

MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE MIRPUR

DEPARTMENT OF MEDICAL EDUCATION



Musculoskeletal - I Module

1ST YEAR MBBS (BATCH-18)

BLOCK: B

DURATION: 8-WEEKS

FROM: 2ND APRIL TO 3RD JULY 2026

MODULE CODE: MB1-B-MSK-I-03

2025-26

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Disclaimer:

The development of study guides and the associated curriculum is an iterative process of quality enhancement, informed by stakeholder feedback. All elements—including content, delivery modes, scheduled hours, and assessment—are subject to periodic review and potential revision. Students are advised that the provided topics and learning outcomes represent the essential foundation for approximately 70% of examinations. The remainder will be derived from lecture content and directives issued by course instructors.

1. Instructions:

2. Maintain a minimum attendance of 85% in all scheduled academic activities otherwise will not be allowed to sit in annual exam.
3. Adhere strictly to the prescribed college uniform and professional dress code at all times.
4. Demonstrate professionalism and respect toward peers, faculty, staff, and patients.
5. Uphold academic integrity and ethical conduct in all learning and assessment activities.
6. Comply with all institutional policies regarding conduct, use of facilities, and digital etiquette.

2. Module Committee:

s.no	Name	Department	Role
1.	Prof..Dr.Col Shafqat Ali	Anatomy	HOD
2.	Prof. Dr. M. Naqib	Biochemistry	HOD
3.	Prof. Dr. Ayyaz Ahmed	Physiology	HOD
4.	Dr. M Junaid Khan	DME	HOD

Our Vision Statement

To be a renewed nationwide and world-class academia, maintaining a prominent role in medical education, innovative research and delivery of best health care services of international standards.

Our Mission Statement

To take this medical college to the international ranking by providing healthcare professional's excellent knowledge, extraordinary skill sets, leadership in research and empathy with Islamic Spirit.

3. Module Mapping of MBBS Program

Module Mapping (MBBS Program) Tentative

Year	Blocks	Modules			Horizontal Module			
1 st year	A	Foundation-I (5-weeks)	Blood & Immunology -I (5-weeks)		Quran Kareem	Pak_Study/Islamite		
	B	Locomotor/MSK-I (8-weeks)						
	C	CVS – I (4-weeks)	RES – I (4-weeks)					
2 nd year	D	Gastrointestinal, Hepatobiliary and Metabolism Module -I (9-weeks)	Renal-I (3-weeks)			Arts & Humanities		
	E	Neurosciences 1A (6-weeks)	Neurosciences 1B (5-weeks)					
	F	Endocrine – I (4-weeks)	Repro – I (3-weeks)					
3 rd year	G	Foundation - II	Infection & Inflammation-II				M1=ENT M2=EYE	English Expository Writing
	H	Multisystem-I	Blood & Immunology-II	Locomotor/MSK-II				
	I	CVS - II	RES – II					
4 th year	J	Neurosciences-II			Clerkship, Electives, /Capstone/Observer ship			Arts & Humanities
	K	GIT & Hepatobiliary - II						
	L	Renal-II	Endo & Repro- II					
PRIME Year	N	Foundation-III	Blood & Immunology-III	Locomotor/MSK-III				
	O	Cardiorespiratory-III						
	P	Renal-III	Endo & Repro-III					
	Q	Neurosciences-III	GIT & Hepatobiliary-III	Multisystem-III				

- 1st Year MBBS: 3 blocks, 5 Modules-27 weeks (945 Hours/AY)
 - 2nd Year MBBS: 3 blocks 6 Modules – 30 weeks (1050 Hours/AY)
- Per week teaching hours=35
Total weeks/hours are tentative
PRIME Year: Year of Professionals Ready for Innovative Medical Excellence
PRIME: Professionalism, Research, Identity formation, Management & leadership, Ethics.

4. What Is A Study Guide?

The Purpose and Structure of a Study Guide

A study guide serves as the central contract and roadmap between the educational program and the student. Its primary purpose is to demystify the learning process by clearly communicating how a module is organized, managed, and assessed. It empowers students to take ownership of their learning by providing all necessary information to plan their studies, identify appropriate resources and support, and understand precisely how their performance will be evaluated.

Core Components of an Effective Study Guide:

Module Administration & Overview

This section provides the essential framework for the module. It includes:

- **Module Identification:** Code, title, teaching hours, and placement within the curriculum.
- **Personnel & Coordination:** Clear points of contact (Module Coordinator, teaching faculty) with roles and responsibilities defined, enabling students to seek the right help efficiently.
- **Timetable & Schedule:** A structured overview of the teaching sequence, including dates, topics, and formats (e.g., lectures, practicals).
- **Learning Objectives & Instructional Strategy**
This is the academic core of the guide, aligning intent with action.
- **Module & Theme Objectives:** A precise list of what students are expected to know, understand, and be able to do by the module's end, directly mapped to program and PMDC competencies.
- **Teaching-Learning Methods:** A description of the instructional strategies employed (e.g., interactive lectures, small group discussions, lab sessions, case-based learning) and their role in achieving the objectives.
- **Learning Resources & Support**
This component directs students to the tools for successful learning.
- **Curated Resource List:** A categorized list of essential and recommended resources, including core textbooks, key journal articles, vetted online links, and specific software or simulation tools.
- **Assessment Strategy:** A detailed breakdown of all formative (continuous) and summative assessments, including their format, weighting, schedule, and how they contribute to the final grade.
- **Rules and Policies:** Clear statements on examination rules, grading criteria, policy on late submissions, academic integrity, and the appeals process.

In summary, a well-constructed study guide transforms a module from a series of disjointed events into a coherent, transparent, and manageable learning journey. It is a fundamental tool for achieving constructive alignment and enhancing the student learning experience.



5. Recommended List Of Icons



Introduction To Case



For Objectives



Critical Questions



Assessment



Resource Material

6. Organization of Module

Introduction:

The Musculoskeletal-I/Locomotor Module-I is an 8-week, theme-based module that aims to equip first-year MBBS students with the knowledge, skills, and attitudes necessary to manage common musculoskeletal diseases. As the third module of the first year, it builds upon the foundational knowledge of basic medical sciences subjects, including Anatomy, Physiology, Biochemistry, Pathology, Pharmacology, Community Medicine, and Forensic Medicine, as well as the principles of PRIME (Professionalism, Research, Innovation, Management, and Education). Upon completion of this module, students will be assessed through the Block B Exam, evaluating their mastery of the learning domains in musculoskeletal health.

Rationale:

Limb-related disorders are a common and significant cause of morbidity and disability, requiring a comprehensive understanding of their pathology and prevalence. This module provides a foundational understanding of the underlying mechanisms driving these conditions, essential for students to develop effective diagnostic and management skills.

This module lays the groundwork for understanding the pathology and prevalence of limb-related disorders, which will be further explored in Locomotor II in the subsequent session of the curriculum. By mastering the fundamental concepts presented in this module, students will develop a deeper understanding of the underlying mechanisms driving relevant clinical conditions, enabling them to approach their future ward rotations and clerkships with confidence and a solid foundation.

Organization of the study guide:

S.No	Theme	Duration
1.	Orientation and Shoulder Pain	2 Weeks
2.	Weak Grip and painful Hand	1 Week
3.	Pain Lower Limb/ Limping	2 Weeks
4.	Bony Arches and Fracture of Foot	1 Week
5.	Backache	1 Week
6.	Muscle Weakness and Fatigue	1 Week

The Locomotor Module I consists of six themes, each focusing on a specific aspect of musculoskeletal health. Here's a brief explanation of each theme:

1. Orientation and Shoulder Pain: Introduces students to the musculoskeletal system and focuses on shoulder pain, including its causes, diagnosis, and management.

2. Weak Grip and Painful Hand: Explores hand anatomy, common hand disorders, and conditions affecting grip strength, such as arthritis or nerve damage.

3. Pain in Lower Limb/Limping: Covers the causes and management of lower limb pain, including hip, knee, and ankle disorders, as well as limping and its underlying mechanisms.

4. Bony Arches and Fracture of Foot: Examines the anatomy of the foot, common foot disorders, and fractures, emphasizing diagnosis and treatment.

5. Backache: Focuses on the causes, diagnosis, and management of back pain, including spinal anatomy and common back disorders.

6. Muscle Weakness and Fatigue: Discusses muscle physiology, common causes of muscle weakness and fatigue, and approaches to diagnosis and management.

7. Teaching and learning strategies

How You Will Learn: A Message from Your Study Guide

This guide outlines the diverse learning methods you will experience, each carefully chosen to help you grow from a student of science into a capable, independent future clinician. Think of this as your map to not only *what* you will learn, but *how* you will learn most effectively.

Part 1: Learning Together – Facilitated Sessions

These sessions provide the foundation, context, and interactive space to build knowledge with your peers and faculty.

- a. **Interactive Lectures:** These are not passive events. In lecture hall, your teacher will introduce core concepts and clinical principles using slides, animations, and real patient stories. We encourage you to engage—ask questions, respond to polls, and connect the dots live. This is where the roadmap for each topic is drawn.
- b. **Small-Group Sessions:** This is where knowledge becomes skill. In smaller classrooms, you will roll up your sleeves with a facilitator and a group of peers.
 - In **Tutorials**, you'll dissect clinical cases, clarify challenging concepts from lectures, and learn through discussion and debate.
 - In **Problem-Based Learning (PBL)**, your group will encounter a complex, real-world patient problem from the very first day. Your mission is to identify what you need to learn, research it, and come together to solve it—mirroring the very essence of clinical reasoning.
 - **Practical Demonstrations** in labs will bring the textbook to life, allowing you to see, touch, and understand the human body and its functions.
 - **Journal Club** sessions will train you to critically evaluate new medical research, a skill vital for a lifetime of evidence-based practice.

Part 2: Learning on Your Own – The Engine of Mastery

True expertise in medicine requires you to become the director of your own learning. These are your key tools.

- **Directed Self-Learning (DSL):** Consider this structured, independent practice. For specific modules, you will be given clear tasks, objectives, and a list of resources. Your job is to work through them independently. This builds the disciplined study habits and foundational understanding you need. Faculty are there to guide you if you hit a roadblock.
- **Self-Directed Learning (SDL):** This is the ultimate goal of your professional development in which you take full responsibility. You will identify your own learning gaps (“I don’t understand heart murmurs well enough”), set your own goals, seek out your own resources, and assess your progress. The college provides the support—the library, online databases, and faculty office hours—but you drive the process. This is the skill that will sustain your clinical competence for decades.

How It All Fits Together

The lectures give you the map and highlight the landmarks. The small-group sessions are the guided practice tours where you learn to use the compass and navigate terrain with a team. **DSL and SDL are the journeys you take on your own to truly know the land.** One method prepares you for the next, building your confidence and capability step-by-step.

We are here to guide you in this transition from learning what we teach, to learning what you need to know. Embrace each method—the collaborative and the independent—as essential parts of your growth into a physician.



8. Learning Objectives

General Learning Outcomes

By the end of this module the students would be able to;

Knowledge

By the end of this module, students should be able to:

1. Develop an understanding of the fundamental components of the musculoskeletal system.
2. Explain the structure & function of the musculoskeletal (MSK) components of limbs and back.
3. Describe how injury and disease alter the MSK structure & function.
4. Integrate concepts relating to various metabolic processes, their disorders and relevant lab investigations in the study of human MSK system.
5. Describe the role of the limbs (upper/lower) in musculoskeletal support, stability and movements.
6. Describe the development of the limbs & correlate it with organization and gross congenital anomalies of the limbs.
7. Identify the anatomical features of bones, muscles & neurovascular components of the limbs and correlate them with their functions, injuries and clinical problems.
8. Describe the types, formation, stability, function & clinical significance of joints of the upper and lower limb.
9. Describe the basic histology of muscle fibers including its molecular structure (Sarcomere).
10. Explain the mechanism of excitation and contraction of skeletal and smooth muscles.
11. Describe the basis for the use of therapeutic agents to modulate neuromuscular transmission.
12. Describe the general principles of MSK pain management.
13. Describe ergonomics and its principles. Prevention of different MSK disorders.
14. Interpret the mechanism of post-mortem rigidity. (spiral II)
15. Give an overview of pathology of bones, muscles and joints.
16. Explain the role of different minerals, hormones and specific metabolic products related to the musculoskeletal system and correlate them with their relevant clinical metabolic disorders.
17. Interpret the relevant laboratory investigations for diagnosis of common musculoskeletal disorders. (Spiral two)
18. To develop the critical thinking and analysis in the context of various case scenarios pertaining to locomotors system.

Skills

1. Demonstrate the anatomical structures of the limbs in a dissected cadaver/Model/prosecuted specimen & X-ray.
2. Demonstrate the provision of first aid measures in case of a limb fracture.
3. Communicate effectively in a team with colleagues and teachers.

Attitude

1. Demonstrate respect and care for the cadaver and prosected parts.
2. Demonstrate humbleness and use socially acceptable language during academic and social interactions with colleagues and teachers.
3. Make ethically competent decisions when confronted with an ethical, social or moral problem related to MSKS in professional or personal life.
4. Discuss ethical issues social and preventive aspect of health care in the context of MSK system.
5. To create awareness about the ethical, social and preventive aspect of health care in the context of locomotor system.

9. Specific learning objectives

THEME-1 Orientation and Shoulder Pain						
S. No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
GROSS ANATOMY						
1.	Introduction to Locomotion and Upper limb	Osseous Tissue. Classification of skeletal system. Bones of axial and appendicular skeleton. Bone marrow and its types. Ossification and its types. Surface markings of bones. Definition of fracture, osteoporosis, rickets, osteomalacia. Introduction & classification of muscles. Classification, nomenclature and innervation of skeletal muscles. Definition of paralysis, hyperplasia, hypertrophy, myasthenia gravis.	Define osseous tissue Classify the skeletal system (axial and appendicular) Name and locate different bones of axial and appendicular skeleton Describe bone marrow and its types Describe ossification and its types Describe surface markings of bones Define fracture, osteoporosis, rickets, osteomalacia Introduction to muscular system Define paralysis, hyperplasia, hypertrophy, and myasthenia gravis.	LGIS-1	1	MCQs/SAQs
		Arm, Forearm & Hand	Identify the extent of the upper limb. Identify various regions of upper limb. Describe the division of the regions into compartments.			
		Arm, Forearm & Hand. Joints of Upper Limb.	State the contents of compartments of arm, forearm & hand Describe the joints of upper limb. Describe the clinical anatomy of upper limb			
2.	Osteology of clavicle	Recognizing the clavicle. Identifying the site of clavicle. Stating the bony landmarks of clavicle. Demonstrating the attachments of muscles on clavicle. Common fractures of clavicle. Salient features of	Recognize the bone Identify the site of bone State the bony landmarks of clavicle: like borders, surfaces & landmark used for bone determination Describe & demonstrate the attachments of muscles. Describe the common fractures of the bone. Identify and describe the salient features of the bones scapula and clavicle	Demonstration / Dissection-1	1	MCQs/SAQs

		clavicle & scapula. Surface anatomy, radiological anatomy & applied anatomy of the clavicle.	Describe the surface anatomy clavicle Describe the radiological anatomy clavicle Describe the applied anatomy clavicle			
3.	Osteology of scapula	Recognizing the scapula. Identifying the site of scapula. Stating the bony landmarks of scapula. Demonstrating the attachments of muscles on scapula. Common fractures of scapula. Identifying attachments to scapula. Surface anatomy, radiological anatomy & applied anatomy of the scapula.	Recognize the bone. Identify the site of bone. State the bony landmarks of scapula: like borders, surfaces & land mark used for bone determination. Demonstrate the attachment of muscles on scapula Describe the common fractures of the bone. Identify and describe the salient features of the bones scapula. Identify the attachments to scapula Describe the surface anatomy scapula Describe the radiological anatomy scapula. Describe the applied anatomy scapula.	Demon stration / Dissec tion-2	1	MCQ s/ SAQs
4.	Osteology of humerus	Recognizing the Humerus. Stating the bony landmarks of humerus. Demonstrating the attachments of muscles & ligaments on humerus. Common fractures of humerus. Identifying the salient features of humerus & attachments to humerus. Surface anatomy, radiological anatomy & applied anatomy of the humerus.	Recognize the bone Identify the site of bone. State the bony landmarks of humerus: like borders, surfaces & land mark used for bone determination. Demonstrate the attachment of muscles & ligaments. Describe the common fractures of the bone. Identify and describe the salient features of the humerus Identify the attachments to humerus Describe the surface anatomy of humerus Describe the radiological anatomy of humerus Describe the applied anatomy of humerus	Demon stration / Dissec tion-3	1	MCQ s/ SAQs
5.	Muscles of the pectoral girdle	Role of muscles of pectoral region in stabilizing the pectoral girdle. Muscles of pectoral girdle. Demonstrating the attachments of muscle of pectoral girdle, nerve supply and actions. Structural organization of the clavi-pectoral fascia. Triangle of	Recognize the role of muscles of pectoral region in stabilizing the pectoral girdle. List the muscle of pectoral girdle. Describe & Demonstrate the attachments of muscle of pectoral girdle, nerve supply and actions. Describe the structural organization of the clavi-pectoral fascia. Identify the triangle of auscultation. Describe the nerves and blood vessels of this region	Demon stration / Dissec tion-4	1	MCQ s/ SAQs

		auscultation. Nerves and blood vessels of the pectoral region.				
6.	Muscles of the shoulder region	Extent & the muscle of shoulder region. Stating the detailed structures of each muscle with respect to Origin, Insertion, Nerve supply and Action of muscles with any characteristic features.	Recognize the extent of shoulder region. Describe the muscle of shoulder region. List the muscles of shoulder region. State the detailed structures of each muscle with respect to Origin, Insertion, Nerve supply and Action of muscles with any characteristic features.	Demonstration / Dissection-5	1	MCQs/SAQs
7.	The shoulder joint & its movements	Type & structure of shoulder joint. Muscles acting on the joint/rotator cuff muscles. Range of mobility & movements of shoulder joint. Clinical anatomy of shoulder joint.	Classify the type of shoulder joint. Describe the structure of shoulder joint. Name the muscles acting on the joint/rotator cuff muscles. Explain the range of mobility. Describe the movements of shoulder joint. Explain the clinical anatomy of the joint.	LGIS-2	1	MCQs/SAQs
8.	Brachial plexus	Formation of brachial plexus. Relation of brachial plexus. Branches arising from different cords of brachial plexus. Clinical correlates of the brachial plexus.	Mention the formation of brachial plexus (roots, trunk, division, and cords). Describe the relation of brachial plexus also in connection to clavicle (Supra, retro, infra clavicular parts). State the branches arising the different cords. Draw the brachial plexus. Describe the clinical correlates of the brachial plexus. Erb duchane palsy Klumpke palsy Saturday night palsy	LGIS-3	1	MCQs/SAQs
9.	Nerves of upper limb	Course and branches of nerves of upper limbs. Injuries associated with the nerves of upper limb. Causes, motor & sensory loss associated with nerve injuries of upper limb. Identifying the deformities associated with nerves of upper limb.	Describe the course and branches of nerves of upper limbs. Axillary nerve Musculocutaneous nerve Radial Nerve Ulnar Nerve Median Nerve Explain the injuries associated with these nerves. Identify the causes and motor and sensory loss associated with nerve injuries of upper limb. Apply knowledge of gross anatomy to identify the deformities associated with these nerves.	Demonstration / Dissection-6	1	MCQs/SAQs
10.	Axilla	Position, shape, contents & boundaries	Describe the position, shape of axilla. Describe the boundaries and content of	LGIS-4	1	MCQs/

		of axilla. Formation, course and relations of axillary vessels. Axillary lymph nodes.	axilla Describe the boundaries and muscle forming the boundaries of axilla. Describe the formation, course and relations of axillary vessels. Describe arrangement and groups axillary lymph node			SAQs
11.	Arm	Compartments of the arm. Muscles of the arm & their action. Course & branches of the nerves of the arm. Cutaneous supply of arm.	Describe the compartments of arm and how they are formed. Identify and explain the muscles and their actions found in the arm. Describe the nerve supply of arm. Describe the course of the nerves Identify the branches of the nerves Relate & integrate with the clinical Correlations Describe cutaneous supply of arm.	Demonstration / Dissection-7	1	MCQs/SAQs
12.	Brachial vessels	Extension, relation and branches of the Brachial artery. Course of the basilic and cephalic veins. Scapular anastomosis.	Describe the extension, relation and branches of the Brachial artery. Describe the course of the basilic and cephalic veins Describe and explain the formation and purpose of the scapular anastomosis.	Demonstration / Dissection-8	1	MCQs/SAQs
13.	Elbow joint	Identifying the type of elbow joint & muscles acting on the elbow joint. Neurovascular supply of the elbow joint. Carrying angle and applied aspect of the elbow joint. Formation of anastomosis around elbow joint.	Identify the type of the joint. State and Identify the muscles acting on the elbow joint. Describe the neurovascular supply of the joint. Describe the carrying angle and applied aspect of the joint. Describe the anastomosis and collateral circulation. Describe formation of anastomosis around elbow joint	LGIS-5	1	MCQs/SAQs
14.	Osteology of ulna	Recognize ulna & determine the side of the bone. Identification of features of ulna and the muscles attached to it. Common fractures of ulna. Salient features of ulna. Attachments to ulna. Surface, radiological & applied anatomy of ulna.	Recognize the bone. Determine the side of bone. Identify the features of bone. Identify the muscles attached to bone. Describe the common fractures of the bone. Describe and Identify the salient features of the ulna Identify the attachments to ulna Describe the surface anatomy of ulna and the radiological anatomy of ulna Describe the applied anatomy of ulna	Demonstration / Dissection-9	1	MCQs/SAQs
15.	Superficial veins, lymphatics and lymph	Normal anatomy of veins of upper limb. Superficial vs deep veins. Features of superficial	Describe the normal anatomy of veins of upper limb. Differentiate between superficial and deep veins. Describe the features of individual	Demonstration / Dissection-10	1	MCQs/SAQs

	nodes of upper limb	veins of upper limb. Applied & gross anatomy of superficial veins of upper limb. Structure of a lymph node. Identification of groups of lymph nodes. Area of drainage of lymph nodes. Commencement, course and termination of superficial lymphatic vessels. Clinical conditions related to lymphatic channels of upper limb.	superficial veins of upper limb. Correlate the applied anatomy with the gross anatomy of superficial Veins of upper limb. Describe the structure of a lymph node. Identify the groups of lymph nodes. Describe groups and area of drainage of each group of lymph nodes. Describe the commencement, course and termination of superficial lymphatic vessels. Describe the clinical conditions related to lymphatic channels of upper limb.			
16.	Cubital fossa	Boundaries, the contents and the relationship among structures of Cubital fossa. Surface anatomy of the Cubital fossa. Clinical importance of the Cubital fossa.	Describe the boundaries, the contents and the relationship among structures of Cubital fossa. Demonstrate the surface anatomy of the Cubital fossa. Explain the clinical importance of the Cubital fossa.	Demonstration / Dissection-11	1	MCQs/SAQs
17.	Anterior compartment of forearm	Muscles of forearm. Nerve supply of muscles of forearm. Actions of the muscles of anterior compartment of forearm. Attachment and functions of flexor retinaculum. Muscles of the anterior compartment of the forearm.	List the muscles of forearm. State the nerve supply of these muscles. Explain actions of the muscles of anterior compartment of forearm. Describe attachment and functions of flexor retinaculum Identify/Describe muscles of the anterior compartment of the forearm (origin, insertion, nerve supply, blood supply, and action)	Demonstration / Dissection-12	1	MCQs/SAQs
18.	Posterior compartment of forearm	Organization of muscles of posterior compartment of forearm. Identification & description of muscles of the posterior compartment of the forearm. Nerve supply, actions of the muscles of posterior compartment of forearm. Structural organization of the Extensor Retinaculum	Explain the organization of muscles of posterior compartment of forearm Identify/Describe muscles of the posterior compartment of the forearm (origin, insertion, nerve supply, blood supply, and action) State the nerve supply of these muscles. Explain the actions of the muscles of posterior compartment of forearm. Describe the structural organization of the Extensor Retinaculum.	Demonstration / Dissection-13	1	MCQs/SAQs

19.	Blood vessels & nerves of the forearm	Vessels & nerves in forearm. Location, destination, course & relations of radial and ulnar arteries & their branches in forearm. Deep veins of forearm and their tributaries. Location, destination, course & relations of ulnar, radial and median nerves & their branch.	Describe the different vessels & nerves in forearm. Describe the location, destination, course & relations of radial and ulnar arteries & their branches in forearm. Describe the deep veins of forearm and their tributaries. Describe the location, destination, course & relations of ulnar, radial and median nerves & their branch.	Demonstration / Dissection-14	1	MCQs/SAQs
20.	Radio-ulnar joint	Radio-ulnar joint. Movements occurring on Radio-ulnar joint. Muscles acting in pronation and supination. Nerve supply and blood supply of Radio-ulnar joint. Clinical problems related to Radio-ulnar joints.	Recognize the details of Radio-ulnar joint. Describe and explain the movements occurring on Radio-ulnar joint. Name the muscles acting in pronation and supination. Describe the nerve supply and blood supply of Radio-ulnar joint. Describe clinical problems related to Radio-ulnar joints.	LGIS-6	1	MCQs/SAQs
21.	Surface anatomy of upper Limb	Surface markings for various arteries of upper limb.	Demonstrate the surface markings for various arteries of upper limb	Demonstration / Dissection-15	1	MCQs/SAQs

EMBRYOLOGY

22.	Development of bone, cartilage and joints	Histogenesis of Bone. Intramembranous Ossification. Endochondral Ossification. Ossification of limb bones. Development of joints & Cartilage. Developmental events of fibrous joints, cartilaginous joint & synovial joints. Important congenital correlates.	Describe histogenesis of Bone Describe the Intramembranous Ossification Describe the Endochondral Ossification Describe the Ossification of limb bones Describe the development of joints Describe the development of cartilage Describe developmental events of fibrous joints Describe developmental events of cartilaginous joint Describe developmental events of synovial joints Describe important congenital correlates	LGIS-7	1	MCQs/SAQs
23.	Development of upper limb	Early & final stages of upper limb development. Development of upper limb buds. Anomalies of the upper	Describe the early stages of upper limb development Describe the development of upper limb buds Describe the final stages of upper limb development	LGIS-8	1	MCQs/SAQs

		limb.	Describe and explain the anomalies of the upper limb			
24.	Development of muscles	Development of skeletal muscle. Development of Myotomes and derivatives of epaxial divisions of myotomes and derivatives of hypaxial divisions of myotomes.	Describe the development of skeletal muscle. Describe the development of Myotomes and derivatives of epaxial divisions of myotomes and derivatives of hypaxial divisions of myotomes	LGIS-9	1	MCQs/SAQs
HISTOLOGY						
25.	Bone histology	Compact bone. Spongy bone. Bone matrix. Identification of cells of bone tissue & microscopic structure of bone. Functions of various bone cells. Role of bones in calcium metabolism.	Define and identify compact and spongy bone Describe and identify bone matrix (organic and inorganic component) Describe and identify cells of bone tissue i.e. (osteoprogenitor, osteoblasts, osteoclast, and osteocytes) Describe and identify periosteum and endosteum Describe and identify the microscopic structure of bone i.e. (primary bone, secondary bone and haversian system) Describe Functions of various bone cells Describe important Functions and its role in calcium metabolism	LGIS-10	1	MCQs/SAQs
		Recognizing bone and its functions and composition. Woven bone vs lamellar bone. Compact bone vs spongy bone. Applied aspect of bone.	Recognize bone and its functions and composition. Differentiate between woven bone and lamellar bone. Differentiate between compact bone and spongy bone. Describe the applied aspect of bone			
26.	Histology of cartilage	Identification of types of cartilages on microscopy. Classification of cartilages. Microscopic structure of hyaline cartilage, elastic cartilage & fibrous cartilage. Important functional correlates of three types of cartilages.	Identify types of cartilages on microscopy, including distinctive features of each. Describe the structural basis. Classify and distinguish three types of cartilages Describe the microscopic structure of hyaline cartilage Describe the microscopic structure of Elastic cartilage Describe the microscopic structure of fibrous cartilage Describe important functional correlates of three types of cartilages	LGIS-11	1	MCQs/SAQs
27.	Histology of muscles	Identification of types of muscles on microscopy. Structural basis of	Identify three types of muscles on microscopy, including distinctive features of each muscle fiber. Describe the structural basis of muscle	LGIS-12	1	MCQs/SAQs

		muscle striations. function and organization of the connective tissue in muscle. Classify and distinguish three types of muscles. Microscopic structure of skeletal muscle. Microscopic structure of smooth muscle. Important functional correlates of skeletal & smooth muscle. Microscopic structure of cardiac muscle fiber. Important functional correlates of cardiac muscle fiber.	striations. Recognize the structural elements that produces muscle contraction and brings the movement of a body part. Recognize the function and organization of the connective tissue in muscle. Classify and distinguish three types of muscles Describe the microscopic structure of skeletal muscle Describe important functional correlates of skeletal, smooth Describe the microscopic structure of smooth muscle Identify/Describe the microscopic structure of cardiac muscle fiber Describe important functional correlates of cardiac muscle fiber			
PHYSIOLOGY						
28.	Physiological anatomy of the skeletal muscle fiber	Physiological anatomy of the skeletal muscle fiber	Explain the physiologic anatomy of the skeletal muscle fiber. Skeletal muscle fiber Sarcolemma Myofibrils I band A band Z disk M line Sarcomere Titin microfilament molecules Sarcoplasm Sarcoplasmic reticulum	LGIS-1	1	MCQs/SAQs
29.	Energetics of muscle contraction	Energetics of muscle Contraction.	Describe the energetics of muscle contraction.	LGIS-2	1	MCQs/SAQs
30.	Mechanism of muscle Contraction-I	General mechanism of muscle contraction.	Describe the general mechanism of muscle contraction	LGIS-3	1	MCQs/SAQs
31.	Mechanism of muscle Contraction-II	Molecular mechanism of muscle contraction.	Describe the molecular mechanism of muscle contraction	LGIS-4	1	MCQs/SAQs
BIOCHEMISTRY						
32.	Chemistry of Amino acids	Structure of amino acids	Describe structure of amino acids	LGIS-1	1	MCQs/SAQs
33.	Chemistry of Proteins	Structure, classification of Proteins. Plasma proteins.	Describe structure of Proteins Classify proteins Describe different types of Plasma proteins	LGIS-2	1	MCQs/SAQs

34.	Connective tissues	Biochemistry of connective tissues.	Explain in detail the biochemistry of connective tissues.	LGIS-3	1	MCQs/SAQs
35.	Collagen	Chemical structures of cellular matrix of collagen and elastin.	Describe the chemical structures of cellular matrix of collagen and elastin	LGIS-4	1	MCQs/SAQs

LAB WORK

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
ANATOMY						
36.	Histology of bone	Identification of types of bone on microscopy. Structural basis of classification of bones.	Identify three types of bone on microscopy, including distinctive features of each. Describe the structural basis of classification.	Demonstration / Practical	1.5	OSPE
37.	Histology of cartilage	Identification of types of cartilages on microscopy. Microscopic structure of hyaline cartilage, elastic cartilage & fibrous cartilage.	Identify types of cartilages on microscopy Describe the microscopic structure of hyaline cartilage Describe the microscopic structure of Elastic cartilage Describe the microscopic structure of fibrous cartilage	Demonstration / Practical	1.5	OSPE
PHYSIOLOGY						
38.	Examination of MSK-I		Understand why MSK examination is done Learn the Look, Feel, Move method Check for swelling, deformity, and muscle wasting Feel for tenderness, warmth, and pain Assess range of movement (active and passive) Check joint stability and function Perform basic special tests for joints	Demonstration / Practical	1.5	OSPE
BIOCHEMISTRY						
39.	Detection of Sulphur containing amino acids	Sulphur containing amino acids, their structure and types. Detection of Sulphur containing amino acids.	Define Sulphur containing amino acids their structure and types Perform Lead Sulphate test	Demonstration / Practical	1.5	OSPE
40.	Biuret Test		Understand the principle of the Biuret test Learn the role of peptide bonds in giving a positive result	Demonstration / Practical	1.5	OSPE

			Identify the reagents used (Biuret reagent: copper sulfate + alkaline solution) Observe and interpret color change (blue → violet/purple) Differentiate between positive and negative results Understand factors affecting the test			
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SMALL GROUP DISCUSSIONS

S. N o	Topic	Content	Learning objectives	Teaching strategies	Hou r	Assess ment
ANATOMY						
41.	Osteology of Clavicle & Scapula.	Recognizing Clavicle & Scapula. Identification of sites and bony landmarks of Clavicle & Scapula. Surface, radiological & applied anatomy of clavicle & scapula.	Recognize the bones & identify the site of the bones. Identify the bony landmarks of the clavicle & scapula like borders, surfaces and landmarks used for bone determination. Describe the surface, radiological & applied anatomy of clavicle & scapula.	SGDs	1.5	MCQs/ SAQs
PHYSIOLOGY						
42.	Terms related to MSK	Describing important terms related to musculoskeletal system.	Describe the following terms related to MSK Excitable tissue Stimulus Threshold Depolarization Hyperpolarization Presynaptic potential Post synaptic potential Goldman Equation Nernst Equation	SGDs	1.5	MCQs/ SAQs
43.	Mechanism of Muscle Contraction.	General & molecular mechanism of muscle contraction.	Explain the general & molecular mechanism of muscle contraction.	SGDs	1.5	MCQs/ SAQs
BIOCHEMISTRY						
44.	Protein Structural Organization		Define proteins and explain their biological importance in the human body. Describe the levels of protein structure Explain the types of bonds stabilizing each level	SGDs	1.5	MCQs/ SAQs
45.	Protein misfolding		Define protein misfolding and explain normal protein folding mechanisms. Describe the role of molecular chaperones in proper protein folding.	SGDs	1.5	MCQs/ SAQs

			Explain causes of protein misfolding Discuss consequences of protein misfolding Explain diseases associated with protein misfolding: •Alzheimer's disease •Parkinson's disease •Prion disease			
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DIRECTED SELF LEARNING

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
ANATOMY						
46.	The Shoulder Joint	Structure, range of mobility & clinical anatomy of the shoulder joint.	Describe the structure, range of mobility & clinical anatomy of the shoulder joint.	DSL	1	MCQs/SAQs
47.	Elbow Joint	Neurovascular supply & the formation of anastomosis around the elbow joint.	Describe the neurovascular supply & the formation of anastomosis around the elbow joint.	DSL	1	MCQs/SAQs
PHYSIOLOGY						
48.	Physiologic Anatomy of skeletal muscles	Physiologic Anatomy of skeletal muscles	Describe the physiologic anatomy of skeletal muscles.	DSL	1	MCQs/SAQs
49.	Muscle contraction	Energetics of muscle contraction.	Describe the energetics of muscle contraction.	DSL	1	MCQs/SAQs
BIOCHEMISTRY						
50.	Role of GAGs in the formation of connective tissues	Role of glycosaminoglycan in the formation of the connective tissues, cartilage, skin, blood vessels and tendons.	Discuss the role of glycosaminoglycan (GAG) in the formation of the connective tissues, cartilage, skin, blood vessels and tendons.	DSL	1	MCQs/SAQs
51.	Chemistry of proteins	Structure & classification of proteins	Describe the structure & classification of proteins.	DSL	1	MCQs/SAQs

THEME-II WEAK GRIP AND PAINFUL HAND

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
GROSS ANATOMY						
1.	Osteology of radius & hand	Bones of forearm & hand. Determining the side of bones of radius and hand.	Recognize the bones of forearm & hand Determine side of bones. Identify the features of bones.	Demonstration / Dissection-16	1	MCQs / SAQs

		Features of, & muscles attached to radius and bones of hand. Ossification of radius and bones of hand. Clinical significance of radius and bones of hand. Salient features of the radius. Attachments to radius. Surface, radiological & applied anatomy of radius. Salient features bones of hand. Attachments to bones of hand. Surface, radiological & applied anatomy of bones of hand.	Identify the muscles attached to bones. Describe the ossification of bones Explain the clinical significance of bones. Describe the common fractures of the bone. Describe and Identify the salient features of the radius Identify the attachments to radius Describe the surface anatomy radius and the radiological anatomy radius Describe the applied anatomy radius Describe and Identify the salient features bones of hand Identify the attachments to bones of hand Describe the surface anatomy main bones of hand and the radiological anatomy of main bones Describe the applied anatomy main bones of hand including carpal tunnel and fractures			
2.	Muscles of hand	Structure and functions of palmar aponeurosis. Attachments, nerve supply & actions of muscles of hand. Thenar Muscles. Correlate the movements of thumb with hand anatomy. Anatomical snuffbox. Relate applied with gross anatomy of few structures of hand. Small muscles of the hand Surface anatomy of important muscles of hand. Describe joints of the hand and fingers. Surface , radiological and clinical anatomy of important joints.	Recall the structure and functions of palmar aponeurosis. Describe the attachments, nerve supply & actions of muscles of hand. Describe the thenar Muscles. Correlate the movements of thumb with hand anatomy. Identify the anatomical snuffbox. Relate applied with gross anatomy of few structures of hand Enumerate, describe and identify the small muscles of the hand Describe Surface anatomy of important muscles of hand Identify structures on transverse MRI hand taken at various levels Describe relevant clinical anatomy of important muscles Identify/Describe joints of the hand and fingers (intercarpal joints, carpometacarpal and intermetacarpal joints, carpometacarpal joint of the thumb, and metacarpophalangeal joints Describe surface , radiological and clinical anatomy of important joints	Demonstration / Dissection-17	1	MCQs / SAQs

3.	Vessels & nerves of the hand	Identification of different vessels in hand. Location, destination course relations of radial and ulnar arteries in hand. Superficial and deep palmar arch. Veins of hand and their tributaries. Nerve supply of the hand.	Identify different vessels in hand. Describe the location, destination course relations of radial and ulnar arteries in hand. State the branches of radial and ulnar arteries in hand. Describe the formation of superficial and deep palmar arch, veins of hand and their tributaries. Describe the nervous supply of the hand.	Demonstration / Dissection-18	1	MCQs / SAQs
4.	Wrist joint	Wrist joint. Movements occurring on wrist joints. Muscles acting in pronation and supination. Nerve supply and blood supply of wrist joints. Clinical problems related to Wrist joints.	Recognize the details of wrist joints. Describe and explain the movements occurring on wrist joints. Name the muscles acting in pronation and supination. Describe the nerve supply and blood supply of wrist joints. Describe clinical problems related to Wrist joints.	LGIS-13	1	MCQs / SAQs
5.	Spaces of the palm	Spaces of the hand on both palmar and dorsal aspects. Clinical importance of spaces of the palm.	Identify the different spaces of the hand on both palmar and dorsal aspects. Describe the clinical importance of these spaces	Demonstration / Dissection-19	1	MCQs / SAQs

PHYSIOLOGY

6.	Muscle action potential	Muscle action potential	Describe the muscle action potential.	LGIS-5	1	MCQs / SAQs
7.	Excitation contraction coupling in skeletal muscles	Process of excitation contraction coupling in skeletal muscles. Transverse tubule-sarcoplasmic reticulum system Release of Calcium ions by sarcoplasmic reticulum Role of Calcium pump Excitatory pulse of Ca^{+}	Discuss the process of excitation contraction coupling in skeletal muscles. Explain Transverse tubule-sarcoplasmic reticulum system Describe Release of Calcium ions by sarcoplasmic reticulum Explain Role of Calcium pump Describe Excitatory pulse of Ca^{+}	LGIS-6	1	MCQs / SAQs
8.	Smooth muscle	Contraction of smooth muscle	Classify smooth muscles Describe the physiologic anatomy of the smooth muscle neuromuscular junction Describe the contractile mechanisms in smooth muscles Describe excitation and contraction of smooth muscle.	LGIS-7	1	MCQs / SAQs

			Identify the types of smooth muscles. Describe the chemical and physical basis for smooth muscle contraction. Compare smooth and skeletal muscle contraction. Chemical basis of smooth muscle contraction Physical basis of smooth muscle contraction Explain how the calcium ions regulate the contraction. Regulation of smooth muscle contraction by the calcium ions Enlist the excitatory and inhibitory transmitter substances secreted at the smooth muscle neuromuscular junction			
9.	Skeletal vs smooth muscle	Differences between skeletal muscle and smooth muscle.	Differentiate between skeletal muscle and smooth muscle.	LGIS-8	1	MCQs / SAQs
BIOCHEMISTRY						
10.	Role of calcium and phosphorus	Role of calcium and phosphorus in formation of cellular matrix and bone.	Explain the role of calcium and phosphorus in formation of cellular matrix and bone	LGIS-5	1	MCQs / SAQs
11.	Vitamins	Definition & classification of vitamins. Fat soluble vs Water soluble vitamins. Chemistry & role of Fat soluble vitamins.	Vitamins and their role Define vitamins Classify vitamins Differentiate between Fats and water soluble vitamins Describe role of Vitamin A Explain the role of Vitamin D Describe the role of Vitamin E & K	LGIS-6	1	MCQs / SAQs
12.	Introduction to Minerals	Definition & classification of Minerals. Major vs minor minerals.	Define Minerals, Define major and minor minerals Describe classification of minerals	LGIS-7	1	MCQs / SAQs
RADIOLOGY						
13.	Radiological Anatomy of Upper Limb	Radiological anatomy of bones and joints of Upper limb	Understand the basic principles of radiological imaging of the upper limb Identify bones of the upper limb on X-ray (humerus, radius, ulna, carpals, metacarpals, phalanges) Identify major joints (shoulder, elbow, wrist) on radiographs Recognize normal anatomical landmarks on X-ray images Interpret common radiographic views (AP and lateral views)	LGIS-1	1	MCQs / SAQs

			Assess joint spaces and alignment Differentiate normal from abnormal radiological findings Correlate radiological features with anatomical structures Identify common abnormalities such as fractures and dislocations Record and report findings systematically			
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LAB WORK

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
ANATOMY						
14.	Histology of muscles	Identification of types of muscles on microscopy. Microscopic structure of skeletal muscle. Microscopic structure of smooth muscle. Important functional correlates of skeletal & smooth muscle. Microscopic structure of cardiac muscle fiber.	Identify three types of muscles on microscopy, Identify the microscopic structure of skeletal muscle Identify the microscopic structure of smooth muscle Identify the microscopic structure of cardiac muscle fiber	Demonstration / Practical	1.5	OSPE
PHYSIOLOGY						
15.	Examination of MSK-II		Examine upper limb, lower limb, and spine Identify abnormal findings Communicate clearly with the patient Ensure patient comfort and safety Record and report findings properly Relate findings to possible diagnosis	Demonstration / Practical	1.5	OSPE
BIOCHEMISTRY						
16.	Detection of Cyclic Amino Acids Xanthoproteic Test	Chemistry of Cyclic Amino Acids. Detection of Cyclic Amino Acids	Define Cyclic Amino Acids Understand the structure and types of Cyclic Amino Acids Perform Xanthoproteic Test	Demonstration / Practical	1.5	OSPE

SMALL GROUP DISCUSSIONS

S.No	Topic	Content	Learning objectives	Teaching	Hour	Assessment
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o				strategies		
ANATOMY						
17.	Osteology of Radius & Ulna.	Radius & Ulna. Features of Radius & ulna. Attachments to radius and ulna. Salient features, surface anatomy and radiological anatomy of radius & ulna.	Recognize Radius & ulna, determine the sides and identify the features of Radius & ulna. Identify the attachments to radius and ulna. Describe the salient features, surface anatomy and radiological anatomy of radius & ulna.	SGDs	1.5	MCQs/SAQs
PHYSIOLOGY						
18.	Describe the important terms	Motor unit Summation Tetanzation Staircase effect Skeletal muscle tone Muscle fatigue Agonist Antagonists Coactivation of agonist& antagonist	Describe the following Motor unit Summation Tetanzation Staircase effect Skeletal muscle tone Muscle fatigue Agonist Antagonists Coactivation of agonist and antagonist	SGDs	1.5	MCQs/SAQs
BIOCHEMISTRY						
19.	Vitamins Fat Soluble Vitamin	Definition & classification of vitamins. Fat vs Water soluble vitamins. Role of Fat Soluble Vitamins.	Define & Classify Vitamins. Differentiate between water soluble and fat soluble vitamins. Describe the role of Vitamin A, D, E & K.	SGDs	1.5	MCQs/SAQs

DIRECTED SELF LEARNING

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
ANATOMY						
20.	Wrist Joint	Wrist joint. Movements occurring on wrist joint.	Recognize the details of wrist joint and explain the movements occurring on wrist joint.	DSL	1	MCQs/ SAQs
PHYSIOLOGY						
21.	Muscle Action Potential	Muscle Action Potential	Describe the muscle action potential.	DSL	1	MCQs/ SAQs
22.	Excitation-Contraction. Coupling in Skeletal Muscle	Excitation-Contraction. Coupling in Skeletal Muscle	Describe excitation contraction coupling of skeletal muscle.	DSL	1	MCQs/ SAQs
BIOCHEMISTRY						
23.	Role of calcium and	Role of calcium and phosphorous	Explain the role of calcium and	DSL	1	MCQs/ SAQs

	phosphorus in the formation of cellular matrix and bone	in formation of cellular matrix and bone	phosphorous in formation of cellular matrix and bone			
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THEME-III PAIN LOWER LIMB/ LIMPING

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
GROSS ANATOMY						
1.	Introduction to lower limb & Hip bone	Parts of lower limb. Regions of lower limb. Bones of lower limb. Parts of hip bone. Side determination of hip bone. Muscle & ligamentous attachments to hip bone. Bones articulating with the hip bone. Common fractures of hip bone. Salient features of hip bone. Surface, radiological and applied anatomy of hip bone.	Recognize different parts of lower limb. Describe regions of lower limb. Identify the different parts of the bone. Describe side determination. Describe muscle attachments. Describe ligamentous attachments. Describe the different bones articulating with the hip bone Describe the common fractures of the bone. Identify and describe the salient features of the bones of hip bone Identify the attachments of hip bone Describe the surface anatomy of hip bone Describe the radiological anatomy of hip bone Describe the applied anatomy of hip bone.	Demonstration / Dissection-20	1	MCQs/SAQs
2.	The hip joint and movements	Characteristics features of synovial joint. Articular surfaces of hip joint. Capsule of hip joint. Synovial membrane, cavity & fluid of hip joint. Ligaments of hip joint. Movements possible at hip joint. Clinical correlates of the hip. Surface, radiological and applied anatomy of hip joint.	Describe the characteristics features of synovial joint Describe the Articular surfaces of hip joint Identify the capsule of hip joint Describe the synovial membrane, cavity & fluid of hip joint Enumerate the ligaments of hip joint & describe their attachments Describe the movements possible at hip joint Describe the clinical correlates of the hip joint Describe surface and radiological anatomy (X-rays and MRI) and clinical of hip joints	LGIS-14	1	MCQs / SAQs
3.	Gluteal region	Boundaries of gluteal region.	Describe the boundaries of gluteal region	Demonstration /	1	MCQs / SAQs

		Bones and ligaments of gluteal region. Structures entering and leaving gluteal region. Muscles, vessels & nerves of the gluteal region. Clinical correlates regarding gluteal region.	Describe bones and ligaments of gluteal region Describe the different structures entering and leaving gluteal region Describe muscles of the gluteal region. Describe Vessels of the gluteal region. Describe nerves of the gluteal region. Describe about certain clinical correlates regarding gluteal region Describe Surface anatomy of important muscles Identify structures on transverse MRI of gluteal region taken at various levels Describe clinical anatomy of important muscles	Dissection-21		
4.	Femur	Parts of the femur. Side determination of the femur. Surfaces and borders of femur. Common fractures of femur. Attachments of the different muscles and ligaments on femur. Arterial supply of femur. Fractures of femur. Salient features of the femur. Surface, radiology & applied anatomy of femur.	Identify different parts of the femur Determine the side of the bone Identify the surfaces and borders of the bone Describe the common fractures of the bone. Describe the attachments of the different muscles and ligaments on the bone Describe the arterial supply of the bone Relate to the general idea about fractures of femur and other clinical conditions Identify and describe the salient features of the femur Describe the surface anatomy of femur Describe the radiological anatomy of femur Describe the applied anatomy of femur	Demonstration / Dissection-22	1	MCQs / SAQs
5.	Nerves of lower limb and their injuries	Nerves of lower limb and their main branches. Nerves closely related to a bone or other structure of lower limb. Nerves commonly vulnerable to injury.	Identify the names of nerves and their main branches innervating lower limb Identify the nerves closely related to a bone or other structure of lower limb Recognize the main nerves commonly vulnerable to injury Identify the main area and loss of function if particular nerve is injured Define and understand terms neuritis, anesthesia, par aesthesia, paralysis, neuralgia, sciatica	Demonstration / Dissection-23	1	MCQs / SAQs
6.	Superficial vessels and lymphatics of lower limb	Superficial arteries of lower limb. Superficial veins of lower limb. Superficial lymphatic vessels and lymph nodes of lower limb.	Enumerate and describe the superficial arteries of lower limb Name and Describe superficial veins of lower limb List and Describe the superficial lymphatic vessels and lymph nodes of lower limb	Demonstration / Dissection-24	1	MCQs / SAQs

7.	Deep fascia of thigh, iliotibial tract and superficial vessels	Arrangement of deep fascia in thigh. Role of iliotibial tract in walking and running. Location of saphenous opening and its relations. Great saphenous vein. Clinical correlates of saphenous vein.	Describe the arrangement of deep fascia in thigh Describe how the iliotibial tract participates in walking and running Describe the location of saphenous opening and its relations Describe the great saphenous vein. Describe clinical correlates of saphenous vein	Demonstration / Dissection-25	1	MCQs / SAQs
8.	Anterior fascial compartment of thigh	Muscles of anterior compartment of thigh and action of these muscles. Nerve supply of anterior Compartment. Blood supply and the venous drainage of anterior compartment of thigh. Boundaries of femoral triangle. Contents of femoral triangle. Femoral sheath & canal. Clinical correlates of the Femoral triangle. Location, boundaries and contents of adductor canal.	Describe the muscles of anterior compartment of thigh. Describe the nerve supply of anterior Compartment. Describe the action of these muscles. Describe the blood supply and the venous drainage of anterior compartment of thigh. Describe the boundaries of femoral triangle List the contents of femoral triangle Describe the femoral sheath & canal Describe the clinical correlates of the Femoral triangle. Describe the location, boundaries and contents of adductor canal.	LGIS-15	1	MCQs / SAQs
9.	The medial & posterior compartments of thigh	Muscles of medial compartment of the thigh & their nerve supply. Actions of the muscles of medial compartment of thigh. Vessels of medial compartment of the thigh. Muscles, arterial supply, venous drainage & nerve supply of posterior compartment of thigh. Trochanteric and cruciate anastomosis. Clinical conditions effecting posterior	Describe the muscles of medial compartment of the thigh. Describe the nerve supply of these muscles. Describe the actions of the muscles of medial compartment of thigh Describe the vessels of medial compartment of the thigh Describe the muscles of posterior compartment of thigh Describe the arterial supply of posterior compartment of thigh Discuss the trochanteric and cruciate anastomosis at the back of thigh Describe the venous drainage of this region Describe the nerve supply of posterior compartment of thigh and Relate to the clinical conditions effecting the region	Demonstration / Dissection-26	1	MCQs / SAQs

		compartment of thigh.				
10.	Popliteal fossa	Boundaries of popliteal fossa. Contents of the popliteal fossa. Clinical correlates regarding popliteal fossa.	Describe the boundaries of popliteal fossa. Describe the contents of the popliteal fossa. Describe some clinical correlates regarding popliteal fossa	Demonstration / Dissection-27	1	MCQs / SAQs
11.	Tibia bone	Division of tibia bone. Surfaces and borders of tibia. Attachments of muscles on the tibia bone. Ossification of tibia and its primary and secondary ossification centers. Common fractures of tibia. Salient features of the bone of leg. Attachments to the bone of the leg. Surface, radiological and applied anatomy of leg.	Describe the division of tibia bone in 3 parts Identify the surfaces and borders of tibia Describe the attachments of muscles on the tibia bone Describe the ossification of tibia and its primary and secondary ossification centers Describe the common fractures of the bone. Identify and describe the salient features of the bone of leg Identify the attachments to the bone of the leg Describe the surface anatomy of leg Describe the radiological anatomy of leg Describe the applied anatomy of leg.	Demonstration / Dissection-28	1	MCQs / SAQs
12.	Fibula & bones of foot	Side determination of fibula. Bony features along with its different attachments on the fibula. Tarsal bones and their arrangement. Metatarsal and phalangeal bones. Common fractures of the bone. Muscles of the sole of the foot. Muscles of the dorsum of the foot. Surface and clinical anatomy of important muscles.	Determine the side of bone. Describe the bony features along with its different attachments on the fibula. Name and describe the tarsal bones and their arrangement Name and describe the metatarsal bones and phalangeal bones. Describe the common fractures of the bone. Describe the muscles of the sole of the foot (origin, insertion, nerve supply, blood supply, and action) Describe the muscles of the dorsum of the foot (origin, insertion, nerve supply, blood supply, and action) Describe Surface anatomy of important muscles Identify structures on transverse MRI of foot taken at various levels Describe clinical anatomy of important muscles	Demonstration / Dissection-29	1	MCQs / SAQs
13.	Anterior, Posterior and lateral	Boundaries of anterior & lateral Compartment of leg.	Identify the boundaries of the compartments of leg State the muscles of anterior and lateral compartment of leg	Demonstration / Dissection	1	MCQs / SAQs

	compartment of leg	Muscles of anterior and lateral compartment of leg & action of these muscles. Vessels & nerves of anterior and lateral compartment of leg	Describe the vessels of anterior and lateral compartment of leg Describe the nerves of lateral and anterior compartment of leg Describe action of these muscles	ction-30		
		Muscles of posterior Compartment of leg and the actions of these muscles. Nerve supply of the muscles of posterior compartment of leg	Explain the muscles of posterior Compartment of leg. Describe nerve supply of these muscles. Explain the actions of the muscles of posterior compartment of leg			
14.	Knee joint	Knee joint & its articular surfaces. Articular capsule. Synovial membrane and the synovial cavity. Ligaments of knee joint. Bursa around the knee joint. Blood and nerve supply of the knee joint. Mechanism of locking and unlocking of knee joint. Surface, radiological and clinical anatomy of knee joints.	Describe the type of knee joint Describe the articular surfaces of this joint Describe the articular capsule Describe the synovial membrane and the synovial cavity Enumerate the ligaments of knee joint Describe the bursa around the knee joint Describe the blood and nerve supply of the knee joint Describe the mechanism of locking and unlocking of knee joint. Describe surface and radiological anatomy (X-rays and MRI) and clinical of knee joint	LGIS-16	1	MCQs / SAQs
15.	Surface anatomy of lower limb	Surface anatomy of arteries of lower limb. Surface anatomy of superficial & deep veins lower limb. Surface anatomy of nerves of lower limb.	Demonstrate the surface anatomy of arteries of lower limb. Demonstrate the surface anatomy of superficial & deep veins lower limb. Demonstrate the surface anatomy of nerves of lower limb	Demonstration / Dissection-31	1	MCQs / SAQs

EMBRYOLOGY

16.	Development of lower limb	Development of lower limb buds. Early & final stages of lower limb development. Anomalies of the lower limb.	Describe the early stages of lower limb development Describe the development of lower limb buds Describe the final stages of lower limb development Describe and explain the anomalies of the lower limb	LGIS-17	1	MCQs / SAQs
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PHYSIOLOGY

17.	Muscle Remodeling.	Describing the important terms related to MSK. Muscle Remodeling.	Describe stimulus, threshold, depolarization, hyperpolarization, presynaptic potential, postsynaptic potential, Goldman equation, and Nernst equation. Describe Muscle hypertrophy, Muscle atrophy, Muscle hyperplasia Rigor mortis Muscle dystrophy and Recovery of muscle contraction in poliomyelitis	LGIS-9	1	MCQs / SAQs
18.	Muscular Dystrophies	Pathophysiology of muscular Dystrophies	Define Muscular Dystrophies Role of dystrophin proteins Pathophysiology of its two major types Its Clinical features & Genetic basis Effect of dystrophy on locomotion & muscle function Diagnostic methods & management	LGIS-10	1	MCQs / SAQs

BIOCHEMISTRY

19.	Sodium, potassium and chlorine in biology	RDA, serum levels, sources and Functions of sodium, potassium and chlorine. Absorption, excretion and disorders related to increase and decrease in amount of Sodium, Potassium and chlorine.	Discuss RDA, serum levels Enlist sources of Sodium, Potassium and chlorine, Describe functions Discuss absorption excretion, Describe disorders related to increase and decrease in amount of Sodium, Potassium and chlorine	LGIS-8	1	MCQs / SAQs
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RADIOLOGY

20.	Radiological Anatomy of Lower Limb	Radiological anatomy of bones and joints of lower limb	Understand the basic principles of radiological imaging of bones and joints Identify bones of the lower limb on X-ray (femur, tibia, fibula, pelvis, foot bones) Identify major joints (hip, knee, ankle) on radiographs Recognize normal anatomical landmarks on X-ray images Differentiate between normal and abnormal radiological findings Understand joint spaces and alignment on imaging Correlate radiological findings with anatomical structures Interpret common views (AP and lateral views) of lower limb radiographs Describe basic abnormalities such as fractures and dislocations Record and report findings in a structured manner	LGIS-2	1	MCQs / SAQs
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LAB WORK

S.No	Topic		Learning objectives	Teaching strategies	Hour	Assessment
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ANATOMY

21.	Histology of connective tissue	Understand the basic structure of connective tissue Understand the components: cells, fibers, and ground substance Identify different types of connective tissue Identify various cells such as fibroblasts, macrophages, and adipocytes Differentiate between collagen, elastic, and reticular fibers Observe connective tissue under the microscope Recognize normal histological features Correlate structure with function Describe and record findings accurately	Demonstration / Practical	1.5	OSPE
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PHYSIOLOGY

22.	Simple muscle twitch & effect of temperature	Understand the concept of a simple muscle twitch Identify the phases: latent period, contraction, and relaxation Explain the events occurring in each phase Record and interpret a muscle twitch curve Understand how temperature affects muscle contraction Observe changes in duration and height of twitch Compare effects of heat and cold on muscle activity Explain physiological reasons for these changes	Demonstration / Practical	1.5	OSPE
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BIOCHEMISTRY

23.	Milon Nase Test	Understand the principle of Millon's test Identify that it detects tyrosine-containing proteins Know the reagent used (Millon's reagent) Observe and interpret the color change (white precipitate → red color on heating) Differentiate between positive and negative results	Demonstration / Practical	1.5	OSPE
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SMALL GROUP DISCUSSIONS

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
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ANATOMY

24.	Hip Bone	Side determination, muscle attachments different parts of the Hip Bone. Salient features, surface anatomy, radiological and applied anatomy of Hip Bone.	Describe the side determination, muscle attachments & different parts of the Hip Bone. Describe the salient features, surface anatomy, radiological and applied anatomy of Hip Bone.	SGDs	1.5	MCQs/SAQs
25.	Femur	Side determination, muscle attachments & different parts of the Femur. Salient features, surface anatomy, radiological and applied anatomy of Femur.	Describe the side determination, muscle attachments & different parts of the Femur. Describe the salient features, surface anatomy, radiological and applied anatomy of Femur.	SGDs	1.5	MCQs/SAQs

PHYSIOLOGY

26.	Muscle Types (Skeletal, Smooth, Cardiac)	Differentiate among structures and functions of skeletal, smooth and cardiac muscles.	Understand the basic structure of skeletal, smooth, and cardiac muscles Differentiate between their structural features Understand their functions in the body Compare their control mechanisms (voluntary vs involuntary) Correlate structure with function	SGDs	1.5	MCQs/SAQs
27.	Types of Skeletal Muscle Fibers	Differentiate among the slow oxidative type, fast oxidative type and fast glycolytic type skeletal muscle fibers	Understand the different types of skeletal muscle fibers Differentiate between slow oxidative, fast oxidative, and fast glycolytic fibers Compare their structural and metabolic characteristics Understand their functional roles (endurance vs rapid movement) Correlate fiber type with muscle activity	SGDs	1.5	MCQs/SAQs

BIOCHEMISTRY

28.	Plasma Proteins.	Clinical significance of	Describe the clinical significance of plasma proteins.	SGDs	1.5	MCQs/SAQs
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		plasma proteins. Gamma globulin & Albumin.	Explain gamma globulin proteins and albumin with their functions.			
29.	Electrolyte Imbalance		Identify major body electrolytes and their normal serum values Explain the biochemical mechanisms involved in electrolyte homeostasis Discuss causes of common electrolyte disturbances Differentiate between: •Hyponatremia and hypernatremia •Hypokalemia and hyperkalemia •Hypocalcemia and hypercalcemia	SGDs	1.5	MCQs/SAQs

DIRECTED SELF LEARNING

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
ANATOMY						
30.	Hip Joint	Capsule of Hip Joint. Articular surfaces, synovial membrane cavity & fluid of Hip Joint. Surface, radiological & applied anatomy of Hip Joint.	Identify the capsule of Hip Joint. Describe the articular surfaces, synovial membrane cavity & fluid of Hip Joint. Describe the possible movements at and clinical correlates of Hip Joint. Describe the surface, radiological & applied anatomy of Hip Joint.	DSL	1	MCQs/ SAQs
BIOCHEMISTRY						
31.	Serum Electrolytes	Sources, serum levels functions & recommended daily allowances of Sodium, Potassium, Chlorine and magnesium. Absorption and excretion & disorders related to increase and decrease in amount of serum electrolytes.	Enlist the serum electrolytes. Discuss the sources, serum levels functions & recommended daily allowances of Sodium, Potassium, Chlorine and magnesium. Discuss the absorption and excretion & disorders related to increase and decrease in amount of serum electrolytes.	DSL	1	MCQs/ SAQs

THEME-IV BONY ARCHES AND FRACTURE OF FOOT

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
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GROSS ANATOMY

32.	Muscles and neurovascular supply of the foot	Dorsal muscles of foot. Origin and insertion of planter muscles of foot. Vascular and nervous supply of sole and dorsum of foot. Salient features of the bone of foot. Attachments to the bone of the foot. Surface, radiological and applied anatomy of foot	Describe the dorsal muscles of foot. Describe the origin and insertion of planter muscles of foot. Describe their nerve supply and actions. Describe vascular and nervous supply of sole and dorsum of foot Describe their course through foot Describe relationships Identify and describe the salient features of the bone of foot Identify the attachments to the bone of the foot Describe the surface anatomy of foot Describe the radiological anatomy of foot Describe the applied anatomy of foot	Demonstration / Dissection-32	1	MCQs/SAQs
33.	Arches of foot	Arches of foot. Factors responsible for maintenance of the arches of the foot. Plantar fasciitis.	Describe the arches of foot Describe the factors responsible for their maintenance of the arches of the foot Recognize the injury when it occurs and be able to evaluate plantar fasciitis. Describe about counselling regarding the rehabilitation for plantar fasciitis	LGIS-18	1	MCQs/SAQs

BIOCHEMISTRY

34.	Role of vitamin C & D	Role of Vitamin C and Vitamin D in the formation of connective tissues and bones.	Describe the role of Vitamin C and Vitamin D in the formation of connective tissues and bones.	LGIS-9	1	MCQs/SAQs
35.	Iodine in Biology	RDA, serum levels, sources, functions, absorption, excretion and disorders related to increase and decrease in	Discuss RDA, serum Levels Iodine Enlist sources of Describe functions Discuss absorption excretion, Describe disorders related to increase and decrease in amount of Iodine	LGIS-10	1	MCQs/SAQs

		amount of Iodine.				
PATHOLOGY						
36.	Introduction to Bone pathology	Osteopenia. Osteoporosis. Osteomalacia. Osteomyelitis. Arthritis.	Define and differentiate osteopenia, osteoporosis, osteomalacia Define osteomyelitis Enlist various forms of arthritis.	LGIS-1	1	MCQs/ SAQs
FORENSIC MEDICINE						
37.	Injury & Wound	Injury. Mechanical injury. Classification of injury. Mechanisms of injury. Interpreting the nature of injury. Wound. Hurt. Factors affecting appearance of wound	Define injury on medico legal basis. Classify injury. Define mechanical injury Classify mechanical injury Describe mechanisms of injury. Interpret the nature (manner) of injury. Define wound. Define hurt. Identify factors affecting appearance of wound	LGIS-1	1	MCQs/ SAQs

SMALL GROUP DISCUSSIONS

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
ANATOMY						
38.	Foot Muscles	Dorsal muscles of the foot. Origin and insertion of plantar muscles of the foot.	Describe the dorsal muscles of the foot. Describe the origin and insertion of plantar muscles of the foot.	SGDs	1.5	MCQs/ SAQs
BIOCHEMISTRY						
39.	Iodine absorption	Absorption, excretion and disorders related to increase and decrease in amount of Iodine.	Discuss absorption excretion, Describe Thyroid disorders related to increase and decrease in amount of Iodine	SGDs	1.5	MCQs/ SAQs

DIRECTED SELF LEARNING

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
BIOCHEMISTRY						

40.	Hormonal regulation of Ca & P to maintain MSK system	Hormonal regulation of calcium and phosphorous to maintain musculoskeletal system	Explain the hormonal regulation of calcium and phosphorous to maintain musculoskeletal system	DSL	1	MCQs/ SAQs
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THEME-V BACKACHE

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
GROSS ANATOMY						
1.	Typical spinal nerve	Spinal Nerve. Spinal nerves in different regions. Location, site of emergence and components of typical spinal nerve. Fate of rami. Gray rami. Association of rami communicans with typical spinal nerve.	Define a spinal nerve. Recognize the spinal nerve as a part of PNS. Enumerate the spinal nerves in different regions Identify their location and site of emergence. Identify various components of a typical spinal nerve. Recall the fate of rami. Associate the rami communicans with typical spinal nerve Recall the distribution of gray rami	LGIS-19	1	MCQs/ SAQs
2.	Vertebral column	Muscles of back. Identification of structures on CT/MRI of vertebral column. Surface and clinical anatomy of important muscles.	Describe the muscles of back (origin, insertion, nerve supply, blood supply, and action) Describe Surface anatomy of important muscles Identify structures on CT/MRI of vertebral column taken at various levels Describe clinical anatomy of important muscles	LGIS-20	1	MCQs/ SAQs
3.	Lumbo sacral plexus, Cutaneous nerves.	Formation of lumbar Plexus. Branches of lumbar plexus. Relation of the nerves with Psoas major muscle.	Describe the formation of lumbar Plexus. List the branches of lumbar plexus with their root values. Describe relation of the nerves with Psoas major muscle.	Demonstration / Dissection-33	1	MCQs/ SAQs

		Structures supplied by lumbar plexus. Formation of sacral plexus. Composition and relations and branches of sacral plexus.	List the structures supplied by lumbar plexus. Describe the formation of sacral plexus. Describe the composition and relations of sacral plexus. List the branches of this plexus			
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BIOCHEMISTRY

4.	Phosphorus and Magnesium in biology	Recommended daily allowance, serum levels, sources & functions of Phosphorus and Magnesium. Absorption, excretion & disorders related to increase and decrease in amount of Phosphorus and Magnesium.	Discuss RDA, serum Levels Enlist sources of Phosphorus and Magnesium Describe functions Discuss absorption excretion, Describe disorders related to increase and decrease in amount of Phosphorus and Magnesium	LGIS-11	1	MCQs/SAQs
5.	Sulphur in biology	Recommended daily allowance, serum levels, sources & functions of Sulphur. Absorption, excretion & disorders related to increase and decrease in amount of Sulphur.	Discuss RDA, serum Levels Enlist sources of Sulphur Describe functions Discuss absorption excretion, Describe disorders related to increase and decrease in amount of sulphur	LGIS-12	1	MCQs/SAQs
6.	Copper and cobalt in biology	Recommended daily allowance, serum levels, sources & functions of copper and cobalt. Absorption, excretion & disorders related to increase and decrease in amount of copper and cobalt.	Discuss RDA, serum Levels Copper and cobalt Enlist sources of Describe functions Discuss absorption excretion, Describe disorders related to increase and decrease in amount of Copper and cobalt	LGIS-13	1	MCQs/SAQs

COMMUNITY MEDICINE

7.	Back pain	Causes & prevention of low back pain. Causes & prevention of musculoskeletal diseases related to child labor.	Explain the causes of low back pain Describe the prevention of low back pain Describe the causes & prevention of msd related to child labor	LGIS-1	1	MCQs/ SAQs
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DIRECTED SELF LEARNING

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
ANATOMY						
41.	Vertebral Column	Origin, insertion, nerve supply, blood supply and action of muscles of the back. Surface & clinical anatomy of important muscles of the back.	Describe the origin, insertion, nerve supply, blood supply and action of muscles of the back. Describe the Surface & clinical anatomy of important muscles of the back.	DSL	1	MCQs/ SAQs

THEME-VI MUSCLE WEAKNESS AND FATIGUE

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
PHYSIOLOGY						
1.	Muscle contraction	Characteristics of whole muscle contraction	Identify the characteristics of whole muscle contraction. Compare isotonic and isometric exercises. Compare and contrast slow and fast muscle fibers. Describe the mechanics of skeletal muscle contraction. Describe muscle tone and muscle fatigue. Describe lever systems of the body and positioning of a body part. Describe remodeling of muscle to match function.	LGIS-11	1	MCQs/ SAQs
2.	Neuromuscular junction	Neuromuscular junction	Describe the transmission of impulses from nerve endings to skeletal muscle fibers.	LGIS-12	1	MCQs/ SAQs

			Explain the physiologic anatomy of the neuromuscular junction			
3.	Neuromuscular Transmission	Neuromuscular Transmission	Explain the mechanism of transmission of impulses from nerve endings to muscle fibers Explain Formation and Secretion of acetylcholine at nerve terminals Describe Action of acetylcholine at postsynaptic membrane Describe Degradation/Destruction of released acetylcholine Describe End plate potential Describe Fatigue of junction	LGIS-13	1	MCQs/SAQs
4.	Neuromuscular drugs	Neuromuscular drugs	Describe the physiologic basis of the drugs used in the neuromuscular disorders (Drugs that enhance or block the transmission at neuromuscular junction) Enlist the excitatory and inhibitory transmitter substances secreted at the smooth muscle neuromuscular junction Drugs that stimulate the muscle fiber by acetylcholine like action Drugs that stimulate neuromuscular junction by inactivating acetylcholinesterase Drugs that block transmission at the neuromuscular junction Enlist the excitatory and inhibitory transmitter substances secreted at the smooth muscle neuromuscular junction	LGIS-14	1	MCQs/SAQs
5.	Myasthenia gravis	Myasthenia gravis	Describe the pathophysiology of myasthenia gravis	LGIS-15	1	MCQs/SAQs

6.	Smooth muscle fiber & its contraction	Smooth muscle contraction	Understand the structure of smooth muscle fibers Identify key features (non-striated, spindle-shaped, single nucleus) Understand the location of smooth muscle in the body Differentiate smooth muscle from skeletal and cardiac muscle Understand the mechanism of smooth muscle contraction Identify the role of calcium ions (Ca^{2+}) Understand the function of calmodulin and myosin light chain kinase (MLCK) Describe the sliding filament mechanism in smooth muscle Compare smooth muscle contraction with skeletal muscle contraction Correlate contraction with physiological functions (e.g., peristalsis, vasoconstriction)	LGIS-16	1	MCQs/ SAQs
7.	Control of smooth muscle contraction	Nervous and hormonal control of smooth muscle contraction	Describe the nervous and hormonal control of smooth muscle contraction	LGIS-17	1	MCQs/ SAQs
8.	Membrane potentials	Resting Membrane potentials	Enumerate the intracellular and extracellular concentrations of sodium, potassium, chloride and calcium ions in a resting/normal cell. Describe the characteristics of major membrane ion channels and their role in the membrane potential Describe the resting membrane potential in a cell/nerve fiber	LGIS-18	1	MCQs/ SAQs

9.	Action potentials in smooth muscles	Action potentials in smooth muscles	Describe the membrane potentials and action potentials in smooth muscles. Describe Spike potentials Describe Action potentials with plateaus Describe Role of calcium channels in generating the smooth muscle action potential Describe Slow wave potentials Describe Excitation of visceral smooth muscle by muscle stretch Describe Depolarization of multi-unit smooth muscle without action potentials	LGIS-19	1	MCQs/ SAQs
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BIOCHEMISTRY

10.	Fluoride and Lithium	Fluoride and Lithium in biology	Discuss RDA, serum Levels Fluoride Enlist sources of Describe functions Discuss absorption excretion, Describe disorders related to increase and decrease in amount of Fluoride Brief description on role of lithium in biology	LGIS-14	1	MCQs/ SAQs
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52.	Micro minerals & Toxic elements	Molybdenum, Selenium, Zinc, chromium, manganese, silicon, vanadium in biology	Enlist sources of Describe functions Discuss absorption excretion, Describe disorders related to increase and decrease of the said elements	LGIS-15	1	MCQs/ SAQs
		Aluminum , Arsenic, Antimony, Boron, Bromine, Cadmium, Cesium, Germanium, Lead, Mercury, Silver, Strontium	Discuss different effects of toxic elements			

PHARMACOLOGY

11.	Drugs used in MSK	Analgesics & neuromuscular blocking agents	Define & classify NSAIDS Enlist more most comomly used analgesia aspirin , ibuprofen , diclofenac, paracetamol, COX-2 Salicox Classify corticosteroids Classify neuromuscular blocking agents.	LGIS-1	1	MCQs/SAQs
COMMUNITY MEDICINE						
12.	MSK diseases	MSK diseases & their prevention	Explain the risk factors for different types of msd's Describe the preventive measures for different types of risk factors for msd's	LGIS-2	1	MCQs/SAQs

LAB WORK

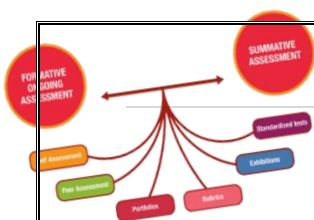
S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
PHYSIOLOGY						
42.	Phenomenon of Tetanization in Nerve & Muscle Preparation		Define tetanization Differentiate between simple muscle twitch, incomplete tetanus, and complete tetanus Explain the effect of increasing stimulus frequency on muscle contraction ,temporal summation Describe the role of refractory period in development of tetanus Correlate tetanization with physiological and clinical conditions like fatigue and muscle spasm	Demonstration / Practical	1.5	OSPE
BIOCHEMISTRY						
43.	Ninhydrin test		Define the principle of ninhydrin test for detection of amino acids Explain the chemical reaction between ninhydrin and free amino groups	Demonstration / Practical	1.5	OSPE

			Identify positive and negative results based on color change (purple/blue color) Differentiate between amino acids and other substances using ninhydrin test			
	Aldehyde test		Define the principle of aldehyde test for identification of aldehyde group Explain the chemical basis of aldehyde detection reactions Identify positive results based on characteristic color change or precipitate Differentiate aldehydes from ketones using the test			

DIRECTED SELF LEARNING

S.No	Topic	Content	Learning objectives	Teaching strategies	Hour	Assessment
PHYSIOLOGY						
44.	Skeletal Muscle vs Smooth Muscle	Skeletal vs Smooth Muscle contraction.	Differentiate between skeletal muscle and smooth muscle. Compare the smooth muscle contraction and skeletal muscle contraction.	DSL	1	MCQs/ SAQs
45.	Nervous and Hormonal Control of Smooth Muscle Contraction	Nervous and Hormonal Control of Smooth Muscle Contraction	Describe the nervous and hormonal control of smooth muscle Contraction.	DSL	1	MCQs/ SAQs
BIOCHEMISTRY						
46.	Role of vitamin C & D in MSK	Role of Vitamin C and Vitamin D in the formation of connective tissues and bones.	Describe the role of Vitamin C and Vitamin D in the formation of connective tissues and bones.	DSL	1	MCQs/ SAQs
47.	Minerals	Minerals. Micro-Minerals. Macro-Minerals.	Define and classify Minerals. Compare Micro and Macro Minerals.	DSL	1	MCQs/ SAQs

Subject	LGIS	Practical/ Demo	SGD	DSL	Dissection	Total Hours
ANATOMY (Histology, Embryology)	(20 + 33)=53	6	7.5	5	24	95.5
PHYSIOLOGY	19	6	7.5	6		38.5
BIOCHEMISTRY	15	7.5	9	7		38.5
PATHOLOGY	1					1
PHARMACOLOGY	1					1
COMMUNITY MEDICINE	3					3
FORENSIC MEDICINE	1					1
RADIOLOGY	2					2
PRIME (Research/JC)	1			1		2
PRIME (IT Skills)						
PRIME (Leadership)	1					1
PRIME (Professionalism)	3					3
PRIME (Communication Skills)	1					1
PRIME (Ethics/Islamiat)	8					8
Others	1					1
TOTAL (Teaching Hours)	110	19.5	24	19	24	196.5



10. Examination and Methods of Assessment:

Assessments within the MBBS program at the MIMC consist of both formative and summative evaluations. These assessments are crucial for monitoring student progress and academic performance.

Formative Assessment:

Formative assessments, accounting for 20% of the total marks assigned to each block, serve as ongoing evaluations designed to provide feedback and promote learning. Formative assessments are conducted after the completion of each module, ensuring students receive timely feedback to enhance their understanding and performance.

Summative Assessment:

Summative assessments, comprising 80% of the total assessment weighting, are conducted and overseen by constitute university as part of the annual examination process. This summative assessment evaluates students' comprehensive understanding of the curriculum and constitutes a significant portion of their final scores.

Assessment Tools:

Various assessment tools are employed to measure students' knowledge and competencies. These tools include:

1. **Written Examinations:** These include Multiple Choice Questions (MCQs) and Short Answer Questions (SAQs) that assess students' theoretical knowledge.
2. **Performance Assessments:** Objective Structured Practical Examinations (OSPE) and Objective Structured Clinical Examinations (OSCE) are used to evaluate practical skills and clinical competence.



11. Learning Opportunities and Resources

1. Anatomy

Books:

- *Clinical Anatomy by Regions* by Richard S. Snell (Latest Edition)
- *Gray's Anatomy for Students* (Latest Edition)
- *Clinically Oriented Anatomy* by K.L. Moore (Latest Edition)
- *Netter's Atlas of Human Anatomy* (Latest Edition)
- *Last's Anatomy* (Latest Edition)

Online Resources:

- [TeachMeAnatomy](#) – Comprehensive anatomy resource with diagrams and explanations.
- [AnatomyZone YouTube Channel](#) – 3D anatomy tutorials.

2. Histology

Books:

- *Textbook of Histology* by Junqueira (Latest Edition)
- *diFiore's Atlas of Histology with Functional Correlations* (Latest Edition)
- *Atlas of Human Histology* by Wheater's (Latest Edition)
- *Textbook of Histology* by Laiq Hussain (Latest Edition)

Online Resources:

- [Histology Guide](#) – A virtual histology lab with slides and explanations.
- [Armando Hasudungan YouTube Channel](#) – Educational videos on histology and related topics.

3. Embryology

Books:

- *Langman's Medical Embryology* (Latest Edition)
- *The Developing Human* by Keith L. Moore (Latest Edition)

Online Resources:

- Embryology at UNSW – Detailed embryology resource from the University of New South Wales.
- [Dr. Najeeb Lectures YouTube Channel](#) – In-depth video lectures on embryology and other basic medical sciences.

4. Physiology

Books:

- *Textbook of Medical Physiology* by Guyton and Hall (Latest Edition)
- *Ganong's Review of Medical Physiology* (Latest Edition)

Online Resources:

- Vivo Interactive Physiology – Interactive tutorials on physiology topics.
- [PhysioPathoPharmaco YouTube Channel](#) – Physiology explanations and tutorials.

5. Biochemistry

Books:

- *Harper's Illustrated Biochemistry* (Latest Edition)
- *Lippincott's Illustrated Review: Biochemistry* (Latest Edition)

Online Resources:

- MedlinePlus Biochemistry – Basic biochemistry concepts with clinical correlations.

- [Osmosis YouTube Channel](#) – Visual and concise videos on biochemistry and other medical topics.

6. Pharmacology

Books:

- *Katzung's Basic and Clinical Pharmacology* (Latest Edition)

Online Resources:

- [Pharmacology YouTube Channel by Ninja Nerd](#) – Detailed pharmacology lectures and notes.
- [GoodRx Pharmacology Resources](#) – Practical applications of pharmacology in medicine.

7. Pathology

Books:

- *Robbins Basic Pathology* (Latest Edition)

Online Resources:

- [PathologyOutlines.com](#) – An online pathology resource with a focus on differential diagnosis.
- [Dr. John Minarcik YouTube Channel](#) – Free pathology lectures and tutorials.

8. Community Medicine

Books:

- *Essential Community Medicine* (Latest Edition)
- *K. Park's Textbook of Preventive and Social Medicine* (Latest Edition)

Online Resources:

- [CDC Public Health](#) – Extensive resources on public health and community medicine.
- [Public Health England YouTube Channel](#) – Videos on various community health topics.

9. Forensic Medicine

Books:

- *Parikh's Textbook of Medical Jurisprudence, Forensic Medicine, and Toxicology* (Latest Edition)

Online Resources:

- [Forensic Medicine Online](#) – Detailed forensic medicine resources for students.
- [Forensic Pathology Lectures YouTube Channel](#) – Educational videos on forensic pathology.

10. General Medicine

Books:

- *Davidson's Principles and Practice of Medicine* (Latest Edition)

Online Resources:

- [Medscape](#) – Comprehensive resource for clinical medicine and continuing medical education.
- [Geeky Medics YouTube Channel](#) – Clinical skills and general medicine tutorials.

DEPARTMENT OF MEDICAL EDUCATION

Time Table 1st Year MBBS, 2026

Dr. M Junaid Khan
Department of Medical Education

Principal
Brig(R) Prof. Dr. Abdul Halim



Locomotor Module (Theme 1: Orientation and Shoulder Pain)

Time Table 1st Year MBBS, 2026

Dr. M Junaid Khan
Department of Medical Education

Principal
Brig(R) Prof. Dr. Abdul Halim



Week-03		Ammended 21-04-2026		Venue for LGIS : 1st Year Lecture Hall			
Day / Date	Time		Break 10:00- 10:30 AM	Time		Prayer Break 01:00- 01:30 PM	Time
	08:00AM - 09:00AM	09:00AM -10:00AM		10:30 AM - 11:30 AM	11:30 AM - 01:00 PM		
MONDAY 20-04-2026	ANT-12 Demonstration Topic: Anterior compartment of forearm Fac: Dr. Maham Amin	DSL-1 (BIO) Topic: Role of GAGs in the formation of connective tissues Fac: Dr. Anum Muneeer Venue: Library		ANT-13 Demonstration Topic: Posterior compartment of forearm Fac: Dr. Anam Zafar	Group-A: BIO Practical-1 Group-B: PHY Practical-1 Group-C: Histo Practical-1		Group-A: ANT SGD-1 Group-B: BIO-SGD-1 Group C: PHY-SGD-1
TUESDAY 21-04-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	ANT-14 Demonstration Topic: Blood vessels & nerves of the forearm Fac: Dr. Maham Amin		ANT-6 LGIS Topic: Elbow joint & Radio-ulnar joint Fac: Prof.Dr.Col Shafqat Ali	Group-B: BIO Practical-1 Group-C: PHY Practical-1 Group-A: Histo Practical-1		Group-B: ANT SGD-1 Group-C: BIO-SGD-1 Group A: PHY-SGD-1
WEDNESDAY 22-04-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	DSL-2 (ANT) Topic: Elbow Joint Fac: Dr. Anam Zafar Venue: Library		SDL	Group-C: BIO Practical-1 Group-A: PHY Practical-1 Group-B: Histo Practical-1		Group-C: ANT SGD-1 Group-A: BIO-SGD-1 Group B: PHY-SGD-1
THURSDAY 23-04-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	BIO-3 LGIS Topic: Connective tissues Fac: Dr. Zahira Bashir		ANT-15 Demonstration Topic: Surface anatomy of upper Limb Fac: Dr. Maham Amin	ISL -2 LGIS Fac: Hafiz Ghulam Yasin		ANT-7 LGIS (Embryology) Topic: Development of upper limb & Development of muscles Fac: Prof.Dr.Col Shafqat Ali
Friday 24-04-2026 (Online Classes)	PHY-4 LGIS Topic: Mechanism of Muscle Contraction-II Fac: Prof. Dr. Ayyaz Ahmed	BIO-4 LGIS Topic: Collagen Fac: Prof. Dr. M. Naqib		DSL-2 (PHY) Topic: Muscle contraction Fac: Dr. Amna Khalid Venue: Library	11:30 AM - 12:00 PM SDL		
SGDs			Practical				
ANT SGD-1 Topic: Osteology of Clavicle & Scapula BIO-SGD-1 Topic: Protein Structural Organization PHY SGD-1 Topic: Terms related to MSK			BIO-1 Topic: Biuret Test ANT (Histo)-1 Topic: Histology of cartilage PHY-1 Topic: Examination of MSK-I				
Dr. M Junaid Khan Department of Medical Education			Principal Briq(R) Prof. Dr. Abdul Halim				



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
DEPARTMENT OF MEDICAL EDUCATION
Locomotor Module (Theme 2: Weak Grip and Painful Hand)
Time Table 1st Year MBBS, 2026



Week-04			Venue for LGIS : 1st Year Lecture Hall				
Day / Date	Time						
	08:00AM - 09:00AM	09:00AM -10:00AM	Break 10:00- 10:30 AM	10:30 AM - 11:30 AM	11:30 AM - 01:00 PM	Prayer Break 01:00- 01:30 PM	01:30 PM- 03:00 PM
MONDAY 27-04-2026	PRO-2 LGIS Topic: Stress, management & coping skills Fac: Miss Sana Razziq	ANT-8 LGIS (Histology) Topic: Histology of cartilage & Bone Fac: Prof.Dr.Col Shafqat Ali		DSL-2 (BIO) Topic: Chemistry of Proteins Fac: Dr. Amna Khurshed Venue: Library	Group-A: BIO Practical-2 Group-B: SDL Group-C: Histo Practical-2		Group-A: SDL Group-B: BIO-SGD-2 Group C: PHY-SGD-2
TUESDAY 28-04-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	ANT-9 LGIS (Histology) Topic: Histology of muscles Fac: Prof.Dr.Col Shafqat Ali		SDL	Group-B: BIO Practical-2 Group-C: SDL Group-A: Histo Practical-2		Group-B: SDL Group-C: BIO-SGD-2 Group A: PHY-SGD-2
WEDNESDAY 29-04-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	ANT-16 Demonstration Topic: Osteology of radius & hand Fac: Dr. Anam Zafar		ANT-17 Demonstration Topic: Muscles of hand Fac: Dr. Maham Amin	Group-C: BIO Practical-2 Group-A: SDL Group-B: Histo Practical-2		Group-C: SDL Group-A: BIO-SGD-2 Group B: PHY-SGD-2
THURSDAY 30-04-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	PHY-5 LGIS Topic: Muscle action potential Fac: Dr. Barkat Ullah Khan Awan		ANT-18 Demonstration Topic: Vessels & nerves of the hand Fac: Dr. Anam Zafar	ISL -3 LGIS Fac: Hafiz Ghulam Yasin		ANT-10 LGIS Topic: Wrist joint Fac: Prof.Dr.Col Shafqat Ali
FRIDAY 01-05-2026 (Online Classes)	Labour Day						
SGDs			Practical				
BIO-SGD-2 Topic: Protein misfolding PHY SGD-2 Topic: Mechanism of Muscle Contraction			BIO-2 Topic: Detection of Sulphur containing amino acids ANT (Histo)-2 Topic: Histology of bone				
Dr. M Junaid Khan Department of Medical Education			Principal Brig(R) Prof. Dr. Abdul Halim				



MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
DEPARTMENT OF MEDICAL EDUCATION
Locomotor Module (Theme 2: Weak Grip and Painful Hand)
Time Table 1st Year MBBS, 2026



Week-05	Venue for LGIS : 1st Year Lecture Hall					
Day / Date	Time					
	08:00AM - 09:00AM	09:00AM -10:00AM	10:30 AM - 11:30 AM	11:30 AM - 01:00 PM	Prayer Break 01:00- 01:30 PM	01:30 PM- 03:00 PM
MONDAY 04-05-2026	DSL-3 (PHY) Topic: Muscle action potential Fac: Dr. Zoona Batool Venue: Library	BIO-5 LGIS Topic: Role of calcium and phosphorus Fac: Dr. Zahira Bashir	ANT-19 Demonstration Topic: Spaces of the palm Fac: Dr. Anam Zafar	Group-A: BIO Practical-3 Group-B: PHY Practical-2 Group-C: Histo Practical-3		Group-A: ANT SGD-2 Group-B: BIO-SGD-3 Group C: PHY-SGD-3
TUESDAY 05-05-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	DSL-3 (BIO) Topic: Role of calcium and phosphorus in the formation of cellular matrix and bone Fac: Dr. Anum Muneer Venue: Library	PHY-6 LGIS Topic: Excitation contraction coupling in skeletal muscles Fac: Dr. Barkat Ullah Khan Awan	Group-B: BIO Practical-3 Group-C: PHY Practical-2 Group-A: Histo Practical-3		Group-B: ANT SGD-2 Group-C: BIO-SGD-3 Group A: PHY-SGD-3
WEDNESDAY 06-05-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	Radio-1 LGIS Topic: Radiological Anatomy of Upper Limb Fac: Dr. Memona Nazir	SDL	Group-C: BIO Practical-3 Group-A: PHY Practical-2 Group-B: Histo Practical-3		Group-C: ANT SGD-2 Group-A: BIO-SGD-3 Group B: PHY-SGD-3
THURSDAY 07-05-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	PHY-7 LGIS Topic: Smooth muscle Fac: Dr. Barkat Ullah Khan Awan	BIO-6 LGIS Topic: Vitamins Fac: Dr. Wajahat Ullah Khan	ISL-4 LGIS Fac: Hafiz Ghulam Yasin		DSL-3 (ANT) Topic: Wrist joint Fac: Dr. Maham Amin Venue: Library
FRIDAY 08-05-2026 (Online Classes)	PHY-8 LGIS Topic: Skeletal vs smooth muscle Fac: Dr. Barkat Ullah Khan Awan	BIO-7 LGIS Topic: Introduction to Minerals Fac: Dr. Zahira Bashir	DSL-4 (PHY) Topic: Excitation contraction coupling in skeletal muscles Fac: Dr. Amna Khalid Venue: Library	11:30 AM - 12:00 PM SDL		
SGDs			Practical			
ANT SGD-2 Topic: Osteology of Radius & Ulna BIO-SGD-3 Topic: Vitamins Fat Soluble Vitamin PHY SGD-3 Topic: Describe the important terms			BIO-3 Topic: Detection of Cyclic Amino Acids (Xanthoproteic Test) ANT (Histo)-3 Topic: Histology of muscles PHY-2 Topic: Examination of MSK-II			
Dr. M Junaid Khan Department of Medical Education			Principal Brig(R) Prof. Dr. Abdul Halim			

Locomotor Module (Theme 3: Pain Lower Limb/Limping)
Time Table 1st Year MBBS, 2026



Dr. M Junaid Khan
Department of Medical Education

Principal
Brig(R) Prof. Dr. Abdul Halim

Locomotor Module (Theme 3: Pain Lower Limb/Limping)
Time Table 1st Year MBBS, 2026



Dr. M Junaid Khan
Department of Medical Education

Principal
Brig(R) Prof. Dr. Abdul Halim

		MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)					
		DEPARTMENT OF MEDICAL EDUCATION					
		Locomotor Module					
		Time Table 1st Year MBBS, 2026					
Week-00				Venue for LGIS : 1st Year Lecture Hall			
Day / Date	Time						
	08:00AM - 09:00AM	09:00AM -10:00AM		10:30 AM - 11:30 AM	11:30 AM - 01:00 PM		01:30 PM- 03:00 PM
MONDAY 25-05-2026 to FRIDAY 29-05-2026	Eid-ul-Adha						
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		MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)					
		DEPARTMENT OF MEDICAL EDUCATION					
		Locomotor Module					
		Time Table 1st Year MBBS, 2026					
Week-00				Venue for LGIS : 1st Year Lecture Hall			
Day / Date	Time						
	08:00AM - 09:00AM	09:00AM -10:00AM		10:30 AM - 11:30 AM	11:30 AM - 01:00 PM		01:30 PM- 03:00 PM
MONDAY 01-06-2026 to Friday 12-06-2026 (2 weeks)	Summer Vaccations						
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MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
DEPARTMENT OF MEDICAL EDUCATION
Locomotor Module (Theme 4: Bony Arches And Fracture of Foot)
Time Table 1st Year MBBS, 2026



Week-07	Venue for LGIS : 1st Year Lecture Hall					
Day / Date	Time					
	08:00AM - 09:00AM	09:00AM - 10:00AM	Break 10:00- 10:30 AM	10:30 AM - 11:30 AM	11:30 AM - 01:00 PM	01:30 PM- 03:00 PM
MONDAY 15-06-2026	DSL-5 (BIO) Topic: Hormonal regulation of Ca & P to maintain MSK system Fac: Dr. Anum Muneer Venue: Library	ANT-13 LGIS Topic: Knee joint Fac: Prof.Dr.Col Shafqat Ali		ANT-32 Demonstration Topic: Muscles and neurovascular supply of the foot Fac: Dr. Anam Zafar	Group-A: BIO Practical-4 Group-B: PHY Practical-3 Group-C: Histo Practical-4	Group-A: ANT SGD-4 Group-B: BIO-SGD-5 Group C: PHY-SGD-5
TUESDAY 16-06-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	ANT-14 LGIS Topic: Arches of foot Fac: Prof.Dr.Col Shafqat Ali		Radio-2 LGIS Topic: Radiological Anatomy of Lower Limb Fac: Dr. Memona Nazir	Group-B: BIO Practical-4 Group-C: PHY Practical-3 Group-A: Histo Practical-4	Group-B: ANT SGD-4 Group-C: BIO-SGD-5 Group A: PHY-SGD-5
WEDNESDAY 17-06-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	BIO-9 LGIS Topic: Role of vitamin C & D Fac: Dr. Wajahat Ullah Khan		F. MED. 1 LGIS Topic: Injury & Wound Fac: Prof. Dr. Aftab Alam	Group-C: BIO Practical-4 Group-A: PHY Practical-3 Group-B: Histo Practical-4	Group-C: ANT SGD-4 Group-A: BIO-SGD-5 Group B: PHY-SGD-5
THURSDAY 18-06-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	RES-1 DSL Topic: Journal Club Fac: Prof.Dr.Col Shafqat Ali		BIO-10 LGIS Topic: Iodine in Biology Fac: Dr. Zahira Bashir	ISL-6 LGIS Fac: Hafiz Ghulam Yasin	PATHO-1 LGIS Topic: Introduction to Bone pathology Fac: Dr. Shakila Nadeem
FRIDAY 19-06-2026 (Online Classes)	BIO-11 LGIS Topic: Phosphorus and Magnesium in biology Fac: Dr. Zahira Bashir	SDL		C. MED. -1 LGIS Topic: Back pain Fac: Prof. Dr. Abrar Hussain	11:30 AM - 12:00 PM SDL	
SGDs			Practical			
ANT SGD-4 Topic: Femur BIO-SGD-5 Topic: Electrolyte Imbalance PHY SGD-5 Topic: Types of Skeletal Muscle Fibers			BIO-4 Topic: Milon Nose Test ANT-4 (Histo) Topic: Histology of connective tissue PYH-3 Topic: Simple muscle twitch & effect of temperature			
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MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
DEPARTMENT OF MEDICAL EDUCATION
Locomotor Module (Theme 5: Backache)
Time Table 1st Year MBBS, 2026



Time Table 1st Year MBBS, 2026			Venue for LGIS : 1st Year Lecture Hall			
Week-08						
Day / Date	Time					01:30 PM- 03:00 PM
	08:00AM - 09:00AM	09:00AM -10:00AM	Break 10:00- 10:30 AM	10:30 AM - 11:30 AM	11:30 AM - 01:00 PM	
MONDAY 22-06-2026	BIO-12 LGIS Topic: Sulphur in biology Fac: Dr. Zahira Bashir	ANT-15 LGIS Topic: Typical spinal nerve Fac: Prof.Dr.Col Shafqat Ali		ANT-16 LGIS Topic: Vertebral column Fac: Prof.Dr.Col Shafqat Ali	SDL	Group-A: ANT SGD-5 Group-B: BIO-SGD-6 Group C: SDL
TUESDAY 23-06-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	ANT-33 Demonstration Topic: Lumbo sacral plexus, Cutaneous nerves Fac: Dr. Anam Zafar		SDL	BIO-13 LGIS Topic: Copper and cobalt in biology Fac: Dr. Zahira Bashir	Group-B: ANT SGD-5 Group-C: BIO-SGD-6 Group A: SDL
WEDNESDAY 24-06-2026	Anatomy Dissection Fac: Dr. Maham Amin & Dr. Anam Zafar	PHY-11 LGIS Topic: Muscle contraction Fac: Prof. Dr. Saadia Zainab		DSL-5 (ANT) Topic: Vertebral Column Fac: Dr. Maham Amin Venue: Library	PHY-12 LGIS Topic: Neuromuscular junction Fac: Prof. Dr. Saadia Zainab	Group-C: ANT SGD-5 Group-A: BIO-SGD-6 Group B: SDL
THURSDAY 25-06-2026	Ashura Holidays					
FRIDAY 26-06-2026						
SGDs						
ANT SGD-5 Topic: Foot Muscles BIO-SGD-6 Topic: Iodine absorption						
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MOHI-UD-DIN ISLAMIC MEDICAL COLLEGE , MIRPUR, (AJ&K)
DEPARTMENT OF MEDICAL EDUCATION
Locomotor Module (Theme 6: Muscle Weakness And Fatigue)
Time Table 1st Year MBBS, 2026



Week-09	Venue for LGIS : 1st Year Lecture Hall					
Day / Date	08:00AM - 09:00AM	09:00AM - 10:00AM	Time		01:30 PM - 03:00 PM	
MONDAY 29-06-2026	BIO-14 LGIS Topic: Fluoride and Lithium Fac: Dr. Zahira Bashir	COM-5 LGIS Topic: Communication skills Fac: Miss Sana Razziq	10:30 AM - 11:30 AM	11:30 AM - 01:00 PM	PHY-13 LGIS Topic: Neuromuscular Transmission Fac: Prof. Dr. Saadia Zainab	Prayer Break 01:00 - 01:30 PM
TUESDAY 30-06-2026	PHY-14 LGIS Topic: Neuromuscular drugs Fac: Prof. Dr. Saadia Zainab	Journal Club	C. MED. -2 LGIS Topic: MSK diseases Fac: Prof. Dr. Ijaz Ali	Group-B: BIO Practical-5 Group-C: PHY Practical-4 Group-A: SDL	DSL-5 (PHY) Topic: Skeletal Muscle vs Smooth Muscle Fac: Dr. Zoona Batool Venue: Library	
WEDNESDAY 01-07-2026	DSL-6 (BIO) Topic: Role of vitamin C & D in MSK Fac: Dr. Amna Khursheed Venue: Library	BIO-15 LGIS Topic: Micro minerals & Toxic elements Fac: Dr. Zahira Bashir	PHY-15 LGIS Topic: Myasthenia gravis Fac: Prof. Dr. Saadia Zainab	Group-C: BIO Practical-5 Group-A: PHY Practical-4 Group-B: SDL	PHY-16 LGIS Topic: Smooth muscle fiber & its contraction Fac: Dr. Barkat Ullah Khan Awan	
THURSDAY 02-07-2026	PHY-17 LGIS Topic: Control of smooth muscle contraction Fac: Dr. Barkat Ullah Khan Awan	SDL	PHY-18 LGIS Topic: Resting Membrane potentials Fac: Dr. Barkat Ullah Khan Awan	ISL-7 LGIS Fac: Hafiz Ghulam Yasin	DSL-7 (BIO) Topic: Minerals Fac: Dr. Anum Muneeer Venue: Library	
FRIDAY 03-07-2026	DSL-6 (PHY) Topic: Nervous and Hormonal Control of Smooth Muscle Contraction Fac: Dr. Amna Khalid Venue: Library	PHY-19 LGIS Topic: Action potentials in smooth muscles Fac: Dr. Barkat Ullah Khan Awan	ANT-17 REVISION LGIS Fac: Dr. Maham Amin	11:30 AM - 12:00 PM SDL		
			Practical			
			BIO-5 Topic: Ninhydrin test & Aldehyde test PHY-4 Topic: Phenomenon of Tetanization in Nerve & Muscle Preparation			
Dr. M Junaid Khan Department of Medical Education			Principal Brig(R) Prof. Dr. Abdul Halim			

13. For inquiry and troubleshooting



Please contact
DME

14.Course Feedback Form

Course Title: _____

Semester/Module _____

Dates: _____

Please fill the short questionnaire to make the course better.

Please respond below with 1, 2, 3, 4 or 5, where 1 and 5 are explained.

THE DESIGN OF THE MODLUE

- | | | |
|--|---|--------------------------|
| A. Were objectives of the course clear to you? | Y ☐ N ☐ | |
| B. The course contents met with your expectations | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| C. The lecture sequence was well-planned | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| D. The contents were illustrated with | | ☐ |
| 1. Too few examples | 5. Adequate examples | |
| E. The level of the course was | | ☐ |
| 1. Too low | 5. Too high | |
| F. The course contents compared with your expectations | | ☐ |
| 1. Too theoretical | 5. Too empirical | |
| G. The course exposed you to new knowledge and practices | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| H. Will you recommend this course to your colleagues? | | ☐ |
| 1. Not at all | 5. Very strongly | |

THE CONDUCT OF THE MODLUE

- | | | |
|--|--|--------------------------|
| A. The lectures were clear and easy to understand | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| B. The teaching aids were effectively used | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| C. The course material handed out was adequate | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| D. The instructors encouraged interaction and were helpful | | ☐ |
| 1. Strongly disagree | 5. Strongly agree | |
| E. Were objectives of the course realized? | Y N ☐ ☐ | |

F. Please give overall rating of the course

90% - 100% ()

60% - 70% ()

80% - 90% ()

50% - 60% ()

70% - 80% ()

below 50% ()

Please comment on the strengths of the course and the way it was conducted.

Please comment on the weaknesses of the course and the way it was conducted.

Please give suggestions for the improvement of the course.

Optional – Your name and contact address:

Thank you!!

15. Scan To Submit End Of Module Feedback



<https://forms.gle/8XtZAZkAii4JbtXm8>

16.Students Diary/Notes

[illegible]

PROGRESS: _____

ACHIEVMENT: _____