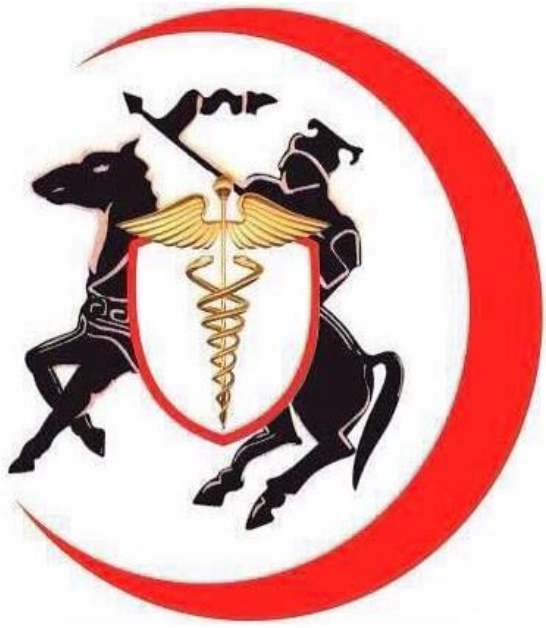

STUDY GUIDE

BLOCK 1

INTEGRATED MODULER SYSTEM

ACADEMIC SESSION. 2023

1ST YEAR MBBS

RAHBAR MEDICAL AND DENTAL COLLEGE

LAHORE

Table of Contents

List of Abbreviations

1. A	**Anatomy**
2. Ag	**Ageing**
3. B	**Biochemistry**
4. BS	**Behavioral Sciences**
5. C	**Civics**
6. CSF	**Clinical Skills Foundation**
7. CM	**Community Medicine**
8. CVS	**Cardiovascular System**
9. ENT	**Ear Nost and Throat**
10. FM	**Forensic Medicine**
11. GO	**Gynecology and Obstetrics**
12. H & L	**Hematopoietic and Lymphatic**
13. IMS	**Integrated Modular System**
14. LGIS	**Large Group Interactive Session**
15. M	**Medicine**
16. MSK	**Musculo Skeletal**
17. O	**Ophthalmology**
18. P	**Physiology**
19. Pa	**Pathology**
20. Pe	**Pediatrics**
21. PERL	**Professionalism Ethics Research Leadership**
22. Ph	**Pharmacology**
23. Psy	**Psychiatry**
24. QI	**Quran and Islamiat**
25. RMDC	**Rahbar Medical and Dental College**
26. RS	**Respiratory System**
27. S	**Surgery**
28. SDL	**Self Directed Learning**
29. SGD	**Small Group Discussion**
30. UHS	**University of Health Sciences**

INTEGRATED MODULAR SYSTEM

Dear student's purpose of developing a new curriculum is to prepare competent, empathetic and efficient medical graduates that can provide standardized quality care to ailing humanity. To achieve this goal a modular integrated curriculum is developed to align MBBS Program Outcomes with that of Seven Star Doctors competencies.

SEVEN STAR DOCTORS

The expected generic competencies in a medical graduate are as follows:

No.	Competencies	Expectations
1	**Skillful**	Competent medical graduates require sound clinical skills grounded in knowledge of patient-centered care.
2	**Knowledgeable**	This embodies knowledge of basic medical and clinical sciences required for the practice of medicine.
3	**Community Health Promoter**	To deal with problems of population-based primary health care, including health promotion and disease prevention of vulnerable populations
4	**Clinical Thinker**	The ability to critically evaluate existing knowledge, technology, and information, and to be able to reflect on it, is necessary for solving problems.
5	**Professional**	Competent medical graduates require professional values, attitudes and behaviors that embody good medical practice i.e., life-long learning, altruism, empathy, cultural and religious sensitivity, honesty, accountability, probity, ethics, communication skills, and working in teams.
6	**Scholar**	The medical graduates are expected to demonstrate constructive criticism, a spirit of enquiry, creativity and a research-oriented attitude.
7	**Leader and Role Model**	The medical graduates are expected to demonstrate exemplary conduct and leadership potential.

INTRODUCTION TO STUDY GUIDE

This document, which is also labeled as study guide that can provide students an important resource in managing their own learning. Studying is a managed way is important for educational development and also builds personal skills. Good study skills can improve your confidence, competence, and self-esteem as well as helps reduce stress and anxiety around deadlines and exams. Creating a study guide is one of the best ways to prepare for an exam and improve your results. this guide will have important resources that will help you in preparing notes and summarizing your lectures precisely. Your study guide is more than just a collection of your notes from class. It's a personal study tool, customized to fit your unique learning style and studying routine. You can prepare your own self learning schedule from the information shared in this study guide, which will facilitate you in preparing for Block Examination and ultimately for your annual examination. This study helps both teachers and student directly in preparing and managing their learning activities while indirectly facilitating the other stakeholders like parents to keep an observer eye on their child studies and college activities, medical education department to coordinating and effectively achieving learning objectives and outcomes, administration to arrange resources as per requirement of each year.

BLOCK 1

FOUNDATION MODULE 1

Modular Outcome:

1.Describe the microscopic features of nerve cells, muscle cells, general features of epithelia of the body.

2. Appraise the functional characteristics of various components of cell membrane and organelles of cell.

3. Differentiate between the dynamics of various transport mechanisms along the cell membrane.

4. Compare the functional differences between RBCs, WBCs and blood groups.

5. Explain the significance of homeostatic mechanisms in keeping body's internal environment nearly constant.

6. Appraise the formation and functions of autonomic nervous system.

7. Correlate the structural design of each organ to its function.

8. Acquire information about the different fascial planes in the different regions of the body & their surgical importance.

9. Use descriptive anatomical terms of position to describe the different body structures in relation to each other.

10. Describe the movements of body using proper anatomical terms of movement.

11. Describe and demonstrate the various bony landmarks.

12. Describe the types of joints and correlate them to the mechanisms of movement.

13. Classify the bone, joints and muscles based on the structure, function, phylogenetic origin.

14. Describe the structures associated with muscles and explain their functional correlations.

15. Classify and describe the cardiovascular system and correlate it functionally.

16. Amplify the anatomical basis for radiological, cross-sectional, and surface anatomy.

17. Correlate clinicopathologically the apoptosis in health & diseases.

BLOCK 1

FOUNDATION MODULE

COURSE CONTENT

NORMAL STRUCTURE			
Theory			
Code	**Specific Learning Outcomes**	**Discipline**	**Topic**
	GROSS ANATOMY	**Total Hours = 12**	
FA - 001	● Briefly describe the applied branches of anatomy ● Describe the "Anatomical Position" ● Describe the anatomical planes of body. ● Describe the terms of relationship, commonly used in Anatomy. ● Describe the anatomical terms used specifically for Limbs. ● Describe the terms related to movements.	**General Anatomy**	**Introduction to General Anatomy**
FA - 002	● Describe, identify, and exemplify the general morphological features of bones. ● Describe the developmental classification of bones. ● Describe the regional classification of bones. ● Describe the structural classification of bones. ● Describe the morphological classification of bones. ● Describe and exemplify Sesamoid, Pneumatic, Wormian and Heterotopic bones. ● Describe the classification of bones on the basis of osteogenesis. ● Describe the relationship of growing end of bones with the direction of nutrient foramen.	**General Anatomy**	**Bones (Osteology)**

	● Describe the blood supply, innervation and lymphatic drainage of various types of bones. ● Describe the use of bone tissue for bone marrow biopsy and bone grafting. ● Describe the salient features of common types of fractures		
FA - 003	● Describe the general features of cartilage and its importance in gross anatomy. ● Describe the subtypes and gross features of Hyaline Cartilage ● Describe the gross features of Elastic Cartilage ● Describe the gross features of Fibrocartilage. ● Differentiate the three types of cartilages	**General Anatomy**	**Cartilage (Chondrology)**
FA - 004	● Describe and exemplify the structural classification of Joints (synovial, cartilaginous & fibrous) along with their sub-classification. ● Describe the components and characteristic features of a Synovial Joint ● Describe the blood supply, innervation and lymphatic drainage of Synovial Joints, cartilaginous joints, and fibrous joints. ● List the factors stabilizing a synovial joint. ● Describe the mechanism of movements.	**General Anatomy**	**Joints (Arthrology)**
FA - 005	● Describe the structure and function of Skin on the basis of its two layers; Epidermis and Dermis. ● Describe the surface irregularities of the skin. ● Describe the structure of Hair as an appendage of skin.	**General Anatomy**	**Integumentary System**

	● Describe the structure of Nail as an appendage of skin. Describe the structure of Sweat and Sebaceous Glands. ● Describe the structure and function of Superficial Fascia. ● Describe the structure, function, and modifications of Deep Fascia. ● Describe and classify the burns and anatomical basis of manifestations of integumentary system		
FA - 006	● Define Muscle. ● Classify and describe Muscle Tissue based on Structure, Function and Development. ● Describe Somatic and Visceral Muscles. ● Describe and differentiate the Red and White Variety of Skeletal Muscles. ● Describe Type A, B and C of Skeletal Muscles. ● Classify and describe the skeletal muscles based on architecture. ● Classify skeletal muscle based on action. ● Describe the parts of a skeletal muscle. ● Describe the methods of studying skeletal muscle activity. ● Describe and differentiate the basic organization of innervation to skeletal, smooth, and cardiac muscle. ● Describe the structure of Tendons. ● Describe the structure of Synovial Bursae. ● Describe the structure of Raphe. ● Comprehend the meaning of Paralysis, Spasm, Atrophy, Hypertrophy, ● Hyperplasia and Regeneration in relation to muscle tissue. ● Define Myasthenia Gravis and Polymyositis.	**General Anatomy**	**Muscle Tissue (Myology)**

	● Define Angina pectoris and Fibrillation of Cardiac Muscle.		
FA - 007	● Classify the types of blood circulation. ● Classify and exemplify various types of blood vessels. ● Describe and exemplify various types of anastomoses. ● Explain the importance of End Arteries. ● Define the terms: Arteriosclerosis, Atherosclerosis and Varicose Veins. ● Describe the general organization of Lymphatic Circulation. ● Define the terms: Lymphoid Tissue, Tissue Fluid, Lymphatic Capillaries, Lymph and Lymphatic Vessels ● Define the terms; Lymphangitis, Lymphadenitis, Lymphadenopathy and Lymphography.	**General Anatomy**	**Vascular System (Angiology)**
FA - 008	● Define neuron. ● Describe the anatomical structure of a neuron. ● Classify neurons based on morphology with examples. ● Classify neurons based on function. ● Describe the components of the central nervous system. ● Describe the components of the peripheral nervous system. ● Name the supporting cells (neuroglia) of the central nervous system. ● Describe the structure and functions of the neuroglia of the central nervous system. ● Enumerate the supporting cells (neuroglia) of the peripheral nervous system. ● Describe the structure and functions of the neuroglia of the peripheral nervous system. ● Describe the gross and/or microscopic anatomy of the following structures:	**General Anatomy**	**Nervous Tissue (Neurology)**

	Nerve, Nerve fiber, Ganglion, Tract, Fasciculus, Funiculus and Lemniscus. ● Enlist the cranial nerves I to XII. ● Describe the types of nerve fibers carried by and distribution of the cranial nerves. ● Describe the formation, types of modalities carried by, and distribution of the spinal nerves. ● Define and explain Dermatome (s). ● Define and explain Myotome (s). ● Describe the formation of Plexuses. ● Differentiate between Somatic and Visceral nervous system. ● Define Receptors. ● Describe the functions of receptors. ● Classify sensory receptors based on modality (with location). ● Define Effectors. ● Describe the functions of effectors. ● Describe ANS and differentiate between sympathetic and parasympathetic nervous system.		
FA - 009	● Identify displacement of fracture segments of the bone. ● Identify dislocation of joints. ● Describe the basic concept behind taking a biopsy of a tissue.	**Integrate with Radiology**	**Imaging in Anatomy**
	EMBRYOLOGY & POST-NATAL DEVELOPMENT	**TOTAL HOURS = 20**	
FA - 010	● Describe the cell cycle. ● Enlist different stages of Mitosis and Meiosis. ● Compare and contrast mitosis and Meiosis. ● Enlist the numerical chromosomal anomalies. ● Describe the anatomical basis for numerical chromosomal abnormalities.	**Embryology**	**Cell cycle and Gametogenesis**

	● Describe the clinical presentation of numerical chromosomal abnormalities and justify them Embryo logically. ● Describe the clinical presentation of structural chromosomal abnormalities and justify them Embryo logically list the structural chromosomal anomalies. ● Describe the anatomical basis for structural chromosomal abnormalities. ● Describe the anatomical basis for the structural and numerical chromosomal anomalies. ● Describe the embryological basis for mosaicism. ● Describe the embryological basis for teratoma. ● Describe the clinical presentation of common numerical chromosomal abnormalities.		
FA - 011	● Describe the Process of spermatogenesis and spermatogenesis. ● Describe the embryological basis for abnormal gametes. ● Discuss the embryological basis of male infertility.	**Embryology**	**Spermatogenesis**
FA - 012	● Describe the Prenatal and postnatal maturation of oocyte.	**Integrate with Gynecology**	**Oogenesis**
FA - 013	● Describe the significance of arrested development of oocyte. ● Describe the hormonal control of oocyte maturation. ● Discuss the embryological basis of female infertility.	**Embryology**	**Oogenesis**
FA - 014	● Compare and contrast oogenesis and spermatogenesis		**Gametogenesis**
FA - 015	Enlist and briefly describe the female reproductive organs		**Female Reproductive Organs**
FA - 016	Describe the hormonal control of female reproductive cycles Enumerate and describe the steps of the ovarian cycle	**Integrate with Gynecology**	**Female Reproductive Cycle**

	Describe the process of ovulation Describe the formation, function and fate of corpus luteum Describe the anatomical and physiological basis of the following: Mittelschmerz, Anovulation, Menopause Define menstrual cycle Describe the phases of menstrual cycle Describe the anatomical and physiological basis of an-ovulatory menstrual cycle		
FA - 017	● Describe the transportation of male and ● female gametes ● Describe viability of gametes ● Explain the anatomical basis of diaspermy, triploidy		**Transportation of Gametes**
FA - 018	● Define fertilization. ● Describe the phases of fertilization. ● Draw and label a diagram illustrating the phases of fertilization. ● Enumerate and describe the results of fertilization. ● Describe the anatomical and physiological basis of sex determination of the embryo.	**Embryology**	**Fertilization**
FA - 019	● Define contraception ● Explain the mechanisms of following contraceptive techniques: 1. Barrier Methods. 2. Hormonal Methods. 3. Intrauterine Device (IUD). 4. Emergency Contraceptive Pills (ECPs). 5. Male and Female Sterilization	**Integrate with Physiology**	**Contraception**

	● Describe the anatomical and ● physiological basis of male and female ● infertility ● Describe the role of clomiphene citrate in ● inducing ovulation ● Define assisted reproductive techniques ● Describe the mechanisms of following ● reproductive techniques: 1. In vitro fertilization (IVF) and embryo 2. transfer 3. Cryopreservation of embryo 4. Intra-cytoplasmic sperm injection (ICSI) 5. Assisted in vivo fertilization 6. Surrogacy ● Explain the correlation of multiple births with assisted reproductive techniques	**Integrate with Gynecology**	**Infertility & assisted reproductive techniques**
FA - 021	● Describe the process of cleavage of embryo and blastocyst formation. ● Describe the differentiation of embryo blast into epiblast and hypoblast. ● Describe the establishment of cranial caudal embryonic axis. ● Describe pre-implantation genetic diagnosis. ● Describe the origin and uses of embryonic stem cells and the techniques of obtaining these cells from the embryo (reproductive cloning & therapeutic cloning). ● Explain the embryological basis of spontaneous abortion ● Describe the events and factors influencing the cleavage of zygote.	**Embryology**	**Cleavage, Blastocyst Formation**
	● Describe the sequence of events pertaining to formation of blastocyst		

	● Compare and contrast the villi	**Integrate with Gynecology**	
	● Describe the process of Compaction. ● Describe the Formation of morul (division into inner and outer cell mass). ● Embryology Describe the anatomical basis for the preimplantation genetic diagnosis. ● Describe the formation of amniotic cavity, embryonic disc, and umbilical vesicle. ● Describe the formation of chorionic sac.	**Embryology**	
FA - 022	● Describe the Uterus at the time of implantation (decidua reaction). ● Illustrate the concept of Implantation. ● Describe the differentiation of inner and outer cell mass. ● Describe the Abnormal implantation/ extra uterine implantations. ● Enumerate the factors responsible for inhibition of implantation.	**Embryology**	**Implantation**
FA - 023	● Describe the Molar pregnancy		**Molar Pregnancy**
FA - 024	● Describe the Establishment of uteroplacental circulation		**Utero-placental Circulation**
FA - 025	● Describe the embryological basis of abortions and its types	**Integrate with Gynecology**	**Abortion**
FA - 026	● Describe the Formation & fate of primitive streak. ● Draw a concept map highlighting the sequence of events responsible for transformation of bilaminar germ disc into trilaminar germ disc. ● Describe the embryology behind sacrococcygeal teratoma and justify its clinical picture. ● Describe the molecular factors responsible for gastrulation.	**Embryology** **Integrate with Gynecology**	**Gastrulation**
FA - 027	● Describe the Invagination and movement of prenotochordal cells.	**Embryology**	**Formation of Notochord**

	● Describe the Notochordal plate formation. ● Describe the Neuroenteric canal formation. ● Describe the fate of the notochord. ● Describe the Establishment of body axis. ● Draw and label the fate map establishment. ● Describe the Fate map establishment. ● Describe the molecular basis for notochord formation. ● Describe the role of notochord as an inducer. ● Describe the embryological basis for situs inversus.		
FA - 028	● Describe the Formation of neural tube from neural plate. ● Justify embryo logically the clinical picture seen in various neural tube defects. ● Describe the process of Migration of neural crest cells. ● Enlist the Derivatives of neural tube and describe the fate of each. ● Enlist the Derivatives of neural crest cells. ● Enlist the ectodermal derivatives. ● Describe the molecular and genetic factors for the process of neurulation.	**Embryology**	**Derivatives of Ectoderm**
FA - 029	● Describe the Differentiation of mesoderm into its constituting components. ● Describe the Somite formation and its fate. ● Describe the Estimation of age by somites. ● Describe the formation of intra-embryonic coelom.	**Integrate with Pediatrics**	**Mesodermal Derivatives**
FA - 030	● Describe the processes of vasculogenesis & angiogenesis	**Integrate with Cardiology**	**Early Development of CVS**

	● Explain the features of primordial cardiovascular system ● Describe the anatomical justification for Capillary hemangiomas.		
FA - 031	● Enlist the derivatives of germ layers.	**Embryology**	**Germ Layer Derivatives**
FA - 032	● Describe the formation and functions of chorionic villi.		**Chorionic Villi**
FA - 033	● Describe the Cephalo-caudal folding. ● Describe the Lateral folding.	**Integrate with Gynecology**	**Folding of Embryo**
FA - 034	Enlist and Describe the Derivatives of intermediate and lateral plate mesoderm Enlist & Describe the Derivatives of endoderm	**Embryology**	**Germ Layer Derivatives**
	Enlist & describe the derivatives of ectoderm.	**Integrate with Gynecology/ Pediatrics**	
FA - 035	● Describe the factors influencing the embryonic development	**Embryology**	**Control of the Embryonic Development**
FA - 036	● Enlist the characteristic features of the embryo during 4th - 8th weeks. ● Describe the criteria for estimating the developmental staging in human embryos. ● Explain the estimation of gestational & embryonic age.		**Folding of Embryo** **Embryonic period**
FA - 037	● Explain the trimesters of Pregnancy. ● Explain the estimation of fetal age. ● Explain the measurement and characteristics of fetus. ● Describe the Overview of the monthly changes in External appearance of fetus (9th-38th weeks) Describe Viability of fetuses and low birth weight babies. ● Explain the factors influencing fetal growth. ● Describe the clinical problems encountered by babies born with IUGR and post maturity.		**Fetal Period**

FA - 037a	● Tabulate the criteria for estimating fertilization age during the fetal period. ● Describe the post maturity syndrome. ● Describe the procedures for assessing fetal status. ● Describe the clinical picture of IUGR & factors resulting in IUGR.	**Integrate with Gynecology**	
	● Correlate the levels of alpha fetoprotein essay and fetal anomalies	**Integrate with Gynecology/ Radiology**	
FA - 038	● List the fetal membranes. ● Describe the macroscopic & microscopic features of Decidua. ● Enlist the various parts of decidua. ● Functionally correlate the parts of the decidua with its structure, ● Describe the Changes in the trophoblast leading to the development of placenta. ● Describe the Structure (macroscopic & microscopic) of placenta. ● Enlist & correlate the Functions of placenta with its structure. ● Describe the Microscopic anatomy of Placental membrane. ● Describe the Placental circulation (fetal & maternal). ● Embryo logically justify the hemolytic disease of the neonate ● Describe the functions of placenta. ● Describe Placenta as an allograft & as an invasive tumor-like structure. ● Describe the placental anomalies and their clinical picture (placenta previa, placenta ecreta, placenta percreta, battledore placenta, membranous placenta, pre-eclampsia). ● Describe the role of placenta as an allograft. ● Describe the stages of labor.	**Integrate with Gynecology**	Placenta
FA - 039	● Describe the Formation & fate of Umbilical cord.	**Integrate with Gynecology**	**Fetal Membranes**

	• Describe the Cord abnormalities. • Justify embryologically the clinical features observed in Absence of umbilical artery. • Describe the formation and circulation of Amniotic fluid. • Enlist the components of amniotic fluid. • Describe the Procedure of diagnostic amniocentesis. • Explain the significance of amniotic fluid. • Describe the factors responsible for Polyhydramnios and oligohydramnios. • Describe the characteristic signs and symptoms of oligohydramnios and polyhydramnios and justify embryologically. • Explain the clinical picture of umbilical band syndrome and justify it embryologically. • Explain the formation and fate of umbilical vesicle (yolk sac). • Explain the formation and fate of Allantois. • Describe the clinical picture of allantoic cyst & sinus and justify it Embryologically.		
FA - 040	• Describe the development of dizygotic twins. • Describe the development of Monozygotic twins. • Describe the fetal pregnancy membranes in twin. • Describe the twin transfusion syndrome. • Explain the zygosity of the twins. • Describe the characteristics of various types of conjoined monozygotic twins.		**Multiple Pregnancies**
FA - 041	• Describe the Various methods of pre natal diagnosis. • Describe the Fetal therapy.		**Prenatal Diagnosis and Fetal Therapy**

FA - 042	● Define morphogens, protein kinases, notch delta pathway, transcription factors, epigenetics Define stem cells and pluripotency. ● Define the human disorders associated with genetic mutations.	**Embryology**	**Molecular Regulations and Signaling Pathways**
FA - 043	● Define teratology: classification and causes of birth defects. ● Define genomic imprinting. ● Describe birth defects caused by genetic factors: numerical and structural anomalies. ● Define and enlist the teratogens. ● Describe the role of following in causing teratogenicity in humans: 1. Drugs 2. Environmental agents 3. Chemicals & heavy metals 4. Infectious agents 5. Radiation 6. Hormones 7. Maternal diseases ● Describe the basis for male-mediated teratogens		**Teratogenicity**
	Microscopic Anatomy (Histology and Pathology)	**Total Hours = 08**	
FA - 044	● Describe different types of microscopies. ● Describe Staining methods and their significance. ● Describe the basis of enzyme histochemistry.	**Basic Techniques in Histology**	**Introduction to Microscopy & Staining Techniques**
FA - 045	● Describe the electron microscopic structure and fluid mosaic model of plasma membrane. ● Draw the fluid mosaic model of plasma membrane. ● Draw and label the structure and function of glycocalyx coat and lipid raft.	**Basic Histology**	**Cell Membrane**

	● Describe the structure of glycocalyx coat and lipid raft and correlate it with function. ● Describe different types of membrane proteins and their functions.		
	● Explain different modes of transport across the cell membrane. ● Describe the signal reception and transduction through different routes. ● Tabulate the mechanisms of transport across the cell membrane. ● Explain the following disorders related to cell membrane: ● Pseudohypoparathyroidism and Dwarfism		
FA 046	● List the membranous and non-membranous cellular organelles. ● Draw and label the light and electron microscopic structure and functions of the cellular organelles. ● Describe the structure of the following cellular organelles and correlate with their function: 1. Ribosomes 2. Endoplasmic reticulum (rough & 3. smooth) 4. Golgi apparatus 5. Lysosomes 6. Proteasomes 7. Mitochondria 8. Peroxisomes ● Describe the clinical presentation of lysosomal storage diseases and correlate with their histological basi. ● Describe the structural components of cytoskeleton, and correlate them with their functions. ● Explain the histological basis of immotile cilia syndrome.	**Integrate with Pathology**	**Cell Organelles**
FA - 046a	● Describe the histological features of cytoplasmic inclusions.	**Integrate with Pathology**	**Cell nucleus**

FA - 046b	● Describe the structure of nuclear envelope and nuclear pores.	**Integrate with Physiology**	
FA - 047	● Describe the structure of chromatin. ● Describe the structure of chromosome. ● Draw and label the structure of nucleolus. ● Describe the structure of nucleolus. ● Describe the structure and types of DNA and RNA. ● Describe the histological basis for apoptosis and necrosis.	**Histology**	
	● Describe the clinical presentation of the following diseases and correlate with its histology. 1. Laminopathies 2. Malignancy	**Integrate with Pathology**	
	● Describe the correlation of cell cycle with the following diseases. 1. Retinoblastoma 2. Malignancy		
	● Describe the histological structure and function of basement membrane (light and electron). ● Describe the mechanism of ciliary movements.		
FA - 048	● Draw and label a diagram illustrating the electron microscopic structure of basement membrane. ● Describe the basal surface modifications of epithelia. ● Describe the electron microscopic structure and functions of intercellular junctions (lateral surface modifications) and give their locations. ● Describe the Biochemical composition of the basolateral modifications. ● Explain the correlation of intercellular junctions with the following diseases: 1. Gastric ulcer 2. Food poisoning	**Histology**	

	3. Pemphigus vulgaris		**Epithelium**
FA - 048a	● Describe the electron microscopic structure of the following apical cell surface specializations: 1. Microvilli 2. Sterocilia 3. Cilia	**Integrate with Biochemistry**	
FA - 048b	● Explain the correlation between the structure of microvilli and celiac disease. ● Classify and exemplify the epithelia with their histological structure, locations and functions.	**Integrate with Pathology**	
FA - 048c	● Describe the structure of exocrine glands. ● Explain the mechanism of transport across the epithelia. ● Describe the classification of exocrine glands on the basis of: 1. Shape of secretory portions and ducts. 2. Mode of secretion. 3. Type of secretion.	**Histology**	
	● Explain the histological basis of acne vulgaris.	**Integrate with Pathology**	
FA - 049	● Describe the composition and list the constituents of connective tissue. ● Classify the connective tissue with examples. ● Describe the composition of ground substance of connective tissue. ● Describe the composition, distribution, and function of glycosaminoglycans in connective tissue. ● Explain the role of GAGs in formation of barrier against bacteria and the role of hyaluronidase in the breakdown of this barrier.	**Histology**	
	● Histology Describe the structure, distribution, and functions of the cells of macrophage mononuclear phagocytic system.	**Integrate with Biochemistry/**	

	● Describe the role of macrophages in innate immunity.	**Physiology**	**Connective Tissue**
	● Describe the types of adipose tissue (white & brown), their histogenesis, locations and function.	**Histology**	
	● Explain the etiology of Marfan s syndrome.	**Integrate with Pathology**	
	● Describe lipid storage and mobilization in and from adipocytes and compare the brown and white adipose tissue.		
	● Explain the histological basis and clinical presentation of the following diseases in relation to adipocytes: 1. Lipoma. 2. Obesity (with special emphasis of the role of leptin).		
	●		

Practical			
Code	**Specific Learning Objectives**	**Discipline**	**Topic**
	General Anatomy	**Total Hours = 05**	
FA - 050	● Demonstrate the anatomical terms of position and movement, in particular on limbs. ● Demonstrate various anatomical movements of body ● Identify various elevations and anatomical landmarks on bones. ● Identify and interpret normal radiographs of various body regions ● Identify and interpret joint dislocations and displaced fracture bone segments radiographically	**Anatomy**	**Osteology** **Imaging and cross sectional Anatomy** **Arthrology**
		Total Hours = 04	
	Calculate fertilization age, gestational age,		

FA - 051	embryonic/fetal age and expected date of delivery. ● On models, charts, aborted embryos and fetal specimens, identify the: ■ Events of embryonic period, i.e., cleavage, morula and blastula formation, yolk sac, amniotic cavity, connecting stalk, gastrulation (notochord & primitive streak, three germ layers and their parts/derivatives), angiogenesis, neurulation, somites and ebryonic age determination based on it, chorionic villi (primary, secondary& tertiary), developmental defects (sacrococcygeal teratoma, neural tube defects). ● Placenta and its positional implantational variations, umblical cord and its contents. ● Fetal features during fetal period. Determine age of fetus based on these features.	**Anatomy**	**Embryology**
FA - 052	● Describe the USG report for the: fetal features, fetal age estimation, placental attachment and itsvariations and fetal membranes. Multiple pregnancies.	**Integrated with Radiology**	
FA - 053	● On gross examination of human placenta and umbilical cord, identify: ■ Normal complete placenta and cord. ■ Placental structural variations. ■ Umbilical cord and anomalies of its attachment to placenta.	**Integrated with Gynecology**	

	■ Contents of umbilical cord (umbilical vessels anomalies).		
FA -054	● Identify the features of hemolytic disease of newborn, dizygotic and monozygotic twins and correlate them embryo logically.	**Integrated with Pediatrics**	
FA - 055	● Identify the protocols and procedural steps for amniocentesis and chorionic villus sampling (CVS) and correlate their significance in developmental defects. Correlate the role of alpha feto-protein assays in neural tube defects.	**Integrated with Gynecology**	
	Histology	**Total Hours = 22**	
FA - 056	● Describe different types of staining techniques and their significance with special emphasis on H&E staining.	**Microscopic Anatomy**	**Staining Techniques**
FA - 057	● Identify and draw different parts of light microscope.		**Microscope**
FA - 058	● Identify and demonstrate different cell shapes under the microscope.		**Cell Shape**
FA -059	● Identify and demonstrate under light microscope the following types of epithelia: 1. Simple squamous 2. Simple cuboidal Epithelium 3. Simple columnar (ciliated & non-ciliated) 4. Pseudo stratified columnar (ciliated & nonciliated) 5. Stratified squamous (keratinized & non keratinized) 6. Stratified cuboidal 7. Transitional		**Epithelium**

FA -060	● Identify and demonstrate serous & mucous secreting glands under light microscope.		**Epithelium**
FA - 061	● Identify and demonstrate the various types of connective tissue.		**Connective Tissue**

MEDICAL PHYSIOLOGY			
THEORY			
Code	**Specific Learning Outcome**	**Discipline**	**Topic**
	PHSYIOLOGY	**Total Hours = 40**	
FP - 001	● Define Homeostasis. ● Explain control system of body by giving examples. ● Differentiate between Extracellular and ● Intracellular Fluids. ● Explain the positive and negative feedback mechanisms with examples. ● Explain the significance of feed forward/ adaptive control/delayed negative feedback mechanisms. ● Explain the structure of cell membrane ● Enlist the types of cell membrane proteins. ● Enumerate the functions of membrane proteins. ● Define and enumerate the functions of cell. ● Glycocalyx. ● Enlist membranous and non-membranous organelles.		

	• Enlist the self-replicative organelles. • Differentiate between the functions of smooth and rough endoplasmic reticulum. • Explain the functions of Golgi apparatus. • Enlist the enzymes of lysosomes. • Explain the functions of lysosomes • Enlist the enzymes of peroxisomes. • Explain the functions of peroxisomes. • Enumerate the components and functions of cytoskeleton. • Define and enlist types of endocytosis. • Explain the mechanism of pinocytosis. • Classify different transport mechanisms. • Compare the composition of Na, K and Cl in extracellular and intracellular fluid. • Define and enlist different types of diffusion. • Explain the process of facilitated diffusion with the aid of diagram. • Define and classify different types of active transport. • Describe primary and secondary active transport with examples. • Explain voltage and ligand gated channels with examples. • Name Na, K channel Blockers.	**Medical Physiology**	**Cell Biology**

	• Discuss functions and significance of Na/K. • ATPase pump.		
FP - 002	• Explain the composition of blood. • Enumerate the plasma proteins. • Discuss functions of plasma proteins & describe the pathophysiology of edema.	**Medical Physiology**	**Blood**
FP - 003	• Discuss the characteristics of red blood cells. • Explain different types of Bone marrows. • Enumerate the different sites of erythropoiesis at different ages. • Explain the stages of erythropoiesis. • Enumerate factors that regulate erythropoiesis. • Discuss the site and role of erythropoietin in red blood cell production. • Explain the significance of vitamin B12 and folic acid in maturation of red blood cells.	**Medical Physiology**	**Red Blood Cells**
FP - 004	• Enumerate the types of normal hemoglobin in different ages of life. • Explain the role of Iron in Hemoglobin formation.. • Define blood indices, give their normal values & enumerate the conditions in which these values are disturbed. • Enlist the abnormal types of hemoglobin.	**Medical Physiology**	**Hemoglobin**

FP - 005	● Enumerate the types of white blood cells. ● Describe the characteristics and functions of Neutrophils. ● Explain the process of defense against invading agent by neutrophils. ● Define leukocytosis and leukemia. ● Explain the effects of leukemia on body. ● Define leukopenia. ● Explain the process of defense against invading agent by macrophages. ● Discuss different lines of defense during inflammation. ● Explain the functions of neutrophils and macrophages in spread of inflammation (walling off effect). ● Define the Reticuloendothelial system. ● Enlist the different components of Reticuloendothelial system. ● Explain the characteristics and functions of basophils. ● Explain the characteristics and functions of eosinophils and enlist conditions in which these cells are raised.	**Medical Physiology**	**White Blood Cells**
FP - 006	● Enumerate different blood group types. ● Explain the basis of ABO and Rh blood system. ● Explain the Landsteiner law.	**Medical Physiology**	**Blood Type**
FP -007	● Discuss Components of Autonomic nervous system.	**Medical Physiology**	**Autonomic Nervous System**

	● Explain the physiological anatomy of sympathetic and parasympathetic nervous system. ● Describe the types of adrenergic and cholinergic receptors and their functions. ● Explain the effects of sympathetic and parasympathetic on various organs/ system of body.		

PRACTICAL			
CODE	**Specific Learning Objectives**	**Discipline**	**Topic**
	MEDICAL PHYSIOLOGY	**TOTAL HOURS = 10**	
FP - 008	● Explain laboratory/clinical procedure to the subject. ● Obtain verbal consent from subject before starting a ● Procedure. Reassure the subject after the procedure.	**Medical Physiology**	**Consent**
FP - 009	● Determine Erythrocyte Sedimentation Rate and packed cell volume		**Red Blood Cells**
	● Determination of blood group		**Blood Group**
	● Interpret Total Leucocyte Count, ● Differential Leucocyte Count (normal & abnormal) in a CBC report generated by Automated Cell Counter.		**White Blood Cells**

MEDICAL BIOCHEMISTRY			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	MEDICAL BIOCHEMISTRY	**TOTAL HOURS = 40**	
FB - 001	● Differentiate between different types of cells.		**Structure of Cells**

	• Explain the concept of organization of cells to tissue, tissues to organ, and organs to system. • Differentiate between the eukaryotic and prokaryotic cells	**Medical Biochemistry**	
FB - 002	• Describe the composition and structure of cell on biochemical basis and justify it as fluid mosaic model. • Describe the structure and function of cell membrane with particular reference to the role of: (i) Lipids (ii) Carbohydrates (iii) Proteins • Explain why the cell membrane is called fluid mosaic model		**Cell Membrane**
FB - 003	• Discuss the various ways of cell-to-cell communication and to the environment. • Describe cell to cell communications. Cell signaling pathways (only G protein signaling). • Describe cell to cell adhesion.		**Signal Transduction**
FB - 004	• Explain the biochemical markers and importance of subcellular organelles and their inherited disorders especially: 1. cell disease 2. Refsum disease 3. Parkinsonism 4. Progeria		**Subcellular Organelles**
FB - 005	• Describe the chemistry of purines and pyrimidine's and their linkage in		**Chemistry of Purine and**

	nucleic acid synthesis and their metabolism.		**Pyrimidine's**
FB - 006	● Discuss the organization of DNA with special reference to Watson and crick model, composition, structure, role of pairing and genetic coding. ● Describe the structural forms of DNA.		**DNA**
FB - 007	● Discuss the structure of different types of RNAs with special reference to composition, linkage, functions hn RNA, micro RNA. ● Illustrate the structure and functions of various types of RNAs. ● Describe the functions of various small RNAs present in cell.		**RNA**
FB - 008	● Explain the structure and nomenclature of nucleotides, biomedical importance of natural and synthetic analogues ● Interpret the role of synthetic analogues of nucleotides in medicine based on sign/symptoms and data e.g Methotrexate, 5 Flurouracil and Allupurinol.		**Nucleotides**
FB - 009	● Explain the higher organization of DNA. Difference betwee DNA, chromatid and chromosome.		**Chromosomes**
FB - 010	● Illustrate de Novo and salvage pathways of purines and pyrimidines. ● Describe the degradation of purine and pyramidine nucleotides. ● Interpret Lesch-Nyhan syndrome, gout and adenosine deaminase deficiency on given data.		**Nucleotide Metabolism**
FB - 011	● Describe in detail all the steps in prokaryotic DNA replication with	**Cell Biology**	**Replication**

	emphasis on: Different proteins required, Primers, DNA polymerase; their different components and functions, Initiation, elongation and termination of replication, Topoisomerases. ● Describe in detail all the steps in Eukaryotic DNA replication with emphasis on differences between Pro- and Eukaryotes.		
FB - 012	● Describe DNA repair especially Xeroderma pigmentosa.		**DNA Repair**
FB - 013	● Explain the transcription in prokaryotes focusing on the following key points; RNA polymerase, its components and functions, Initiation, elongation, and termination of transcription. ● Illustrate the transcription in eukaryotes focusing onthe differences between pro- and eukaryotic transcription and post transcriptional modifications Wobble hypothesis.		**Transcription**
FB - 014	● Interpret the translation focusing on the following key points: Initiation, elongation and termination and inhibition by drugs. ● Describe Post-translational modification of protein.		Translation

PRACTICAL			
CODE	**SPECIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	BIOCHEMISTRY PRACTICAL	**TOTAL HOURS = 10**	
FB - 015	● Demonstrate the step taken to prevent or rectify the Laboratory Hazards.		**Lab Hazzard**

FB - 016	● Identify the structure of cells under microscope.		**Cell**
FB - 017	● Identify the methods of isolation of cell organelles.		**Cell**
FB - 018	● Identify the different parts of equipment i.e., centrifuge, Microlab, Electrophoresis.		**Cell Organelles**
FB - 019	● Demonstrate the basic principles, uses and working of centrifuge, chromatography, electrophoresis & spectrophotomete.r		**Demonstration of Techniques**
MEDICAL PATHOLOGY			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	MEDICAL PATHOLOGY	**TOTAL HOURS = 12**	
FPa - 001	● Discuss the significance of pathology. Discuss the causes of cell injury. ● Identify the types of cell injury. ● Describe the mechanism of cell injury Identify the types of cell death. Define necrosis and apoptosis. Describe different types of necrosis. Compare apoptosis with necrosis. Identify different types and mechanism of cellular adaptations to stress Discuss the mechanism and types of intracellular accumulations and pathological calcifications	**General Pathology**	**Cell Injury**
FPa - 002	● Enumerate the microbes causing infectious diseases. Describe the structure of bacterial cell Differentiate cell walls of gram positive and gramnegative bacteria. Compare the structure of bacterial cell and virus Discuss the growth curve of bacteria. Enlist steps of viral replication Identify types of bacterial infections Enlist stages of bacterial pathogenesis	**General Microbiology**	**Introduction to Microorganisms**

	Discuss the determinants of bacterial pathogenesi		
FPa - 003	● . Define sterilization and disinfection. Describe the principles of sterilization and disinfection. Describe clinical uses of common disinfectants and their mode of sterilization Discuss physical and chemical agents of sterilization		Sterilization & Disinfection
PHARMACOLOGY AND THERAPEUTICS			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	MEDICAL PHARMACOLOGY	**TOTAL HOURS = 04**	
FPh - 001	● Definitions of Pharmacology, drug, pro-drug, placebo, active principles, sources of drugs; Brief outline of Absorption, Distribution, Metabolism and Excretion	**General Pharmacology**	**Absorption, Distribution, Metabolism and Excretion of drugs**
FPh - 002	● Definitions of receptor, agonist, partial agonist, inverse agonist, antagonist and types of receptors and second messengers; Diagrammatic concept of signaling mechanisms		**Basic terminologies of Pharmacology**
FPh - 003	● . Pharmacological aspects of Autonomic Receptors (types of autonomic receptors, important sites and actions)		**Autonomic System**
COMMUNITY MEDICINE & PUBLIC HEALTH			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	MEDICAL COMMUNITY MEDICINE	**TOTAL HOURS = 08**	
FCM-001	● Describe the changing concepts and new philosophy of health Explain responsibility for health	**Community Medicine and Public Health**	**Concept of Health**
FCM-002	● Explain dimensions and determinants of health and their role in achieving positive health Discuss concept of health and wellbeing Describe the Physical quality of Life Index & Human Development Index		**Positive health Dimensions, Health Determinants**

FCM-003	● . Describe the importance of health indicators Classify health indicators Calculate Morbidity and Mortality Describe Disability indicators Compare indicators among countries		**Health indicators**
FCM-004	● Conceptualize disease causation and natural history of disease Explain Germ theory & multifactorial causation Describe Epidemiological Triad Discuss Web of disease causation Describe Gradient of infection	**Community Medicine and Public Health**	**Disease Causation**
FCM-005	● Describe principles of prevention and control on prevalent diseases Explain difference between elimination and eradication Describe disease surveillance, types and cycle Explain Primary, secondary, & tertiary prevention Describe five levels of interventions		**Disease Prevention**
AGING			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	AGING	**TOTAL HOURS = 01**	
FAg **- 001**	● Discuss telomeres and telomerase and their clinical significance in aging.	**Geriatrics Integrate with Biochemistry**	**Process of Aging**
IMPACT (EPIDEMIOLOGY, SOCIOLOGY/SOCIETY, COMMUNITY MEDICINE & PUBLIC HEALTH)			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
		TOTAL HOURS = 08	
FBhS-001	● Identify the Biological Basis of human behavior and discuss social behavior Describe processes such as neurobiology of memory, emotions, sleep, learning, motivation, sex, arousal, reward and punishment	**Behavioral Sciences Integrated with Healthcare**	**Biological Basis of Behavior**
FBhS-002	● Identify the burden of mental illness on the person, family and society Describe Intellectual disability,		**Psychological Disorders**

	Mental Disorders and Personality Disorders		
FBhS-003	● Identify the role of psychosocial factors in various illnesses Describe psychosocial aspects of various system diseases such as CVS, CNS, GIT, Respiration, renal, endocrine and Cancer		**Psychology and Disease**
FBhS-004	● Identify the behavioral factors associated with pharmacological treatment of diseases Discuss Health belief model, treatment compliance and its psychosocial factors, social factors in drugs prescription and drug resistance		**Behavioral Factors and Pharmacological Treatment**
FBhS-005	● Identify the rehabilitation work for patients on dialysis and any kind of physical disability Discuss the care requirements in chronic debilitating conditions like Diabetes, Multiinfarcts Dementia, chronic renal disease, limb amputation		**Palliative Care**
FBhS-005	● Identify the various physiological effects of stress Explain ANS response to stress, Describe behavioral manifestations of stress Stress related multiple sclerosis and autoimmune diseases		**Stress**
	●		

FOUNDATION MODULE PLANNER

Weekly Planner

1 Year MBBS (Session 2022-23)

WEEK – Foundation / Introduction

Date 1 Mar 23 to 3 Mar 2023

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm	
Wednesday 1 Mar 23	ORIENTATION SESSION					LGIS Anatomy GA *Introduction* *FA-001* *Dr. Zubia Iftikhar*	Practicals Histology (C) Physiology (A) Biochemistry (B)	
Thursday 2 Mar 23	LGIS. Anatomy GH *Cell I.* *FA 044, 045* *Dr Samina*	LGIS Physiology *Cell Biology* *FP-001* *Prof. Rafique*	BREAK	LGIS Biochemistry *Fluid Mosaic Model* *FP-001* *Prof. Dr. Azam Ali*	Physiology Tutorial	LGIS Anatomy GE *Cell cycle* *FA 010* *Prof Qurratulain*	1:15pm-2:15pm Anatomy GA Practical *demonstration of terms of movements of appendicular skeleton* *FA-050* *Dr. Zubia and team*	2:15pm-3:00pm LGIS Behavioural Sciences *Biological basis of Behaviour* *FBS 001* *Dr. Sadia Imran*
Friday 3 Mar 23	LGIS Physiology *Cell Biology.* *FP-001,* *Prof. Rafique*	LGIS Anatomy GE *Cell Cycle Aberrations* *FA 010* *Prof Qurratulain*		Anatomy GA Practical *Anatomical movements of axial skeleton* *FA 050* *Dr Zubia & Team*	11:15am-01:15pm SGD Biochemistry *Role of Cholesterol in Modification of Fluidity of cell membrane and its clinical coralation*	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm LGIS QURAN *QI-001* *Tauheed* *Prof. M. Ali*	

Practical Topics: (Anatomy FA-056, Physiology FP- 008, Biochemistry FB-015)

Weekly Planner

1 Year MBBS (Session 2022-23)

WEEK – 1 **Theme: Cell**

Date 06 Mar to 10 Mar 2023

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm	3:00pm-4:00pm
Monday 6 Mar 23	LGIS **Biochemistry** *Cell Communication FB 003. Prof. Dr. Azam Ali*	LGIS **Physiology** *Cell Biology FP-001, Prof. Dr. Irum Qamar*	B R E A K	LGIS **Biochemistry** *Cell Communication FB 003. Prof. Dr. Azam Ali*	LGIS ***PERL Portfolio PERLs 001 *HOD***	LGIS **Anatomy GA** *Osteology (1) FA 002 Dr. Zubia*	**Practicals** Histology (A) Physiology (B) Biochemistry (C)	S D L
Tuesday 7 Mar 23	LGIS ***Physiology*** *Cell Biology. FP-001, Prof .Dr. Irum Qamar*	LGIS **Anatomy GE** *FA 010 Cell Cycle Aberations Prof .Dr. Qurratulain*		LGIS **Biochemistry** *Signal Transduction. FB 003. Prof. Dr. Azam Ali*	LGIS **Biochemistry** *Signal Transduction FB 003. Prof. Dr. Azam Ali*	LGIS **Anatomy GA** *Osteology FA 002 Dr. Zubia*	**Practicals** Histology (B) Physiology (C) Biochemistry (A)	
Wednesday 8 Mar 23	LGIS **Community Medicine** *Concept of Health. FCM 001. *HOD*	LGIS **Anatomy GE** *FA 011,012 Gametogenesis -I. Spermatogenesis Prof. Dr. Attiya Mubarak*		LGIS **Physiology** *Cell Biology FP-001. Prof. Dr. Rafique*	LGIS **Anatomy GH** *Cell III. FA 046 Dr. Samina*	LGIS **Pathology** *Cell injury* FPa 001 **HOD*	**Practicals** Histology (C) Physiology (A) Biochemistry (B)	
Thursday 9 Mar 23	LGIS **Biochemistry** *Biochemical Markers FB 004 Prof. Dr. Azam Ali*	LGIS **Anatomy GE** *FA 013,014 Gametogenesis II Oogenesis Ovulation Prof. Dr. Attiya Mubarak*		LGIS **Physiology** *Cell Biology. FP-001 Prof. Dr. Rafique*	LGIS **Anatomy GH** *Cell III FA 047 Dr. Samina*	LGIS **Pathology** *Cell injury. FPa 001 *HOD*	**1:15pm-2:15pm** **Physiology Tutorial**	**2:15pm-3:00pm** LGIS **Behavioural Sciences** *Bio Basis of Behavior FBS-001 Dr. Sadia*
Friday 10 Mar 23	LGIS **Physiology** *Cell Biology FP-001 Dr. Sara*	LGIS **Anatomy GE** *FA 015,016. Reproductive Cycle Prof. Dr. Attiya Mubarak*		LGIS **Anatomy GA Practical** *Bony Features. FA 050 Dr. Zubia & Team*	**11:15am-01:15pm** **Biochemistry SGD** *Clinical Application of Markers FB 004*	1:15pm-2:00pm Jumma Prayer	**2:00pm-3:00pm** LGIS **QURAN.** *Risalat Qi. 002 Prof. M. Ali*	

Practical Topics: (Anatomy FA-056, Physiology FP- 008, Biochemistry FB-015)

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

Weekly Planner

1 Year MBBS (Session 2022-23)

WEEK 02

Date 13 March to 17 March 2023 THEME: CELL

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00 am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm	3:00pm-4:00pm
Monday 13 Mar 2023	CSIM. CSIM-001 *H.O.D Medicine	LGIS Physiology FP-001 HOD	B R E A K	LGIS Biochemistry FB 005 HOD	Anatomy GH FA-056 HOD	LGIS Anatomy GA FA 003. HOD	Practicals Histology (A) Physiology (B) Biochemistry (C)	S D L
Tuesday 14 Mar 203	LGIS Physiology FP-001. HOD	LGIS Anatomy GE FA 017, 018 HOD		LGIS Biochemistry FB 005 HOD	LGIS Anatomy GA FA 004 HOD	LGIS Community Medicine FCM-002 *H.O.D	Practicals Histology (B) Physiology (C) Biochemistry (A)	
Wednesday 15 Mar 203	LGIS Biochemistry FB 006. HOD	LGIS Anatomy GE. FA 019, 020 HOD		LGIS Physiology FP 001. HOD	LGIS Anatomy GH Epithelium FA 048.	LGIS Pathology Cell Injury. Fpa-001 *H.O.D	Practicals Histology (C) Physiology (A) Biochemistry (B)	
Thursday 16 Mar 203	LGIS Biochemistry FB 006. HOD	LGIS Anatomy GE FA 021 HOD		LGIS Physiology FP 001. HOD	LGIS Anatomy GH FA 048 *HOD	LGIS Community Medicine FCM-003 *H.O.D	1:15pm-2:15pm Physiology Tutorial HOD / 2:15pm-3:00pm LGIS Behavioural Sciences FBS-002 *H.O.D	
Friday 17 Mar 2023	LGIS Physiology FP-001. HOD	LGIS Anatomy GE FA 021022, 023 HOD		SGD Anatomy GH FA 048 HOD	11:15am-01:15pm Biochemistry SGD	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm LGIS QURAN QI-003 *H.O.D	

Practical Topics: (Anatomy FA-058, Physiology FP- 008, Biochemistry FB-016)

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

SGD– Small Group Discussion. LGIS– Long Group Interactive session

Weekly Planner

1 Year MBBS (Session 2022-23)

WEEK – 3

Date 20 Mar 23 to 24 Mar 2023

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm	3:00pm-4:00pm
Monday 20 Mar 23	Test Assessmewnt		B R E A K	LGIS Biochemistry Chemical Composition of RNA FB-007 Prof. Dr. Azam	LGIS Physiology Cell Biology FP-001. Dr. Sara	LGIS Anatomy GA Joints 2 FA-004 Dr. Zubia Iftikhar	Practicals Histology (A) Physiology (B) Biochemistry (C)	S D L
Tuesday 21 Mar 23	LGIS Physiology Blood FP-002 Dr.Sara	LGIS Anatomy GE 024. 025, 026 3rd wk of develop Ectopic, abortion types Prof.Dr. Attiya Mubarak		LGIS Biochemistry hn RNA, Micro RNA FB-007 Prof. Dr. Azam	LGIS Anatomy GA Integumentary system FA-005 Dr. Zubia Iftikhar	LGIS PERL PERLs 002 Communication skills *HOD	Practicals Histology (B) Physiology (C) Biochemistry (A)	
Wednesday 22 Mar 23	LGIS Biochemistry Analouges of Nucleotides FB-008 Prof. Dr. Azam	LGIS Anatomy GE FA 027, 028 Development of Notochord and Neurulation		LGIS Physiology Blood FP-002 Prof.Rafique	LGIS Anatomy GH Connective Tissue FA 049 Prof Qurratulain	LGIS Pathology Cell Injury FPa 001 *H.O.D	Practicals Histology (C) Physiology (A) Biochemistry (B)	
Thursday 23 Mar 23	Gazzetted Holiday - Pakistan Day							
Friday 24 Mar 23	LGIS Physiology RBCs FP-003 Dr.Sara	LGIS Anatomy GE FA-029 Somite development Prof Qurratulan		Anatomy GH SGD Microscopy FA-057 Dr. Zubia and team	11:15am-01:15pm Biochemistry Topic Name	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm LGIS QURAN QI-004 Taqdeer *HOD	
			Practical Topic	Anatomy FA 059	biochem FB-017	phy FP-009		

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

Weekly Planner

1 Year MBBS (Session 2022-23)

WEEK – 4

Date 27 Mar 23 to 31 Mar 2023

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm		3:00pm-4:00pm
Monday 27 Mar 23	CSIM. CSIM 001	LGIS Physiology RBCs FP-003 Dr. Sara	B R E A K	LGIS Biochemistry Formation of Nucleosome FB-009 Prof.Dr. Azam	LGIS Community Medicine Health Indicators FCM 003 *H.O.D	LGIS Anatomy GA Muscles(1) FA-006 Dr. Zubia	Practicals Histology (A) Physiology (B) Biochemistry (C)		S D L
Tuesday 28 Mar 23	LGIS Physiology RBCs FP-003 Dr.Sara	LGIS Anatomy GE FA 030 031,032 Angiogenesis. Prof. Dr. Attiya Mubarak		LGIS Biochemistry Denova pathway of Purine FB-010 Prof.Dr. Azam	LGIS Community Medicine Disease causation FCM 004 *H.O.D	LGIS Pathology Cell Injury. FPa 001 *H.O.D	Practicals Histology (B) Physiology (C) Biochemistry (A)		
Wednesday 29 Mar 23	LGIS Biochemistry Salvage Pathway of Purine FB-010 Prof.Dr. Azam	LGIS Anatomy GE FA033, 034 Folding,derivatives Prof.Dr. Attiya Mubarak		LGIS Physiology RBCs FP-003 Prof. Rafique	LGIS Anatomy GH Connective Tissue FA 049 Prof.Dr.Qurratulain	LGIS Pathology Introduction to microorganisms FPa 002 *H.O.D	Practicals Histology (C) Physiology (A) Biochemistry (B)		
Thursday 30 Mar 23	LGIS Biochemistry Defects of Purine Metabolism FB-010 Prof.Dr. Azam	LGIS Anatomy GE FA 033, 036 4-8 week of Development (Organogenesis) Prof Attiya Mubarak		LGIS Physiology Heamoglobin FP-004 Prof. Rafique	LGIS Anatomy GH Connective Tissue FA 049 Prof. Dr. Qurratulain	LGIS PERL PERLs 002 Communication skills *HOD	1:15pm-2:15pm Physiology Tutorial	2:15pm-3:00pm LGIS Behavioural Sciences Psychological disorders FBS-002 *H.O.D	
Friday 31 Mar 23	LGIS Physiology Heamoglobin FP-004 Dr. Sara	LGIS Anatomy GE FA 037 Fetal Assessment, Fetal Period Prof Attiya Mubarak		Anatomy GE Practical Topic Name	11:15am-01:15pm Biochemistry Topic Name	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm CSIM. CSIM 001, 002		

Practical Topic: Anatomy FA 059 Bio FB-018 Phy FP-010

Spring Holidays - 1 Apr 23 to 9 Apr 23

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

Weekly Planner

1 Year MBBS (Session 2022-23)

WEEK – 5

Date 10 Apr 23 to 14 Apr 2023

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm		3:00pm-4:00pm
Monday 10 Apr 23	CSI CSIM. 002	LGIS Physiology WBCs FA-005 Dr Sara	B R E A K	LGIS Biochemistry *Metabolism of Pyrimidin* *FB-010* Prof. Dr. Azam	LGIS Community Medicine Disease causation FCM 004 *H.O.D	LGIS Anatomy GA *Muscles 2* *FA-006* *Dr. Zubia Iftikhar*	Practicals Histology (A) Physiology (B) Biochemistry (C)		S D L
Tuesday 11 Apr 23	LGIS Physiology WBCs FA-005 Dr. Sara	LGIS Anatomy GE FA 038 Placenta Prof Attiya Mubarak		LGIS Biochemistry *Replecation in prokaryots* FB-011 Prof. Dr. Azam	LGIS Anatomy GA *Vascular System* *FA-007* *Dr. Zubia Iftikhar*	LGIS Pathology *Introduction to microorganisms* *FPa 002* *H.O.D	Practicals Histology (B) Physiology (C) Biochemistry (A)		
Wednesday 12 Apr 23	LGIS Biochemistry *Topoisomerase* FB-011 Prof. Dr. Azam	LGIS Anatomy GE FA 039 Fetal Membranes Prof.Dr. Attiya Mubarak		LGIS Physiology WBCs FA-005 Dr. Sara	Anatomy GA *Practical* Normal radiographs FA-050 Dr. Zubia and team	LGIS Pathology *Introduction to microorganisms* *FPa 002* *H.O.D	Practicals Histology (C) Physiology (A) Biochemistry (B)		
Thursday 13 Apr 23	LGIS Biochemistry *Initiation, Elongation and Termination of Replication* FB-011 Prof. Dr. Azam	LGIS Anatomy GE FA 040, 041 Twin Pregnancy,fetal therapy Prof. Dr. Attiya Mubarak		LGIS Physiology. WBCs FA-005 Dr Sara	Anatomy GA Practical *Interpretation of fractures and dislocations on radiographs* *FA-050* *Dr. Zubia and team*	LGIS PERL PERLs 003 Responsibility towards self and profession *HOD	1:15pm-2:15pm Physiology Tutorial	2:15pm-3:00pm LGIS Behavioural Sciences *Psychology and disease* *FBS-003* *H.O.D*	
Friday 14 Apr 23	LGIS Physiology *WBCs* *FA-005* *Prof. Iram*	Anatomy GE Practical *Name*		Anatomy GH SGD Staining Dr. Zubia and team	11:15am-01:15pm Biochemistry *Topic* *Name*	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm CSIM. *CSIM 002, 003*		
			Practical Topic:	Anatomy FA 060	Bio FB-019	Phy FP-011			

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

Weekly Planner

1 Year MBBS (Session 2022-23)

WEEK – 6

Date 17 Apr 23 to 21 Apr 2023

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm	3:00pm-4:00pm
Monday 17 Apr 23	Test	Test	B R E A K	LGIS Biochemistry *Replication in Eukaryotic DNA* FB-011 Prof. Dr. Azam	LGIS Physiology WBCs FA-005 Prof Iram	LGIS Anatomy GA *Nervous System I* FA-008 Dr.Zubia Ifikhar	Practicals Histology (A)FA 061 CSIM (B) 003 CSIM (C) 004	S D L
Tuesday 18 Apr 23	LGIS Physiology Blood Types FP-006 Prof. Irum	LGIS Anatomy GE FA 042, 043 *Molecular regulation, Teratology. Prof.Dr. Atiya Mubarak*		LGIS Biochemistry *Difference between Procaryotic and Eukaryotic DNA Replication* FB-011 Prof. Dr. Azam	LGIS Anatomy GA *Nervous System II FA-008 Dr.Zubia Ifikhar*	LGIS Pathlogy *Introduction to microorganisms FPa 002 *H.O.D*	Practicals Histology (B) FA 061 CSIM (C) 003 CSIM (A) 004	
Wednesday 19 Apr 23	LGIS Biochemistry *DNA Damage and Repair* FB-012 Prof. Dr. Azam	LGIS Behavioural Sciences *behavorial factors and treatment FBS-004*		LGIS Physiology Blood Types FP-006 Prof Rafique	Anatomy GE *Practical Name*	LGIS Anatomy GE	Practicals Histology (C) FA 061 CSIM (A) 003 CSIM (B) 004	
Thursday 20 Apr 23	LGIS Biochemistry *Effects of DNA Damage and Repair* FB-012 Prof. Dr. Azam	LGIS Biochemistry *Effects of DNA Damage and Repair* FB-012 Prof. Dr. Azam		LGIS Physiology Blood Types FP-006 Prof .Dr.Rafique	Anatomy GE *Practical Name*	LGIS PERL PERLs 004 Teamwork *HOD	1:15pm-2:15pm Physiology *Tutorial Name*	2:15pm-3:00pm LGIS Behavioural Sciences *behavorial factors and treatment FBS-004 *H.O.D*
Friday 21 Apr 23	Eid ul Fitr Holidays - 21 Apr 23 TO 24 Apr 23							

Practical Topic: Anatomy FA 061 CSIM 003, 004

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

Weekly Planner

1 Year MBBS (Session 2022-23)

WEEK – 7

Date 26 Apr 23 to 28 Apr 2023

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm		3:00pm-4:00pm
Monday	Eid ul Fitr Holidays - 21 Apr 23 TO 24 Apr 23								
Tuesday									
Wednesday 26 Apr 23	Anatomy GH *Practical*	Anatomy GH *Practical*	BREAK	LGIS **Physiology.** ANS FP-007 Prof Rafique	LGIS **Biochemistry** *RNA Polymerase.* *FB-013* *Prof. Dr. Azam*	LGIS **AGING** FAg-001 The process of aging	Practicals Histology (A) FA 061 CSIM (B) 005 CSIM (C) 006		SDL
Thursday 27 Apr 23	LGIS **Biochemistry** *Steps of Transcription* FB-013 Prof. Dr. Azam	LGIS **Behavioral sciences** *Palliative care* *FBS-005* **H.O.D*		LGIS **Physiology** ANS FP-007 Prof Rafique	**Anatomy GE** *Practical*	LGIS **Pathology** *Introduction to microorganisms* *FPa 002* **H.O.D*	1:15pm-2:15pm LGIS **PERL** *PERLs 005* *Digital identity* **HOD*	2:15pm-3:00pm LGIS **Behavioural Sciences** *Stress* *FBS-006* **H.O.D*	
Friday 28 Apr 23	LGIS **Physiology** ANS FP-007 Prof Irum	LGIS **Physiology.** ANS FP-007 Prof Irum		Anatomy GH Practical	11:15am-01:15pm Biochemistry *Topic Name*	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm CSIM. 005		

Practical Topic. Anatomy FA 061 CSIM 005, 006

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

Weekly Planner

1 Year MBBS (Session 2022-23)

WEEK – 8

Date 01 May 23 to 05 May 2023

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm		3:00pm-4:00pm
Monday 1 May 23	**Gazzetted Holiday - Labor Day**								
Tuesday 2 May 23	*Test*	*Test*	B R E A K	LGIS Biochemistry *Translation of Proteins* *FB-014* *Prof. Dr. Azam*	LGIS Physiology ANS FP-007 Dr Sara	LGIS Pharmacology FPh-001 absortion,distribution, metabolism and excretion of drugs *H.O.D	Practicals Histology (C) CSIM (A) 005 CSIM (B) 006		S D L
Wednesday 3 May 23	LGIS Biochemistry *Post Translational Modification* FB-014 Prof. Dr. Azam	LGIS Pharmacology *FPh-001* *absortion,distribution, metabolism and excretion of drugs* **H.O.D*		LGIS Physiology ANS FP-007 Dr Sara	LGIS Pathology *sterilization and disinfection* *FPa 003* **H.O.D*	Physiology practical	Practicals Histology (B) CSIM (C) 005 CSIM (A) 006		
Thursday 4 May 23	LGIS Community Medicine *Disease prevention* *FCM-005* **H.O.D*	LGIS Pharmacology *FPh-002* *terminologies of pharmacology* **H.O.D*		LGIS Physiology Prof Rafique	Anatomy GH *Practical*	Biochemistry Practical	1:15pm-2:15pm CSIM	2:15pm-3:00pm LGIS Behavioural Sciences *Stress* *FBS-006* **H.O.D*	
Friday 5 May 23	LGIS Physiology Dr Sara	LGIS Pharmacology *FPh-003* *ANS* **H.O.D*		LGIS Biochemistry	11:15am-12:15pm LGIS Community Medicine *Community Medicine* *Disease prevention* *FCM-005* **H.O.D*	12:15pm-1:15pm LGIS Pathology *sterilization and disinfection* *FPa 003* **H.O.D*	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm CSIM. 006	

Test on 8 May 23 - 8:00 am to 10:00 am

Practical Topic. Anatomy FA 061 CSIM 005, 006

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FOUNDATION MODULE C-FRC SCHEDULE 1st YEAR MBBS 2023-2027

S.NO	Week	Date/Time	Topic	Batch No	Venue	Facilitator	Log Book Entries
1.	Week 4	27-03-23 8.00am-8.50am	Radial Pulse C-FRC-1-02	B C	Skill Lab Pharma Lab Patho Lab	*HOD *HOD *HOD	A= 3Log book Entries B= 3 Log Entries C=3 Log Entries
2.	Week 4	31-03-23 12.00pm-1.00pm	Radial Pulse C-FRC-1-02	B A C	Skill Lab Pharma Lab Patho Lab	*HOD *HOD *HOD	
3.	Week 5	10-04-23 8.00am-8.50am	Radial Pulse C-FRC-1-02	A B C	Skill Lab Pharma Lab Patho Lab	*HOD *HOD *HOD	
4.	Week 5	14.04.23 12.00pm-1.00pm	Respiratory Rate measurement C-FRC-1-02	B A C	Skill Lab Pharma Lab Patho Lab	*HOD *HOD *HOD	A= 3Log book Entries B= 3 Log Entries C=3 Log Entries
5.	Week 6	17-04-23 12.20pm-2.00pm	Respiratory Rate measurement C-FRC-1-02	B C	Physio Lab Biochem Lab	*HOD *HOD	
6.	Week 6	18-04-23 12.20pm-2.00pm	Respiratory Rate measurement C-FRC-1-02	C A	Physio Lab Biochem Lab	*HOD *HOD	
7.	Week 6	19-04-23 12.20pm-2.00pm	Respiratory Rate measurement C-FRC-1-02	A B	Physio Lab Biochem Lab	*HOD *HOD	
8.	Week 7	26-04-23 1.15pm-3.00pm	Blood Pressure C-FRC-1-03	C B	Physio Lab Biochem Lab	*HOD *HOD	A= 3Log book Entries B= 3 Log Entries C=3 Log Entries

9.	Week 7	28-04-23 2.00pm-3.00pm	Gloving C-FRC-1-04	A B C	Physio Lab Biochem Lab Histology Lab	*HOD *HOD *HOD	A= 2 Log book Entries B= 2 Log Entries C=2 Log Entries
10.	Week 8	02-05-23 1.15pm-3.00pm	Blood Pressure C-FRC-1-03	A B	Physio Lab Biochem Lab	*HOD *HOD	
11.	Week 8	03-05-23 1.15pm-2.00pm	Blood Pressure C-FRC-1-03	C A	Physio Lab Biochem Lab	*HOD *HOD	
12.	Week 8	05-05-23 2.00pm-3.00pm	Hand washing C-FRC-1-05	A B C	Physio Lab Biochem Lab Histology Lab	*HOD *HOD *HOD	A= 2 Log book Entries B= 2 Log Entries C=2 Log Entries

BLOCK 1
MODULE 2
HEMOPEOTIC AND LYMPHATICS

Modular Outcomes:

1.Explain the function of all the organs / structures involved in this system and the mechanisms controlling them. (Spleen, lymph nodes, thymus, bone marrow, RBC's, WBC's and platelets.

2. Explain the etiology and pathogenesis of common blood & lymphatic diseases, particularly those of importance in Pakistan.

3. Explain the rationale for the use of common therapeutic agents for the diseases related to Blood and immunity.

4. Describe the role of immunity in the body

5. Discuss the working & uses of laboratory instruments in diagnostic lab visit

6. Relate red cell indices with health and disease

7. Recognize ABO/RH blood grouping system

8. Describe the role of Reticuloendothelial system in the body

9. Describe the events of hemostasis

10. Extrapolate the biochemical aspects of plasma proteins

11. Discuss the pharmacological treatment of iron deficiency anemia

12. Discuss Blood composition and function

13. Discuss the role of liver in hemolytic anemia

14. Practice history taking of a patient presented with blood disorders

GROSS ANATOMY			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	ANATOMY	**TOTAL HOURS = 02**	
HL-A001	● **Identify and describe the components of the Hematopoietic & Lymphoid Tissue and their function** ● **Location, coverings, relations of Spleen** ● **Origin, course branches and distribution of Splenic artery** ● **Venous drainage of Spleen, Portal vein formation, tributaries, and area of drainage.** ● **Location and relations of Thymus. Age related changes in Thymus**	**Human Anatomy**	**Hematopoietic & Lymphoid Tissue**
EMBRYOLOGY & POST-NATAL DEVELOPMENT			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	ANATOMY	**TOTAL HOURS = 01**	
HL-A002	● **Intrauterine Development of spleen**	**Embryology**	**Developmental Anatomy of Spleen**
PRACTICAL			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	ANATOMY	**TOTAL HOURS = 02**	
HL-A003	● **Light microscopic structure of Spleen, Thymus, Lymph nodes, tonsils and MALT including Appendix.**	**Histology**	**Histological Features of Lymph Node, Spleen & Thymus**
MEDICAL PHYSILOGY			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
		TOTAL HOURS = 20	
HL-P001	● **Define anemia** ● **Classify anemia on the basis of morphology and cause** ● **Discuss the effects of anemia on the body**		**Anemia**
HL-P002	● **Define polycythemia** ● **Explain types of polycythemias** ● **Discuss the effects of polycythemia on the body**		**Polycythemia**

HL-P003	● **Define hemostasis** ● **Describe the mechanisms by which hemostasis is secured**	**Medical Physiology**	**Hemostasis**
HL-P004	● **Discuss the characteristics and functions of platelets** ● **Explain the mechanism of formation of platelet plug**		**Platelets**
HL-P005	● **Enlist the clotting factors in blood** ● **Explain the conversion of Prothrombin to Thrombin & formation of Fibrin Fibers** ● **Explain the Intrinsic & extrinsic clotting pathway.** ● **Name & explain the mechanism of anticoagulants used in laboratory** ● **Explain the factors that prevent intravascular coagulation** ● **Explain the role of Calcium ions in Intrinsic and Extrinsic pathways** ● **Enlist the vitamin K dependent clotting factors** ● **Explain the prothrombin time, INR, and its clinical significance**		**Coagulation factors**
HL-P006	● **Enlist and explain the conditions that cause excessive bleeding** ● **Define thrombocytopenia** ● **Enlist the causes and consequences of Thrombocytopenia**	**Medical Physiology integrate with medicine**	**Coagulation disorders**
HL-P007	● **Define immunity** ● **Classify immunity** ● **Explain humoral immunity** ● **Explain Innate immunity.** ● **Elaborate cell mediated immunity.** ● **Describe the structure of antigen and immunoglobulin** ● **Describe the role of Helper T-cells in cell mediated immunity** ● **Enlist the types of Immunoglobulins along with their functions** ● **Explain the role of memory cells in enhancing antibody response (secondary response)** ● **Describe the mechanism of action of antibodies**	**Medical Physiology**	**Immunity**

	● Elaborate the complement system.		
HL-P008	● Explain the process of clone selection during T cell processing ● Discuss the failure of tolerance mechanism	**Medical Physiology**	**Tolerance**
HL-P009	● Explain features and physiological basis of delayed reaction allergy. ● Explain features and physiological basis of Atopic Allergy ● Explain features and physiological basis of Anaphylaxis, urticaria and Hay fever.	**Medical Physiology Integrate with Pediatrics**	**Immunization**
HL-P010	● Discuss the pathophysiology, features and treatment of ABO and RH incompatibility	**Medical Physiology**	**Blood group In-Compatibility**
HL-P011	● Discuss the features and complications of mismatched blood transfusion reaction ● Elaborate the Transplantation of Tissues and Organs	**Integrate with Pathology**	**Blood mismatch Transfusion Reactions**
HL-P012	● Explain prevention of Graft Rejection by suppressing immune system	**Medical Physiology Integrate with Nephrology**	**Transplantation on of Tissues**
MEDICAL BIOCHEMISTRY			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	BIOCHEMISTRY	**TOTAL HOURS = 21**	
HL-B001	● Discuss the biochemical role and types of hemoglobin a) Differentiate Hemoglobin and myoglobin b) Explain oxygen dissociation curve of hemoglobin and myoglobin and factors regulating them c) Interpret CO toxicity on basis of sign and symptoms	**Medical Biochemistry**	**Hemoglobin and its types/ RBCs**

	d) Explain the role of 2,3 BPG in fetal circulation		
HL-B002	● **Discuss haemoglobinopathies and their biochemical and genetic basis with special emphasis on sickle cell anemia, Thalassemia and methemoglobinemia** **a) Discuss the following types of anemia on the basis of signs and symptoms and laboratory data:** **b) Hypochromic microcytic** **c) Normochromic microcytic** **d) Normochromic normocytic** **e) Macrocytic (megaloblastic)**	**Medical Biochemistry integrate with Pathology**	**Hemoglobin opathies/ RBCs/ Homeostasis**
HL-B003	● **Explain the iron metabolism with mechanism of absorption and factors affecting it.** **a) nterpret Iron deficiency anemia on basis of given data and microscopic findings** **b) Interpret folic acid and cobalamin in relation to anemias on given data and microscopic findings** **c) Discuss biochemical role of pyridoxine and vitamin C in microcytic anemia**	**Medical Biochemistry integrate with Medicine**	**Iron Metabolism/ RBCs**
HL-B004	● **Discuss the degradation of heme in macrophages of reticuloendothelial system** **a) Describe the formation of bile pigments, their types and transport** **b) Discuss the fate of bilirubin**	**Medical Biochemistry**	**Heme Degradation/ RBCs**
HL-B005	● **Discuss hyperbilirubinemias and their biochemical basis** **a) Differentiate types of jaundice on basis of sign/symptoms and data** **b) Evaluate the genetic basis of jaundice on the basis of lab investigations**		**Hyperbilirubi nemias / RBCs/ Blood Groups**
HL-B006	● **Classify and Explain the biomedical importance of each class of plasma proteins**		**Plasma Proteins/ Homeostasis**

HL-B007	● **Explain the structure and biochemical role of immunoglobulins** **a) Describe the production, structure and functions of B cells, plasma cells, and antibodies (IgA, IgD, IgE, IgG, and IgM).** **b) Discuss the functions of the cytokines (ILs, TNFs, IFs, PDGF, and PAF).** **c) Interpret multiple myeloma on basis of given data**		**Immunoglobulins/ WBCs/ Immunity**
HL-B008	● **Explain and interpret pedigree of single gene defect i.e. sickle cell anemia (Autosomal recessive) and Beta Thalassemia (x linked recessive)**		**Genetics**
MEDICAL BIOCHEMISTRY			
PRACTICAL			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
	MEDICAL BIOCHEMISTRY	**TOTAL HOURS = 6+6=12**	
HL-P013	● **Interpret the Red Blood Cell Count, Hemoglobin concentration, Hematocrit and RBC Indices by Automated Cell Counter** ● **Interpret the Total Leucocyte Count, Differential Leucocyte Count Platelet Count by Automated Cell Counter.**	**Medical Physiology**	**Blood Cells**
HL-P014	● **Determine Bleeding Time.** ● **Determine Clotting Time.**		**Bleeding/Clotting Time**
HL-B009	● **Perform estimation of ALT and interpret the findings** ● **Perform estimation of AST and interpret the findings** ● **Perform estimation of ALP and interpret the findings** ● **Interpret graph based on oxy HB curve and 23 BPG Interpret different types of anemias & porphyrias on basis of s/s and data**	**Medical Biochemistry**	**Jaundice & Anemias/ RBCs/ Homeostasis**
PATHOPHYSIOLOGY AND PHARMACOTHERAPEUTICS			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
		TOTAL HOURS = 2+5=7	

HL-Ph001	● **Describe the oral and parenteral iron preparations including their pharmacokinetics, uses, adverse effects.** ● **Vitamin B12 preparations, Iron Antidotes** ● **Should know the terms: Hematopoietic growth factors, their name, mechanism of actions , uses and adverse effects**	**Pharmacology & Therapeutics**	**Anemia**
HL-Pa001	● **Discuss the causes leading to reactive leukocytosis** ● **Interpretation of anemia's on the basis of peripheral blood smear and bone marrow findings** ● **Classify bleeding disorders** ● **Discuss first line laboratory investigations for bleeding disorders** ● **Describe the basic concept of blood grouping and acute hemolytic transfusion reaction**	**Pathology**	**Blood Cells, Platelets and Blood Group**
DISEASE PREVENTION AND IMPACT			
THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
		TOTAL HOURS = 5	
HL-CM00	● **Describe the nutritional aspects of iron deficiency anemia and psychological aspects of diseases**	**Community Medicine and Public Health**	**Anemia**
HL-CM002	● **Enlist most common blood borne diseases in Pakistan** ● **Describe the routes of spread of blood borne diseases**		**Communicable Diseases**
HL-CM003	● **Genetic counseling of parents**		**Genetic diseases**
HL-BhS001	● **Psychological Counseling of patients and their families**		**Counselling, Informational care**
HL-BhS002	● **Identify and deal with the various psychosocial aspects of Hematopoietic System disorders (such as Sickle Cell Disease, Hemophilia, and Conditions of the Blood) on Individual, Family and Society.**	**Behavioral Sciences**	**Personal, Psychosocial and Vocational Issues**
AGING			

THEORY			
CODE	**SEPCIFIC LEARNING OBJECTIVES**	**DISCIPLINE**	**TOPIC**
		TOTAL HOURS = 1	
HL-Ag001	● **Discuss the role of platelets in PRP treatment in old age (for skin, hairs and joints)**	**Biochemistry /Dermatology**	**Platelet Rich Plasma Therapy**
HL-Ag002	● **Explain the role of glutathione in skin whitening**		**Glutathione**

Hematopoietic and Lymphatic

Weekly Planner

1 Year MBBS (Session 2022-23) H and L

WEEK – 1 **Theme: RBCs**

Date 08 May to 12 May 2023

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm	3:00pm-4:00pm
Monday 8 May 23	TEST	TEST		LGIS Biochemistry HL-B-001 Structure, function of heme, myoglobin, hemoglobin *H.O.D	LGIS *PERL PERLs-1-06 Science and scientific evidence *H.O.D*	LGIS Physiology HL-P-001 Anaemia *H.O.D	Practicals Histology (A) Physiology (B) Biochemistry (C)	
Tuesday 9 May 23	*LGIS Physiology HL-P-002 Polycythemia *H.O.D*	LGIS Biochemistry HL-B-001 Oxygen dissociation curve *H.O.D	B	LGIS Anatomy HL-A-001 Gross anatomy of lymphoid system *H.O.D	LGIS Physiology HL-P-001 Anaemia *H.O.D	LGIS Biochemistry HL-B-001 Factor regulating O2 dissociation curve (2.3 BPG) *H.O.D	Practicals Histology (B) Physiology (C) Biochemistry (A)	
Wednesday 10 May 23	LGIS PERLs PERLs-1-07 Goal setting *H.O.D	LGIS Biochemistry HL-B-001 Co toxicity *H.O.D	R	LGIS Physiology HL-P-003 Hemostasis *H.O.D	LGIS Anatomy HL-A-001 Gross anatomy of lymphoid system *H.O.D	LGIS Pathology HL-Pa-001 Anaemia; types, causes and investigations *H.O.D	Practicals Histology (C) Physiology (A) Biochemistry (B)	S
Thursday 11 May 23	LGIS Pathology HL-Pa-001 Disorders of WBCs *H.O.D	LGIS Biochemistry HL-B-002 Hemoglobinopathies *H.O.D	E	LGIS Physiology HL-P-004 Platelets *H.O.D	LGIS Anatomy HLA-002 Development of spleen *H.O.D	LGIS Biochemistry HL-B-002 Classification of Anemia *H.O.D	1:15pm-2:15pm LGIS Physiology HL-P-005 Coagulation and anti-coagulation *H.O.D / 2:15pm-3:00pm LGIS Islamiat/Pak studies *H.O.D	D
Friday 12 May 23	LGIS Community Medicine HL-CM-001 Anaemia *H.O.D	LGIS Physiology HL-P-005 Coagulation and anti-coagulation *H.O.D	A	LGIS Biochemistry HL-B-003 Iron metabolism + Iron deficiency Anemia *H.O.D	11:15am-01:15pm Biochemistry SGD *H.O.D	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm LGIS QURAN.	L
			K					

Practical Topics: (Anatomy = HL-A-004 , Physiology=HL-P-013 , Biochemistry= HL-B-009)

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

Weekly Planner

1 Year MBBS (Session 2022-23) H and L

WEEK – 2

Date 15 May 23 to 19 May 2023 **THEME: Platelets**

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm	3:00pm-4:00pm
Monday 15 May 23	LGIS Aging HL-Ag-001 PRP therapy *H. O. D*	LGIS Physiology HL-P-005 Coagulation and anti-coagulation *H. O. D	B R E A K	LGIS Biochemistry HL-B-003 Role of folic acid and cobalmine in development of Anemia *H.O.D	LGIS Behavourial Sciences HL-BhS-001 Counselling, Informational care *H. O. D	LGIS Physiology HL-P-006 Thrombocytopenia *H.O.D	Practicals C-FRC (A) Physiology (B) Biochemistry (C)	S D L
Tuesday 16 May 23	LGIS Physiology HL-P-007 Innate Immunity *H.O.D	LGIS PERLs SGD *H.O.D		LGIS Biochemistry HL-B-003 Role of Pyridoxin and Vitamin C in Anemia *H.O.D*	LGIS Pathology HL-Pa-001 Bleeding disorders *H.O.D	LGIS Community Medicine HL-CM-002 Communicable diseases *H.O.D	Practicals C-FRC (B) Physiology (C) Biochemistry (A)	
Wednesday 17 May 23	LGIS Biochemistry HL-B-004 Heme degradation *H.O.D*	LGIS Behavourial Sciences HL-BhS-002 Personal, pschycosocial and vocational issues *H.O.D		LGIS Physiology HL-P-007 Cell mediated immunity *H.O.D	LGIS Anatomy HLA-003 Histology of lymphoid system *H.O.D	LGIS Pathology HL-Pa-001 Blood grouping and transfusion reactions *H.O.D	Practicals C-FRC (C) Physiology (A) Biochemistry (B)	
Thursday 18 May 23	LGIS Aging HL-Ag-002 Glutathione therapy *H.O.D	LGIS Biochemistry HL-B-005 Jaundice and Hyper bilirubinemia *H.O.D		LGIS Physiology HL-P-007 Immunoglobulins *H.O.D	LGIS Anatomy HLA-003 Histology of lymphoid system *H.O.D	LGIS Biochemistry HL-B-007 Immunoglobulins and immunity *H.O.D	1:15pm-2:15pm LGIS Physiology *HL-P-007 Secondary Immune Response* / 2:15pm-3:00pm LGIS Islamiat	
Friday 19 May 23	LGIS Community Medicine HL-CM-002 Communicable diseases *H.O.D	LGIS Physiology HL-P-007 Complement system *H.O.D		LGIS Behavourial Sciances HL-BhS-002 Personal, pschycosocial and vocational issues *H.O.D	11:15am-01:15pm SGD Biochemistry	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm LGIS QURAN *H.O.D	

Practical Topics: (C-FRC , Physiology=HL-P-013 , Biochemistry= HL-B-009)

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

SGD– Small Group Discussion. LGIS– Long Group Interactive session

Weekly Planner

1 Year MBBS (Session 2022-23) H and L

WEEK – 3

Date 22 May 23 to 26 May 2023 **THEME: WBCs**

Days/Time	8:00am-09:00am	09:00am-10:00am	10:00am-10:15am	10:15am-11:15am	11:15am-12:15pm	12:15pm-1:15pm	1:15pm-3:00pm	3:00pm-4:00pm
Monday 22 May 23	TEST	TEST	B R E A K	ANATOMY SGD *HOD	LGIS Physiology HL-P-008 Immune tolerance *H.O.D	LGIS Biochemistry Plasma Protein HL-B-007 *H.O.D	Practicals (A) Physiology (B) Biochemistry (C)	S D L
Tuesday 23 May 23	LGIS Physiology HL-P-009 Immunization *H.O.D	LGIS Pharmacology HL-Ph-001 Oral and parentral iron *H.O.D		LGIS Biochemistry HL-B-007 Structure and function of Immunoglobulins *H.O.D	LGIS Physiology HL-P-009 Allergy *H.O.D	LGIS Community Medicine HL-CM-003 Genetic diseases *H.O.D	Practicals (B) Physiology (C) Biochemistry (A)	
Wednesday 24 May 23	LGIS Biochemistry HL-B-007 Structure and function of Immunoglobulins *H.O.D	LGIS Pharmacology HL-Ph-001 Vit B12 preparations and iron antidotes *H.O.D		LGIS Physiology HL-P-010 ABO and Rh incompatability *H.O.D	LGIS PERLs SGD *H.O.D	LGIS Pathology HL-Pa-001 *H.O.D	Practicals (C) Physiology (A) Biochemistry (B)	
Thursday 25 May 23	LGIS Community Medicine HL-CM-003 Genetic diseases *H.O.D	LGIS Biochemistry HL-B-007 Structure and function of Immunoglobulins *H.O.D		LGIS Physiology HL-P-011 Transfusion reaction *H.O.D	LGIS PERLs SGD *H.O.D	LGIS Biochemistry HL-B-008 Sickle cell Anemia and Beta Thalassemia *H.O.D	1:15pm-2:15pm Physiology Tutorial *H.O.D / 2:15pm-3:00pm Physiology Tutorial *H.O.D	
Friday 26 May 23	LGIS PERLs SGD *H.O.D	LGIS Physiology HL-P-012 Transplantation of tissues *H.O.D		LGIS Anatomy SGD *HOD	11:15am-01:15pm SGD Biochemistry	1:15pm-2:00pm Jumma Prayer	2:00pm-3:00pm Islamiat/Pak studies *H.O.D	

Practical Topic: C-FRC Bio= HL-B-009 Phy=HL-P-014

LGIS= Large Group Interactive Session, SGD= Small Group Discusstion, SDL=Self Directed Learning, * as per direction of respective HOD

H & L C-FRC SCHEDULE 1ST YEAR MBBS RMDC
SESSION 2023-2027

S.NO	Week	Date/Time	Topic	Batch No	Venue	Facilitator	Log Book Entries
1	Week 2	15-05-23 01.15pm-03.00pm	Venipuncture and Blood Sampling	A	Histology Lab	*HOD *HOD *HOD	A= 2Log book Entries
2	Week 2	16-05-23 01.15pm-03.00pm	Venipuncture and Blood Sampling	B	Histology Lab	*HOD *HOD *HOD	B= 2 Log Book Entries
3	Week 2	17-05-23 01.15pm-03.00pm	Venipuncture and Blood Sampling	C	Histology Lab	*HOD *HOD *HOD	C=2 Log Book Entries
4	Week 3	22-5-23 01.15pm-03.00pm	Pallor	A	Histology Lab	*HOD *HOD *HOD	A= 2Log book Entries
5	Week 3	23-5-23 01.15pm-03.00pm	Pallor	B	Histology Lab	*HOD *HOD	B= 2 Log Book Entries
6	Week 3	24-5-23 01.15pm-03.00pm	Pallor	C	Histology Lab	*HOD *HOD	C=2 Log Book Entries

BLOCK 1 TEST

Date: Written: 31st May,2023

OSPE/Viva: 2nd June,2023

ASSESSMENT SECTIONS

ASSESSMENT POLICY:

1. First Professional examination will be held at the end of the first year MBBS class as per University of Health Sciences schedule.
2. All students must prepare all the subjects mentioned as per above sections including clinical skills and PERL. The assessment will be held in all three blocks, which were taught during first year MBBS.
3. There will be four papers in the first-year professional examination as per following:
    a) Paper 01 will be based on contents of Block No. 01.
    b) Paper 02 will be based on contents of Block No. 02.
    c) Paper 03 will be based on contents of Block No. 03.
    d) Paper 04 will be based on contents of Islamic Studies, Ethics, Professionalism, Research and Pakistan Studies.
4. All papers will based on written and Oral/Practical/Clinical examination except Islamic Studies, Ethics, Professionalism, and Pakistan Studies, which will be written only.
5. The written and Oral/Practical/Clinical examination will carry 150 marks each thus a total of 300 marks for each of the three block (Block No. 01, 02 & 03).
6. The total marks of first year MBBS will be 1000 out of which 100 marks will be IofIslamic Studies, Ethics, Professionalism, and Pakistan Studies but these 100 marks will not be included i determining the overall merit and position of the student.
7. Major component of the first will include:
    a) Anatomy including Applied and Clinical Anatomy.
    b) Physiology including Applied and Clinical Physiology.
    c) Biochemistry including Applied and Clinical Biochemistry.
8. The Applied and Clinical part of all the above three mentioned component will be based on Clinical correlations.
9. Minor Components of the year include Pathology, Pharmacology and Therapeutics, Community Medicine, Behavioral Sciences, Clinical Foundation 1 and PERL 1.
10. Written Examination:
    a) There will be one written paper for each of Paper 1, 2 & 3 of the Blocks.
    b) This written paper will be based on one best type MCQs (70%) and SEQs (30%).

c) Each MCQ will have five options (One best option and four distractors) and each will carry 01 Mark.

d) There will be no sections of SEQs and each will carry 05 Marks.

e) SEQs will only be from the major components of first year that is Anatomy, Physiology and Biochemistry and their Applied C and Clinical part as mentioned in Para 07.

f) There will be total 85 MCQs and 07 SEQs in each of three Block papers that is Block 01, 02 & 03.

g) The duration of written paper will be of 180 Minutes or 03 Hours.

h) MCQs part will be of 110 Minutes and SEqs will be 70 Minutes.

11. Oral/Practical/Clinical Examination:

a) There will an Oral/Practical and Clinical Examination for each of the three Blocks that is Block 01, 02 & 03.

b) There will total 12 OSPE/OSCE/Viva stations for each of the Oral/Practical and Clinical Examination of Block 01, 02 & 03.

i. There will be 07 Observed stations from major components areas for each of the Oral/Practical and Clinical Examination of Block 01, 02 & 03.

ii. There will be 02 Observed stations 01 each from C-FRC and PERLS of each Oral/Practical and Clinical Examination of Block 01, 02 & 03.

iii. There will be 03 Structured Viva stations in each Oral/Practical and Clinical Examination of Block 01, 02 & 03.

c) Each OSPE/OSCE Observed station will carry 08 Marks.

d) Each Structured Viva station will carry 16 Marks (08 Each for External and Internal Examiner).

e) Duration of Oral/Practical and Clinical Examination is 150 Minutes or 02.5 Hours).

f) Time for each OSPE/OSCE station will be 08 Minutes.

g) Time for each structured Viva will be 20 Minutes (10 Minutes each for each External and Internal Examiner.

12. Each student of First Year MBBS will have to appear in First Year Professional Examination as follows:

a) Block No. 01 (Foundation and Hemopeotic and Lymphatics Modules) 300 Marks.

b) Block No. 02 (Musculoskeletal System Module) 300 Marks.

c) Block No. 03 (Cardiovascular and Respiratory System Module) 300 Marks.

d) Islamiat/Ethics/Pakistan Studies 100 Marks.

13. No grace marks shall be allowed either in written or practical examination.

14. At least 25% MCQs and 25% SEQ shall cover Applied Clinical Cases scenario to assess high order thinking of First Year MBBS examination.

Block No. 01 (Foundation and Hemopoietic and Lymphatics Modules)

The examination of block no. 01 will be as follows:

1. One written paper of 120 Marks having following two parts:

a) First part include 85 one best out of five options Multiple Choice Question (MCQs) with 85 total marks and allocated time will be 110 Minutes.

b) Second part include 07 Structured Essay Questions (SEQs) with 35 total marks and allocated time will be 70 Minutes.

c) Oral/Practical/Clinical Examination shall be of 120 marks.

d) The Continuous Internal Examination conducted by College of enrollment shall carry 60 marks (20% of the total 300 marks) of the Block. These 60 marks will be equally distributed for Written and Oral/Practical/Clinical Examination.

Block No. 02 (Musculo-Skeletal Modules)

The examination of block no. 02 will be as follows:

1. One written paper of 120 Marks having following two parts

a) First part includes 85 one best out of five options Multiple Choice Question (MCQs) with 85 total marks and allocated time will be 110 Minutes.

b) Second part include 07 Structured Essay Questions (SEQs) with 35 total marks and allocated time will be 70 Minutes.

c) Oral/Practical/Clinical Examination shall be of 120 marks.

d) The Continuous Internal Examination conducted by College of enrollment shall carry 60 marks (20% of the total 300 marks) of the Block. These 60 marks will be equally distributed for Written and Oral/Practical/Clinical Examination.

Block No. 03 (Cardiovascular and Respiratory Modules)

The examination of block no. 03 will be as follows:

1. One written paper of 120 Marks having following two parts:

a) First part include 85 one best out of five options Multiple Choice Question (MCQs) with 85 total marks and allocated time will be 110 Minutes.

b) Second part include 07 Structured Essay Questions (SEQs) with 35 total marks and allocated time will be 70 Minutes.

c) Oral/Practical/Clinical Examination shall be of 120 marks.

d) The Continuous Internal Examination conducted by College of enrollment shall carry 60 marks (20% of the total 300 marks) of the Block. These 60 marks will be equally distributed for Written and Oral/Practical/Clinical Examination.

Islamic Studies/Ethics/Pakistan Studies

The examination of Islamic studies/Ethics/Pakistan Studies will be as follows:

1. One written paper of 100 Marks having following pattern:

a) First part include Islamic Studies/Ethics portion and it will include five Long Essay Question with a choice of three to attempt, each carry 20 marks and total 60 marks.

b) Second part include Pakistan Studies portion and it will include four Long Essay Question with a choice of two to attempt, each carry 20 marks and total 40 marks.

2. The medium of instruction shall be English but Islamic Studies/Ethics can be attempted in Urdu.

Marks Distribution Table

Subject	Theory	Marks	Practical	Marks	Total
Foundation and Hemopeotic and Lymphatics Modules	Part I MCQs Part II SEQs	85 35	Oral/Practical/Clinical Examination	120	**300**
	Internal Assessment	30		30	
	Total	**150**	**Total**	**150**	
Musculo-Skeletal Module	Part I MCQs Part II SEQs	85 35	Oral/Practical/Clinical Examination	120	**300**
	Internal Assessment	30		30	
	Total	**150**	**Total**	**150**	
Cardiovascular and Respiratory Module	Part I MCQs Part II SEQs	85 35	Oral/Practical/Clinical Examination	120	**300**
	Internal Assessment	30		30	
	Total	**150**	**Total**	**150**	
Grand Total for Merit and Position					**900**
Islamic Studies/Ethics Pakistan Studies	Islamic Studies/Ethics 3 LEQs out of 5 LEQs			60	**100**
	Pakistan Studies 2 LEQs out of 4 LEQs			40	
	Total			**100**	
Grand Total					**1000**

REGULATION:

This examination shall be permitted to any students who:

1. Has been enrolled/registered and completed one academic year proceedings in a constituent or affiliated medical college of University of Health Sciences (UHS).
2. has his/her name been submitted for the purpose of examination to Registrar of UHS from Principal of constituent or affiliated medical college, where he /she is enrolled and eligible as per prerequisite of first year MBBS examination.
3. Has his/her marks of internal assessment of all the Blocks are submitted to Registrar of University of Health Sciences by the Principal of the college along with admission forms.
4. Produces the following certificates duly attested by the Principal of the medical college:
    a) Good Character.
    b) Attendance Certificate having not less than 75% attendance of full course in both lectures delivered and practical conducted in first year MBBS.
        i. Candidates failing short of attending lectures and practical conducted will not be admitted for the examination.
        ii. Student though will be allowed for next examination if they attend 75% of lectures delivered and practical conducted before the commencement of next examination by remaining enrolled as regular student of the college.
    c) Certificate of having passed all the Block examinations conducted by the college of enrollment with 50% cumulative percentage in aggregate of Block 1, 2 & 3.
5. The minimum passing marks shall be 50% in written and 50% in Oral/Practical/Clinical Examination and 50% as an aggregate, independently and concomitantly at one and the same time of first year MBBS examination.
6. Minimum numbers for Passing Islamic studies / Ethics and Pakistan Studies shall be 33% as an aggregate.
    a) Islamic Studies/Ethics and Pakistan Studies can be passed any time before final year MBBS examination.
    b) Marks of Islamic studies/Ethic and Pakistan studies shall not be counted towards the professional examination total marks and determination of position.
7. If there is a discrimination of less than 50% marks awarded in the Internal and External Examiners in any segment then UHS hholds the right to review and or re-examine the individual case.
8. Candidates securing more than 85% marks in any of Block will be declared as distinction in the Block subject he/she secured 80% marks in written component of that paper. Similarly, If he/she does not pass in first year examination as a whole at and same time shall not be declared to have a distinction in single Block or paper.
9. Any candidate failing to clear one or more papers in annual examination shall be provisionally allowed to join second year. He/she must clear that failed paper in supplementary examination within 4 weeks' time frame, failing to do he/she will be detained back in first year. Under no circumstances he/she shall be proted to second year MBBS profession until and unless he/she cleared the failed papers.

10. If a student appear by any chance for the first time in Supplementary examination as he/she did not appeared in annual examination and failed to clear one or more papers shall be detained in same first year class, no provisional joining in next class shall be allowed.
11. Any student failed to clear first year MBBS in four consecutive attempts inclusive of availed or unavailedafter being eligible for examination shall be expelled from college and shall not be allowed to continue MBBS or BDS studies in the college or shall not be allowed to get admission as fresh candidate in either MBBS or BDS.
12. Every candidate shall submit their admission to Registrar of UHS through Principal of the college where he/she is enrolled and completed first year MBBS.
13. The marks of internal assessment shall be submitted to Controller of Examination of UHS within 02 weeks after completion of each Block 1, 2 & 3 examination. No Internal Assessment will be accepted after the commencement of annual examination.
14. Parent Teacher Meeting should be schedule after every Block to share the attendance, internal assessment and performance of the students with their parents and University of Health Sciences.
15. Fresh internal assessment for supplementary examination shall not be permissible.
16. Fresh internal assessment for detained students can be submitted
17. A proper continuous internal assessment record shall be maintained by respective departments of the medical college.
18. If he/she submitted admission for after the due dates, the student will have to pay double of the normal fee as per notified schedule by the Registrar of University of Health Sciences before the commencement of examination. Medical College ahall also deposit a fine of PKR 50,000 as a fine to UHS.
19. The candidates will submit their respective fee to UHS through Principal of their College. Principal will deposit student fees through bank draft or pay order or cross cheque in the name Treasurer University of Health Sciences along with admission forms.

MBBS 1ST Professional

Paper 1

Theme	Written Exam				Oral/practical/clinical Exam			
	Subject	MCQ 1 Mark	SEQ 5 Marks	Marks	OSPE/OSCE/Viva Station			
					OSPE 8 Marks each observe	OSCE 8 Marks each observe	Structured viva 16 Marks each	Marks
Normal Structure	Anatomy & Applied/clinical	20	3	35	3	-	1	40
Normal Function	Physiology & Applied/clinical	22	2	32	2	-	1	32
	Biochemistry & Applied/clinical	22	2	32	2	-	1	32
Disease Burden & Prevention	Community Medicine & Public Health	05	-	05	-	-		-
	Behavioral Sciences	05	-	05	-	-		-
Pathophysiology & Pharmacotherapeutics	Pathology	06	-	06	-	-		-
	Pharmacology	05	-	05	-	-		-
CFRC	CF 1-1	-	-	-	-	1		8
PERLS	PERL 1-1	-	-	-	-	1		8
		85	7x5=35	120	7 Stations x 08 = 56	02 Stations x 08 = 16	3 Vivas x 16 = 48	120

Academic Calendar First Year
2023

WHITE COAT CEREMONY	**1st March 2023**
BLOCK 1 ● **Spring Break** ● **Foundation Module (8wks)** ● **H&L Module (3wks)** ● **Block 1 Exam**	**1st March to 2nd June 2023 (12 Wks + 1 wk Spring Break)** ● **1st April to 7th April 2023** ● **1st March to 5th May 2023** ● **8th May to 26th May 2023** ● **29th May - 2nd June 2023**
BLOCK 2 ● **Summer Break** ● **MSK Module (9wks)** ● **Block 2 Exam**	**5th June to 1st Sept 2023 (9 wks + 4wks Summer Break)** ● **16 June to 13th July 2023** ● **5th June to 25th August 2023** ● **28th August – 1st September 2023**
BLOCK 3 ● **CVS Module (7wks)** ● **Respiratory Module (4wks)** ● **Block 3 Exam** ***REVISION***	**4th September to 24th November 2023 (12 Weeks)** ● **4th September to 20th October 2023** ● **23rd October to 17th November 2023** ● **20th -24th November 2023** **25th November to 8th December 2023**
PREPARATORY LEAVES (4wks) **Winter break**	● **09 Dec 2023 to 11 Jan 2024** ● **25th December to 31st December 2023**
PROFESSIONAL EXAMS	**12 Jan 2024**

RESOURCE BOOKS:

ANATOMY:

- Langman's Medical embryology
- Snell's Clinical Anatomy
- Snell's Clinical Neuroanatomy. Walter Kluwer
- Laiq H.S. Medical histology Paramount Books
- Laiq H.S. General Anatomy Paramount books

PHYSIOLOGY:

- Guyton & Hall Textbook of Medical Physiology Latest Edition
- Essentials of Medical Physiology by Mushtaq Ahmad

BIOCHEMISTRY:

- Harper's Illustrated Biochemistry by Mayes Peter A. Murray, Robert K., and Granner, Daryl K. Latest edition
- Lippincott's Illustrated Reviews: Biochemistry Champe P.C. Harvey, E.A Latest Edition
- ABC of Clinical genetics by H.M. Kingston

PATHOLOGY:

- Robbins & Cotran Pathologic Basis of Disease. Vinay Kumar, Abul K. Abbas, Jon C. Aster latest edition
- Pocket Companion to Robbins & Cotran Pathologic Basis of Disease, Richard N Mitchell & Vinay Kumar & Abul K. Abbas
- Walter and Israel General Pathology

PHARMACOLOGY:

- Basic and Clinical Pharmacology latest Edition by Bertram Katzung
- Lippincott Illustrated Reviews: Pharmacology Book by Karen Whalen

BEHAVIOURAL SCIENCES:

- Handbook of Behavioural Sciences by Mowadat H Rana
- Medical and Psychosocial Aspects of Chronic Illness and Disability, Donna Falvo, PhD, RN; Beverley E. Holland

COMMUNITY MEDICINE:

- Park's Textbook Of Preventive And Social Medicine Unknown Binding – by K. Park
- Public Health and Community Medicine Ilyas, Ansari

SURGERY:

- Bailey & Love Short Practice of Surgery

MEDICINE:

- Davidson’s Principles & Practice of Medicine

ISLAMIAT:

- Standard Islamiyat (Compulsory) For BA, BSC, MA, MSC, MBBS By Prof. M Sharif Islahi
- Ilmi Ialamiyat (Compulsory) For BA, BSC & equivalent