GANDHARA UNIVERSITY
KABIR MEDICAL COLLEGE

FIRST YEAR MBBS 2025
BLOCK – 01 (Module I & II)

DEPARTMENT OF MEDICAL EDUCATION
GHANDHARA UNIVERSITY PESHAWAR

FROM THE DESK OF PRINCIPAL

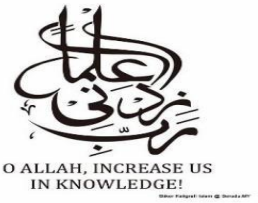
Kabir Medical College has evolved, since its inception, as an exceptionally outstanding facility to provide quality education to the students.

I must appreciate the hard work of our well experienced and dedicated faculty members and staff in maintaining high standards of medical education and the efforts they have put in Kabir Medical College to be a distinguished center of excellence.

By the grace of Almighty, we are starting the integrated curriculum for 1st year MBBS. We meet international standards of professional education by installing the system of integrated curriculum and system-based teaching of basic medical sciences. We advocate interactive sessions to improve comprehension of students as well as training them with skills of communication and self-expression.

Since the establishment of Kabir Medical College, we have been working constantly to upgrade services and facilities at the campus and the attached Naseer Teaching Hospital for our students and patients.

We would like our graduates to excel as confident, responsible, and self-learning medical practitioners. With a state-of-the-art campus, experienced faculty, an up-to-date digital library, I assure that your decision to study at Kabir Medical College will surely be a wise one, your experience here will be profoundly enriching and you will become a valuable asset to the nation and international community health care professionals.



Brig Ahmad Hussain Mashwani (R)
MBBS, FCPS(SURGERY)OJT
(VASCULAR SURGERY)
CHPE, MHPE(KMU) Principal
Kabir Medical College Gandhara
University Peshawar

Welcome

On behalf of block team, I would like to welcome you to Block-I. As a part of the system-based curriculum, this module is an integrated presentation, comprises system-based modules which links basic science knowledge to clinical problems. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have better understanding of basic sciences when they repeatedly learn in relation to clinical examples. Small group discussions, early exposure to clinics, wards, and skills acquisition in skills lab are characteristics of integrated teaching program.

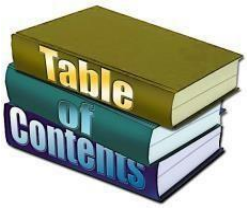
We start our session with foundation module as our aim is to impart the basic knowledge about the structure, development, organization, and function of human body. This knowledge will serve as a foundation on which student will build up further knowledge about human body parts that will help them to examine, diagnose and treat patients in future.

Our mission is to provide all educational opportunities to our students therefore on completion of the MBBS program graduate will possess an appropriate foundation of knowledge, skills, and attitudes to be well prepared to practice safely and effectively.

This study guide includes the course contents of the block. The learning objectives, practical, topics of the small group discussions.it also includes the assessment plan for the block exam.

As a director I will be meeting with the facilitators to receive your feedback and will try to resolve any difficulties or problems you face during the block. Please do not hesitate to contact DME for any academic help. I wish you an enjoyable and learning experience with block 1.

Director DME: Dr. Marina Khan



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BLOCK TEAM

Dr Marina Khan **Director of Department of Medical Education**	**marinakahn@hotmail.com**
DEPARTMENT OF ANATOMY	Prof Dr. Qaisar Inayat Assistant Prof Dr. Gul Rukh Assistant Prof Dr. Ayesha Dr. Zakir Dr. Momina
DEPARTMENT OF PHYSIOLOGY	Prof Dr. Ghulam Jillani Prof Dr. Anjum Humayun Assistant Prof Dr. Najma Assistant Prof Dr. Somaya Assistant Prof. Dr Javed Assistant Prof. Dr Laila Dr. Rajwali Dr. Ashfaq
DEPARTMENT OF BIOCHEMISTRY	Prof Dr. Mohammad Ahmad Prof Dr. Mudassir Ahmad Assistant Prof Dr. Inayat Dr. Shahnaz Dr. Asma Dr. Kulsoom Dr. Wagma
DEPARTMENT OF MEDICAL EDUCATION	Assist Prof Dr. Marina Khan Assist Prof Dr. Syed Muhammad Junaid Assist. Prof. Dr. Aalia Zaib Dr. Usama Zeb

LIST OF ABBREVIATIONS

DME	Department of Medical Education
Anat	Anatomy
Phy	Physiology
Bio	Biochemistry
Histo	Histology
Emb	Embryology
Patho	Pathology
Pharma	Pharmacology
LGIS	Large Group Interactive Session
SGD	Small Group Discussion
SDL	Self-Directed Learning
MCQ	Multiple Choice Question
SAQ	Short Answer Question
OSPE	Objective Structured Practical Exam

STUDY GUIDE:

This study guidebook was designed by combining the efforts of all topics throughout the year to give medical students at Gandhara University a resource material that highlights significant components of the curriculum. By providing students control over their learning, the study guide aims to promote self-regulated lifelong learning.

Regarding the course content, the study guide provides an overview of the anticipated course outcomes and objectives. The assessment approach is also customized to the intuitional strategy.

A successful curriculum has a significant impact on the final product, as well as on society. This study guide was carefully designed with the PMDC curriculum and rules in mind, and Gandhara University stakeholders and faculty members worked hard to personalize it to the needs of students. They are further working to build, implement, and exercise a well-built curriculum considering changing demographic needs and disease prevalence in our society. Throughout the construction of the study guide, students' feedback was received and included. Curriculum is a living, dynamic entity that is constantly changing. With each passing day, we hope to improve it.

Each module in this block has been created to cater the gap between basic and clinical subjects through pre-clinical learning. The block is divided into two modules in which the students are exposed to a variety of basic and clinical subjects. The integrated curriculum is enforced through interactive lectures, small group discussion, community outreach programs along with rotations at preclinical laboratory. There will be formative as well as summative assessment of the block throughout the modules.

AIMS OF THE STUDY GUIDE

- Inform students how student learning program of the BLOCK-wise module has been organized
- Help students organize and manage their studies throughout the module
- Guide students on assessment methods, rules, and regulations
- Communicates information on organization and management of the module. This will help the student to contact the right person in case of difficulty.
- Defines the objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as lectures, small group teachings, clinical skills and demonstration, tutorial that will be implemented to achieve the module objectives.
- Provides a list of learning resources such as books, computer assisted learning programs, web- links, and journals, for students to consult in order to maximize their learning.
- Highlights information on the contribution of continuous and block examinations on the student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's achievement of objectives.
- Focuses on information pertaining to examination policy, rules, and regulations.

It is an aid to:

ORGANIZATION OF MODULAR CURRICULUM

FIRST YEAR MBBS

Block-1		Exam Block 1	Block-2		Exam Block 2	Block-3		Exam Block 3	Final Exam
Module 1 Foundation	Module 2 Hematology and Immunology		Module 3 Musculo-skeletal-1	Module 4 Musculo-skeletal-II		Module 5 Cardiovascular	Module 6 Respiratory		

INTRODUCTION TO BLOCK-01:

. The Block-I consists of two modules i.e. Module I (Foundation Module) and Module II (Blood and Immunology)

The Module-I is designed to provide a conceptual understanding of the basic sciences. This module has the subjects correlated with each other in a way that will help the students to understand them better and then apply them in their clinical years ahead.

Integrated curriculum begins with the assumption that learning is an active, integrated and constructive process influenced by social and contextual factors. The faculty is trained in a manner about how to present the course material so the student not only gain knowledge of the discipline but also become self-directed learner.

Foundation module provides integration of core concepts that underlie the foundation of basic sciences and their use in clinical medicine. This module has been designed to introduce you to the basics of health sciences. The course covers the molecular level of cell Biology. Through group and individual work, you will develop problem solving skills to apply your medical knowledge to practical situations. This, supplemented by lectures, and practical classes, is a significant component of the course this will eventually lead to develop critical thinking for integration and application of basic knowledge for clinical application. It is a 6 weeks' module and the subjects of the module are Anatomy, Physiology and Biochemistry which will be taught in lectures, SGDs, Practical and SDL.

The module-II (Blood and Immunology Module) is designed to provide students with not only knowledge about basics of Blood but also develop their ability to apply information to solve problems. Blood module has a heavy emphasis on Anatomy, Physiology and Biochemistry. The maximum load of content is from Physiology and Biochemistry. This module aims to provide the basic understanding of hematopoiesis and hemostasis at the molecular level. It will also outline the basic pathological processes in the development of cancers. It will deal with the basic pathophysiology and pharmacological aspects of infections and chemotherapeutic agents and integrate it with clinical sciences.

This module will give the 1st year medical students, an opportunity to know the presentations and principles of management of common hematological, immunological, inflammatory, and neoplastic disorders. Overall, it will provide the students with the necessary factual knowledge and stimulate them to apply this in the interpretation of the disease.

Knowledge of blood, immunity and inflammation is essential, as blood is responsible for the supply of micro-nutrients, O2 delivery to the tissues and maintenance of homeostasis and body responses and defense mechanisms against injurious agents and various diseases encountered in daily life.

LEARNING METHODOLOGIES

The following teaching / learning methods are used to promote better understanding:

- Large Group Interactive Lectures
- Small Group Discussion
- Practical
- Skills session
- E-Learning
- Self-Directed Learning

LARGE GROUP INTERACTIVE LECTURES (LGIS)

In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients'

SMALL GROUP DISCUSSIONS (SGDs):

This format helps students to clarify concepts acquire skills or attitudes. Sessions are structured with the help of specific exercises such as patient case, interviews or discussion topics. Students exchange opinions and apply knowledge gained from lectures, tutorials and self-study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts

PRACTICAL

Basic science practical related to anatomy, biochemistry physiology and oral biology are scheduled for student learning.

CASE- BASED DISCUSSIONS

Case-Based Discussion is a strategy in which learning is focused around a clinical scenario. List of questions is developed regarding the case under discussion and students are encouraged to discuss their ideas and answer the questions applying relevant basic or clinical knowledge acquired during the course. Usually, common clinical cases are selected for discussions.

CLINICAL ROTATIONS

Students are assigned 2 months of rotation in department of Oral & Maxillofacial Surgery, Prosthodontics, Operative Dentistry, Orthodontics and Pedodontics. Students are directed to observe patients in orientation week and then perform clinical procedure under supervision of seniors. Students are encouraged to assist

SELF DIRECTED LEARNING SDL:

Students assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Center, teachers, and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

E-LEARNING:

E-Learning is a strategy by which learning occurs through the utilization of electronic media, typically the Internet. The basic aspects of medical professionalism and ethics will be addressed through an e-learning course.

A) Hands on Training

1) Histology, Physiology and Biochemistry lab sessions:

Histology and biochemistry practical will demonstrate your skills and help in clarifying your concepts practically.

2) Clinical skill lab sessions Hands on

Practice of clinical examination on simulated patients.

3) Museum Sessions:

Three-dimensional models of anatomy enhance the learning process. Our museum is equipped with models and specimens to help you understand the concepts more clearly.

RULES AND REGULATIONS

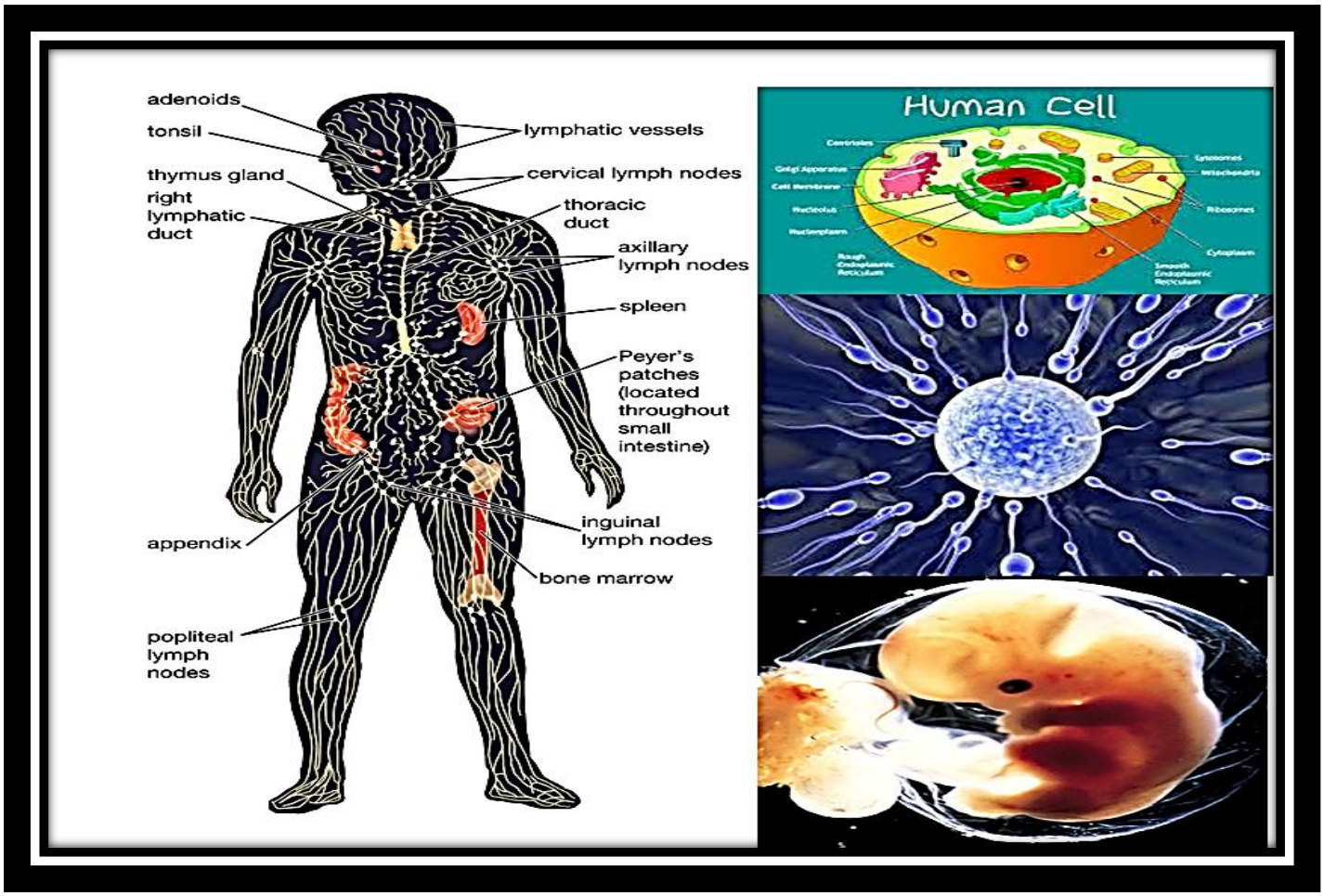
We will be making the journey through BLOCK 10 in 12 weeks. Therefore, this course includes an intensive coursework load. Class attendance and participation are extremely important to your learning and are considered in the evaluation of your course grade. If there is anything that the module team can do to assist you during the course, please feel free to contact them. Attendance will be monitored during the different teaching activities. If your attendance is less than 75%, you will not be allowed to sit for both block and annual examination.

All examinations must be taken on the date scheduled. No student will be allowed to enter the examination area after the examination starts. There will be a block exam at the end of each block and each block will cover

two modules. There will be a total of 3 block examination and the 20% weightage of these block exam will be added to the 80 % of the annual professional exam as an internal assessment.

MODULE – 01

FOUNDATION



GENERAL OUTCOME

By the end of block 1 the students would be able to:

KNOWLEDGE:

- Familiarize with the MBBS system-based curriculum
- Recognize the role of different disciplines in studying human body and its diseases.
- Describe the structure, function and biochemical composition of cell.
- Describe the cell division, its types and genetic material along with its clinical correlation.
- Describe the basic organization of human body.
- Explain the maintenance of homeostatic mechanism.
- Describe the various stages of pre-embryonic human development and correlate them with various malformations.
- Describe the importance of buffer and PH system.
- Importance of research.
- Identify & describe the various cellular and non-cellular components of blood in relation to its Anatomy, Physiology & Biochemistry
- Describe structure, synthesis and degradation of Hemoglobin
- Describe the regulatory mechanisms of normal hemostasis and coagulation
- Describe the conditions associated with dysfunction of cellular and non-cellular components of Blood
- Describe the basic characteristics of immune system.
- Discuss the structure, functions and biochemical aspects of the Lymph reticular system.
- Explain the principles and clinical significance of ABO/RH blood grouping system
- Explain the pathophysiology of various bleeding disorders
- Identify the role of pharmacology in anemia and bleeding disorders
- Describe the basics of communication skills
- Describe different types of stress, and its behavioral aspects

SKILLS:

By the end of block- I, the student should be able to:

- Describe the basic laboratory techniques and use of microscope.
- Perform biochemical analysis of carbohydrates
- Prepare different solutions
- Identify basic tissues under the microscope
- Description of the psychomotor skills to be developed and the level of performance required: By the end of BLOOD Module, the student should be able to:
- Carry out practical work as instructed in an organized and safe manner
- Make and record observations accurately.
- Identify slide of Lymph node, thymus, tonsils and spleen under microscope
- Identify slide of Gut associated lymphoid tissue
- Determine percentage of formed blood elements.
- Identify RBC and should be able to do its counting on counting chamber and to know normal values. And also classify Anemia morphologically.
- Determine the Hemoglobin with the apparatus and have knowledge of normal and abnormal value.
- Identify WBC morphology and its different types, should be able to count them on counting chamber and to know the normal values. Describe the diagnostic importance of each WBC.
- Identify Platelets and should be able to do its counting on counting chamber and to know normal values. Its diagnostic importance in relation to bleeding disorders
- Perform bleeding time and clotting time and to know normal values and its diagnostic importance in relation to bleeding disorders.
- Perform Blood groups typing and Rh factor.
- Perform ESR and to know its normal value and prognostic importance.
- Detect blood, bile pigments & bile salts in the given sample of urine

ATTITUDE:

By the end of the block the students will be able to:

- Follow the basic ward protocols
- Participate in class and practical work efficiently
- Maintain discipline of the college.
- Follow the norms of the college properly.
- Communicate effectively in a team with colleagues and teachers.
- Demonstrate professionalism and ethical values in dealing with patients, cadavers,
- colleagues, and teachers.
- Communicate effectively in a team with colleagues and teachers.
- Demonstrate the ability to reflect on the performance.

LEARNING OBJECTIVES & COURSE CONTENTS

At the end of the teaching session the student of 1st year MBBS will be able to achieve the following objectives:

GENERAL ANATOMY		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to General Anatomy Terminology of Direction and Movements	• Describe general terms relevant to human body • Describe the different anatomical positions. • Describe different anatomical planes and movements.
2.	Bone Formation	• Discuss development of bone. • Discuss different types of bones
3.	Cartilage	• Define cartilage. • Enumerate types of cartilage. • Discuss location of cartilage. • Enlist functions of cartilage.
4..	Joints	• Define Joints. • Enumerate types of Joints. • Discuss location of Joints. • Enlist functions of Joints.
5.	Muscles	• Discuss muscles and different types of muscles
6.	Connective Tissue (Ligaments, Tendons, Aponeurosis	• Define Connective tissue • Enlist different types of connective tissue •
7.	Skin and Fascia	• Define Skin and fascia

GENERAL EMBRYOLOGY LECTURES

S.NO	TOPICS	LEARNING OBJECTIVE
1.	Introduction to Embryology	• Describe history & importance of Embryology • Describe different terms of Embryology.
2.	Mitosis and Meiosis	• Define mitosis & Describe steps of mitosis Define Meiosis. and differentiate between 1st meiotic division and 2nd meiotic division • Justify the significance and results of meiosis. • Difference between mitosis and meiosis.
3.	Oogenesis/ Spermiogenesis	• Define gametogenesis. Compare the male and female gametes • Define oogenesis and describe the process of oogenesis. • Differentiate between primary and secondary oocytes. • Describe the sequence events of spermatogenesis in the male. • List the steps in Spermiogenesis. Differentiate between spermatogenesis & Spermiogenesis. • Discuss the importance of mitosis &meiosis in gametogenesis.
4.	Transport of gametes and fertilization	• Describe transportation of gametes (sperm and ovum). • Describe fertilization. • Cleavage of zygote and blastocyst formation. • Clinical correlation of fertilization.
5.	Female reproductive cycles	• Describe ovarian cycle. • Explain the process of follicular development and ovulation. • Correlate it with the phases of menstrual cycle.
6.	Menstrual Cycle	• Discuss menstrual Cycle
7.	1st week of development	• Summary of events of 1st week of development.
8.	2nd week of development	• Explain the formation of outer and inner cell masses. • Discuss (trophoblast). • Discuss the development of bilaminar germ disc with formation of Epiblast and hypoblast, their cavities • Enumerate the normal &abnormal sites for implantation (ectopic pregnancy)
9.	3rd week of development	• Discuss the development of primitive streak, notochord and neural tube • Discuss related congenital anomalies • (Sacrococcygeal Teratoma) NTDs defects
10.	4th - 8th week of Development	• Explain Organo-genetic period with the process of folding
11.	Fetal Period	• Define the fetal period, important changes that occur during fetal period. • Discuss the factors affecting fetal period. • Enlist the causes of fetal loss.
12.	Fetal Membrane	• Enlist the development of different types of fetal membranes, chorion, amnion, yolk sac and allantois. • Describe the formation and function of amniotic fluid. • Correlate the formation and circulation of amniotic fluid with oligo-hydramnios, poly-hydramnios and amniotic bands.
13.	Placenta/Multiple Pregnancy	• Discuss the development of placental (fetal [art and maternal part) • Discuss the structure, circulation and function of full term placenta. • Discuss decidua and decidual reaction • Describe the features of umbilical cord • Define multiple pregnancies • Enlist the different types of multiple pregnancies • Differences between the mono and dizygotic twins • Describe about conjoined twins and its different types
14.	Birth Defects	• Enlist the birth defects • Differentiate between different types of congenital abnormalities

		(malformation, disruption, deformation syndrome) • Enumerate the causes of birth defects • Classify teratogens and outline their effects on pregnancy (Infectious, chemical, physical, hormones)

GENERAL HISTOLOGY LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to histology & Cell	• General features of different types of tissue. • Organization of cell to tissue than to organ and system. • Introducing different important Stains.
2.	Cytoskeleton with apical features of cell	• Describe ultrastructure of cytoskeleton & cell polarity • Explain apical, lateral and basal domain.
3.	Epithelium	• Define epithelium. Classification of epithelium. • Explanation of different types of epitheliums with examples & functions
4.	Cell Junctions	• Define Cell junctions
5.	Connective tissue	• Define connective tissue • Classify connective tissue • Describe in detail the different components of connective tissue • Enlist examples and functions of connective tissue
6.	Skin Fascia	• Define integumentary system. • Discuss epidermis. • Enumerate layers of epidermis & dermis. • Discuss hypodermis. • Describe follicles of the skin. • Discuss sebaceous glands & sweat glands. nail, hair. • Discuss difference between thick & thin skin.

GENERAL HISTOLOGY PRACTICALS		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Microscope/Stains And slides of cell	• Identify different parts of microscope • Identify Different stains
2.	Epithelium	• Identify the Slide of simple epithelium, stratified epithelium, transitional epithelium and pseudostratified epithelium.
3.	Integumentary system	• Identify the Slides of integumentary system, thick skin and thin skin
4.	Connective Tissue	• Identify Slides of loose • connective tissue • Identify Slides of dense regular and dense irregular connective tissue

ANATOMY SGD		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Bone & Classification of bones	• Describe the structure and function of bone. • Classify bones on the basis of length and shape. • Identify the markings on bone
2.	Joints	• Classify joints on the basis of structure. • Describe the mechanism of movements of joint
3.	Muscles	• Describe various muscle types along with structure.
4.	Connective Tissue	• Enlist various types of connective tissues. • Discuss them in detail.
5.	Skin/Fascia	• Discuss skin/fascia's

PHYSIOLOGY LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to Physiology	• Define physiology and its importance • Enumerate the branches of physiology
2.	Regulation of body function	• Describe regulation of body system • Describe positive and negative feedback mechanisms with examples.
3.	Cell organelles and their functions	• Describe the structure and functions of various cell organelles (Endoplasmic reticulum, Golgi apparatus, lysosomes, peroxisomes, mitochondria.
4.	Cell Membrane Junctions	• Describe cell membrane composition. • Functions • Definitions and classifications of junctions.
5.	Cell Cytoskeleton and Locomotion	• Describe types of Cytoskeletons and function of each type of skeleton.
6.	Cell membrane structures and its proteins	• Describe cell membrane structure. Its functions, types of proteins related in it.
7.	Organization and Differentiation of Cell	• Describe structure of cell. • Names of different organelles • Characteristics of cell
8.	transport across cell membrane (Diffusion)	• Define Diffusion, its transport mechanism, types and factors affecting diffusion
9.	transport across cell membrane (Osmosis)	• Define Osmosis, its transport mechanism, types and factors affecting osmosis.
10.	transport across cell membrane (active & passive)	• Describe movements of cells in the body, its types and mechanism. • Describe membrane transport mechanism types and effects.
11.	Gating Of Channels	• Definition • Types • Types of ions passing through different types of gating channels.
12.	Resting membrane potential	• Define membrane potential Describe ionic conc. differences across cell membrane Explain the Nernst equation. Explain origin of normal resting membrane potential
13	Plasma Membrane structure	• Describe plasma membrane structure

PHYSIOLOGY SGD		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Chemical composition of intracellular & extracellular cells	• Discuss the composition of intracellular & extracellular cells
2.	Cell Membrane proteins	• Discuss the cell membrane proteins
3.	Cancer cell & Apoptosis	• Describe the physiology of cancer cells • Define apoptosis. • Enlist the causes & steps of Apoptosis
4.	Plasma membrane structure	• Discuss the plasma membrane structure

PHYSIOLOGY PRACTICALS		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Parts of compound microscope.	• Identify different parts and functions of microscope • Describe parts of microscope, operate a microscope, fix a slide and see the structures in the slide
2.	Blood sampling: Phlebotomy	• Describe the steps of finger prick and phlebotomy on a manikin / Human subject
3.	Leucocytes count or white blood cells count.	• To Study the total leucocyte count or WBC
4.	Red Blood Cells	• To Study the determination of RBC count

BIOCHEMISTRY LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Cell & subcellular organelles	• Explain the bio-chemical composition of cell organelles and cytoplasm • Describe the chemical structure of mitochondrial membrane • Explain the biochemical importance of mitochondrial membrane • Describe biochemical structure of nuclear membrane and its function
2.	PH Buffers	• Define PH • Define buffer and its role in maintenance of body PH • Define adsorption and how it occurs. • Explain ion exchange resin • Define hemolysis & crenation • Explain movement of materials across cell membrane(osmosis,active transport,passive transport,diffusion)
3.	Carbohydrates	• Definition, biochemical function and classification • Structure and functions of monosaccharaides and their derivatives • Disaccharides, their important examples • Oligosaccharides & their combination with other macromolecules • Polysaccharides & their important examples and biochemical role
4.	Enzymes	• Introduction,definition,mechanism of catalysis • Coenzymes,co factors,Isoenzymes & their clinical importance • Factors affecting enzymes activity,Michaelis-Menten Equation,lineweaverburk equation and their application in enzyme kinetics • Enzyme inhibitors and their classification & biomedical importance • Application of enzymes in clinical diagnosis and therapeutic use

BIOCHEMISTRY PRACTICALS		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Solutions	• Describe the various type of solutions. • Define normality. • Describe the use of normal solutions. • Preparation of 100ml of 0.1 N solution of HCL
2.	Detection of Carbohydrates	• Detect and Identify Glucose, Fructose, Galactose maltose, lactose, sucrose &starch in a given solution

BIOCHEMISTRY SGDS		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Surface tension and viscosity	• Discuss surface tension and viscosity
2.	Clinically significant carbohydrates	• Discuss clinically significant carbohydrates
3.	Biomedical importance of glycoproteins	• Discuss biomedical importance of glycoproteins
4.	DNA & RNA structure in detail	• Discuss the structure of DNA & RNA
5.	Diagnostic enzymology	• Discuss diagnostic enzymology

BEHAVIORAL SCEINCE LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to behavioral sciences	• Discuss the relevance of behavioral sciences in medicine • Enumerate new holistic pattern of medical education • Describe difference b/w curriculum traditional & new holistic medical education • Explain WHO's health definition demand holistic approach
2.	Introduction & Significance of behavioral Sciences in clinical practice	• Comprehend the importance of Behavioral Sciences in Medical practice
3.	Behavior Modification & Learning	• Learn principles of behavior modification and learning.
4.	Health Care Models and their Clinical Applications; Bio Psycho-Social Model of health and disease	• Explore various healthcare models and their clinical relevance.

RIPPLE LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction and Importance of Research	• Define research. • Describe the importance of research
2.	Reflection	• Define reflection. • Enlist the steps of reflection. • Discuss reflection cycle in detail. • Discuss how to write reflections.

COMMUNITY MEDICINE		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to Community Medicine / Importance of Research	• Describe Role of community medicine/public health in health care system. • Why is research important for humans, students, education.

PATHOLOGY LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to pathology & Cell injury	• Classify the various causes of cell injury. • Describe the response of a normal cell to stimuli. Describe the mechanism of cell injury. Describe mechanisms of cellular adaptations • Define and briefly describe the terms: Reversible cell injury and Cell death • Enumerate the Causes of Cell Injury • Describes the sequential morphologic changes in Cell Injury that end in cell death or apoptosis • Explain Ischemic injury, reperfusion injury and toxic injury with the help of selected Clinical Examples of cell injury and necrosis.
2.	Cellular Adaptation to stress	• Describe types of cellular adaptation with clinical examples.

OPTHAMOLOGY LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to Ophthalmology	• Define Ophthalmology and its branches • Highlight the scope of field of Ophthalmology as a future career

PAEDIATRICS		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Birth Defects	• What are Birth Defects? • Causes? • Pathophysiology • Types • Fetal Therapy.

SURGERY LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to Surgery	• Define surgery & its different subspecialties

MEDICINE LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to Medicine	• Define medicine. • Enlist its branches. • Carrier in medicine.

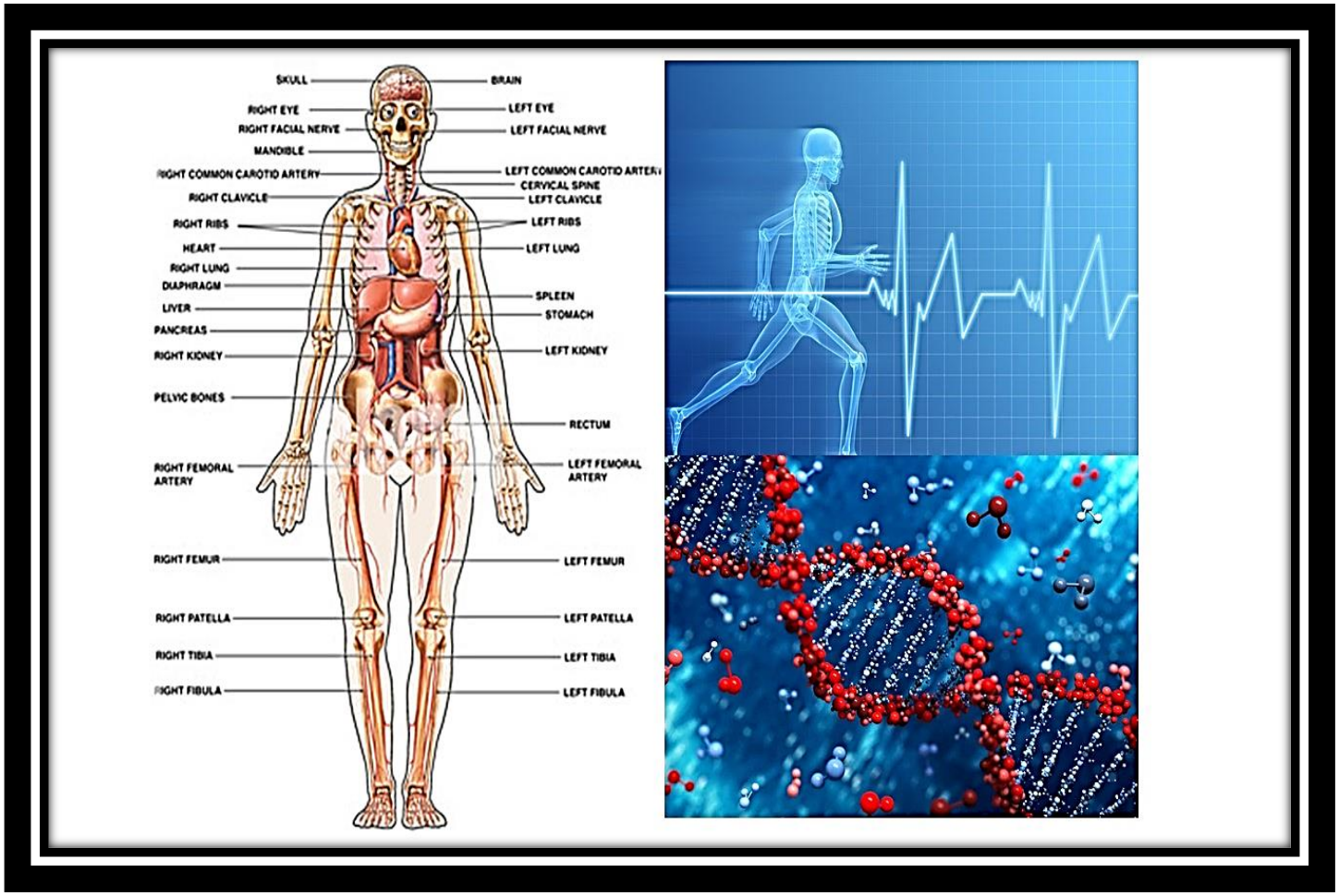
GYNAECOLOGY & OBSTERTICICS LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to Gynaecology	• Define the term Gynaecology. • Recall the anatomy of female genital tract • Apply the principles of taking gynecology history • Demonstrate the key components of history taking
2.	Introduction to Obstetrics	• Define the term Obstetrics. • Describe the principles of taking obstetrics history • Demonstrate the key components of history taking
3.	Anti-natal care	• Define antenatal care. • Discuss strategies for confirming pregnancy and expected date of delivery • Describe and record the events of pregnancy in each scenario, according to each trimester
4.	Menstrual cycle	• Discuss menstrual cycle Discuss stages of menstrual cycle • Discuss amenorrhea
5.	Amniotic fluid & its functions	• Define physiology of amniotic fluid. • Describe the assessment of amniotic fluid. • Describe types of amniotic fluid abnormalities
6.	Teratogens	• Describe teratogens & its types
7.	Investigations in Gynae and Obs	• Describe gynecological and obstetrics investigations procedures • Discuss the principles of managing gynecological & obstetric emergencies
8.	Developmental anomalies	• Describe developmental anomalies • Enlist the common developmental anomalies

ENT LECTURES

S.NO	TOPICS	LEARNING OBJECTIVE
1.	Introduction to ENT	• Describe common ENT symptoms. • Name common diseases of ENT. • Name recommended books that students must read.

MODULE – II

BLOOD AND IMMUNOLOGY



GENERAL OUTCOME

By the end of block 1 the students would be able to:

KNOWLEDGE:

- Familiarize with the MBBS system-based curriculum
- Recognize the role of different disciplines in studying human body and its diseases.
- Describe the structure, function and biochemical composition of cell.
- Describe the cell division, its types and genetic material along with its clinical correlation.
- Describe the basic organization of human body.
- Explain the maintenance of homeostatic mechanism.
- Describe the various stages of pre-embryonic human development and correlate them with various malformations.
- Describe the importance of buffer and PH system.
- Importance of research.
- Identify & describe the various cellular and non-cellular components of blood in relation to its Anatomy, Physiology & Biochemistry
- Describe structure, synthesis and degradation of Hemoglobin
- Describe the regulatory mechanisms of normal hemostasis and coagulation
- Describe the conditions associated with dysfunction of cellular and non-cellular components of Blood
- Describe the basic characteristics of immune system.
- Discuss the structure, functions and biochemical aspects of the Lymph reticular system.
- Explain the principles and clinical significance of ABO/RH blood grouping system
- Explain the pathophysiology of various bleeding disorders
- Identify the role of pharmacology in anemia and bleeding disorders
- Describe the basics of communication skills
- Describe different types of stress, and its behavioral aspects

SKILLS:

By the end of block- I, the student should be able to:

- Describe the basic laboratory techniques and use of microscope.
- Perform biochemical analysis of carbohydrates
- Prepare different solutions
- Identify basic tissues under the microscope
- Description of the psychomotor skills to be developed and the level of performance required: By the end of BLOOD Module, the student should be able to:
- Carry out practical work as instructed in an organized and safe manner
- Make and record observations accurately.
- Identify slide of Lymph node, thymus, tonsils and spleen under microscope
- Identify slide of Gut associated lymphoid tissue
- Determine percentage of formed blood elements.
- Identify RBC and should be able to do its counting on counting chamber and to know normal values. And also classify Anemia morphologically.
- Determine the Hemoglobin with the apparatus and have knowledge of normal and abnormal value.
- Identify WBC morphology and its different types, should be able to count them on counting chamber and to know the normal values. Describe the diagnostic importance of each WBC.
- Identify Platelets and should be able to do its counting on counting chamber and to know normal values. Its diagnostic importance in relation to bleeding disorders
- Perform bleeding time and clotting time and to know normal values and its diagnostic importance in relation to bleeding disorders.
- Perform Blood groups typing and Rh factor.
- Perform ESR and to know its normal value and prognostic importance.

Detect blood, bile pigments & bile salts in the given sample of urine

ATTITUDE:

By the end of the block the students will be able to:

- Follow the basic ward protocols
- Participate in class and practical work efficiently
- Maintain discipline of the college.
- Follow the norms of the college properly.
- Communicate effectively in a team with colleagues and teachers.
- Demonstrate professionalism and ethical values in dealing with patients, cadavers,
- colleagues, and teachers.
- Communicate effectively in a team with colleagues and teachers.
- Demonstrate the ability to reflect on the performance.

LEARNING OBJECTIVES & COURSE CONTENTS

At the end of the teaching session the student of 1st year MBBS will be able to achieve the following objectives:

HISTOLOGY LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to Lymphatic system	• Discuss parts of lymphatic system, lymphatic circulation, types of lymphoid organs, functions of lymphatic system.
2.	Lymph node	• Describe structure & function of a lymph node. • Discuss cortex of the lymph nodes & medulla. • Discuss circulation through lymph node.
3.	Thymus	• Discuss microscopic structure of thymus. • Discuss lobules. • Discuss cortex & medulla. • Enlist functions of thymus.
4.	Tonsil	• Discuss microscopic structure of Tonsils. • Enlist types of tonsils. • Enlist difference between palatine tonsils, lingual tonsils and pharyngeal tonsils.
5.	Spleen	• Discuss microscopic structures of spleen. • Discuss cords of spleen. • Discuss open & closed circulation of spleen.

HISTOLOGY PRACTICALS		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Introduction to Lymphatic system	• Discuss parts of lymphatic system, lymphatic circulation, types of lymphoid organs, functions of lymphatic system.
2.	Lymph node	• Identify and describe the microscopic anatomy of lymph node under microscope
3.	Thymus	• Identify and describe the microscopic anatomy of thymus, bone under microscope
4.	Tonsil	• Identify and describe the microscopic anatomy of tonsil under microscope
5.	Spleen	• Identify and describe the microscopic anatomy of spleen under microscope

GENERAL ANATOMY LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Lymphatic system	• Explain the lymphatic system • Describe Lymphatic tissue and lymphatic vessels. • Explain the anatomical features of lymph nodes, spleen, thymus and tonsils.

EMBRYOLOGY LECTURES		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Development of Lymphatic system Developmental anomalies of lymphatic system and clinical correlations	• Discuss development of various lymphoid organs (Lymph nodes, spleen, Thymus)

ANATOMY SGD		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
SGD1	Lymphatic system	• Explain the lymphatic system • Describe Lymphatic Tissues and Lymphatic Vessels • Explain the anatomical features of lymph nodes, spleen, thymus and tonsils.
SGD2	Clinical conditions related to Lymphatic system	• Discuss Clinical conditions related to lymphatic system (lymphedema, lymph adenitis, tonsillitis and splenectomy)

PHYSIOLOGY LECTURES

S.NO	TOPICS	LEARNING OBJECTIVE
1.	Introduction to Blood (Composition of blood RBCs, WBCs, Platelet)	• Describe the composition and functions of blood • Define Hematocrit
2.	Plasma proteins	• Enlist the components of plasma Explain the difference between Serum and plasma
3.	Iron Metabolism	• Describe the iron metabolism. • Define heme and describe its structure and functions. • Describe the biochemical features of the • hemoglobin molecules • Describe Heme Synthesis on cellular and molecular level. • Describe Heme Degradation • Describe the Regulation of Heme Synthesis. • Describe the concept of Oxygen binding with hemoglobin
4.	Hb synthesis & abnormal Hb	• Describe steps of Hb synthesis. • Define abnormal Hb
5.	Structure & Function of RBCs	• Discuss the structure of RBCs. • Enlist the function of RBCs
6.	Erythropoiesis (Maturation and regulation factors)	• Discuss the different stages of RBCs formation • Illustrate the stages of RBC development from pluripotent hematopoietic stem cells to a mature RBC.List factors necessary for erythropoiesis • Discuss the significance of Reticulocyte count
7.	Genesis of RBCs (Regulating factors)	• Discuss the different steps of RBCs production in bone marrow
8.	Classification of Anemias on etiological basis	• Define anemia & discuss the classification on the basis of causes of anemia.
9.	Classification of Anemias on morphological basis	• Discuss the classification of anemias on the basis of structure of cell
10.	Polycythemia	• Define & discuss causes & types of polycythemias.
11.	Classification & genesis of White Blood Cells	• Classify white blood cells • Describe the structure, function, life span and normal count of White Blood Cells • Describe the stages of differentiation of white blood cells (leukopoiesis) • Describe the characteristics of WBCs (phagocytosis / chemotaxis, diapedesis)
12.	Function of Individual WBCs	• Discuss the functions of different types of WBCs
13.	Characteristics of WBCs	• Discuss the characteristics of different types of WBCs
14.	Reticuloendothelial (Monocyte Macrophage) system	• Describe the components of reticuloendothelial system (monocyte-macrophage system) Describe the role of monocyte macrophage system in immunity Explain the role of neutrophils, macrophages, basophils, eosinophils and monocytes in providing immunity against infections (immune system)
15.	Inflammation	• Define inflammation • Describe characteristics of inflammation (hallmark of inflammation) • Describe the causes, sequence of events and cardinal signs of inflammation
16.	Immunity	• Define and classify immunity. • Define antigen • Define pathogen

		• Enlist the tissues that contribute to immunity and explain their function Describe the functions of immune system • Describe the structure and function of lymphatic system
17	Allergy	• Define Allergy and allergen • Define and classify the hypersensitivity reaction. • Describe the pathophysiology of allergy and hypersensitivity • Compare the immediate and delayed hypersensitivity reactions • List the diseases associated with hypersensitivity reactions
18	T cells	• Describe the role of T lymphocytes in immunity • Describe cell mediated and humoral immunity • Explain how helper T cells regulate the immune system • Explain the function of cytotoxic T cells • Describe the role of helper T cells
19	B lymphocytes	• Describe the role of B lymphocytes in immunity • Describe the role of B lymphocytes in humoral immunity • Differentiate between humoral and cell mediated immunity
20	Antibodies (Structure & Mechanism of action)	• Define antibodies • Function of anitbodies • Structure of antibodies • Types of antibodies
21	Complement system	• Describe the complement system Explain how the complement system elicits the inflammatory response, lyses foreign cells, and increases phagocytosis • Describe the two pathways that activate the complement system compare Classic and alternate pathways pathways of complement activation
22	Blood groups (Types, Rh Transfusion reaction)	• Describe different types of blood groups • Describe the genotype-phenotype relationships in blood groups. • Interpret the plausible blood groups (A-B-O) in children of parents with known blood groups. • Describe the role of agglutinogens and agglutinins in blood grouping • Describe the antigens and antibodies of the O-A-B blood types/ Interpret the types of agglutinins present in individuals with a specific blood group • Describe the process of agglutination. • Describe the antigens and antibodies of the Rh system • Describe the principles of blood typing • Explain universal donor and universal recipient blood groups • Enlist the manifestations of transfusion reaction • Define Rhesus incompatibility • Describe erythroblastosis fetalis • Describe the transfusion reactions resulting from mismatched O-A-B and Rh blood types
23	Transfusion reaction	• Discuss the causes & complications of transfusion reactions
24	Hemostasis events / Clotting factors	• Describe the structure, function, life span and normal count of Platelets. Define hemostasis • Describe the role of platelets in hemostasis • Outline the sequence of processes involved in hemostasis.
25	Characteristic of platelets	• Discuss the structure & function of platelets.
26	General mechanism of coagulation	• Enlist the clotting factors. • Explain the role of calcium in coagulation. • Explain how clotting is prevented in the normal vascular system. • Outline the sequence of processes during blood coagulation. • Explain how the mechanism of clot dissolution
27	Intrinsic mechanism of coagulation	• Describe with the help of a flow diagram (or draw) intrinsic pathway of coagulation cascade.
28	Extrinsic mechanism & conversion of	• Describe with the help of a flow diagram (or draw) extrinsic pathway of coagulation cascade.

	prothrombin to thrombin	
29	Formation of clot and fibrinolysis	• Discuss Formation of clot and fibrinolysis
30	Intravascular anti-coagulant	• Discuss Intravascular anti-coagulant
31	Conditions & causes of excessive bleeding and thromboembolic conditions	• Discuss the causes & different types of excessive bleeding. • Discuss the different types of thromboembolic diseases.

PHYSIOLOGY PRACTICALS		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Hb Estimation	• Determine the hemoglobin (Hb) concentration in the given sample • Estimation of hemoglobin by Sahli's method
2.	Hematocrit (micro & macro)	• Demonstrate peripheral blood smear
3.	ESR	• Determine Erythrocyte Sedimentation Rate
4.	Bleeding Time/Clotting Time	• Determine the clotting time • Determine the bleeding time
5.	Blood Grouping	• Determine the O-A-B and Rh blood group in the given sample

PHYSIOLOGY SGDs		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	General functions of blood	• Enlist the functions of blood
2.	Disorders of WBC Leukopenia/leukemia	• Discuss the disorder of WBC • Define Leukopenia and Leukocytosis and Leukemia
3.	Anaphylaxis	• Discuss anaphylaxis
4.	Thrombolytic condition/blood coagulation test	• Describe the effects of low platelet count on Hemostasis Define thrombus/thrombi Define emboli/embolus • Enlist the causes of thromboembolic conditions • Describe Femoral venous thrombosis and pulmonary embolism
5.	Blood coagulation test	• Describe the blood coagulation test

BIOCHEMISTRY LECTURES

S.NO	TOPICS	LEARNING OBJECTIVE
1.	Hemoglobin	• Define Porphyrins • Describe Chemistry of Porphyrins
2.	Synthesis of Hemoglobin	• Explain synthesis of hemoglobin • Enlist the types, metabolic causes and clinical presentation of different types of Porphyria
3.	Normal and abnormal types of hemoglobin	• Describe abnormalities of iron metabolism
4.	Hemoglobinopathies, Thalassemia	• Define Hemoglobinopathi es and enlist the variants of hemoglobin • Describe causes of Hemoglobinopathies • Describe two major categories of hemoglobinopathies • Describe the amino acid substitution in sickle cell disease. • Define and Classify thalassemias. • Explain the genetic defects in α and β thalassemias. • Enlist the clinical features of α and β thalassemias
5.	Immunoglobulins	• Define immunoglobulins • Classify immunoglobulins • Describe the chemistry and structure of immunoglobulins
6.	Biochemical functions of liver	• Describe Biochemical Functions of Liver
7.	Metabolism of bile pigments,hyperbilirubinemia:types &differentiation	• Describe Metabolism of Bile pigments, Hyperbilirubinimea Types and Differentiation
8.	Liver function test & clinical interpretation	• Explain Liver Function Tests and Clinical Interpretation
9.	Classification,vitamin A metabolism	• Vitamins and their role Define vitamins Classify vitamins • Describe Metabolism of Vitamin A
10.	Vitamin E & K Metabolism	• Describe the role of Vitamin E & K • Describe biochemical functions of Vitamins K and its deficiency
11.	Vitamin C Metabolism	• Discuss the metabolism of vitamin C
12.	Vitamin D Metabolism	• Discuss the metabolism of Vitamin D
13.	Introduction to b complex vitamins/metabolism of vitamin B1 & B5	• Discuss the metabolism of b complex vitamins
14.	Metabolism of B2, B3, B6 & B7	• Discuss the metabolism of B2,B3,B6 & B7
15.	Metabolism of B9(folic acid) & vitamin B 12	• Describe the functions and biochemical importance of Vitamin B12 & folic acid • Describe the effects of deficiency of Vitamins B12 and Folic acid (Pernicious and Megaloblastic anemias)

BIOCHEMISTRY PRACTICALS		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Detection of blood	• Describe the steps of how to collect and store blood specimen for biochemical analysis
2.	Demonstration on normal urine analysis	• What is normal urine test report? • How do you examine a urine report? • types of tests done on urine.

BIOCHEMISTRY SGDS		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Porphyria's	• Discuss the disorders of hemoglobin synthesis
2.	Immunoglobulin	• Discuss Immunoglobulins and their biochemical role of each immunoglobulin in immunity
3.	Jaundice	• Discuss Jaundice
4.	Antioxidant vitamins & their clinical significance	• Discuss roles of vit C and vit E

PATHOLOGY LECTURE		
S.NO	**TOPICS**	**LEARNING OBJECTIVE**
1.	Thrombocytopenia	• Define thrombocytopenia
2.	Immunity	• Define immunity. • Enlist types of immunity. • Discuss mechanism of types of immunity.
3.	Blood Groups	• Enumerate types of blood groups.
4.	Blood Transfusion	• Enlist &describe types of blood transfusion.

COMMUNITY MEDICINE LECTURE

S.NO	TOPICS	LEARNING OBJECTIVE
1.	Introduction to COM, epidemiology & prevention of anemias	• Describe epidemiology & prevention of anemias
2.	Epidemiology of blood borne diseases	• Describe Epidemiology of Iron Deficiency Anemia • Describe prevention of different types of anemias in community

RIPPLE LECTURES

S.NO	TOPICS	LEARNING OBJECTIVE
1.	Mentoring	• Define mentoring. • Define mentor & mentee. • Describe the importance of mentorship.
2.	Introduction to research	• Enlist and discuss the types of research

GENERAL SURGERY LECTURES

S.NO	TOPICS	LEARNING OBJECTIVE
1.	Acute Inflammatory Conditions	• Define acute inflammation. • Enlist the Causes, types, symptoms and treatment of acute inflammatory conditions
2.	Approach to patient with lymphadenopathy	• Define Lymphadenopathy • Describe the Clinical Assessment (Medical History, Physical Examination Laboratory tests, Excisional LN biopsy) • Describe the Differential Diagnosis, treatment and follow up

GENERAL MEDICINE LECTURE

S.NO	TOPICS	LEARNING OBJECTIVE
1.	History and Clinical Findings in an Anemic patient	• Define Anemia • Causes of Anemia • Signs and Symptoms of anemia • Taking History from an Anemic patient • Diagnosis of Anemia • Treatment/ Management
2.	History examination and management of patient with bleeding disorder	• History taking (Bleeding History) • Physical Examination • Laboratory Screening • Diagnosis • Treatment

ASSESSMENT METHODS FOR BLOCK EXAM:

Evaluation is a continuous process comprising of block examination and annual university examination. Students will be evaluated throughout the year. The internal assessment will contribute towards the final examination scores. Multiple examination methods including MCQs, SAQs, OSPE and viva will be used. In line with PMC stipulation, the pass/fail marks for the test and examination will be 50%.

There will be a block exam at the end of each block.

Theory (knowledge):

MCQs (Multiple Choice Questions) and SAQs (Short Answer Questions) are used to assess the theory part for the block exam.

MCQ:

A MCQ has a statement or clinical scenario followed by four options (likely answers).

After reading the statement/scenario student select ONE, the most appropriate answer/response from the given list of options.

Correct answer carries one mark, and incorrect ‘zero mark’. There is NO negative marking.

SAQ:

SAQ are open ended questions that requires students to create an answer. They are commonly used in examinations to access the basic knowledge and understanding of a topic.

OSPE:

Objective Structured Practical Examination (See the proposed plan of OSPE)

It may comprise between 12- 25 stations.

The content may assess application of knowledge, or practical skills.

Student will complete task in define time at one given station.

All the students are assessed on the same content by the same examiner in the same allocated time.

A structured examination will have observed, unobserved, interactive and rest stations.

OBSERVED AND INTERACTIVE STATIONS:

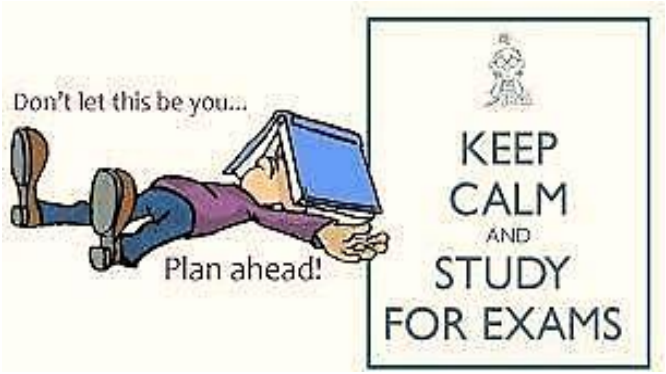
They will be assessed by internal or external examiners through the task or viva.

UNOBSERVED STATION:

It will be static station in which students will have to answer the questions related to the given pictures, models or specimens on the provided response sheet.

REST STATION:

It is a station where no task is given, and during this time student can organize his/her thoughts.



1st Year M.B.B.S ASSESSMENT FOR BLOCK EXAM

FIRST YEAR MBBS BLOCK THEORY FORMAT

CLASS ROLL NO	BLOCK – (---)			TOTAL
	MCQs	SAQs	TOTAL	PERCENTAGE
	34	16	50	5%
	34 MCQs each subject	5 SAQs out of which One is optional i.e., to be attempted 4 SAQs. Each SAQ carries 4 marks. 4 x 4 = 16		MARKS OBTAINED / 50 X 5

FIRST YEAR MBBS END OF SESSION THEORY FORMAT

CLASS ROLL NO	BLOCK I	BLOCK II	BLOCK III	ASSIGNMENTS	ATTENDANCE	TOTAL
	5%	5%	5%	3%	2%	20%
				1 Assignment per subject each block 1 mark per Assignment **SCORING** Assignment submitted on time = 01 Late submission / Not Submitted = 0	Obtained Attendance % /100 x 2	

FIRST YEAR MBBS BLOCK PRACTICAL FORMAT

CLASS ROLL NO	BLOCK (-----)					TOTAL
	DISTRIBUTION					5%
	OSPE	VIVA	PRACTICAL LOGBOOK	SGD LOGBOOK	TOTAL	OBATINED MARKS / 50 x 5 = ___%
	6 OSPE STATIONS (5 MARKS EACH) = 30 MARKS	3 VIVA STATIONS (5 MARKS EACH) = 15 MARKS	2.5 MARKS Complete & timely signed = 2.5 Complete but late submission = 1.5 Incomplete logbook = 1 No logbook = 0	2.5 MARKS Complete & timely signed = 2.5 Complete but late submission = 1.5 Incomplete logbook = 1 No logbook = 0	50 TOTAL MARKS	

FIRST YEAR MBBS END OF SESSION PRACTICAL FORMAT

CLASS ROLL NO	BLOCK I	BLOCK II	BLOCK III	BEHAVIOUR	ATTENDANCE	TOTAL
	5%	5%	5%	3%	2%	20%
				No misbehave or written warning = 3 Written warning given to student = 0	Obtained Attendance % /100 x 2	

FIRST YEAR MBBS FINAL PROF FORMAT (600 MARKS)

CLASS ROLL NO	THEORY (300 MARKS)				PRACTICAL (300 MARKS)				TOTAL
	MCQs	SAQs	I.A	TOTAL	OSPE	VIVA	I.A	TOTAL	GRAND TOTAL
	30	50	20	100	40	40	20	100	200
	30 MCQs each subject	7 SAQs out of which TWO will be optional i.e., to be attempted 5 SAQs. Each SAQ carries 10 marks. 5 x 10 = 50			10 OSPE Stations 4 marks each	20 MARKS INTERNAL 20 MARKS EXTERNAL			

LEARNING RESOURCES

SUBJECT	RESOURCES
ANATOMY	**TEXTBOOKS** **GROSSANATOMY** 1. Clinical Anatomy by Regions, Richard S. Snell 2. Gray's Anatomy for students 3. Atlas of Human Anatomy, Frank H. Netter 4. Wishram Singh **HISTO** 5. Medical Histology by Laiq Hussain 6. Basic Histology by Janqueira 7. Di Fiore's atlas of Histology **EMBRYOLOGY** 8. Langman's Medical Embryology 9. Keith L.Moore.The Developing Human **GENERAL ANATOMY** 10. General Anatomy by Laiq Hussain 11. B.D Chuarasia
BIOCHEMISTRY	**A. TEXTBOOKS** 1. Harper's Illustrated Biochemistry 2. Lehninger Principle of Biochemistry · Biochemistry by Devlin
PHYSIOLOGY	**A. TEXTBOOKS** 1. Textbook of Medical Physiology by Guyton and Hall 2. Ganong 'S Review of Medical Physiology 3. Human Physiology by Lauralee Sherwood 4. Berne & Levy Physiology 5. Best & Taylor Physiological Basis of Medical Practice **B. REFERENCE BOOKS** 1. Guyton & Hall Physiological Review 2. Essentials of Medical Physiology by Jaypee 3. Textbook of Medical Physiology by InduKhurana 4. Short Textbook of Physiology by Mrthur 5. NMS Physiology

OTHER LEARNING RESOURCES	
Hands-on Activities/ Practical	Students will be involved in Practical sessions and hands-on activities that link with the foundation module to enhance the learning.
Labs	Utilize the lab to relate the knowledge to the specimens and models available.
Skill Labs	A skills lab provides the simulators to learn the basic skills and procedures. This helps build the confidence to approach the patients.
Videos	Video familiarize the student with the procedures and protocols to assist patients.
Computer Lab/CDs/DVDs /Internet Resources	To increase the knowledge students should utilize the available internet resources and CDs/DVDs. This will be an additional advantage to increase learning.
SDL	SDL is scheduled to search for information to solve cases, read through different resources and discuss among the peers and with the faculty to clarify the concepts.