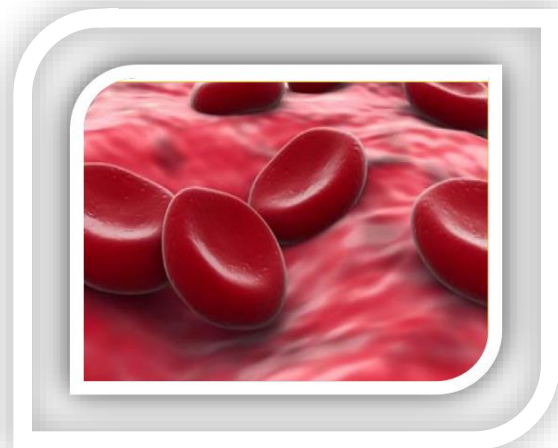
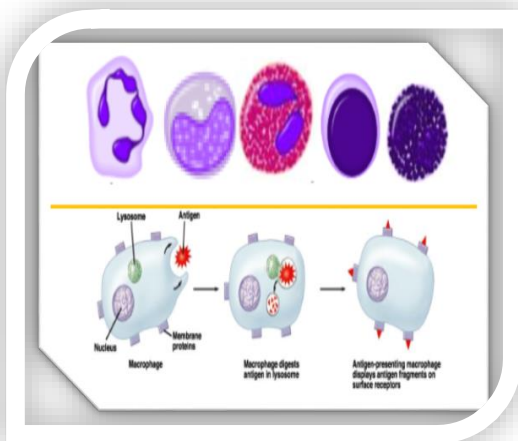


SWAT MEDICAL COLLEGE SWAT

DEPARTMENT OF MEDICAL EDUCATION



BLOOD & IMMUNOLOGY-I



1ST YEAR MBBS

BLOCK A: PAPER A

CLASS: 2023-28

DURATION: 05 WEEKS

FROM: MARCH 25 TO MAY 03, 2024

STUDENT NAME

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1. Academic Calendar

Tentative Annual Calendar MBBS – 2023-24 Swat Medical College, Swat							
Activity/ Events	Week	Date	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year
Orientation Week	1	12 th to 16 th Feb	Foundation-I (6 weeks) 22 nd March, Module Exam	Neurosciences-IA (6 weeks) 22 nd March, Module Exam	Foundation II (5 weeks) 22 nd March, Module Exam	Neurosciences – II (6 weeks) 25 th and 26 th March Block J Exam	Previous 5 th Year Preparatory leaves and annual exam
Regular Classes	2	19 th to 23 rd Feb					
Regular Classes	3	26 th Feb to 1 st March					
Regular Classes	4	4 th to 8 th March					
Regular Classes	5	11 th to 15 th March					
Regular Classes	6	18 th to 22 nd March	Blood & Immunology (5 weeks) 6 th & 7 th May Block A exam	Neurosciences-IB (5 weeks) 13 th & 14 th May Block D	Infection & Inflammation (6 weeks) 6 th May to 7 th May Block G exam	GIT and Hepatobiliary – II (3 weeks) 10 th and 11 th June Block K Exam	Foundation-III (2 weeks) 22 nd March Module Exam
Regular Classes	7	25 th to 29 th March					
Regular Classes	8	1 st to 5 th April					
Spring Break/Eid ul Fitr	9	8 th to 12 th April					
Sports Week	10	15 th to 19 th April					
Regular Classes	11	22 nd to 26 th April	MSK-I (8 weeks) 1 st & 2 nd July Block-B Exam	GIT, Hepatobiliary & Metabolism- (8 weeks) 1 st & 2 nd July	Multisystem (5 weeks) Module Exam 31 st May	Renal – II Module (4 weeks) 1 st and 2 nd July Module Exam	MSK-III (2 weeks) 06 th & 07 th May Block N exam
Regular Classes	12	29 th to 3 rd May					
Regular Classes	13	6 th to 10 th May					
Regular Classes	14	13 th to 17 th May					
Regular Classes	15	20 th to 24 th May					
Regular Classes	16	27 th May to 31 st May	CVS-I (5 weeks) 23 rd August Module Exam	Renal (3 weeks) 12 th to 13 th August Block E	MSK-II (5 weeks) 2 nd Sep 3 rd Sep Block H exam	Endocrine and Reproduction – II (8 weeks) 15 th and 17 th September Block-L exam	Cardiorespiratory-III (5 weeks) 3 rd & 4 th June Block O Exam
Regular Classes	17	3 rd to 7 th June					
Regular Classes	18	10 th to 14 th June					
Eid-ul-Adha Holidays	19	17 th to 21 st June					
Regular Classes	20	24 th to 28 th June					
Summer Vacations	21-23	3 rd to 21 st July	Respiratory-I (4 weeks) 23 rd -24 th SEP Block-C Exam	Endocrine-I (4 weeks) 6 th Sep	CVS-II (3 weeks) 20 th September Module exam	EYE and ENT (6 weeks) 14 th to 16 th Oct Block M1 & M2 Exam	Renal- III Module (2 weeks) 14 th June Module Exam
Regular Classes	24	22 nd to 26 th July					
Regular Classes	25	29 th July to 2 nd Aug					
Regular Classes	26	5 th to 9 th Aug					
Regular Classes	27	12 th to 16 th Aug					
Regular Classes	28	19 th 23 rd Aug	PREPARATORY LEAVES	Reproduction-I (4 weeks) 30 th Sep 1 st Oct	RES-II (4 weeks) 21 st and 22 nd October Block L exam	PREPARATORY LEAVES	Neurosciences – III (3 weeks) 16 th August Module Exam
Regular Classes	29	26 th to 30 th Aug					
Regular Classes	30	2 nd to 6 th Sep					
Regular Classes	31	9 th to 13 th Sep					
Regular Classes	32	16 th to 20 th Sep					
Regular Classes/ Preparatory Leaves	33	23 rd to 27 th Sep	Annual Exam as per KMU schedule.	PREPARATORY LEAVES	PREPARATORY LEAVES	PREPARATORY LEAVES	GIT & Hepatobiliary (2 weeks) 6 th Sep Module Exam
Regular Classes/ Preparatory Leaves	34	30 th Sep to 4 th Oct					
Regular Classes/ Preparatory Leaves	35	7 th to 11 th Oct					
Regular Classes/ Preparatory Leaves	36	14 th to 18 th Oct					
Regular Classes/ Preparatory Leaves	37	21 st to 25 th Oct					
Regular Classes/ Preparatory Leaves	38	28 th Oct to 1 st Nov	Annual Exam as per KMU	PREPARATORY LEAVES	PREPARATORY LEAVES	PREPARATORY LEAVES	Multisystem-II (4 weeks) 7 th -8 th Oct Block Q exam
Regular Classes/ Preparatory Leaves	39	4 th to 8 th Nov					
Regular Classes/ Preparatory Leaves	40	11 th to 15 th Nov					
Regular Classes/ Preparatory Leaves	41	18 th to 22 nd Nov					
Regular Classes/ Preparatory Leaves	42	25 th to 29 th Nov					
Regular Classes/ Preparatory Leaves	43	2 nd to 6 th Dec	Winter vacation	Winter vacation	Annual Exam as per KMU schedule.	Annual Exam as per KMU schedule.	PREPARATORY LEAVES
Regular Classes/ Preparatory Leaves	44	9 th to 13 th Dec					
Regular Classes/ Preparatory Leaves	45	16 th to 20 th Dec					
Regular Classes/ Preparatory Leaves	46	23 rd to 27 th Dec					
Regular Classes/ Preparatory Leaves	47-49	November 2024					
Regular Classes/ Preparatory Leaves	50-53	December 2024	Winter vacation	Winter vacation	Annual Exam as per KMU schedule.	Annual Exam as per KMU schedule.	PREPARATORY LEAVES
Regular Classes/ Preparatory Leaves	54-57	January 2025					
Start of new academic session 2025-26		February 2025	February 2025	February 2025	February 2025	February 2025	March 2025

Note: The given dates are tentative and may be subject to change as needed/demanded. The KMU will share the annual exam schedule at the end of the current session.

Dear Student

The Department of Medical Education (DME) has successfully conducted faculty training for the curation of study guides. In accordance with the guidelines set by Khyber Medical University, Peshawar, this study guide has been meticulously developed by the respective block coordinator. For any queries or concerns, kindly refer to the "Query and Troubleshooting" section for contact information.

Please be advised that the timetables provided in the study guides are tentative, and the final versions will always be accessible on the official website, notice boards, and social media platforms.

It is crucial to acknowledge that this guide is subject to continuous improvement, aligning with updates to module learning objectives and blueprints by KMU Peshawar. It is noteworthy that the learning objectives and blueprints outlined in this guide represent an enhanced and revised version of those originally provided by KMU.

For more information on modules and examination blueprints, please visit

<https://kmu.edu.pk/examination/guidelines>.

Your login link of official website: https://mis.swatmedicalcollege.edu.pk/login/student_login

2. List of Abbreviations

Anat-SGD	Small Group Discussion in Anatomy	G. Med-L	General Medicine Lecture
Bio-L	Biochemistry Lecture	OSPE	Objectively Structured Practical Examination
Bio-P	Biochemistry Practical	Paeds-L	Pediatrics Lecture
Bio-SGD	Small Group Discussion in Biochemistry	Patho-L	Pathology Lecture
C. Med-L	Community Medicine Lecture	Phar-L	Pharmacology Lecture
DSL	Directed Self Learning	Phy-L	Physiology Lecture
FDT	Film/Demonstration/Tutorial	Phy-P	Physiology Practical
F. Med-L	Forensic Medicine Lecture	Phy-SGD	Small Group Discussion in Physiology
G. Anat-L	Gross Anatomy Lecture	PBL	Problem Based Learning
Histo-P	Histology Practical	SDL	Self-Directed Learning
IT	Information Technology	SL	Skill Lab
LGIS	Large Group Interactive Session	SAQs	Short Answer Questions
MCQs	Multiple Choice Questions	SEQs	Short Essay Questions
Med.Edu-L	Medical Education Lecture	SGDs	Small Group Discussions
PRIME	Professionalism and Communication Skills, Research, Identity Formation, Management and Leadership, Ethics		

3. Module Committee:

s.no	Name	Department	Role
1.	Prof. Dr. Aziz Ahmad	Dean / principal	
2.	Dr. M Junaid Khan	DME	Director
Module Team			
3.	Prof. Dr. Rashid Ahmad	Physiology	MPC-I Chairman
4.	Dr. Obaid Ur Rahman	Biochemistry	Block A Coordinator
5.	Prof. Dr. Muhammad Kahn	Anatomy	Member
6.	Dr. Fiza Iqbal	Physiology	Member
7.	Dr. Amanullah	Physiology	Member
8.	Dr. Humaira Ali	Anatomy	Member
9.	Dr. Sara Maryam	Biochemistry	Member
10.	Dr. Ubaid Ullah	PRIME	Member



4. Recommended List of Icons



Introduction To Case



For Objectives



Critical Questions



Assessment



Resource Material

5. Mission/ Vision of the College

a. Mission:

To train medical students as per international standards, thereby producing doctors who exhibit excellence as professionals, academicians, researchers and adeptly fulfil healthcare needs through the application of ethical and evidence-based practices.

b. Vision:

To be a center of excellence in medical education, patient care and research globally.

6. Overview of the Module/ Preface

A very warm welcome to medical students in the Blood & Immunology-I Module study guide where the overarching goal is to facilitate effective teaching & efficient learning by assisting in the management of student learning, providing a focus for learning-related student' activities and providing information on the topic of study. Throughout the Blood & Immunology-I Module emphasis is placed on integrating theoretical knowledge with practical applications, ensuring a comprehensive educational experience. The core themes of the module including "Pallor & Swelling", "Fever (Infection & Immunity)", and "Excessive Bleeding & Transfusion Reactions" are meticulously designed to foster a deep understanding of the key concepts relevant to the themes. Students will gain hands-on experience through evidence based teaching in diverse settings such as the hospital and community providing a well-rounded education.

The study guides serve as a crucial reference for assessment and evaluation. It outlines the components that will be assessed such as knowledge, skills and attitude and the corresponding assessment tools, which may include written examinations encompassing Multiple Choice Questions & Short Essay Questions that evaluates students' theoretical knowledge and performance assessments by Objective Structured Practical Examination "OSPE" that assess practical skills of the students. This transparency enables students to align their efforts with the evaluation criteria, promoting a sense of accountability and preparation for success in their academic pursuits. As future medical professionals, graduates can look forward to diverse carrier pathways, from clinical practice to research, with opportunities in the homeland and abroad. In essence, the study guide acts as an indispensable tool for students, offering clarity on module contents, instructional methodologies, faculty guidance and assessment criteria. By actively engaging with the information provided, students can navigate their academic journey with confidence and purpose, maximizing their learning experience in the field of medicine.

7. Introduction/ Organization of Module

a. Introduction:

Blood and Immunology-I Module has been designed to define the scope of Knowledge/ Skills/ Attitudes of a first-year medical student of the Basic Medical Sciences i.e., Anatomy, Physiology and Biochemistry with the introduction to the Clinical Sciences and an emphasis on body defense mechanisms and immunological disorders. This is the second module of 1st year of MBBS and will be followed by a block assessment. Blood and Immunology-I module is a 5 weeks' theme-based module, the contents of which will be taught in Lectures, SGDs, DSLs and Practical work.

Blood and Immunology-I Module consists of the following themes:

Blood and Immunology-I Module		
S. No	Theme	Duration
1.	Pallor and Fatigue	01 Week
2.	Fever (Infection and Immunity)	02 Weeks
3.	Excessive Bleeding	01 Week
4.	Transfusion Reaction	01 Week

b. Rationale:

The Blood and Immunology-I is a 5-weeks theme based module that 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 Anemias and will deal with the basic pharmacological aspects of Blood related disorders and their presence in the community. The 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.

c. Organization of the Study guide:

The Blood & Immunology-I is a 5-weeks theme based module. The “Pallor & Swelling” is a two weeks' activity consisting of introduction to hematopoietic system, blood and porphyrins. Red blood cells genesis, erythropoietin, different types of anemias, anemias of diminished erythropoiesis, hemolytic anemia, polycythemia, epidemiology of blood borne diseases and drug treatment of anemia are also described. Chemistry of water-soluble vitamins, iron metabolism, synthesis and degradation of heme and Haemoglobinopathies are also described here. The “Fever/ Infection & Immunity” is also a two weeks activity consisting of microscopic, developmental and gross anatomy

of the hematopoietic system. Physiology of white blood cells, reticuloendothelial system, inflammation, leukemia, immunity, immune system, immune response, humoral immunity, cell mediated immunity, immunity at extreme of ages, complement system, allergy & hypersensitivity, chemistry of antibodies and immunization are also described here. The “Excessive bleeding & transfusion reaction” is a one-week activity consisting of introduction to hemostasis, blood coagulation, bleeding disorders, thrombotic disorders and coagulation modifying drugs. Blood grouping, transfusion reactions, erythroblastosis fetalis, major histocompatibility complex, medicolegal importance of blood groups and epidemiology of blood borne diseases are also described here.

The Contents of the module Blood & Immunology-I Module will be taught in “Large group interactive Session”, “Directed Self-Learning”, “Self-Directed Learning”, “Small Group Discussions” and “Practical Demonstration”.

d. Teaching Strategies:

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

A. Large Group Formats:

- a. Interactive Lectures: In large group, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients’ interviews, exercises, etc. Students are actively involved in the learning process.
- b. Directed Self-Learning: Directed self-learning is an active learning approach where the learners are provided with predefined learning objectives and some facilitation through the learning process in the form of guidance and supervision. It helps establish a strong foundation for autonomous and deep learning.
- c. Self-Directed Learning: 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.

B. Small Group Formats:

- a. Small Group Discussions: 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.

- b. Practical Demonstration: Basic science practicals related to anatomy, biochemistry and physiology are scheduled for student learning.

e. Assessment strategies

Assessments within the MBBS program at STMC consist of both formative and summative evaluations. These assessments are integral to monitoring student progress and academic performance.

A. Formative Assessment:

Formative assessments, accounting for 10% of the total marks assigned to each block, serve as ongoing evaluations designed to provide feedback and facilitate learning. The allocation of this 10% can be determined in accordance with the blueprint of KMU and further distributed as per the academic council's recommendations at STMC. Formative assessments are conducted after the completion of each module, ensuring that students receive timely feedback to enhance their understanding and performance.

B. Summative Assessment:

Summative assessments, which comprise the majority of the assessment weighting (90% of all marks), are conducted and overseen by KMU, as part of the annual examination process. The summative annual examination is organized and conducted by KMU, which carries out the evaluation and grading. This summative assessment evaluates students' comprehensive understanding of the curriculum and accounts for a significant portion of their final scores.

C. Assessment Tools:

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

- Written Examinations: These encompass Multiple Choice Questions (MCQ) and Short Essay Questions (SEQ) that evaluate students' theoretical knowledge.
- Performance Assessments: Objective Structured Practical Examinations (OSPE) are used to assess practical skills of the students.
- Assignments: Presentations, projects, and self-reflection assignments are included in the assessment process to enhance students' critical thinking and research skills

D. Other:

Continuous assessment of students through punctuality, holding high ethical standards and observing good behavior.

f. Feedback mechanism and summary

At the end of each module a “Module Evaluation Form” will be provided to the students whether in hard copies or online and the students will give their opinion regarding the “Course Contents”, “Learning Resources”, “Teaching Methods”, “Engagement & Motivation” and “Assessment Methods”.

8. Table Of Specification

Subject	No. of Hours Allocated in Time table					Percent Distribution	Assessment	
	Large Format	Group	Small Format	Group	Total		MCQs	OSPE
	Lectures	DSLs	Practicals	SGDs				
Gross Anatomy	03	04	08	04	21	16.66%	01	01
Histology	01						04	
Embryology	01						00	
Physiology	28	04	08	04	44	34.92%	22	05
Biochemistry	11	04	08	04	27	21.42%	12	01
PRIME	06	00	00	00	06	4.76%	03	00
Pharmacology	02	00	00	00	02	1.58%	01	00
Pathology	02	00	00	00	02	1.58%	04	00
Community Medicine	02	00	00	00	02	1.58%	02	00
Forensic Medicine	01	00	00	00	01	0.79%	01	00
IT Skills	04	00	00	00	04	3.17%	00	00
Islamiyat	04	00	00	00	04	3.17%	00	00
SDL	--	--	--	--	13	10.31%	00	00
Total	65	12	24	12	126	100%	50	07



9. Learning Objectives

a. General Learning Outcomes

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

Knowledge

1. Identify & describe the various cellular and non-cellular components of blood in relation to its Anatomy, Physiology & Biochemistry
2. Describe structure, synthesis and degradation of Hemoglobin
3. Describe the regulatory mechanisms of normal hemostasis and coagulation
4. Describe the conditions associated with dysfunction of cellular and non-cellular components of blood
5. Describe the basic characteristics of immune system.
6. Discuss the structure, functions and biochemical aspects of the Lympho-reticular system.
7. Explain the principles and clinical significance of ABO/RH blood grouping system
8. Explain the pathophysiology of various bleeding disorders
9. Identify the role of pharmacology in anemia and bleeding disorders.

Skills

1. Carry out practical work as instructed in an organized and safe manner
2. Make and record observations carefully & accurately.
3. Identify slide of Lymph node, thymus, tonsils and spleen under microscope
4. Determine percentage of formed blood elements.
5. Identify RBCs 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 values.
6. Identify WBCs morphology and its different types, should be able to count them on counting chamber and to know the normal values. Diagnostic importance of each WBC.
7. 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
8. Perform bleeding time and clotting time and to know normal values and its diagnostic importance in relation to bleeding disorders.
9. Perform Blood groups typing and Rh factor.
10. Perform ESR and to know its normal value and prognostic importance.

Attitude

1. Follow the basic laboratory protocols.
2. Demonstrate ability to give and receive feedback, respect for self and peers.
3. Demonstrate empathy and care to patients.
4. Develop respect for the individuality and values of others - (including having respect for oneself) patients, colleagues and other health professionals
5. Organize& distribute tasks
6. Exchange opinion & knowledge
7. Develop communication skills and etiquette with sense of responsibility.
8. To equip themselves for teamwork.

b. Specific Learning Outcomes

THEME-I: Pallor and Swelling

Introduction:

This theme focuses on composition of blood and functions of its various components. The chemistry of hemoglobin, the stages, factors and regulation of erythropoiesis will be discussed in detail. Biochemical aspects of B-complex vitamins and folic acid will be explained. This will be followed by morphological and etiological classification of anemias and their prevention and drug treatment. In the end various haemoglobinopathies and thalassemia will be discussed. The contents of this theme will be taught in Lectures, Practicals, SGDs, DSLs and SDL.

S No.	Topic	Learning Objectives	Teaching Strategy	Hours	Assessment Tools
ANATOMY					
1	Introduction to hematopoietic system	Describe various components of hematopoietic system including their locations and their functions Describe surface anatomy and applied anatomy of main organs of hematopoietic system Define and classify lymphoid organs and lymphoid tissues	LGIS	1	MCQs/Viva
PHYSIOLOGY					
2	Introduction to Blood	Describe the composition and functions of blood Define Hematocrit Enlist the components of plasma Explain the difference between Serum and plasma	LGIS	1	MCQs/Viva
3	Red Blood Cells	Describe the structure, function, life span and normal count of Red Blood Cells. Define Haemopoiesis Classify hematopoietic stem cells Summarize the erythropoiesis sites during pre-natal and post-natal periods.	LGIS	1	MCQs/Viva
4	Red Blood Cells Genesis Erythropoiesis	Illustrate the stages of RBC development from pluripotent hematopoietic stem cells to a mature RBC. Describe the erythropoiesis and factors regulating Erythropoiesis Describe the role of Vitamin B12 and Folic acid in RBC maturation. Describe the effects of deficiency of Vitamin B12 and Folic acid on RBC maturation.	LGIS	1	MCQs/SEQs Viva

S No.	Topic	Learning Objectives	Teaching Strategy	Hours	Assessment Tools
5	Erythropoietin	Describe source, control / regulation and functions of Erythropoietin Explain the role of Erythropoietin in RBC production. Describe the effects of high altitude and exercise on RBC production.	LGIS	1	MCQs
6	Anemia	Define and describe the different types of anemia Define hemolysis Describe the various red cell indices Interpret the diagnosis of anemia by using red cell indices Describe the effects of anemia on functions of circulatory system / human body	LGIS	1	MCQs
7	Polycythemia	Define and classify polycythemia Differentiate between primary and secondary Polycythemia	LGIS	1	MCQs/SEQs Viva
BIOCHEMISTRY					
8	Introduction of Porphyrins	Define Porphyrins Describe Chemistry of Porphyrins. Enlist the types, metabolic causes and clinical presentation of different types of Porphyrias.	LGIS	1	MCQs
9	Iron metabolism	Describe the iron metabolism	LGIS	1	MCQs
10	Introduction to heme synthesis and degradation	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 Describe the normal picture of blood chemistry.	LGIS	1	MCQs
11	Haemoglobinopathies	Define Hemoglobinopathies and enlist the variants of hemoglobin Describe causes of Hemoglobinopathies Describe two major categories of hemoglobinopathies	LGIS	1	MCQs/SEQs Viva

S No.	Topic	Learning Objectives	Teaching Strategy	Hours	Assessment Tools
		Describe the amino acid substitution in sickle cell disease. Define and Classify thalassemias. Explain the genetic defects in α thalassemia. Explain the genetic defects in β thalassemia. Enlist the clinical features of α thalassemia. Enlist the clinical features of thalassemia			
12	Water soluble vitamins	Discuss water soluble vitamins including Vitamin B complex Vitamin C Folic Acid	LGIS	1	MCQs/SEQs Viva
PATHOLOGY					
13	Anemias of diminished erythropoiesis	Define anemia List the factors for regulation of erythropoiesis Enlist the types of anemia	LGIS	1	MCQs
14	Hemolytic anemia's	Define hemolytic anemia. Enlist types of hemolytic anemia.	LGIS	1	MCQs
COMMUNITY MEDICINE					
15	Epidemiology of blood borne diseases	Describe Epidemiology of Iron Deficiency Anemia Describe prevention of different types of anemias in community	LGIS	1	MCQs
PHARMACOLOGY					
16	Drugs used in the treatment of anemias	Enlist the drugs used in the treatment of iron deficiency & Megaloblastic anemia Describe the pharmacological basis/ role of iron in iron deficiency anemia (hypochromic normocytic anemia) Describe the pharmacological basis/ role of vit B12 and folic acid in megaloblastic anemia Describe the role of Erythropoietin in the treatment of Anemia (normochromic normocytic anemia)	LGIS	1	MCQs
LAB WORK					
HISTOLOGY					
17	Lymphoid Tissues and Lymphoid	Identify and describe the microscopic anatomy of lymph	Demonstration / Practical	2	OSPE

S No.	Topic	Learning Objectives	Teaching Strategy	Hours	Assessment Tools
	Organs	node, thymus, bone marrow and spleen under microscope Compare the histological features of lymph node, thymus and spleen			
PHYSIOLOGY					
18	Hemoglobin determination	Assist in phlebotomy while practicing aseptic procedure. Determine the hemoglobin (Hb) concentration in the given sample Estimation of hemoglobin by Sahli's method Determination of packed cell volume	Demonstration / Practical	2	OSPE
19	Blood cells	Identify and describe various blood cells under microscope.	Demonstration/ Practical	2	OSPE
20	RBC count	Determine the red blood cell (RBC) count in the given sample and calculate RBC indices	Demonstration/ Practical	2	OSPE
DIRECTED SELF LEARNING					
ANATOMY					
21	Surface & Applied Anatomy of the main organs of hematopoietic system	Describe surface anatomy and applied anatomy of main organs of hematopoietic system	DSL	1	MCQs
PHYSIOLOGY					
22	Red Blood Cells Genesis	Illustrate the stages of RBC development from pluripotent hematopoietic stem cells to a mature RBC. Describe the erythropoiesis and factors regulating erythropoiesis Describe the role of Vitamin B12 and Folic acid in RBC maturation. Describe the effects of deficiency of Vitamin B12 and Folic acid on RBC maturation.	DSL	1	MCQs
BIOCHEMISTRY					
23	Chemistry of Hemoglobin	Describe the biochemical features of the hemoglobin molecules Describe the concept of Oxygen binding with hemoglobin Describe the normal picture of blood chemistry.	DSL	1	MCQs

Theme-2 Fever (Infection and Immunology)

Introduction:

This theme is for two weeks and covers the topics of Types, Counts, Differentiation, and Characteristics of WBCs along with body defense mechanisms. B and T lymphocytes activation and their mechanisms of actions will be discussed with emphasis on complement system and Major Histocompatibility Complex (MHC). This will be followed by blood group types and hazards of transfusion reaction. Structure, types, mechanism of action and biochemical role of immunoglobulins will also be discussed. Vaccines, immunization and “Expanded Program of Immunization (EPI) will also be explained here.

This theme consists of lectures, Practicals, SGDs, DSLs and SDLs.

S.No.	Topic	Learning Objectives	Teaching Strategy	Hours	Assessment Tools
ANATOMY					
1	Gross anatomy of hematopoietic system	Locate, identify and describe the main gross external features of spleen, lymph node, thymus and tonsils Describe neurovascular supply of the mentioned structures Outline the surface anatomy of main lymph nodes, spleen, thymus and tonsils Enlist the causes of splenic injuries	LGIS	1	MCQs/Viva
2	Histology of lymphoid tissues	Describe the overview of lymphatic tissue including MALT Identify and describe the histological features and functions of Lymph node Identify and describe the histological features and functions of Thymus Identify the locations of tonsils and describe the histological features and functions of Tonsils Describe the histological features and functions of spleen.	LGIS	1	MCQs/Viva
3	Embryology/ Developmental Anatomy of lymphoid tissue	Describe the development of lymphoid organs including lymph nodes, tonsils, thymus and spleen	LGIS	1	MCQs

PHYSIOLOGY					
4	White Blood Cells	Classify WBCs Describe the structure, function, life span and normal count of WBCs Describe the stages of differentiation of WBCs Describe the characteristics of WBCs	LGIS	1	MCQs/SEQs Viva
5	Reticulo-endothelial (Monocyte-Macrophage) system	Describe the components of reticulo-endothelial 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)	LGIS	1	MCQs/SEQs Viva
6	Inflammation	Define inflammation Describe characteristics of inflammation (hallmark of inflammation) Describe the causes, sequence of events and cardinal signs of inflammation	LGIS	1	MCQs
7	Abnormal leukocyte counts/ Leukemia	Define Leukopenia and Leukocytosis and Leukemia	LGIS	1	MCQs
8	Introduction to 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	LGIS	1	MCQs
9	Immune system	Enlist the three lines of defenses and outline their	LGIS	1	MCQs/SEQs Viva

		<p>properties</p> <p>Describe the characteristics, origin and functions of cells of immune system</p> <p>Describe the types of immunity</p> <p>Enlist the innate defenses</p> <p>List the substances and cells that participate in adaptive immunity</p> <p>Compare the characteristics innate and acquired immunity</p> <p>Compare the active and passive immunity mechanism</p>			
10	Immune response	<p>Differentiate between primary and secondary immune response</p> <p>Describe the roles of cytokines, chemokines, and colony-stimulating factors in the immune response</p>	LGIS	1	MCQs
11	Humoral and cell mediated immunity	<p>Describe the role of T and B lymphocytes in immunity</p> <p>Describe the role of B lymphocytes in humoral immunity</p> <p>Describe cell mediated and humoral immunity</p> <p>Explain how helper T cells regulate the immune system</p> <p>Explain the function of cytotoxic T cells</p> <p>Describe the role of helper T cells</p> <p>Differentiate between humoral and cell mediated immunity</p>	LGIS	1	MCQs/SEQs Viva
12	Complement system	<p>Describe the complement system</p> <p>Explain how the complement system elicits the inflammatory response, lyses foreign cells, and increases phagocytosis</p>	LGIS	1	MCQs

		Describe the two pathways that activate the complement system Compare Classic and alternate pathways of complement activation.			
13	Immunity: extremes of ages	Compare the active and passive immunity Explain the transfer of passive immunity from mother to fetus and from mother to infant during breast-feeding Describe changes in immune response that occurs with aging	LGIS	1	MCQs/SEQs Viva
14	Allergy & Hypersensitivity	Define allergy and allergen Describe the pathophysiology of allergy and hypersensitivity Define and classify the hypersensitivity reaction Compare the immediate and delayed hypersensitivity reactions List the diseases associated with hypersensitivity reactions	LGIS	1	MCQs
BIOCHEMISTRY					
15	Immunoglobulin's / Antibodies	Define Immunoglobulin's DESCRIBE Types of Immunoglobulin's Describe Structure of Immunoglobulin's Describe the mechanism of action of antibodies Explain biochemical role of each immunoglobulin in immunity	LGIS	1	MCQs/SEQs Viva
COMMUNITY MEDICINE					
16	Vaccinology	Define vaccine and immunization Explain the expanded program of immunization (EPI) in Pakistan	LGIS	1	MCQs
LAB WORK					
PHYSIOLOGY					

17	TLC determination	Determine the total leukocyte count (TLC) in the given sample	Demonstration / Practical	2	OSPE
18	DLC determination	Determine the differential leukocyte count (DLC) in the given sample	Demonstration / Practical	2	OSPE
SMALL GROUP DISCUSSIONS					
ANATOMY					
19	Lymph Node	Explain what is meant by Hematopoietic system. Enumerate the organs included in Hematopoietic system. Explain histology of lymph Node	SGD	2	MCQs/Viva
PHYSIOLOGY					
20	Clinical approach to a patient with Pallor	Understand the importance of proper history taking and physical examination in clinical evaluation of a patient with pallor Understand the different morphological features of Red blood cell Classify anemia on the basis of red cell morphology Understand the specific laboratory investigations to confirm and find out the cause of anemia	SGD	2	MCQs
BIOCHEMISTRY					
21	Iron Metabolism	Describe the absorption, storage and transport of iron. Describe manifestations of iron deficiency	SGD	2	MCQs
DIRECTED SELF LEARNING					
ANATOMY					
22	Developmental Anatomy of lymphoid tissue	Describe the development of lymphoid organs including lymph nodes, tonsils, thymus and spleen	DSL	1	MCQs

23	Hematopoietic system	Describe various components of hematopoietic system including their locations and their functions Define and classify lymphoid organs and lymphoid tissues	DSL	1	MCQs
PHYSIOLOGY					
24	Anemia	Define and describe the different types of anemia Define hemolysis Describe the various red cell indices Interpret the diagnosis of anemia by using red cell indices Describe the effects of anemia on functions of human body	DSL	1	MCQs
25	Reticuloendothelial System	Describe the components of reticulo-endothelial 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.	DSL	1	MCQs
BIOCHEMISTRY					
26	Water Soluble Vitamins	Enlist Water Soluble Vitamins Discuss the chemistry of Water-Soluble Vitamins	DSL	1	MCQs/SEQs /Viva
27	Qualitative Haemoglobinopathies	Describe the Qualitative Haemoglobinopathies Describe the amino acid substitution in sickle cell disease, Hemoglobin C disease & Hemoglobin SC disease.	DSL	1	MCQs/SEQs /Viva

Theme-3 (Excessive Bleeding)

Introduction:

This theme is for one week and deals with the topics of blood coagulation. Mechanisms of blood clotting along with clotting factors, platelets, intrinsic and extrinsic pathways and clot lysis will be discussed. Biochemical aspects of Vitamin-K and its role in hemostasis will also be explained. Some bleeding, thromboembolic disorders and Coagulation Modifying Drugs will also be discussed. The contents of this theme will be taught in lectures, Practicals, SGDs, DSLs and SDL.

S.No.	Topic	Learning Objectives	Teaching Strategy	Hours	Assessment Tools
PHYSIOLOGY					
1	Introduction to Hemostasis	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.	LGIS	1	MCQs
2	Blood 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 Describe with the help of a flow diagram (or draw) intrinsic pathway of coagulation cascade Describe with the help of a flow diagram (or draw) extrinsic pathway of coagulation cascade Explain how the mechanism of clot dissolution.	LGIS	1	MCQs
3	Bleeding disorders	Describe the role of Vit K in clotting Describe the following bleeding disorders: <ul style="list-style-type: none"> Vitamin K deficiency Thrombocytopenia 	LGIS	1	MCQs

		<ul style="list-style-type: none"> Hemophilia Define Von Willebrand disease			
4	Thrombotic disorders	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	LGIS	1	MCQs/SEQs Viva
PHARMACOLOGY					
5	Coagulation modifying drug	Identify the site of action of following drugs in coagulation cascade <ul style="list-style-type: none"> Aspirin, Heparin, Tranexamic acid Vit K 	LGIS	1	MCQs
LAB WORK					
PHYSIOLOGY					
6	Clotting time determination	Determine the clotting time in the given sample	Demonstration / Practical	2	OSPE
7	Bleeding time determination	Determine the bleeding time in the given sample	Demonstration / Practical	2	OSPE
8	Prothrombin time determination	Determine Prothrombin time in the given sample	Demonstration / Practical	2	OSPE
DIRECTED SELF LEARNING					
ANATOMY					
9	Histology of lymphoid tissues	Describe the histological features of lymphoid tissues.	DSL	1	MCQs/Viva
PHYSIOLOGY					
10	Inflammation	Describe characteristics and causes of inflammation. Describe cardinal signs of inflammation.	DSL	1	MCQs
BIOCHEMISTRY					
11	Quantitative Haemoglobinopathies	Explain the genetic defects in α and β thalassemia. Enlist the clinical features of α and β thalassemia	DSL	1	MCQs/SEQs

Theme-4 (Transfusion Reaction)

Introduction:

This theme is for one week and deals with Transfusion Reaction. Different types of blood groups, Genotype-Phenotype Relationships in blood groups and process of agglutination will be discussed here. Transfusion reactions will be explained in detail. Rhesus incompatibility and Erythroblastosis fetalis will be described. Autoimmunity and Major histocompatibility complex will also be discussed in detail. Medico-legal importance of blood groups and Epidemiology of blood borne diseases will be discussed here as well.

The contents will be taught in Lectures, Practicals, DSLs and SDL.

S.No.	Topic	Learning Objectives	Teaching Strategy	Hours	Assessment Tools
PHYSIOLOGY					
1	Blood Grouping	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	LGIS	1	MCQs/Viva
2	Transfusion reactions	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	LGIS	1	MCQs/SEQs Viva
3	Erythroblastosis fetalis	Define Rh incompatibility Describe erythroblastosis fetalis. Describe the transfusion reactions resulting from mismatched O-A-B and Rh blood types	LGIS	1	MCQs/Viva

4	Major histocompatibility complex	Define autoimmunity Explain how immune reaction to self-antigens is avoided Define and classify Major Histocompatibility complex Characterize the significance and function of major histocompatibility complex molecules	LGIS	1	MCQs/SEQs Viva
FORENSIC MEDICINE					
5	Medico-legal importance of blood groups	Describe the Medico-legal importance of blood groups in forensic work that is: <ul style="list-style-type: none"> • Personal Identity • Inheritance claims • DNA profiling • Disputed paternity and maternity 	LGIS	1	MCQs
COMMUNITY MEDICINE					
6	Epidemiology of blood borne diseases	Identify important blood borne pathogens and how they are spread Discuss the epidemiology of blood borne disease transmission and the potential for HIV, HBV and HCV transmission. Identify routes of transmission of blood borne pathogens. Discuss the best practices to perform safe blood transfusion. Identify potential exposure risks. List important safeguards against blood borne pathogen disease	LGIS	1	MCQs
PHYSIOLOGY LAB WORK					
7	Blood grouping	Determine the O-A-B and Rh blood group in the given sample	Demonstration / Practical	2	OSPE
8	Blood smear preparation	Prepare blood smear by thumb prick method	Demonstration / Practical	2	OSPE
9	Blood Bank	Observe the process of blood donation, blood product separation, screening and storage and observe the process of blood transfusion.	Demonstration / Practical	2	Formative



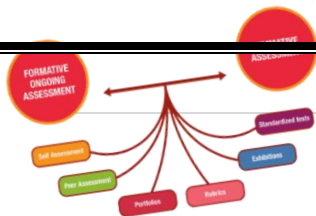
10. Learning Opportunities and Resources

a. Instruction (if any)

- Try to be regular in class as teacher is the best guide & facilitator.
- Make your studies a primary goal.
- Study your textbooks covering the learning objectives relevant to the topic of study, read reference books when needed and do use other learning resources such as videos, text relevant to the topic on website and research articles.

b. Books:

S.No	Subject	Learning Resources/ Recommended Books
1.	Anatomy	Clinical Anatomy by Regions by Richard S. Snell (Latest Edition)
		Gray's Anatomy for Students (Latest Edition)
		K.L. Moore, Clinically Oriented Anatomy (Latest Edition)
		Netter's "Atlas of Human Anatomy (Latest Edition)
		Last's Anatomy (Latest Edition)
2.	Histology	Textbook of Histology by Junqueira (Latest Edition)
		diFiore's ATLAS of Histology with Functional Correlations (Latest Edition)
		Atlas of Human Histology by Wheaters. (Latest Edition)
		Textbook of Histology by Laiq Hussain (Latest Edition)
3.	Embryology	Langman's Medical Embryology (Latest Edition)
		The Developing Human "by Keith L Moore" (Latest Edition)
4.	Physiology	Textbook of Medical Physiology by Guyton and Hall (Latest Edition)
		Ganong's "Review of Medical Physiology" (Latest Edition)
5.	Biochemistry	Harper's Illustrated Biochemistry (Latest Edition)
		Lippincott's Illustrated Review: Biochemistry (Latest Edition)
6.	Pharmacology	Katzung's Basic and Clinical Pharmacology (Latest Edition)
7.	Pathology	Robbin's Basic Pathology (Latest Edition)
8.	Community Medicine	Essential Community Medicine (Latest Edition)
		K Park Textbook of Preventive and Social Medicine (Latest Edition)
9.	Forensic Medicine	Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology (Latest Edition)
10.	General Medicine	Davidson's Principles and Practice of Medicine (Latest Edition)



11. Examination and Methods of Assessment:

a. Instruction:

- Students must arrive the examination venue at least 15 minutes before the scheduled start time. Late comers 15 minutes after the start of exam, will not be allowed to enter the examination hall, and if permitted, they will not receive extra time.
- Students without College ID Card and white Lab Coat will not be allowed to sit in the exam.
- In case of an emergency such as a medical emergency, students should inform the examination supervisor.
- Students are required to submit prohibited items such as mobile phones, smartwatches, electronic devices, books, notes, or any unauthorized materials before entering the examination hall.
- Students must maintain complete silence within the examination hall. They should refrain from communicating with fellow students.
- Students must mark their attendance properly and strictly follow invigilator instructions.
- No student will be allowed to leave the examination hall before half the time is over and paper should be properly handed to the examiner.
- Violation of these guidelines may lead to disqualification from the examination.

b. The Distribution of Internal Assessment Score (10% Marks):

The distribution of Internal Assessment Score for 1st Year MBBS will be as follows:

- Total Marks for 1st Year MBBS= 700 & Internal Assessment Marks=70 (10%)
- 50 % of the Internal Assessment Marks will be given to Block Exams
- 50 % of the Internal Assessment marks will be given to Class Test/ End of Module Exam, Assignments and Presentations.
- Biochemistry department is responsible to maintain the attendance record for BLOCK –A in coordination with all the concerned departments.
- Anatomy department is responsible to maintain the attendance record for BLOCK –B in coordination with all the concerned departments.
- Physiology department is responsible to maintain the attendance record for BLOCK –C in coordination with all the concerned departments.

A. Distribution of 20 Marks for Block Papers for First Year MBBS will be as under:

Block	Block A	Block B	Block C	Total
Marks	07	6.5	6.5	20

B. Distribution of 15 Marks for Block OSPE will be as under:

Block	Block A	Block B	Block C	Total
Marks	05	05	05	15

C. Distribution of 20 marks for Class Test/ End of Module Exam & Assignments for 1st Year MBBS will be as under:

Subject (Theory)	Block A	Block B	Block C	Total
Class Test/ End of Module Exam	04	3.5	3.5	11
Assignments	03	03	03	09
Total	07	6.5	6.5	20

D. Distribution of 15 marks for Presentations, Attitude/ Behavior for 1st Year MBBS will be as under:

Subject (OSPE)	Block A	Block B	Block C	Total
Presentations	03	03	03	09
Attitude/ Behavior	02	02	02	06
Total	05	05	05	15

c. UNIVERSITY EXAM: Exam has 90% Marks

- To appear in any university examination, more than 75% attendance in all disciplines is mandatory for the students.
- The Paper A will be comprised of 120 MCQs. The distribution of 90% Marks for Paper A Written Exam will be as under:

Blueprint for Theory Paper A			
Subject	Foundation-I Module	Blood & Immunology-I Module	Total MCQs
Gross Anatomy	12	01	13
Histology	10	04	14
Embryology	15	00	15
Physiology	10	22	32
Biochemistry	14	12	26
Pathology	02	04	06
Pharmacology	01	01	02
Community Medicine	01	02	03
Forensic Medicine	00	01	01
PRIME	05	03	08
Total	70	50	120

- The distribution of OSPE stations for Paper A Practical Exam will be as under:

Blueprint for OSPE Paper A		
Specialty	Practical	No. of Stations
Foundation Anatomy	Operating The Microscope	5

	Anatomical terms H& E staining Histology of Simple Epithelia Histology of Stratified Epithelia Histology of Glands	
Foundation Biochemistry	PH and buffer solutions Detection of Polysaccharides in a given Solution Detection of Monosaccharide's Detecting of Reducing and non-reducing Sugars	3
Foundation Physiology	Lab Equipment's Oral temperature Capillary Blood Sampling	2
Foundation Pathology	Sterilization Tissue Processing	1
Blood Physiology	Hb determination Blood count TLC and DLC determination Bleeding time & Clotting time determination Prothrombin time determination Blood grouping	5
Blood Anatomy	Blood histology Histology of lymph nodes	1
Blood biochemistry	Estimation of plasma proteins in serum Preparation of protein free filtrate	1
Total		18

11. Timetables

SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE FOR BLOOD MODULE (1st Year MBBS) SESSION 2023-24
WEEK-1

THEME 1: Pallor and Swelling

Days	8:00am to 10:00 am		10:00 am to 11:00 am	11:00am to 12:00 pm	12:00am to 1:00 pm	P R A Y E R S B R E A K	1:30pm to 2:30 pm
Monday 25/03/24	<u>PRACTICALS:</u> Batch A: Phy Dr. Batch B: Histo Dr. Batch C: Bio Dr.		G. Anat-L1 Introduction to hematopoietic system Dr.	Physio-L1 Introduction to Blood Dr.	Bio-L1 Introduction of Porphyrins Dr.		Anat-DSL Dr.
Tuesday 26/03/24	<u>PRACTICALS:</u> Batch A: Bio Dr. Batch B: Phy Dr. Batch C: Histo Dr.		Physio-L2 Red Blood Cells-I Dr.	Bio-L2 Iron metabolism Dr.	Physio-L3 Red Blood Cells-II Dr.		Physio-DSL Dr.
Wednesday 27/03/24	<u>PRACTICALS:</u> Batch A: Histo Dr. Batch B: Bio Dr. Batch C: Phy Dr.		Physio-L4 Red Blood Cells Genesis Dr.	Bio-L3 Introduction to heme synthesis and degradation Dr.	Physio-L5 Erythropoietin Dr.		Bio-DSL Dr.
Thursday 28/03/24	8:00 to 9:00 am IT Skills-L1 MS Word Engr.	09:00 to 10:00 am SDL (SLRC/Library)	G. Anat-L2 Structure of membranes of human body Dr.	Bio-L4 Quantitative Haemoglobinopathies Dr.	Physio-L6 Anemia-I Prof. Dr.		PRIME-L1 Attention and Concentration Dr.
Friday 29/03/24	Islamiyat-L1 Worships Mr.	Physio-L7 Anemia-II Prof. Dr.	Bio-L5 Qualitative Haemoglobinopathies Dr.	PRIME-L2 Cultural sensitivity Dr.	Physio-L8 Polycythemia Prof. Dr.		SDL (SLRC/Library)

Note: the timetables are tentative and final versions are always shared before the start of the module

SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE FOR BLOOD MODULE (1st Year MBBS) SESSION 2023-24
WEEK-2

THEME 1: Pallor and Swelling

Days	8:00am to 10:00 am	10:00 am to 11:00 am	11:00am to 12:00 pm	12:00pm to 1:00 pm	P R A Y E R S B R E A K	1:30pm to 2:30 pm
Monday 15/04/24	<u>PRACTICALS:</u> Batch A: Phy Dr. Batch B: Histo Dr. Batch C: Bio Dr.	Bio-L6 Vitamins, Definition, Classification/ Vit B1 Dr.	Bio-L7 Vitamin B12 and Folic Acid Dr.	PRIME-L3 Literature Search Dr.		Anat-DSL Dr.
Tuesday 16/04/24	<u>PRACTICALS:</u> Batch A: Bio Dr. Batch B: Phy Dr. Batch C: Histo Dr.	Bio-L8 Chemistry of Vitamin C Dr.	SDL (SLRC/Library)	Bio-L9 Vitamin B2, B3 and B5 Dr.		Physio-DSL Dr.
Wednesday 17/04/24	<u>PRACTICALS:</u> Batch A: Histo Dr. Batch B: Bio Dr. Batch C: Phy Dr.	Patho-L1 Anemia’s of diminished erythropoiesis Prof. Dr.	Bio-L10 Vitamin B6 and B7 Dr.	Patho-L2 Hemolytic anemia’s Prof. Dr.		Bio-DSL Dr.
Thursday 18/04/24	<u>SGDs:</u> Batch A: Phy Dr. Batch B: Histo Dr. Batch C: Bio Dr.	C.Med-L1 Epidemiology of blood borne diseases Dr.	Pharma-L1 Drug treatment of anemia’s Dr.	IT Skills- L2 MS Excel Engr.		PRIME-L4 Title, Rationale, Purpose Dr.
Friday 19/04/24	<u>SGDs:</u> Batch A: Bio Dr. Batch B: Phy Dr. Batch C: Histo Dr.	Islamiyat-L2 Jihad Definition & Importance Mr.	11:00am to 1:00 pm <u>SGDs:</u> Batch A: Histo Dr. Batch B: Bio Dr. Batch C: Phy Dr.			SDL (SLRC/Library)

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SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE FOR BLOOD MODULE (1st Year MBBS) SESSION 2023-24
WEEK-3

THEME 2: FEVER (INFECTION & IMMUNOLOGY)

Days	8:00am to 10:00 am		10:00 am to 11:00 am	11:00am to 12:00 am	12:00am to 1:00 pm		1:30pm to 2:30 pm
Monday 22/04/24	PRACTICALS: Batch A: Phy Dr. Batch B: Histo Dr. Batch C: Bio Dr.		G. Anat-L3 Gross anatomy of hematopoietic system Dr.	Physio-L9 White Blood Cells-I Dr.	Physio-L10 White Blood Cells-II Dr.	P R A Y E R S	Anat-DSL Dr.
Tuesday 23/04/24	PRACTICALS: Batch A: Bio Dr. Batch B: Phy Dr. Batch C: Histo Dr.		Histo-L1 Histology of lymphoid tissues Dr.	Physio-L11 Reticuloendothelial System-I Dr.	Physio-L12 Reticuloendothelial System-II Dr.		Physio-DSL Dr.
Wednesday 24/04/24	PRACTICALS: Batch A: Histo Dr. Batch B: Bio Dr. Batch C: Phy Dr.		Emb-L1 Embryology of lymphoid tissues Dr.	Physio-L13 Inflammation Dr.	Physio-L14 Leukemia Dr.		Bio-DSL Dr.
Thursday 25/04/24	8:00am to 9:00 am	9:00am to 10:00 am	Bio-L11 Immunoglobulins/Antibodies Dr.	Physio-L17 Immune Response Dr.	Physio-L18 Humoral and cell mediated immunity Dr.	B R E A K	PRIME-L5 Operational Definitions Dr.
	Physio-L15 Introduction to Immunity Dr.	Physio-L16 Immune System Prof. Dr.					
Friday 26/04/24	Islamiyat-L3 Ethics Definition & Importance Mr.	IT Skills-L3 Power Point Engr. Engr.	Physio-L19 Complement System Dr.	Physio-L20 Allergy & Hypersensitivity Dr.	C. Med-L2 Vaccinology Dr.		SDL (SLRC/Library)

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SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE FOR BLOOD MODULE (1st Year MBBS) SESSION 2023-24
WEEK-4

THEME 3/4: EXCESSIVE BLEEDING/TRANSFUSION REACTIONS

Days	8:00 to 10:00 am		10:00 to 11:00 am	11:00am to 12:00 pm	12:00 to 1:00 pm		1:30pm to 2:30 pm
Monday 29/04/24	<u>PRACTICALS:</u> Batch A: Phy Dr. Batch B: Histo Dr. Batch C: Bio Dr.		Physio-L21 Introduction to hemostasis Dr.	Physio-L22 Blood Coagulation Dr.	Physio-L23 Bleeding disorders Dr.	P R A Y E R S	Anatomy-DSL Dr.
Tuesday 30/04/24	<u>PRACTICALS:</u> Batch A: Bio Dr. Batch B: Phy Dr. Batch C: Histo Dr.		Physio-L24 Thrombotic disorders Dr.	Pharma-L2 Coagulation modifying drugs Dr.	Physio-L25 Blood Grouping Dr.		Biochemistry-DSL Dr.
Wednesday 01/05/24	PUBLIC HOLIDAY						
Thursday 02/05/24	<u>PRACTICALS:</u> Batch A: Histo Dr. Batch B: Bio Dr. Batch C: Phy Dr.		Physio-L26 Transfusion reactions Dr.	IT Skills-L4 Electronicall y file keeping Engr.	Physio-L27 Erythroblastosis Fetalis Dr.	B R E A K	Physiology-DSL Dr.
Friday 03/05/24	8:00 to 9:00 am	9:00 to 10:00 am	Physio-L28 Major Histocompatibility complex Dr.	F. Med-L1 Medicolegal Importance of blood groups Dr.	PRIME-L6 Teamwork Dr.		SDL (SLRC/Library)
	Islamiyat-L4 Objectives of Islamic Sharia & human health Mr.	SDL (SLRC/Library)					

Note: the timetables are tentative and final versions are always shared before the start of the module

SWAT MEDICAL COLLEGE
DEPARTMENT OF MEDICAL EDUCATION
TIME TABLE FOR BLOOD MODULE (1st Year MBBS) SESSION 2023-24
WEEK-5

Days	8:00to 10:00 am	10:00am to 12:00 pm	12:00pm to 2:00 pm
Monday 06/05/24	<u>SGDs:</u> Batch A: Phy Dr. Batch B: Histo Dr. Batch C: Bio Dr.	<u>SGDs:</u> Batch A: Bio Dr. Batch B: Phy Dr. Batch C: Histo Dr.	<u>SGDs:</u> Batch A: Histo Dr. Batch B: Bio Dr. Batch C: Phy Dr.
Tuesday 07/05/24	SELF STUDY SDL (SLRC/Library)		
Wednesday 08/05/24	Block A Written Test		
Thursday 09/05/24	Block A OSPE (Batch A & C)		
Friday 10/05/24	Block A OSPE (Batch B & D)		

Note: the timetables are tentative and final versions are always shared before the start of the module

12. For inquiry and troubleshooting



Please contact

Associate Professor Dr. Obaid Ur Rahman 0344-1467799 dr.obaid421@gmail.com
Department of Biochemistry
Swat Medical College

13. Module Evaluation Form

This is an example of feedback form and real-time feedback will be obtained through an electronic link and/or your LMS.

MBBS Year: _____ Block: _____ Module: _____

Date: _____

1. (Unsatisfactory) 2 (Fair) 3 (Satisfactory) 4 (Good) 5 (Excellent)

Category: Course Contents

No.	Question	1	2	3	4	5
1	To what extent did the course contents align with the stated learning objectives of the module?					
2	How clear and comprehensive were the course materials provided in this module?					
3	Were the core topics adequately covered, ensuring a well-rounded understanding of the subject?					
4	How current and up-to-date were the course contents in reflecting recent advancements?					
5	Did the module incorporate real-world applications and case studies effectively?					
Category: Learning Resources						
6	Were the learning resources (e.g., textbooks, online materials, laboratory facilities) readily available and easily accessible?					
7	How helpful were additional learning resources such as supplementary readings or multimedia content?					
8	Did the module offer adequate support for research and independent study?					
9	Were digital resources and online platforms effectively utilized to enhance the learning experience?					
10	Were there sufficient opportunities for hands-on practice and practical application of knowledge?					
Category: Teaching Methods						
11	How well did instructors engage with students and create a supportive learning environment?					
12	Were diverse teaching methods (e.g., lectures, group discussions, simulations) effectively employed?					
13	How responsive were instructors to questions, concerns, and feedback from students?					
14	To what extent did instructors provide timely and constructive feedback on assignments and assessments?					
15	Were opportunities for collaborative learning and peer-to-peer interactions encouraged and facilitated?					
Category: Engagement and Motivation						
16	To what extent did the module use real-world examples and practical applications to engage students?					
17	How well were active learning techniques (e.g., problem-solving, case studies) integrated into the curriculum?					
18	Did the module provide opportunities for students to pursue their individual interests within the subject matter?					

19	Were assessments designed to challenge and motivate students to excel in their studies?					
Category: Inclusivity and Diversity						
20	How well did the module accommodate different learning styles and preferences among students?					
21	Were efforts made to include diverse perspectives, cultures, and backgrounds in the curriculum?					
22	How effectively were accommodations provided for students with varying levels of prior knowledge?					
Category: Overall						
No.	Question	1 (Very Poor)	2 (Poor)	3 (Fair)	4 (Good)	5 (Excellent)
23	How would you rate the overall quality of this module?					

14. Students Diary/Notes

[illegible]

PROGRESS: _____

ACHIEVMENT: _____