3rd Year MBBS

Study Guide

Integrated Modular Curriculum

Hematology and Immunology Module- V
2023

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Hematology And Immunology Module Team

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Reviewby : Module Committee

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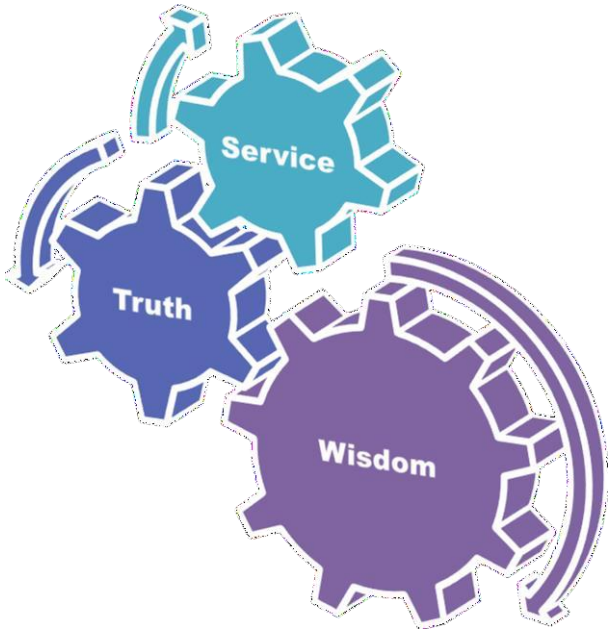
RMU Motto



Mission Statement

To impart evidence-based research-oriented health professional education in order to provide best possible patient care and inculcate the values of mutual respect, ethical practice of healthcare and social accountability.

Vision and Values

Highly recognized and accredited centre of excellence in Medical Education, using evidence-based training techniques for development of highly competent health professionals, who are lifelong experiential learner and are socially accountable.

Goals of the Undergraduate Integrated Modular Curriculum

The Undergraduate Integrated Learning Program is geared to provide you with quality medical education in an environment designed to:

- Provide thorough grounding in the basic theoretical concepts underpinningthe practice of medicine.
- Develop and polish the skills required for providing medical services at all levels of the Health care deliverysystem.
- Help you attain and maintain the highest possible levels of ethical and professional conduct in your futurelife.
- Kindle a spirit of inquiry and acquisition of knowledge to help you attain personal and professional growth &excellence.

Module –

Hematology and Immunology Module

Introduction: Hematology and Immunology module provides integration of core concepts that underlie the basic science/pathology of hematological diseases and their use in clinical medicine. This will eventually lead to develop critical thinking for integration and application of basic knowledge for clinical application.

Rationale: The Hematology and Immunology module is designed to impart basic knowledge about Pharmacology, Pathology, Forensic Medicine, Community Medicine, Pediatrics, family medicine, Gynaecology, Psychiatry & Medicine . This knowledge will serve as a base on which the student will construct further knowledge about the etiology, pathogenesis and prevention of diseases; the principles of their therapeutics and management.

Module Outcomes

Each student will be able to:

Knowledge

Acquire knowledge about the basic terminologies used in Pharmacology, Pathology & Forensic Medicine as well as the concepts of diseases in the community

Appreciate concepts & importance of

- Research
- Biomedical Ethics
- Family Medicine
- Use technology based medical education including Artificial Intelligence.

Skills

Interpret and analyze various practical of Pre-clinical Sciences

Attitude

Demonstrate a professional attitude, team building spirit and good communication skills

This module will run in 5 weeks & 4 days duration. The content will be covered through introduction of topics. Instructional strategies are given in the time table and learning objectives are given in the study guides. Study guides will be uploaded on the university website. Good luck!

Section I –

Terms & Abbreviations

Contents

Tables & Figures

Table1. Domains of learning according to Blooms Taxonomy

Sr. #	Abbreviation	Domains of learning
1.	C	Cognitive Domain: knowledge and mental skills.
	C1	Remembering
	C2	Understanding
	C3	Applying
	C4	Analyzing
	C5	Evaluating
	C6	Creating
2.	P	Psychomotor Domain: motor skills.
	P1	Imitation
	P2	Manipulation
	P3	Precision
	P4	Articulation
	P5	Naturalization
3.	A	Affective Domain: feelings, values, dispositions, attitudes, etc
	A1	Receive
	A2	Respond
	A3	Value
	A4	Organize
	A5	Internalize

Large Group Interactive Session (LGIS)

The large group interactive session is structured format of Prof Umar Model of Integrated lecture. It will be followed for delivery of all LGIS. Lecturer will introduce a topic or common clinical condition and explains the underlying phenomena through questions, pictures, videos of patients, interviews and exercises, etc. Students are actively involved in the learning process.

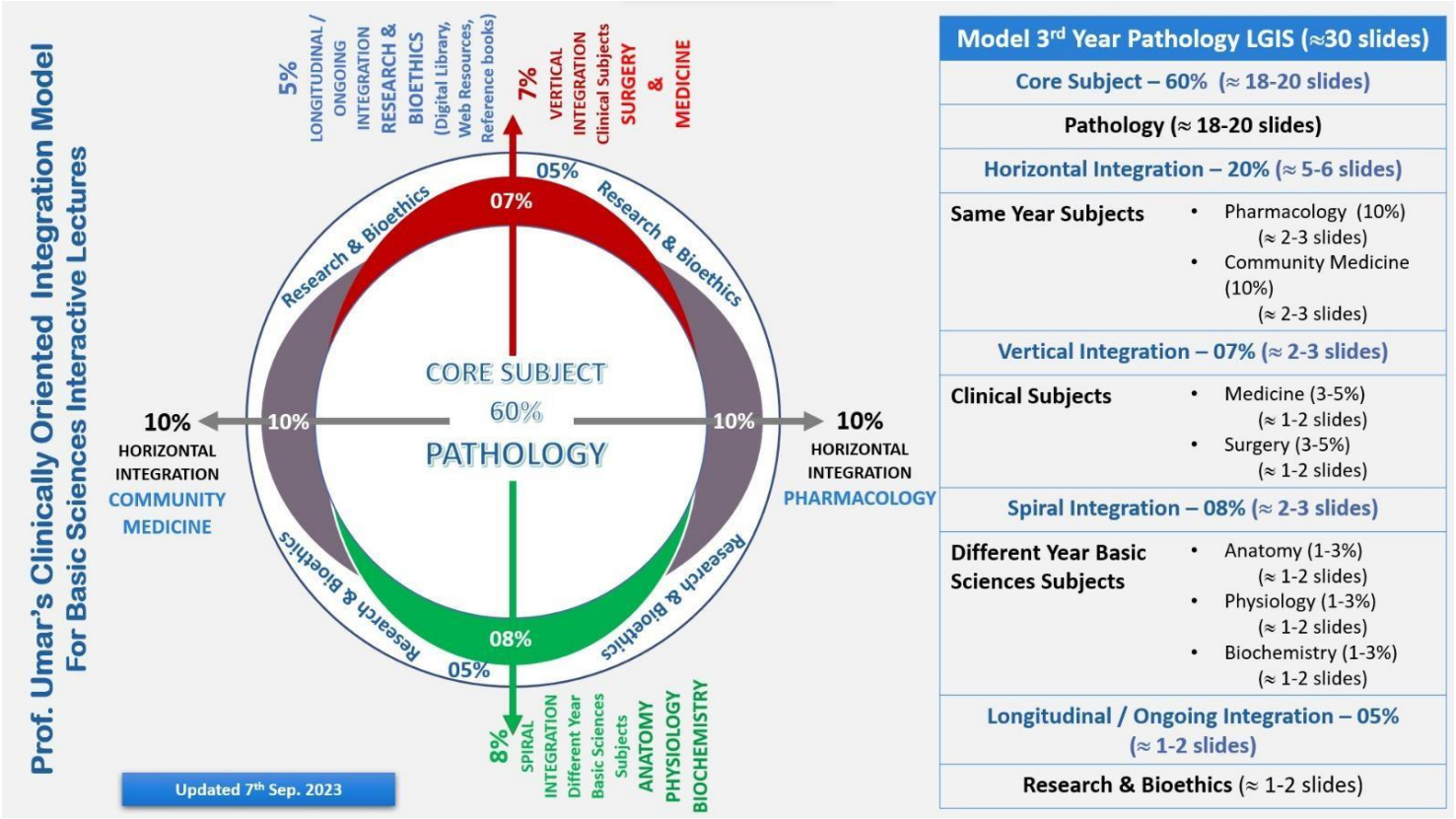


Figure 1. Prof Umar's Model of Integrated Lecture

Small Group Discussion (SGD)

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

Table 2

Standardization of teaching content in Small Group Discussions

S.No	Topics	Approximate %
1	Title Of SGD	
2	Learning Objectives from Study Guides	
3	Horizontal Integration	5%+5%=10%
4	Core Concepts of the topic	60%
5	Vertical Integration	20%
6	Related Advance Research points	3%
7	Related Ethical points	2%

Table 3

Steps of taking Small Group Discussions

Step 1	Sharing of Learning objectives by using students Study guides	First 5 minutes
Step 2	Asking students pre-planned questions from previous teaching session to develop co-relation (these questions will be standardized)	5minutes
Step 3	Students divided into groups of three and allocation of learning objectives	5minutes
Step 4	ACTIVITY: Students will discuss the learning objectives among themselves	15 minutes
Step 5	Each group of students will present its learning objectives	20 min
Step 6	Discussion of learning content in the main group	30min
Step 7	Clarification of concept by the facilitator by asking structured questions from learning content	15 min
Step 8	Questions on core concepts	
Step 9	Questions on horizontal integration	
Step 10	Questions on vertical integration	
Step 11	Questions on related research article	
Step 12	Questions on related ethics content	
Step 13	Students Assessment on online MS teams (5 MCQs)	5 min
Step 14	Summarization of main points by the facilitator	5 min
Step 15	Students feedback on the SGD and entry into log book	5 min
Step 16	Ending remarks	

Self-Directed Learning (SDL)

- Self- directed learning is a process where students take primary charge of planning, continuing and evaluating their learning experiences.
- Time Home assignment
- Learning objectives will be defined
- Learning resources will be given to students : Text book (page no), web site
- Assessment: Will be online on LMS (Mid module/ end of Module)

Case Based Learning (CBL)

- It's a learner centered model which engages students in discussion of specific scenarios that resemble typically are real world examples.
- Case scenario will be given to the students
- Will engage students in discussion of specific scenarios that resemble or typically are real-world examples.
- Learning objectives will be given to the students and will be based on

i. To provide students with a relevant opportunity to see theory in practice
ii. Require students to analyze data in order to reach a conclusion.
iii. Develop analytic, communicative and collaborative skills along with content knowledge.

Section II-

Learning Objectives, Teaching Strategies & Assessments

Contents

Learning Objectives

Week 1 and 1 day						
Code No	Topic	Discipline	At the end of the lecture student should be able to	C/P/A	Teaching strategy	Assessment tools
L1	FIREARM I	Forensic	Define firearm injuries and describe the classification of firearms and ballistics. Describe the structure of a ammunition of a firearm/bullet. Briefly describe the structure of a firearm along with its mechanism of action.	C1 C2 C2	LGIS	MCQs, SEQs, OSPE,viva
L2	Prescription writing& Common errors in prescription writing	Medical ethics	Identify the essential components of a prescription Identify common errors in prescription writing and their reasons Correlate the importance of prescription elements in minimizing prescription errors Describe the role of prescription audit in evaluating the pattern and errors in hospitals Demonstrate an ability to write a correct hand-written prescription Define polypharmacy Rationalize the use of polypharmacy in different conditions Discuss the consequences of polypharmacy	C1 C1 C3 C2 C1 C1 C3 C2	LGIS	MCQs
L3	Pharmacovigilance & role of CTU in drug development	Medical ethics	Define pharmacovigilance Identify the purpose of pharmacovigilance Discuss the adverse effect reporting process for health care professionals Enlist the tools that can be used for ADR reporting in Pakistan Recognize the role of DRAP in identification and reporting of ADR Describe the role of CTU in drug development process	C1 C1 C2 C1 C2 C2	LGIS	MCQs, SEQs,OSPE,Viva
S1	Haemopoietic growth factors	Pharmacology	Tabulate the “Haematopoietic Growth Factor” Describe mechanism of action, uses & adverse effects of Epoietin Describe mechanism of action, uses & adverse effects of G-CSF analogs	C1 C2 C2	SGD	MCQ/SEQ
L4	Introduction to Haematolgy and classification of Anemia	Pathology	Explain functional capabilities of hematopoietic stem cells Describe the maturation sequence in the development of RBCs, WBCs and platelets and the key growth factor affecting them Define anemia and classify anemia according to morphological and etiological causes Explain iron metabolism. Describe pathogenesis of iron deficiency aneamia Differentiate Diagnoses of Microcytic Hypochromic Anemia	C1 C2 C2 C1 C2 C1 C2 C3	LGIS	MCQs, SEQs,OSPE
L5	Obsessive Compulsive Disorder (OCD)	Behavioral Sciences	Define OCD according to ICD-11 diagnostic criteria Enlist the etiological and epidemiological factors causations of disease Enumerate relevant investigations for diagnosis of OCD Discuss the relevant investigations and differential diagnosis of OCD and its brief management plan	C1, C1, C2 C3	LGIS	MCQ/SEQ
L6	Megaloblatic Anemia	Pathology	Define pancytopenia and its causes, Classify macrocytic anemia according to etiological causes Explain B12 metabolism. Describe pathogenesis of Megaloblastic aneamia Lab Diagnosis of megaloblastic Anemia	C1 C2 C1 C2	LGIS	SEQS, MCQs, OSPE
L7	Iron deficiency Anemia	Paediatrics	Discuss causes of Iron deficiency	C1	LGIS	MCQs,SEQs

			Discuss Clinical Features and investigations Make plan of Treatment	C3 C2		
L8	Introduction To Immunology and Cellular Basis of Immune Response	Pathology /immunology	Discuss main functions of immune system. Differentiate between innate & acquired immunityDifferentiate between cell mediated and antibody mediated immunity. Discuss types of active & passive immunity. Discuss origin, development & differentiation of cell lineages. Discuss activation & inhibition of T cells. Discuss functions and maturation of B cells.	C2 C2 C2 C2 C2 C2	LGIS	MCQs, SEQs,OSPE
L9	FIREARM-II	Forensic medicine	Describe the terminal ballistics effects on the body of a victim in case of various types of firearms and ranges Define various terms related with firearms, smooth bored weapons and riffled firearm	C2 C1	LGIS	MCQs, SEQs,OSPE
L10	Hemolytic Anemia classification & acquired hemolytic anemias	Pathology /Heme	Describe general features of haemolytic anaemia Classify hemolytic anemia Describe the pathogenesis and morphological findings in hemolytic anemia Enlist lab diagnosis of hemolytic anemia	C2 C3 C2 C2	LGIS	SEQS, MCQs, OSPE
C1	MEGALOBLASTIC ANEMIA	Pathology /Heme	Enlist types of macrocytic anaemias Explain vitamin B12 and folate metabolism. Enumerate causes of vitamin B12 and folate deficiency. Identify clinical features of megaloblastic anemia Describe the lab diagnosis of megaloblastic anemia	C1 C2 C1 C3 C3	CBL	C1
L11	HEMATINICS	Pharmacology	-- Describe pharmacokinetics of Iron, Vitamin B12 and Folic Acid Explain the indications of iron, folic acid& Vitamin B12 for treatment of anemia.	C2 C2	LGIS	MCQs SEQ
L12	FIREARM-III	Forensic medicine	Describe the special findings to be noted in a victim of smooth bore firearm w.r.t distance and direction. Briefly explain the autopsy findings in firearm victims. State the method of collection and disposal of firearm entities	C2 C2 C2	LGIS	
L13	RBC Membranopathies & enzymopathies	Pathology/heme	correlate mode of inheritance, pathogenesis and lab diagnosis of hereditary spherocytosis. correlate the Inheritance pattern, pathogenesis and lab diagnosis of heamolysis due to G6PD deficiency. Describe the genetic basis, pathogenesis and lab diagnosis of heamolysis due to sickle cell anemia Classify and describe pathogenesis and lab diagnosis of warm and cold antibodies immune haemolyticanaemias	C3 C3 C2 C3	LGIS	MCQs&SEQ
L14		Quran studies				
C 2	Hematinics	Pharmacology	Describe iron toxicity and its mechanism	C2	CBL	MCQs, SEQs,OSPE
L15	Lipid lowering drugs I	Pharmacology	Classify anti hyper-lipidemic drugs Explain the mechanism of action of HMG-CoA reductase inhibitors in the treatment of hypercholesterolemia	C1 C3		
L16	Antigen antibodry reaction	Pathology /immunology	Discuss the serological test used in diagnosis of infectious diseases Discuss the serological test used in diagnosis of autoimmune diseases Discuss the basis of Rh incompatibility	C2 C2 C2	LGIS	MCQs/SEQs
L17	Lipid lowering drugs II	Pharmacology	Discuss MOA, pharmacological effects, therapeutic uses &adverse effects of nicotinic acid, fibrates and bile acid binding resins	C1	LGIS	MCQs, SEQs

			Enlist & discuss the combinations therapies used in different conditions of hyperlipidemias	C2		
S- 2	Antibody and compliment system	Pathology	Discuss antibody structure & classes. Discuss variations of antibodies; isotypes, allotypes & idiotypes. Discuss genes of antibodies. Discuss antibody class switching. Outline pathways, activation and regulation of complement system. Identify inherited and acquired deficiency of complement component	C2 C2 C2 C2 C1 C3	SGD	MCQs, SEQs,OSPE
L18	Pathogenesis and lab diagnosis of thalassemia	Pathology/heme	Define and classify various types of Thalassemia. Correlate the genetic basis/ Inheritance pattern and pathogenesis of Thalassemia. Describe the lab diagnosis of thalassemia	C3 C3 C2	LGIS	MCQs, SEQs,OSPE
C3	Lipid lowering drugs iii	Pharmacology	Discuss MOA, pharmacological effects, therapeutic uses &adverse effects of nicotinic acid, fibrates and bile acid binding resins Enlist & discuss the combinations therapies used in different conditions of hyperlipidemias	C2 C2	CBL	MCQs, SEQs,OSPE
P1	Prescription and p drugs of iron deficiency anemia	Pharmacology	Prescription and p drugs of iron deficiency anemia		The student will be able to write treatment of iron deficiency anemia	lip OSPE
P2	firearm injuries	Forensic Medicine	Identify different types of firearm weapons and their parts including cartridge and bullet. Identify and differentiate between entry and exit wounds of firearm injury. Identify `different characteristics of firearm injuries both in living and dead	Identify firearm injuries and calculate range of shot made by smooth bored and rifled firearm P3	The student will be able to manage a case of firearm injury.A3	MCQS,VIVA,OSPE
P3	RBC Morphology	Pathology	Enlist the changes in shape and size of RBCS in the peripheral blood films in different cases of anemias.	- Enlist RBC inclusion P3	Identify the peripheral smear findings in different types of anemia A3	MCQs, OSPE

Week 2						
Code No	Topic	Discipline	At the end of the lecture student should be able to	C/P/A	Teaching Strategy	Assessment tool
L20	Approach and workup of anemia	Pathology	Define Anemia Classify Anemia (microcytic, macrocytic, normocytic) Describe clinical presentation of different types of anemia= Discuss Investigation plan according to the type of anemia Discuss management of anemia according to the type	C1 C2 C2 C2 C3	LGIS	MCQs, SEQs,OSPE
L21	Thalassemia	Paediatrics	Define Thalassemia Identify the types and pathophysiology Describe the clinical features Discuss the management of Thalassemia and its complications	C2 C1 C2 C2 C2	LGIS	MCQs,SEQs,OSPE
L 22	MHC and Transplantation	Pathology /immunology	Discuss origin, type, structure & biological importance of MHC proteins Explain mechanisms of tissue transplant rejection. Explain graft versus host reaction and its types. The input of test used in blood group and HLA typing of Describe different methods of reducing rejection of transplanted tissues	C1 C2 C2 C3 C3	LGIS	MCQs, SEQs,OSPE
L23	Firearm – IV	Forensic Medicine	-Describe the special findings to be noted in a victim of rifled w.r.t distance and direction. Briefly explain the autopsy findings in firearm victims. State the method of collection and disposal of firearm entities	C2 C2 C2	LGIS	MCQs, SEQs,OSPE
S-3	Aplastic Anemia	Pathology	Enlist causes of pancytopenia Describe the pathogenesis and lab diagnosis of aplastic anaemia Outline types of bone marrow transplant its procedure and complications.	C1 C2 C2	SGD	MCQ,VIVA, OSPE
L24	Aplastic Anemia	Paediatrics	- Define Aplastic anemia Enlist the etiology and types Describe the pathophysiology and clinical features Make differential diagnosis Enumerate complications Manage according to the causes	C1 C2 C2	LGIS	MCQs, SEQs,OSPE
L25	Blast Injuries	Forensic Medicine	Define blast Injuries and classify its types. Briefly describe the autopsy finding in different types of blast injuries. State the medico-legal importance of blast injuries	C1 C2 C2	LGIS	MCQs, SEQs,OSPE
CBL 3	Hypersensitivity Reaction I and II	Pathology /immunology	- Define hypersensitivity. Define type- 1 immediate hypersensitivity. Discuss mediators involved and their effects. Define type- II hypersensitivity. Discuss different antibody -dependent mechanisms with examples. Discuss clinical manifestations of hypersensitivity Correlate clinical presentation of hypersensitivity diseases with underlying pathogenic mechanisms	C1 C1 C2 C1 C2 C3 C3	CBL	MCQs&SEQ
CBL 4	Hypersenstivity Reaction TypeIII and IV	Pathology /immunology	Define type III hypersensitivity. Discuss local immune complex disease. Discuss systemic immune complex disease. Define and discuss type IV hypersensitivity Correlate clinical presentation of hypersensitivity diseases with underlying	C1 C2 C2 C2 C3	CBL	MCQs, SEQs,OSPE

			pathogenic mechanisms			
L26		QURAN STUDIES				
L27	Management Of Hypersensitivity Reactions	Medicine	Explain pathogenesis of Hypersensitivity reaction. Classify Hypersensitivity reactions. Describe general approach to the allergic patient in view of clinical assessment, investigation and management. Enlist cause of anaphylaxis, Describe approach to patient in view of clinical assessment, investigation and management. Recognize other common allergic conditions like angioedema, specific allergens and c1 inhibitor deficiency.	C2 C2 C2 C1 C1	LGIS	MCQs, SEQs
L 28	Mechanical injuries – I (Abrasion & Bruise	Forensic Medicine	Define mechanical injury and describe the classification of mechanical injuries Briefly describe the mechanism of production of a mechanical injury. Explain the different types of Abrasions and Bruise\ contusion. Briefly state the method of duration or age estimation of an injury with respect to type of injury. Describe the medicolegal importance of age estimation of an injury	C1 C2 C2 C3 C2	LGIS	MCQs/SEQs
L 29	Anemia in Pregnancy	Obstetrics and gynaecology	Define anemia in pregnancy Enlist causes of anemia Describe pathophysiology of anemia Enlist effects of anemia on mother and fetus Classify anemia in pregnancy Enlist basic and advanced investigations Differentiate types of anemia Select the appropriate treatment plan Formulate the management plan	C1 C1 C2 C2 C2 C3 C4 C5 C6	LGIS	OSPE,MCQS
SGD 4	Immune Tolerance And Autoimmunity.	Pathology /immunology	Explain basis of immunologic tolerance. Describe mechanisms of autoimmunity Describe general patterns of autoimmune diseases. Differentiate between various autoimmune	C2 C2 C2 C3	SGD	MCQs,SEQ,Viva
L30	Immunosup pressant drugs I	pharmacology	Enlist immune-suppressants Describe the mechanism of action of different immune-suppressants	C2 C2	LGIS	MCQs,OSPE
L31	Host Defense	Community medicine	Differentiate between active & passive immunity Categorize the primary & secondary immune response Compare between humoral & cellular immunity Illustrate the combine humoral & cellular response Differentiate between herd & ring immunity	C4 C4 C5 C3 C3	LGIS	MCQs, SEQs,OSPE
L32	Immunodeficiency	Pathology	Discuss congenital immunodeficiencies of B, T cells and complement system Discuss acquired immunodeficiencies of B & T cells and complement system	C2 C2	LGIS	MCQS
P4	P drug & Prescription writing(Dyslipidemia)	Pharmacology			The student will be able to write treatment for dyslipidemias	OSPE
P5	Assessment of burn victim	Forensic Medicine and Toxicology	Enlist and debate on the laws in relation to burns Distinguish between antemortem and post-mortem burns. Diagnose the manner of death in case of burns. (suicidal, homicidal and accidental)Explain the autopsy findings of burn victim State the role of medicolegal officer in case of receiving burnt dead body	C1 C2 C2 C2	.CBL/SGD	OSPE

P6	Lab diagnosis of hemolytic anemia	Pathology	Enlist investigations of hemolytic anemia Enlist peripheral smear findings of hemolytic anemia	Identify peripheral smear findings in different cases of hemolytic anemia P2	Identify RBC inclusions on peripheral smearA3	OSPE

Week 3						
Code No	Topic	Discipline	Knowledge	Skill	Attitude	MOA
L-32	WBC disorder and classification of leukemia	Pathology	Discuss disorders involving increase or decrease in different types of WBC. Classify acute and chronic leukemia Differentiate between the clinical presentation of different leukemias	C2 C3 C3	LGIS	MCQs, SEQs,OSPE
CBL 5	Acute Leukemia	Pathology	Define leukemia and enumerate its causes. Explain Role of oncogenes and tumour suppressor genes. Describe clinical features of acute leukaemia.	C1 C2 C3	CBL	MCQs, SEQs,OSPE
L33	Chronic Leukemia	Pathology	Define leukemia and enumerate its causes. Explain Role of oncogenes and tumour suppressor genes. Describe clinical features of acute leukaemia.	C1 C2 C3	LGIS	MCQs, SEQs,OSPE
L34	Myeloproliferatice Diseases	Medicine	Define and classify myeloproliferative disorders (acute, chronic , polycythemia rubravera, myelofibrosis, essential thrombocythemia) Differentiate between different myeloproliferative disorders Discuss investigations and management of Myelo proliferative disorders	C2 C2 C3	LGIS	MCQs, SEQs,OSPE
L35	Myeloprolifertive disease/Myelodysplastic syndrome	Pathology	Outline the salient feature and lab investigation of Polycythemia, Essential Thrombocythemia, Myelofibrosis Describe Myelodysplastic syndrome	C2 C2	LGIS	MCQs, SEQs,OSPE
S- 6	Chronic leukemia	Pathology	Describe clinical features of chronic leukemias Interpret lab diagnosis of chronic Myelofibrosis and Lymphoid Leukaemias	C2 C2	SGD	MCQs, SEQs,OSPE
L36	Mechanical injuries – II (Laceration & Incised Wounds)	Forensic Medicine	Describe and differentiate between the features of lacerated wound and incised wound Briefly describe the types of laceration. Differentiate between incised & lacerated wounds. State the medico-legal importance of both incised and lacerated wound	C2 C2 C2 C2 C2	LGIS	MCQs, SEQs,OSPE
L37	Lymphoproliferative Diseases	Medicine	Classify leukemias Differentiate between leukaemia and lymphoma, recognise risk factors Recognize types of lymphoma and Staging Describe investigation plan Discuss prognosis	C2 C2 C3 C2 C3	LGIS	MCQs,SEQs, OSPE
L38	ALL/Lymphoma	Peads	Define lymphoma and ALL Briefly describe clinical features Discuss plans of investigations Make treatment plan Briefly discuss about chemotherapy and radiotherapy	C1 C2 C2 C3 C2	LGIS	MCQs,SEQs
L39	QURAN STUDIES					
L40	Immunosuppressant drugs II	Pharmacology	Discuss the salient features of pharmacokinetic profile of different immune-suppressants	C2	LGIS	C2 MCQs/SEQs
SGD-7	Immunosuppressant drugs III	Pharmacology	Enumerate the clinical indications and adverse effects of use of immune-suppressants	C2	SGD	SEQS, MCQs, OSPE
L41	Mechanical injuries – III (Punctured and stab wound)	Forensic Medicine	. Describe the different types of punctured wound with calculation of age of a punctured wound. Briefly describe the features of Stab wound State the medico-legal importance of Punctured and Stab wound.	C2 C2 C2	LGIS	MCQs, SEQs
CBL-6	Multiple myeloma	Pathology	Outline lab diagnosis of multiple myeloma Describe prognosis of multiple myeloma. Describe pathogenesis and morphology of multiple myeloma Correlate clinical history with lab findings in a patient with multiple myeloma	C2 C2 C2 C3	CBL	MCQs, SEQs,OSPE
CBL-	Immunosuppressant drugs	Pharmacology	Clinic pharmacology of immunosuppressant drugs	C3	CBL	MCQs, SEQs,OSPE

7	IV		Rationale of using immunosuppressant in specific scenario	C3		
L-42	Lymphoma	Pathology	Classify lymphoid neoplasms. Describe the etiology, pathogenesis, classification and various types of Hodgkin lymphoma. Describe the etiology, pathogenesis, classification and various types of non Hodgkin lymphoma.	C1 C2 C2	LGIS	MCQs, SEQs,OSPE
L43	Immunizing agents	Community medicine	Memorize all types of immunizing agents Differentiate between functions of different types of immunoglobulins Recognize different types of vaccines, their storage & administration Describe the comparison ofkilled & live vaccines Describe cold chain & its equipment Enlist the vaccines required cold chain Recall the uses of antisera or antitoxins Identify the vaccines vial monitor Describe the correct storage & use of diluents in vaccines	C1 C3 C2 C2 C2 C1 C2 C3 C2	LGIS	MCQs, SEQs,OSPE
P7	P drug & prescription writing, IHD	Pharmacology	P drug & prescription writing for IHD s in children and adults	C3		OSPE
P8	Mechanical injuries Self inflicted & Defense Wound	Forensic medicine & Toxicology	Preparation of MLC/autopsy report by Observing different types of self inflicted and defense injuries. Diagnosis of common sites and features of self-inflicted injuries Self inflicted & Defense Wound	Preparation of MLC/autopsy report by observing different types of injuries and fractures	Manage a medicolegal case of self-inflicted & defense injuries. Apply the knowledge for classification of the type of injury	OSPE
P9	Benign WBC Morphology	Pathology	Enlist morphological features of WBC in benign WBC disorders	- Focus the slide on microscope P3 Identify different WBCsP3	Identify the morphological features of WBC in a peripheral smear from a case of benign WBC disorder.A3	OSPE,VIVA

Week 4						
Code No	Topic	Discipline	Knowledge	C/P/A	Teaching Strategy	Assessment tool
L44	Bleeding disorders of secondary haemostasis	Pathology	Classify inherited and acquired coagulation disorder.C1 Discuss pattern of inheritance and clinical features and lab diagnosis of vWD. C2	C1 C2	LGIS	C2 MCQs/SEQs
L45	Antiplatelet, drugs I	Pharmacology	Revise the role of platelets in the coagulation Classify anti-platelet drugs. Discuss the mechanism of action of various groups of antiplatelet drugs Describe the clinical uses &adverse effects of different anti-platelet drugs	C1 C2 C2 C2	LGIS	C2 MCQs/SEQs
CBL-7	Antiplatelet, drugs II	Pharmacology	Enumerate thrombolytic drugs Describe the mechanism of action, indications & adverse effects of thrombolytic (fibrinolytic) agents	C3 C3	CBL	MCQs,OSPE,Viva
CBL-8	Haemophilia / ITP	Pathology	Discuss pattern of inheritance, clinical features and diagnosis of hemophilia A and B Describe the pathogenesis and lab diagnosis of idiopathic thrombocytopenic purpura (ITP).	C2 C2	CBL	C3 PBQ
L46	Anticoagulants I	Pharmacology	Outline the mechanism of hemostasis &coagulation pathways &trace the role of coagulating factors &platelets in it Classify anticoagulant drugs Describe the mechanism of action of heparin Tabulate the difference between un-fractionated heparin &low molecular weight heparin Summarize the indications, precautions & potential adverse effects of heparin Enumerate direct thrombin inhibitors	C2 C1 C2 C3 C2 C2	LGIS	MCQs, SEQs
L47	Road traffic Accidents	Forensic medicine	Describe injuries to pedestrian, injuries sustain by motorcyclist and injuries sustained by occupant of a vehicle. Define terms like Bird foot injury, waddle's triad and Dicing injuries	C2 C1	LGIS	MCQs, SEQs, OSPE
L48	hemophilia	Paediatrics	Define Hemophilia Discuss the pattern of inheritance Enlist the types and classify according to severity Describe the clinical features and complications Discuss Management plan and prophylaxis		LGIS	
L49	Adverse effects following immunization	Community Medicine	Define AEFI Describe common , minor vaccines reaction Explain rare, more serious vaccine reactions Memorize case definitions of AEFI Describe the treatment of AEFI Recognize the anaphylaxis Describe error-related reactions Illustrate anxiety-related reactions Identify coincidental events after immunization Enlist the precautions to be taken during immunization Investigate AEFI	C1 C2 C2 C2 C2 C2 C2 C2 C3 C1 C1 C2	LGIS	C2 MCQs/SEQs
L50	Bleeding Disorders	Medicine	Enumerate causes of bleeding disorders (thrombocytopenia, platelet function disorders, von will brand disease, diseases affecting vessel wall) Differentiate between different bleeding disorders	C2 C2 C2	LGIS	MCQs,SEQs,VIVA

			Discuss investigation	C2		
L51		Quran class			LGIS	
L52	Injuries and law-I Qisas & Diyat	Forensic medicine	.Classify Hurt on the basis of part involved and briefly describe its types in the light of Pakistan Penal Code with their punishments. Define Itlaf-e-udw, Itlaf-e-salahiyat-e-udw, shajjah, Jurh. Classify Hurt on the basis of manner of infliction and briefly describe its types in the light of Pakistan Penal Code with their punishments	C2 C2	LGIS	C2 MCQs/SEQs
L53	Anticoagulants II	Pharmacology	Describe the mechanism of action of warfarin Outline the major drug interactions of warfarin Enlist the clinical uses of warfarin Identify the adverse effects of warfarin & suggest treatment of warfarin toxicity	C2 C2 C1 C2	SDL	MCQ, Viva
SGD-8	Anticoagulants III	Pharmacology	Identify the drugs used in the treatment of given case Discuss briefly the salient features of different agents used in this case	C2 C3	SGD	,MCQs,SEQs
L54	Bleeding disorders of secondary haemostasis	Pathology	Classify inherited and acquired coagulation disorder.C1 Discuss pattern of inheritance and clinical features and lab diagnosis of vWD. C2	C1	LGIS	C2 MCQs/SEQs
L55	Injuries and law-II Qisas & Diyat	Forensic medicine	Enlist different types of Qatal in the light of Pakistan Penal Code and their punishments. Classify different degrees of suicide. Classify criminal miscarriages and define Isqat-e-hamal and Isqat-e-Jinin in the light of Pakistan Penal Code with their punishments.	C1 C1 C1	LGIS	MCQs/SEQs
SGD 10	Tumor immunity	Pathology	• Enumerate tumor associated antigens Explain mechanism of tumour immunity Describe antitumor effector mechanisms	C1 C2 C2	SGD	MCQs, SEQs,OSPE
L56	Regional Injuries (Skull & spinal injuries) (Thoraco-abdominal injuries)	Forensic medicine	Briefly describe the head injury, scalp injury, injury to skull, injury to meninges and brain, Classify skull fractures & hemorrhages Explain the method of Coup and countercoup injures. Describe injury to spine and spinal cord.(Whiplash injury) Describe the pattern of thoraco-abdominal injuries with special account of hemothorax, pneumothorax and hemoperitonium	C2 C1 C2 C2 C2	LGIS	MCQs, SEQs,OSPE
P10	P drug & Prescription writing, DVT	Practical Pharmacology	Prescription writing and p drug for DVT	C3		OSPE
P11	Assessment of RTA Victim	Forensic Medicine	Differentiate among the various possible etiologies of Regional Injuries, and Special trauma during road traffic accidents. •Classify Transport and pedestrian injuries	Identify different injuries in RTA, Classify Transport and pedestrian injuries	Students will be able to manage a case of road traffic accidents.(RTA) A3	OSPE
P12	Malignant WBC morphology	Pathology	- Malignant WBC morphology Enlist morphological features of WBC in acute leukemia i.e. blast. C2 Enlist Morphological features of WBC in acute leukemia.e.blast chronic lymphoid and myeloid leukemia and outline features of Reed Sternberg cell C	Identify Blasts and atypical cells in a cse of acute leukemia – P3	Diagnose a case of acute leukemia on peripheral smear A3	

Week 5						
Code No	Topic	Discipline	Knowledge	C/P/A	Teaching Strategy	Assessment tool
L57	Immunization schedule	Community medicine	.Memorize the EPI schedule Enlist the diseases in EPI Describe recent advance & modification in EPI Enlist the diseases other than EPI against which vaccination is recommended Categorize the vaccination of high risk population	C2 C1 C2 C1 C4	LGIS	MCQs,SEQs,Viva,OSPE
L58	Fibrinolytic And Antifibrinolytic drugs	Pharmacology	Enumerate thrombolytic drugs Describe the mechanism of action, indications & adverse effects of thrombolytic (fibrinolytic) agents	C1 C2	LGIS	SEQS, MCQs, OSPE
SGD-11	Fibrinolytic And Antifibrinolytic drugs	Pharmacology	Name anti-fibrinolytic agents/agents used for neutralizing action of thrombolytic drugs Trace the possible interaction of fibrinolytic agents with anticoagulant(heparin) &antiplatelet drugs(aspirin)	C2 C3	LGIS	MCQs,SEQs, OSPE
L59	Non- Mechanical Injuries Starvation, Thermal Injuries & Electrocution	Forensic medicine	. Describe the pathophysiology of starvation induced injuries. Describe the forensic importance of starvation injuries. Define non-mechanical injuries and classify its types. Describe the mode of death due to thermal injuries both heat and cold injuries. Classify Injuries due to electrocution. Enlist the factors affecting the production of electrocution burns. Describe the medico-legal aspects of death due to thermal injuries and electrocution.	C1 C2 C1 C1 C2 C2 C2	LGIS	SEQS, MCQs, OSPE
S-12	Tumor immunity	Pathology	• Enumerate tumor associated antigens Explain mechanism of tumour immunity Describe antitumor effector mechanisms	C1 C2 C2	CBL	MCQs, SEQs,OSPE
L59	Hydrocyanic Acid	Forensic medicine	Briefly describe the mechanism of action of hydrocyanic acid. Mention the fatal dose, management & medico-legal importance of hydrocyanic acid. Briefly explain the autopsy findings of a victim of hydrocyanic acid poisoning	C2 C3 C2	CBL	MCQs, SEQs
L60	Life cycle of Plasmodium	PATHOLOGY	Enlist species of Plasmodium and type of malaria caused by each. Explain life cycle, transmission, epidemiology and pathogenesis of malaria Recall parasitology of protozoa (plasmodium) and vector (anopheles mosquito) Recall pathogenesis including life cycle of malarial parasite	C1 C2 C1 C1	LGIS	C2 MCQs/SEQs
L61	Sign Symptoms and Management of Malaria SEMINAR	Medicine	Discuss clinical features of malaria Discuss complications of malaria •Describe investigations •Discuss management of malaria •Discuss prevention of malaria	C2 C3 C2 C3 C2	LGIS	MCQ,SEQs,OSPE
L62	Antimalarial drugs I	Pharmacology	Revise species, life cycle of malarial parasite Give therapeutic classification & Chemical classification of anti- malarial drugs	C1 C2	LGIS	
L63	Complications of malaria	FAMILY MEDICINE	-Discuss management of complications of malaria	C2	LGIS	MCQs
L64	Antimalarial drugs II	Pharmacology	Describe MOA, pharmacokinetics, indications adverse effects of different anti-malarial agents	C2	LGIS	SEQS, MCQs, OSPE
L65	Spinal Poisons	Forensic medicine	Briefly describe the mechanism of action of spinal poison.		LGIS	MCQ/SEQ

			Mention the fatal dose, management & medico-legal importance of spinal poison. Briefly explain the autopsy findings of a victim of spinal poison	C2 C1		
L66	Antimalarial drugs III	Pharmacology	List the drugs used in chloroquine resistant malaria recommended by WHO. Summarize chemoprophylaxis of malaria	C2 C2	LGIS	MCQs,Viva
SGD-13	Leishmania & Trypanasoma	Pathology	- Explain the, Life cycle, Transmission, epidemiology and Pathogenesis of diseases caused by liesHmania species.	C2 C3	LGIS	MCQs,SEQs
SGD-14	Disorders of Spleen & Lymph Nodes	Pathology	Describe various disorders of spleen Enumerate causes of lymph node enlargement. Describe various types of acute and chronic lymphadenitis.	C2 C1 C2	LGIS	MCQs,SEQs,OSPE,Viva
L67	Hydrocyanic Acid	Forensic medicine	Briefly describe the mechanism of action of hydrocyanic acid. Mention the fatal dose, management & medico-legal importance of hydrocyanic acid. Briefly explain the autopsy findings of a victim of hydrocyanic acid poisoning	C2 C3 C2	LGIS	MCQs, SEQs
L68	Inferential Statistics & Anova	Community Medicine	By the end of lecture, students should be able to: Apply ANOVA for comparison of means in more than 2 groups Compute one way and two way ANOVA for a given data set Interpret the results of ANOVA	C3 C6 C5	LGIS	MCQs,SEQs,Viva
P13	P drug & Prescription writing(malaria)	Pharmacology	Recall the drug groups used in malaria treatment	C3		OSPE
P14	Autopsy visit	Forensic medicine	Classify the pattern of injuries in medico legal cases Define fracture. Briefly explain the mechanical forces with reference to fracture of bones. Describe the medicolegal importance of fractures. Classification of a fracture	Preparation of MLC/autopsy report by Observing different types of fractures and injuries Diagnosis of a fracture. P3	Manage a medicolegal case of self-inflicted & defense injuries. Apply the knowledge for classification of the type of injury and Observe medico-legal report preparation during field visitsl A3	OSPE
P15	ICT Devices	Pathology	- Outline the uses of ICT devices Explain the principle of ICT devices	Perform The test in laboratory step wise – C3	Demonstrate safe handling of lab equipment and follow SOPs A3	OSPE

MEDICAL ETHICS & FAMILY MEDICINE					
lecture	subject	Learning objectives	Cognition level	Teaching strategy	Assessment strategy
Prescription writing& Common errors in prescription writing	MEDICAL ETHICS	Identify the essential components of a prescription Identify common errors in prescription writing and their reasons Correlate the importance of prescription elements in minimizing prescription errors Describe the role of prescription audit in evaluating the pattern and errors in hospitals	C1 C1 C2 C3	LGIS	MCQs
Pharmacovigilance		Define pharmacovigilance Identify the purpose of pharmacovigilance Discuss the adverse effect reporting process for health care professionals	C1 C2 C2	LGIS	MCQs
Complications of malaria	FAMILY MEDICINE	Describe the complications of malaria Give management of complications of malaria	C2 C3	LGIS	MCQs

PATHOLOGY SDL

S.NO	Topic	Learning objectives	References
1	Paroxysmal Nocturnal Hemoglobinuria	At the end of SDL students should be able to understand clinical presentation and Pathogenesis of PNH	Robins Basic Pathology 10th Edition Page # 417
2	Overview of normal Immune responses	At the end of SDL students should be able to understand • The early innate immune response to microbes • The capture and display of microbial antigens • Cell-mediated immunity: activation of T lymphocytes and elimination of cell-associated microbes • Humoral immunity: activation of B lymphocytes and elimination of extracellular microbes • Decline of immune responses and immunologic memory	Robins Basic Pathology 10th Edition Page # 105-109
3	Reactive Leukocytosis	At the end of SDL students should be able to understand • Causes of reactive leukocytosis • Clinical presentation, pathogenesis, morphology of Infectious mononucleosis	Robins Basic Pathology 10th Edition Page # 426-427
4	Hodgkin Lymphoma	At the end of SDL students should be able to understand classification, Clinical presentation, pathogenesis, morphology, staging and grading of Hodgkin's Lymphoma	Robins Basic Pathology 10th Edition Page # 441-442
5	Amyloidosis	At the end of SDL students should be able to understand classification, Clinical presentation, pathogenesis and morphology of Amyloidosis	Robins Basic Pathology 10th Edition Page # 153-158

S.NO	Topic	Learning objectives	References
1	Firearm	• Define firearm injuries and describe the classification of firearms and ballistics. • Describe the structure of a ammunition of a firearm/bullet. • Briefly describe the structure of a firearm along with its mechanism of action. • Describe the terminal ballistics effects on the body of a victim in case of various types of firearms and ranges • Define various terms related with firearms, smooth bored weapons and riffled firearm	Essential:Parikhs"text book of forensic and toxicology Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas
2	Firearm (Smooth bore & Rifled firearm wounds)	• Describe the special findings to be noted in a victim of smooth bore firearm w.r.t distance and direction. • Briefly explain the autopsy findings in firearm victims. • Describe the special findings to be noted in a victim of rifled w.r.t distance and direction. • Briefly explain the autopsy findings in firearm victims. • State the method of collection and disposal of firearm entitieste the method of collection and disposal of firearm entities.	Essential:Parikhs"text book of forensic and toxicology Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas
3	Mechanical injuries Abrasion,Buise,Laceration,Incised,Punctured and stab wound	• Define mechanical injury and describe the classification of mechanical injuries • Briefly describe the mechanism of production of a mechanical injury. • Explain the different types of Abrasions and Bruise\ contusion. • Briefly state the method of duration or age estimation of an injury with respect to type of injury. Describe the medicolegal importance of age estimation of an injury. • Describe and differentiate between the features of lacerated wound and incised wound • Briefly describe the types of laceration. • Differentiate between incised & lacerated wounds. State the medico-legal importance of both incised and lacerated wound • Describe the different types of punctured wound with calculation of age of a punctured wound. • Briefly describe the features of Stab wound State the medico-legal importance of Punctured and Stab wound.	Essential:Parikhs"text book of forensic and toxicology Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas
4.	Injuries and law Qisas & Diyat	• Classify Hurt on the basis of part involved and briefly describe its types in the light of Pakistan Penal Code with their	Essential:Parikhs"text book of forensic and toxicology

		punishments. • Define Itlaf-e-udw, Itlaf-e-salahiyat-e-udw, shajjah, Jurh. Classify Hurt on the basis of manner of infliction and briefly describe its types in the light of Pakistan Penal Code with their punishments • Enlist different types of Qatal in the light of Pakistan Penal Code and their punishments. • Classify different degrees of suicide. Classify criminal miscarriages and define Isqat-e-hamal and Isqat-e-Jinin in the light of Pakistan Penal Code with their punishments.	Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas
5.	Spinal Poisons Strychnos (Nux Vomica)	• Briefly describe the mechanism of action of spinal poison. • Mention the fatal dose, management & medico-legal importance of spinal poison. Briefly explain the autopsy findings of a victim of spinal poison.	Essential:Parikhs"text book of forensic and toxicology Recommended: Principles of Forensic Medicine & Toxicology by Gautam Biswas

PHARMACOLOGY SDL

S.NO	Topic	Learning objectives	References
1.	Use of Erythropoietin in performance enhancement in athletes	At the end of the session, the students should be able to: • Identify the role of erythropoietin in performance enhancement • Explain Doping detection in sports	1. Aghadi A, Dybała E, Cuber I, Mazurek M, Białowąs E. Erythropoietin as banned substance in professional sports: effects on maximal aerobic capacity, endurance and detection methods-a review. Journal of Education, Health and Sport. 2023 Feb 15;13(3):331-6. 2. Heuberger J. *The clinical pharmacology of performance enhancement and doping detection in sports* (Doctoral dissertation, Leiden University). 3. Dahlgren AR, Knych HK, Arthur RM, Durbin-Johnson BP, Finno CJ. Transcriptomic Markers of Recombinant Human Erythropoietin Micro-Dosing in Thoroughbred Horses. Genes. 2021 Nov 24;12(12):1874.
2.	Use of rivaroxiban in Covid-19	• Compare the efficacy and safety of therapeutic versus prophylactic anticoagulation in Covid 19	1. Lopes RD, Furtado RH, Macedo AV, Bronhara B, Damiani LP, Barbosa LM, de Aveiro Morata J, Ramacciotti E, de Aquino Martins P, de Oliveira AL, Nunes VS. Therapeutic versus prophylactic anticoagulation for patients admitted to hospital with COVID-19 and elevated D-dimer concentration (ACTION): an open-label, multicentre, randomised, controlled trial. The Lancet. 2021 Jun 12;397(10291):2253-63. 2. Capell WH, Barnathan ES, Piazza G, Spyropoulos AC, Hsia J, Bull S, Lipardi C, Sugarmann C, Suh E, Rao JP, Hiatt WR. Rationale and design for the study of rivaroxaban to reduce thrombotic events, hospitalization and death in outpatients with COVID-19: The PREVENT-HD study. American heart journal. 2021 May 1;235:12-23.
3.	Novel antihyperlipidemic drug	• Enlist the newer drugs used in the management of hyperlipidemia • Rationalize their use in different clinical settings	1. Hassan RM, Ali IH, Abdel-Maksoud MS, Abdallah HM, El Kerdawy AM, Sciandra F, Ghannam IA. Design and synthesis of novel quinazolinone-based fibrates as PPARα agonists with antihyperlipidemic activity. Archiv der Pharmazie. 2022 Mar;355(3):2100399. 2. KOTHAWADE PB, LOKHANDE KB, SWAMY KV, Sohan SC, THOMAS AB. Novel nitrogen-containing heterocyclic compounds in GPR109A as an anti-hyperlipidemic: Homology modeling, docking, dynamic simulation studies. Journal of Research in Pharmacy. 2020 Jul 1;24(4). 3. Laeeq S, Dubey DV. Insilico Screening for Identification of Novel Acyl-CoA: Cholesterol Acyltransferase Inhibitors. NeuroQuantology. 2022 Jul;20(8):2557-67.
4.	Malarial vaccine	• Discusses the current challenges and advances in malaria vaccine development • Review recent human clinical trials for each stage of infection.	1. Duffy PE, Patrick Gorres J. Malaria vaccines since 2000: progress, priorities, products. npj Vaccines. 2020 Jun 9;5(1):48. 2. Wilson KL, Flanagan KL, Prakash MD, Plebanski M. Malaria vaccines in the eradication era: current status and future perspectives. Expert review of vaccines. 2019 Feb 1;18(2):133-51. 3. Bonam SR, Rénia L, Tadepalli G, Bayry J, Kumar HM. Plasmodium falciparum malaria vaccines and vaccine adjuvants. Vaccines. 2021 Oct;9(10):1072.

Reference books

Pharmacology:

1. Katzung's Basic and Clinical Pharmacology, 15th edition

Forensic Medicine:

Text Book

Parikh's Textbook of Medical Jurisprudence, Forensic Medicine & Toxicology

Reference Books

1. Principles & Practice of Forensic Medicine by Nasib R Awan
2. Principles of Forensic Medicine & Toxicology by Rajesh Bardale

Pathology:

ROBBINS Text book of pathology 10th Edition

Medicine:

Davidson Textbook Of Medicine

Medical Ethics:Medical Errors: The Scope of the Problem. Fact sheet, Publication No. AHRQ 00-P037. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/qual/errba

http://nbcpakistan.org.pk/assets/may-16-bioethics-facilitator-book---may-16%2c-2017.pdf (page 195)

NBC Guidelines for Healthcare Professionals* Interaction with Pharmaceutical Trade and Industry

http://nbcpakistan.org.pk/assets/may-16-bioethics-facilitator-book---may-16%2c-2017.pdf (page 276)

nbcpakistan.org.pk/assets/ppi_guidelines_may_2011-1-final-copy-on-PHRC-wbesite.pdf Open source document

http://karachibioethicsgroup.org/PDFs/Karachi_Bioethics_Group_Ethical_Guidelines.pdf Karachi Bioethics Group Institutional Ethical Guidelines for Physician Pharmaceutical Industry Interaction

Medical Ethics:

http://nbcpakistan.org.pk/assets/may-16-bioethics-facilitator-book---may-16%2c-2017.pdf (page 194)

Peads: Current diagnosis and treatment pediatrics 25ST EDITION.

Time Table
2023

Haematology, Immunology & Research Module

3rd Year MBBS

Duration Of Module: O5 Weeks & 4 Days
Module Coordinators: Dr. Fatima-Tuz-Zahra
Module Co-Coordinator : Dr. Abid

Members Of Module Committee

Module Committee	
Vice Chancellor RMU	Prof. Dr. Muhammad Umar
Director DME	Prof. Dr. Rai Muhammad Asghar
Convener Curriculum	Prof. Dr. Naeem Akhter
Dean Basic Sciences	Prof. Dr. Ayesha Yousaf
Additional Director DME	Prof. Dr. Ifra Saeed
Chairperson Pharmacology & Implementation Incharge 3rd year MBBS	Dr. Asma Khan
Chairperson Pathology	Prof. Dr. Mobina Dodhy
Chairperson Forensic Medicine	Dr Filza
Focal Person Pharmacology	Dr Attiya
Focal Person Pathology	Dr Fareeha Sardar
Focal Person Forensic Medicine	Dr. Gulzeb
Focal Person Medicine	Dr. Saima Ambreen
Focal Person of Gynaecology	Dr. Sobia Nawaz
Focal Person Community Medicine	Dr. Afifa Kulsoom
Focal Person Quran Translation Lectures	Mufti Abdul Wahid
Focal Person Family Medicine	Dr Sadia Khan
Focal Person Bioethics Department	Prof. Dr. Akram Randhawa

Reviewed by: Module committee
Approved by:
Curriculum Committee RMU

Prepared By:
Dr. Fatima-tuz-Zahra
Pathology Department,
Rawalpindi Medical University, Rawalpindi

Time Table 3rd Year MBBS Haematology, And Immunology Module
(First Day)

	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:30am	10:30 AM – 11:00 am	11:00am – 12:00pm	12:00:pm – 01:00pm	01:00pm – 02:pm
26-8 23 Saturday	Forensic Med. (LGIS)* L-4	Bioethics(LGIS)* L-2	Bioethics(LGIS)* L-3		Pharmacology (SGD) S-1	Pathology/Haem (LGIS)* L-1	Behavioral sciences (LGIS)* L-5
	Firearm-1 LH1,LH2 Dr. Romana, Dr Shahida	Prescription Writing and common errors in prescription Dr. Attiya, Dr. Uzma LH1,LH2	Pharmacovigilance and roll of CTU in drug development Dr. Zunaira, Dr. Asma LH1,LH2	BREAK	Haemopoitic growth factors Dr Arsheen, Dr Tahira , Dr. Uzma, Dr. Zoefeshan LH1,LH2	Classification of anemia and Iron deficiency anemia Prof Mobeena, Dr. Fariha LH1,LH2	Obsessive Compulsive Disorder (OCD) Dr. Sara Afzal, dr Zona tahir LH1,LH2

Time table 3rd year MBBS Haematology And Immunology Module
(1st week) 28th Aug to 2nd Sep 2023

DATE / DAY	8:00 AM – 9:30 AM	9:30 AM – 11:00 AM	11:10am – 12:00pm	12:00 PM – 02:00 PM				
28 AUG 23 Monday	Clinical Clerkship		Pathology (LGIS)* L-6	Batch	Practical	Topic of Practical	Teacher name	Venue
	Batch : A Medicine Batch : B Surgery Batch : C Sub-Specialty (Refer to annexure 2)		Megaloblastic Anemia Prof Mobeena, Dr. Fariha LH1, LH2,	A	Pharmacology P-1	Prescription and P drugs of Iron deficiency anemia	Dr zaheer	Lecture Hall: 06
				B	Forensic Medicine P-2	Firearm injuries Smooth bore firearm	Dr. shahrukh	Lecture Hall: 04
				C	Pathology P-3	Benign RBC Morphology	Dr. Abid	Pathology Lab, NTB
29 AUG 23 Tuesday			Peads (LGIS)* L-7	Batch	Practical	Topic of Practical	Teacher name	Venue
			Iron deficiency Anemia Dr Farah Naz, Dr Nadia Mumtaz LH1, LH2	B	Pharmacology P-1	Prescription and P drugs of iron deficiency anemia	Dr Zaheer	Lecture Hall: 06
				C	Forensic Medicine P-2	Firearm injuries Smooth bore firearm	Dr. shahrukh	Lecture Hall: 04
				A	Pathology P-3	Benign RBC Morphology	Dr. Abid	Pathology Lab, NTB
30 AUG 23 Wednesday			Pathology (LGIS)* L-8	Batch	Practical	Topic of Practical	Teacher name	Venue
			Introduction To Immunology and Cellular Basis of Immune Response Prof. Naeem, Prof. Wafa LH1, LH2,	C	Pharmacology P-1	Prescription and P drugs of iron deficiency anemia	Dr Zaheer	Lecture Hall: 06
				A	Forensic Medicine P-2	Firearm injuries Smooth bore firearm n	Dr. shahrukh	Lecture Hall: 04
				B	Pathology P-3	Benign RBC Morphology	Dr. Abid	Pathology Lab, NTB
31 AUG 23Thursday			Forensic Medicine (LGIS)* L-9	Pathology/Immonology (LGIS)* L-10 12:00-1:00			Pathology/Immonology (CBL)* * *C-1 1:00 - 2:00	
			Firearm – II Dr. Filza, Dr. Romana	Classification of hemolytic anemia & Acquired Hemolytic Anemias Prof. Mobina, Dr. Fareeha			Megaloblastic Anemia Dr. Abid, Dr. Saeed, Dr. Nida, Dr. Mahjbeen LH1, LH2, LH6,Pharma lab	
1 SEP 23 Friday	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:15am	10:15am - 11:00am		11:00am – 12:00pm		
	Pharmacology (LGIS)* L-11	Forensic Med. (LGIS)* L-12	Pathology/Haem (LGIS)* L-13	Quran Studies (LGIS)* L-14		Pharmacology (CBL)* * *C-2		
	Haematinics Dr. Asma, Dr. Haseeba	Firearm – III (Smooth bore firearm wounds) Dr. Romana, Dr Shahida	RBC Membranopathies and enzymopathies Prof Mobeena, Dr. Fariha LH1,LH2			Haematinics Dr. Tahira, Dr. Zoefeshan, Dr. Rubina, Dr. Uzma		
2 SEP 23 Saturday	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:30am	10:30 AM – 11:00 am		11:00am – 12:00pm	12:00:pm – 01:00pm	01:00pm – 02:pm
	Pharmacology (LGIS) * L-15	Pathology/Haem (LGIS) * L-16	Pharmacology (LGIS) * L-17	BREAK		Pathology /Immunology SGD)**S-2	Pathology/Haem (LGIS)* L-18	Pharmacology CBL)* * *C-3
	Lipid Lowering drugs I Dr. Zunera, Dr. Attiya	Antigen antibody reactions Prof. Naeem, Prof. Wafa LH1, LH2,	Lipid Lowering drugs II Dr. Zunera, Dr. Attiya			Antibody and compliment system Dr Mudassira, Dr. Tayaba, Dr. Fatima Zohra, Dr. Fatima Rizvi LH1, LH2, LH6,Pharma	Hemoglobinopathies (Thalasemia, PNH) Prof Mobeena, Dr. Fariha LH1,LH2	Lipid Lowering drugs III Dr. Tahira, Dr. Arsheen, Dr rubina, ,Dr Uzma

Time Table 3RD YEAR MBBS Haematology, Immunology And Research Module
(Second Week) 4TH -9TH SEP 23

DATE / DAY	8:00 AM – 9:30 AM	9:30 AM – 11:00 AM	11:10am – 12:00pm	12:00 PM – 02:00 PM				
4TH SEP 23 Monday	Clinical Clerkship		Medicine (LGIS) * L-19	Batch	Practical	Topic of Practical	Teacher name	Venue
			Approach and workup of anemia Dr. Saleha Ahmad, Dr. Rizwan Mehmood	A	Pharmacology P-4	Prescription writing and P drug for Dyslipidemia	Dr. Zoefeshan	Lecture Hall: 06
				B	Forensic MedicineP-5	Assessment of burn victim	Dr. Shahida Bashir	Lecture Hall: 04
				C	Pathology P-6	Lab diagnosis of hemolytic anemia	Dr. Nida Fatima	Pathology Lab, NTB
5rd SEP 23 Tuesday	Batch : A Medicine Batch : B Surgery Batch : C Sub-Specialty (Refer to annexure 2)		Peads(LGIS) * L-20	Batch	Practical	Topic of Practical	Teacher name	Venue
			Thalasemia Dr Afrah Tariq, Dr Ayesha Tariq	B	Pharmacology P-4	Prescription writing and P drug for Dyslipidemia	Dr. Zoefeshan	Lecture Hall: 06
				C	Forensic MedicineP-5	Assessment of burn victim	Dr. Shahida Bashir	Lecture Hall: 04
				A	Pathology P-6	Lab diagnosis of hemolytic anemia	Dr. Nida Fatima	Pathology Lab, NTB
6TH SEP 23 Wednesday			Pathology/Immunology (LGIS)*L-21	Batch	Practical	Topic of Practical	Teacher name	Venue
			MHC and Transplantation Prof. Naeem, Prof. Wafa LH1 LH2	C	Pharmacology P-4	Prescription writing and P drug for Dyslipidemia	Dr. Zoefeshan	Lecture Hall: 06
				A	Forensic Medicine P-5	Assessment of burn victim	Dr. Shahida Bashir	Lecture Hall: 04
				B	Pathology P-6	Lab diagnosis of hemolytic anemia	Dr. Nida Fatima	Pathology Lab, NTB
7TH SEP 23 Thursday			Forensic Med. (LGIS) * L-22	Pathology SGD)**S-3 12:00- 1:00 pm			Peads (LGIS) * L-23 1:00-2:00pm	
			Firearm – IV (Rifled firearm wounds) Dr. Filza, Dr. Romana LH-1, LH2	Aplastic Anemia Dr. Tayyaba, Dr. Rabbiya, Dr. Sarah, Dr. Amna			Aplastic Anemia Dr Qurat ul Ain, Dr. Maria Shamsher	
8TH SEP 23 Friday	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:15am	10:15am - 11:00am	11:00am – 12:00pm			
	Forensic Med. (LGIS) * L-24	Pathology/Immunology (CBL)*** C-4	Pathology/Immunology (CBL)*** C-5	Quran Studies (LGIS) * L-25	Medicine (LGIS)* L-26			
	Mechanical injuries – I (Abrasion & Buise) Dr. Filza, Dr. Romana LH-1, LH2	Hypersensitivity Reaction I and II , Dr. Haider, Dr. Unaiza, Dr. Aisha, Dr. Faiza	Hypersenstivity Reaction Type III and IV Dr. Abid, Dr. Saeed, Dr. Nida , Dr. Mahjbeen		Management of Hypersensitivity Reactions Dr. Saleha Ahmad, Dr. Rizwan Mehmood			
9TH SEP 23 Saturday	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:30am	10:30 AM – 11:00 am	11:00am – 12:00pm	12:00:pm – 01:00pm	01:00pm – 02:pm	
	Forensic Med. (LGIS) * L-27	Obs & Gynae (LGIS) * L-28	Pathology/Immunology (SGD)**S-4	BREAK	Pharmacology (LGIS) * L-29	Community medicine(LGIS) * L-30	Pathology/immunology (LGIS)* L-31	
	Non- Mechanical Injuries Starvation, Thermal Injuries & Electrocution Dr Shahida, Dr Naila	Anemia in Pregnancy Dr. Farah Deeba,dr amna abbasi	Immune Tolerance And Autoimmunity. Dr. Mudassira, Dr. Fatima zohra, Dr. Rabbia, Dr, Mehreen		Immunosup pressant drugs I Dr. Zunera, Dr. Attiya	Host defenses Dr. Sana Associate prof Dr. Imran AP	Immunodefeciency Prof. Wafa, Dr. Fatima Rizvi	

Time Table 3rd YEAR MBBS – Haematology, Immunology And Research Module
(Third Week) 11th to 16TH SEP 23

DATE / DAY	8:00 AM – 9:30 AM	9:30 AM – 11:00 AM	11:10am – 12:00pm	12:00 PM – 02:00 PM				
11TH SEP 23 Monday	Clinical Clerkship		Pathology/Haem L32 WBC disorder and classification of leukemia Dr. Dr. Sarah, Dr Fatima-tuz-Zahra	Batch	Practical	Topic of Practical	Teacher name	Venue
				A	Pharmacology P-6	Prescription writing and P drug for IHD	Dr. Arsheen	Lecture Hall: 06
				B	Forensic MedicineP-7	Mechanical injuries	Dr. Gulzeb	Lecture Hall: 04
				C	Pathology P-8	Benign WBC Morphology	Dr. Syeda Aisha	Pathology Lab, NTB
12TH SEP 23 Tuesday	Batch : A Medicine Batch : B Surgery Batch : C Sub-Specialty (Refer to annexure 2)		Pathology/Haem (CBL)***C6 Acute Leukemia Dr. Haider, Dr. Unaiza, Dr. Aisha, Dr. Faiza	Batch	Practical	Topic of Practical	Teacher name	Venue
				B	PharmacologyP-6	Prescription writing and P drug for IHD	Dr. Rubina	Lecture Hall: 06
				C	Forensic Medicine P-7	Mechanical injuries	Dr. Gulzeb	Lecture Hall: 04
				A	Pathology P-8	Benign WBC Morphology	Dr. Syeda Aisha	Pathology Lab, NTB
13TH SEP 23 Wednesday			Pathology/Haem (LGIS)* L33 Chronic leukemia Dr Fatima-tuz-Zahra, Dr. Sarah LH1,LH2	Batch	Practical	Topic of Practical	Teacher name	Venue
				C	PharmacologyP-6	Prescription writing and P drug for IHD	Dr. Arsheen	Lecture Hall: 06
				A	Forensic MedicineP-7	Mechanical injuries	Dr.Gulzeb	Lecture Hall: 04
				B	Pathology P-8	Benign WBC Morphology	Dr. Syeda Aisha	Pathology Lab, NTB
14TH SEP 23 Thursday			Medicine (LGIS) * L-34 Myeloproliferatice Diseases Dr. Saleha Ahmad, Dr. Rizwan Mehmood	Pathology/Haem (LGIS)*L-35 12:00-1:00 pm Myeloprolifertive disease/Myelodysplastic syndrome Dr tayyaba , Dr Sara			Pathology/Haem (SGD)**S6 1:00-2:00pm Chronic leukemia Dr. Mudassira, Dr. Fariha, Dr. Mehreen, Dr. Amna	
15th SEP 23 Friday	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:15am	10:15am - 11:00am	11:00am – 12:00pm			
	Forensic Med. (LGIS) * L-36	Medicine (LGIS) * L-37	Paeds (LGIS) * L-38	Quran Studies (LGIS) * L-39	Pharmacology (LGIS) * L-40			
	Mechanical injuries – II (Punctured and stab wound) Dr. Filza, Dr. Romana LH-1, LH2	Lymphoproliferative Diseases Dr. Saleha Ahmad, Dr. Rizwan Mehmood	ALL/Lymphoma Dr. Sadaf Iqbal, Dr. Mamona Qudrat		Immunosuppressant drugs II Dr. Zunera, Dr. Attiya			
16th SEP 23 Saturday	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:30am	10:30 AM – 11:00 am	11:00am – 12:00pm		12:00:pm – 01:00pm	01:00pm – 02:pm
	Pharmacology SGD)**S-7	Forensic Med. (LGIS) * L-41	Pathology/Haem (CBL)*** C-7	BREAK	Pharmacology CBL)* * *C-8		Pathology/Haem (LGIS) * L-42	Community medicine (LGIS) * L-43
	Immunosup Pressant drugs III ,Dr. Zaheer, Dr.Zoefeshan, Dr. Rubina, Dr. Uzma	Mechanical injuries – III(Punctured & Stab wounds Dr. Filza, Dr. Romana LH-1, LH2	Multiple myeloma Dr. Abid, Dr. Saeed, Dr. Nida , Dr. Mahjbeen		Immunosup Pressant drugs IV Dr. Zaheer, Dr. Arsheen, Dr. Rubina, Dr. Uzma		Lymphoma Dr. Tayyaba, Dr. Mehreen LH1,LH2	Immunizing agents Dr. Sana Associate prof Dr. Imran AP

Time Table 3rd YEAR MBBS Haematology, Immunology And Research Module
(Fourth Week) 18TH SEP TO 23RD SEP 23

DATE / DAY	8:00 AM – 9:30 AM	9:30 AM – 11:00 AM	11:10am – 12:00pm	12:00 PM – 02:00 PM				
18TH SEP 23 Monday	Clinical Clerkship		Pathology/Haem (LGIS)* L-44	Batch	Practical	Topic of Practical	Teacher Name	Venue
			Bleeding disorders of primary haemostasis Dr. Mudassira, Dr. Fatima-tuz- Zahra LH1,LH2	Xcd	Pharmacology P-9	Prescription writing and p drug for DVT	Dr. Rubina	Lecture Hall: 06
				B	Forensic Medicine P-10	Assessment of RTA Victim	Dr.Naila	Lecture Hall: 04
				C	Pathology P-11	Malignant WBC Morphology	Dr. Syed Iqbal Haider	Pathology Lab, NTB
19TH SEP 23 Tuesday	Batch : A Medicine Batch : B Surgery Batch : C Sub-Specialty (Refer to annexure 2)		Pharmacology (LGIS) * L-45	Batch	Practical	Topic of Practical		
			Antiplatelet, drugs I Dr. Zunera, Dr. Attiya	B	Pharmacology P-9	Prescription writing and p drug for DVT	Dr. Rubina	Lecture Hall: 06
				C	Forensic MedicineP-10	Assessment of RTA Victim	Dr.Naila	Lecture Hall: 04
				A	Pathology P-11	Malignant WBC Morphology	Dr. Syed Iqbal Haider	Pathology Lab, NTB
20TH SEP 23 Wednesday			Pharmacology CBL)* * *C-9	Batch	Practical	Topic of Practical		
			Antiplatelet, drugs II Dr. Tahira, Dr. Zoefeshan, Dr. Uzma, Dr. Zaheer	C	Pharmacology P-9	Prescription writing and p drug for DVT	Dr. Rubina	Lecture Hall: 06
				A	Forensic Medicine P-10	Assessment of RTA Victim	Dr.Naila	Lecture Hall: 04
				B	Pathology P-11	Malignant WBC Morphology	Dr. Syed Iqbal Haider	Pathology Lab, NTB
21TH SEP 23 Thursday			Pathology/Haem (CBL)*** C-10	Pharmacology (LGIS) 46 12:00- 1:00 pm			Forensic Med(LGIS) * L-47	
			Haemophilia / ITP Dr. Haider, Dr. Unaiza, Dr. Aisha, Dr. Faiza	Anticoagulants I Dr. Asma, Dr. Haseeba			Road traffic Accidents Dr. Romana , Dr. Filza LH-1, LH2	
22ND SEP 23 Friday	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:15am	10:15am - 11:00am	11:00am – 12:00pm			
	Peads (LGIS) * L-48	Community medicine (LGIS) * L-49	Medicine (LGIS) * L-50	Quran Studies (LGIS) * L-51	Forensic Med. (LGIS) * L-52			
	Hemophilia Dr. Amal Hasham, Dr. Muneeba	Adverse events following immunization Dr. Gul Mehar, Dr. Maimoona	Bleeding Disorders Dr. Saleha Ahmad, Dr. Rizwan Mehmood		Injuries and law-I Qisas & Diyat Dr. Romana , Dr. Filza LH-1, LH2			
23RD SEP 23 Saturday	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:30am	10:30 AM – 11:00 am	11:00am – 12:00pm	12:00:pm – 01:00pm	01:00pm – 02:pm	
	Pharmacology (LGIS) * L-53	Pharmacology SGD)**S-8	Pathology/Haem (LGIS)* L-54	BREAK	Forensic Med. (LGIS) * L-55	Pathology/Immunology SGD)**S-9	Forensic Med. (LGIS) * L-56	
	Anticoagulants II Dr. Asma, Dr. Haseeba	Anticoagulants III Dr. zaheeer,Dr. Arsheen Dr. Rubina,Dr. Tahira	Bleeding disorders of secondary haemostasis Dr. Fatima –tuz-Zahra,Dr. mudassira		Injuries and law-II Qisas & Diyat Dr. Filza, Dr. Romana LH-1, LH2	Tumor immunity Dr. Amna, Dr. Tayyaba, Dr. Fatima Rizvi, Dr. mehreen	Regional Injuries (Skull & spinal injuries) Dr Shahrukh, Dr Gulzaib	

Time Table 3RD YEAR MBBS - Haematology, And Immunology Module
(Fifth Week) 25TH SEP TO 30TH SEP 23

DATE / DAY	8:00 AM – 9:30 AM	9:30 AM – 11:00 AM	11:00am – 12:00pm	12:00 PM – 02:00 PM				
	Clinical Clerkship		Community medicine ((LGIS) * L-57	Batch	Practical	Topic of Practical	Teacher Name	Venue
Monday 25TH SEP 23	Batch : A Medicine Batch : B Surgery Batch : C Sub-Specialty (Refer to annexure 2)		Immunization schedule Dr. Afifa Kulsoom, Dr. Imrana	A	Pharmacology P-12	Prescription writing and P drug for Malaria	Dr. Uzma	Lecture Hall: 06
				B	Forensic Medicine P-13	Autosy visit (Fracture identification)	Dr. Raheel	Lecture Hall: 04
				C	Pathology P-14	ICT devices	Dr. Saeed Lehrasab	Pathology Lab, NTB
Tuesday 26 SEP 23			Pharmacology (LGIS) * L-58	Batch	Practical	Topic of Practical		
			Fibrinolytic And Antifibrinol Dr. Asma, Dr. Haseeba	B	Pharmacology P-12	Prescription writing and P drug for Malaria	Dr. Uzma	Lecture Hall: 06
				C	Forensic MedicineP-13	Autosy visit (Fracture identification)	Dr. Raheel Autosy visit (Fracture identification)	Lecture Hall: 04
				A	Pathology P-14	ICT devices	Dr. Saeed Lehrasab	Pathology Lab, NTB
Wednesday 27 SEP 23 HolIday			Holiday 12 Rabi-ul-Awal					
Thursday 28 SEP 23			11.00-12.00 pm Pharmacology SGD)**S-10	12.00 – 01.00 pm Forensic Med. (LGIS) * L-59			Pathology/Immunology SGD)**S-11	
			Fibrinolytic And Antifibrinolytic drugs Dr. Tahira, Dr. Arsheen, Dr. Rubina, Dr. Zaheer	Blast Injuries Dr. Filza, Dr. Romana LH-1, LH2			Vaccines Dr. Mudassira, Dr. Rabbiya, Dr. Mehreen, Dr. Amna	
Friday 29 SEP 23 Seminar	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:15am	10:15am - 11:00am		11:00am – 12:00pm		
	Pathology (LGIS)* L-60	Medicine(LGIS) * L-61	Pharmacology (LGIS) * L-62	Family Medicine (LGIS)* L-63		Pharmacology (LGIS) * L-64		
	Life cycle of Plasmodium Dr. Fatima Rizvi, Dr. Amna LH1, LH2	Sign Symptoms and Management of Malaria Dr. Saleha Ahmad, Dr. Rizwan Mehmood	Antimalarial drugs I Dr. Asma, Dr. Haseeba	Management Of Malaria And Its Complications Dr. Sadia		Antimalarial drugs II Dr. Asma, Dr. Haseeba		
Saturday 30 SEP 23	08:00am - 08:45am	08:45am – 09:30am	09:30am – 10:30am	10:30 AM – 11:00 am		11:00am – 12:00pm	12:00:pm – 01:00pm	01:00pm – 02:00pm
	Forensic Med(LGIS) * L-65	Pharmacology (LGIS) * L-66	Pathology/Haem (SGD)**S-12	Break		Pathology (SGD)**S-13	Forensic Med. ((LGIS) * L-67	Community medicine LGIS) * L-68
	Hydrocyanic Acid Dr Gulzaib, Dr Shahida LH-1, LH2	Antimalarial drugs III Dr. Asma, Dr. Haseeba	Leishmania & Trypanasoma Dr. Rabbia Dr. Tayyaba, Dr. Fariha, Dr. Fatima Rizvi			Disorders of Spleen & Lymph Nodes Dr. Rabbiya, Amna DrMehreen, Sarah,	Spinal Poisons Strychnos(Nux Vomica) Dr Shahrukh, Dr Raheel LH-1, LH2	Inferential Statistics & Anova Dr. Rizwana, Dr. abdulqudus

Time Table 3RD YEAR MBBS - Haematology, Immunology And Research Module 2ND OCT to 4TH OCT 23

MONDAY 2 OCT 23	END OF MODULE EXAM
TUESDAY 3 OCT 23	END OF MODULE EXAM
WEDNESDAY 4 OCT 23	END OF MODULE EXAM

Teaching Hours

SR No.	Disciplines	LGIS	SGD	CBL	SDL	Seminar	Hours
1.	Pharmacology	11	04	04	5	01	25
2.	Pathology (Haematology)	11	03	04	5	-	23
3.	Pathology (Immunology)	04	04	02		-	10
4.	Pathology (Parasitology)	-	01	-	-	01	02
5.	Forensic Medicine	15	-	-	04	-	19
6.	Community Medicine	05	-	-	-		05
7.	Medicine	05	-	-	-	01	06
8.	Peads	05	-	-	-		05
9.	Obstetrics and Gynaecology	01	-	-	-	-	01
10.	Family medicine					01	01
11.	Bioethics	02					02
12.	Behavioral sciences	01					01
13.	Quran class	04					04
14.	Total	64	12	10	14	04	104

Practical/ SGD and Clinical Clerkship hours

Disciplines	Practical hours	Disciplines	Clerkship hours
Pharmacology	2x5 = 10 hrs	Surgery	2.5 x 4 X4= 40 hrs
Pathology	2x5 = 10 hrs	Medicine	2.5 x 4 x4 = 40 hrs
Forensic Medicine	2x5= 10 hrs	Sub Specialty	2.5 x 4 x4 = 40 hrs

- LGIS (L) *
- SGD (S) **
- CBL (C) ***
- SDL (SL) ****

❖ For CBL/SGDs, whole class will be divided into 04 batches

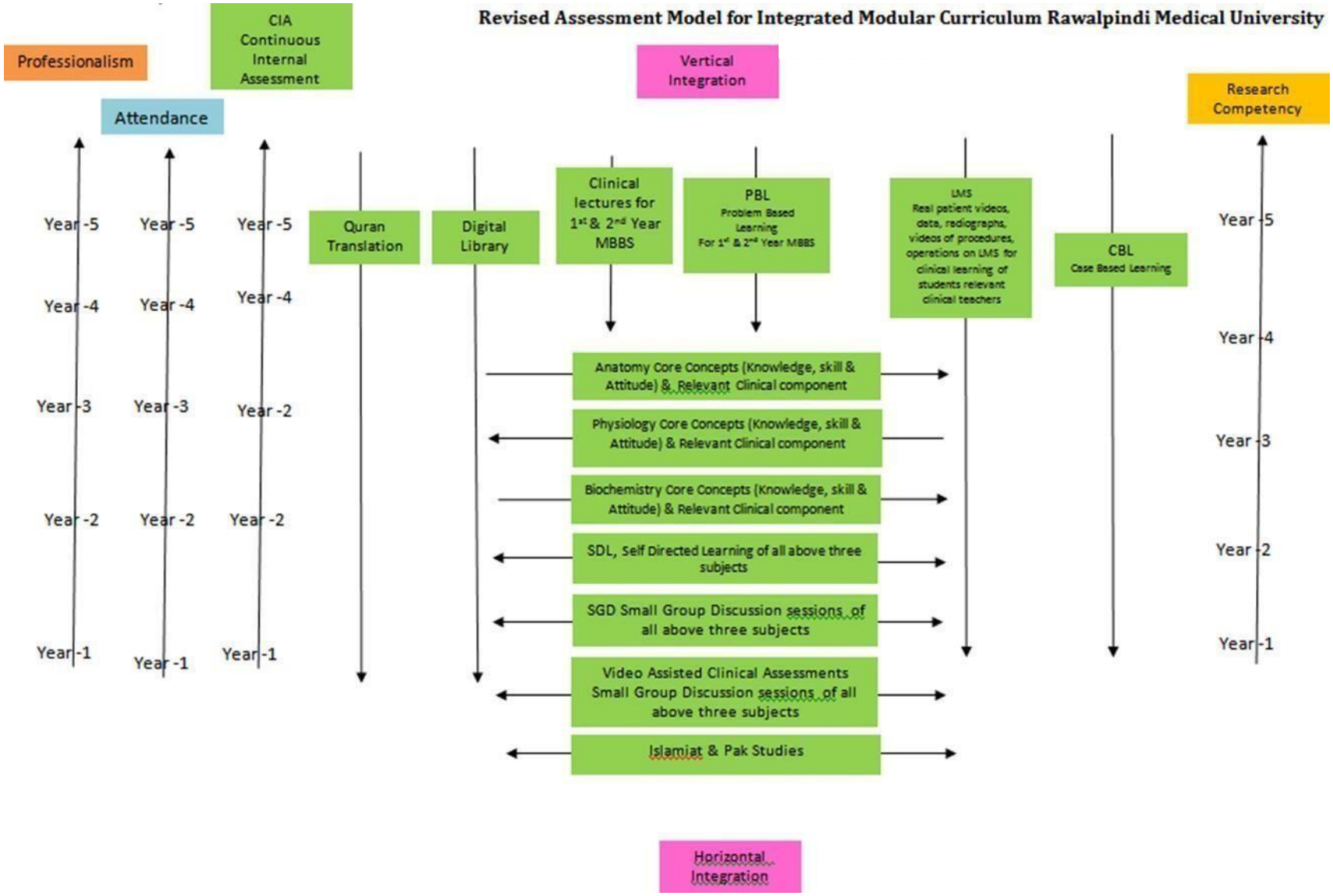
Batch: A = Lecture Hall 01 (starting from batch A1 to A3) Batch: B = Lecture Hall 02 (starting from batch A4, A5, B1,B2)

Batch: C = Lecture Hall 06 (starting from batch B3, B4, B5, C1) Batch: D = Pharmacy Lab(starting from batch C2 to C5)

The batch distribution & venues for whole year are fixed with no change except for extra ordinary situations.

Section IV-
Assessment Policies

Contents


Revised Assessment Model for Integrated Modular Curriculum Rawalpindi Medical University
Professionalism
CIA Continuous Internal Assessment
Attendance
Vertical Integration
Research Competency
Year -5
Year -4
Year -3
Year -2
Year -1
Quran Translation
Digital Library
Clinical lectures for 1st & 2nd Year MBBS
PBL Problem Based Learning For 1st & 2nd Year MBBS
LMS Real patient videos, data, radiographs, videos of procedures, operations on LMS for clinical learning of students relevant clinical teachers
CBL Case Based Learning
Anatomy Core Concepts (Knowledge, skill & Attitude) & Relevant Clinical component
Physiology Core Concepts (Knowledge, skill & Attitude) & Relevant Clinical component
Biochemistry Core Concepts (Knowledge, skill & Attitude) & Relevant Clinical component
SDL, Self Directed Learning of all above three subjects
SGD Small Group Discussion sessions of all above three subjects
Video Assisted Clinical Assessments Small Group Discussion sessions of all above three subjects
Islamiat & Pak Studies
Horizontal Integration

Assessment plan

University has followed the guidelines of Pakistan Medical and Dental Council for assessment. Assessment is conducted at the mid modular, modular and block levels.

Types of Assessment:

The assessment is formative and summative.

Formative Assessment

Formative assessment is taken at modular (2/3rd of the module is complete) level through MS Teams. Tool for this assessment is best choice questions and all subjects are given the share according to their hour percentage.

Summative Assessment:

Summative assessment is taken at the mid modular (LMS Based),modular and block levels.

Module Assessment
Theory Paper

There is a module Assessment at the end of first module of each block. The content of the whole teaching of the module are tested in this Assessment.
It consists of paper with objective type questions and structured essay questions. The distribution of the questions is based on the Table of Specifications of the module. (Annexure I attached)
Viva Voce:
Structured table viva voce is conducted including the practical content of the module.

Block Assessment
On completion of a block which consists of two modules, there is a block Assessment which consists of one theory paper and a structured viva with OSPE.
Theory Paper
There is one written paper for each subject. The paper consists of objective type questions and structured essay questions. The distribution of the questions is based on the Table of Specifications of the module.

Block OSPE
This covers the practical content of whole block.

-Assessment Frequency & Time in hematology and immunology module

Block	Module – 1		Type of Assessments	Total Assessments Time			No. of Assessments	
	Sr #	hematology and immunology Module Components		Assessment Time	Summative Assessment Time	Formative Assessment Time		
Block-II	1	Mid Module Assessments LMS based (Pharmacology, Pathology, Forensic Medicine, Medicine, Surgery, community medicine gynaecology, Family Medicine,)	Summative	30 Minutes	7 hours	30 Minutes	1 Formative	5 Summative
	2	Topics of SDL Assessment on MS Team	Formative	10 Minutes (Every Friday)				
	3	End Module Assessments (SEQ & MCQs Based)	Summative	6 Hours				
	4	Pharmacology Structured and Clinically Oriented Viva	Summative	10 Minutes				
	5.	Forensic Medicine Structured and Clinically oriented Viva	Summative	10 Minutes				
	5	Pathology Structured & Clinically oriented Viva	Summative	10 Minutes				

Hematology and Immunology Module Assesment Plan

Date / day	Assesment plan	Total marks	Assesment mode	Content
Thursday 16-09-23	Mid module assesment	20	LMS- 20 mcq	15mcq-(pathology, pharmacology and forensic 5xeach) 3 mcq - community medicine 2 mcq- surgery and medicine 1xeach
31.8.23 7.9.23 14.9.23 21.9.23	Weekly assesementson SDL topics	15 15 15 15	15 mcq 15 mcq 15 mcq 15 mcq	-(pathology, pharmacology and forensic 5xeach) -(pathology, pharmacology and forensic 5xeach)
Monday 2-10-2023	End module theory exam (9 am to 2pm)	160	Pharmacology (9 to 10:30 am) Forensic medicine,(10: 45 am to 12 :15pm) Pathology (12:15 pm to 2pm)	Pathology- 60 marks Pharmacology-50 Forensic medicine-50 (for mcq/seq distribution see table)
3.10.23 4.10.23	Viva (12pm-2pm)	90	viva of batches in respective department	Pathology- 40 marks Pharmacology-30 marks Forensic medicine -10 marks

Table of Specification (TOS) For Hematology and Immunolgy End Module Assessment for 3rd Year MBBS

Sr. #	Discipline	No. of MCQs (%)	No. of MCQs according to cognitive domain			No. of SEQs (%)		No. of SEQs according to cognitive domain			Viva voce	OSPE Marks	Total Marks
			C1	C2	C3	No. of items	Marks	C1	C2	C3			
1.	Pharmacology	15	2	9	4	7	35	2	4	1	30	0	80
2.	Forensic Medicine	15	4	9	3	5	25	2	2	1	25	0	65
3.	Pathology	25	2	5	3	7	35	2	4	1	40	0	100
4.	Family Medicine	2	1	0	1	0	0	0	0	0	0	0	Vertical integration
5.	Research	2	0	1	1	0	0	0	0	0	0	0	Vertical integration
6.	Medicine	5	1	3	1	0	0	0	0	0	0	0	Vertical integration
7.	Paeds	5	1	3	1	0	0	0	0	0	0	0	Vertical integration

Total marks = 245

Annexure I

(Sample MCQ & SEQ papers with analysis)

RAWALPINDI MEDICAL UNIVERSITY

DEPARTMENT OF PATHOLOGY

RMU & Allied Hospitals

ROLL NO. _____

Haematology Immunology & Research Module Assessment

3rd Year MBBS

Date: 07th November 2022
Time Allowed: 30min

MCQs PAPER

Total Marks: 35
Time: 12:00noon

A 20 years male with history of repeated attacks of jaundice was admitted in surgical ward for splenectomy. He is a diagnosed case of Hereditary Spherocytosis. What is most appropriate in this case?

A. It is an X- linked inherited disorder
B. Sickling test is positive
C. Gall stone is an associated finding
D. DAT is positive
E. It presents with haemoglobinuria

A 28 years female presents with pallor. Her Complete blood counts shows Hb: 10.1 gm/dL, RBC: 6.0 x 10^{12}/L, TLC: 5.6x 10^{9}/L and Platelets: 240x10^{9}/L. Blood film shows Hypochromic Microcytic blood picture with Target cells and occasional Basophilic stippling. The most probable diagnosis is:

A. Iron Deficiency anemia
B. Sideroblastic anemia
C. Anemia of Chronic disorder
D. Thalassaemia minor
E. Lead poisoning

In the process of Erythropoiesis during the various stages of development, up to which stage of erythroid development does mitotic division occurs and haemoglobin also starts appearing at this stage?

A. Proerythroblast
B. Early Normoblast
C. Intermediate Normoblast
D. Late Normoblast
E. Reticulocyte

A 32 years female presented with lassitude and weakness for the last 6 months. Blood picture showed Hb: 9.2 gm/dL with a Hypochromic Microcytic blood picture. Further workup revealed increased TIBC and decreased transferrin saturation. The most likely diagnosis is:

A. Iron Deficiency Anemia
B. Sideroblastic Anemia
C. Thalassaemia minor
D. Thalassaemia major
E. Anemia of Chronic Disorder

The laboratory reports of a 60 years patient taking regular non steroidal anti-inflammatory drugs for joint pains shows low Hb, low mean cell volume (MCV) high serum ferritin and reduced total iron binding capacity. What is the most likely cause for this patient's anemia?

A. Iron deficiency anemia
B. Anemia of chronic disease
C. Thalassemia minor
D. Drug induced Haemolytic anemia
E. Autoimmune haemolytic anemia

Level of cognition	Question no	Total	Percentage
C1	3,19	2	8%
C2	1,7,8,12,15,16, 17, 20, 21, 22, 23, 24 and 25	13	56%
C3	2,4,5,6,9,10,11,13, 14 and 18	10	36%

Type of integration	Question no	Total	Percentage
Core	1, 2,4,6,9,10,12, 14,15,20,21,22 23 and 24,25	15	60%
Horizontal	5,7,16,	3	12%
Vertical	11, 13, 18	3	12%
Spiral	3 and19	2	8%
Research and medical ethics	8, 17	2	8%

Prof. Mobina Ahsan Dodhy
Chairperson Pathology Department
Rawalpindi Medical University

Assistant Director
Department of Medical Education
Rawalpindi Medical University

Vice Chancellor
Rawalpindi Medical University
Rawalpindi

RAWALPINDI MEDICAL UNIVERSITY

DEPARTMENT OF PATHOLOGY

RMU & Allied Hospitals

ROLL NO. _____

Haematology Immunology & Research Module Assessment

3rd Year MBBS

Date: 07th November 2022
Time Allowed: 45min

SEQs PAPER

Total Marks: 35
Time: 12:00noon

Q1. A 3 years boy presents with failure to thrive, repeated infections, lethargy and pallor. Mother gives history of consanguineous marriage. His elder sister is on regular transfusion. Physical examination of the boy shows Pallor, frontal bossing and hepatosplenomegaly. His CBC reveals Hb3.4 g/dL, MCV 52 fL, MCH 18 pg with normal WBC and platelet count.

a) What is the most likely diagnosis? 01
b) What further tests you would like to perform to confirm diagnosis? 02
c) What advice you would give to the parents of this child? 02

Q2. A 65-years man presents to clinic with fatigue, night sweats, and lethargy of 6 months duration. He tells you that he has experienced 10 lb weight loss over that period. On physical examination, the spleen is palpable 6 cm below the costal margin, the rest of his examination is normal. Laboratory testing is remarkable for leukocytosis (85 X 10^9/L) and an elevated lactate dehydrogenase level. A complete spectrum of myeloid cells is seen in the peripheral blood with biomodel peak of neutrophils and myelocytes. There is also increased number of basophils.

a) What is the most probable diagnosis? 01
b) Briefly discuss the underlying genetic mutation. 2.5
c) Enumerate the phases of this disease. 1.5

Q3. A 30 years female with history of easy bruising and increased menstrual flow was evaluated for a bleeding disorder. She was diagnosed with immune thrombocytopenic purpura (ITP).

a) Discuss Peripheral film and Bone marrow examination findings. 2.5
b) Enlist the causes of thrombocytopenia. 2.5

Q4. A 47 years woman presented in basic health unit of district Jehlum with complains of fatigue and repeated infections. Physical examination shows scattered bruises on body. Her laboratory investigations reveals Hb 7.3 g/dL, WBC 174 x 10^9/L and platelet count is 24 x 10^9/L. Pathologist reports 90% blast cells on peripheral film.

a) Briefly compare the morphology of lymphoblast and myeloblast? 02
b) Which cytochemical stain helps to differentiate between lymphoblast and myeloblast? 01
c) Give any two cytogenetic abnormalities seen in Acute myeloid leukemia. 02

Q5. A renal transplant recipient experiences gradual rise of creatinine in 10-month time period despite immunomodulatory drugs. He states that he was alright and all his lab results were normal for few months after the transplant but then his condition deteriorated slowly.

a) Which type of graft rejection is this? 01
b) Classify different types of grafts on the basis of type of donor. 02
c) Differentiate between direct and indirect graft antigen recognition 02

Q6. A physician is suspecting Hepatitis B in a patient in the ward. The laboratory performs a rapid kit test but the physician has asked them to perform ELISA for confirmation as it is based on specific antigen antibody reaction technique.

a) Enlist 4 the different types of antigen antibody reactions 02
b) Enumerate 3 types of ELISA with the underlying principle in each 03

Q7. A 45 years female presented with painless diffuse enlargement of thyroid gland. Her thyroid function tes shows decreased T3 and T4 levels and she is positive for circulating antithyroidantibodies.

a) What is your most likelydiagnosis? 0
b) Enumerate 4 gen specific autoimmunediseases? 0
c) What is immune tolerance? 0

Sample Paper of SEQs

Levels of cognition	Question number	Total	Percentage
C1	5b,6a and 7c	3	16%
C2	2b, 2c, 3b, 4a, 4b, 5c, 6b and 7b	8	42%
C3	1a, 1b, 1c, 2a, 3a, 4c, 5a and 7a	8	42%

PROF. MOBINA AHSAN DODHY
Chairperson, Department of Pathology, RMU

ASSISTANT DIRECTOR
Department of Medical Education, RMU

VICE CHANCELLOR
RAWALPINDI MEDICAL UNIVERSITY

Annexure II

Time Table 3rd year MBBS (Session 2020-2021)

Clinical Teaching and Training Posting ------ From 08-02-2023 to 15-10-2023

Dates		MEDICINE					SURGERY + TRAUMA				
		HFH Unit-I	HFH Unit-II	BBH Unit-I	BBH Unit-II	DHQ	HFH Unit-I	HFH Unit-II	BBH Unit-I	BBH Unit-II	DHQ
S.P.W S.P.V	08-02-2023 To 30-04-2023	A1	A2	A3	A4	A5	B5	B4	B3	B2	B1
S.V	01-05-2023 To 06-08-2022	C1	C2	C3	C4	C5	A5	A4	A3	A2	A1
07-08-2023 To 15-10-2023		B1	B2	B3	B4	B5	C5	C4	C3	C2	C1

MISCELLANEOUS

	8-2-23 To 19-2-23	20-2-23 To 5-3-23	6-3-23 To 19-3-23	S.P.W 20-3-23 To 9-4-23	S.P.V 10-4-23 To 30-4-23	1-5-23 To 14-5-23	15-5-23 To 28-5-23	29-5-23 To 11-6-23	12-6-23 To 25-6-23	S.V 26-6-23 To 6-8-23	7-8-23 To 20-8-23	21-8-23 To 3-9-23	4-9-23 To 17-9-23	18-9-23 To 1-10-23	2-10-23 To 15-10-23
Pathology	C1	C2	C3	C4	C5	B1	B2	B3	B4	B5	A1	A2	A3	A4	A5
Psychiatry	C5	C1	C2	C3	C4	B5	B1	B2	B3	B4	A5	A1	A2	A3	A4
Radiology	C4	C5	C1	C2	C3	B4	B5	B1	B2	B3	A4	A5	A1	A2	A3
Skill Lab	C3	C4	C5	C1	C2	B3	B4	B5	B1	B2	A3	A4	A5	A1	A2
E.R	C2	C3	C4	C5	C1	B2	B3	B4	B5	B1	A2	A3	A4	A5	A1

➢ **Tentative Holidays**

• Sports Week (S.P.W)	12-03-2023	TO	19-03-2023
• Spring Vocations (S.P.V)	24-04-2023	TO	30-04-2023
• Summer Vocations (S.V)	03-07-2023	TO	30-07-2023

No T-9/ 544 RMU, RWP. Dated 04-02-/2023

• Copy to all Concerned Departments

Vice Chancellor
Rawalpindi Medical University
Rawalpindi