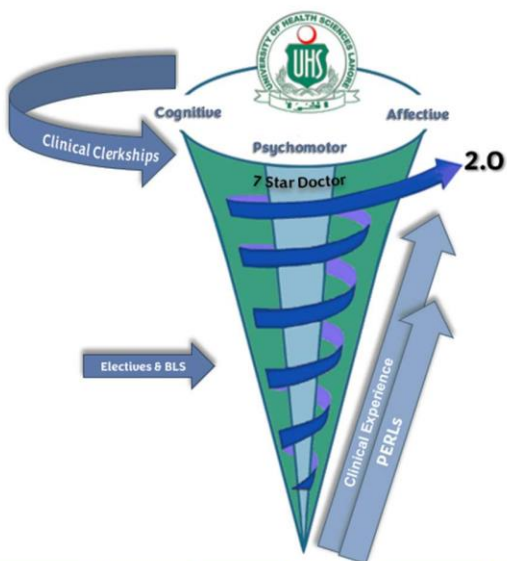




MODULAR INTEGRATED CURRICULUM 2K23

version 2.0

BLOCK-2



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Principal's Message

Dear Students and Faculty,

It is with great pride and enthusiasm that we embark on this transformative journey together at our newly established medical college. This is a moment of new beginnings, brimming with possibilities, and an opportunity to shape a future grounded in academic excellence, innovation, and compassionate care.

To our students, you are stepping into a world where knowledge meets responsibility. Medicine is more than a profession; it is a calling to serve humanity with integrity and empathy. We are committed to nurturing not just your intellect but also your values, so you may emerge as competent and compassionate healthcare professionals. As you navigate this rigorous yet rewarding journey, remember that perseverance, curiosity, and a spirit of service will be your guiding stars.

To our esteemed faculty, your dedication and expertise form the cornerstone of this institution. Together, let us inspire our students, foster a culture of inquiry, and build a learning environment that emphasizes collaboration, critical thinking, and lifelong learning. You have the unique opportunity to shape the minds and hearts of future leaders in healthcare, and I am confident that your unwavering commitment will pave the way for their success.

Our first block of study marks the foundation of an academic experience that integrates the principles of holistic education with cutting-edge medical training. It is designed to challenge, motivate, and inspire both students and faculty. Let this guide serve as a roadmap, helping us achieve our shared goals while upholding the highest standards of education and care.

The journey ahead will undoubtedly present challenges, but it is in overcoming these that we find growth. Let us work together to create a legacy of excellence that will guide generations to come. With determination, collaboration, and a shared vision, I have no doubt that we will achieve greatness together.

Welcome to the start of an extraordinary chapter.

Warm regards,

A handwritten signature in blue ink, appearing to read 'Sh. Khawar'.

Prof. Shireen Khawar
Principal, QMCK



Vision, of Queen Medical College

Improving health through excellence in teachings and learnings, leaderships and innovations in health care practice and research.

Mission, of Queen Medical College

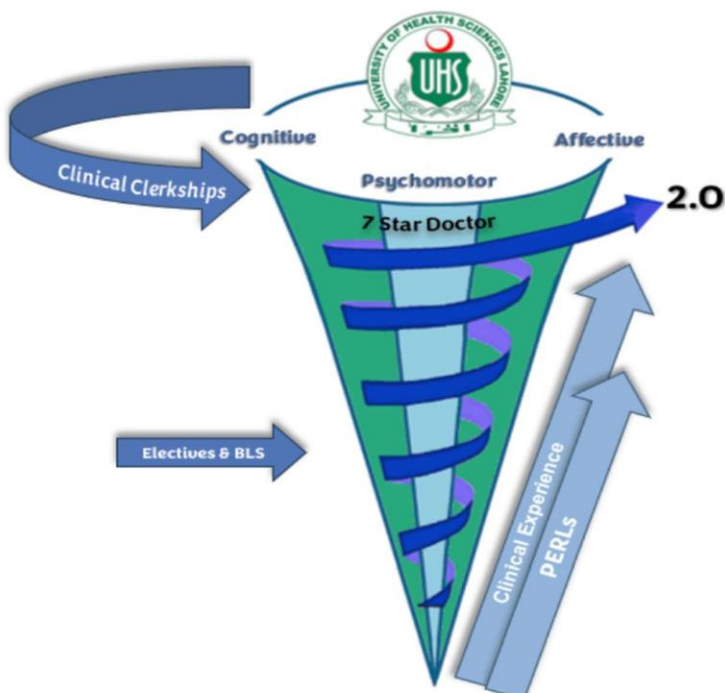
To make a valuable contribution to the undergraduate medical education in the country, by developing core knowledge, practical skills and ethical attitudes towards patient's care in our graduates.

To produce health care professionals who will enhance and extend quality of life in diverse clinical settings, offering the best in terms of efficacy and safety. To strive to attain high standards in education, researches and clinical cares and develop tomorrow's health care leaders who practice patient centered medicine of highest professional standard.



MODULE NO. 03: MUSCULOSKELETAL & LOCOMOTION-1

**MODULAR INTEGRATED
CURRICULUM 2K23** version 2.0



MODULE RATIONALE

The musculoskeletal system comprises the bones, muscles, cartilage, tendons, ligaments, and other connective tissues that provide the framework, support, and movement of the body. The initial learning activities will help in understanding the normal structure, development, and normal physiological mechanisms of the organs of the system. This will help in better understanding the possible pathological conditions of the system, including common injuries, diseases, and disorders that affect it, followed by discussion on some important group of drugs used for treatment and/or prevention of these conditions (administration route, mechanism of action and side effects). The impact of musculoskeletal diseases on society and the effect of ageing on occurrence of musculoskeletal diseases will be discussed. Emphasis has been given to incorporate deranged laboratory and imaging findings into the clinical problem solving.

MODULE OUTCOMES

- Develop an understanding of the fundamental components of the musculoskeletal system.
- Explain the development of the structure & function of the musculoskeletal components of limbs, back & correlate it with organization and gross congenital anomalies of the limbs.
- Identify the anatomical features of bones, muscles & neurovascular components of the limbs with clinical correlation.
- Describe how injury and disease alter the Musculoskeletal structure & function.
- Integrate concepts relating to various metabolic processes, their disorders and relevant lab investigations in the study of human Musculoskeletal system.
- Describe the role of the limbs (upper/lower) in musculoskeletal support, stability, and movements.
- Describe the types, formation, stability, function & clinical significance of joints of the upper and lower limb.
- Describe the basic histology of muscle fibers including their molecular structure (Sarcomere).
- Explain the mechanism of excitation and contraction of skeletal and smooth muscles.
- Discuss the psychosocial impact of musculoskeletal diseases in society.

THEMES

- Pectoral Region & Axilla
- Upper limb
- Pelvic Girdle
- Lower Limb

CLINICAL RELEVANCE

- Congenital anomalies of limb
- Joint Dislocation
- Fracture
- Multiple Sclerosis, Astrocytoma, Alzheimer's Disease
- Myopathy, Muscular Dystrophy

IMPLEMENTATION TORs

- The time calculation for completion of modules and blocks is based on 35 hours per week. Total hours of teaching, learning and formative/summative internal assessment to be completed in a year are 1200.
- The hours mentioned within each module are the mandatory minimum required. The rest of the hours are left to the discretion of the institution that can be used in teaching, learning and assessment as per decision of the institutional academic council.
- The content and the intended learning outcomes written are mandatory, to be taught, at the level required, as the end year assessment will be based on these.
- However, the level of cognition can be kept at a higher level by the institution.
- The Table of Specifications provided will be used for the three papers of the first professional examination. The same table of specifications should be used for the respective three block exams for internal assessment.

**SYLLABUS OF
MUSCULOSKELETAL
& LOCOMOTION-1
MODULE**

NORMAL STRUCTURE			
THEORY			
CODE	GROSS ANATOMY	TOTAL HOURS = 105	
	SPECIFIC LEARNING OUTCOMES	DISCIPLINE	TOPIC
UPPER LIMB			
MS-A-001	Describe the topographical anatomy of Pectoral Region	Human Anatomy	Pectoral Region
	Perform dissection of the Pectoral Region or use models to identify the key structures		
	Describe muscles of the Pectoral Region with their origin, insertion, nerve supply and actions.		
MS-A-002	Describe the cutaneous nerves. and Superficial veins of the Upper Limb.	Human Anatomy	Dermatomes and cutaneous innervation of Upper Limb
	Describe the extent, attachments, and structures passing through Clavipectoral Fascia	Human Anatomy	
MS-A-003	Describe the extent, structure, vascular supply, lymphatic drainage of Breast (Mammary Glands)	Human Anatomy	Pectoral region & Back + Mammary Glands
	Define the boundaries of auscultation and state its clinical significance	Integrate with Medicine	
	Demonstrate palpation of breast and define its relation to the Fibrous septa in Carcinoma of Breast	Integrate with Surgery	
	Explain the anatomical basis of position adopted for breast examination and mammography.	Integrate with Radiology	
	Describe the osteology of the bones in pectoral region. Enumerate the superficial muscles of back, connecting shoulder girdle with vertebral column. Describe the 1. Attachments 2. Nerve supply Actions of Trapezius, Latissimus Dorsi, Rhomboid	Human Anatomy	

	major and minor. Mention the neurovascular supply of pectoral region and Correlate with important clinical conditions. Describe superficial muscles of the back with their origin, insertion, nerve supply and actions.		
MS-A-004	Describe the Osteology of Clavicle (Morphological features, side determination, attachments, ossification)	Human Anatomy	Bones of Upper Limb: Clavicle & Scapula
	Describe the correlates functions of Clavicle (clavicle fracture, its role in terms of weight transmission of upper limb, compression of neurovascular structures)		
	Describe the Osteology of Scapula (morphological features, attachments, ossification)		
	Determine the side and identify the landmarks of scapula		
	Describe the movements of Scapula associated with movements of Shoulder Girdle		
	Tabulate the muscles of scapular region and give their attachments, nerve supply and action		
	Tabulate the attachments, origin, insertion, innervation, and actions of Anterior Axio-appendicular Muscles		
MS-A-005	Describe the Sternoclavicular Joint in terms of articulating surfaces, ligaments, articular disc, nerve supply.	Human Anatomy	Bones of thorax, Joints of Upper Limb: Sternoclavicular Joint
MS-A-006	Develop clear concepts of the topographical anatomy of Axilla and its contents	Human Anatomy	Axila
	Describe the boundaries of Axilla. (Identification of muscles forming the boundaries of axilla)		
	List the contents of Axilla		
	Perform dissection/ Identify the Axilla and its		

	contents		
	Describe Axillary Artery with reference to its 3 parts – their relations, branches, and anastomoses		
	Describe the formation, tributaries, and drainage of Axillary Vein	Human Anatomy	
	Identify and demonstrate the course/ relation and branches/tributaries of axillary vessels		
	Describe the Axillary Lymph Nodes in terms of location, grouping, areas of drainage and clinical significance		
	Describe the course, relations, root value and distribution of Axillary nerve. Describe the boundaries and contents of quadrangular space.		
MS-A-007	Describe the Osteology of Humerus (Side Determination, morphological features, attachments, ossification)	Human Anatomy	Bones of upper limb: Humerus
MS-A-008	Describe the Shoulder Joint under the following headings: Articulation, Type/ Variety, Capsule, Ligaments, Innervation, Blood supply, Movements.		Joints of Upper Limb: Shoulder Joint
	Describe the 3 parts of Deltoid Muscle and correlate them with its unique functions. Explain its role in abduction of shoulder joint. Explain mechanism of Abduction of arm		
	Identify and demonstrate the movements of scapula and shoulder joint.		
	Draw and label the arterial anastomosis around shoulder joint		
	Describe, in detail, the Scapula-Humeral Mechanism in relation to movement of abduction. Discuss important clinical conditions		

MS-A-009	Describe Rotator Cuff Muscles, state their Anatomical significance and explain Rotator Cuff Tendinitis	Human Anatomy	Rotator Cuff
	Clinical correlates of shoulder joint. (shoulder joint stability, dislocation and shoulder pain)	Integrate with Surgery	
MS-A-010	Describe the formation of Brachial Plexus; Infra and Supraclavicular parts. Discuss Brachial plexus injuries	Human Anatomy	Nerves of Upper Limb
	Demonstrate and identify the formation of brachial plexus and its branches		
	List the branches of brachial plexus and give their areas of distribution and muscles they innervate		
	Enlist and tabulate the muscles of anterior compartment of arm with their attachments, nerve supply and action. Identify & Describe Musculocutaneous Nerve in terms of its Origin, Course, Termination, Relations, Branches, and distribution. Describe and illustrate the cutaneous innervation of the arm.		
MS-A-011	Describe the Brachial Artery in terms of its course, relations, branches, and distribution	Human Anatomy	Blood supply of arm
	Tabulate the attachments, innervation, and actions of Triceps brachii as a muscle of Posterior Fascial Compartment of Arm		
	Identify & Describe the Profunda Brachii Artery giving its course, relations, branches, and distribution		
MS-A-012	Describe Cubital Fossa with emphasis on its boundaries, contents, and clinical significance		Muscles of Arm
	Demonstrate surface marking of superficial veins of arm and forearm for IV (Intra venous) injections		
	Demonstrate biceps brachii reflex, triceps reflex and		

	brachioradialis reflex		
MS-A-013	Determine the side and identify the landmarks of radius and ulna. Describe the Osteology of Radius (Side Determination, morphological features, attachments).	Human Anatomy	Bones of Forearm
	Describe the Osteology of Ulna (Side Determination, morphological features, attachments).		
MS-A-014	Describe osseofascial compartment of forearm. Tabulate flexor and pronators muscles of forearm, their attachments, actions and nerve supply. Describe the action of paradox with examples	Human Anatomy	Muscle of Anterior/Flexor Compartment of Forearm
MS-A-015	Tabulate the attachments, innervation, and actions of Extensor Muscles of the Forearm		Muscle of Lateral and Posterior/Extensor Compartment of Forearm
	Tabulate the attachments, innervation, and actions of Lateral Muscles of the Forearm		
MS-A-016	Identify the muscles and nerves of flexor and extensor compartments of forearm		Nerves of Forearm
	Describe and illustrate the cutaneous innervation of the Forearm		
	Describe ulnar, median and radial nerves in forearm.		
MS-A-017	Describe the Origin, Course, Relations, and branches of Ulnar and radial Artery in Forearm Describe the Origin, Course, Relations and list the tributaries of veins of Forearm. Surface marking of Brachial artery, Cephalic, Median cubital, Basilic Vein, Radial & Ulnar arteries, anterior & posterior interosseous artery		Blood supply of forearm
MS-A-018	Identify the Extensor & Flexor Retinacula and describe their attachments and relations	Human Anatomy	Retinacula of Forearm
MS-A-019	Demonstrate the formation of carpal tunnel and	Human	

	identify the contents Describe Carpel Tunnel Syndrome	Anatomy- Integrate with surgery	Carpal tunnel syndrome
	Describe the features, attachments, relations and structures passing under Flexor Retinaculum	Human Anatomy	
MS-A-020	Describe the Origin, Course, Relations, and branches of Ulnar Artery in Forearm		Forearm: Blood supply and Venous drainage
	Describe the Origin, Course, Relations and list the tributaries of veins of Forearm		
	Surface marking of Brachial artery, Cephalic, Median cubital, Basilic Vein, Radial & Ulnar arteries, anterior &posterior interosseous artery		
MS-A-021	Describe the Elbow Joint in terms of articular surfaces, type, variety, ligaments, muscles producing movements, blood supply {Anastomosis around elbow joint}, nerve supply and radiological imaging.	Human Anatomy	Joints of Upper Limbs: Elbow Joint
	Describe Carrying Angle and justify its importance in limb movement	Integrate with Surgery	
MS-A-022	Describe the Radioulnar Joints in terms of articular surfaces, type, variety, ligaments, muscles producing movements, nerve supply and radiological imaging.	Human Anatomy	Joints of Upper Limbs: Radioulnar Joint
	Describe the wrist joint in terms of articular surfaces, type, variety, ligaments, muscles producing movements, nerve supply and radiological imaging.		
	Demonstrate mechanisms of movements of Pronation & Supination		
MS-A-023	Describe the features of Interosseous Membrane with structures that pierce through it	Human Anatomy	Interosseous membrane
MS-A-024	Describe the features and explain the importance of Fibrous Flexor Sheaths, synovial flexor sheaths and	Human Anatomy	Fascia & Muscles of Hand

	extensor expansion		
MS-A-025	Demonstrate the attachments and actions of the muscles of hand Identify the muscles and neurovasculature of palm. Explain the morphology and tabulate the attachments, innervation and actions of intrinsic muscles of hand. Explain the fascial spaces of palm and pulp space of fingers Describe Dupuytren contracture, mallet finger and buttonaire deformity.	Human Anatomy	Hand & Actions of Muscles of Upper Limb as a Functional Unit
	Describe hand as a functional unit. (position of hand, movement of thumb and fingers while performing different functions)		
	Discuss cupping of hand and fist formation.		
MS-A-026	Draw the Radial Artery course, relation and termination in hand with its clinical significance in the region	Human Anatomy	Blood vessels of forearm and hand
	Describe the Ulnar Artery's Course, relation and termination in hand with its clinical significance in the region		
	Describe the formation, branches, and areas of distribution of Superficial and Deep Palmar Arch		
MS-A-027	Describe the course, relations and branches of Ulnar, Median and Radial Nerves in the Hand	Human Anatomy	Nerves of forearm and hand
MS-A-028	Describe the First Carpometacarpal Joint in terms of; Type, Variety, Articular Surfaces, Ligaments, Relations, Blood Supply, Innervation, movements.	Human Anatomy	Joints of Hands
	Demonstrate the movements of the 1st carpometacarpal joint		
	Describe the Metacarpophalangeal & interpharyngeal Joints in terms of; Type, Variety, Articular Surfaces, Ligaments, Relations, Blood		

	Supply, Innervation & Movements		
MS-A-029	Palpate the arteries of the upper limb on a subject	Integrate with Medicine	Skills
	Identify the topographical features of upper limb in a cross-sectional model/ specimen.	Integrate with Radiology	
	Demonstrate and identify the anatomical landmarks of upper limb on radiographs/ CT (Computed tomography)/ MRI (Magnetic resonance imaging)		
	Mark the anatomical landmarks and surface marking on a subject/ simulated model	Human Anatomy	
LOWER LIMB			
THEORY			
CODE	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
MS-A-030	Draw and label the Parts of the hip bone, with its attachments.	Human Anatomy	Hip Bone
	Describe the parts, attachments of hip bone		
	Identify the parts and bony features of the hip bone, with its attachments, important relations		
	Demonstrate the side determination of hip bone, its bony features, attachments		
MS-A-031	Describe the parts, attachments, side determination of femur	Human Anatomy	Femur
	Identify the parts and bony features of the femur, with its attachments.		
	Demonstrate the side determination of femur, its bony features, attachments, and important relations (correlate these with fractures)		
	Describe coxa Vara and coxa valga and their clinical significance		
MS-A-032	Describe the extent, attachments, and modifications of Fascia Lata	Human Anatomy	Fascia Lata
	Demonstrate the attachment of fascia Lata, iliotibial tract		

MS-A-033	Describe the cutaneous nerves and vessels of thigh	Human Anatomy	Neurovascular Supply of thigh
	Draw and label the cutaneous nerve supply of thigh		
	Describe the formation, course, relations, tributaries, and termination of the superficial veins		
	Explain the anatomical justification of venesection, varicose veins, and saphenous venous grafts		
	Describe the lymphatic drainage of the region with special emphasis on afferent and efferent of inguinal lymph nodes		
	Identify the superficial and deep lymph nodes		
	Explain the anatomical justification for enlargement of inguinal lymph nodes		
MS-A-034	Describe and identify the Boundaries and contents of femoral triangle	Human Anatomy	Femoral Triangle & Canal
	Draw and label the Boundaries and contents of femoral triangle		
	Identify the femoral sheath with its compartments		
	Describe the formation of femoral sheath and its significance		
	Describe the formation of femoral canal and its contents and significance		
	Describe the formation and significance of femoral ring		
	Compare and contrast the anatomical features of femoral and inguinal hernias	Integrate with Surgery	
MS-A-035	Tabulate the muscles of anterior compartment of thigh with their attachments, nerve supply and actions	Human Anatomy	Muscles of Anterior Compartment of Thigh
	Demonstrate and identify the muscles of anterior compartment of thigh with their proximal and distal attachments		

	Demonstrate the actions of muscles of anterior compartment of thigh	Integrate with Surgery	
	Explain the anatomical basis of psoas abscess		
MS-A-036	Identify and demonstrate the nerves and vessels of anterior compartment of thigh along with their branches	Human Anatomy	Neurovascular supply of Anterior Compartment of Thigh
	Describe the origin, course, relations, branches, distribution, and termination of femoral artery		
	Describe the origin, course, relations, tributaries, area of drainage and termination of femoral vein		
	Describe the origin, course, relations, branches, distribution, and termination of femoral nerve		
	Tabulate the muscles of anterior compartment of thigh with their attachments, nerve supply and actions.		
MS-A-037	Describe the formation, boundaries, contents of adductor canal	Human Anatomy	Adductor Canal
	Identify and demonstrate the boundaries and contents of adductor canal		
MS-A-038	Describe Muscles of medial compartment of thigh with their proximal and distal attachments, innervation and actions		Muscles of Medial Compartment of Thigh
	Identify the muscles of medial compartment of thigh with their proximal and distal attachments		
	Demonstrate the actions of the muscles of the compartment on self/ subject		
MS-A-039	Describe the origin, course, relations, branches/ tributaries, distribution, and termination of neurovascular structures of medial compartment of thigh	Human Anatomy	Neurovascular supply of Medial Compartment of Thigh
	Identify the nerves and vessels of medial compartment of thigh along with their branches		

	Describe and identify the lumbar and sacral plexus and its branches supplying the lower limb		
	Describe the cutaneous nerve supply and lymphatics of the region		
MS-A-040	List the structures passing through the greater and lesser sciatic foramen.		Gluteal Region
	Describe the muscles of gluteal region with their proximal and distal attachments, innervation, and actions		
	Identify the muscles of gluteal region with their proximal and distal attachments		
	Describe the origin, course, relations, branches/ tributaries, distribution, and termination of neurovascular structures of gluteal region		
	Demonstrate the actions of the muscles of gluteal region		
	Explain the anatomical basis of the consequences of wrongly placed gluteal intramuscular injections Damage to Gluteus medius & minimus due to poliomyelitis	Integrate with Medicine	
	Demonstrate and identify the origin, course, relations, branches/tributaries and termination of nerves and vessels of gluteal region	Human Anatomy	
MS-A-041	Describe the Attachments of muscles of posterior compartment of thigh with the innervation and action	Human Anatomy	Muscles of Posterior Compartment of Thigh
	Identify the muscles of posterior compartment of thigh with their proximal and distal attachments		
	Demonstrate the actions of muscles of posterior compartment of thigh		
	Describe the anatomical basis of signs and symptoms of sciatica.	Integrate with Surgery	
MS-A-042	Describe the origin, course, relations, branches, distribution, and termination of Profunda femoris	Human	Blood supply of Posterior

	artery	Anatomy	compartment thigh
	Describe blood supply on back of thigh		
MS-A-043	Describe the origin, course, relations, branches, distribution, and termination of sciatic nerve	Human Anatomy	Sciatic Nerve
	Describe the anatomical basis, signs and symptoms of compression of or injury to sciatic nerve	Integrate with Surgery	
MS-A-044	Describe the hip joint with its type, articulations, ligaments, stabilizing factors	Human Anatomy	Hip Joint
	Movements, and neuro-vascular supply with clinical significance.		
	Perform the movements of hip joint at various angles and be able to describe the muscles producing the movement. Discuss important associated clinical conditions (Hip dislocation, Arthritis, Hip joint stability and Trendelenburg sign) movements, and neuro-vascular supply with clinical significance.		
MS-A-045	Describe the Boundaries and contents of popliteal fossa. Discuss clinical correlates (Popliteal aneurysm, Palpation of Popliteal artery, semi membranous bursa swelling and Baker's cyst	Human Anatomy	Popliteal Fossa
	Draw and label boundaries and contents of popliteal fossa		
	Identify the boundaries and contents of popliteal fossa		
	Describe the origin, course, relations, branches/tributaries, distribution and termination of popliteal artery and vein		
MS-A-046	Describe parts of tibia and fibula, with their attachments, important relations and side	Human Anatomy	Knee Joint

	determination		
	Identify the parts and bony features of the tibia & fibula, their bony features, attachments, important relations.		
	Draw and label Parts of patella with its attachments		
	Describe features of patella, and name the factor responsible for stabilizing Patella		
	Describe the knee joint with its type, articulations, ligaments, movements, and neuro-vascular supply		
	Explain the mechanism of locking and unlocking of knee joint with the foot on ground and off the ground		
	Describe the attachments and role of popliteus in locking and unlocking of the knee joint		
	Describe the factors responsible for stability of knee joint. Discuss important associated clinical conditions.		
MS-A-047	Describe the Muscles of anterior, lateral, and posterior compartments of leg with their proximal & distal attachments, innervation, and actions	Human Anatomy	Muscles of leg
	Identify the muscles of anterior, lateral, and posterior compartments of leg with their proximal and distal attachments		Neurovascular supply of Leg
MS-A-048	Describe the origin, course, relations, branches/tributaries and termination of nerves and vessels of anterior, lateral, and posterior compartments of leg- Compartment Syndrome, Foot Drop		Neurovascular supply of Leg
	Describe the cutaneous nerves and veins of leg.		
	Draw and label the cutaneous nerve supply and dermatomes of leg		
MS-A-049	Identify the extensor, flexor, and peroneal retinacula		Flexor,

	and demonstrate the structures related to them		Extensor, and peroneal Reticula
	Describe the attachments, relations, and structures passing under cover of, extensor, peroneal, and flexor retinacula		
	Identify and demonstrate the nerves and vessels of anterior, lateral, and posterior compartments of leg along with their branches		
	Describe the formation of noncalcaneous (Achilles tendon)		
MS-A-050	Describe the articulations, muscles and nerve supply and movements at Tibiofibular joints	Human Anatomy	Tibio-fibular Joint
MS-A-051	Describe the ankle joint with its type, articulations, ligaments, movements, and nerve supply	Human Anatomy	Ankle Joint
	Describe the factors stabilizing the ankle joint. Discuss important associated clinical conditions.		
	Identify and demonstrate the articulating surfaces and ligaments of ankle joint		
MS-A-052	Describe the formation, attachments, and clinical significance of plantar aponeurosis	Human Anatomy	Plantar Fascia
	Explain the anatomical basis of the signs and symptoms of plantar fasciitis.	Integrate with Orthopedics	
MS-A-053	Identify the parts and bony features, attachments, and important relations of the articulated foot	Human Anatomy	Muscles of foot
	Describe the muscles of the dorsum and sole of foot with their proximal & distal attachments, innervation and actions emphasizing the role of interossei and lumbricals.		
	Draw and label the muscles of the layers of sole of foot		
	Demonstrate and identify the muscles and tendons with their proximal and distal attachments in the sole of foot		
MS-A-054	Describe the interphalangeal, subtalar and midtarsal		Small joints of

	joints with their types, articulation, movements, ligaments.	Human Anatomy	foot
MS-A-055	Describe the formation, components, stabilizing and maintaining factors of the arches of foot	Integrate with Orthopedics	Arches of foot
	Describe the clinical significance of arches of foot with respect to flat foot, claw foot.		
MS-A-056	Describe the fibrous flexor sheaths, extensor expansions and synovial flexor sheaths	Human Anatomy	Retinacula of foot
MS-A-057	Describe the origin, course, relations, branches/tributaries, distribution, and termination of plantar vessels	Human Anatomy	Neurovascular supply of foot
	Identify the nerves and vessels on the foot along with their branches		
	Describe the cutaneous nerves of foot		
	Draw and label the cutaneous nerve supply and dermatomes of foot		
	Identify the nerves and vessels in the sole of foot along with their branches		
	Describe the palpation of dorsalis pedis artery & explain the clinical significance of dorsalis pedis artery		
MS-A-058	Describe the surface anatomy, course, relations, tributaries, and communications of the superficial veins of the lower limb	Human Anatomy	Arterial and Venous drainage of lower limb
	Draw a concept map of the superficial veins of lower limb		
	List the factors favoring venous return of the lower limb		
MS-A-059	Explain the anatomical basis of the formation, and signs and symptoms of deep venous thrombosis	Integrate with Surgery	Human Gait
	Discuss Clinical correlations of Lower Limb Arteries (palpation of femoral, popliteal, posterior tibial &	Integrate with Medicine	

	dorsalis pedis arteries, collateral circulation, intermittent claudication, occlusive arterial disease)		
MS-A-060	Draw a concept map of the lymphatic drainage of lower limb	Human Anatomy	Lymphatic drainage of lower limb
MS-A-061	Draw and label the cutaneous nerves & dermatomes of the lower limb Discuss clinical correlates of Lower limb nerves (Femoral nerve injury, Sciatic Nerve injury, Common fibular, tibial & obturator nerve injury) Describe the anatomical basis of knee jerk, ankle jerk, and plantar reflex	Human Anatomy	Cutaneous dermatomes & nerve supply of lower limb
MS-A-062	Demonstrate the surface marking of nerves and vessels of lower limb	Human Anatomy	Topographical and radiological anatomy of lower limb
	Demonstrate the surface marking of bony landmarks of lower limb		
	Identify the topographical features of lower limb in a cross-sectional model		
	Demonstrate and identify the features of bones and joints of lower limb on radiograph/ CT scan/ MRI	Integrate with Radiology	
MS-A-063	Describe the common fractures of the following bone with the risk factors, clinical presentations, and management: 1. Clavicle 2. Humerus 3. Radius 4. Ulna 5. Small bones of hand 6. Hip bone 7. Femur 8. Tibia	Orthopedics and trauma	Bone Fracture

	9. Fibula 10. Small bones of foot		
MS-A-064	Describe the dislocations of the following joints with the risk factors and clinical presentations, and brief management: Shoulder joint 1. Elbow joint 2. Interphalangeal joint of hand 3. Hip joint 4. Knee joint 5. Ankle joint	Orthopedics and trauma	Joint Dislocation
THEORY			
CODE	EMBRYOLOGY & POST-NATAL DEVELOPMENT	TOTAL HOURS = 06	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
MS-A-065	Name the molecular and genetic factors involved in the development of musculoskeletal system	Human Embryology	Development of Muscles
	Describe the development of skeletal muscle and innervation of axial skeletal Muscles-developmental basis of myotome		
	Briefly discuss the development of cardiac and smooth muscle (Detail to be covered in respective modules later).		
MS-A-066	Describe the process of limb development and limb growth	Human Embryology	Development of Limb
MS-A-067	Describe the embryological basis of cutaneous innervation of limb	Human Embryology	Development of Nerve supply of limbs
	Describe the embryological basis of blood supply of limbs and concept of axial artery		

MS-A-068	Describe the embryological basis of congenital anomalies related to muscular system.	Human Embryology	Congenital anomalies of limbs
	Describe the clinical presentations and embryological basis of; i. Amelia ii. Meromelia iii. Phocomelia iv. Cleft Hand and Foot v. Polydactyly, Brachydactyly, Syndactyly vi. Congenital club foot	Integrate with Paediatrics	
MS-A-069	Describe the developmental process of cartilage and bone	Human Embryology	Development of Cartilage
	Describe the process of histogenesis of cartilage and bone		
MS-A-070	List the factors contributing to the development of Axial skeletal system	Human Embryology	Development of Axial skeleton
	Describe the clinical picture and explain the embryological basis of Axial skeletal anomalies		
	Describe the developmental process of Vertebral Column		
THEORY			
CODE	MICROSCOPIC ANATOMY	TOTAL HOURS = 06	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
MS-A-071	Describe the microscopic structure and ultramicroscopic structure of skeletal muscle	Histology	Histology of Muscles
	Explain the basis of myasthenia gravis.	Integrate with Medicine	
	Describe the microscopic and ultramicroscopic structure of cardiac muscle	Histology	
	Describe the microscopic and ultramicroscopic structure of smooth muscle		
	Compare and contrast the histological features of		

	three types of muscle tissue		
MS-A-072	Describe Myosatellite Cells & their role in regeneration of muscle, hyperplasia, and hypertrophy of muscle fiber	Histology/ Integrate with Pathology	Functional Histology
	Explain the histopathological basis of leiomyoma	Histopathology	
MS-A-073	Describe the light and electron microscopic structure of bone cells Describe the light and electron microscopic structure of compact and spongy bone	Histology	Histology of Osseous tissue
	Describe the histological justification for osteoporosis, Osteopetrosis	Integrate with Pathology	
	Describe the histological basis for bone repair after fractures.		
MS-A-074	Compare and contrast the microscopic features of compact and spongy bone	Histology	Histology of Bone
	Explain the characteristic features of ossification (Intramembranous & Endochondral ossification)		
	Describe the zones seen in an epiphyseal growth plate		
MS-A-075	Describe the metabolic role of bone -	Integrate with Medicine	Functional Histology of Bone
	Describe the clinical presentation of osteoporosis, osteopenia	Integrate with Orthopedics	
MS-A-076	Describe the microscopic and ultramicroscopic structure of all types of cartilage	Histology	Histology of Cartilage
	Compare and contrast the structure of cartilage and bone matrix		
	Tabulate the differences between three types of cartilage		
MS-A-077	Describe the histological basis for bone & Cartilage growth and repair	Histology	Mechanism of Bone growth

PRACTICAL

CODE	HISTOLOGY	TOTAL HOURS = 08	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
MS-A-078	Draw and label the histology of skeletal muscle	Histology	Histology of Muscles
	Draw and label the histology of smooth muscle		
	Draw and label the histology of cardiac muscle		
MS-A-079	Draw and label the histological picture of compact bone	Histology	Histology of Bones
	Draw and label the histological picture of spongy bone		
MS-A-080	Draw and label the microscopic structure of hyaline cartilage	Histology	Histology of Cartilage
	Draw and label the microscopic structure of elastic cartilage		
	Draw and label the microscopic structure of fibro cartilage		

NORMAL FUNCTION

THEORY

CODE	MEDICAL PHYSIOLOGY	TOTAL HOURS = 32	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
MS-P-001	Explain the Physiological basis of membrane potential	Medical Physiology	Diffusion / Equilibrium Potentials
	Explain diffusion potentials of Na & K		
MS-P-002	Define Nernst potential		Nernst potential
	Explain Physiological Basis of Nernst potential		
	Write the Nernst equation.		
	Calculate Nernst potential for Na & K		
	Explain the effects of altering the concentration of Na ⁺ , K ⁺ , Ca on the equilibrium potential for that ion		

MS-P-003	Describe the normal distribution of Na ⁺ , K ⁺ , Ca and Cl ⁻ across the cell membrane		Goldman Equation
	Explain physiological basis of Goldman equation		
	Clarify the role of Goldman equation in generation of Resting Membrane Potential (RMP).		
MS-P-004	Describe the Physiological basis of generation of RMP.		Resting Membrane Potential in Neurons
	Explain the effects of hyperkalemia and Hypokalemia on the Resting Membrane Potential (RMP)		
	Name the membrane stabilizers		
	Explain the physiological basis of action of Local Anesthetics.	Medical Physiology Integrate with Anesthesiology	
MS-P-005	Describe the Physiological anatomy of Neurons	Medical Physiology	Neurons
	Discuss the axonal transport		
	Enlist & give functions of Neuroglial cells		
	Explain process of myelination in Central Nervous System (CNS) & Peripheral Nervous System (PNS)		
MS-P-006	Classify neurons functionally.		Classification of Neurons & Fibers
	Classify nerve fibers according to Erlanger & Gasser Classification		
MS-P-007	Define Action Potential		Action Potential of Neurons
	Enlist the Properties of action potential		
	Describe the ionic basis of an action potential.		
	Explain the phases of action potential.		
	Explain the effects of hyperkalemia and Hypokalemia on the action potential.		
	Draw monophasic action potential.		
	Explain absolute and relative refractory period		
MS-P-008	Explain the role of other ions in action potential.		Role of other ions in action potential
	Elaborate the effect of hypocalcemia on neuron		

	excitability.		
MS-P-009	Explain Physiological basis & properties of Graded potential	Medical Physiology	Local / Graded potentials
	Draw & explain Physiological basis & properties of compound action potential.		
	Contrast between action potential and graded potential		
	Describe the ionic basis of excitatory Post Synaptic Potential (EPSP), Inhibitory Post Synaptic Potential (IPSP), End Plate Potential (EPP).		
MS-P-010	Classify and explain Physiological basis of different types of synapses	Medical Physiology	Synapse
	Elaborate how signal transmission takes place across chemical synapse		
MS-P-011	Explain the mechanism of conduction of Nerve impulse in myelinated and unmyelinated nerve fibers.		Conduction of Nerve Impulse
	Elaborate significance of saltatory conduction		
MS-P-012	Enlist the types of nerve injury	Medical Physiology Integrate with Medicine	Nerve Degeneration
	Explain Wallerian degeneration.		
	Describe the process of regeneration of nerve fiber.		
	Describe the causes, features & pathophysiology of Multiple sclerosis, GB syndrome.		
MS-P-013	Discuss the physiological anatomy of skeletal muscles.	Medical Physiology	Skeletal muscle
	Differentiate b/w skeletal, smooth, and cardiac muscle		
	Describe the structure of Sarcomere		
MS-P-014	Differentiate between isometric and isotonic contraction by giving examples.		Characteristics of whole muscle contraction
	Compare the fast and slow muscle fibers.		
MS-P-015	Explain the mechanism of summation and		Mechanics of

	Tetanization.	Medical Physiology	muscle contraction
	Describe staircase effect/Treppe phenomena		
	Discuss the mechanism of skeletal muscle fatigue.		
	Explain the remodeling of skeletal muscle to match the function. Describe the development of macro motor units in poliomyelitis.		
	Explain the physiological basis of rigor mortis	Medical Physiology Integrate with Forensic Medicine	
MS-P-016	Describe the physiological anatomy of Neuro Muscular Junction (NMJ)	Medical Physiology	Neuromuscular junction
	Mechanism of Neuromuscular transmission & generation of End Plate Potential		
	Explain features, pathophysiology & treatment of myasthenia Gravis	Medical Physiology Integrate with Medicine	
	Describe the enhancers or blockers of neuromuscular transmission at the neuromuscular junction.	Medical Physiology	
	Discuss the steps/ events of excitation contraction coupling in skeletal muscle.	Medical Physiology	
MS-P-017	Differentiate between types of smooth muscles.	Medical Physiology	Smooth Muscle
	Describe mechanism of smooth muscle contraction in comparison to skeletal muscle.		
	Explain the physiological anatomy of neuromuscular junction of smooth muscle		
	Explain the excitatory and inhibitory transmitters secreted at Neuro Muscular Junction (NMJ) of smooth muscles.		
	Explain the depolarization of multiunit smooth muscles without action potentials.		
	Explain the local tissue factors and hormones that		

	can cause smooth muscle contraction without action potential.		
	Explain the regulation of smooth muscle contraction by calcium ions.		
	Explain membrane potential and action potentials in smooth muscles.		
	Explain the phenomena of stress relaxation and reverse stress relaxation in smooth muscles.		
	Explain the LATCH mechanism		
	Describe the significance of LATCH mechanism.		
	Explain the nervous and hormonal control of Smooth Muscle Contraction.		
THEORY			
CODE	MEDICAL BIOCHEMISTRY	TOTAL HOURS = 30	
	SPECIFIC LEARNING OBJECTIVES	DISCIPLINE	TOPIC
MS-B-001	Classify carbohydrates along with the structure and biomedical importance of each class	Biochemistry	Classification carbohydrates
MS-B-002	Explain the isomerization of carbohydrates	Biochemistry	Carbohydrates
MS-B-003	Describe the physical and chemical properties of carbohydrates	Biochemistry	Extracellular matrix
	Differentiate between proteoglycan and glycoproteins		
	Describe the components of extracellular matrix: 1. Describe structure, functions and clinical significance of glycosaminoglycans 2. Discuss structure and functions of Fibrous proteins (collagen and Elastin) 3. Interpret diseases associated with them on basis of sign/symptoms and data 4. Interpret the importance of vitamin C in collagen synthesis	Biochemistry	

	5. Describe sources, active form, functions and deficiency diseases of vitamin C 6. Identify the defects in collagen synthesis based on given data (Ostegenesis Imperfecta)		
	Interpret genetic basis of Duchene muscular dystrophy	Biochemistry	
	Explain the transport and uptake of glucose in cells, steps of glycolysis and citric acid cycle along with enzymes, co enzymes and cofactors involved		
MS-B-004	Discuss the provision of energy to the muscles and cells through glycolytic pathway and TCA cycle	Biochemistry	Glycolysis and Tricarboxylic acid cycle (TCA)
	Explain the hormonal and allosteric regulation of glycolysis and TCA	Biochemistry	
MS-B-005	Describe the digestion and absorption of proteins in mouth, stomach and small intestine. Discuss the uptake of amino acids by cells	Biochemistry	Protein Digestion & Transport across cell
MS-B-006	Explain following reactions with enzymes involved in it: 1. Transamination 2. Deamination decarboxylation 3. Deamidation 4. Trans deamination. 5. Oxidative deamination.	Biochemistry	Reactions involve in catabolism
MS-B-007	Role of pyridoxal phosphate, glutamate, glutamine, alanine	Biochemistry	Transportation of ammonia to the liver
MS-B-008	Illustrate steps of urea cycle with enzymes and its importance Discuss ammonia intoxication	Biochemistry	Urea cycle
MS-B-009	Interpret different types of hyperammonia on basis of sign symptoms and data		
MS-B-010	Discuss the catabolic pathways of aliphatic, aromatic, branched chain, sulfur containing,	Biochemistry	Protein metabolism

	hydroxyl group containing amino acids with the products formed and enzymes and vitamins involved in them		
MS-B-011	Interpret the following on basis of given data: 1. Phenylketonuria 2. Tyrosinemia 3. Albinism 4. Homocystinuria 5. Maple syrup urine disease 6. Alkaptonuria	Biochemistry	Inborn errors of amino acid metabolism

PRACTICAL

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS=06	
		DISCIPLINE	TOPIC
MS-P-018	Demonstrate and categorize the following movements: Pushing against the wall, Biceps curls, squats, yoga chair pose, standing on toes, running on an inclined treadmill, yoga tree pose, deadlift as isotonic and isometric skeletal muscle contraction.	Physiology	Locomotion
MS-B-012	Estimation of total proteins by kit method/dipstick methods.		Total proteins
MS-B-013	Estimation of albumin and globulin		Albumin/ globulin

PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS

THEORY

CODE	SPECIFIC LEARNING OBJECTIVES	TOTAL HOURS = 4+7=11	
		DISCIPLINE	TOPIC
MS-Ph-01	Explain the mechanism by which drugs can stimulate NMJ.	Pharmacology & Therapeutics	Drugs acting on Neuromuscular Junction (NMJ)
	Explain the mechanism by which drugs can block NMJ.		

MS-Ph-02	Discuss briefly the therapeutic effect of drugs used in myasthenia gravis.		Drugs in Myasthenia Gravis
MS-Ph-03	Discuss briefly the therapeutic effect of drugs used as local anesthetics.		Local Anesthetics
MS-Pa-01	Describe the hyperplasia, hypertrophy, and atrophy of muscle fiber	Pathology	Muscle remodeling
	Explain the histopathological basis of leiomyoma		
MS-Pa-02	Describe the histological basis of Duchenne Muscular Dystrophy and myopathy.		Diseases of Muscle
MS-Pa-03	Describe the clinical presentation and histological justification for osteoporosis, osteopetrosis		Diseases of Bone
	Describe the histological basis for bone repair after fractures		
MS-Pa-04	Describe the histological basis for cartilage growth and repair		Disease of Cartilage

AGING

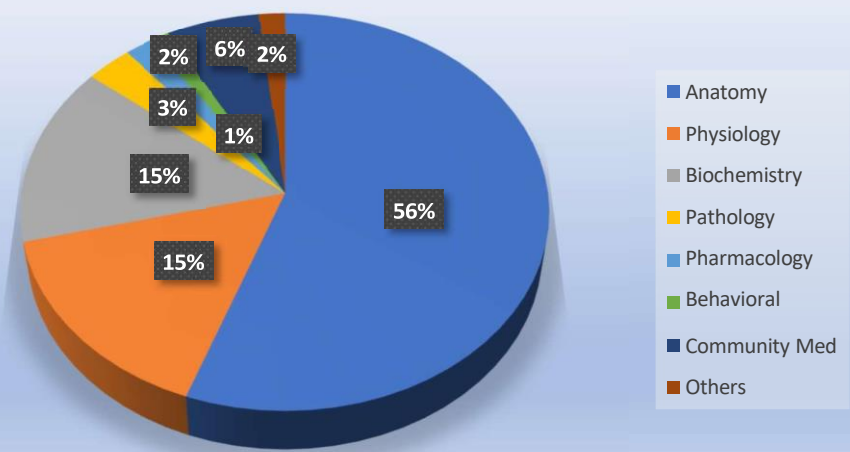
THEORY

CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 04	
		DISCIPLINE	TOPIC
MS-Ag-01	Discuss the effect of age on bone fragility and its implications with management.	Geriatrics/ Medicine/ Biochemistry	Bone
MS-Ag-02	Discuss the effect of age on loss of cartilage resilience and its implications and management		Cartilage
MS-Ag-03	Discuss the effect of age on Muscular strength and its implications and management		Muscle
MS-Ag-04	Explain the protective effect of estrogen (female sex hormone) on bone mineral density and relate it to increased prevalence of postmenopausal fractures in women.		Effect of estrogen on BMD

DISEASE PREVENTION AND IMPACT			
THEORY			
CODE	SPECIFIC LEARNING OUTCOMES	TOTAL HOURS = 14+3=17	
		DISCIPLINE	TOPIC
MS-CM-001	Explain causes of low back pain	Community Medicine and Public Health	Back Pain
	Describe prevention of low back pain		
MS-CM-002	Describe work related musculoskeletal disorders addition with its burden/epidemiology		Work related Musculoskeletal disorders
	Identify risk factors of Musculoskeletal disorders MSD at workplace		
	Describe prevention of exposure to risk factors related to workplace		
MS-CM-003	Describe MSD related to mobile addition with its burden/epidemiology	Community Medicine and Public Health	MSD related to mobile usage
	Describe MSD related to mobile usage (Text neck, Trigger thumb, DeQuervain Syndrome, Carpel Tunnel Syndrome)		
	Identify risk factors related to MSD due to excessive mobile usage.		
	Describe the preventive strategies for mobile addiction-related MSD.		
MS-CM-004	Describe the application of ergonomics in MSD related to the above disorders.	Community Medicine and Public Health	Ergonomics
MS-CM-005	Describe the concept of non-communicable Musculoskeletal diseases		Noncommunicable disease
MS-CM-006	Identify the risk factors in the community for Osteoporosis		Risk factor assessment of Musculoskeletal diseases
	Learn and apply interventions to prevent the risk factors for various musculoskeletal diseases in the community.		
MS-BhS-001	Identify and deal with the various psychosocial	Behavioral	Psychosocial

	aspects of Musculoskeletal conditions (such as Osteoarthritis, Osteomyelitis, Rheumatoid arthritis, Gout, chronic back pain, psychosomatic complaints) and Neuromuscular conditions (Muscular dystrophy, Myasthenia Gravis, Sclerosis) on Individual, Family and Society	Sciences	factors influencing chronic illnesses
MS-BhS-002	Identify the psychosocial risk factors as mediating factors between illness and its effect.		Psychosocial Impact of Disease and its management
	Discuss the role of psychological variables like coping, social support, and other health cognitions in mediating between illness and its effect.		

Musculoskeletal & Locomotion-1



Module Weeks	Recommended Minimum Hours
08	225



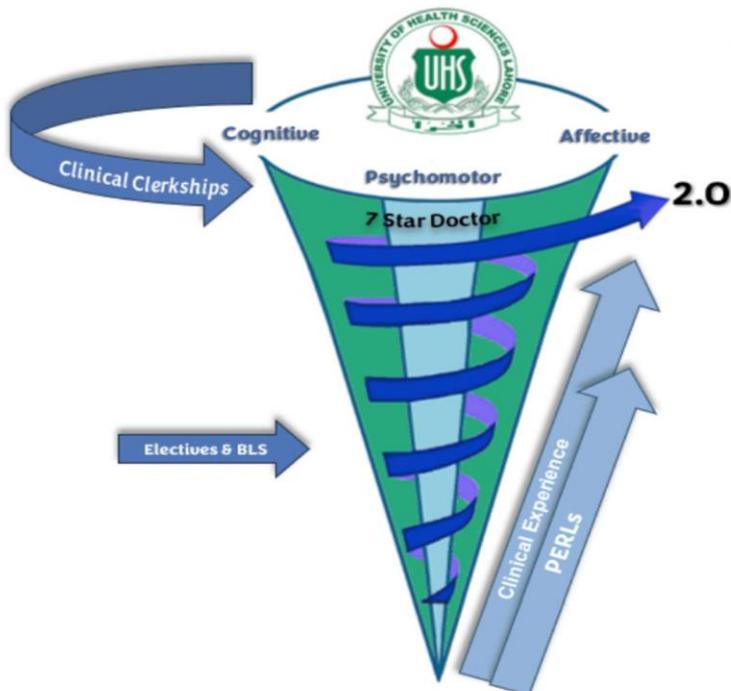


CURRICULUM

OF

Islamiyat & Pakistan Studies

MODULAR INTEGRATED
CURRICULUM 2K23 version 2.0



MODULE RATIONALE

This module comprises of Islamiyat & Pakistan Studies. All the medical or other curricula relate to our core context and internal fiber. The study of religion and country endorses all relevancy and competency acquisition for the purpose of service to humanity and community orientation.

ISLAMIYAT

A short course on Islamic Studies will be completed in First and Second year with an exam at the end of second year.

Course Content:

1. Understand the basic principles of Islam.
2. Explain the concept of the Islamic state.
3. Explain the Quran as a guide for modern society and scientific development.
4. Describe the life of the Holy Prophet Peace be upon him as an example to follow.
5. Explain ethics in the Islamic prospective.
6. Describe the rights of the individual in Islam.
7. Describe the rights of women and children in Islam.
8. Explain the contribution of Islamic scholars to science and medicine.
9. Understand Islam in terms of modern scientific development.
10. Explain the concept of Rizk-e-Hilal.
11. Explain the concept of Hukook-ul-Ibad.

PAKISTAN STUDIES

A short course on Pakistan Studies will be completed in First and Second year with an exam at the end of second year.

Course Content:

1. Describe brief the salient features of the Pakistan movement.
2. Explain the basis for the creation of Pakistan.
3. Give a brief account of the history of Pakistan.
4. Explain the ethnic and cultural distribution of the population of Pakistan.
5. Describe the Provinces and resources available in Pakistan.
6. Explain current problems faced by Pakistan.

7. Describe the social, economic and health problems of the rural population of Pakistan.

ISLAMIYAT AND PAKISTAN STUDIES BOOKS

- Standard Islamiyat (Compulsory) for B.A, B.Sc., M.A, M.Sc., MBBS by Prof. M.Sharif
Islahi Ilmi Islamiyat (Compulsory) for B.A. B.Sc., & equivalent.
- Pakistan studies (Compulsory) for B.A. B.Sc., B.Com., Medical/Engineering by Prof. Shah Jahan Kahlun
- Pakistan studies (Compulsory) for B.A, B.Sc., B.Com., B.Ed., Medical/Engineering by Prof. Shah Jahan Kahlun

general iii. Analyze your role for the betterment of the family Compare and contrast the impact of the deterioration of family in the western society and give examples	
i. Define community ii. Explain the nature and significance of community iii. Discuss the role of a family in community iv. Analyze the role of an individual for the betterment of the community	Community
i. Define society ii. Elaborate the relation between an individual and society and society and state iii. Analyze the role of an individual for the betterment of society	Society
i. Define the term nation, nationality and ummah differentiate between nation and nationality distinguish between nation and ummah analyze the value, behavior and the pattern of society based on religions ii. Evaluate the characteristics of society developed by religions	Nation, Nationality
i. Trace the origin of state with reference to the theories of Divine Origin, Force and Social ii. Contract (Hobbs, Lock, Rousseau) iii. Describe the elements of a state (sovereignty, population, territory, Government) iv. Compare and distinguish the role of state, society and government	Origin and elements of State
i. Describe the functions of state ii. Describe the factors which are necessary for proper functioning of state iii. Analyze the situation when a state does not function properly iv. Describe the characteristics of a welfare state Analyze how a welfare state guarantees the equity and justice on the issues of gender, religion, and social classes	Functions of state. (Defense, law and order, welfare etc.)

- Ilyas, Ansari (Editors)

Surgery

- Bailey and Love's short practice of surgery

Islamiyat

- Standard Islamiyat (compulsory) for B.A, BSc, MA, MSc, MBBS by Prof M Sharif Islahi.
- Ilmi Islamiyat(compulsory) for BA, BSc & equivalent.



C-FRC LOGBOOK C-FRC-1 (YEAR-1)





BLOCK-02

MUSCULOSKELETAL AND LOCOMOTION MODULE

Objectives	Skill	Miller's Pyramid Level Reflected
Measure body temperature using a mercury/digital thermometer	Body temperature	Shows
Examine the wrist joint for functionality	Wrist joint examination	Shows
Examine strength of the upper limb	Upper limb strength and power examination	Shows
Examine strength of the lower limb	Lower limb strength and power examination	Shows
Examine the knee joint for functionality	Knee joint examination	Shows
Examine the shoulder joint for functionality	Shoulder joint examination	Shows
Examine the hip joint for functionality	Hip joint examination	Shows
*Identify common fractures showing in x rays of upper limb	X ray common fractures Upper limb	Knows how

- ❖ These skills are at the 'Knows how' level of the miller's pyramid, meaning thereby that students need not perform them themselves but may develop a perception regarding them by observing performance/working on simulated patients/facilitation with videos.

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or **N/O** if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR BODY TEMPERATURE (Some of the following steps/tasks should be performed simultaneously.)	CASES (Minimum 2 Entries)		
STEP/TASK			
GETTING READY: Before proceeding further, check if the patient has recently taken cold or hot food/drink or smoked. Dip the thermometer in antiseptic (spirit) and wipe dry. If analogue thermometer, shake it until the normal temperature is pushed below 35°C. If digital thermometer, switch it on and it will show the room temperature on the display.			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
THE PROCEDURE: 1. Explain the procedure to the patient and get a verbal consent to proceed. 2. Keep the thermometer bulb/probe under the patient's tongue. Ask the patient to close the lips firmly around the thermometer but without biting it 3. Keep it in place for at least 2 minutes.			

4. Read the temperature as soon as you pull out the instrument			
5. After use, clean the instrument with antiseptic and wipe it off			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or **N/O** if not observed.

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Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR WRIST JOINT EXAMINATION (Some of the following steps/tasks should be performed simultaneously.)	CASES (Minimum 3 Entries)		
STEP/TASK			
THE PROCEDURE:			
1. Explain the procedure to the patient and get a verbal consent to proceed.			
2. Adequately expose hands and wrists of the patient			
3. before starting with the examination, inquire about pain in any area.			
4. Observe both hands and wrists for any asymmetry, scars, and muscle wasting			
5. Palpate the wrists for evidence of any joint line irregularities or tenderness			
6. Ask patients to perform wrist extension “put the palms of your hands together and extend your wrists fully “. normal range of movement is 90 degrees			
7. Ask the patient to perform wrist flexion “put the backs of your hands together and flex your wrist fully”, normal range of motion id 90 degrees			
8. Ask the patient to fully relax and allow you to move their hand and wrist for them. Warn them that in case any pain is felt they should report immediately.			
9. Repeat movements 6 and 7 passively.			

SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

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Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR EXAMINATION OF UPPER LIMB STRENGTH (Some of the following steps/tasks should be performed simultaneously.)	CASES (Minimum 3 Entries)		
STEP/TASK			
THE PROCEDURE: 1. Explain the procedure to the patient and get a verbal consent to proceed. 2. Ensuring privacy, adequately expose the arms of the patient 3. Before starting the testing for power and strength, for each muscle group check: a. appearance of the muscle (wasted, highly developed or normal) b. Feel tone of muscle (flaccid, normal, clinic) 4. Observe both hands and wrists for any asymmetry, scars, and muscle wasting 5. Starting with the deltoids, ask the patient to raise both their arms in front of them simultaneously as strongly as then can while the examiner provides resistance to this movement. Compare the strength of each arm. 6. Ask the patient to extend and raise both arms in front of them as if they were carrying a pizza. Ask the patient to keep their arms in place while they close their eyes and count to 10. Normally their arms will remain in place. 7. Test the biceps muscle flexion by holding the patient's wrist from above and instructing them to "flex their hand up to their shoulder". Provide resistance at the wrist. Repeat and compare to the opposite arm. 8. Ask the patient to extend their forearm against the examiner's resistance. Make certain that the patient begins			

their extension from a fully flexed position because this part of the movement is most sensitive to a loss in strength. This tests the triceps. Note any asymmetry in the other arm			
9. Test the strength of wrist extension by asking the patient to extend their wrist while the examiner resists the movement. This tests the forearm extensors. Repeat with the other arm.			
10. Examine the patient's hands and test the patient's grip by having the patient hold the examiner's fingers in their fist tightly and instructing them not to let go while the examiner attempts to remove them. Normally the examiner cannot remove their fingers. This tests the forearm flexors and the intrinsic hand muscles. Compare the hands for strength asymmetry			
11. Test the intrinsic hand muscles once again by having the patient abduct or "fan out" all of their fingers. Instruct the patient to not allow the examiner to compress them back in. Normally, one can resist the examiner from replacing the fingers			
12. Test the strength of the thumb opposition by telling the patient to touch the tip of their thumb to the tip of their little finger. Apply resistance to the thumb with your index finger. Repeat with the other thumb and compare.			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

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Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR EXAMINATION OF LOWER LIMB STRENGTH (Some of the following steps/tasks should be performed simultaneously.)	CASES (Minimum 3 Entries)		
STEP/TASK			
THE PROCEDURE:			
1. Explain the procedure to the patient and get a verbal consent to proceed.			
2. Ask the patient to lie down and raise each leg separately while the examiner resists. Repeat and compare with the other leg. This tests the iliopsoas muscles.			
3. Test the adduction of the legs by placing your hands on the inner thighs of the patient and asking them to bring both legs together. This test the adductors of the medial thigh.			
4. Test the abduction of the legs by placing your hands on the outer thighs and asking the patient to move their legs apart. This tests the gluteus maximus and gluteus minimums.			
5. Test the extension of the hip by instructing the patient to press down on the examiner's hand which is placed underneath the patient's thigh. Repeat and compare to the other leg. This tests the gluteus maximus			
6. Test extension at the knee by placing one hand under the knee and the other on top of the lower leg to provide resistance. Ask the patient to "kick out" or extend the lower leg at the knee. Repeat and compare to the other leg. This tests the quadriceps muscle.			
7. Test flexion at the knee by holding the knee from the side and applying resistance under the ankle and instructing the patient to pull the lower leg towards their buttock as hard as possible. Repeat with the other leg. This tests the hamstrings			
8. Test dorsiflexion of the ankle by holding the top of the ankle			

and have the patient pull their foot up towards their face as hard as possible. Repeat with the other foot. This tests the muscles in the anterior compartment of the lower leg. Holding the bottom of the foot, ask the patient to "press down on the gas pedal" as hard as possible. Repeat with the other foot and compare. This tests the gastrocnemius and soleus muscles in the posterior compartment of the lower leg			
9. Ask the patient to move the large toe against the examiner's resistance "up towards the patient's face. This tests the extensor hallucis longus muscle.			
POST PROCEDURE:			
1. 'Wash your hands, thank the patient'			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

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Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR EXAMINATION OF HIP JOINT EXAMINATION (Some of the following steps/tasks should be performed simultaneously.)	CASES (Minimum 3 Entries)		
STEP/TASK			
THE PROCEDURE:			
1. Explain the procedure to the patient and get a verbal consent to proceed.			
2. Ensure adequate exposure of the legs while maintaining patient privacy. Provide a covering sheet for the patient. (Students examining patients of an opposite gender must be with a chaperone.)			
3. Ask the patient if they have any pain before proceeding			
4. Inspect the joint and legs for any deformity, scarring or swelling			
5. Ask the patient to walk to the end of the examination room and then turn and walk back whilst you observe their gait			
6. Ask patient to lie down for next part pf the examination.			
7. With the patient still positioned supine on the clinical examination couch simultaneously assess and compare hip joint temperature using the back of your hands.			

8. Palpate the greater trochanter of each leg for evidence of tenderness			
9. To assess apparent leg length, measure and compare the distance between the umbilicus and the tip of the medial malleolus of each limb.			
10. To assess true leg length, measure from the anterior superior iliac spine to the tip of the medial malleolus of each limb.			
11. For active hip flexion Place your hand under the lumbar spine to detect masking of restricted hip joint movement by the pelvis and lumbar spine and ask the patient to <i>"bring your leg to your chest as much as you can"</i>			
12. For active hip extension ask the patient to extend their leg so that it lies flat on the bed.			
13. Perform passive hip flexion, Whilst supporting the patient's leg, flex the hip as far as you are able, making sure to observe for signs of discomfort.			
14. For passive hip internal rotation, Flex the patient's hip and knee joint to 90° and then rotate their foot laterally.			
15. For passive hip external rotation, flex the patients hip and knee joint to 90° and rotate the foot medially			
16. To perform passive hip abduction: a. With the patient's legs straight and flat on the bed, use one of your hands to hold the ankle of the hip being assessed and place your other hand over the contralateral iliac crest to stabilize the pelvis. b. Move the patient's ankle laterally to abduct the hip until the pelvis begins to tilt.			
17. To perform passive hip adduction: a. With the patient's legs straight and flat on the bed, use one of your hands to hold the ankle of the hip being assessed and place your other hand over the contralateral iliac crest to stabilize the pelvis. b. Move the patient's ankle medially to adduct the hip until the pelvis begins to tilt.			
18. To perform passive hip extension, ask the patient to lie in a prone position, use one hand to hold the ankle and the other should be placed on the pelvis.			
19. Thank and reassure the patient			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			

Signatures of Supervisor	
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Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or **N/O** if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR EXAMINATION OF SHOULDER JOINT EXAMINATION (Some of the following steps/tasks should be performed simultaneously.)	CASES (Minimum 3 Entries)		
STEP/TASK			
THE PROCEDURE: 1. Explain the procedure to the patient and get a verbal consent to proceed. 2. Ensure adequate exposure of the shoulder and arm and provide blanket to patient for the time when they are not being examined. 3. Position the patient standing for initial inspection and ask the patient if they have any pain before proceeding for examination. 4. Perform a brief general inspection looking for scars, alignment, and muscle wasting 5. Assess and compare shoulder joint temperature using the back of your hands. 6. Palpate the various components of the shoulder girdle, noting any swelling, bony irregularities, and tenderness. 7. To check for external rotation and abduction, ask the patient to put their hands behind their head and point their elbows out to the side 8. To check internal rotation and adduction, ask the patient to place each hand behind their back and reach as far up their spine as they are able to 9. For active shoulder flexion instruct the patient to raise their arms forward until they're pointing up towards the ceiling. 10. For active shoulder extension, ask the patient to stretch their arms behind them. 11. For active shoulder abduction, ask the patient to raise their arms out to the sides in an arc like mono until their hands touch above their head			

12. For active shoulder adduction, ask the patients to keep their arms straight and move them across the front of their body to the opposite side.			
13. For active internal rotation, ask the patient to place each hand behind their back and reach as far up the spine as they can.			
14. To check scapular movement, ask patient to abduct their shoulder while you simultaneously palpate inferior pole of the scapula.			
15. To judge passive movements, ask the patient to fully relax and allow you to move their arms for them. Go through steps 7-14 by moving the patients arm through those movements.			
16. Thank and reassure the patient			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or **N/O** if not observed.

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Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR UPPER LIMB X-RAY (Some of the following steps/tasks should be performed simultaneously.)	CASES (Minimum 3 Entries)		
STEP/TASK			
THE PROCEDURE: - Observe the ABC's: - Alignment and joint space - Bone texture - Cortices - Changes in alignment will suggest a fracture/ complete or partial dislocation - Describe the position of the fragment distal to the fracture site - Look around the outline of each bone to see any step in the cortex as it may indicate a fracture - Once a fracture is identified, describe which bone is involved and where the fracture is located (proximal/middle distal)/ - Recognize a fracture extending all the way through the bone as a complete fracture. - Identify type of complete fracture accordingly: - Transverse: fracture at right angles to the shaft - Oblique: fracture at an angle to the shaft - Spiral: caused by twisting injury - Comminuted: 2 or more bone fragments - Impacted: fractured bone forced together			

8. Recognize an incomplete fracture as one not involving the whole cortex.			
9. Types of incomplete fractures include: a. Torus/Buckle: a bulge in the cortex b. Bowing: associated bend in the bone shaft c. Greenstick: bending of the shaft with a fracture on the convex surface Salter-Harris: involving the growth plate			
10. Identify an open fracture as having a puncture of the skin or an open wound identify closed fractures as not having any skin opening.			
11. Identify closed fractures as not having any skin opening.			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

Place a “√” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or **N/O** if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR CHECKING CLUBBING OF FINGERS (Some of the following steps/tasks should be performed simultaneously.)	CASES (Minimum 2 Entries)		
STEP/TASK			
THE PROCEDURE: 1. Explain the procedure: Introduce yourself to the patient, explain what you will be doing and obtain their consent. 2. Inspect the nails: Look at the shape of the nails. Clubbed fingers have an increased curvature of the nail bed, causing the nails to appear rounded and wider than normal 3. Check the nail base: Look at the base of the nails. Clubbed fingers have a bulbous enlargement of the soft tissues at the base of the nails 4. Check for other signs: Look for other signs of underlying medical conditions that can cause clubbing, such as cyanosis (blue discoloration of the skin), coughing, difficulty breathing, or chest pain 5. Ask about symptoms: Ask the patient about any symptoms they may be experiencing, such as shortness of breath, chest pain, or chronic cough 6. Thank the patient			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			
Signatures of Supervisor			

IDENTIFICATION OF PNEUMONIC PATCH ON X-RAY

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR IDENTIFICATION OF PNEUMONIC PATCH (Some of the following steps/tasks should be performed simultaneously.)	CASES (Minimum 2 Entries)		
STEP/TASK			
THE PROCEDURE: 1. Identify the location of the patch: Look for an area of increased opacity or whiteness on the chest x-ray. The patch is usually located in one or more of the lung fields 2. Assess the shape and size of the patch: Observe the shape of the patch. It may be round, oval, or irregular in shape. Note the size of the patch and whether it is increasing or decreasing in size 3. Determine the density of the patch: Evaluate the density of the patch. It may appear dense or fluffy, and may be surrounded by a hazy or fuzzy border 4. Look for air bronchograms: Identify air bronchograms, which are visible air-filled bronchi within the patch. These indicate that the surrounding lung tissue is consolidated 5. Check for pleural effusion: Assess the presence of a pleural effusion, which is a buildup of fluid in the pleural space around the lungs. This can be seen as a dark area at the bottom of the lung field 6. Consider the patient's clinical presentation: Review the patient's symptoms, such as cough, fever, and shortness of breath, which are commonly associated with pneumonia 7. Report your findings			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			

Signatures of Supervisor	
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INHALER USAGE

Place a “✓” in case box if step/task is performed satisfactorily, an “X” if it is not performed satisfactorily, or N/O if not observed.

Satisfactory: Performs the step or task according to the standard procedure or guidelines

Unsatisfactory: Unable to perform the step or task according to the standard procedure or guidelines

Date Observed: _____

CHECKLIST FOR INHALER USAGE (Some of the following steps/tasks should be performed simultaneously.)	CASES (minimum 2 entries)		
STEP/TASK			
THE PROCEDURE:			
1. Explain what you are about to demonstrate to the patient			
2. Take off the cap of the inhaler			
3. Shake the inhaler well before using it to ensure proper mixing of the medication			
4. Hold the inhaler in your hand with your thumb on the bottom and your index and middle fingers on top			
5. Position the mouthpiece between your teeth and close your lips around it to form a tight seal (explain to the patient, do not insert in your mouth while doing demonstration)			
6. Begin to inhale slowly and deeply through your mouth as you press down on the canister to release the medication			
7. Wait for at least 30 seconds before repeating the above steps if another dose is required			
8. Recap the inhaler			
9. Instruct the patient, that incase a steroid inhaler is used, rinse mouth to prevent oral thrush			
SKILL/ACTIVITY PERFORMED SATISFACTORILY			

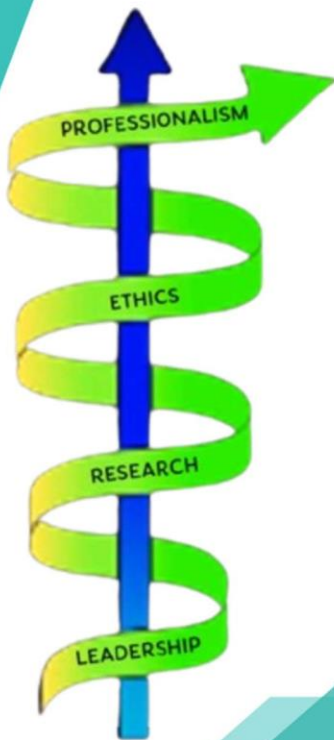
Signatures of Supervisor	
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MODULAR INTEGRATED CURRICULUM 2K23

Version 2.0



PERLS

**PROFESSIONALISM, ETHICS
RESEARCH, LEADERSHIP SKILLS**

BLOCK-2

Code	Domain	Attribute	Specific Learning Outcome	Topic	Portfolio Entry
PERLs-1-08	Professionalism	Responsible & Accountable	Demonstrate punctuality	Responsibility towards self and the profession Attendance record Reflective Writing	Reflective writing on portfolio outline development
PERLs-1-09		Caring & Empathic	Demonstrate respect of diversity in gender, age, culture, race, religion, abilities, and sexual orientation for peers	Diversity Equity Inclusion	An encounter with a specially abled person
PERLs-1-10		Responsible & accountable	Describe responsibility to oneself Discuss responsibilities of being a learner	Learning styles Learning Domains Motivation	Written assignment
PERLs-1-11			Discuss professional code of conduct	Responsibilities of a doctor	Case analysis of nonprofessional practice
PERLs-1-12	Ethics	Digital Citizen	Design a professional digital footprint and use appropriate online etiquette and follow rules for every Internet resource	Design a professional digital footprint and use appropriate online etiquette and follow rules for every Internet resource	Professional Profile on LinkedIn



TIMETABLE BLOCK – II

Curriculum 2023 Revised Version 3

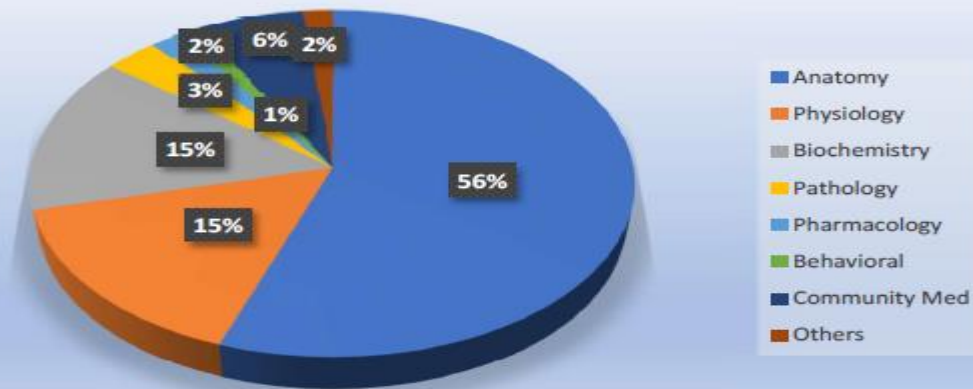
Modular Integrated Timetable First Year MBBS 2025

Queens Medical College, 11-Ferozepur Road, Kasur

MODULE No. 3 (Musculoskeletal & Locomotion - 1)

Module weeks = 8 Recommended Minimum hours = 225

Musculoskeletal & Locomotion-1



Anatomy (56%) =126
Physiology (16%) =37
Biochemistry (16%) =37
Pathology (3%) =6.75
Pharmacology (2%) =4.5
Behavioral Science (1%) =2.25
Community Medicine (6%) =13.5

Total hours =225

Module Weeks	Recommended Minimum Hours
08	225

Musculoskeletal & Locomotion

Total duration: 08 Weeks (Recommended Minimum = 225 hours)

First-Year MBBS Timetable 2025

Week 01

Theme: Basis of muscle structure and Function



DAY	08:00 – 09:00	09:00 – 9:50	9:50 – 10:40	10:40 – 11:10	11:10 – 12:00	12:00 – 1:30	1:30 – 3:00	
Monday	SGIS Batch Anat. (A) MS-A-001+ 002, Pectoral Region, Dermatomes & cutaneous innervation of Upper Limb. Physio. (B) Classification & Degeneration nerve fiber Bioch. (C) MS-B-002 Carbohydrates	Biochemistry LGIS MS-B-001 Classification of Carbohydrates	Physiology LGIS MS-P-002 Classification of Nerve Fibers	Break	Histology- LGIS MS–A– 071 Microscopic Structure of Muscles	Practical Batch Histo. (A) MS-A-078 Sk. Muscle Physio. (B) MS-P-018 Locomotion Bioch. (C) MS-B-012 Estimation of Total Proteins Skill Lab. (D) Respective Labs	Anatomy Dissection (Whole Class) MS-A-003 Superficial Muscles of the Back connecting the Shoulder Girdle with the vertebral column and their neurovascular supply	
Tuesday	SGIS Batch Anat. (C) 001+ 002, Pectoral Region, Dermatomes & cutaneous innervation of Upper Limb. Physio. (A) Classification & Degeneration of nerve fiber Bioch. (B) MS-B-002 Carbohydrates	Anatomy (GA) LGIS MS-A-003 Pectoral Region and Mammary Gland	Physiology LGIS Resting Membrane Potential		Embryology LGIS – MSA-065 Development of Muscles.	Practical Batch Histo. (D) MS-A-078 SK. Muscle Physio. (A) MS-P-018 Locomotion Bioch. (B) MS-B-012 Estimation of Total Proteins Skill Lab. (C) Respective Labs	Anatomy Dissection (Whole Class) MS-A-004 Bone of Upper Limb: Clavicle and Scapula	
Wednesday	SGIS Batch Anat. (B) 001+ 002, Pectoral Region, Dermatomes & cutaneous innervation of Upper Limb. Physio. (C) Classification & Degeneration of nerve fiber Bioch. (A) MS-B-002 Carbohydrates	Biochemistry LGIS MS-B-002 Isomerization of Carbohydrates	Anatomy (GA) LGIS MS-A-005 Upper Limb joints - sterno-clavicular Joint		Community Medicine. LGIS MS-CM-001 Back Pain	Practical Batch Histo. C MS-A-078. Sk. Muscle Physio. (D) MS-P-018 Locomotion Bioch. (A) MS-B-012 Estimation of Total Proteins Skill Lab. (B) Respective Labs	Anatomy Dissection (Whole Class) MS-A-006 Axilla with vessels, nerves, and nodes	
Thursday	Pharmacology LGIS MS-Ph-01 Drugs Acting on NMJ	Community Medicine. LGIS MS-CM-001 Back Pain	Physiology LGIS Action Potential		Anatomy LGIS MS-A-007 Bones of the Upper limb. Humerus	Practical Batch Hist.(B) Sk. Muscle Physio. (C) MS-P-018 Locomotion Bioch. (D) MS-B-012 Estimation of Total Proteins Skill Lab. (A) Respective Labs	Anatomy Dissection MS-A-008 Joints of Upper Limb. Shoulder Joint	
Friday	8:00 – 9:00 Biochemistry LGIS MS-B-002 Properties of Carbohydrates	09:00 – 9:50 Anatomy (GA) LGIS in MS-A-008 Scapulo-Humeral Mechanism	09:50 – 10:40 SDL	10:40 – 11:30 Anatomy (GA) LGIS Revision	11:30 – 12:20 Pathology LGIS MS-Pa-01 Muscle Remodeling	12:20 – 01:10 Behavioral Sciences LGIS MS-BhS-001 Psychological Factors influencing chronic illnesses	01:10 – 2:00 Break/Jumma Prayer	2:00-3:00 SDL

Musculoskeletal & Locomotion

Total duration: 08 Weeks (Recommended Minimum = 225 hours)

First-Year MBBS Timetable 2025

Week 03 Theme: Forearm and Hand

DAY	08:00 – 09:00	09:00 – 9:50	9:50 – 10:40	10:40 – 11:10	11:10 – 12:00	12:00 – 1:30	1:30 – 3:00	
Monday	SGIS Batch Anat. (A) MS-A-019 Carpal Tunnel Syndrome Physio. (B) Degen of NF Bioch. (C) MS-B-003 GAG CFRC (D)	Biochemistry LGIS MS-B-003 Clinical Signs of GAG	Physiology LGIS Structure of Skeletal Muscles	Break	Histology LGIS – MS – A 073 Histology of Osseous Tissue	Practical Batch Histo. (A) MS-A 078 Cardiac Muscle PERL (B) Bioch. (C) MS-B-013 Estimation of Albumin Skill Lab. (D) Respective Labs	Anatomy Dissection (Whole Class) MS-A-020 Blood Supply and Venous Drainage	
Tuesday	SGIS Batch Anat. (B) MS-A-019 Carpal Tunnel Syndrome Physio. (C) Degen of NF Bioch. (D) MS-B-003 GAG CFRC (A)	Anatomy LGIS MS-A-021	Physiology LGIS Excitation- Contraction coupling		Embryology LGIS – MS-A 066 Development of Limb	Practical Batch Histo. (D) MS-A 078 Cardiac Muscle PERL (A) Bioch. (B) MS-B-013 Estimation of Albumin Skill Lab. (C) Respective Labs	Anatomy Dissection (Whole Class) MS-A-020 Fascia and Muscles of Hands	
Wednesday	SGIS Batch Anat. (C) MS-A-019 Carpal Tunnel Syndrome Physio. (D) Degen of NF Bioch. (A) MS-B-003 GAG CFRC (B)	Biochemistry LGIS MS-B-003 Fibrous Proteins	Anatomy LGIS MS-A-021 Joints of Upper Limb: Elbow Joint and Carrying Angle		Community Medicine. LGIS MS-CM-002 Work-Related Musculoskeletal Disorders	Practical Batch Histo. (C) MS-A 078 Cardiac Muscle PERL (D) Bioch. (A) MS-B-013 Estimation of Albumin Skill Lab. (B) Respective Labs	Anatomy Dissection (Whole Class) MS-A-022+023 Joints of Forearm: Radioulnar Joint and Interosseous membrane	
Thursday	SGIS Batch Anat. (D) MS-A-019 Carpal Tunnel Syndrome Physio. (A) Degen of NF Bioch. (B) MS-B-003 GAG CFRC (C)	Community Medicine. LGIS MS-CM-003 MSD related to Mobile usage	Physiology LGIS Contraction of Skeletal Muscles		Anatomy (GA) SGIS MS-A-024 Fascia of the Hand	Practical Batch Histo. (B) MS-A 078 Cardiac Muscle PERL (C) Bioch. (D) MS-B-013 Estimation of Albumin Skill Lab. (A) Respective Labs	Anatomy Dissection (Whole Class) MS-A-025 Muscles of Hand: Action of Muscles of Upper Limb as Functional Unit.	
Friday	8:00 – 9:00 Pharmacology LGIS MS-Ph-01 Drugs Acting on the NMJ	09:00 – 9:50 Biochemistry LGIS MS-B-003 Diseases of Fibrous Proteins	09:50 – 10:40 Anatomy LGIS MS-A-026 +027 Blood vessels and Nerves of Hand	10:40 – 11:30 Anatomy LGIS MS-A-028+029 Joints of Hand and Skills	11:30 – 12:20 Pathology LGIS MS-Pa-02 Diseases of Muscles.	12:20 – 01:10 Behavioral Sciences LGIS MS-BhS-002 Psychological impact of disease and its management	01:10 – 2:00 Break/Jumma Prayer	2:00– 3:00 Pak Studies

Musculoskeletal & Locomotion

Total duration: 08 Weeks (Recommended Minimum = 225 hours)

First-Year MBBS Timetable 2025

Week 02

Theme:

Scapular Region and Arm

Day	08:00 – 09:00	09:00 – 9:50	9:50 – 10:40	10:40 – 11:10	11:10 – 12:00	12:00 – 1:30	1:30 – 3:00	
Monday	SGIS Batch Anat. (A) MS-A-009 Rotator Cuff Physio. (B) Resting MP & AP Bioch. (C) MS-B-002 Isomerization Carbohydrate CFRC (D)	Biochemistry LGIS MS-B-003 Proteoglycans	Physiology LGIS Properties of Action Potential	Break	Histology LGIS – MS – A 072 Functional Histology of Muscles	Practical Batch Histo. (A) MS-A 078 Sm. Muscle PERL (B) Communication skills Bioch. (C) MS-B-012 Dipstick Method Skill Lab. (D) Respective Labs	Anatomy Dissection (Whole Class) MS-A-010 Nerves of the Upper Limb Brachial Plexus	
Tuesday	SGIS Batch Anat. (B) MS-A-009 Rotator Cuff Physio. (C) Resting MP & AP Bioch. (D) MS-B-002 Isomerization Carbohydrate CFRC (A)	Anatomy LGIS MS-A-011 Blood Supply of the Upper Limb	Physiology LGIS Propagation of Action Potential		Embryology LGIS – MSA – 065 Development of Skeletal Muscles. Briefly smooth and cardiac muscles	Practical Batch Histo. (D) MS-A 078 Sm. Muscle PERL (A) Communication skills Bioch. (B) MS-B-012 Dipstick Method Skill Lab. (C) Respective Labs	Anatomy Dissection (Whole Class) MS-A-012 Muscles of the Arm	
Wednesday	SGIS Batch Anat. (C) MS-A-009 Rotator Cuff Physio. (D) Resting MP & AP Bioch. (A) MS-B-002 Isomerization Carbohydrate CFRC (B)	Biochemistry LGIS MS-B-003 Glycoproteins	Anatomy LGIS MS-A-013 Bones of the Forearm		Community Medicine. LGIS MS-CM-002 Work-Related Musculoskeletal Disorders	Practical Batch Histo. (C) MS-A 078 Sm. Muscle PERL (D) Communication Skills Bioch. (A) MS-B-012 Dipstick Method Skill Lab. (B) Respective Labs	Anatomy Dissection (Whole Class) MS-A-014 Muscles of the Anterior and Lateral Compartment of the Forearm	
Thursday	Anat. (D) MS-A-009 Rotator Cuff Physio. (A) Resting MP & AP Bioch. (B) MS-B-002 Isomerization Carbohydrate CFRC (C)	Community Medicine. LGIS MS-CM-002 Work-Related Musculoskeletal Disorders	Physiology LGIS Gross Degeneration and regeneration of nerves		Anatomy (Gross Anatomy) LGIS MS-A-015 Post. Muscles of the forearm	Practical Batch Histo. (B) MS-A 078 Sm. Muscle PERL (C) Communication Skills Bioch. (D) MS-B-012 Dipstick Method Skill Lab. (A) Respective Labs	Anatomy Dissection (Whole Class) MS-A-16 Nerves of the forearm.	
Friday	8:00 – 9:00 Biochemistry LGIS MS-B-003 Structure and Function of GAGs	09:00 – 9:50 Anatomy (GA) LGIS MS-A-017 Blood Supply of the Forearm	09:50 – 10:40 Anatomy (GA) LGIS MS-A-018 Retinacula of the Forearm	10:40 – 11:30 SDL	11:30 – 12:20 Pathology LGIS MS-Pa-01 Muscle Remodeling	12:20 – 01:10 Behavioral Sciences LGIS MS-BhS-002 Psychological impact of disease	01:10 – 2:00 Break/Jumma Prayer	2:00-3:00 Pak Studies

Musculoskeletal & Locomotion

Total duration: 08 Weeks (Recommended Minimum = 225 hours)

First-Year MBBS Timetable 2025

Week 04

Theme: Anterior Compartment of Thigh

DAY	08:00 – 09:00	09:00 – 9:50	9:50 – 10:40	10:40 – 11:10	11:10 – 12:00	12:00 – 1:30	1:30 – 3:00	
Monday	SGIS Batch Anat. (A) MS-A-030 Hip Bone Physio. (B) contraction of SK Muscles Bioch. (C) MS-B-003 Fibrous Protein CFRC: Batch D	Biochemistry LGIS TEST	Physiology LGIS Energetics of Skeletal Muscle contraction	Break	Histology LGIS MS-A- 074 Histology of Bone	Practical Batch Histo. (A) MS-A 079 Compact Bone Histology PERL (B) Bioch. (C) MS-B-013 Estimation of Globulin Skill Lab. (D) Respective Labs	Anatomy Dissection Hip Bone	
Tuesday	SGIS Batch Anat. (B) MS-A-030 Hip Bone Physio. (C) contraction of SK Muscles Bioch. (D) MS-B-003 Fibrous Protein CFRC: Batch (A)	Anatomy SGIS MS-A-032 Fascia Lata	Physiology LGIS Physiological Anatomy of NMJ		Embryology LGIS MS – A- 067 Development of Blood and Nerve Supply of Limbs	Practical Batch Histo. (D) MS-A 079 Compact Bone Histology PERL (A) Bioch. (B) MS-B-013 Estimation of Globulin Skill Lab. (C) Respective Labs	Anatomy Dissection (Whole Class) MS-A-031 Femur	
Wednesday	SGIS Batch Anat. (C) MS-A-030 Hip Bone Physio. (D) contraction of SK Muscles Bioch. (A) MS-B-003 Fibrous Protein CFRC: Batch (B)	Biochemistry LGIS MS-B-003 Vit. C	Anatomy SGIS MS-A-031 Femur		Community Medicine. LGIS MS-CM-003 MSD related to mobile usage	Practical Batch Histo. (C) MS-A 079 Compact Bone Histology PERL (D) Bioch. (A) MS-B-013 Estimation of Globulin Skill Lab. (B) Respective Labs	Anatomy Dissection (Whole Class) Test Upper Limb	
Thursday	SGIS Batch Anat. (D) MS-A-030 Hip Bone Physio. (A) contraction of SK Muscles Bioch. (B) MS-B-003 Fibrous Protein CFRC: Batch (C)	Anatomy (Gross Anatomy) SGIS MS-A-033 Femoral Triangle and Canal	Community Medicine. LGIS MS-CM-003 MSD related to mobile usage		Physiology LGIS Muscular Dystrophies	Practical Batch Histo. (B) MS-A 079 Compact Bone Histology PERL (C) Bioch. (D) MS-B-013 Estimation of Globulin Skill Lab. (A) Respective Labs	Anatomy Dissection (Whole Class) MS-A-033 Neurovascular Supply of Anterior Compart. of Thigh	
Friday	8:00 – 9:00 Biochemistry LGIS MS-B-003 Duchene Muscular Dystrophy	09:00 – 9:50 Anatomy (GA) SGIS MS-A-034+035 Muscles of Ant. Compt. Of thigh & femoral Tri	09:50 – 10:40 Anatomy (GA) LGIS MS-A-036 Neurovascular Supply of the Ant. Compt. Of thigh	10:40 – 11:30 SDL	11:30 – 12:20 Pathology LGIS MS-Pa-03 Diseases of Bones.	12:20 – 01:10 CFRC	01:10 – 2:00 Break/Jumma Prayer	2:00-3:00 Islamivat

Musculoskeletal & Locomotion

Total duration: 08 Weeks (Recommended Minimum = 225 hours)

First-Year MBBS Timetable 2025

Week 05

Theme: Medial & Posterior Compartments of Thigh and Hip joint

DAY	08:00 – 09:00	09:00 – 9:50	9:50 – 10:40	10:40 – 11:10	11:10 – 12:00	12:00 – 1:30	1:30 – 3:00	
Monday	SGIS Batch Anat. (A) MS-A-037 Adductor Canal Physio. (B) NMJ Bioch. (C) MS-B-003 Vit. C	Biochemistry LGIS MS-B-004 Glycolysis	Physiology LGIS Neuromuscular Transmission	Break	Anatomy (Histology) LGIS – MS – A 075 Functional Histology of Bone	Practical Batch Histo. (A) MS-A 079 Spongy Bone Histology PERL (B) Bioch. (C) OSPE Skill Lab. (D) Respective Labs	Anatomy Dissection (Whole Class) MS-A-038 Muscles of the Medial compt. Of thigh	
Tuesday	SGIS Batch Anat. (C) MS-A-037 Adductor Canal Physio. (A) NMJ Bioch. (B) MS-B-003 Vit. C	Anatomy SGIS MS-A-039 Neurovascular supply of medial compartment of thigh	Physiology LGIS Abnormalities of NMJ		Anatomy (Embryology) LGIS – MS – A 068 Congenital Anomalies of Limbs	Practical Batch Histo. (D) MS-A 079 Spongy Bone Histology PERL (A) Bioch. (B) OSPE Skill Lab. (C) Respective Labs	Anatomy Dissection (Whole Class) MS-A-040 Gluteal Region	
Wednesday	SGIS Batch Anat. (B) MS-A-037 Adductor Canal Physio. (C) NMJ Bioch. (A) MS-B-003 Vit. C	Biochemistry LGIS MS-B-004 TCA Cycle	Anatomy SGIS MS-A-041 Muscles of post. Compartment of thigh		Community Medicine. LGIS MS-CM-003 MSD related to mobile usage	Practical Batch Histo. (C) MS-A 079 Spongy Bone Histology PERL (D) Bioch. (A) OSPE Skill Lab. (B) Respective Labs	Anatomy Dissection (Whole Class) MS-A-042 Blood Supply of Post. Compart. of thigh	
Thursday	Pharmacology LGIS MS-Ph-02 Drugs used in Myasthenia Gravis	Community Medicine. LGIS MS-CM-004 Ergonomics	Physiology LGIS Muscular atrophy and hypertrophy		Anatomy (GA) LGIS MS-A-043 Sciatic Nv.	Practical Batch Histo. (B) MS-A 079 Spongy Bone Histology PERL (C) Bioch. (D) OSPE Skill Lab. (A) Respective Labs	Anatomy Dissection (Whole Class) MS-A-044 Hip joint	
Friday	8:00 – 9:00 PBL 1 Fracture Neck of Femur	09:00 – 9:50 Biochemistry LGIS MS-B-005 Protein Digestion	09:50 – 10:40 Anatomy (GA) LGIS MS-A-044 Hip Joint	10:40 – 11:30 Anatomy (GA) LGIS Revision	11:30 – 12:20 Pathology LGIS MS-Pa-03 Diseases of Bones.	12:20 – 01:10 Quran	01:10 – 2:00 Break/Jumma Prayer	2:00-3:00 Islamiat

Musculoskeletal & Locomotion

Total duration: 08 Weeks (Recommended Minimum = 225 hours)

First-Year MBBS Timetable 2025

Week 06

Theme:

Knee Joint and Leg

DAY	08:00 – 09:00	09:00 – 9:50	9:50 – 10:40	10:40 – 11:10	11:10 – 12:00	12:00 – 1:30	1:30 – 3:00	
Monday	SGIS Batch Anat. (A) MS-A-045 Popliteal Fossa Physio. (B) MS Dys. Bioch. (C) Glycolysis	Biochemistry LGIS MS-B-006 Reactions involved in Catabolism	Physiology LGIS Isometric Isotonic contractions	Break	Histology LGIS – MS- A 076 Histology of Cartilage	Practical Batch Histo. (A) MS-A 080 Hyaline Cartilage Histology PERL (B) Bioch. (C) Revision Skill Lab. (D) Respective Labs	Anatomy Dissection (Whole Class) MS-A-046 Knee Joint	
Tuesday	SGIS Batch Anat. (C) MS-A-045 Popliteal Fossa Physio. (A) MS Dys. Bioch. (B) Glycolysis	Anatomy SGIS MS-A-046 Knee Joint	Physiology LGIS Structure of smooth muscles		Embryology LGIS – MS – A 069 Development of Cartilages	Practical Batch Histo. (D) MS-A 080 Hyaline Cartilage Histology PERL (A) Bioch. (B) Revision Skill Lab. (C) Respective Labs	Anatomy Dissection (Whole Class) MS-A-047 Muscles of the Leg	
Wednesday	SGIS Batch Anat. (B) MS-A-045 Popliteal Fossa Physio. (C) MS Dys. Bioch. (A) Glycolysis	Biochemistry LGIS MS-B-006 Reactions involved in Catabolism	Anatomy SGIS MS-A-048+49 Neurovascular supply of leg. Retinacula of leg		Community Medicine. LGIS MS-CM-005 Non-communicable diseases	Practical Batch Histo. (C) MS-A 080 Hyaline Cartilage Histology PERL (D) Bioch. (A) Revision Skill Lab. (B) Respective Labs	Anatomy Dissection MS-A-050+51 Tibiofibular Joint and Ankle Joint	
Thursday	Pharmacology LGIS MS-Ph-03 Local Anesthesia	Community Medicine. LGIS MS-CM-006 Risk Factors Assessment of MSK Diseases	Physiology LGIS Mechanism of smooth muscle contraction		Anatomy (GA) SGIS MS-A-052 Planter Fascia	Practical Batch Histo. (B) MS-A 080 Hyaline Cartilage Histology PERL (C) Bioch. (D) Revision Skill Lab. (A) Respective Labs	Anatomy Dissection (Whole Class) MS-A-053 Muscles of the Foot	
Friday	8:00 – 9:00 PBL 2 Fracture neck of femur	09:00 – 9:50 Anatomy (GA) LGIS MS-A-054 Small Joint of foot	09:50 – 10:40 Anatomy (GA) LGIS Revision	10:40 – 11:30 SDL	11:30 – 12:20 Pathology LGIS MS-Pa-04 Diseases of Cartilage.	12:20 – 01:10 Quran	01:10 – 3:00 Break/Jumma Prayer	 Pak studies

Musculoskeletal & Locomotion

Total duration: 08 Weeks (Recommended Minimum = 225 hours)

First-Year MBBS Timetable 2025

Week 07

Theme:

Leg and Foot

DAY	08:00 – 09:00	09:00 – 9:50	9:50 – 10:40	10:40 – 11:10	11:10 – 12:00	12:00 – 1:30	1:30 – 3:00	
Monday	SGIS Batch Anat. (A) MS-A-055 Arches of foot Physio. (B) Abnormalities of NMJ Bioch. (C) TCA CFRC: Batch D	Biochemistry LGIS MS-B-007 Transportation of Ammonia	Physiology LGIS Excitation contraction coupling of smooth muscle	Break	Anatomy (Histology) LGIS – MS – A 077 Mechanism of Bone Growth	Practical Batch Histo. (A) MS-A 080 Elastic & Fibrous Cartilage Histology PERL (B) Communication skills Bioch. (C) MS-B-012 Estimation of Protein Skill Lab. (D) Respective Labs	Anatomy Dissection (Whole Class) MS-A-056+ 057 Nerve supply of foot	
Tuesday	SGIS Batch Anat. (B) MS-A-055 Arches of foot Physio. (C) Abnormalities of NMJ Bioch. (D) TCA CFRC: batch A	Anatomy SGIS MS-A-058 Arterial and Venous drainage of lower limb.	Physiology LGIS Properties and regulation of smooth muscle contraction.		Embryology LGIS – MS-A– 069 Development of Axial Skeleton.	Practical Batch Histo. (D) MS-A 080 Elastic & Fibrous Cartilage Histology PERL (A) Communication skills Bioch. (B) MS-B-012 Estimation of Protein Skill Lab. (C) Respective Labs	Anatomy Dissection (Whole Class) MS-A-059 Human Gait	
Wednesday	SGIS Batch Anat. (C) MS-A-055 Arches of foot Physio. (D) Abnormalities of NMJ Bioch. (A) TCA CFRC: Batch B	Biochemistry LGIS MS-B-008 Urea Cycle	Anatomy SGIS MS-A-060 Lymphatic Drainage of the Lower Limb		Community Medicine. LGIS MS-CM-006 Risk Factors Assessment of MSK Diseases	Practical Batch Histo. (C) MS-A 080 Elastic & Fibrous Cartilage Histology PERL (D) Communication Skills Bioch. (A) MS-B-012 Estimation of Protein Skill Lab. (B) Respective Labs	Anatomy Dissection (Whole Class) MS-A-061 Cutaneous Dermatomes and nerve supply of the lower limb.	
Thursday	SGIS Batch Anat. (D) MS-A-055 Arches of foot Physio. (A) Abnormalities of NMJ Bioch. (B) TCA CFRC: Batch C	Community Medicine. LGIS MS-CM-006 Risk Factors Assessment of MSK Diseases	Anatomy (GA) SGIS MS-a-062 Radiology and Surface Anatomy of the Lower Limb.		Anatomy Revision	Practical Batch Histo. (B) MS-A 080 Elastic & Fibrous Cartilage Histology PERL (C) Communication skills Bioch. (D) MS-B-012 Estimation of Protein Skill Lab. (A) Respective Labs	Anatomy Dissection (Whole Class) MS-A-063 Bone Fracture and Joint Dislocation	
Friday	8:00 – 9:00 Pharmacology LGIS MS-Ph-03 Local Anesthesia	09:00 – 9:50 Biochemistry LGIS MS-B-009 Ammonia Intoxication	09:50 – 10:40 Anatomy Dissection (Whole Class) Test Lower Limb	10:40 – 11:30	11:30 – 12:20 Pathology LGIS MS-Pa-03 Diseases of Bones.	12:20 – 01:10 Quran	01:10 – 2:00 Break/Jumma Prayer	2:00-3:00 Pak studies

Total duration: 08 Weeks (Recommended Minimum = 225 hours)

Week 8: Theme: Revision and Exam

DAY	08:00 – 09:00	09:00 – 9:50	9:50 – 10:40	10:40 – 11:10	11:10 – 12:00	12:00 – 1:30	1:30 – 3:00
Monday	Integrated Seminar			Break	Integrated Seminar	SDL	SDL
Tuesday	SDL	SDL	SDL		SDL	SDL	SDL
Wednesday	Block - 2 Examination Written Exam (From 9:00 am – 12 Noon) (According to UHS Assessment Policy, Copy Attached) 07 SEQs (4 Anatomy + 2 Physiology 1 Biochemistry) 85 MCQs (35 Anatomy+17 Physiology+ 11 Biochemistry+ 06 Community Medicine+ 04 Behavioral Sciences+ 07 Pathology+ 05 Pharmacology)						
Thursday	OSPE & OSVE (IN BATCHES – Batch A & B)						
Friday	OSPE & OSVE (IN BATCHES – Batch C & D)						

UHS Table of Specifications

MBBS 1st Professional
Block-2

Theme	Subject	Written Exam			Oral/Practical/Clinical Exam			
		MCQ (1 mark)	SEQ (5 mark each)	Marks	OSPE (8 marks each observed)	OSCE (8 marks each observed)	OSVE (16 marks each observed)	Marks
Normal Structure	Anatomy applied/clinical	35	04	55	05	-	01	56
Normal Function	Physiology applied/clinical	17	02	27	01	-	01	24
	Biochemistry applied/clinical	11	01	16	01	-	01	24
Disease Burden & Prevention	Community Medicine & Public Health	06	-	06	-	-	-	-
	Behavioral Sciences	04	-	04	-	-	-	-
Pathophysiology & pharmacotherapeutics	Pathology	07	-	07	-	-	-	-
	Pharmacology	05	-	05	-	-	-	-
CFRC	CF-1-2	-	-	-	-	01	-	08
PERLs	PERLs-1-2	-	-	-	-	01	-	08
Total		85	7x5=35	120	07 stations x 08 = 56	02 stations x 08 = 16	03 stations x 16=48	120

Medical College Queens Medical College

Instructional Strategies

The following instructional strategies are being used in this module:

1. Interactive lectures
2. Case-based discussion.
3. Problem-Based Learning
4. Team-Based Learning
5. Small group discussions
6. Demonstrations
7. Dissection
8. Practical

Assessment

The following Assessment strategies are being used in this n module:

1. Weekly written tests
2. Tutorials / Small group discussions
3. Substages/ Stages
4. End of Module Exam

Queens Medical College Medical College

Counselling

PSYCHOSOCIAL COUNSELLING:

Assigned Mentor

HOD – Department of Behavioural Sciences

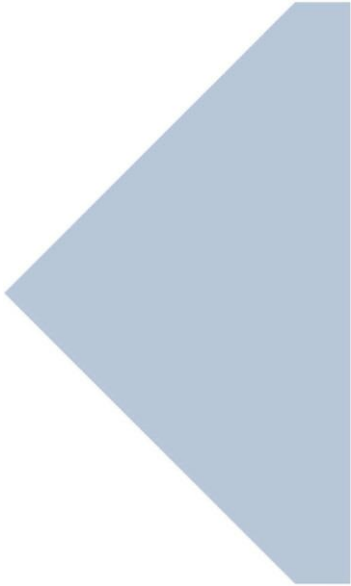
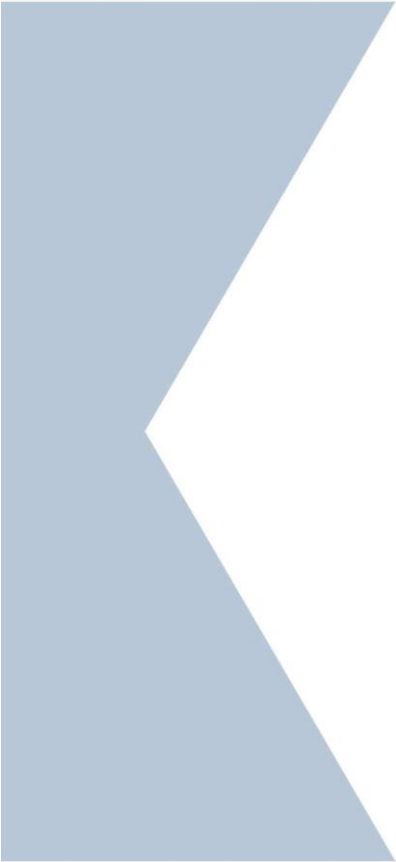
CAREER GUIDANCE:

Dr. Syed Hasan Shoaib

Department of Medical Education

Dr. Sadaf Sajid

Department of Forensic Medicine



List of Resources





Anatomy

- Snell's Clinical Anatomy 10th ed.
- Langman's Medical Embryology 12th ed
- Medical Histology by 8th ed.
- General Anatomy by 6th ed.

Physiology

- Guyton AC and Hall JE. Textbook of Medical Physiology. W. B. Saunders & Co., Philadelphia 14th Edition.
- Essentials of Medical Physiology by Mushtaq Ahmed

Biochemistry

- Harpers illustrated Biochemistry 32nd edition. Rodwell.V.W MCGrawHill publishers.
- Lippincott illustrated Review 8th edition Kluwer.W.
- Essentials of Medical Biochemistry vol 1&2 by Mushtaq Ahmed.

Pathology

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

Medicine

- Davidson's Principles and Practice of Medicine

Pharmacology

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

Behavioural Sciences

- Handbook of Behavioural Sciences by Prof. Mowadat H.Rana, 3rd Edition
- Medical and Psychosocial aspects of chronic illness and disability SIXTH EDITION by Donna R.Falvo, PhD
Beverly E.Holland, PhD, RN

Community medicine

- Parks Textbook of Preventive and Social Medicine. K. Park (Editor)
- Public Health and Community Medicine

- Ilyas, Ansari (Editors)

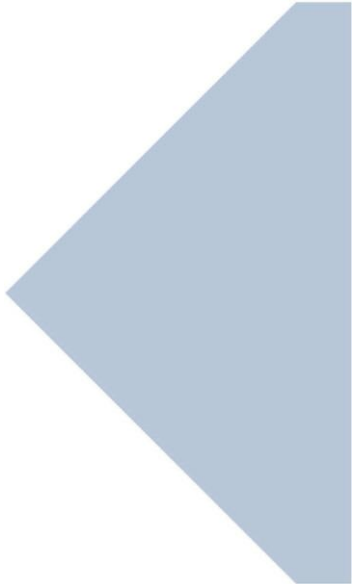
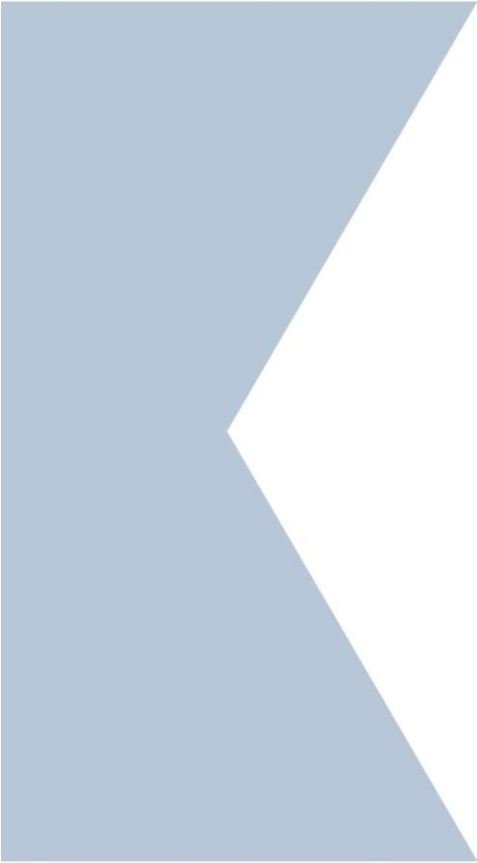
Surgery

- Bailey and Love's short practice of surgery

Islamiyat

- Standard Islamiyat (compulsory) for B.A, BSc, MA, MSc, MBBS by Prof M Sharif Islahi.
- Ilmi Islamiyat(compulsory) for BA, BSc & equivalent.





Assessment Policy



Statutes

1. The First Professional MBBS Examination shall be held at the end of the first year MBBS, whereas, the Second Professional MBBS Examination shall be held at the end of the second year.
2. Every candidate shall be required to study contents of Anatomy (including Histology), Physiology, Biochemistry, Behavioural Sciences, Community Medicine & Public Health, Pathology, Pharmacology & Therapeutics, Islamic Studies/ Civics and Pakistan Studies, Clinical skills and Professionalism, Ethics, Research and Leadership. The teaching and assessment shall be done in three modular blocks.
3. There will be three papers in the first professional examination, and four papers in the second professional examination:

First Professional Exam:

- a. Paper 1 will be based on contents of Block 1;
- b. Paper 2 will be based on contents of Block 2;
- c. Paper 3 will be based on contents of Block 3;

Second Professional Exam:

- a. Paper 1 will be based on contents of Block 4;
 - b. Paper 2 will be based on contents of Block 5;
 - c. Paper 3 will be based on contents of Block 6;
 - d. Paper 4 will be based on contents of Islamic studies/Civics and Pakistan Studies
4. Each paper will comprise of two components 'Written' and 'Oral/Practical/Clinical' examinations.
 5. The Written and 'Oral/Practical/Clinical' examination in each paper will carry 150 marks each, making the total marks of 300 for each of the papers 1,2, and 3 (inclusive of Internal Assessment).
 6. Total marks for the First and Second Professional Examinations shall be 900, each. Marks of Islamic Studies/Civics and Pakistan Studies shall not be counted towards total marks of any professional examination, and determination of position or merit of a candidate. However, the candidates shall have to take the examination in the subject in their Second Professional MBBS Examination. Those failing the subject in both annual & supplementary examinations, while passing all the other subjects of Second Professional Examination shall be promoted to the 3rd year MBBS, however they will be allowed two more attempts to clear the subject with Second professional Examination of the next session, failing which they shall be detained in the 3rd Professional MBBS.
 7. Major content areas of the first two professional years shall be from:
 - a. Anatomy including applied/clinical Anatomy;
 - b. Physiology including applied/clinical Physiology;
 - c. Biochemistry including applied/clinical Biochemistry.
 8. The Applied/Clinical content for the Anatomy, Physiology and Biochemistry shall be based on

clinical correlations.

9. Integrated clinical content areas of the both years include Behavioral Sciences, Community Medicine & Public Health, Pathology, Pharmacology & Therapeutics, Clinical Foundation- I & II and PERLs- I & II.

10. Written Examination

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

11. Oral/Practical/Clinical Examination

- a. The 'Oral/Practical/Clinical' component of each Papers 1, 2, and 3 will consist of a total of twelve (12) OSPE/OSCE/OSVE stations in each 'Oral/Practical/Clinical' examination.
- b. There will be seven (07) Observed OSPE (Objective Structured Practical Examination) stations from major subject areas. Each OSPE station will have the practical component and an evaluation of the underlying principle relevant to that practical with a component of applied knowledge.
- c. There will be two (02) Observed OSCE (Objective Structured Clinical Examination) stations, based on C-FRC1 and PERLs-1 in each 'Oral/Practical/Clinical' examination.
- d. There will be three (03) Observed interactive OSVE (Objective Structured Viva Examination) from major subject areas. Each OSVE station will have a structured viva, to assess a practical component along with evaluation of the underlying principle relevant to that practical with a component of applied/practical knowledge and related clinical application.
- e. Each OSPE/OSCE station will carry eight (08) marks.
- f. Each OSVE station will carry sixteen (16) marks.
- g. The duration of each 'Oral/Practical/Clinical' examination will be 120 minutes (2 hours).
- h. Time for each OSPE, OSCE and OSVE station will be eight (08) minutes.

12. Every candidate shall take the examination in the following Blocks (Modules) in First & Second Professional MBBS Examinations: -

Year 1

A. Block 1 (Foundation-I + Hematopoietic & Lymphatic)	300
Marks	
B. Block 2 (Musculoskeletal & Locomotion-I)	300
Marks	
C. Block 3 (Cardiovascular-I+ Respiratory-I)	300
Marks	

Year 2

I. Block 4 (Gastrointestinal Tract & Nutrition-I + Renal-I)	300
Marks	
II. Block 5 (Endocrinology & Reproduction-I + Head & Neck, Special Senses)	300
Marks	
III. Block 6 (Neurosciences-I + Inflammation)	300
Marks	
IV. Islamic Studies/ Civics + Pakistan Studies	100
Marks	

A. Block 1 (Foundation-I + Hematopoietic and Lymphatic)

The examination in Block 1 shall be as follows: -

- I. One written paper of 120 marks having two parts:
 - i. Part I shall have eighty-five Multiple Choice Questions (MCQs) of total 85 marks (01 mark for each MCQ) and the time allotted shall be 110 minutes. There will be no negative marking.
 - ii. Part II shall have seven Structured Essay Questions (SEQs) of total 35 marks (05 marks for each SEQ) and the time allotted shall be 70 minutes.
- II. 'Oral/Practical/Clinical' examination shall have 120 marks in total.
- III. The continuous internal assessment through 'Block Examination', conducted by the college of enrollment shall carry 60 marks, i.e., 20% of the total allocated marks (300) for the block. The score will be equally distributed to the Written and 'Oral/Practical/Clinical' Examinations.

B. Block 2 (Musculoskeletal & Locomotion-I)

The examination in Block 2 shall be as follows: -

- I. One written paper of 120 marks having two parts:
 - i. Part I shall have eighty-five Multiple Choice Questions (MCQs) of total 85 marks (01 mark for each MCQ) and the time allotted shall be 110 minutes. There will be no negative marking.
 - ii. Part II shall have seven Structured Essay Questions (SEQs) of total 35 marks (05 marks for each SEQ) and the time allotted shall be 70 minutes.
- II. 'Oral/Practical/Clinical' examination shall have 120 marks in total.
- III. The continuous internal assessment through 'Block Examination', conducted by the college of enrollment shall carry 60 marks, i.e., 20% of the total allocated marks (300) for the block. The score will be equally distributed to the Written and 'Oral/Practical/Clinical' Examinations.

C. Block 3 (Cardiovascular-I + Respiratory-I)

The examination in Block 3 shall be as follows: -

- I. One written paper of 120 marks having two parts:
 - i. Part I shall have eighty-five Multiple Choice Questions (MCQs) of total 85 marks (01 mark for each MCQ) and the time allotted shall be 110 minutes. There will be no negative marking.
 - ii. Part II shall have seven Structured Essay Questions (SEQs) of total 35 marks (05 marks for each SEQ) and the time allotted shall be 70 minutes.
- II. 'Oral/Practical/Clinical' examination shall have 120 marks in total.
- III. The continuous internal assessment through 'Block Examination', conducted by the college of enrollment shall carry 60 marks, i.e., 20% of the total allocated marks (300) for the block. The score will be equally distributed to the Written and 'Oral/Practical/Clinical' Examinations.

D. Block 4 (Gastrointestinal & Nutrition-I + Renal-I)

The examination in Block 2 shall be as follows: -

- I. One written paper of 120 marks having two parts:
 - i. Part I shall have eighty-five Multiple Choice Questions (MCQs) of total 85 marks (01 mark for each MCQ) and the time allotted shall be 110 minutes. There will be no negative marking.
 - ii. Part II shall have seven Structured Essay Questions (SEQs) of total 35 marks (05 marks for each SEQ) and the time allotted shall be 70 minutes.
- II. 'Oral/Practical/Clinical' examination shall have 120 marks in total.
- III. The continuous internal assessment through 'Block Examination', conducted by the college of enrollment shall carry 60 marks, i.e., 20% of the total allocated marks (300) for the block. The score will be equally distributed to the Written and 'Oral/Practical/Clinical' Examinations.

E. Block 5 (Endocrinology & Reproduction-I + Head & Neck, Special Senses)

The examination in Block 2 shall be as follows: -

- I. One written paper of 120 marks having two parts:
 - i. Part I shall have eighty-five Multiple Choice Questions (MCQs) of total 85 marks (01 mark for each MCQ) and the time allotted shall be 110 minutes. There will be no negative marking.
 - ii. Part II shall have seven Structured Essay Questions (SEQs) of total 35 marks (05 marks for each SEQ) and the time allotted shall be 70 minutes.
- II. 'Oral/Practical/Clinical' examination shall have 120 marks in total.
- III. The continuous internal assessment through 'Block Examination', conducted by the college of enrollment shall carry 60 marks, i.e., 20% of the total allocated marks (300) for the block. The score will be equally distributed to the Written and 'Oral/Practical/Clinical' Examinations.

F. Block 6 (Neurosciences-I + Inflammation)

The examination in Block 2 shall be as follows: -

- I. One written paper of 120 marks having two parts:
 - i. Part I shall have eighty-five Multiple Choice Questions (MCQs) of total 85

marks (01 mark for each MCQ) and the time allotted shall be 110 minutes. There will be no negative marking.

- ii. Part II shall have seven Structured Essay Questions (SEQs) of total 35 marks (05 marks for each SEQ) and the time allotted shall be 70 minutes.

II. 'Oral/Practical/Clinical' examination shall have 120 marks in total.

III. The continuous internal assessment through 'Block Examination', conducted by the college of enrollment shall carry 60 marks, i.e., 20% of the total allocated marks (300) for the block. The score will be equally distributed to the Written and 'Oral/Practical/Clinical' Examinations.

G. ISLAMIC STUDIES/CIVICS AND PAKISTAN STUDIES

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

- I. One written paper of 100 marks in Islamic Studies/ Civics and Pakistan Studies having two components:
 - i. Islamic Studies/Civics component having total 60 marks. There will be three (3) Long Essay Questions (LEQs) to be attempted out of five (5), having 20 marks each.
 - ii. Pakistan Studies component having total 40 marks. There will be two (2) Long Essay Questions (LEQs) to be attempted out of four (4), having 20 marks each.

Note: Islamic Studies for Muslims, and Civics for Non-Muslims candidates.

13. The marks distribution in each subject is given in Table 1:

Table 1

YEAR-1						
Subject	Theory		Practical			Total
Block 1 Modules (Foundation-I + Hematopoietic and Lymphatic)	Part I MCQs (85)	85 Marks	Practical / Clinical Examination	07 OSPE	Marks 56	300
	Part II SEQs (7)	35 Marks		02 OSCE	16	
	Internal Assessment 10%	30 Marks	Internal Assessment 10%	30 Marks		
	Total	150	Total	150		
Block 2 Modules (Musculoskeletal & Locomotion-I)	Part I MCQs (85)	85 Marks	Practical / Clinical Examination	07 OSPE	Marks 56	300
	Part II SEQs (7)	35 Marks		02 OSCE	16	
	Internal Assessment 10%	30 Marks	Internal Assessment 10%	30 Marks		
	Total	150	Total	150		
Block 3 Modules (Cardiovascular-I &	Part I MCQs (85)	85 Marks	Practical / Clinical Examination	07 OSPE	Marks 56	
	Part II SEQs (7)	35 Marks		02 OSCE	16	
				03 OSVE	48	

Respiratory-I)	Internal Assessment 10%	30 Marks	Internal Assessment 10%	30 Marks	300	
	Total	150	Total	150		
Total Marks:					900	
YEAR-2						
Block 4 Modules (GIT & Nutrition-I + Renal-I)	Part I MCQs (85)	85 Marks	Practical / Clinical Examination	07 OSPE 02 OSCE 03 OSVE	Marks 56 16 48	300
	Part II SEQs (7)	35 Marks				
	Internal Assessment 10%	30 Marks	Internal Assessment 10%	30 Marks		
	Total	150	Total	150		
Block 5 Modules (Endocrinology & Reproduction-I + Head& Neck, Special Senses)	Part I MCQs (85)	85 Marks	Practical / Clinical Examination	07 OSPE 02 OSCE 03 OSVE	Marks 56 16 48	300
	Part II SEQs (7)	35 Marks				
	Internal Assessment 10%	30 Marks	Internal Assessment 10%	30 Marks		
	Total	150	Total	150		
Block 6 Modules (Neurosciences-I + Inflammation)	Part I MCQsPart II SEQs	85 Marks 35 Marks	Practical / Clinical Examination	120 Marks		300
	Internal Assessment	30 Marks	Internal Assessment	30 Marks		
	Total	150	Total	150		
	Total Marks					900
Islamic Studies/ Civics and PakistanStudies	Islamic Studies/Civics 3 LEQs of 20 marks each			60 Marks		100*
	Pakistan Studies 2 LEQs of 20 marks each			40 Marks		
	Total			100		

* Total marks for the First and Second Professional Examinations shall be 900, each. Marks of Islamic Studies/Civics and Pakistan Studies shall not be counted towards total marks of any professional examination, and determination of position or merit of a candidate. However, the candidates shall have to take the examination in the subject in their Second Professional MBBS Examination. Those failing the subject in both annual & supplementary examinations, while passing all the other subjects of Second Professional Examination shall be promoted to the 3rd year MBBS, however they will be allowed two more attempts to clear the subject with Second professional Examination of the next session, failing which they shall be detained in the 3rd Professional MBBS.

- 14.** No grace marks shall be allowed in any examination or practical under any guise or name.
- 15.** At least 25% MCQs & 25% SEQs shall be based on applied/clinical/case scenario to assess high order thinking in the papers set for the students of First and second Professional MBBS Examinations.

Regulations

1. Professional examination shall be open to any student who: -
 - a. has been enrolled/registered and completed one academic year preceding the concerned professional examination in a constituent/affiliated College of the University.
 - b. has his/her name submitted to the Controller of Examinations, for the purpose of examination, by the Principal of the College in which he / she is enrolled & is eligible as per all prerequisites of the examination.
 - c. has his/her marks of internal assessment in all the Blocks sent to the Controller of Examinations by the Principal of the College along with the admission form.
 - d. produces the following certificates duly verified by the Principal of his / her College:
 - (i) of good character;
 - (ii) of having attended not less than 85% of the full course of lectures delivered and practical conducted in the particular academic session, in each block, as well as in the aggregate;
 - (iii) Certificate of having appeared at the Block Examinations conducted by the college of enrolment with at least 50 % cumulative percentage in aggregate of blocks 1, 2 and 3 for the first year and blocks 4,5 and 6 for the second year;
 - (iv) Candidates falling short of attendance requirement shall not be admitted to the annual examination but may be permitted to appear at the supplementary examination if they make up the deficiency up to the commencement of the next examination by remaining on the rolls of a College as regular student, subject to fulfillment of all other mandatory requirements to appear at the examination.
2. The minimum number of marks required to pass the professional examination for each paper shall be fifty percent (50%) in Written and fifty percent (50%) in the 'Oral/Practical/Clinical' examinations and fifty percent (50%) in aggregate, independently and concomitantly, at one and the same time.
3. Candidates who secure eighty five percent (85%) or above marks in any of the papers shall be declared to have passed "with distinction" in that Block, subject to having at least 80 % marks in the Written component of that paper, concomitantly. However, no candidate shall be declared to have passed "with distinction" in any paper, who does not pass in all the papers of the Professional Examination as a whole at one and the same time,
4. A candidate failing in one or more paper of the annual examination shall be provisionally allowed to join the next professional class till the commencement of supplementary examinations. Under no circumstances, a candidate shall be promoted to the next professional class till he / she has passed all the papers in the preceding Professional MBBS Examination.
5. If a student appears in the supplementary examination for the first time as he/she did not

appear in the annual examination because of any reason and fails in any paper in the Supplementary Examination, he/she will be detained in the same class and will not be promoted to the next class.

6. Any student who fails to clear the First or Second Professional MBBS Examination in four consecutive attempts, inclusive of both availed as well as un-availed, after becoming eligible for the examination, and has been expelled on that account shall not be eligible for continuation of studies and shall not be eligible for admission as a fresh candidate in either MBBS or BDS. (Ref. UHS Circulars/137-20/2750 dated 23-11-2020).
7. The colleges may arrange remedial classes and one re-sit for each block examination, either with the subsequent block examination or before completion of the subsequent block, and before or during preparatory leave in case of the terminal block of the professional year, before issuance of the date sheet for the concerned professional examination, subject to the following conditions:
 - i. At the completion of each block, the principals of the colleges shall submit a detailed report to the university, including cases of students with short attendance, poor performance/absence in the block examination along with the reasons and evidence for the same, proposed schedule for remedial classes and re-sit examination.
 - ii. Competent Authority UHS will have the cause and the submitted evidence evaluated and documented, before permitting the colleges to arrange remedial classes and re-sit examination at the concerned block. No college is allowed to conduct remedial classes or re-sit examination without prior approval of the competent authority.
 - iii. The students can appear in re-sit of a block examination, along with the subsequent block, and before or during preparatory leave for the terminal block of the professional year, once the requirement of 'attendance' is met with. However, conduct of remedial classes shall be permitted only in the cases of students, who shall have attended at least 50 % of total attendance of the concerned block in the first instance.
 - iv. The valid reasons for short attendance in a block or absence from a block examination may include major illness/accident/surgery of the student or death of an immediate relative/being afflicted by a natural calamity or disaster.
8. The application for admission of each candidate for examination shall be submitted to the Controller of Examination, through the Principal of the College, in a prescribed format, as per notified schedule, accompanied by the prescribed fee.
9. The marks of internal assessment and attendance shall be submitted to Controller of Examinations three times, within two weeks of completion of each block examination.
10. At the end of each block, the colleges are required to submit question papers and keys for the block examination, internal assessment marks and attendance record to the Department of Examinations UHS. Further, parent-teacher meetings shall be arranged by the colleges after every block examination to share feedback on the progress of students with their parents. Minutes of parent teacher meetings shall be submitted to the Department of Medical Education UHS.
11. It is emphasized that fresh internal assessment or a revision of assessment for supplementary examination shall not be permissible. However, a revised internal assessment for the detained students can be submitted. The internal assessment award in a particular year will not be decreased subsequently detrimental to the detainee

candidate. A proper record of the continuous internal assessment shall be maintained by the concerned department/s in the colleges.

12. The candidates shall pay their fee through the Principals of their respective Colleges who shall forward a bank draft / pay order / crossed cheque in favor of Treasurer, University of Health Sciences Lahore, along with their Admission Forms.
13. Only one annual and one supplementary of First and Second Professional MBBS Examinations shall be allowed in a particular academic session. In exceptional situations, i.e., national calamities, war or loss of solved answer books in case of accident, special examination may be arranged after having observed due process of law. This will require permission of relevant authorities, i.e., Syndicate and Board of Governors.