



LIAQUAT COLLEGE OF MEDICINE AND DENTISTRY
DEPARTMENT OF HEALTH PROFESSIONS EDUCATION
COLLEGE OF DENTISTRY



BLOOD MODULE





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CODES			
Subject Name		Abbreviations	Color Codes
ANATOMY	Anatomy Lectures	A	
	General Anatomy	A(Gn)	Navy Blue
	Gross anatomy	A(Gr)	Black
	Histology	A(H)	Light Pink
	Neuro - Anatomy	A(NA)	Red
	Embryology	A(E)	Brown
	Histology Practical	A(P)	Light Pink
PHYSIOLOGY	Lecture	P	Green
	Practical	P(P)	
BIOCHEMISTRY	Lectures	B	Light Blue
	Practical	B(P)	
ORAL BIOLOGY	Oral Biology	O	Purple
	Tooth Morphology	T	Dark Pink



CONTENT BLOOD MODULE				
Subject Name		TOTAL NO: OF LECTURES	WEEK PER MODULE	MODE OF TEACHING
ANATOMY	General Anatomy	01	04 Weeks	Lecture/ Tutorial
	Histology Lecture	03		Lecture/ Tutorial/ Practical
	Practical	03		Practical
PHYSIOLOGY	Lecture	22		Lecture/ Tutorial
	Practical	07		Practical
BIOCHEMISTRY	Lectures	06		Lecture/ Tutorial
	Practical	03		Practical
ORAL BIOLOGY	Oral Biology	05		Lecture
	Tooth Morphology	04		Lecture
Total		54		



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Topic	Lecture	Blood - Learning Objectives	Learning Strategy	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
Introduction	P1+P2	Describe the composition and main functions of blood & plasma proteins.	Interactive Lecture	Knowledge	MCQ
	P(P)1	Demonstrate the different methods of obtaining blood Samples	Practical blood CP report identification	Knowledge, Skills & Attitude	OSPE
		Determine the PCV/ Hematocrit by Wintrob's Method		Knowledge, Skills & Attitude	OSPE
	P(P)2	Determine erythrocyte sedimentation rate (ESR) by Westergren's method	blood CP report identification Practical	Knowledge, Skills & Attitude	MCQ / OSPE
Erythropoiesis	P3	Describe the RBC Morphology, its importance, source, site & process of erythropoiesis with reference to factors affecting it.	Interactive Lecture	Knowledge	MCQ / OSPE / Google assignment
		Estimate hemoglobin concentration by sahli's method	Practical	Knowledge, Skills & Attitude	OSPE
	P(P)3	Hemoglobin estimation by Sahli's hemoglobinometer.	Practical	Knowledge, Skills & Attitude	OSPE
Heme-Synthesis and Hemoglobin Pathology	B1	Describe hemoglobin synthesis functions & types	Lecture	Knowledge	Quiz / OSPE, Assignment
	B2	Describe the disorders of hemoglobin synthesis (Porphyrias)			
	B3	Describe the clinical manifestation of hemolytic anemia (Thalassemia & Sickle cell)	Lecture	Knowledge	Quiz / OSPE, Assignment
Minerals	B4	Discuss the functions, sources, transport pathway, & storage of iron Explain the clinical importance of iron	Lecture	Knowledge	Quiz / OSPE, Assignment
Vitamin B12	B5	Explain the sources vitamin B ₁₂ and Folic acids Relate clinical abnormalities to vitamin B ₁₂ and Folic acids deficiency	Lecture	Knowledge	Quiz/MCQ/ OSPE
	B(P)1	Demonstration of Hemoglobin electrophoresis	Practical	Skill	OSPE



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Jaundice	B6	Discuss synthesis, types and fate. Of bilirubin	Lecture	Knowledge	Quiz/ MCQ/OSPE
		Classify Jaundice according to cause	Lecture	Knowledge	Quiz/ MCQ/OSPE
	B(P)2	Demonstrate different enzymes done in Liver Function Test	Practical	Skill	OSPE
	B(P)3	Estimate bilirubin by spectrophotometer / Colorimetry	Practical	Skill	OSPE
Anemia	P4 + P5	Differentiate among various types of anemias on the basis of etiology & morphology (anemias & polycythemia)	Interactive Lecture/ Tutorial	Knowledge	MCQ / OSPE / quiz assign
Blood Group	P6	Discuss different blood groups on the basis of agglutinogens and agglutinins	Interactive Lecture	Knowledge	MCQ
Blood Transfusion Reactions	P7	Describe indications, precautions and reactions of blood transfusion.	Interactive Lecture	Knowledge, Skills & Attitude	MCQ
	P(P)4	Neubaur's chamber & RBC count	Practical	Knowledge, Skills & Attitude	OSPE
	P(P)5	Determine own blood group	Practical	Knowledge, Skills & Attitude	OSPE
Hemostasis	P8	Define hemostasis (coagulation) & its steps along with functions of platelets (platelet plug formation)	Interactive Lecture/T utorial	Knowledge	MCQ quiz with socratic
	P9	Discuss the steps of clotting along with extrinsic and intrinsic clotting mechanisms.	Interactive Lecture	Knowledge	MCQ / OSPE
	P10	Enumerate the significance of the hemostatic function tests	Interactive Lecture	Knowledge, Skills & Attitude	MCQ Report writing
	P11	Discuss the factors which prevent clotting in the normal vascular system and fibrinolytic system. Mention common Conditions which causes excessive bleeding in human being	Interactive Lecture	Knowledge	MCQ
	P(P)6	Determine own bleeding time by Duke's method & clotting time by capillary method	Practical	Knowledge, Skills & Attitude	OSPE
	P12 + 13	Differentiate between different types of leukocytes along with their genesis & functions. (granulocytes & agranulocytes)	Flipped class room/Tut orial	Knowledge	MCQ / OSPE/ Assignment
Leukocytes	P14	Describe the various characteristics of lymphocytes, (its subtypes along with their functions)	Interactive Lecture	Knowledge	
	P(P)7	Preparation of peripheral blood	Practical	Knowledge,	MCQ /



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		smear & Determine the Differential Leucocyte count		Skills & Attitude	OSPE
	P15	Discuss inflammation and lines of defense against Inflammation	Lecture	Knowledge	MCQ
	P16	Discuss the types of immunity (innate / Acquired & Active /passive immunity)	Flipped class room Interactive Lecture	Knowledge	MCQ / Google assignment
Lymphatic system & Lymphoid organs	BM-A1(Gn1)	<ul style="list-style-type: none"> Describe the different components of lymphatic system Describe origin and termination of large lymphatic channels. Discuss the role of lymphatics in the spread of infection & cancer Classify the types of immunity. Tabulate the lymphoid cells and their function. Describe the histological features of main lymphoid organs. 	Lecture / Tutorial	K	MCQ / OSPE
Lymph node	BM-A2(H1)	Describe the structure of lymph node in detail	Lecture / Practical	K	MCQ / OSPE
	BM-A(P1)	Identify the histological features of lymph node under the microscope.	Practical	KSA	MCQ / OSPE
Thymus	BM-A3(H2)	Describe the histological structure & function of thymus	Lecture / Practical	K	MCQ / OSPE
	BM-A(P2)	Identify the histological features of thymus under the microscope.	Practical	KSA	MCQ / OSPE
Tonsil	BM-A4(H3)	Describe the gross & histological structure & function of tonsil	Lecture / Practical	K	MCQ / OSPE
	BM-A(P3)	Identify the histological features of tonsil under the microscope.	Practical	KSA	MCQ / OSPE
Immunity	P17	Describe the structure of antibody, types and their functions along with the structure of antigen	Interactive Lecture/Tutorial	Knowledge	MCQ / OSPE
	P18	Discuss mechanism of humoral & cell mediated immunity	Interactive Lecture	Knowledge	MCQ
	P19 +20	Discuss the different types of Hypersensitivity	Interactive Lecture	Knowledge	MCQ
	P21	Define the different blood disorder terminologies with their Causes (WBC & Platelets)	Flipped class room	Knowledge	MCQ/ quiz with socrative
	P22	Discuss the complement system		Knowledge	MCQ / OSPE



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Development Of Tooth And Its Supporting Structures	O1	List the stages associated with the development of tooth	Lecture/ Tutorial	Knowledge	MCQ / OSPE
		Describe the theories associated with tooth type determination		Knowledge	MCQ / OSPE
	O2-03	Explain stages of tooth development		Knowledge (think pair share)	MCQ / OSPE
		Differentiate among various stages of tooth development on micrograph		Knowledge	MCQ / OSPE
	O4-05	Draw stages of tooth development		Skill	MCQ / OSPE
Distinguish between root formation in single and multi-rooted teeth		Knowledge	MCQ / OSPE		
Eruption	T1	Define Eruption and Emergence	Knowledge	MCQ / OSPE	
		Describe sequence of eruption of primary and permanent teeth	Knowledge	MCQ / OSPE	
		Explain the process of crown and root development	Knowledge	MCQ / OSPE	
Primary Dentition	T2	Describe the major differences between primary and permanent dentition	Knowledge	Quiz / Assignment	
		Discuss differences between pulp chambers and pulp canals present in primary and permanent teeth	Knowledge	Quiz	
Oro Facial Complex	T3-4	Define embrasures and types	Knowledge	Quiz	
		Discuss the purpose of embrasures	Knowledge	Quiz	
		Define proximal contact areas visible in clinical pictures of oral cavity showing teeth.	Knowledge	Quiz	
		Define interproximal spaces	Knowledge	Quiz	



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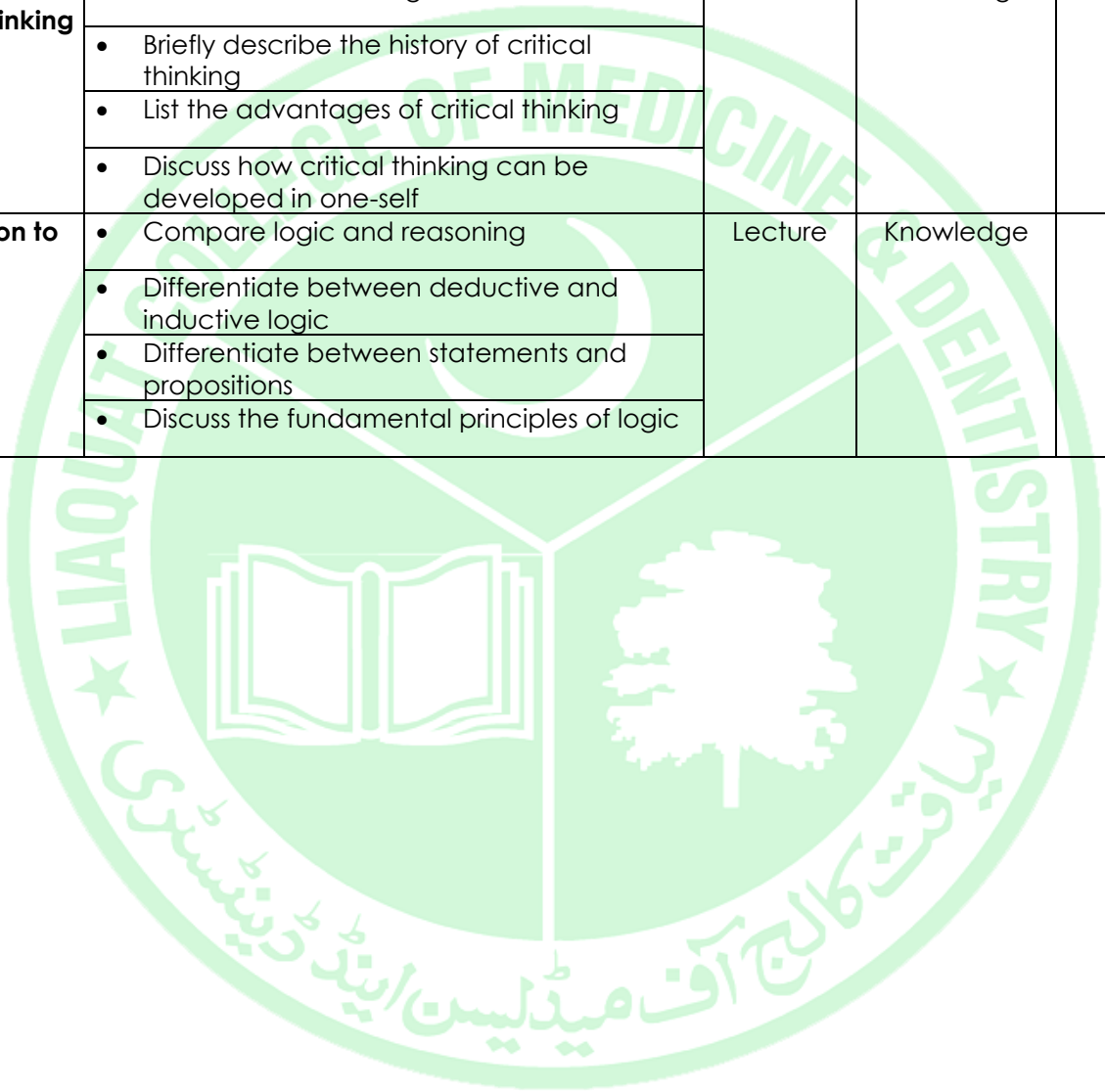
ISLAMIC STUDIES				
Topic	Objectives	Mode of Teaching	KSA Competencies	Assessment Tools
		Lecture/ Tutorials	Knowledge/ Skill/ Attitude	
INTRODUCTION TO THE HOLY QURAN				
Introduction To The Holy Quran	<ul style="list-style-type: none"> Discuss the importance of the Quran in our daily lives 	Lecture	Knowledge	MCQs
	<ul style="list-style-type: none"> Describe briefly the history of revelation of the Quran (Prediction of Warqa bin Naufal, 1st Revelation etc). 	Lecture		
	<ul style="list-style-type: none"> Explain how the Quran is the greatest miracle of Rasool-ullah (S.A.W). 			
	<ul style="list-style-type: none"> Explain how the Quran was compiled in different ways in the era of: <ul style="list-style-type: none"> Rasool-ullah (S.A.W) Abu Bakar (R.A.) Usman Ghani (R.A.) 			
	<ul style="list-style-type: none"> Discuss the Quranic Sciences (Uloom ul Quran): <ul style="list-style-type: none"> Definition and differences between Makkan and Madinah verses or chapters. Explain the Shan e Nuzool / reasons for the revelation (Two examples) 			
	<ul style="list-style-type: none"> Differentiate between the Abrogator & Abrogated verses (Nasikh & Mansookh) (Two examples) 			



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INTRODUCTION TO ETHICS				
Topic	Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
Development of Critical Thinking Skills	• Define critical thinking	Lecture	Knowledge	MCQs
	• Briefly describe the history of critical thinking			
	• List the advantages of critical thinking			
	• Discuss how critical thinking can be developed in one-self			
Introduction to Logic	• Compare logic and reasoning	Lecture	Knowledge	MCQs
	• Differentiate between deductive and inductive logic			
	• Differentiate between statements and propositions			
	• Discuss the fundamental principles of logic			





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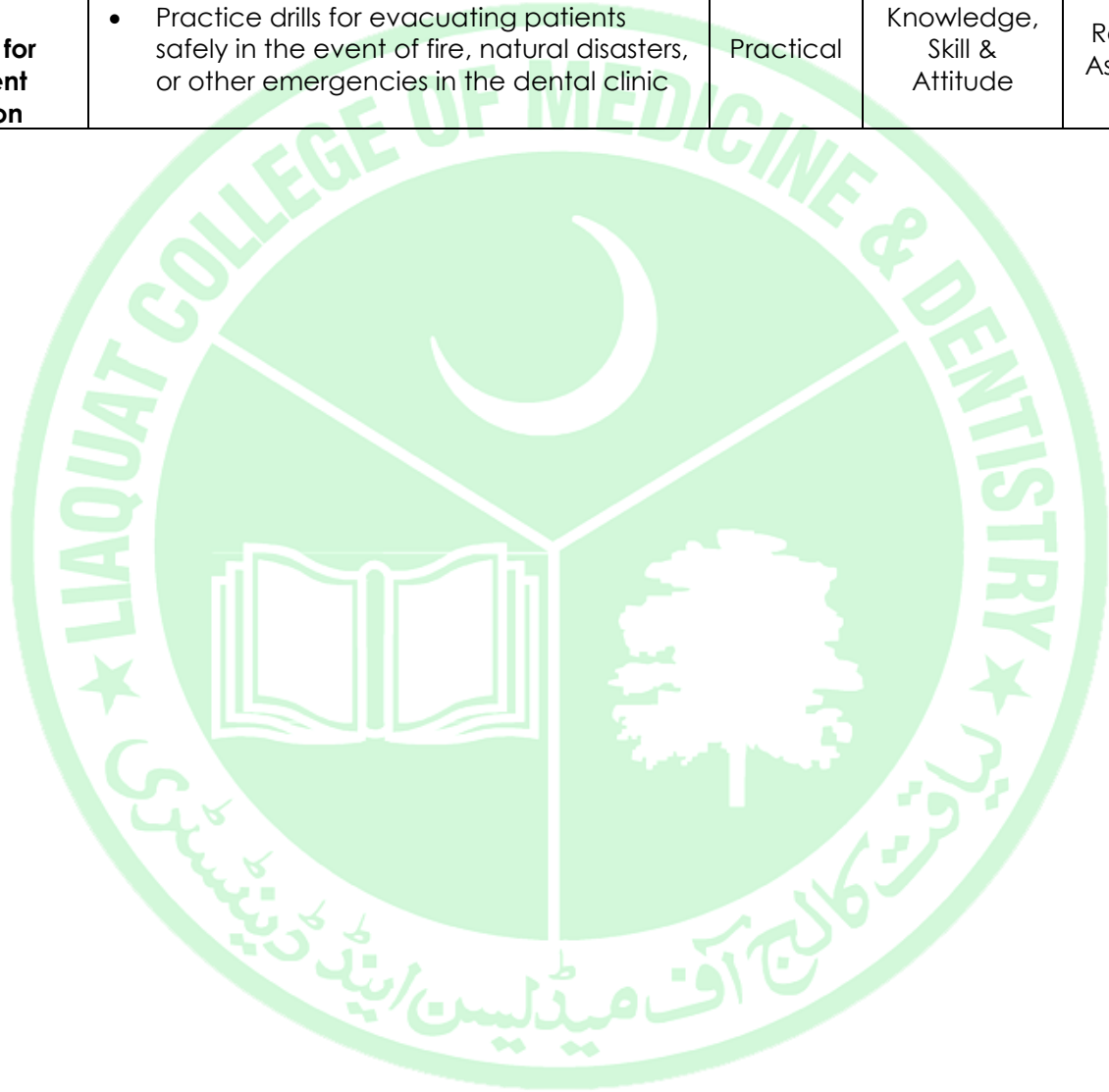
RESEARCH				
Topic	Objectives	Learning Strategy	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
How to Perform Literature Search	<ul style="list-style-type: none"> Perform literature search by using Boolean Search 	Tutorial /Workshop	KSA	Summative Assignment
Observational analytical study design; cross-sectional study	<ul style="list-style-type: none"> Discuss the importance of these research designs in health care provision Explain the methodology of these research designs 	Lecture	KSA	Formative Group project
Observational analytical study design: case control study and odds ratio	<ul style="list-style-type: none"> Discuss the importance of these research designs in health care provision Explain the methodology of these research designs 	Lecture	KSA	Formative Group project
Observational analytical study design; cohort study and relative risk	<ul style="list-style-type: none"> Discuss the importance of these research designs in health care provision Explain the methodology of these research designs 	Lecture	KSA	Formative Group project
Experimental studies:	<ul style="list-style-type: none"> Discuss the importance of these research designs in health care provision Explain the methodology of these research designs 	Lecture	KSA	Formative Group Project



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PATIENT SAFETY				
Topic	Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Lectures		
Optimizing fire safety protocols for safe patient evacuation	<ul style="list-style-type: none">Practice drills for evacuating patients safely in the event of fire, natural disasters, or other emergencies in the dental clinic	Practical	Knowledge, Skill & Attitude	Role Plays, Assignment





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LEADERSHIP, PROFESSIONALISM & ETHICS (LeaPE)				
Topic	Objectives	Mode of Teaching	KSA Competencies	Assessment Tools
		Lecture/ Tutorials	Knowledge/ Skill/ Attitude	
LEADERSHIP				
Leader vs manager	<ul style="list-style-type: none"> Differentiate between leader and manager Discuss factors affecting leadership 	Lecture /role play/ Small group discussion	KSA	MCQs/OSPE
	<ul style="list-style-type: none"> Identify the difference between leadership and management. Identify the key roles and responsibilities of a leader and a manager. Discuss factors influencing leadership effectiveness. Apply leadership and management principles in dental practice. 			

