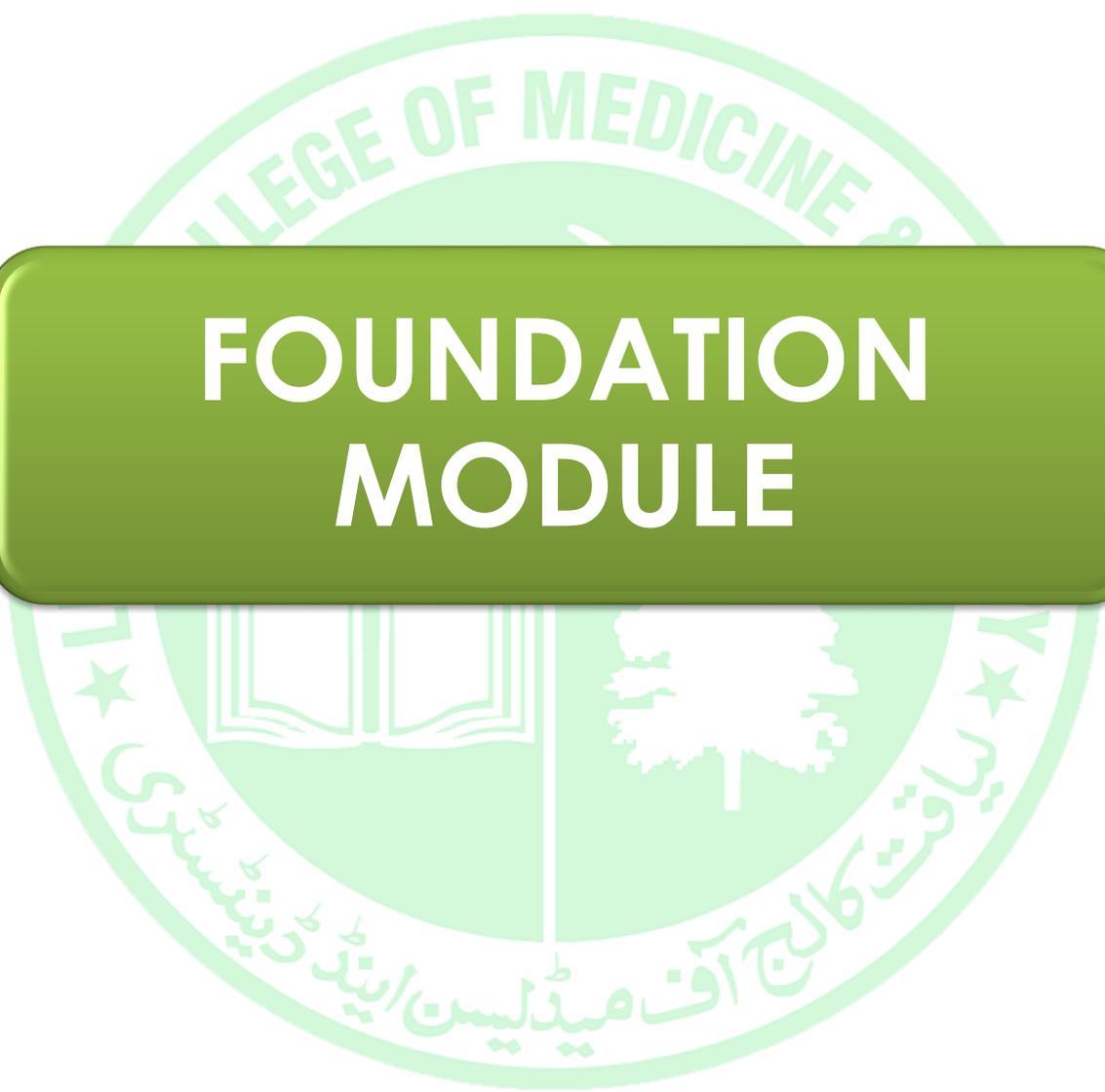




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**FOUNDATION
MODULE**





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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



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CONTENT
FOUNDATION MODULE

Subject Name		TOTAL NO: OF LECTURES	WEEK PER MODULE	MODE OF TEACHING
ANATOMY	General Anatomy	06	04 Weeks	Lecture / Tutorial
	Embryology	08		Lecture
	Histology	08		Lecture / Practical
	Practical	06		Practical
PHYSIOLOGY	Lecture	10		Lecture / Tutorial
	Practical	01		Practical
BIOCHEMISTRY	Lectures	12		Lecture / Tutorial
	Practical	06		Practical
ORAL BIOLOGY	Oral Biology	08	Lecture	
	Tooth Morphology	02	Lecture	
Total		67		



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Topic	Lecture	Foundation - Learning Objectives	Learning Strategy	KSA Competencies Knowledge/Skill/Attitude	Assessment Tools
INTRODUCTION					
Introduction	FM-A1(Gn1)	<ul style="list-style-type: none"> Define anatomy and its branches. Discuss their practical implication. 	Lecture	K	MCQ
	P1	Introduction to foundation module	Lecture	Knowledge	MCQ
		Describe the basic life process and survival need of the body		Knowledge	MCQ
		Describe the importance of Physiology in modern Dentistry		Knowledge	MCQ
	B1	Explain the importance of Biochemistry in Dentistry	Lecture	Knowledge	MCQ
	B(P)1	List the significance of Laboratory Hazards and warning signs	Practical/Tutorial	Knowledge Skill	MCQ / OSPE
	O1	List the tissues and supporting structures of tooth	Lecture/Tutorial		
	O2	Identify the structure of tooth on simulation/picture		Knowledge	MCQ
	O3	Describe the composition of tissues and supporting structures of tooth		Knowledge	MCQ
		Locate the tissues of tooth and supporting structures on simulations		Skills	
		Distinguish among different tissues of the oral cavity		Knowledge	MCQ
	T1	Discuss all three dentitions (primary, mixed and permanent) according to their chronological era (order)	Lecture/Tutorial	Knowledge	MCQ
		Discuss dental formulae for permanent and primary dentitions		Knowledge	
	T2	Discuss different numbering systems for teeth.	Lecture/Tutorial	Knowledge	Google Classroom
		Correlate numbering systems based on identification of individual teeth.		Knowledge , Skills	Tooth Models



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Terms of Planes, Positions And Movements	FM-A2-3(Gn2-3)	Define various planes, positions and terms of movement in relation to trunk, head & neck in particular. Relate the movements with planes	Lecture/ Tutorial/SG D	KSA	MCQ / OSPE
Homeostasis & Feedback control mechanism	P2 + 3	Explain body fluid compartments, ECF composition (internal environment) & homeostasis with examples.	Lecture/ Tutorial	Knowledge	MCQ / Assignment
		Describe the control systems of the body. (Positive and negative feedback)		Knowledge	MCQ Assignment
Introduction To Embryology	FM-A4 (E1)	Define: Embryonic & Fetal period, Trimesters, Terms of position related to fetus and induction factors.	Lecture	K	MCQ
Introduction To Limbs	FM-A5(Gn4)	Identify the general arrangement of bones & muscles in the limb	Lecture	K	MCQ
Cell Membrane & Organelles	FM-A6-7(H1-2)	Discuss histological aspects of cell components. Relate cell junctions with their location & function. Describe phases of cell cycle & steps of mitosis.	Lecture	K	MCQ / OSPE
	FM-A(P1)	Identify different component in various cells, visualized under light microscope.	Practical	KSA	MCQ / OSPE
	B2	Describe the biomedical importance of micro and macro molecules found in cell Organelles.	Lecture/ Tutorial	Knowledge	Quiz Assign
		Explain the biochemical structure and functions of cell membrane		Knowledge	Quiz Assign
	P4	Discuss the structure function and importance of cell membrane	Lecture/ Tutorial	Knowledge	MCQ / OSPE / Google Assignment



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	P 5+6	Describe functions of different cell organelles		Knowledge	MCQ / OSPE/ Google Assignment
Cell division	FM-A8(E2)	List the types of cell division. Discuss steps of Meiosis	Lecture	K	MCQ / OSPE
Microscope	FM-A(P2)	<ul style="list-style-type: none"> Identify different parts of microscope along with their function. Demonstrate operational steps of microscope handling. 	Practical	KSA	MCQ / OSPE
Cytoskeleton	O4	Define cytoskeleton	Lecture/ Tutorial	Knowledge	MCQ
		Enumerate its structural element		Knowledge	MCQ
	O5	Classify intercellular junction on the basis of structural and functional histology		Knowledge	MCQ
	O6	Define fibroblast, cellular organization		Knowledge	MCQ
	O7	Explain the epithelium-connective tissue interface		Knowledge	MCQ
	O8	Discuss excretory products of fibroblast and collagen synthesis		Knowledge	MCQ
Describe extracellular matrix degradation		Knowledge	MCQ		
Osmosis	P7+8	Discuss cytoskeleton Discuss different types of membrane transport with examples	Lecture/ Tutorial	Knowledge	MCQ
		Define osmosis and osmotic pressure		Knowledge	MCQ
		Define the term tonicity		Knowledge	MCQ
		Distinguish between isotonic, hypotonic and hypertonic solution		Knowledge, Skills	MCQ / OSPE
Epithelium	FM-A9-10(H3-4)	<ul style="list-style-type: none"> Describe general features of epithelium. Classify epithelium with examples. Describe the specialization of each domain (surface modifications). 	Lecture	K	MCQ
	FM-A(P3)	Differentiate different types of epithelia according to their characteristic identification	Practical	KSA	MCQ / OSPE
Exocrine gland	FM-A11-12(H5-6)	<ul style="list-style-type: none"> Classify exocrine glands according to morphology; type & mode of secretion. 	Lecture	K	MCQ



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	FM-A(P4)	To study the different types of exocrine glands	Practical	KSA	MCQ / OSPE
Transport across and through cell membrane	P9+10	Define and give types of active transport with examples	Lecture	Knowledge	MCQ/ Quiz Assignment
		Describe the following processes: <ul style="list-style-type: none"> - Bulk transport - Phagocytosis - Pinocytosis 		Knowledge	MCQ/ Quiz Assignment
	P(P)1	Interpret the effects of isotonic, hypotonic and hypertonic solutions (osmotic fragility)		Knowledge , Skills & Attitude	OSPE
REPRODUCTIVE SYSTEM EMBRYOLOGY	FM-A13-14(E3-4)	<ul style="list-style-type: none"> • Identify the parts of male & female reproductive system. • Discuss their contribution in gamete formation and transportation. • Relate meiosis with gamete formation. 	Lecture	K	MCQ
Connective tissue	FM-A15-16(H7-8)	<ul style="list-style-type: none"> • Relate the general features of connective tissue with the functions. • Describe the characteristic features, location and functions of its components (cell, matrix). • Classify connective tissue with examples. • Differentiate types of adipose tissue. 	Lecture	K	MCQ
	FM-A(P5)	Identify different varieties of connective tissue proper at different sites.	Practical	KSA	MCQ / OSPE
Fertilization	FM-A17(E5)	<ul style="list-style-type: none"> • Describe the phases of fertilization. • Enumerate the results of fertilization. • Describe Stages of fertilization on a given model, photograph or specimen. • Relate uterine changes in response to fertilization. 	Lecture/ Tutorial	K	MCQ
Cleavage & Implantation	FM-A18(E6)	<ul style="list-style-type: none"> • Explain cleavage and blastocyst formation. • Name the normal and abnormal sites of implantation of blastocyst 	Lecture	K	MCQ



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Skin	FM-A19-20(Gn5-6)	<ul style="list-style-type: none"> • Define epidermal & dermal components. • Differentiate tension, flexure & papillary ridges. • Define superficial & deep fascia with examples. • Differentiate thick & thin skin. • Relate the function of each type of cell in epidermis. • List the dermal appendages. • Describe the glands of skin. 	Lecture	K	MCQ / OSPE
	FM-A(P6)	<ul style="list-style-type: none"> • Identify the layers of epidermis and the dermal appendages. 	Practical	KSA	MCQ / OSPE
2nd week of development	FM-A21(E7)	<ul style="list-style-type: none"> • Describe the formation of structures during 2nd week. 	Lecture	K	MCQ / OSPE
3rd week of development (I)	FM-A22(E8)	<ul style="list-style-type: none"> • Describe gastrulation and Neurulation. • Discuss the differentiation of mesoderm and somite formation. • List derivatives of germ layers. 	Lecture	K	MCQ / OSPE





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Topic	Lecture	Foundation - Learning Objectives	Learning Strategy	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
CARBOHYDRATES , LIPIDS & PROTEIN					
Chemistry of Carbohydrates	B3	Describe the biomedical importance of carbohydrates	Lecture/ Tutorial	Knowledge	MCQ
		Explain the structure of carbohydrates with regards to the following: i. Isomers and epimers (D and L sugars) ii. Enantiomers iii. Cyclization of monosaccharide		Knowledge	Quiz Google Classroom Assignment /OSPE
	B(P)2	Detect of carbohydrates according to the general Scheme	Practical	Skills	Quiz /OSPE
	B(P)3	Detect sucrose & starch in the given sample?		Skills	Quiz /OSPE Assignment
	B(P)4	Detect glucose in the given sample?		Skills	OSPE / MCQ
	B4	Classify of carbohydrates according to the following criteria i. Monosaccharide (aldoses and ketoses) ii. Disaccharides (reducing and non-reducing sugars) iii. Polysaccharides (homopolysaccharides and heteropolysaccharides) iv. Glycosides	Lecture/ Tutorial	Knowledge	Quiz Assignment Assessment Google Classroom
B5	Describe the following reactions of carbohydrates: i. Oxidation and reduction reactions ii. Esterification		Knowledge	Quiz Assignment Assessment Google Classroom	
Chemistry of Lipids	B6	Define lipids.	Lecture/ Tutorial	Knowledge	
		Classify lipids according to Bloor's classification		Knowledge	
		Describe the nomenclature of fatty acids: i. Saturated and unsaturated fatty acids ii. Essential and non-essential fatty acids		Knowledge	Quiz Assignment Assessment Google Classroom
		Describe the physical and chemical properties of lipids, which properties		Knowledge	Quiz Assignment
		Explain the physical and chemical properties fatty acids.		Knowledge	Quiz Assignment



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	B(P)5	Discuss the qualitative detection of lipids, cholesterol & bile salt	Practical	Skills	OSPE /MCQ
	B7	List compound lipids with its functions (Phospholipids) Explain the biomedical importance of lipids.	Lecture/ Tutorial	Knowledge	Quiz Assignment Assessment Google Classroom
Chemistry of Protein	B8	Describe the importance of amino acids and proteins.	Lecture/ Tutorial	Knowledge	Quiz Assignment Assessment Google Classroom
		Explain the structure of amino acids with different types of side chain (non-polar, polar, acidic, basic, aromatic, aliphatic)		Knowledge	Quiz Assignment
	B9	Classify amino acids on the basis of structure, functions & nutritive value	Lecture/ Tutorial	Knowledge	Quiz Assignment
		Describe the following classes of amino acids with examples. i. Glucogenic and ketogenic amino acids. ii. Non-protein amino acids. iii. Essential and non-essential amino acids.		Knowledge	Quiz Assignment Assessment
		Describe the physical and chemical properties of amino acids.		Knowledge	Quiz Assignment
	B10	Describe the primary, secondary, tertiary and quaternary structures of proteins.	Lecture/ Tutorial	Knowledge	Quiz Assignment
		Classify the proteins on the basis of structure & functions		Knowledge	Quiz Assignment
	B11	Describe the structure and functions of hemoglobin and myoglobin.	Lecture/ Tutorial	Knowledge	Quiz Assignment
		Explain the hemoglobin-oxygen dissociation curve		Knowledge	MCQ/Assignment
	B12	Define plasma protein,	Lecture/ Tutorial	Knowledge	Quiz / Assignment
		Classify plasma protein on the basis of their functions		Knowledge	Quiz / Assignment
		Discuss biomedical importance of plasma protein		Knowledge	Quiz / Assignment
B(P)6	Detect proteins & amino acids in the given sample	Practical	Knowledge	Quiz / Assessment	



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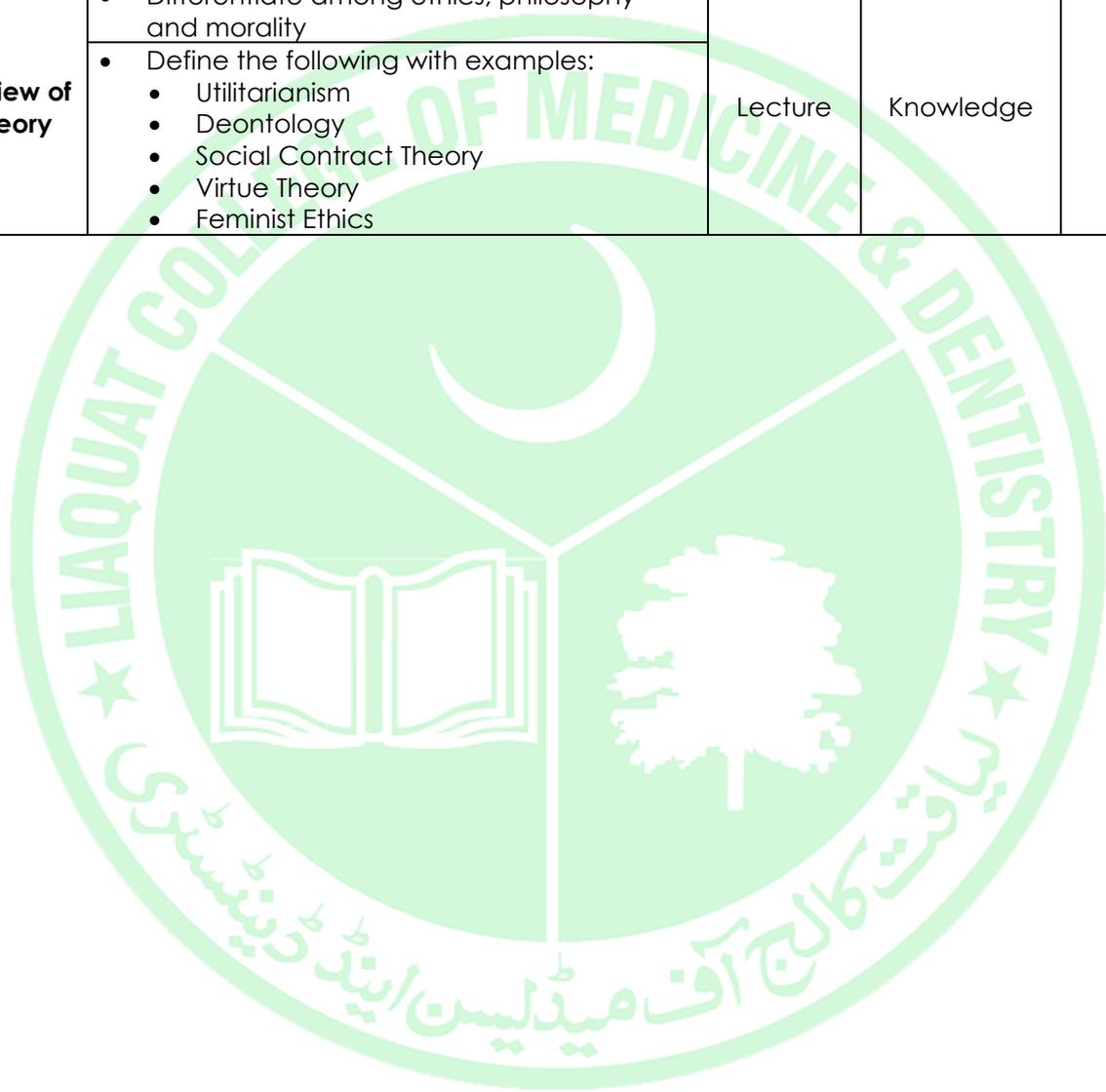
ISLAMIC STUDIES				
Topic	Objectives	Mode of Teaching	KSA Competencies	Assessment Tools
		Lecture/ Tutorials	Knowledge/ Skill/ Attitude	
INTRODUCTION TO THE HOLY QURAN				
Introduction To The Holy Quran	<ul style="list-style-type: none"> Discuss the importance of the Quran in our daily lives 	Lecture	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	Assessment Tools
		Lecture/Tutorials	Knowledge/Skill/ Attitude	
An Overview of Ethical Theory	<ul style="list-style-type: none">Differentiate among ethics, philosophy and morality	Lecture	Knowledge	MCQs
	<ul style="list-style-type: none">Define the following with examples:<ul style="list-style-type: none">UtilitarianismDeontologySocial Contract TheoryVirtue TheoryFeminist Ethics			





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RESEARCH				
Topic	Objectives	Learning Strategy	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
Importance of Research in Health Care Profession	<ul style="list-style-type: none">Discuss the importance of research in health care provisionIdentify the problems related To health in the community	Lecture	KSA	Summative Assignment
How to Formulate a Research Question	<ul style="list-style-type: none">Formulate scientifically correct research questions	Lecture	KSA	Summative Assignment
Writing background of the study	<ul style="list-style-type: none">Write the background which should lead to the rationale for the studyWriting and justification of the rationale of study	Tutorial	KSA	Formative Group project

