES
Tuesday 13-06-2023	GROSS ANATOMY Axilla MS-A-006 Dr Sundus	PHYSIOLOGY Refractory Period MS-P-011 Prof Qaiser M		(Osteology of Radius)- MS-A-013 B=DH C=Museum A=Lecture Hall-I	B=Em C=Pe D=Sı E=Gyn A=	ergency diatrics urgery iecology :EYE	ICH BREAK	B=Anatomy=MS-A- 075 C= Anatomy DH= MS-A-009 A=Biochemistry= MS-B-012	BIOCHEMISTRY Chemistry of CHO MS-B-006 Prof K Fayyaz	SDL BONES
Wednesday 14-06-2023	GROSS ANATOMY Axillary artery MS-A-006 Dr Sundus	INTEGRATION MEDICINE Frozen shoulder& carrying angle MS-A- 009,020 Dr Alamgir	BREAK	Flexor Compartment of forearm) MS-A-014 C=DH A=Museum B=Lecture Hall-I	C=Emergenc D=Pe E=Surgery- Breast, A=Gyr B=	y- Assessment diatrics Palpation of /Consent necology :EYE	NMAZ & LUN	C=Anatomy=MS-A- 075 A= Anatomy DH= MS-A-009 B=Biochemistry= MS-B-012	BIOCHEMISTRY Classification of CHO MS-B-006 Prof K Fayyaz	SDL BONES
					11:40-12:30	12:30-13:20	ZZ	13:40-14:40	14:40-15:40	15:40-16:00
	GROSS ANATOMY Mammary Gland	PHYSIOLOGY Fast & Slow fibers		10:50-11:40	LECT-HALL-I	ECE-HOSPITAL- BMDH		P-STUDIES	TBL	
Thursday 15-06-2023	MS-A-003 Dr Sundus	Contraction MS-P-013, 014 Dr Nimra		DISEASE PREVENTION Work related Musculoskeletal disorders MS-CM-003 Dr Iqra-Z	IMPACT Psychosocial Impact of Disease/Mana MS-BhS-002 Ms Faseeha	D=Emergency E=Pediatrics A=Surgery B=Gynecology C=EYE		Pak Movement (1919- 1947) Sir Adnan Zahoor	ANATOMY A=Dr Rabail B=Dr Iqra Arif C=Hibba	SDL MODELS
	GROSS ANATOMY	PHYSIOLOGY Laten Mechanism		PATHOPHYSIOLOGY Histopathology of	PHARMA	E=Emergency A=Pediatrics	13:20- 14:00	14:00-1	15:30	15:30-16:00
Friday 16-06-2023	Brachial Plexus-I MS-A-010 Prof Tazeen	MS-P-016 Dr Nimra		leiomyoma <b>MS-Pa-001</b> Dr Shahjehan	NMJ DrugsB=SurgeryMS-P-001C=GynecologyDr Zafar IqbalD=ENT		JUMMA BREAK	CSIM- BODY TEMF Dr Hibba & Dr Ba	MSK PERATURE azla & Dr Rabail	SDL MODELS

## FIRST PROFESSIONAL MBBS-2023-BATCH-2 MUSCULOSKELETAL & LOCOMOTION- MODULE-3

10<sup>TH</sup>-14<sup>TH</sup>-JULY- 2023 (17<sup>TH</sup>-WEEK SCHEDULE) (JOINTS & NEUROVASCULAR SUPPLY)

DAY	08:30-09:30	09:30-10:30	10.20.	10:50-12:20	12:20-	13:20		13:40-	15:30	15:30-16:00	
VENUE	LECTURE HALL I	LECTURE HALL I	10:50	DISECTION HALL	LECTURI	E HALL I	13:20- 13:40	PRACTIO	CAL LAB	SDL	
Monday 10-07-2023	GROSS ANATOMY Brachial plexus-II MS-A-010 Prof Tazeen	PHYSIOLOGY NERVE-I MS-P-011 Prof Tahir AM		Retinaculum& Carpal Tunnel Syndrome) MS-A-017,018 A=DH B=Museum C=Lecture Hall-I	BIOCHE B.I of MS-F Prof K I	MISTRY CHO-I 2-006 Fayyaz		A=Anatomy (His MS-A-075 B= DH (Extensor forearm) C=Biochemistr Albumin.	tology of Bone-I) -Dr Subah r Compartment of MS-A-015 y= estimation of MS-B-013	SDL BONES	
Tuesday 11-07-2023	GROSS ANATOMY Cubital fossa MS-A-014 Dr Sundus	PHYSIOLOGY NERVE-2 MS-P-011 Prof Tahir AM		Radioulnar Joint, Wrist Joint) MS-A-021 B=DH C=Museum A=Lecture Hall-I	BIOCHE B.I of ( MS-F Prof K I	MISTRY CHO-II P-006 Fayyaz	CH BREAK	B=Anatomy (His MS-A-075- C= DH (Extensor forearm) A=Biochemistr Albumin.	tology of Bone-I) Dr Subah r Compartment of MS-A-015 y= estimation of MS-B-013	SDL BONES	
Wednesday 12-07-2023	GROSS ANATOMY Neurovascular Supply of Forearm MS-A-016,019 Dr Sundus	PHYSIOLOGY NERVE-3 MS-P-011 Prof Tahir AM	EAK	(Osteology of Hand) MS-A-024 C=DH A=Museum B=Lecture Hall-I	BIOCHE GA MS-F Prof K I	MISTRY AGs P-007 Fayyaz	AZ & LUN(	C=Anatomy (Histology of Bone-I) MS-A-075- Dr Subah A= DH (Extensor Compartment of forearm) MS-A-015 B=Biochemistry= estimation of Albumin. MS-B-013		SDL BONES	
	CROSS ANATOMAY		3RI		11:40-12:30	12:30-13:20	M	13:40-14:40	14:40-15:40	15:40-16:00	
	ELBOW JOINT	NERVE-4		LECT-HALL-I 10:50-11:40	LECT-I	HALL-I	N	LECT-HALL-I	TBL		
Thursday 13-07-2023	MS-A-020 Dr Sundus	MS-P-011 Prof Tahir AM		DISEASE PREVENTION MSD related to child labor MS-CM-002 Dr Iqra-Z	HISTOLOGY BONE MS-A-074 Dr Tazeen	MEDICINE Effect of Age on Bone Fragility & Management MS-Ag-001 Dr Alamgir		ISLAMIAT Aqedah-E-Akihrat Sir Nabeel Raza	BIOCHEMISTRY A=Dr Faryal B=Dr Gul C=Dr Maria	SDL MODELS	
	EMBROLOGY Development of	PHYSIOLOGY NERVE-5		ACING	PHARMACO	IMPACT	13:20- 14:00	14:00	-15:30	15:30-16:00	
Friday 14-07-2023	Neurovascular supply of limbs MS-A-001 Prof Tazeen	MS-P-011 Prof Tahir AM		Effect of age on loss of cartilage resilience MS-Ag-002	THERAPEUTIC S Local Anesthetics MS-Ph-003 Dr Zafar Iqbal	Ms Fseeha I	JUMMA BREAK	CSIM EXAMINE THI FOR FUNC A==Dr B=Dr Ic C= Dr	-MSK 3 WRIST JOINT FIONALITY Hamza ra Tahir Rabail	SDL MODELS	

## FIRST PROFESSIONAL MBBS-2023-BATCH-2 MUSCULOSKELETAL & LOCOMOTION- MODULE-3 17<sup>TH</sup>-21<sup>ST</sup>-JULY- 2023 (18<sup>TH</sup>-WEEK SCHEDULE) (LOWER LIMB & NEUROVASCULAR SUPPLY)

DAY	08:30-09:30	09:30-10:30	10.20.	10:50-12:20	12:20-13:20			13:40-15:30	15:30-16:00
VENUE	LECTURE HALL I	LECTURE HALL I	10:50	DISECTION HALL	LECTU	RE HALL I	13:20- 13:40	PRACTICAL LAB/DEMOS	SDL
Monday 17-07-2023	GROSS ANATOMY Hip Joint MS-A-044 Prof Tazeen	PHYSIOLOGY Nerve-6 MS-P-014 Prof Tahir AM		HIP BONE & ATTACHEMENT-I MS-A-030 A=DH-Dr Iqra Tahir B=Museum-Dr Rabail C=Lecture Hall-I-Dr Hibba	BIOCHEMISTRY Elastin MS-B-004 Dr Ghazala			A=Anatomy (Cartilage) MS-A-081 Dr Subah B= Physiology (Nerve) Prof Tahir C=Biochemistry= (Estimation of Globulin) MS-B-013	SDL BONES
Tuesday 18-07-2023	GROSS ANATOMY Cutaneous Nerve Supply of Thigh MS-A-035 Dr Sundus	PHYSIOLOGY Nerve-7 MS-P-014 Prof Tahir AM		HIP BONE & ATTACHEMENT-2 MS-A-030 B=DH-Dr Iqra Tahir C=Museum-Dr Rabail A=Lecture Hall-I-Dr Hibba	BIOCH Co MS Dr G	IEMISTRY Ilagen -B-004 Shazala	H BREAK	B=Anatomy (Cartilage) MS-A-081 Dr Subah C= Physiology (Nerve) Prof Tahir A=Biochemistry= (Estimation of Globulin) MS-B-013	SDL BONES
Wednesday 19-07-2023	GROSS ANATOMY Femoral Artery MS-A-036 Dr Sundus	PHYSIOLOGY Nerve-8 MS-P-014 Prof Tahir AM	REAK	Femoral Triangle MS-A-034 C=DH-Dr Iqra Tahir A=Museum-Dr Rabail B=Lecture Hall-I-Dr Hibba	AGING/Gynecology Effect of Estrogen & Post-Menopausal Fractures MS-Ag-004 Dr Syeda Zehra		IAZ & LUNCI	C=Anatomy (Cartilage) MS-A-081 Dr Subah A= Physiology (Nerve) Prof Tahir B=Biochemistry= (Estimation of Globulin) MS-B-013	SDL BONES
			B		11:40-12:30	12:30-13:20	AN	13:40-15:40	15:40-16:00
	GROSS ANATOMY KNEE JOINT	Nerve-9		LECT-HALL-I 10:50-11:40	LECT	-HALL-I	Z	CBL	
Thursday 20-07-2023	MS-A-046 Dr Sundus	MS-P-014 Prof Tahir AM		DISEASE PREVENTION MSD related to Mobile Addiction MS-CM-004 Dr Iqra-Z	RADIOLOGY Anatomical Landmark of LL MS-A-029 Dr Asad	PAK STUDIES Political & Constitutional Development of Pakistan-1 Mr Adnan Zahoor		FATIGUE A=DH-Prof Tazeen- B=Physiology Lab- Prof Tahir AM C=Lecture Hall-1-Dr Ghazala	SDL MODELS
	EMBRYOLOGY	PHYSIOLOGY Nerve-10		BIOCHEMISTRY	IMPACT	PATHOPHYSIOLO	13:20- 14:00	14:00-15:30	15:30-16:00
Friday 21-07-2023	OSSIFICATION PROCESS Prof Tazeen	MS-P-014 Prof Tahir AM		VIT-C in Collagen Synthesis MS-B-006 Dr Maria	Psychological Aspects of MSK Conditions Ms Faseeha Iftikhar	GY OSTOPENIA MS-Pa-003 Dr Shahjehan	JUM MA BREA K	CSIM-MSK KNEE JOINT EXAMINATION A=Dr Iqra Tahir B=Dr Rabail C=Dr Hiba	SDL MODELS

## FIRST PROFESSIONAL MBBS-2023-BATCH-2

## MUSCULOSKELETAL & LOCOMOTION- MODULE-3

24<sup>TH</sup>-28<sup>TH</sup>-JULY- 2023 (19<sup>TH</sup>-WEEK SCHEDULE) (LOWER LIMB & NEUROVASCULAR SUPPLY)

DAY	08:30-09:30	09:30-10:30	10:20:	10:50-12:20	12:20-13:20		13:40	-15:30	15:30-16:00
VENUE	LECTURE HALL I	LECTURE HALL I	10:50	DISECTION HALL	LECTURE HALL I	13:20- 13:40	PRACTICAL	LAB/DEMOS	SDL
Monday 24-07-2023	PHYSIOLOGY Nerve-11 MS-P-014 Prof Tahir AM	ANATOMY CAT Upper Limb Prof Tazeen		Femoral Triangle/Hernia/Canal MS-A-035 A=DH-Dr Hiba B=Museum-Dr Iqra C=Lecture Hall-I-Dr Rabail	BIOCHEMISTRY MS-B-008 Vit-D Dr Maria	×	A=Anatomy MS-A-081- B= Physiology (f C=Biochemistry= Micro MS-	r (Cartilage) -Dr Subah Nerve) Prof Tahir (Detection of Ca by 0 Lab) -B-014	SDL BONES
Tuesday 25-07-2023	GROSS ANATOMY Paper Discussion & Lumber Plexus MS-A-039 Dr Sundus	PHYSIOLOGY Nerve REVISION MS-P-014 Prof Tahir AM		Gluteal Region MS-A-040 A=DH-Dr Hiba B=Museum-Dr Iqra C=Lecture Hall-I-Dr Rabail	BIOCHEMISTRY HOUSE/CAT TEST Dr Ghazala	NCH BREA	B=Anatomy MS-A-081- C= Physiology (f A=Biochemistry= Micro MS-	r (Cartilage) Dr Subah Nerve) Prof Tahir Detection of Ca by o Lab) -B-014	SDL BONES
Wednesday 26-07-2023	GROSS ANATOMY Sacral Plexus MS-A-039 Dr Sundus	PHYSIOLOGY CAT Nerve Prof Tahir AM	BREAK	Gluteal Region & Ant of Thigh MS-A-040 A=DH-Dr Hiba B=Museum-Dr Iqra C=Lecture Hall-I-Dr Rabail	BIOCHEMISTRY MS-B-007 Ca Hemosiderin & Phosphate Dr GUL	AMAZ & LU	C=Anatomy MS-A-081- A Physiology Discussion B=Biochemistry= Micro MS-	(Cartilage) Dr Subah (Nerve) Paper Prof Tahir Detection of Ca by o Lab) B-014	SDL BONES
Thursday 27-07-2023	DISEASE PREVENTION MSD related to Mobile Addiction MS-CM-004 Dr Iqra-Z	PHYSIOLOGY MUSCLE-1 Prof Tahir AM		Medial Compartment/Adductor Canal MS-A-040 A=DH-Dr Hiba B=Museum-Dr Iqra C=Lecture Hall-I-Dr Rabail	PATHOPHYSIOLOGY MS-Pa-003 REVISION Dr Shahjehan	Ź	13:40-14:30 BIOCHEMISTRY MS-B-007 Ca Hemosiderin & Phosphate Dr GUL	14:30-15:30 PHARMACO THERAPEUTICS MS-Ph-003 Dr Zafar Iqbal	SDL BONES
Friday 27-07-2023	<sup>3</sup> riday <sup>07-2023</sup> 9 <sup>TH</sup> MOHARRAMUL HARAM				ASHORA	HOLIDA	AY .		

# FIRST PROFESSIONAL MBBS-2023-BATCH-2 MUSCULOSKELETAL & LOCOMOTION- MODULE-3

31<sup>st</sup>-JULY-4<sup>TH</sup>-AUGUST-2023 (20<sup>TH</sup>-WEEK SCHEDULE) (LOWER LIMB & NERVE)

DAY	08:30-09:30	09:30-10:30	10.20.	10:50-12:20 12:20-13:20			13:40-15:30	15:30-16:00	
VENUE	LECTURE HALL I	LECTURE HALL I	10:50	DISECTION HALL	LECTUF	RE HALL I	13:20- 13:40	PRACTICAL LAB/DEMOS	SDL
Monday 31-07-2023	PHYSIOLOGY Muscle-2 MS-P-012 Prof Tahir AM	ANATOMY Applied Anatomy of Gluteal Region MS-A-040 Dr Sundus		Posterior Compartment of Thigh-1 MS-A-041 A=DH-Dr Hiba B=Museum-Dr Iqra C=Lecture Hall-I-Dr Rabail	BIOCH Paper Discussi M Dr Gl	EMISTRY on of House Test SK-B nazala		A=Anatomy (Histology Revision) Dr Subah B= Physiology (Nerve) Prof Tahir C=Biochemistry= (Solutions) MS-B-015	SDL BONES
Tuesday 01-08-2023	GROSS ANATOMY Blood Supply of Thigh MS-A-042 Dr Sundus	PHYSIOLOGY Muscle-3 MS-P-012 Prof Tahir AM		Posterior Compartment of Thigh-2 MS-A-041 A=DH-Dr Hiba B=Museum-Dr Iqra C=Lecture Hall-I-Dr Rabail	ORTHC Carpel MS- Prof Ra	PAEDICS   Tunnel A-018 fiq Sabir	NCH BREAK	B=Anatomy (Histology Revision) Dr Subah C= Physiology (Nerve) Prof Tahir A=Biochemistry= (Solutions) MS-B-015	SDL BONES
Wednesday 02-08-2023	GROSS ANATOMY Sciatic Nerve MS-A-043 Dr Sundus	PHYSIOLOGY Muscle-4 MS-P-012 Prof Tahir AM	EAK	Popliteal Fossa-I MS-A-045 A=DH-Dr Hiba B=Museum-Dr Iqra C=Lecture Hall-I-Dr Rabail	BIOCH REV M: Dr Gi	EMISTRY ISION SK-B nazala	1AZ & LUI	C=Anatomy (Histology Revision) Dr Subah A= Physiology (Nerve) Prof Tahir B=Biochemistry= (Solutions) MS-B-015	SDL BONES
		PHYSIOLOCY	3RI		11:40-12:30	12:30-13:20	AN	13:40-16:00	
	Blood Supply of Leg	Muscle-5		LECT-HALL-I	LECT	-HALL-I	Z	VIVA	
Thursday 03-08-2023	MS-A-048 Prof Tazeen	MS-P-012 Prof Tahir AM		10:50-11:40 Ergonomics MS-CM-005 Dr Iqra-Z	ORTHOPAEDICS Bone Repair MS-A-041 Prof Rafiq Sabir	PAK STUDIES Political & Constitutional Development of Pakistan-2 Mr Adnan Zahoor T		A=DH-Prof Tazeen- B=Physiology Lab- Prof Tahir C=Lecture Hall-1-Prof KMI	AM F
	EMBRYOLOGY Ankle Joint MSA-061	PHYSIOLOGY Muscle-6 MS-P-012		AGING Effect of age on Bone	PHARMACO THERAPEUTI	PATHOPHYSIOL OGY	13:20 - 14:00	14:00-15:30	15:30-16:00
Friday 04-08-2023	Prof Tazeen	Prof Tahir AM		Strength MS-Ag-003 Dr Alamgir	CS MS-Ph-003 Dr Zafar Iqbal	Duchene Muscular Dystrophy MS-Pa-003 Dr Shahjehan	JUM MA BREA K	DH Popliteal Fossa-2 MS-A-045 A=DH-Dr Hiba B=Museum-Dr Iqra C=Lecture Hall-I-Dr Rabail	SDL MODELS

## BAHAWALPUR MEDICAL COLLEGE FIRST PROFESSIONAL MBBS-2023-BATCH-2 MUSCULOSKELETAL & LOCOMOTION- MODULE-3 7<sup>TH</sup>-11<sup>TH</sup>-AUGUST-2023 (21<sup>ST</sup>-WEEK SCHEDULE) (LOWER LIMB & MUSCLE)

DAY	08:30-09:30	09:30-10:30	10.20.	10:50-12:20	12:20-	13:20		13:40-15:30	15:30-16:00
VENUE	LECTURE HALL I	LECTURE HALL I	10:50	DISECTION HALL	LECTURE HALL I		13:20- 13:40	PRACTICAL LAB/DEMOS	SDL
Monday 07-08-2023	EMBRYOLOGY Development of Muscle MS-A-065 Prof Tazeen	PHYSIOLOGY Smooth Muscle-I MS-P-016 Prof Tahir AM		Tibia Attachments MS-A-047 A=DH-Dr Iqra Tahir B=Museum-Dr Rabial C=Lecture Hall-I-Dr Hibba	BIOCHEI Student Pre Dr Gul/ Dr	MISTRY esentation Mishaal	X	A=Anatomy (Tibia) MS-A-050-Dr Iqra Tahir B= Physiology (Peripheral Nerve function) Dr Maheen C=Biochemistry= (Solutions) MS-B-015	SDL BONES
Tuesday 08-08-2023	EMBRYOLOGY Reticula MS-A-051 Prof Tazeen	PHYSIOLOGY Smooth Muscle-2 MS-P-016 Prof Tahir AM		Fibula Osteo-I MS-A-047 B=DH-Dr Iqra Tahir B=Museum-Dr Rabial C=Lecture Hall-I-Dr Hibba	ORTHOP Rotator cui MSA Prof Rafi	PAEDICS ff muscles -009 iq Sabir	NCH BREA	B=Anatomy (Tibia) MS-A-050-Dr Iqra Tahir C= Physiology (Peripheral Nerve function) Dr Maheen A=Biochemistry= (Solutions) MS-B-015	SDL BONES
Wednesday 09-08-2023	GROSS ANATOMY Radiology of Lower Limb MS-A-062 Dr Sundus	PHYSIOLOGY Smooth Muscle-3 MS-P-016 Prof Tahir AM	'SIOLOGY     Fibula Attachments       'SIOLOGY     MS-A-047       th Muscle-3     Y       S-P-016     Y       'Tahir AM     C=Lecture Hall-I-Dr Hibba		Dula Attachments     BIOCHEMISTRY       MS-A-047     BIOCHEMISTRY       DH-Dr Iqra Tahir     Student Presentation       Museum-Dr Rabial     Dr Gul/ Dr Mishaal       Sture Hall-I-Dr Hibba     Student Presentation		AAZ & LUI	C=Anatomy (Tibia) MS-A-050-Dr Iqra Tahir A=Physiology (Peripheral Nerve function) Dr Maheen B=Biochemistry= (Solutions) MS-B-015	SDL BONES
			В	LECT-HALL-I	11:40-12:30	12:30-13:20	AN	13:40-16:00	
	Arches of Foot	Smooth Muscle-4		10:50-11:40	LECT-H	IALL-I	Z	VIVA	
Thursday 10-08-2023	MS-A-055 Dr Sundus	MS-P-016 Prof Tahir AM		Psoas Abscess MS-A-034 Dr Asghar	ORTHOPAEDICS Bone Fracture MSK-063 Prof Rafiq Sabir	ISLAMIAT Iman Bin Malaiqua Sir Nabeel Raza		B=DH-Prof Tazeen C=Physiology Lab- Prof Tahir A=Lecture Hall-1-Prof KMI	<b>AM</b> F
	HISTOLOGY	PHYSIOLOGY Smooth Muscle-5			DISEASE	PATHOPHYSIOL	13:20- 14:00	14:00-15:30	15:30-16:00
Friday 11-08-2023	Muscle MS-A-072 Dr Jameel AS	Smooth Muscle-5 MS-P-016 Prof Tahir AM		BIOCHEMISTRY Student Presentation Dr Gul/ Dr Mishaal	non Communicable diseases MS-CM-006 Dr Iqra-Z	OGY Alzheimer's disease MS-Pa-003 Dr Shahjehan	JUMM A BREAK	DISCETION Anterior Muscles of Leg A=Dr Hibba B=Dr Rabail C=Dr Iqra Tahir	SDL MODELS

## FIRST PROFESSIONAL MBBS-2023-BATCH-2

## MUSCULOSKELETAL & LOCOMOTION- MODULE-3

14<sup>TH</sup>-18<sup>TH</sup>-AUGUST-2023 (22<sup>ND</sup>-WEEK SCHEDULE) (LOWER LIMB & MUSCLE)

DAY	08:30-09:30	09:30-10:30	10.20.	10:50-12:20	12:20-	-13:20		13:40-15:30	15:30-16:00				
VENUE	LECTURE HALL I	LECTURE HALL I	10:50	DISECTION HALL	LECTUR	E HALL I	13:20- 13:40	PRACTICAL LAB/DEMOS	SDL				
Monday 14-08-2023				INDEPENDENCE DAY				HOLIDAY					
Tuesday 15-08-2023	GROSS ANATOMY CAT LOWER LIMB MS-A-062 Dr Sundus	PHYSIOLOGY Smooth Muscle-6 MS-P-016 Prof Tahir AM		Lateral Muscles of Leg MS-A-047 A=DH-Dr Hiba B=Museum-Dr Iqra C=Lecture Hall-I-Dr Rabail	BIOCHE Student Pr Dr Gul/ D	MISTRY esentation r Mishaal	H BREAK	A=Anatomy (Tibia) MS-A-050-Dr Iqra Tahir B= Physiology (Reflexes & Reaction Time) Dr Maheen C=Biochemistry= OSPE Exam Preparation)	SDL BONES				
Wednesday 16-08-2023	GROSS ANATOMY Paper Discussion of Lower Limb & Radiology of Lower Limb MS-A-062 Dr Sundus	PHYSIOLOGY Smooth Muscle-7 MS-P-016 Prof Tahir AM	BREAK	Posterior Compartment of Thigh-1 MS-A-041 B=DH-Dr Iqra Tahir C=Museum-Dr Rabial A=Lecture Hall-I-Dr Hibba	LECT-HALL-I 10:50-11:40 DISEASE PREVENTION Burden of Osteoporosis MS-CM-004 Dr Iqra-Z		MAZ & LUNCI	B=Anatomy (Tibia) MS-A-050-Dr Iqra Tahir C= Physiology (Peripheral Nerve function) Dr Maheen A=Biochemistry= (OSPE Exam Preparation)	SDL BONES				
	CROSS ANATOMY	PHYSIOLOGY			11:40-12:30	12:30-13:20	NA		15:40-16:00				
	Arches of Foot	CAT		Posterior Compartment of Thigh-2 LECT-HALL-I M		LECT-HALL-I		LECT-HALL-I		LECT-HALL-I		C=Anatomy (Tibia) MS-A-050-Dr Iqra Tahir	
Thursday 17-08-2023	MS-A-055 Dr Sundus	Muscle Prof Tahir AM		MS-A-041 C=DH-Dr Iqra Tahir A=Museum-Dr Rabial B=Lecture Hall-I-Dr Hibba	ORTHOPAEDICS Planter Fascia MSK-052 Prof Rafiq Sabir	SURGERY Anatomical basis of Psoas Abscess MS-A-035 Dr Asghar		A= Physiology (Peripheral Nerve function) Dr Maheen B=Biochemistry= OSPE Exam Preparation)	SDL MODELS				
	ANATOMY	PHYSIOLOGY Paper Discussion			PHARMACO THERAPEUTIC	Pathophysiology	13:20- 14:00	14:00-15:30	15:30-16:00				
Friday 18-08-2023	HISTOLOGY Dr Jameel AS	MUSCLE Prof Tahir AM		BIOCHEMISTRY CAT/HOUSE TEST Dr Ghazala	S MS-Ph-003 Dr Zafar Iqbal	Leiomyoma Dr Shahjehan	JUMMA BREAK	DISCETION Anterior Muscles of Leg A=Dr Hibba B=Dr Iqra Tahir C=Dr Rabail	SDL MODELS				

FIRST PROFESSIONAL MBBS-2023-BATCH-2

MUSCULOSKELETAL & LOCOMOTION- MODULE-3

21<sup>ST</sup>-25<sup>TH</sup>-AUGUST-2023 (23<sup>RD</sup>-WEEK SCHEDULE) (LOWER LIMB & MUSCLE)

	08:30-09:30	09:30-10:30	10:	10:50-12:20	12:20	13:20		13:40-16:00		
DAY VENUE	LECTURE HALL I	LECTURE HALL I	30: 10: 50	DISECTION HALL	LECTUR	E HALL I	13:20- 13:40		SIM	
Monday 21-08-2023	EMBRYOLOGY Development of Muscle MS-A-065 Prof Tazeen	PHYSIOLOGY REVISION MS-P-016 Prof Tahir AM		Foot-1 MS-A-047 A=DH-Dr Iqra Tahir B=Museum-Dr Rabial C=Lecture Hall-I-Dr Hibba	BIOCHE Student Pr Dr Gul/ D	MISTRY esentation r Mishaal		CSI UPPER LIMB S' A=Dr Hibba (Ro B=Dr Rabail (Ro	M-MSK I'RENGH & POWER Il # 1-50) Lect-Hall-I Il # 51-100)-Museum	
Tuesday 22-08-2023	EMBRYOLOGY Reticula MS-A-051 Prof Tazeen	PHYSIOLOGY REVISION MS-P-016 Prof Tahir AM		Foot-2 MS-A-047 B=DH-Dr Iqra Tahir C=Museum-Dr Rabial A=Lecture Hall-I-Dr Hibba	ORTHO Arches MSF Prof Rat	PAEDICS of Foot 4-055 3q Sabir	CH BREAK	CS LOWER LIMB S A=Dr Hibba (Ro B=Dr Rabail (Ro	IM-MSK TRENGH & POWER oll # 1-50) Lect-Hall-I oll # 51-100)-Museum	
Wednesday 23-08-2023	GROSS ANATOMY Radiology of Lower Limb MS-A-062 Dr Sundus	PHYSIOLOGY REVISION MS-P-016 Prof Tahir AM	EAK	Neuromuscular of FootSURGEMS-A-047Anatomical basis ofC=DH-Dr Iqra TahirThrombA=Museum-Dr RabialMS-A-IB=Lecture Hall-I-Dr HibbaDr Asging		SURGERY Anatomical basis of Deep Venous Thrombosis MS-A-058 Dr Asghar		CSIM-MSK KNEE JOINT & HIP JOINT A=Dr Hibba (Roll # 1-50) Lect-Hall-I B=Dr Rabail (Roll # 51-100)-Museum		
	CSII 08:3	M-MSK 0-10:30	BR		11:40-12:30	12:30-13:20	AM	13:40-14:40	14:40-16:00	
	SHOULDER	JOINT &X-Ray		LECT-HALL-I	LECT-	HALL-I	ź	LECT-HALL-I	PRACTICAL/LAB	
Thursday 24-08-2023	A=Dr Hibba (Ro B=Dr Subah & Dr 100)-1	IMB II # 1-50) Lect-Hall-I I qra Arif (Roll # 51- Museum		10:50-11:40 DISEASE PREVENTION Burden of Osteoporosis MS-CM-004 Dr Iqra-Z	ORTHOPAEDICS Human Gait MS-A-059 Prof Rafiq Sabir	PHYSIOLOGY REVISION MS-P-016 Prof Tahir AM		PAK STUDIES Nature of Civic Mr Adnan Zahoor	A=BIOCHEMISTRY-MOC (Roll # 1-50) B=PHYSIOLOGY-MOC (Roll # 1-50)	
	PHYSIOLOGY	HISTOLOGY		10:50-11:40	PHARMACO THERAPEUTIC	PATHOPHYSIOL	13:20- 14:00	14: PRAC	00-16:00 TICAL/LAB	
Friday 25-08-2023	PHYSIOLOGY HISTOLOGY REVISION Muscle MS-P-016 MS-A-072 Prof Tahir AM Prof Tazeen			AGING Effect of Estrogen on BMD MS-Ag-003-Prof Tahir	S Pharmacodynami c MS-Ph-003 Dr Zafar Iqbal	OGY Leiomyoma MS-Pa-003 Dr Shahjehan	JUMMA BREAK	A=PHYSIOLOG B=BIOCHEMIST	Y-MOC- (Roll # 1-50) RY-MOC- (Roll # 1-50)	

## FIRST PROFESSIONAL MBBS-2023-BATCH-2

## MUSCULOSKELETAL & LOCOMOTION- MODULE-3-EOB-2 EXAM

## 28<sup>TH</sup>-AUGUST-01<sup>ST</sup> -SEP-2023 (24<sup>TH</sup> -WEEK SCHEDULE) (LOWER LIMB & MUSCLE)

DAY DATE	9:30 AM -1	2:30 PM GROUP-A		9:30 A	M -12:30 PM GROUP-B		9:30 AM -12:30 PM GROUP-C	
Monday 28-08-2023	EOB (THEORY) LECTURE HALL I			END OF BLOCK-I EXAM (THEORY) LECTURE HALL 5-IT HALL			END OF BLOCK-I EXAM (THEORY) LECTURE HALL 2	
	08:30-09:30	09:30-10:30	10:30- 10:50	10:50-11:50	11:50-12:50	12:50- 13:20	13-20-14:20	14:40-16:00
Tuesday 29-08-2023	BHIOCHEMISTRY REVISION Dr Meshal	PHYSIOLOGY REVISION Prof Tahir AM	BREAK	PATHOLOGY REVISION Dr Shahjehan Zafar	BHIOCHEMISTRY REVISION Dr Meshal	BREAK	PHARMACOLOGY REVISION Dr Zafar Iqbal	SDL MSK BONES & MODELS REVSION
				9:30 /	AM -14:00 PM			
Wednesday 30-08-2023	EOB-2 (OSPE/OSCE/VIVA (INTERNAL & EXTERNAL) GROUP-B							
Thursday 31-08-2023	EOB-2 (OSPE/OSCE/VIVA (INTERNAL & EXTERNAL) GROUP-C							
Friday 01-09-2023			EC	OB-2 (OSPE/OSCE/V G	IVA (INTERNAL & EXTE GROUP-A	ERNAL)		

7.RECOMMENDED MINIMUM HOURS FOR 2K23								
Found	ation Module <b>H</b>	Block-1 (Module-1)						
Disciplines	Theory	Practical	Total Hours=200					
Anatomy (Gross Anatomy, Embryology & Post Natal Development), Microscopic Anatomy (Histology And Pathology	12+20+08=40	05+05+22=32	72					
Medical Physiology	40	10	50					
Medical Biochemistry	40	10	50					
Pathology	12		12					
Pharmacology And Therapeutics	04		04					
Impact (Epidemiology, Sociology/Society, Community Medicine & Public Health, Behavioral Science	08		08					
Aging	04		04					
Hean	n & Lymphatics I	Block-1 (Module-2)						
Disciplines	Theory	Practical	Total Hours=071					
Anatomy (Gross Anatomy, Embryology & Post Natal Development), Microscopic Anatomy (Histology And Pathology	02+01=03	02	05					
Medical Physiology	20	06	26					
Medical Biochemistry	21	06	27					
Pathophysiology & Pharmacotherapeutics	02+05=07		07					
Impact(Epidemiology,Sociology/Society,CommunityMedicine& Public	05		05					

Health, Behavioral Science			
Aging	01		01
Muscul	oskeletal Module	Block-2 (Module-3)	
Disciplines	Theory	Practical	Total Hours=237
Anatomy (Gross Anatomy, Embryology & Post Natal Development), Microscopic Anatomy (Histology And Pathology	116+06+06=03	10	138
Medical Physiology	34		35
Medical Biochemistry	24	06	30
Pathophysiology & Pharmacotherapeutics	04+07=11		11
Impact (Epidemiology, Sociology/Society, Community Medicine & Public Health, Behavioral Science	16+03=19		19
Aging	04		04
C	VS Module Block	x-3 (Module-4)	
Disciplines	Theory	Practical	Total Hours= 192
Anatomy (Gross Anatomy, Embryology & Post Natal Development), Microscopic Anatomy (Histology And Pathology	14+14+04=32	03	35
Medical Physiology	75	10	85
Medical Biochemistry	30	08	38
Pathophysiology & Pharmacotherapeutics	04+07=11		11
Impact (Epidemiology, Sociology/Society, Community Medicine & Public Health, Behavioral Science Aging	05		04

Respiration Module Block-3 (Module-5)								
Disciplines	Theory	Practical	Total Hours=136					
Anatomy (Gross Anatomy, Embryology & Post Natal Development), Microscopic Anatomy (Histology And Pathology	30+06+04=40	05	45					
Medical Physiology	45	08	53					
Medical Biochemistry	15	02	17					
Pathophysiology & Pharmacotherapeutics	05+03=08		08					
Impact (Epidemiology, Sociology/Society, Community Medicine & Public Health) Behavioral Science	07+03=10		10					
Aging	03		03					

## 8. DISTRIBUTION & DURATION OF TEACHING ACTIVITIES AMONGST DIFFERENT DISCIPLINE MSK MODULE

Content Distribution Of MSK Module With Various Teaching Strategies						
Disciplines	LGIS	Demonstration	Practical	CBL	CFRC/CSIM	Poster Presentation
Anatomy	<u>~</u>	<u>~</u>	~	<u>~</u>		~
Physiology	>		<u>~</u>	<u>~</u>	<u>~</u>	✓
Biochemistry	>	×	~	<u>~</u>		✓
Pathology	<b>&gt;</b>			<u>~</u>		<ul> <li></li> </ul>
Pharmacology	<u>~</u>			<u>~</u>		~
CHS	~			<u>~</u>		
Aging	~			<u>~</u>		✓



## 9. LEARNING OBJECTIVES OF MUSCULOSKELETAL MODULE

	LEARNING OBJECTIVES OF MUS	SCULOSKELETAL M	IODULE		
		RY			
UPPER LIMB					
<b>XV</b> 7 <b>1</b>	0.11/1	Recommended	226		
Weeks		Minimum Hours			
CODE	SPECIFIC LEARNING OUTCOMES	DISCIPLINE TOTAL LIC	$\frac{10PIC}{10PIC}$		
CODE	GROSS ANATOMI	IUIAL HC	1000000000000000000000000000000000000		
MS-A-001	<ul> <li>Describe the topographical anatomy of Pectoral Region.</li> <li>Perform dissection of the Pectoral Region or use models to identify the key structures</li> <li>Describe muscles of the Pectoral Region with their origin, insertion, nerve supply and actions.</li> </ul>	GeneralAnatomy	Pectoral Region		
MS-A-002	<ul> <li>Describe the fasciae, cutaneous nerves. and Blood vessels of the Upper Limb.</li> <li>Describe the extent, attachments, and structures passing through Clavipectoral Fascia</li> </ul>	Human Anatomy	Fascia & Myotomes of upper limb		
	Describe the extent, structure, neurovascular supply, lymphatic drainage of Breast (Mammary Glands)	Human Anatomy			
	Define the boundaries of Triangle of Auscultation and state its clinical significance	Integrate withMedicine			
MS-A-003	Demonstrate palpation of breast and define itsrelation to the Fibrous septa in Carcinoma of Breast	Integrate with Surgery	-		
	• Explain the anatomical basis of position Adopted for breast examination andmammography.	Integrate withRadiology	Pectoral region &Back		
	<ul> <li>Describe the osteology of the bones inpectoral region.</li> <li>Enumerate the muscles of pectoral girdle.</li> <li>Describe the attachments of muscle of pectoral girdle, nerve supply and actions(Pectorals Major and minor,Subclavius,Trapezius, Latissimus Dorsi, Rhomboid majorand minor, Levator Scapulae and Serratusanterior)</li> <li>Explain the role of muscles of pectoral regionin stabilizing the pectoral girdle.</li> <li>Describe the triangle of auscultation.</li> <li>Mention the neurovascular supply of</li> </ul>	Human Anatomy	+ Mammary Glands		

	important clinical conditions.		
	• Describe muscles of the back with their		
	origin,		
	Insertion, nerve supply and actions.		
MS-A-004	<ul> <li>Describe the Osteology of Clavicle (morphological features, side determination, attachments, ossification).</li> <li>Describe the functions of Clavicle in terms of</li> </ul>		
	<ul> <li>Describe the Osteology of Scapula (morphological feature attachments, ossification).</li> <li>Determine the side and identify the landmarks of scapula.</li> <li>Describe the movements of Scapula associated with movements of Shoulder Girdle.</li> <li>Tabulate the movements of scapula with muscles acting on it.</li> <li>Tabulate the attachments, origin, insertion,innervation, and actions of Anterior Axio appendicular Muscles.</li> </ul>	Human Anatomy	Bones of Upper Limb: Clavicle & Scapula
MS-A-005	<ul> <li>Describe the Sternoclavicular Joint in terms of articulating surfaces, ligaments, articular disc, nerve supply, blood supply, axes and planes of movements and stability factors.</li> </ul>	Human Anatomy	Bones of thorax,Joints of Upper Limb: SternoclavicularJoint
MS-A-006	<ul> <li>Develop clear concepts of the topographical anatomy of Axilla and its contents.</li> <li>Describe the boundaries of Axilla.</li> <li>(Identification of muscles forming the boundaries of axilla)</li> <li>List the contents of Axilla</li> <li>Perform dissection/ Identify the Axilla and its Contents</li> <li>Describe Axillary Artery with reference to its 3parts their relations, branches, and anastomoses.</li> <li>Describe the formation, tributaries, and drainage of Axillary Vein.</li> <li>Identify and demonstrate the course/ relation and branches/tributaries of axillary vessels</li> <li>Describe the Axillary Lymph Nodes in terms of location, grouping, areas of drainage and clinical significance</li> <li>Describe the course relations root value</li> </ul>	Human Anatomy	Axilla
	• Describe the course, relations, root value and distribution of cutaneous nerves		

-			
MS-A-007	• Describe the Osteology of Humerus (Side	Human Anatomy	Bones of upperlimb: Humerus
	<ul> <li>Determination, morphological teatures, attachments, ossification).</li> </ul>		
MS-A-008	<ul> <li>Describe the Shoulder Joint under the following headings: Articulation, Type/ Variety, Capsule, Ligaments, Innervation, Blood supply &amp; movements.</li> <li>Describe the 3 parts of Deltoid Muscle and correlate them with its unique functions.</li> <li>Explain its role in abduction of shoulder joint.</li> <li>Explain mechanism of Abduction of arm.</li> <li>Identify and demonstrate the movements of</li> </ul>	Human Anatomy	Joints of Upper Limb: Shoulder Joint
	<ul> <li>Axio-appendicular Muscles on Skeleton/Model .</li> <li>Draw and label the arterial anastomosis around shoulder joint.</li> <li>Describe, in detail, the Scapula-Humeral Mechanism in relation to movement of abduction. Discuss important clinical Conditions</li> </ul>		
MS-A-009	<ul> <li>Describe Rotator Cuff Muscles, state their</li> <li>Anatomical significance and explain RotatorCuff Tendinitis</li> </ul>	Human Anatomy	Rotator Cuff
	Describe Frozen Shoulder in relation to anatomical features.	Integrate withSurgery	
MS-A-010	<ul> <li>Describe the formation of Brachial Plexus; Infra and Supraclavicular parts.</li> <li>Discuss Brachial plexus injuries.</li> <li>Demonstrate and identify the formation of brachial plexus and its branches.</li> <li>List the branches of brachial plexus and give their areas of distribution and muscles they innervate.</li> <li>Develop clear concepts of the topographical anatomy of Scapular Region.</li> <li>Tabulate the attachments, innervation, and actions of muscles of Scapular Region.</li> <li>Identify &amp; Describe Musculocutaneous Nerve in terms of its Origin, Course, Termination, Relations, Branches, and distribution.</li> <li>Describe and illustrate the cutaneous Innervation of the arm.</li> </ul>	Human Anatomy	Nerves of The Upper Limb
	• Describe the Brachial Artery in terms of its course, relations, branches, and		
MS-A-011	<ul><li>Tabulate the attachments, innervation, and</li></ul>		Blood Supply of Arm

	<ul> <li>actions of Triceps brachii as a muscle of Posterior Fascial Compartment of Arm.</li> <li>Identify &amp; Describe the Profunda Brachii Artery giving its course, relations, branches, and</li> </ul>	Human Anatomy	
	distribution.		
MS-A-012	<ul> <li>Describe Cubital Fossa with emphasis on its boundaries, contents, and clinical significance.</li> <li>Demonstrate surface marking of superficial veins of arm and forearm for IV injections.</li> <li>Determine the side and identify the landmarks of radius and ulpa</li> </ul>	Human Anatomy	Muscle of A <del>r</del> m
	<ul> <li>Describe the Osteology of Radius (Side</li> </ul>		
MS-A-013	<ul> <li>Determination, morphological features, attachments, ossification)</li> <li>Describe the Osteology of Ulna (Side Determination, morphological features, attachments, ossification)</li> </ul>	Human Anatomy	Bones of Forearm
	<ul> <li>Describe in detail, the features of each flexor muscle of forearm, proximal &amp; distal attachments, relations, and actions.</li> <li>Describe the action of paradox with examples</li> </ul>	Human Anatomy	Muscle of Anterior/Flexor Compartment of Forearm
MS-A-014	<ul> <li>Describe in detail, the features of each flexor muscle of forearm, proximal &amp; distal attachments, relations, and actions.</li> <li>Describe the action of paradox with examples</li> </ul>	Human Anatomy	Muscle of Anterior/Flexor Compartment of Forearm
MS-A-015	<ul> <li>Tabulate the attachments, innervation, and actions of Extensor Muscles of the Forearm.</li> <li>Describe in detail, the features of each muscleof extensor compartment of forearm, proximal&amp; distal attachments, relations, and actions With nerve supply.</li> </ul>	Human Anatomy	Muscle of Posterior/Extensor Compartment of Forearm
MS-A-016	<ul> <li>Identify the muscles and neurovasculature of flexor and extensor compartments of forearm.</li> <li>Develop clear concepts of the topographical anatomy of Forearm.</li> <li>Describe and illustrate the cutaneous innervation of the Forearm.</li> <li>Compartmentalize the forearm and give its Anatomical basis.</li> <li>Tabulate the attachments, innervation, and actions of Flexor &amp; Pronator Muscles of theForearm</li> </ul>	Human Anatomy	Forearm: Neurovascular supply & topographical anatomy
MS-A-017	• Identify the Extensor & Flexor Retinacula and describe their attachments and relations	Human Anatomy	Retinacula of Forearm
MS-A-018	• Demonstrate the formation of carpal tunnel and identify the contents	Human Anatomy	

	Describe Carpel Tunnel Syndrome	Integrate withSurgery	
	• Describe the features, attachments,	Human Anatomy	
	relations		Carpel Tunnel
	And structures passing under Flexor		
	Retinaculum		
	Describe the Origin, Course, Relations, and		
	branches of Ulnar Artery in Forearm.	Human Anatomy	Forearm: Blood supply
	Describe the Origin, Course, Relations		and Venous drainage
	and list the tributaries of veins of		
MS-A-019	Forearm.		
	• Surface marking of Brachial artery,		
	Cephalic, Median cubital, Basilic Vein,		
	Radial & Ulnar arteries, anterior		
	&posterior interosseous artery.		
	• Describe the Elbow Joint in terms of		
	articular surfaces, type, variety, ligaments,	Human Anatomy	
	muscles producing movements, blood		
MS-A-020	supply		Joints of Upper Limbs:
	{Anastomosis around elbow joint},		Elbow Joint
	nerve		
	Supply and radiological imaging.		_
	• Describe Carrying Angle and justify its	Integrate with Surgery	
	importance in limb movement		
	Describe the Radio unar Joints in terms		Loints of Llonger Limbs:
	ligements, muscles producing movements		Badio ulper Loint
	blood supply	Human Anatomy	Radio uniai joint
MS-A-021	Nerve supply and radiological imaging		
	<ul> <li>Demonstrate mechanisms of movements</li> </ul>		
	of		
	Pronation & Supination		
	Describe the features of Interosseous		Interosseous membrane
MS-A-022	Membrane with structures that pierce		
	through it.		
	• Describe the features and explain the	Human Anatomy	
MS-A-023	importance of Fibrous Flexor Sheaths,		Fascia & Muscles of
	synovial flexor sheaths and extensor		Hand
	expansion	-	
	• Demonstrate the attachments and actions of		<b>**</b> 1
	the muscles of hand.		Hand
MS-A-024	• Identify the muscles and neurovasculature		
	• Evolvin the morphology and tabulate		
	• Explain the morphology and tabulate		
	attachments innervation and actions of		
	Intrinsic Muscles of the Hand		
	Demonstrate the various		Actions of Muscles of
MS-A-025	erips.		UpperLimb as a
	• Explain the mechanism of		functional Unit
	writing		
	Describe the Ulnar Artery course relations		
	and termination in hand with	Human Anatomy	Blood Vessels of
MS-A-026	its clinicalsionificance in the region		Forearm& Hand
	• Describe the formation branches and		

	areas of distribution of Superficial and Deep PalmarArch ,		
MS-A-027	• Describe the course, relations, and branchesof Ulnar, Median and Radial Nerves in the Hand		Nerves of Forearm& Hand
MS-A-028	<ul> <li>Describe the First Carpometacarpal Joint in terms of; Type, Variety, Articular Surfaces, Ligaments, Relations, Blood Supply, Innervation, movements.</li> <li>Demonstrate the movements of the 1st carpometacarpal joint.</li> <li>Describe the Metacarpo-phalangeal &amp; interpharyngeal Joints in terms of; Type, Variety, Articular Surfaces, Ligaments, Relations, Blood Supply, Innervation &amp; Movements.</li> </ul>	Human Anatomy	Joints of Hands
	• Palpate the arteries of the upper limb on a Subject.	Integrate with Medicine	
MS-A-029	<ul> <li>Identify the topographical features of upper limb in a cross-sectional model/ specimen</li> <li>Demonstrate and identify the anatomical landmarks of upper limb on radiographs/ CT/ MRI</li> </ul>	Integrate with Radiology	Skills
	<ul> <li>Mark the anatomical landmarks on a subject/ simulated model</li> </ul>	Human Anatomy	
CODE	LOWER LIMB	DISCIPLINE	ТОРІС
MS-A-030	<ul> <li>Draw and label the Parts of the hip bone, with its attachments.</li> <li>Describe the parts, attachments, and ossification of hip bone.</li> <li>Identify the parts and bony features of the hip bone, with its attachments, important relations.</li> <li>Demonstrate the side determination of hip bone, its bony features, attachments, sex differences, and important relations.</li> </ul>	Human Anatomy	Hip Bone
MS-A-031	<ul> <li>Describe the parts, attachments, ossification, side determination, and Sex differences of Femur.</li> <li>Identify the parts and bony features of the</li> </ul>	Human Anatomy	Femur

	their		
MS-A-032	<ul> <li>Describe the extent, attachments, and modifications of Fascia Lata.</li> <li>Demonstrate the attachment of fascia Lata, iliotibial tract</li> </ul>	Human Anatomy	Fascia Lata
MS-A-033	<ul> <li>Describe the Cutaneous nerves &amp; vessels of thigh.</li> <li>Draw and label the cutaneous nerve supply of thigh.</li> <li>Describe the formation, course, relations, tributaries &amp; termination of the superficial veins.</li> <li>Explain the anatomical justification of vene section, varicose veins &amp; sephanous venous graft.</li> <li>Describe the Lymphatic drainage of the region with special emphasis on afferent &amp; efferent of inguinal lymph nodes.</li> </ul>	Human Anatomy	Neurovascular supply of Thigh
	<ul> <li>Identify the superficial &amp; deep lymph nodes.</li> <li>Describe &amp; identify the boundaries &amp; Contents of femoral triangle.</li> </ul>		
MS-A-034	<ul> <li>Draw &amp; Label the boundaries &amp; Contents of Femoral Triangle.</li> <li>Identify the Femoral Sheath with its Compartments.</li> <li>Describe the Formation of Femoral Sheath &amp; its Significance.</li> <li>Describe the Formation of Femoral canal &amp; its Significance.</li> <li>Describe the formation &amp; Significance of Emotion &amp; Significance &amp; S</li></ul>	Human Anatomy	Femoral Triangle & Canal
	<ul> <li>Femoral Ring.</li> <li>Compare &amp; Contrast the anatomical features of Femoral &amp; Inguinal Hernias.</li> </ul>	Integrate with Surgery	_
MS-A-035	<ul> <li>Describe the Muscles of anterior compartment Of thigh with their proximal and distal attachments, actions, and innervation.</li> <li>Demonstrate and identify the muscles of anterior compartment of thigh with their proximal and distal attachments.</li> <li>Demonstrate the actions of muscles of anterior Compartment of thigh.</li> <li>Explain the anatomical basis of proces</li> </ul>	Integrate with Physiology Integrate with Surgery	
	<ul> <li>Explain the anatomical basis of psoas abscess</li> <li>Identify and demonstrate the nerves andvessels of anterior compartment of</li> </ul>	integrate with Surgery	
	<ul><li>thigh along with their branches.</li><li>Describe the origin, course relations,</li></ul>		

	branches distribution, and termination of femoral vein		Nerve Supply of Anterior Compartment Of
MS-A-036	• Describe the origin, course,	Human Anatomy	Thigh
	relations, tributaries, area of drainage and		
	termination of		
	Describe the origin course		
	• Describe the origin, course,		
	termination of femoral nerve.		
	• Tabulate the muscles of anterior		
	compartment		
	• of thigh with their attachments, nerve		
	supplyand actions		
	• Describe the formation, boundaries,		
	contents and significance of Adductor	TT A	
MS-A-037	canal.	Human Anatomy	Adductor Canal
	Identify & demonstrate the Boundaries		
	Describe Muscles of modial		
	• Describe Muscles of medial Compartment of Thigh with their		
MS-A-	proximal & distal attachments,		
038	innervation & actions.	Human Anatomy	Muscles of medial
	• Identify the muscles of medial		Compartment of Thigh
	compartment of		
	Thigh with their proximal and		
	distal attachments.		
	• Demonstrate the actions of the muscles of the		
	<ul> <li>compartment on self/ subject</li> </ul>		
	<ul> <li>Describe the origin, course, relations,</li> </ul>		
	branches/ tributaries, distribution, and		
	termination of neurovascular structures of		
	medial compartment of thigh.		
MS-A-039	• Identify the nerves and vessels of medial Compartment of thigh along with their	Human Anatomy	
	branches.		Neurovascular supply of
	• Describe and identify the lumbar and sacral		Medial Compartment of
	plexus and its branches supplying the lower		Thigh
	limb.		
	<ul> <li>Describe the cutaneous nerve supply and lymphatics of the racion</li> </ul>		
	<ul> <li>Describe the subcutaneous tissue of gluteal</li> </ul>		
	Region		
	<ul> <li>List the structures passing through the</li> </ul>		
	greater	Human Anatomy	
MS-A-040	And lesser sciatic foramen	······	
	• Describe the muscles of gluteal region with		
	their proximal and distal		
	attachments, innervation, and actions.		
	• Identify the muscles of gluteal region with their		
	proximal and distal attachments		
	• Describe the origin, course, relations.		

	branches/ tributaries, distribution, and		
	termination of neurovascular structures	of	
	oluteal region		
		c	
	• Demonstrate the actions of the muscles	01	
	gluteal region.		
	• Draw and label the cruciate and		
	trochanteric anastomosis		
	• Explain the anatomical basis of the		
	consequences of wrongly placed gluteal	Integrate with Medicine	
	intromuseular injections and injury to	8	
	intrainuscular injections and injury to		
	superior and interior gluteal nerves.		
	• Demonstrate and identify the origin,	Human Anatomy	
	course,		
	• relations, branches/tributaries and		
	termination of nerves and vessels of glute	eal	
	region		
		,	
	• Describe the Attachments of musc	les	Maralas Of
	Of Destantion and enter and a fithigh suith the		Muscles OI
	Posterior compartment of thigh with th	e Human Anatomy	Posterior
	Identify the muscles of posterior		Compartmen
MS-A-041	• Identify the muscles of posterior		t Of Thigh
	provimal and distal attachments		
	Demonstrate the actions of		
	Demonstrate the actions of	ich	
	inductes of posterior compartment of the		
	• Describe the anatomical basis of sign	s Integrate withSurgery	
	and		
	symptoms of Piritormis syndrome		
	• Describe the origin, course,		
MC A 042	relations, branches, distribution, and		
MIS-A-042	termination of Profunda	a Human Anatomy	Blood Supply of
	femoral artery.		Thigh
	• Describe the formation and distribut	tion	
	of		
	chain anastomoses of thigh (and		
	its clipical significance)		
	• Describe the origin, course,	Human Anatomy	
	relations, branches, distribution, and	te	
MS-A-043	• Describe the anatomical basis of sign	s Integrate withSurgery	Sciatic Nerve
	and		
	symptoms of compression of or injury to		
	sciaticnerve		
	• Describe the hip joint with it	s	
	type articulations ligements stabilizi	ng l	Hin Joint
	factors movements and neurovacular	** <del>5</del>	I inp Joint
MS-A-044	actors, movements and neurovascular		
	supply with clinical significance.	Linger Areterne	
	• Perform the movements of hip joint at	Fiuman Anatomy	
	variousangles and be able to describe the	2	
	muscles producing the movement.		
	Discuss important		
	associated clinical conditions.		
	Describe the Reyndarias relations		
	Describe the boundaries, relations, and     Contonto of populitant former	Human Anatomy	Doplited Free
	Durrents of populteal rossa.		Poputeal Possa
	Uraw and label boundaries, relations, an	0	

MS-A-045	contents of popliteal fossa.		
1413-71-043	• Identify the boundaries and contents		
	popliteal tossa.		
	• Describe the origin, course, relations,		
	branches/tributaries, distribution and		
	termination of popliteal artery and vein		
	• Enlist the bones in the knee joint.	Human Anatomy	Knee Joint
	Describe parts of tibia and fibula with their	,	
	attachments important relations		
	ossifications, and side determination.		
	• Identify the parts and bony features of the		
	tibia & fibula, their bony features,		
	attachments, important relations.		
	Describe the anatomical basis for using	Integrate with Surgery	
	fibula		
	• as graft		
MS-A-046	Describe the attachments and role of		
	popliteal in locking and unlocking of the		
	knee joint.		
	• Draw and label Parts of patella with its		
	attachments.		
	• Draw and label Parts of patella with its		
	attachments.		
	• Enlist the factors responsible for		
	stabilizing the		
	patella.		
	• Describe the knee joint with		
	its type, articulations, ligaments,		
	• Explain the mechanism of locking		
	and unlocking of knee joint		
	with the foot on ground and off the		
	ground.		
	• Describe the factors responsible for		
	Stability of		
	Niee joint.		
	Discuss important associated clinical     conditions		
<u> </u>	Describe the Muscles of anterior. lateral	Human Anatomy	Muscles of leg
	and posterior compartments of leg with		0
	their proximal & distal attachments,		
	innervation, and actions.		
MIS-A- 047	• Identify the muscles of anterior, lateral,		
	and		
	posterior compartments of leg with their		
	proximal and distal attachments		
	• Describe the origin, course, relations,		
	branches/tributaries and termination of		
	nerves and vessels of anterior, lateral, and	Human Anatomy	Neurovascular supply of
MS-A- 048	posterior compartments of leg.		Leg
	• Describe the cutaneous nerves and vessels		
	ot		
	Leg.		
	• Draw and label the cutaneous nerve supply		
	and dermatomes of leg		

	-		
	• Identify the extensor, flexor, and peroneal		Flexor, Extensor, and
	retinacula and demonstrate the structures	Human Anatomy	peroneal Reticula
	related to them.		
	• Describe the attachments, relations,		
	and structures passing under cover of,		
MS-A- 049	extensor, peroneal, and flexor retinacula.		
	• Identify and demonstrate the nerves and		
	vessels of anterior, lateral, and posterior		
	compartments of leg along with their		
	branches.		
	• Describe the formation of no		
	calcareous		
	(Achilles tendon)		
MS-A- 050	• Describe the articulations, muscles		
	and	Human Anatomy	Tibio-fibular Joint
	Neuro vasculature and movements at		
	Tibia- fibular joints		
MS-A- 051	• Describe the ankle joint with its	Human Anatomy	Ankle Joint
	type, articulations, ligaments,		
	movements, and neuro-vascular supply.		
	• Describe the factors stabilizing the ankle		
	joint. Discuss important associated clinical		
	Conditions.		
	• Identify and demonstrate the		
	articulating		
	surfaces and ligaments of ankle joint		
	• Describe the formation, attachments, and	Human Anatomy	Plantar Fascia
	clinical significance of plantar aponeurosis		
MS-A- 052	• Explain the anatomical basis of the signs	Integrate with Orthopedics	
	and		
	Symptoms of plantar fasciitis.		
	• Identify the parts and bony features,		
	attachments, and important relations		Muscles of foot
	of the articulated foot.		
	• Describe the muscles of the dorsum and	Human Anatomy	
MS-A-053	sole of foot with their proximal & distal		
	attachments, innervation and actions		
	emphasizing the role of interpose and		
	lumbricals.		
	• Draw and label the muscles of the		
	layers of sole of foot.		
	• Demonstrate and identify the muscles		
	and		
	Tendons with their proximal and		
	distalattachments in the sole of foot		
	• Describe the inter phalangeal, subtalar		
MS-A-054	and midtarsal joints with their types,		
	articulation, ligaments, stabilizing factors,	Human Anatomy	Small joints of foot
	movements, and neurovascular supply		
	• Describe the formation components		
	stabilizing and maintaining factors of the		Arches of foot
MS-A- 055	arches of foot		
	Describe the clinical significance of	Integrate with	
	Describe the clinical significance of	Orthopodics	
	arcnes or root with respect to flat foot,	Ormopedies	
1	CIAW IOOL.	1	

MS-A- 056	• Describe the fibrous flexor sheaths,	Human Anatomy	Retinacula of foot
	extensor expansions and synovial flexor		
	sheaths		
	• Describe the origin, course,		
	relations, branches/tributaries,		Neurovascular supply of
	distribution, and termination of plantar	Human Anatomy	foot
	vessels.		
	• Identify the nerves and vessels on the		
MS-A- 057	toot along with their branches.		
1013-11- 037	• Describe the cutaneous nerves and		
	vessels of foot.		
	Draw and label the cutaneous nerve		
	and dermatomes of foot		
	<ul> <li>Identify the perves and vessels in the sole</li> </ul>		
	of		
	foot along with their branches.		
	• Describe the palpation of dorsalis pedis		
	artery		
	• & explain the clinical significance of		
	dorsalis pedis artery.		
	• Describe the surface anatomy,		
	course, relations, tributaries, and	Human Anatomy	Venous drainage of lower
	communications of the superficial and		limb
	deep veins of the lower limb.		
	• Draw a concept map of the superficial		
MS-A- 058	and deep veins of lower limb.		
	• Draw a concept map of the superficial		
	deep veins of lower limb		
	Explain the anatomical basis of the		
	formation, and signs and symptoms of	Integrate with Surgery	
	deep venous thrombosis		
	Describe the anatomical basis of knee	Integrate with Medicine	
	jerk,		
	ankle jerk, and plantar reflex		
	• Describe the mechanism of walking	Human Anatomy	
	Describe the phases of exit could with	Integrate with	Human Gait
MS-A- 059	Describe the phases of gait cycle with     muscles involved in each phase	Orthopedics	
	Describe the propulsive and shock-		
	absorbing		
	mechanisms of foot		
	• Describe the weight bearing/ line of	Human Anatomy	
	weight		
	transmission in lower limb		
MS-A- 060	• Draw a concept map of the lymphatic		Lymphatic drainage of
	drainage	Human Anatomy	lower limb
	of lower limb		
MS-A- 061	• Draw and label the cutaneous nerves &		Cutaneous dermatomes of
	dermatomes of the lower limb	Human Anatomy	lower limb
MS-A- 062	• Demonstrate the surface marking of		Topographical and

	nerves and vessels of lower limb.		radiological anatomy of
	• Demonstrate the surface marking of bony		lower limb
	landmarks of lower limb.		
	• Identify the topographical features of		
	lower		
	limb in a cross-sectional model		
	• Demonstrate and identify the features of		
	bones and joints of lower limb on		
	radiograph/CT scan/MRI	Integrate with Radiology	
	Describe the common fractures of the		
	following hone with the risk factors		
	clinical presentations and management.		
	<ul> <li>Clavicle</li> </ul>		
	<ul> <li>Humerus</li> </ul>		
	Radius		
MS-A- 063			Bone Fracture
	Small bonos of hand	Orthopedics and trauma	Done i facture
	<ul> <li>His bons</li> </ul>		
	<ul> <li>Fip bolle.</li> <li>Formur</li> </ul>		
	Feinur     This Eihelt		
	Small bones of foot		
	• Describe the dislocations of the		
	following joints with the risk factors and		
	clinical presentations, and brief		
	management:		
MS-A- 064	<ul> <li>Shoulder joint</li> </ul>		
	<ul> <li>Elbow joint</li> </ul>	Orthopedics and trauma	Ioint Dislocation
	<ul> <li>Interphalangeal joint of hand</li> </ul>		<u>j</u>
	Hip joint		
	Knee joint		
	Ankle joint		
	EMBYROLOGICAL AND POST	<b>I' NATAL DEVELOPMEN</b>	T
CODE	SPECIFIC LEARNING	DISCIPLINE	TOPIC
	OBJECTIVES		
	General Anatomy	Total I	Hours = 06
	• Name the molecular and genetic		
	factorsinvolved in the development of		
	musculoskeletal system		
	Describe the development of skeletal		
MS-A- 065	muscle		
	• List the derivatives of epaxial and	Human Embryology	Development of
	hypaxial musculature of limb		INIUSCIES
	• Briefly discuss the development of cardiac		
	and		
	Smooth muscle (Detail to be covered		
	inrespective modules later).		
	• Describe the developmental basis of		
	myotome		
	• Draw a concept map highlighting the		
	• sequence of events pertaining to		
	smooth/cardiac/ skeletal muscles		
	List the factors contributing to the		
		1	

MS-A- 066	<ul><li>development of limb.</li><li>Describe the role of AER and</li></ul>	Human Embryology	Development of
	Zone of polarizing activity in		Limb
	development of limb.		
	• Describe the process of limb development		
	limb growth.		
	<ul> <li>Draw a concept map pertaining to</li> </ul>		
	development of limb		
	• Compare and contrast the		
	development of upper limb with the	Human Embryology	Development of
MS-A- 067	development of lower limb.		ineurovascular supply of limbs
	• Describe the embryological basis of		supply of minos
	cutaneous innervation of limb.		
	• Describe the embryological basis of	Human Embryology	
	system		
	Describe the clinical presentations		
	andembryological basis of		Congenital anomalies of
MS-A- 068	1. Amelia	Integrate withPaedriatics	limbs
	2. Meromelia		
	3 Phocomelia		
	4 Split-Hand/Foot Malformations		
	5 Polydactyly Brachydactyly Syndactyly		
	6. Conceptial slub foot		
	Describe the developmental process		
MS-A- 069	cartilage and bone	Human Embryology	Development of
	• Describe the process of histogenesis of		Cartilage
	cartilage and bone		
M6 A 070	Describe the developmental process of	Here Eastersters	Durana
MS-A-070	Intramembranous and endochondral	Human Embryology	Process of Ossification
	• List the factors contributing to the		Ossincation
	List the factors contributing to the     development		
MS-A-071	of Axial skeletal system		
	• Describe the clinical picture and		Development of Axial
	explain theembryological basis of Axial	Human Embryology	skeleton
	skeletal anomalies		
	• Describe the developmental process of		
	Vertebral Column.		
	(MICROSCOPIC ANATOMY)	TOTAL HO	OURS=06
	• Describe the Microscopic structure &	Histology	
	Ultra Microscopic structure of Skeletal		Staining techniques
	Muscle.	T	
	• Explain the basis of myasthenia gravis and	Integrate with Medicine	Histology of Mussles
MS A 072	Duchenne muscular dystrophy		ristology of Muscles
1VI3-A-0/2	Describe the microscopic and	Histology	
	muscle	i listology	
	<ul> <li>Describe the microscopic and</li> </ul>		
	ultramicroscopic of smooth muscle.		

	• Compare and contrast the histological		
	features of three types of muscle tissue	_	
	• Describe the regeneration of muscle hyperplasia, and hypertrophy of muscle fiber		
MS-A-073	Explain the histopathological basis of Leiomyoma	Histopathology	Functional Histology
	Describe the histological basis of Duchenne	Integrate with Pathology	
	Muscular Dystrophy		
	Describe the light and electron microscopic structure of bone cells	Histology	Histology of Osseous tissue
MS-A-074	<ul> <li>Describe the histological justification for Osteoporosis, osteopenia.</li> <li>Describe the histological basis for bone</li> </ul>	Integrate with Pathology	
	repair After fractures		
	<ul> <li>Describe the light and electron microscopic structure of compact and spongy bone.</li> <li>Compare and contrast the microscopic features of compact and spongy hope</li> </ul>	Histology	Histology of Bone
MS-A- 075	<ul> <li>Draw a concept map to explain the characteristic features of ossification.</li> <li>Draw and label the zones seen in an epiphyseal growth plate</li> </ul>		
MS-A- 076	Describe the metabolic role of bone     Describe the metabolic role of bone	Integrate with Medicine	Functional Histology of
	• Describe the chincal presentation of osteoporosis, osteopenia	integrate with Orthopeties	Bone
MS-A-077	<ul> <li>Describe the microscopic and ultramicroscopic structure of all types of cartilage.</li> <li>Compare and contrast the structure of cartilage and bone matrix.</li> <li>Tabulate the differences between three types of cartilage</li> </ul>	Histology	Histology of Cartilage
MS-A-078	Describe the histological basis for bone & Cartilage growth and repair	Histology	Mechanism of Bone growth
	ΑΝΑΤΟΜΥ Ρ	RACTICAL	
	HISTOLOGY	TOTAL	HOURS = 10
	• Draw and label the histology of skeletal muscle.	Histology	Histology of Muscles
MS-A-079	<ul> <li>Draw and label the histology of smooth muscle.</li> <li>Draw and label the histology of cardiac muscle.</li> </ul>		
MS-A-080	<ul> <li>Draw and label the histological picture of compact bone.</li> <li>Draw and label the histological picture of second bone.</li> </ul>	Histology	Histology ofBones
MS-A-081	Draw and label the microscopic		

	<ul> <li>structure of hyaline cartilage.</li> <li>Draw and label the microscopic structure of elastic cartilage.</li> <li>Draw and label the microscopic structure of fibro cartilage</li> </ul>	Histology	Histology of Cartilage
	MEDICAL PHY	YSIOLOGY	
	THEORY	TOTAL H	OURS=40
	<ul> <li>Explain the potential Physiological basis of membrane</li> <li>Explain diffusion potentials of Na &amp; K.</li> </ul>	Medical Physiology	Diffusion / Equilibrium Potentials &
MS-P-001	<ul> <li>Define Nernst Potential.</li> <li>Explain Physiological Basis of Nernst Potential.</li> </ul>		
	<ul> <li>Write the Nernst Equation.</li> <li>Calculate Nernst Potential for Na &amp; K.</li> <li>Explain the Effects of Altering the Concentration of Na+, K+, Ca on the equilibrium potential for that Ion.</li> </ul>		Nernst Potential.
MS-P-002	<ul> <li>Describe the Normal distribution of of Na+, K+, Ca &amp; Cl across Cell membrane.</li> <li>Explain the Physiological basis of Goldman Equation.</li> <li>Clarify the Role of Goldman Equation in generation of RMP.</li> </ul>	Medical Physiology	Cell Biology
MS-P-003	<ul> <li>Explain the Physiological basis of Generation of RMP.</li> <li>Explain the effects of Hyperkalemia &amp; Hypokalemia on the RMP.</li> <li>Name the Membrane Stabilizer.</li> <li>Explain the Physiological basis of action of Local Anesthesia.</li> </ul>	Medical Physiology Integrate with Anesthesiology	Resting Membrane Potential of Neurons
MS-P-004	<ul> <li>Describe the Physiological Anatomy of Neurons.</li> <li>Discuss the Axonal Transport.</li> <li>Enlist &amp; Give functions of Neuroglial Cells.</li> <li>Explain process of myelination in CNS &amp; PMO</li> </ul>	Medical Physiology	Neurons
MS-P-005	<ul> <li>Classify Neurons Functionally.</li> <li>Classify Nerve Fibers according to Erlanger &amp; Gasser Classification.</li> </ul>	Medical Physiology	Classification of Neurons & Fibers
MS-P-006	<ul> <li>Define Action Potential.</li> <li>Enlist the Properties of Action Potential.</li> <li>Describe the Ionic Basis of an Action Potential.</li> </ul>	Medical Physiology	Action Potential of Neurons

	• Explain the Phases of Action Potential.		
	• Explain the effects of Hyperkalemia &		
	Hypokalemia on the Action Potential.		
	Draw Monophasic Action Potential.		
	• Explain the role of other ions in Action		
	Potential.	Medical	Role of Other Ions
MS-P-007	• Elaborate the effect of Hypocalcaemia on	Physiology	on Action Potential
	Neuron Excitability.		
	Explain Physiologic basis & Properties of		
MS-P-008	Graded Potential.		
	Draw & Explain Physiologic Basis &		
	Properties of Compound Action Potential.	Medical	
	Contrast between Action Potential &	Physiology	Local & Graded Potential
	Graded Potential.		
	• Describe the Ionic Basis of Excitatory		
	post Synaptic Potential (EPSP), Inhibitory		
	Post Synaptic Potential (IPSP), End Plate		
	Potential (EPP).		
	Classify & Explain physiological basis of		
MS-P-009	Different Types of Synapsis	Medical	Synapsis
	• Elaborate how signal transmission takes	Physiology	
	place across chemical synapsis.		
	Explain the Mechanism of Conduction of		
	Nerve Impulse in Myelinated &	Medical Physiology	
<b>MS-P-010</b>	Unmyelinated nerve fibers.		Conduction of Nerve
	Elaborate Significance of salutatory		Impulses.
	Conduction.		
	• Enlist the Types of Nerve Injury.	Medical Physiology	
	Explain Wallerian degeneration		
MS-P-011	• Describe the process of regeneration of		
	Nerve Fibers.		Nerve Degeneration
	• Describe the Causes, features &	Medical Physiology Integrate	
	Pathophysiology of Multiple Sclerosis, GB	with Medicine	
	Syndrome.		
MC D 010	• Discuss the physiological anatomy of		01 1 · 1 M · 1
MIS-P-012	Skeletal Muscles.	Madiaal Dharaiala ar	Skeletal Muscle
	Differentiate between Skeletal, smooth &     Cardiag Muscles	Medical Physiology	
	<ul> <li>Describe the structure of Sarcomere</li> </ul>		
	Differentiate between isometric & Isotonic		Characteristics of Whole
MS-P-013	Contraction by giving example.		Muscle Contraction
	• Compare the fast & slow muscle fibers.		
	• Explain the mechanism of Summation &		
	Tantalization.		
	Describe Staircase Effect/Treppe	Medical Physiology	Mechanism of Muscle
	Phenomenon.		Contraction
<b>MS-P-014</b>	Discuss the mechanism of Skeletal Muscle		
	tatigue.	Madaal Di 1 T	
	• Explain the Physiological basis of Rigor	with Economic M 1	
		with Forensic Medicine.	
	• Describe the Physiologic Anatomy of NMJ.		
	Mechanism of neuromuscular		
	Transmission & generation of End Plate		

MS-P-015	Potential	Medical Physiology Integrate	Neuro
	<ul> <li>Explain features, pathophysiology &amp;</li> </ul>	with Medicine	Muscular junction
	treatment of myasthenia Gravis.		,,
	Discuss the steps/ events of excitation		
	contraction coupling in skeletal muscle.		
	Differentiate between types of smooth		
	muscles.		
	Describe mechanism of smooth muscle		
	contraction in comparison to skeletal		
	muscle.		
MS-P-016	• Explain the physiological anatomy of	Medical Physiology	Smooth Muscle
	neuromuscular junction of smooth muscle.		
	• Explain the types of action potential in		
	smooth muscles.		
	• Explain the LATCH mechanism.		
	• Describe the significance of LATCH		
	mechanism.		
	• Explain the nervous and hormonal control		
	of Smooth Muscle Contraction.		
	• Enlist various types of muscle disorders.		
MS-P-017	• Describe the pathophysiology & features of	Medicine	Muscular dystrophy
	muscular dystrophy.		
	Define Myopathy.		
	• Enlist various causes of myopathy	Medicine	Myopathy
MS-P-018	• Outline management of myopathy		
	Define osteoporosis.		Metabolic bone
MS-P-019	<ul> <li>Identify risk factors of osteoporosis.</li> </ul>	Geriatric Medicine	diseases:
	Outline management strategies		Osteoporosis
	Define Osteomalacia		Metabolic bone
MS-P-020	<ul> <li>Identify risk factors of Osteomalacia</li> </ul>	Medicine/	diseases:
MS-P-018 MS-P-019 MS-P-020	Outline management strategies	Rheumatology	Osteomalacia
	Define Rickets		Metabolic hone
MS-P-021	<ul> <li>Identify risk factors of Rickets</li> </ul>	Pediatrics	diseases.
	Outline management strategies	r cultures	Rickets
	• Outline management strategies.	V TOTAL HOURS=24	100000
CODE	SPECIFIC LEADNING	DISCIPLINE	ТОРІС
CODE	OBIECTIVES	DISCHLINE	10110
	Classify amino acids based on polarity.		
	nutritional importance, and		Classification of Amino
MS-B-001	glucogenic/Ketogenic properties		acid
	Explain the structure physical chemical		
MS-B-002	properties of amino acids and their		Amino Acids
MIC- <b>D</b> -002	biomedical importance		
	Classify proteins based on functions and		
	physicochemical properties.	Biochemistry	
	Explain its biomedical importance		
	Distinguish between class A and B		Classification of
MS-B-003	proteins.		Protein
	Discuss structure and functions of Fibrous		
	proteins (collagen and Elastin).		

	• Describe cell to cell adhesion.		
	• Interpret diseases associated with them on	Integrate With Medicine	
	basis of sign/symptoms and data		
	• Explain the structural levels of proteins		
	<ul> <li>Differentiate between alpha belix and beta</li> </ul>		
MS-B-004	pleated protein structures.	Biochemistry	Structure of
	<ul> <li>Identify bondings at different levels of</li> </ul>		Proteins
	proteins.		
	Describe the role of chaperons in protein	Integrate With	
	folding.	Pathology & Medicine	
MS-B-005	Interpret disorders related to protein	0,	Protein Mis-folding
110 2 000	misfolding on basis of given data.		
	• Describe the Biochemical basis of		
	Alzheimer's disease/prion Disease		
	• Describe biomedical importance of Mono-,		
MS-B-006	Oligo and Polysaccharides.		
	• Discuss isomerization of carbohydrates	Biochemistry	Carbohydrates Chemistry
	• Explain physical and chemical properties of		
	carbohydrates.		
	Differentiate proteoglycan and glycoprotein		
	and explain their function.		
	• Describe the components of extracellular		
	matrix.		
	• Describe the sources, metabolism, and		
MS-B-007	biochemical functions of vitamin C.		ECM and collagen
	• Describe structure, functions, and clinical		synthesis
	significance of glycosaminoglycans.		oynalesis
	• Interpret the importance of vitamin C in		
	collagen synthesis.		
	• Identify the defects in collagen synthesis		
	based on given data. (Osteogenesis		
	• Evaluit distant sources, motabolism and	Integrate with	
MS-B-008	<ul> <li>Explain dietary sources, metabolism and biochemical functions of vitamin D</li> </ul>	Medicine/Orthopaedics	Vitamin D Metabolism
	<ul> <li>Interpret Rickets and osteomalocia on basis</li> </ul>		
	of sign Symptoms and clinical data		
	Explain dietary sources metabolism and		
MS B 000	biochemical functions of calcium and		Calcium and Phosphate
W13-D-009	phosphate.	Biochemistry	metabolism
	<ul> <li>Discuss regulation of calcium</li> </ul>		
	metabolism in bone metabolism and role		
	of parathyroid and calcitriol in it.		
	Interpret hyper and hypocalcemic		
	conditions on basis of sign/symptoms		
	and clinical data.	Letocroto:41-	
	Interpret genetic basis of Duchene     mucular dystrophy	Integrate with	Genetic basis of disease
MS-B-010	muscular dystrophy	Pathology	
	BIOCHEMISTRY PRACTIC	AL TOTAL HOURS=06	-
MS-B-011	• Detection of amino acids by paper		Carbohydrates
	chromatography.		Sandonyurates
MS-B-012	Estimation of Total Proteins by Kit		TILD
	Method/Dipstick Method		Total Proteins
MS-B-013	Estimation of Albumin & Globulin.	D' 1 '	
		Biochemistry	Albumin/Globulin
MS-B-014	• Detection of calcium by Micro lab.		Calcium

MC D 015			Solutions
W15-D-015	• Prepare Different Types of Solution,		Solutions
	Molar, Molal, Normal & Percentage.		
]	PATHOPHYSIOLOGY & PHARMACOTI	HERAPEUTICS TOTAL F	IOURS=12
CODE	SPECIFIC LEARNING	DISCIPLINE	TOPIC
	OBJECTIVES		
	• Stimulate the mechanism by which drugs		Drugs Acting on NMJ
MS-Ph-001	can stimulate NMJ.		
	• Explain the mechanism by Which drugs	Pharmacology &	
	can block NMJ.	Therapeutics	
	Outline the pharmacological concepts		Drugs in Myasthenia
MS-Ph-002	of drugs used in Myasthenia Gravis.		Gravis
	Outline the Pharmacological Concepts		
MS-Ph-003	of Drugs used as Local Anesthesia.		Local Anesthesia.
	Describe the hyperplasic hypertrophy		
	• Describe the hyperplasta, hypertrophy,	Pathology	Muscle Remodelling
MS Do 001	• Evaluation the historest helesized heric of	i utilology	inducte itemiodeming
W13-F a-001	Explain the histopathological basis of		
	• Describe the histological basis of		
	Duchenne Muscular Dystrophy		Diseases of Musele
MS-Pa-002	• Describe the histopathological basis and		Diseases of Muscle
	clinical presentation of Alzheimer's		
	Disease, Multiple Sclerosis and		
	Astrocytoma		
	• Describe the clinical presentation and		D' (D
MS-Pa-003	histological justification for		Diseases of Bone
	osteoporosis, osteopetrosis.		
	• Describe the histological basis for bone		
	repair after fractures.		
	• Describe the histological basis for		Disease of Cartilage
MS-Pa-004	cartilage growth and repair.		
	AGING TOTAL	HOURS=04	
	• Discuss the effects of Age on Bone		Bone
MS-Ag-001	Fragility & Its Implications with		
	Management.		
	• Discuss the effects of Age on Bone		Certilees
MS-Ag-002	cartilage resilience & its Implications &		Cartilage
	Management.		Muscie
MS A~ 003	Discuss the effects of Age on muscular	Bis ale arreitator	
M3-Ag-005	Management	biochemistry	
	Management.		Effects of Estrogen on
	• Explain the Protective effect of Estrogen		BMD
M5-Ag-004	(Female Sex Hormone) on bone mineral		
	density & relate it to increased prevalence		
	or post-menopausal fractures in women.		
CODE	DISEASE PREVENTION & IM	TAULHUUKS= 16+03=1	ТОПС
		DISCIPLINE	
W12-CW1-001	• Explain causes of Low Back Pain.		Back Dain
	Describe Prevention of Low Back Pain		Dack Pain
	• Describe causes and prevention of		
MS-CM-	musculoskeletal disorders (MSD)related to		MSD Related to Child
002	child labor		Labor
	Describe work related musculoskeletal		

MS-CM- 003	<ul> <li>disorders addition with its burden/epidemiology.</li> <li>Identify risk factors of MSD at workplace.</li> <li>Describe prevention of exposure to risk factors related to workplace.</li> </ul>	Community Medicine & Public Health	Work related Musculoskeletal disorders
MS-CM- 004	<ul> <li>Describe MSD related to mobile addition with its burden/epidemiology Community Medicine and Public Health</li> <li>Identify risk factors relate to MSD due to excessive mobile usage.</li> <li>Describe the preventive strategies for mobile addiction related MSD.</li> </ul>	Community Medicine &	MSD related to mobile usage
MS-CM- 005 MS-CM-	<ul> <li>Describe application of ergonomics in MSD related to above disorders.</li> <li>Describe the concept of non-</li> </ul>	Public Health	Ergonomics Non-Communicable
006 MS-CM- 007	<ul> <li>communicable diseases</li> <li>Identify the risk factors in the community for Osteoporosis.</li> <li>Learn and apply interventions to prevent the risk factors for various musculoskeletal diseases in community.</li> </ul>	Community Medicine & Public Health	Diseases Risk factor assessment of Musculoskeletal diseases
MS-BhS- 001	<ul> <li>Identify and deal with the various psychosocial aspects of Musculoskeletal conditions (such as Osteoarthritis, Osteomyelitis, Rheumatoid arthritis, Gout, chronic back pain, psychosomatic complaints) and Neuromuscular conditions (Muscular dystrophy, Myasthenia Gravis, Sclerosis) on Individual, Family and Society.</li> </ul>	Behavioral Sciences	Psychological factors Influencing chronic Illness
MS-BhS- 002	<ul> <li>Identify the psychosocial risk factors as mediating factors between illness and its effect.</li> <li>Discuss the role of psychological variables like coping, social support, and other health cognitions in mediating between illness and its effect.</li> </ul>		Psychosocial Impact of Disease and its management

## **10. CSIM OF MUSCULOSKELETAL MODULE**

	MUSCULOSKELETAL & LOCOMOTION MODULE-			Total Hours	
Millers		BLOCK-2			
Pyramid Level Reflected	Date	Specific learning Objectives	Topic	Logbook Entries	Page #
Shows	Shows     Measure body temperature     Body       using a mercury/digital     Temperature       thermometer.     Temperature		03		
Shows	Examine the wrist joint for functionality Wrist Joint Examination		03		
Shows		Examine strength of the Upper Limb	Upper Limb Strength & Power Examination	03	
Shows	Shows Examine strength of the Lower Limb Lower Limb Streng Power Examinati		Lower Limb Strength & Power Examination	03	
Shows Examine the knee Joint for functionality Kn		Knee Joint Examination	02		
Shows	Examine the Shoulder Joint for functionality Shoulder Joint Examination		03		
Shows		Examine the Hip Joint for functionality	Hip Joint Examination	03	
Shows	ShowsIdentify Common Fractures showing in X Rays of Upper LimbX-Ray, Common Fractures of Upper Limb		X-Ray, Common Fractures of Upper Limb	03	
Shows		Identify Common Fractures showing in X Rays of Lower Limb	X-Ray, Common Fractures of Lower Limb	03	

## 11. PERLS OF MUSCULOSKELETAL MODULE

	PERLs MODULE-BLOCK-2 ENTRIES				
Code	Specific learning Objectives	Domain	Attribute	TOPIC	Portfolio Entry
PERLs-1- 08	Demonstrate Punctuality	Professional ism	Responsib ilities & Accounta ble	Responsibiliti es towards self & the profession	Attendance Record
PERLs-1- 09	Manage Time Effectively	Leadership	Self- Directed Learner	Time Management	Self & /Teacher Feedback
PERLs-1- 10	Demonstrate respect of diversity in gender, age, culture, race, religion, abilities & sexual orientation for peers.	Professional ism	Caring & Empathy	Diversity, Equity Inclusion	An encounter with a specially abled person
PERLs-1- 11	Design a professional digital footprint & use appropriate online etiquette & follow rules for every internet resource.	Ethics	Digital Citizen	Professionalis m Social Media Platforms, Rules & Regulations of two social media Platforms	Professional Portfolio on Linkedin
PERLs-1- 12	Describe responsibility to one self. Discuss responsibilities of being a learner.	Professional ism	Responsib ilities & Accounta ble	Learning Style, Learning Domains, Motivation	Written Assignment
PERLs-1- 13	Discuss a Professional Code of Conduct	Professional ism	Responsib ilities & Accounta ble	Responsibiliti es of a Doctor	Case Analysis of Non-Professional Practice
PERLs-1- 14	Work respectfully & effectively with peers	Leadership	Team Player	Effective teamwork Building Rapport	Peer Feedback
PERLs-1- 15	Set Learning Goals	Leadership	Self- Directed Learner	Value Identification Goal Setting	List of Goals
PERLs-1- 16	Locate Credible Scientific Evidence	Research	Evidence Based Practiono r	Sources of Scientific Data, Databases Search Grey Literature	Assignment on Building a Literature Search

## **12. OPERATIONAL DEFINITIONS**

### **OPERATIONAL DEFINITION OF DIFFERENT TEACHING STRATEGIES**

Delivery of a curriculum also needs a diversity of educational Vernacular for the different learning styles.						
Following are a few of recommended Instructional Strategies. It is advised that at least three different methods						
patterns to be facilitated.						
F	> Lecture format is the most widely used approach to teaching especially in a large					
	class size with average attention span of 20-30 mins.					
	Interactive lecturing involves a two-way interaction between the presenter and					
	the participants.					
	Interactive methods like brainstorming, buzz group, simulation, role play, and					
Interactive	clinical cases canbe used.					
Session (Large	Significance of its usage:					
Group LGIS)	Relaxed environment					
	Diverse opinions					
	Active involvement					
	• Increase attention and motivation.					
	• Independence and group skills.					
	<ul> <li>Cost effective</li> </ul>					
	<ul> <li>Suitable for taking advantage of available audiovisual technologies</li> </ul>					
	<ul> <li>TBL is a uniquely powerful form of small group learning.</li> </ul>					
	> It provides a complete coherent framework for building a flipped course					
	experience.					
	There are four essential elements of TBL which include:					
	• Teams must be properly formed and managed 5-7					
	students).					
Team Based	• Getting students ready.					
learning (TBL)	• Applying course concepts					
	• Making students accountable					
	Significance of its usage					
	• Students are more engaged.					
	• Increased excitement in IBL classroom.					
	<ul> <li>Leams outperform best members.</li> <li>Stadauta a reference betten in Grad and attached arease.</li> </ul>					
	<ul> <li>Students perform better in initial and standardized exams.</li> <li>It is an instructional student-centered approach in which students work in small</li> </ul>					
	groups on a health problem.					
	<ul> <li>Identifying their own educational needs.</li> </ul>					
	Being responsible for the acquisition of the knowledge required to understand the					
	scenario.					
Problem Based	Significance of its usage					
Learning (PBL)	• Teamwork					
	Critical evaluation of literature					
	• Self-directed learning.					
	• Use of resources					
	• Presentation skills					
	• Leadership					
	Respect for Colleagues view.					
Case Based	<ul> <li>It is an inquiry structured learning experience utilizing live or simulated patient</li> </ul>					
Learning (CBL)	cases to solve, or examine a clinical problem, with the guidance of a teacher and					
	stated learning objectives.					
	Significance of Its Usage 55					

	• Induce a deeper level of learning by inculcating critical thinking skills.
	• Flexibility on use of case
	• Helps students acquire insightful information.
	<ul> <li>Stay abreast with novel advancements in healthcare</li> </ul>
	Tutorial is a class or short series of classes, in which one or more instructors
	provides intensive instruction on some subject to a small group.
	Its purpose is to explore student point of view for discussion.
	It directed reflective learning skills.
Tutorials	
	Significance of Its Usage
	• Develop and assess the extent of background knowledge of students which
	enables them to properly understand concepts which may not have been understood in lectures
	<ul> <li>Develop problem-solving skills. Develop practice of self-learning. Reduced time</li> </ul>
	to understand the topic.
	It is a metacognitive process that occurs before, during and after the situation
	with the purpose of developing greater understanding of both the self and
	situation so that future encounters with the situation are informed from previous
Reflective	Significance of its usage
Writing	Questioning attitude and new
	perspectives. Areas for change and
	improvement.
	Respond effectively to new challenges.
	Critical thinking and coping skills
	It is a teaching method which provides descriptive information about a clinical
	patientscenario and to share this educational experience with the general medical and scientific community
	<ul> <li>It prepares students for clinical practice, using authentic clinical cases by linking</li> </ul>
	theory to practice with the help of inquiry-based learning methods.
Case	Significance of its usage
Presentations	• Cultivate the capacity for critical analysis.
	• Judgment and Decision making.
	• Facilitate creative problem solving.
	• Allow students to develop realistic solutions to complex problems
	<ul> <li>Teaching and learning that occurs with actual patient as the focus.</li> </ul>
	> It occurs in wards, emergency departments, operating rooms, and high dependency
	units.
	Significance of its usage
Bedside	Stimulus of clinical contact.     Bayehometer shills
Teaching	Communication skills
	Lappinge skills
	<ul> <li>Language skills</li> <li>Interpersonal skills</li> </ul>
	<ul> <li>Professional attitudes and empathy</li> </ul>
	Role modeling
	Person, device or set of conditions, which attempts to present education and
	evaluation of problems authentically.
	The student or trainee is required to respond to the problems as s/he would under network comments.
Simulation	Significance of its usage
	Safety for patients Liberty to make mistakes.
	Manageable/variable complexity of tasks

	Opportunity to develop self-efficacy before real patient encounter.					
	<ul> <li>Repeatability of tasks.</li> <li>Learning at different pace is permissible</li> </ul>					
	Learning at different pace is permissible					
	<ul> <li>It refers to specifically equipped practice rooms functioning as training facilities offering hands on training for the practice of clinical skills within non-threatening environment prior to their real-life application.</li> <li>This applies to both basic clinical skillsas well as complex surgical skills.</li> </ul>					
	Significance of its usage					
C1 '11-	Controlled anxiety-free and risk-free learning environment to students					
SKIIIS Laboratorios	<ul> <li>A platform for repeated practice for mastery in relevant clinical skills</li> </ul>					
Laboratories	<ul> <li>A platform for repeated plattice for mastery in relevant clinical skins.</li> <li>Increase the preparedness of student learners before transitioning to the real</li> </ul>					
	hospital setting.					
	<ul> <li>Build strong communication skills</li> </ul>					
	<ul> <li>Enable learners to make critical decisions</li> </ul>					
	Clinical Case based conferences allow clinicians and medical students to present difficult					
	case material and include discussions of diagnostic, clinical formulation, and/or					
Case Based	treatment issues.					
Conference	Significance of its usage					
	• Provides detailed (rich qualitative) information.					
	• Provides insight for further research.					
	Permitting investigation of otherwise impractical (or unethical) situations.					
	Lab practical involve things like identifying a structure, a type of stain through a microscope, a problem with a preparation, reading biochemical test results and answering safety questions. These simulations allow students to attempt the experiments in the laboratory in a risk-free way that provides the opportunity to makemistakes and learn how to accrete them using the immediate feedback generated.					
Lab Practical	Finance mastery of subject					
	matter.Develop scientific					
	reasoning.					
	Develop practical skills. Develop teamwork abilities.					
	The demonstration method in teaching can be defined as giving a demo or performing a					
	specific activity or concept. It is a teaching-learning process carried outin a very systematic					
Demonstrations	Description of the usage					
	• Promotes learning and correlates theory with practice.					
	• Sharpens the observation skills.					
	Sustain interests in learning environment					
Ward Darredo	Helps teacher to evaluate student's response.					
ward Rounds	It is a composite clinical practice to review inpatients management and progress, tomake decisions about further investigations, treatment options and discharge from hospital. It					
	is an opportunity for clinicians, students, and patients to participate in education and					
	training at bedside.					
	Significance of its usage					
	Patient					
	management skills					
	Physical					
	examination Time					
	management skills					
	Communication					
	skills					

## **13. ASSESSMENT POLICY**

#### STATUES

1. The First Professional MBBS Examination shall be held at the end of first year MBBS class

2. Every candidate shall be required to study contents of Anatomy (including Histology), Physiology, Biochemistry, Behavioural Sciences, Community Medicine & Public Health, Pathology, Pharmacology & Therapeutics, Islamic Studies/Ethics and Pakistan Studies, Clinical skills and Professionalism, Ethics, Research and Leadership. The teaching and assessment shall be done in three modular blocks

- 3. There will be four papers in the professional examination. Three papers shall be based on contents of three Blocks and the fourth paper on contents of Islamic Studies/Ethics and Pakistan Studies:
  - a. Paper 1 will be based on contents of Block 1;
  - b. Paper 2 will be based on contents of Block 2;
  - c. Paper 3 will be based on contents of Block 3.
  - d. Paper 4 will be based on contents of Islamic Studies/Ethics and Pakistan Studies
- 4. Each paper will comprise of "Written' and 'Oral/Practical/Clinical examinations except the paper of Islamic Studies/Ethics and Pakistan Studies, which shall comprise of written component alone.
- 5. The Written and Oral/Practical/Clinical examinations in each paper will carry 150 marks each, making the total marks of 300 for each paper of papers 1.2. And 3.
- 6. Total marks of the First Professional Examination will be 1000, however marks of Islamic Studies/Ethics and Pakistan Studies shall not be counted towards merit determination and determination of positions in the examination.
- 7. Major content areas of the year are from
  - a. Anatomy including applied/clinical Anatomy,
  - b. Physiology including applied/clinical Physiology &
  - c. Biochemistry including applied/clinical Biochemistry
- 8. The Applied/Clinical content for the Anatomy, Physiology and Biochemistry shall be based on clinical correlations.
- 9. Minor content areas of the year are from Behavioral Sciences, Community Medicine & Public Health, Pathology, Pharmacology & Therapeutics, Clinical Foundation I and PERLS I.

#### 10. Written Examination

- ↓ There will be one written paper in each of the Papers 1, 2, and 3,
- Each written paper will consist of One-best-type' Multiple Choice Questions (MCO) and Structured Essay Questions (SEQ) in a ratio of 70:30 %
- Lach MCQ will have five options (one best response and four distractors) and will carry one (01) mark
- **4** There will be no sections within an SEO, and it will be a structured question with five (05) marks each.
- SEO's will only be based on the major content areas of the year
- **4** There will be total of 85 MCQs and 07 SEOS in every written paper Papers 1,2, and 3.
- **4** The duration of each written paper will be 180 minutes (03 hours)
- **4** The MCQs section will be 110 minutes duration and the SEQ section 70 minutes.

#### 11. Oral/Practical/Clinical Examination

- **4** There will be an Oral Practical/Clinical examination in each of Papers 1 2, and 3.
- There will be a total of twelve (12) OSPE/OSCE/Viva stations in each Oral/Practical/Clinical examination.
- **4** There will be seven (07) Observed OSPE stations from major subject areas.
- There will be two (02) Observed OSCE stations, 01 from C-FRC1 and 01 from PERLs-1 in each Oral/Practical/Clinical examination.
- **4** There will be three (03) structured viva stations in each Oral/Practical/Clinical examination.
- Each OSPE/ OSCE will carry night (08) marks.
- Each structured viva station will carry 16 marks (8 marks each for internal and external examiner)
- **4** The duration of each Oral/Practical/Clinical examination will be 150 minutes (2.5 hours).

- Time for each OSPE and OSCE station will be eight (08) minutes Time for each structured viva station will be 20 min (10 min for each examiner)
- 12. Every candidate shall take the examination in the following Blocks/subjects of First Professional MBBS Examination

А.	Block 1 (Foundation Hematopoietic & Lymphatic Modules)	300 Marks
В.	Block 2 (Musculoskeletal & Locomotion Module)	300 Marks
С.	Block 3 (Cardiovascular System Respiratory Modules)	300 Marks
D.	Islamic Studies Ethics and Pakistan Studies 100 Marks	300 Marks

#### 13. Block 3 (Cardiovascular System + Respiratory Modules)

The examination in Block 3 shall be as follows:-

- 1. One written paper of 120 marks having two parts:
- a) Part I shall have eighty five Multiple Choice Questions (MCQs) of 85 marks and the time allotted shall be 110 minutes.
- b) Part II shall have seven Structured Essay Questions (SEQs) of 35 marks and the time allotted shall be 70 minutes.
- 2. Oral/Practical/Clinical examination shall have 120 marks,
- 3. The continuous internal assessment through Block Examination conducted by the college of enrollment shall carry 60 marks, ie., 20% of the total allocated marks for the block. The score will be equally distributed to the Written and Oral/Practical/Clinical Examinations.

#### 14. ISLAMIC STUDIES/ETHICS AND PAKISTAN STUDIES

The examination in Islamic Studies/Ethics and Pakistan Studies shall be as follows-

- I. One written paper of 100 marks in Islamic Studies/Ethics and Pakistan Studies having two components: Islamic Studies/Ethics component having 60 marks, three (3) Long Essay Questions (LEOs) to be attempted out of five (5) Long Essay Questions (LEOs), having 20 marks each.
- II. Pakistan Studies component having 40 marks, two (2) Long Essay Questions (LEOS) to be attempted out of four (4) Long Essay Questions (LEQS), having 20 marks each.

Note: Islamic Studies for Muslims, and Ethics for Non-Muslims candidates,

15. The marks distribution in each subject is given in Table 1

## Table 1

Subject	Theory		Practical		Total
Block 1 (Foundation + Hematopoietic and Lymphatic Modules)	Part I MCQs Part II SEQS	85 Marks 35Marks	Oral and Practical / Clinical Examination	120 Marks	300
	Internal Assessment	<u>30 Marks</u>	Internal Assessment	<u>30</u> Marks	
		150		150	
Block 2 (Musculoskeletal & Locomotion Module)	Part I MCQs Part II SEQS	85 Marks 35Marks	Oral and Practical / Clinical Examination	120 Marks	300
	Internal Assessment	<u>30 Marks</u>	Internal Assessment	<u>30</u> Marks	
		150		150	
Block 3 (CVS & Respiratory)	Part I MCQs Part II SEQS	85 Marks 35Marks	Oral and Practical / Clinical Examination	120 Marks	300
	Internal Assessment	<u>30 Marks</u>	Internal Assessment	<u>30</u> Marks	
		150		150	
				Total	900
*Islamic Studies/ Eth Pakistan Studies	ics and	Islamic Studies/Ethics 3 LEQs to be attempted out of 5 LEQs		60 Marks	
		Pakistan Studies 2 LEQs to be attempted out of 4 LEQs		40 Marks	
				<u>100</u>	

## **13.A. TABLE OF SPECIFICATION**

## BLOCK -2

Written Exam				Oral/ Practical/ Clinical Exam				
					OSPR/OSCE/Viva Stations			
Theme	Subject	MCQ (1 mark)	SEQ (5 mark each)	Marks	OSPE (O8 marks each) Observed	OSCE (O8 marks each) Observed	Structured Viva (16 marks each)	Marks
Normal Structure	Anatomy & applied/ clinical	35	4	55	5	-	1	24
Normal function	Physiology& applied/ clinical	17	2	27	1	-	1	48
	Biochemistry& applied/ clinical	11	1	16	1	-	1	32
Disease Burden &	Community Medicine Public Health	06	-	06	-	-	-	-
Prevention	Behavioral sciences	04	-	04	-	-	-	-
Pathophysiology and Pharmacotherapeutics	Pathology	07	-	07	-	-	-	-
	Pharmacology	05	-	05	-		-	-
CFRC	CFRC-1-2	-	-	-		1	-	08
PERLs	PERLs-1-2	-	-	-		1	-	08
		85	7*5=35	120	7 Stations x 08=56	2Stations x 08=16	3 Vivas x 16=48	120

13B. ASSESSMENT PLAN



#### BAHAWALPUR MEDICAL COLLEGE DEPARTEMENT OF MEDICAL EDUCATION FIRST YEAR MBBS-BATCH-II-2023

#### EXAMINATION PLAN

# of Exams	Disciplines	PATTERN	Bimonthly Assessment	Day	End of Block (EOB)/
	_				Module Exam
	Anatomy	Written test(MCQ and SEQ)	21 <sup>st</sup> -March-2023	Tuesday	
Ι	Physiology	Written test(MCQ and SEQ)	22 <sup>nd</sup> -March-2023	Wednesday	
	Biochemistry	Written test(MCQ and SEQ)	31 <sup>st</sup> -March-2023	Friday	
	Anatomy	Written test (MCQ and SEQ) VIVA	10th-April-2023, 11th-April-2023	Monday & Tuesday	
	Physiology	Written test(MCQ and SEQ) OSPE	12th-April-2023, 13th-April-2023	Wednesday	
II	Biochemistry	Written test(MCQ and SEQ)	14th-April-2023	Friday	
III	Anatomy	Written test(MCQ and SEQ)	2 <sup>nd</sup> May-2023	Tuesday	
	Physiology	Written test(MCQ and SEQ)	3 <sup>rd</sup> May-2023	Wednesday	
	Biochemistry	Written test(MCQ and SEQ)	5 <sup>th</sup> - May-2023	Friday	
	Applied Anat	comy, Physiology, Biochemistry, CHS, BS,		Thursday	25th- May-2023
		Pathology, Pharmacology			
	W	ritten test (MCQ and SEQ)			
		EOB-3-Group-A		Monday	29th- May-2023
I-EOB	(OSPI	E/OSCE/Viva (Internal/External)			
	(0)	EOB-3-Group-B		Tuesday	30 <sup>th</sup> - May-2023
	(OSP)	E/OSCE/Viva (Internal/External		XX77 1 1	24 - 14 - 2022
		EOB-3-Group-C		Wednesday	31st- May-2023
	(OSP)	E/OSCE/Viva (Internal/External	054 1 2022		
	Anatomy	Written test(MCQ and SEQ)	05 <sup>th</sup> - June-2023	Monday	
IV	Physiology	Written test(MCQ and SEQ)	07th- June-2023	Wednesday	
	Biochemistry	Written test(MCQ and SEQ)	09th- June-2023	Friday	

	Anatomy	Written test(MCQ and SEQ)	24 <sup>th</sup> - July-2023	Monday	
v	Physiology	Written test(MCQ and SEQ)	26 <sup>th</sup> - July-2023	Wednesday	
	Biochemistry	Written test(MCQ and SEQ)	28 <sup>th</sup> - July-2023	Friday	
	Applied Anato	my, Physiology, Biochemistry, CHS, BS,		Monday	28th- Aug-2023
		Pathology, Pharmacology			
	Wr	itten test (MCQ and SEQ)			
		EOB-3-Group-C		Wednesday	30 <sup>th</sup> -Aug-2023
II-EOB	(OSPE/	/OSCE/Viva (Internal/External)			
		EOB-3-Group-A		Thursday	31 <sup>st</sup> -Aug-2023
	(OSPE	/OSCE/Viva (Internal/External			-
		EOB-3-Group-B		Friday	01-Sep-23
	(OSPE	/OSCE/Viva (Internal/External			-
VI	Anatomy	Written test(MCQ and SEQ)	18 <sup>th</sup> -Sep-2023	Monday	
V I	Physiology	Written test(MCQ and SEQ)	25 <sup>th</sup> -Sep-2023	Monday	
	Biochemistry	Written test(MCQ and SEQ)	02 <sup>nd</sup> -Oct-2023	Monday	
VII	Anatomy	Written test(MCQ and SEQ)	10 <sup>th</sup> -Oct-2023	Monday	
	Physiology	Written test(MCQ and SEQ)	16 <sup>th</sup> -Oct-2023	Monday	
	Biochemistry	Written test(MCQ and SEQ)	23rd -Oct-2023	Monday	
	Applied Anato	my, Physiology, Biochemistry, CHS, BS,		Monday	21st-Nov-2023
		Pathology, Pharmacology			
	Written test (MCQ and SEQ)				
	EOB-3-Group-B			Wednesday	22 <sup>nd</sup> -Nov-2023
III-EOB	(OSPE/OSCE/Viva (Internal/External)				
	EOB-3-Group-A			Thursday	23rd-Nov-2023
	(OSPE	/OSCE/Viva (Internal/External			
-		EOB-3-Group-C		Friday	24 <sup>th</sup> -Nov-2023
	(OSPE	/OSCE/Viva (Internal/External			

## 14. BOOKS & READING RESOURCES

#### 4 Anatomy

- Snell. R.S. Clinical Anatomy for MedicalStudents. Philadelphia USA Lippincott Williams and Wilkins: Latest Ed.
- Sinnatamby C. S. Lasts Anatomy Regional and Applied London, ChurchillLiving Stone: Latest Ed.
- Williams, P.L. Bannister, L.H. Berry, M.B,Collins, P., Dyson M. Ferguson, M.WJ. Gray's Anatomy London. Churchill living stone: Latest Ed.
- Moore K.L. Clinically Oriented Anatomy.Baltimore, U.S.A. Williams and Wilkins: Latest Ed.

#### 4 Physiology

- Fox, S.I. Human Physiology, McGraw-Hill, Boston.
- Ganong WF. Review of Medical Physiology. Lange Medical Publications, McGraw-Hill, Boston.
- Guyton AC and Hall JE. Textbook of Medical Physiology. W. B. Sunders &Co., Philadelphia.
- Mushtaq Physiology-Board Reviewseries physiology

#### 4 Biochemistry

- Champe, P.C. & Harvey, E.A. Biochemistry (Lippincott's Illustrated Reviews). J.B Lippincott Co
- Marks, D.B., Marks, A.D. &Smith, C.M.Basic Medical Biochemistry: A Clinical Approach. Williams and Wilkins Co. Baltimore.
- Robert K. Murray, Daryl K. Granner, Peter A. Mayes, Victor W. Rodwell. Harper's Biochemistry. McGraw-Hill
- Biochemistry by Stryer

#### 4 Pathology

- Vinary Kumar, Abul K. Abbas and NelsonFausto Robbins and Cotran, Pathologic basis of disease. WB Saunders.
- Richard Mitchall, Vinary Kumar, Abul K. Abbas and Nelson Fausto Robbins and Cotran, Pocket Companion to Pathologic basis of diseases. Saunder Harcourt.
- Walter and Israel. General Pathology. Churchill Livingstone.

#### 4 Pharmacology

- Basic and Clinical Pharmacology byKatzung, McGraw-Hill.
- Pharmacology by Champe and Harvey, Lippincott Williams & Wilkins

#### Behavioral Sciences

- Handbook of Behavioral Sciences byProf. Mowadat H.Rana, 3rd Edition
- Integrating Behavioral Sciences in Healthcare by Asma Humayun & Michael Herbert, 1st Edition

#### Community Medicine

- Parks Textbook of Preventive and SocialMedicine. K. Park (editor)
- Public Health and Community MedicineIlyas, Ansari (Editors)