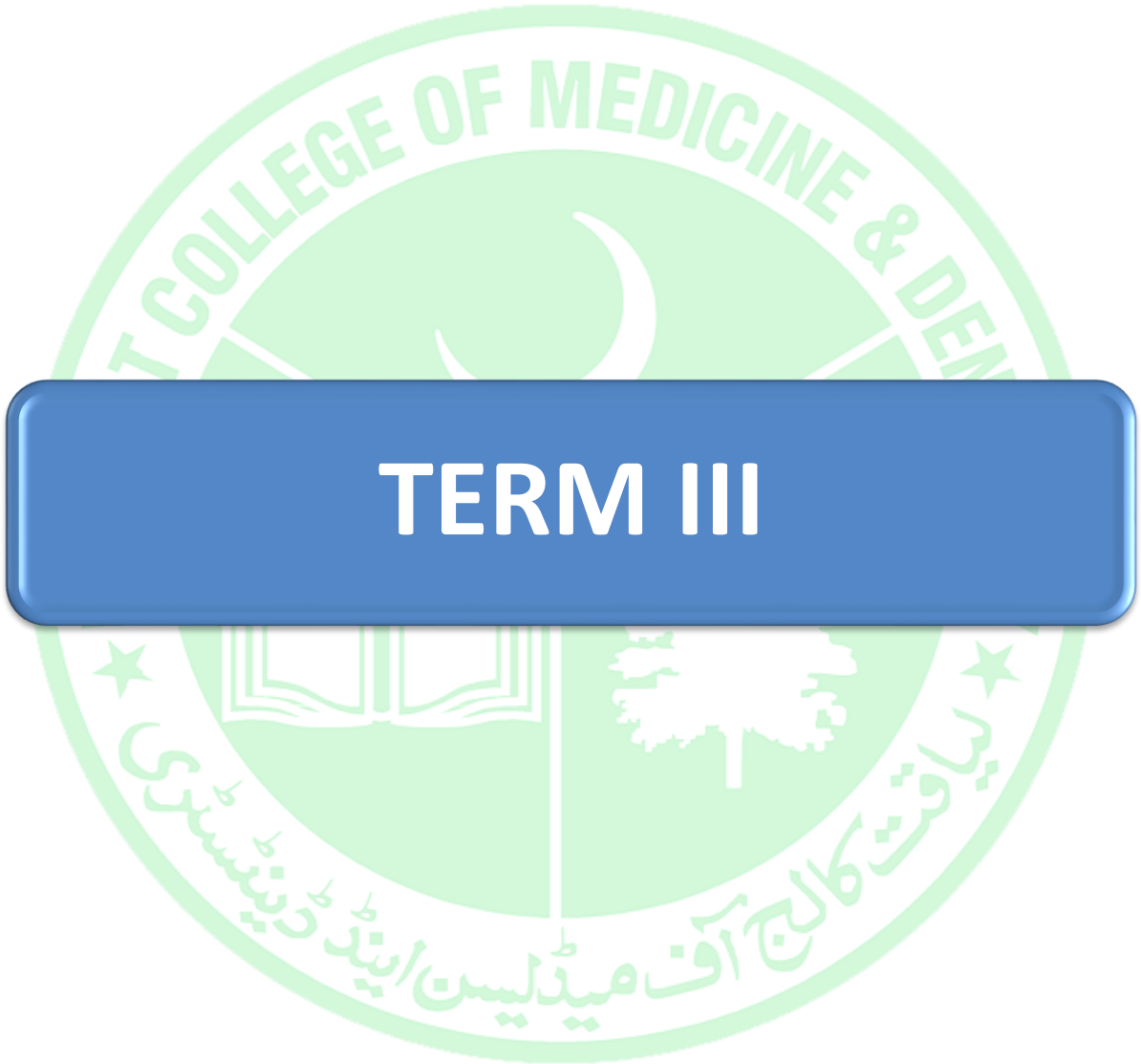




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COMMUNITY DENTISTRY				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
Reading Dental Literature	Define dental literature.	Lecture (2) Tutorial	K	Assignment Class quiz OSPE TITLE/TOPIC DESIGNING
	Explain the sources of literature.		K	
	Define Peer review		K,S	
	Discuss the limitations of peer review.		K	
	Differentiate between Text book and Peer review journals		K,S	
	Discuss all major criteria for judging the quality of a journal		K,S	
	Discuss all major criteria for judging the quality of an individual paper		K	
Evidence-Based Dentistry	Define Evidence Based Dentistry with 2 examples	Lecture (2) Tutorial	K,S	Assignment BCQ/PBL
	Discuss the rating system for evaluating the quality of literature.		K,S,A	
	Define systemic review and its significance in EBD.		K,S	
			K	
	List limitations of EBD dentistry.			
Dental public health	Define Public health	Lecture (2)	K,S	Assignment Class quiz OSPE /TBL
	Identify the concept and functions of Public Health Agencies		K,S,A	
	Discuss the criteria of identifying a Public health problem			



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	Define the functions of public health dentist		K,S	
	Differentiate between personal & community health care in 5 major points.		K	
Fluoride: Human Health and Caries Prevention	List the Sources of fluoride intake with their optimal levels		K	Assignment BCQ OSPE Class Presentation/CBL
	Discuss Fluoride physiology, in regards to 1. Absorption 2. Retention 3. Excretion	Lecture (2) Tutorial	K	
	Discuss the relation of Fluoride and human health, with reference to Early studies and child development		K	
	Define Fluoride toxicity		K	
	Discuss mechanism of action of fluoride in caries prevention		K	
Fluoridation Of Drinking Water	Define optimal fluoride concentrations in drinking water.		K	BCQ OSPE/TBL
	Discuss all the early studies of fluoridated water.	Lecture	K	
	List all of the Drinking water standards.	(2)	K	
	Describe the Caries pattern when fluoridation ceases.		K	
	Discuss the fluoridation of drinking water in schools.		K	
Dental Fluorosis	Define Fluorosis	Lecture	K	BCQ OSPE Community visit/ flip classroom
	Discuss Risk factors for dental Fluorosis	(1)	K	
	Differentiate between Dental Fluorosis and Caries	Tutorial Model presentation	K,S	
Measuring Dental Fluorosis	Discuss criteria for Deans Fluorosis index	Lecture	K,S	Assignment BCQ OSPE
	Discuss clinical criteria and categorizations for the Tooth surface index of Fluorosis	(1)	K,S	
	Discuss clinical criteria and scoring for	Tutorial	K,S	



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	Thylstrup fejerskov fluorosis index		K,S	Community visit/CBL
	Discuss criteria for fluorosis risk index		K,S	
	Discuss criteria for developmental defects of dental enamel index		K,S	
	Differentiate between milder forms of dental fluorosis and non-fluoride opacities of enamel in 7 majors points			
Measuring Other Oral Conditions	Discuss clinical criteria and scoring of	Lecture	K,S	BCQ
	1. Malocclusion 2. Cleft lip and palate 3. Oral cancer 4. Oral health impact profile General oral health assessment index	(2) PICTORIAL INTERACTIVE SESSION,CBL		OSPE PBL Class quiz
	Discuss the 5 stages of DHC		K	
	Discuss Oral cancer, cleft lip and palate, malocclusion and TMJ disorder under following headings		K,S	
	1. Definition 2. Occurrence and distribution Risk factors			
Oral Cancer And Other Oral Conditions	Define soft tissue precancerous lesions and conditions i.e. leukoplakia, erythroplakia	Lecture	K,S	BCQ
	Discuss the role of dental professionals in preventing oral cancer.	(1) Tutorial, INTERACTIVE PICTORIAL SESSION, CBL		OSPE Class Presentation
UTILIZATION of fluoride in caries prevention	Discuss utilization and sources of fluoride	Lecture (1)	K,A	BCQ
	Discuss Fluoridated school drinking water	Tutorial	KA	OSPE
	Discuss 5 types of Dietary fluoride supplements	Flipped classroom	K	Flipp classroom
	Define Professionally applied fluoride		K,S	
	Discuss Fluoride exposures		K	



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DENTAL MATERIALS				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
ELASTIC IMPRESSION MATERIAL				
Introduction	Analyze the chemical mechanism of dental hydrocolloid.	Lecture (1) Practical/Tutorial	K	Class test Group assignment Class Participation Group Presentations
Reversible Hydrocolloid (Agar)	Define the agar Impression materials	Lecture	K	
	Discuss the manipulation, clinical consideration and properties of agar impression material.			
Irreversible Hydrocolloid (Alginate)	Define the term Syneresis and Imbibition	Lecture (1) Practical/Tutorial	K	
	Define the Alginate Impression Materials			
Decontamination	Discuss the manipulation, clinical consideration and properties of Alginate impression.	Lecture (1) Practical/Tutorial	K/S	
	Relate the infection control with Impression materials			
Combined Reversible/Irreversible Technique	Compare and contrast the techniques with combined use of Reversible & Irreversible hydrocolloids.	Lecture (1) Tutorial	K/S	
Modified Alginate	Describe the modified form of alginate.	Lecture (1) Tutorial	K	
Practical	Design the Wax Setup Prepare OSPE Spots	Practical	S	

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
ELASTIC IMPRESSION MATERIAL (ELASTOMERS)				
Introduction	Classify elastomeric impression materials on the basis of their elasticity.	Lecture (1) Tutorial	K	Class test Group assignment Class Participation Group Presentations
Polysulphides	Describe the composition, properties, setting reaction and clinical considerations of polysulphides.	Lecture (1) Practical/Tutorial	K	
Silicone Rubber (Condensation curing)	Explain the composition, properties, setting reaction and clinical considerations of silicone rubbers (condensation polymer)	Lecture (1) Practical/Tutorial	K	
Silicone Rubber (Addition curing)	Discuss the composition, properties, setting reaction and clinical considerations of silicone rubbers (addition polymer)	Lecture (1)	K	



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Addition curing)	rubbers (Addition polymer)	Practical/ Tutorial		
Polyethers	Discuss the composition, properties, setting reaction and clinical considerations of polyethers .		K	
Comparisons of the properties of Elastomers	Compare the properties of elastomers dependent upon: Mechanical Properties Physical Properties	Lecture (1) Practical/ Tutorial	K	
Jaw Registration	Describe the recording interocclusal relationship using elastomeric Impression materials	Lecture (1)	K/S	
Practical	1. Design Wax Setup 2. Prepare OSPE Spots	Practical	S	

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
DENTURE BASE POLYMER				
Introduction	Define the term denture base.	Lecture (1) Practical/ Tutorial	K	Class test Group assignment Class Participation Group Presentations
	Describe the denture base polymers		K/S	
	Analyze the steps and techniques of fabrication of acrylic denture base. (Injection moulding method, Dough moulding method, Pourable resin technique)	Lecture (1) Practical/ Tutorial	S	
Requirements of Denture base polymers	List the requirements of denture base materials depending upon its properties (Physical, Mechanical, Chemical, Biological, Miscellaneous)	Lecture (1) Practical/ Tutorial	K	
Acrylic Denture base materials	Classify the polymeric denture base materials on the basis of the composition and functions of each component.	Lecture (1) Practical/ Tutorial	K	
Mixing & Curing (Heat Curing Materials)	Explain the manipulation and curing characteristics of Acrylic denture base	Lecture (1) Practical/ Tutorial	K	
Mixing & Curing (Auto polymerizing Materials)	List the components that are cured using light source.	Lecture (1) Practical	K	
Structure of the set material	Describe the microstructure of set acrylic material.	Lecture (1) Practical/	K	



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		Tutorial		
Properties	Discuss the physical, mechanical and chemical properties of acrylic denture base material.		K	
Modified Acrylic materials	Describe the modified acrylic materials which show increased mechanical properties.	Lecture (1) Tutorial	K	
Alternative Polymer	Define the modification of acrylics using polycarbonates		K	

Topic	Learning Objectives	Mode of Teaching	KSA Competencies	Assessment Tools
		Lecture/ Tutorials	Knowledge/ Skill/ Attitude	
DENTURE LINNING MATERIAL				
Introduction	Classify denture lining material on the basis of uses	Lecture (1)	K	Class test Group assignment Class Participation Group Presentations
Hard Reline Materials	Define the term relining. Discuss the composition and properties of Hard reline material.	Practical/ Tutorial		
Tissue Conditioners	Describe soft denture liners and its functions. Discuss the requirements, composition and properties of tissue conditioners.	Lecture (1) Practical/ Tutorial	K	
Soft Lining Materials	List the requirements of permanent soft lining materials and temporary soft lining materials Describe the properties of temporary soft lining materials and permanent soft lining materials.	Lecture	K	
SelfAdministered Relining Materials	Discuss the Self-administered relining materials	Lecture (1) Practical/ Tutorial	K	
Practical	1. Fabricate Acrylic Partial Denture 2. Prepare OSPE Spots	Practical	S	



LIAQUAT COLLEGE OF MEDICINE AND DENTISTRY
DEPARTMENT OF HEALTH PROFESSIONS EDUCATION
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Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
ADHESIVE RESTORATIVE MATERIAL				
Introduction	Define the adhesive restorative materials.	Lecture (1) Practical	K	Class test Group assignment Class Participation Group Presentations
	Enumerate the advantages of adhesive restorative materials,		K	
	Describe the general mechanical aspects of adhesion		K	
Acid etch systems for bonding to enamel.	Discuss the process of acid etching to enamel.	Lecture (1) Practical/ Tutorial	K	Flipped Classroom
	Identify the patterns of enamel etching		K	
	Explain the factors which affects the properties of bonding systems in detail.		K	
	Describe the role of etchant for restorative materials.		K	
Applications of Acid Etch Technique	Discuss the applications of acid etch in clinical practice	Lecture (1)	K	
	List the indications and contraindications of composite restoration	Tutorial	K	
Bonding to dentine	Describe the bonding of adhesive to dentine	Lecture (1)	K	
	List the drawbacks of adhesive to dentine	Practical/ Tutorial	K	
Attempts at chemical bonding	Identify the chemical links of adhesive to the tooth surface with diagrams.	Lecture (1) Practical/ Tutorial	K	
Dentine Conditioning The smear layer	Define the term smear layer	Lecture (1) Practical/ Tutorial	K	Class test Group assignment Class Participation Group Presentations
	Define the term conditioner		K	
	Discuss the commonly used dentine conditioners		K	
	List the advantages		K	
	Enlist the purpose of using dentine conditioners.		K	
Priming and bonding	Define the role of primer		K	
Current concepts in dentine bonding – the hybrid layer	Describe the different approaches developed to achieve hybrid layer formation i. Total etch method. ii. Self-Etching primer method.	Lecture (1) Practical/ Tutorial	K	
			K	
Classification	Classify the dentine bonding systems	Lecture	K	



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of dentine bonding systems	according to generation	(1) Practical/ Tutorial		
Bonding to alloys, amalgam and ceramics	Differentiate the bond between the composite and metal by mechanical retention		S	
	Describe the systems which bond to ceramics.		K	
Bonding in Orthodontics	List the available materials to attach orthodontic brackets.	Lecture (1) Practical/ Tutorial	K	
Bond Strength and leakage measurements	Discuss the methods used for assessing adhesives strength.			
Polymerisable luting agents	Distinguish the luting agents used in association with adhesive dentine bonding agents,		K	
	List the types of polymerisable lutes available (Composite Resins or RMGIC)		K	
Lightly filled diacrylate resins	Describe the lightly filled diacrylate resins along with example.	Lecture (1) Practical/ Tutorial	K	
Chemically Active resins	Define the chemically active resin lutes		K	
	List the various types of chemically active materials i. Phosphorylated materials ii. 4META products	K		
Practicals	Fabricate Adam's clasp	Practical	S	
	Fabricate Labial bow		S	
	Fabricate Z spring		S	
	Prepare OSPE Spots		S	



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DEPARTMENT OF HEALTH PROFESSIONS EDUCATION
COLLEGE OF DENTISTRY



Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
CLASSIFICATION OF IMPRESSION MATERIAL				
Introduction	List the uses of Impression Materials in dentistry	Lecture (1) Practical	K	Class test Group assignment Class Participation Group
	Describe the procedure of Impression taking with working & setting characteristics.	/ Tutorial	K	Presentations
	Classify impression materials based on its viscosity and elasticity.		K	
Classification of Impression materials: Requirements	Describe the ideal requirements of Impression materials	Lecture (1) Practical/ Tutorial	K	
Clinical Considerations	List the clinical considerations for impression materials.	Lecture (1) Practical/ Tutorial	K	
Cross Infection Control	Explain the Patient and operator protocols in order to control the spread of cross infection.	Lecture (1) Practical	K	

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
NON ELASTIC IMPRESSION MATERIAL				
Introduction	List the properties of Non—elastic Impression Materials	Lecture (1)	K	Class test Group assignment Class Participation Group Presentations
Impression Plaster	Discuss the composition, properties, handling characteristics and uses of impression plaster	Practical/ Tutorial		
Impression Compound	Describe the composition, properties, handling characteristics, uses and manipulation of impression compound	Lecture (1) Tutorial	K	
Impression Waxes	Explain the composition, properties, handling characteristics, uses and manipulation of impression waxes		K	
Impression Pastes	Discuss the composition, properties, handling characteristics, uses and manipulation of impression paste	Lecture (1) Practical/ Tutorial	K	



LIAQUAT COLLEGE OF MEDICINE AND DENTISTRY

DEPARTMENT OF HEALTH PROFESSIONS EDUCATION

COLLEGE OF DENTISTRY



Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
SYNTHETIC POLYMERS				
Introduction	Analyze the chemistry of synthetic polymers.	Lecture (1)	K	Class test Group assignment Class Participation Group Presentations
Polymerization	Compare the addition and condensation reaction of polymerization with its examples.		K	
Changes occurring during polymerization	Describe the physical changes occurring during polymerization (Phase Changes, Temperature Changes, Dimensional Changes)		K	
Structure & Properties	Discuss the factors which control the structure and properties of polymers. (Molecular Structure, Molecular Weight, Degree of Chain branching, Crosslinking, Presence of plasticizer and fillers)	Lecture (1) Practical/ Tutorial	K	
	List the properties which characterize polymers (Glass transition Temperature, Melting Temperature)	Lecture (1) Tutorial	K	
Methods of fabricating polymer	Enumerate the Techniques for moulding and fabrication of polymers.	Lecture (1) Practical/ Tutorial	K	

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
RESIN BASED FILLING MATERIAL				
Introduction	Classify the filling materials based on synthetic polymers 1. acrylic resins 2. composite materials	Lecture (1) Practical	K	Team-Based Learning (TBL)
Acrylic Resins	Discuss the setting reaction and composition of acrylic resin	Lecture (1) Practical/ Tutorial	K	Class test Group assignment Class Participation Group Presentations
	Discuss the Advantages and disadvantages of acrylic resin		K	
			K	



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	Enumerate the mechanical properties of acrylic resins.			
Composite Materials	Define the term Composite.	Lecture (1) Tutorial	K	
	Describe the properties and component of composites		K	
	List the uses of composites		K	
Classification & Composition of composite	Classify composite based on i. handling characteristics ii. Filler particles iii. Application method	Lecture (1) Practical/ Tutorial	K/S	
Properties of Composite	Explain the properties of resin based restorative materials Discuss the ideal requirements of resin based restorative materials.	Lecture (1) Practical/ Tutorial	K/S	
Light activation units	State the purpose of light activation units	Lecture (1) Practical/ Tutorial	K	
	List the different types of light activation units		K	
Alternative Light Delivery systems	Compare the alternative light delivery systems.	Lecture (1) Practical/ Tutorial	K	
Compatibility and Testing	Contrast the factors regarding compatibility of intensity of t curing lights	Lecture (1) Practical/ Tutorial	K	
Setting contraction	Discuss the factors related to setting contraction of composite	Lecture (1) Practical/ Tutorial	K	Class test Group assignment Class Participation Group Presentations
	List the steps to overcome the contraction of composite.		K	
	Describe the C -Factor	Lecture (1) Practical/ Tutorial	K	
Properties	Explain the thermal and mechanical properties of composite resin	Lecture (1) Practical/ Tutorial	K	
Fiber Reinforceme	Discuss the various patterns of fiber loading for	Lecture (1)	K	



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nt of composite structure	different levels of reinforcements in resin composites	Practical/ Tutorial		
Fiber posts	Describe the purpose, characteristics and advantages of Fiber post	Lecture (1) Practical/ Tutorial	K	
Fiber Reinforcement for bridges & Splints	Discuss the resin composites for bridge work and splints	Lecture (1) Practical/ Tutorial	K	
Fiber Reinforcement of direct filling composites	Categorize the Fiber Reinforcement of direct filling composites.	Lecture (1) Practical/ Tutorial	K	
Clinical Handling	Enumerate the Basic properties of Cavity design for composite		K	
	Differentiate the bonding to enamel and dentine with composite	Lecture (1) Practical/ Tutorial	K	
	Explain the clinical procedure for composite filling		K	
Material Placement	Analyze the consideration to be taken to maximize quality of cure		K	
	Enumerate the adverse effects of polymerization shrinkage on tooth.	Lecture (1) Practical/ Tutorial	K	
	Describe the matrix techniques in case of establishment of proximal contacts.		K	
Finishing & Polishing	Analyze the armamentarium of composite	Lecture (1) Practical/ Tutorial	K	
	Discuss the steps required for filling and polishing of composite		K	
Repair of composite restoration	Relate the significance of composite in repair of old restorations.	Lecture (1) Practical/ Tutorial	K	
Application of composites	Explain the clinical application of composites	Lecture (1) Practical/ Tutorial	K	



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DEPARTMENT OF HEALTH PROFESSIONS EDUCATION
COLLEGE OF DENTISTRY



PHARMACOLOGY				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
ANTI VIRAL DRUGS				
Anti-viral drugs	Classify antiviral drugs according to the type of infection.	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE Assignment
	Describe the pharmacokinetics. Mode of action, therapeutic uses/indications, adverse effects and contraindication of antiviral drugs.			
ANTI FUNGAL DRUGS				
Anti-Fungal Drugs	List the common predisposing causes of fungal infections and sites of mycotic infection.	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE
	Classify antifungal drugs according to mode of action.			
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of all antifungal drugs			
GASTROINTESTINAL DRUGS				
Ulcer Healing Drugs	Define peptic ulcer	Flipped class room (1) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation Class Participation
	Classify the drugs used in acid peptic disease according to mode of action.			
	Describe the pharmacokinetics and mode of action of all ulcer healing drugs			
	Enumerate therapeutic uses/indications and adverse effects and contraindication of all ulcer healing drugs.			
	Describe triple regimen therapy for H.pylori infection.			
Drugs used for constipation (laxatives)	Classify Laxatives according to mode of action	Lecture (1) Practical/ Tutorial	K/A	
	Discuss the pharmacokinetics, indication and adverse effects of Osmotic Laxatives, Stool Softeners, Bulk Forming Laxatives, Stimulant Laxatives, Lubiprostone and Opioid receptor antagonists.			
Antidiarrheal Drugs	Discuss the different etiological types of diarrhea	Lecture (1)	K/A	



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	Classify Antidiarrheal drugs according to mode of action.	Practical/ Tutorial			
	Explain the mode of action of common Antidiarrheal drugs				
Drugs used for Inflammatory Bowel Disease (IBD)	Define Inflammatory Bowel Disease (IBD)	Lecture (1) Practical/ Tutorial	K/A		
	Classify the drugs used for Inflammatory Bowel Disease (IBD)				
	Explain the pharmacokinetics and pharmacodynamics of drugs used for IBD				
	Name the drugs used for Irritable Bowel Syndrome (IBS)				
	Describe the pharmacokinetics and pharmacodynamics of the drugs used for Irritable Bowel Syndrome (IBS)				
Anti-emetic drugs	Name the drugs used for Emesis	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE	
	Explicate the pharmacokinetics and pharmacodynamics of the drugs used for Emesis				
	Name the drugs that promote upper GI motility				
	Explain the role of the drugs that promote upper GI motility				



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ENDOCRINE DRUGS				
Hypothalamic and Pituitary Hormones	List the Hypothalamic Hormones and Anterior Pituitary Hormones	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE
	Summarize the pharmacology of Growth Hormones			
	Describe the antagonists of Growth Hormones			
	Describe the indications of Gonadotropins releasing hormones.	Lecture (1) Practical/ Tutorial	K/A	
	Name the Posterior Pituitary Hormones			
	Discuss Prolactin and Prolactin antagonists			
	Summarize the pharmacology of Posterior Pituitary Hormones			
Thyroid and Anti- thyroid Drugs	Discuss the role thyroid hormones in the body	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation Class Participation
	Classify anti thyroid drugs according to mode of action			
	Summarize the mechanism of action, indications, contraindications and adverse effects of thioamides			
	Explain the role of anion inhibitors, iodides radioactive iodine in the treatment of hyperthyroidism			
	Describe the mechanism of action of iodinated contrast media in the treatment of thyroid crises			
	List the adjunctive drugs used in the management of hyperthyroidism			
	List the drugs for treatment of hypothyroidism			
	Summarize the mechanism of action, indications, contraindications and adverse effects of all drugs used in treatment of hypothyroidism			
Parathyroid hormones	Describe the role of parathyroid hormone in the bone and kidney	Lecture (1)	K/A	BCQ OSPE



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COLLEGE OF DENTISTRY



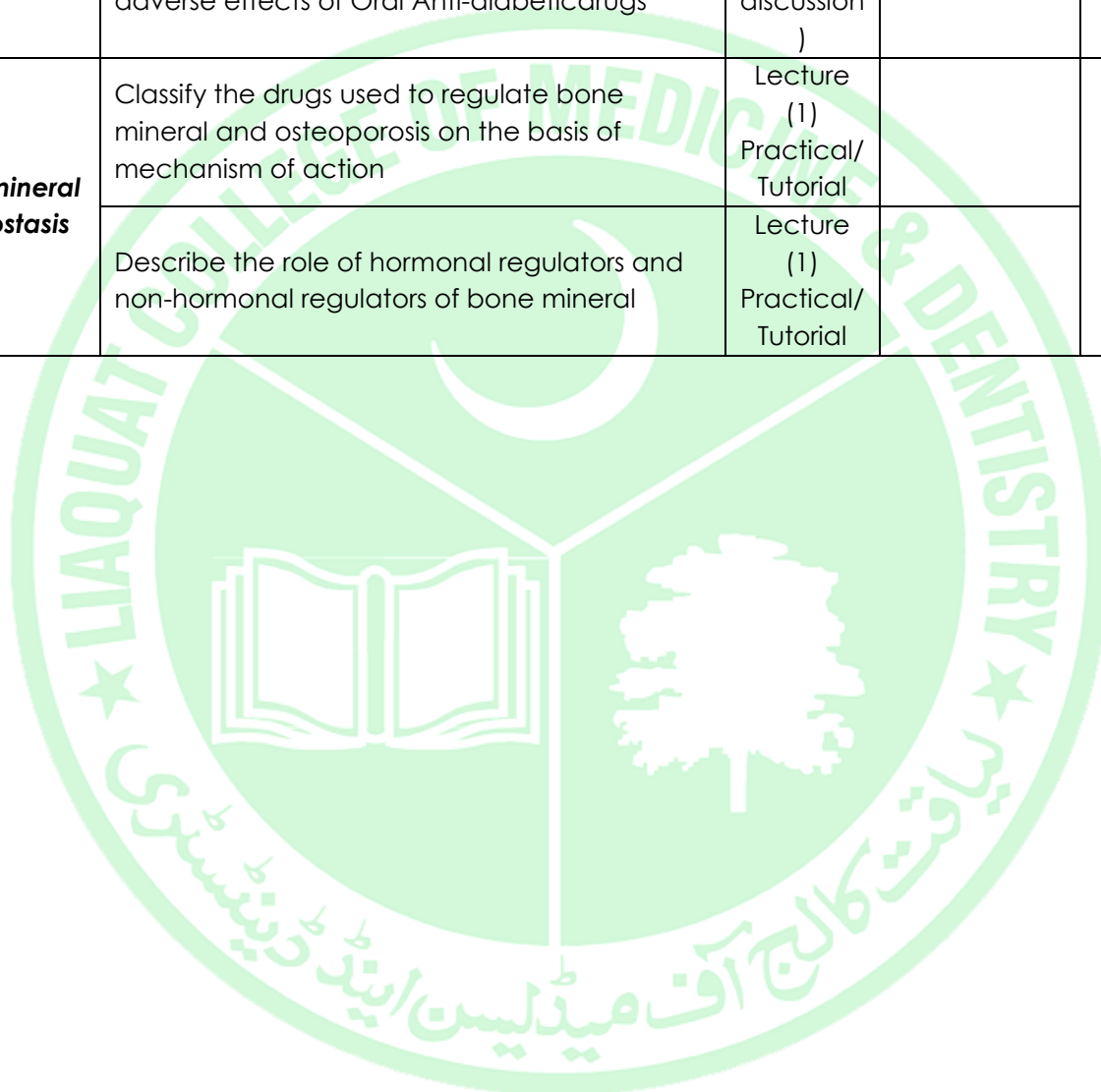
and drugs	List the regulators of calcium and phosphorus balance	Practical/ Tutorial			
	Describe the role of Vit D in the bone mineral homeostasis				
Corticosteroids agonists and antagonists	Classify Corticosteroids agonists and antagonists on basis of mechanism of action	Lecture (1) Practical/ Tutorial	K/A		
	Describe the pharmacokinetics and pharmacodynamics of Corticosteroids				
	Summarize the pharmacological role of Corticosteroids antagonists				
Gonadal hormones and inhibitors	List the Gonadal hormones	Lecture (1) Practical/ Tutorial	K/A		
	Summarize the pharmacology of estradiol				
	Classify progestins on the basis of nature.				
	Summarize the pharmacology of progestins.	Lecture (1) Practical/ Tutorial	K/A		
	Enumerate the indications, contraindications and adverse effects of gonadal hormones.				
	Classify estrogen and progesterone antagonist on basis of mode of action.				
Contraceptives	List different types of contraceptives	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE	
	Describe mechanism of action and pharmacological effects of oral contraceptives				
	Enumerate the indications, contraindications and adverse effects of oral contraceptives				
Androgens	Describe androgens	Lecture (1) Practical/ Tutorial	K/A		
	Classify androgens according to occurrence				
	Discuss the indications, contraindications and adverse effects of testosterone				
	Classify Anti-androgens on the basis of chemical nature				
Insulin	Categorize the different types of Diabetes	Flipped class room (1) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation Class Participation	
	Classify different types of Insulin on the basis of duration of action				



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



	Describe the pharmacological actions of Insulin	Lecture (1)		Assignment
	Describe the complications of Insulin	Practical/ Tutorial		
Oral Hypoglycemic Drugs	Classify Oral Hypoglycemic drugs on the basis of mechanism of action	Lecture (1)	K/A	
	Describe the pharmacokinetics, mode of action, indications, contraindications and adverse effects of Oral Anti-diabetic drugs	Practical/ (small group discussion)		
Bone mineral homeostasis	Classify the drugs used to regulate bone mineral and osteoporosis on the basis of mechanism of action	Lecture (1)		BCQ OSPE
	Describe the role of hormonal regulators and non-hormonal regulators of bone mineral	Lecture (1) Practical/ Tutorial		





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



Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
CARDIOVASCULAR SYSTEM DRUGS				
Hypertension & its treatment	Define Hypertension	Lecture/F lipped class room (1)	K/A	
	Discuss Pathophysiological features of Hypertension			
	Classify drugs use in hypertension according to mode of action.	Tutorial Practical/ Tutorial		
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of all antihypertensive drugs.	Lecture (1) Practical/ Tutorial		
	Discuss hypertensive emergency and its treatment			
Drugs used in Angina	Define angina and types of angina	Lecture (1) Practical/ (small group discussion)	K/A	BCQ OSPE Group Presentation Class Participation Assignment
	Describe Pathophysiology of angina			
	Classify anti-anginal drugs according to mode of action.			
	Describe the mode of action, therapeutic uses/indications, adverse effects and contraindication of all anti anginal drugs.			
Drugs used in heart failure	Define heart failure, preload and afterload	Lecture(1) Practical/ Tutorial	K/A	
	Discuss Pathophysiological features of heart failure			
	Classify drugs of heart failure according to mode of action.			
	Describe pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contra indication of all drugs used to treat heart failure.			
	Explain digitalis toxicity and its treatment			
Antiarrhythmic Drugs	Describe cardiac arrhythmias	Lecture (1) Practical/ Tutorial	K/A	
	Categorize anti-arrhythmic drugs in different	Lecture		



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DEPARTMENT OF HEALTH PROFESSIONS EDUCATION

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	classes according to mode of action. Describe pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of all antiarrhythmic drugs.	(1) Practical/ Tutorial		
Diuretics	Define Diuretics	Flipped class room	K/A	
	Classify diuretics according to sites of action on nephron	(1)		
	Describe pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of all diuretics drugs.	Practical/ Tutorial		
Drugs used in treatment of Hyperlipidemias	Describe the role of Lipoproteins in the body	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE
	Describe the types of hyper lipidemias and their treatment			
	Classify the lipid lowering drugs on the basis of mechanism of action.			
	List the Statins			
	Explain the mechanism of action, indications and adverse effects and contraindication of anti-hyperlipidemic drugs.			
Anticoagulants	Classify Anticoagulants on the basis of mechanism of action.	Lecture/F lipped Class room (1) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation Class Participation
	Describe the history, chemistry and types of Heparin			
	List the functions of Heparin			
	Describe the pharmacokinetics and mode of action, therapeutic uses/indications, adverse effects and contraindication of Heparin			
	Explain the chemistry of Warfarin	Lecture (1) Practical/ Tutorial	K/A	
	Describe the pharmacokinetics and mode of action, therapeutic uses/indications, adverse effects and contraindication of Warfarin			
	Describe treatment of toxicity of Warfarin			
Thrombolytic Drugs	List names of Thrombolytic drugs	Lecture (1) Practical/ Tutorial	K/A	
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of Thrombolytic drugs			
Antiplatelet	List the Antiplatelet drugs	Lecture	K/A	



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drugs	Explain the actions of Antiplatelet drugs	(1) Practical/ Tutorial		
	List the drugs used for bleeding disorders			
	Describe the role of plasma fractions used for bleeding disorders			
	Explain the role of different forms of Vitamin K in the treatment of bleeding disorders			
	Describe the role of Aminocaproic acid and Tranexamic acid in the treatment of bleeding			
Anemia	Define Anemias	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE
	List the drugs used for Anemia			
	Describe the pharmacokinetics and toxicity of Iron therapy			
	Describe the chemistry, pharmacokinetics and indications of Vitamin B12	Lecture (1) Practical/ Tutorial	K/A	
	Discuss the role of Folic acid in the treatment of Anemia			
	Summarize the pharmacology of Erythropoietin			
	Describe the role of and Megakaryocyte Growth Factors in the treatment of Anemia			
Prescription writing	Discuss steps for Prescription writing	Practical/ Tutorial	K/A/S	



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PATHOLOGY				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
VIRAL DISEASE				
Virology: Introduction	Define viruses	Lecture (1)	K	BCQ OSPE Group Presentation Class Participation Assignment
	Compare viruses with cells and prions			
	Discuss the structure of virus			
	Summarize the replication of viruses or viral growth cycle			
	Describe the pathogenesis			
Special Virology	Classify the DNA and RNA viruses on the basis of chemical and morphologic criteria	Lecture (1)	K	BCQ OSPE Group Presentation Class Participation Assignment
List the hepatitis viruses	Lecture (1) Practical/Tutorial	K		
State the important properties of all hepatitis				
Discuss the mode of transmission of all hepatitis				
Discuss the pathogenesis and clinical findings of hepatitis viruses				
Describe the lab diagnosis of all hepatitis viruses				
Explain the complication and its prevention				
			Discuss Important properties of HIV	
	Discuss the mode of transmission of HIV			



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	Describe the pathogenesis and clinical findings of HIV virus				
	Describe the lab diagnosis of HIV				
	Explain the complication and its prevention				
	List the important properties of Dengue viruses		K		
	Discuss the vector and mode of transmission				
	Describe the pathogenesis and clinical findings of Dengue virus				
	Discuss the lab diagnosis of Dengue				
	Explain the complication and prevention				
	State the disease of Herpes simplex type 1 & 2	Lecture (1)	K		
	Discuss the mode of transmission of herpes				
	Describe the pathogenesis and clinical findings of herpes virus				
	Explain the complication and prevention				
	State the disease of Herpes zoster virus	Lecture (1)	K		
	Discuss the mode of transmission of herpes				
	Describe the pathogenesis and clinical findings of herpes virus				
	Explain the complication and prevention				
	State the disease of Mumps virus	Lecture (1)	K		
	Discuss the mode of transmission of Mumps				



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	Describe the pathogenesis and clinical findings of Mumps virus			
	Explain the complication and prevention			
	State the disease of influenza virus		K	
	Discuss the mode of transmission of influenza			
	Describe the pathogenesis and clinical findings of influenza virus			
	Findings of influenza virus			
	Explain the complication and prevention			
	State the disease of Polio virus	Lecture (1)	K	
	Discuss the mode of transmission of poliovirus			
	Describe the pathogenesis and clinical findings of polio virus			
	Explain the complication and prevention			
	State the disease of Rabies virus		K	
	Discuss the mode of transmission of rabies			
	Describe the pathogenesis and clinical findings of Rabies virus			
	Explain the complication and prevention			
	State the disease of Measles	Lecture (1)	K	
	Discuss the mode of transmission of measles			
	Describe the pathogenesis and clinical findings of Measles virus			



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	Explain the complication and prevention			
ENVIRONMENTAL PATHOLOGY				
Environmental Pathology	Discuss effects of different chemical components of tobacco on human body.	Lecture (1)	K	BCQOSPE Group Presentation Class Participation Assignment
	Discuss effects of alcohol on human body.			
	List ten chemicals of major public health concern			
	Describe effect of Metals i.e. lead, mercury, arsenic as environmental pollutants on human body.			
MYCOTIC				
Mycology	List the four categories of medical mycoses with their related fungi	Lecture (1)	K	BCQ OSPE Group Presentation Class Participation Assignment
	Discuss the ring worm fungal infection (dermatophytes)			
	Identify the risk factors related to dermatophytoses	Practical/ Tutorial		
	List the clinical finding			
	Name the disease cause by Aspergillus spp	Lecture (1)	K	
	Discuss the properties and mode of transmission			
	Describe the pathogenesis	Tutorial		
	Explain the lab finding			
	Name the disease cause by Candida albicans	Lecture/ practical (1)	K	
	Explain the important properties and mode of transmission			
	Discuss the pathogenesis and clinical finding of Candida Albicans			
	Describe the lab diagnosis of Candida Albicans			
	Demonstrate the procedure of lab diagnosis of Candida Albicans Interpret the result	Practical	K	



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GIT				
Peptic ulcer	Discuss Peptic Ulcers	Lecture (1)	K	BCQOSPE Group Presentation Class Participation Assignment
	Explain Acute and chronic gastritis			
Inflammatory Bowel Diseases	Discuss IBDs			
	Discuss Crohn's disease and Ulcerative colitis			
Practical's	Identify bacteria on the basis of various biochemical reactions : <ul style="list-style-type: none"> • Coagulase • Catalase • Oxidase • TSI & Urease • Sensitivity testing 	Practical I	K	
Edema, Effusion, Hyperemia and Congestion	<ul style="list-style-type: none"> • Define edema, effusion, exudate, transudate, hyperemia and congestion • Define various terminologies according to morphology of edema & effusion • Discuss the pathophysiologic categories of edema • Describe the mechanism & clinical significance of edema at different sites • Describe the morphological changes in chronic passive congestion of the lungs & liver 	Lecture (1)	K	
Hemostasis	<ul style="list-style-type: none"> • Define hemostasis • Describe the sequence of events involved in primary & secondary hemostasis including the role of platelets, endothelium & coagulation cascade • Describe the defects of primary & secondary hemostasis 	Lecture (2) Tutorial	K	



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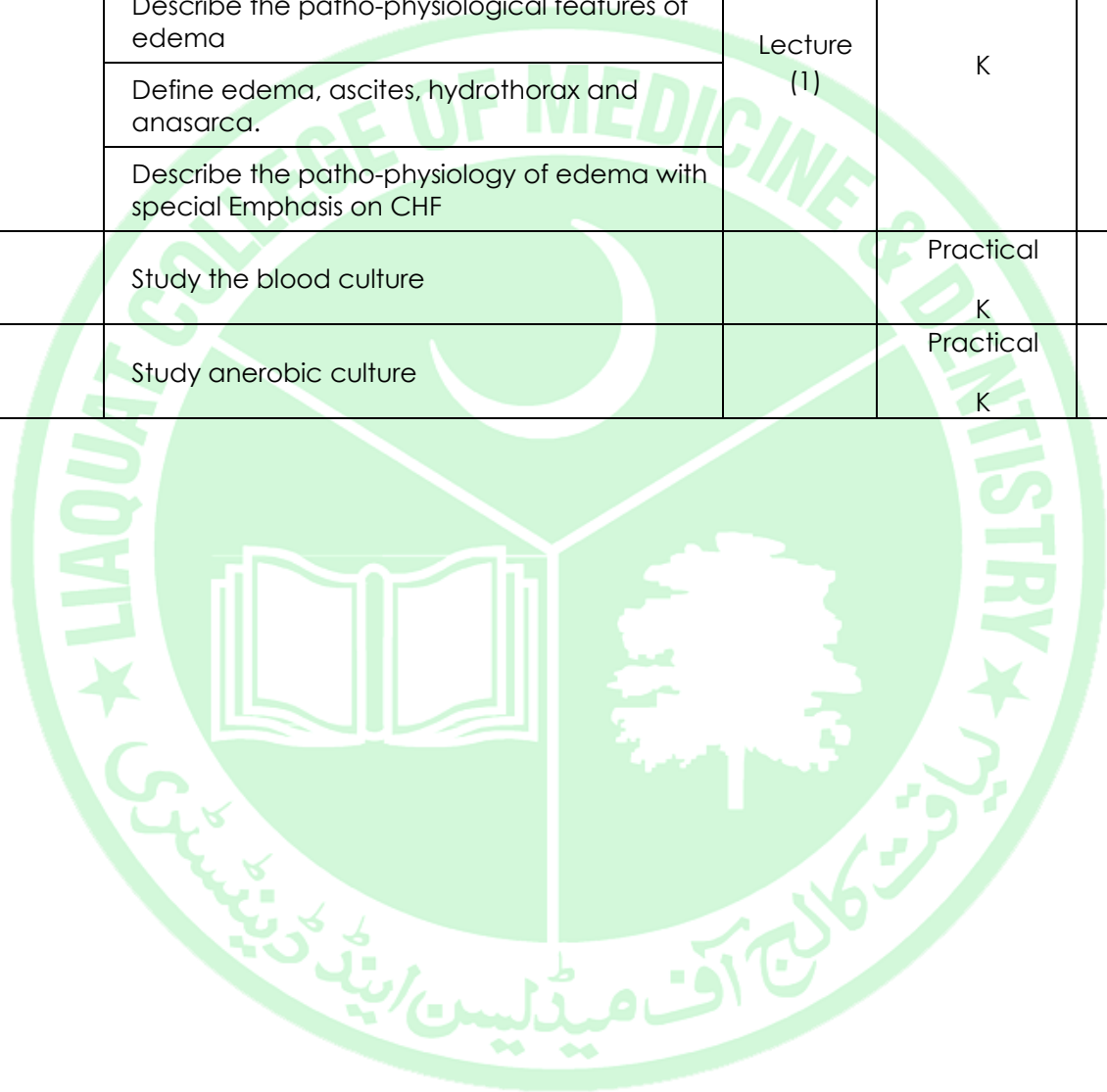
Thrombosis & Infarction	<ul style="list-style-type: none"> Define thrombosis. Describe the factors that predispose to thrombosis Describe the morphologic features of thrombi List the possible fate of thrombus Describe the clinical features of venous, arterial & cardiac thrombosis Difference between antepartum & postmortem clots Define infarction. Classify infarction Describe the morphologic features of red & white infarct List the factors that influence development of infarct 	Lecture (2) Tutorial	K	
Embolism	<ul style="list-style-type: none"> Define embolus List the types of embolism Describe the clinical manifestations & consequences of pulmonary & systemic thromboembolism. Discuss the clinical conditions that give rise to fat & marrow embolism, air embolism & amniotic fluid embolism. Define Disseminated Intravascular Coagulation (DIC) Describe the pathogenesis of DIC 	Lecture (1) Tutorial	K	
Shock	<ul style="list-style-type: none"> Define shock List the three major types of shock Describe the mechanism of three major types of shock Discuss the factors involved in the pathophysiology of septic shock Describe the three stages of shock List the clinical features of shock 	Lecture (2) Tutorial	K	
Blood Vessels Disorders	<ul style="list-style-type: none"> Describe Atherosclerosis, its pathogenesis and its types 	Lecture (1)	K	
Blood Disorders	Classify Anemia. Discuss the Investigation of anemia. Discuss the Bleeding disorders.	Lecture (1)	K	
CARDIOVASCULAR SYSTEM				
IHD & RHD	Discuss is chemic heart diseases (IHD)rheumatic heart Diseases(RHD)	Lecture (1)	K	BCQ OSPE Group



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Endocarditis	Discuss endocarditis with its types			Presentation Class Participatio n Assignment
Hypertensio n & its treatment	Define hypertension			
	Discuss its treatment			
	Define edema	Lecture (1)	K	
	Describe the patho-physiological features of edema			
	Define edema, ascites, hydrothorax and anasarca.			
	Describe the patho-physiology of edema with special Emphasis on CHF			
	Study the blood culture		Practical K	
	Study anerobic culture		Practical K	





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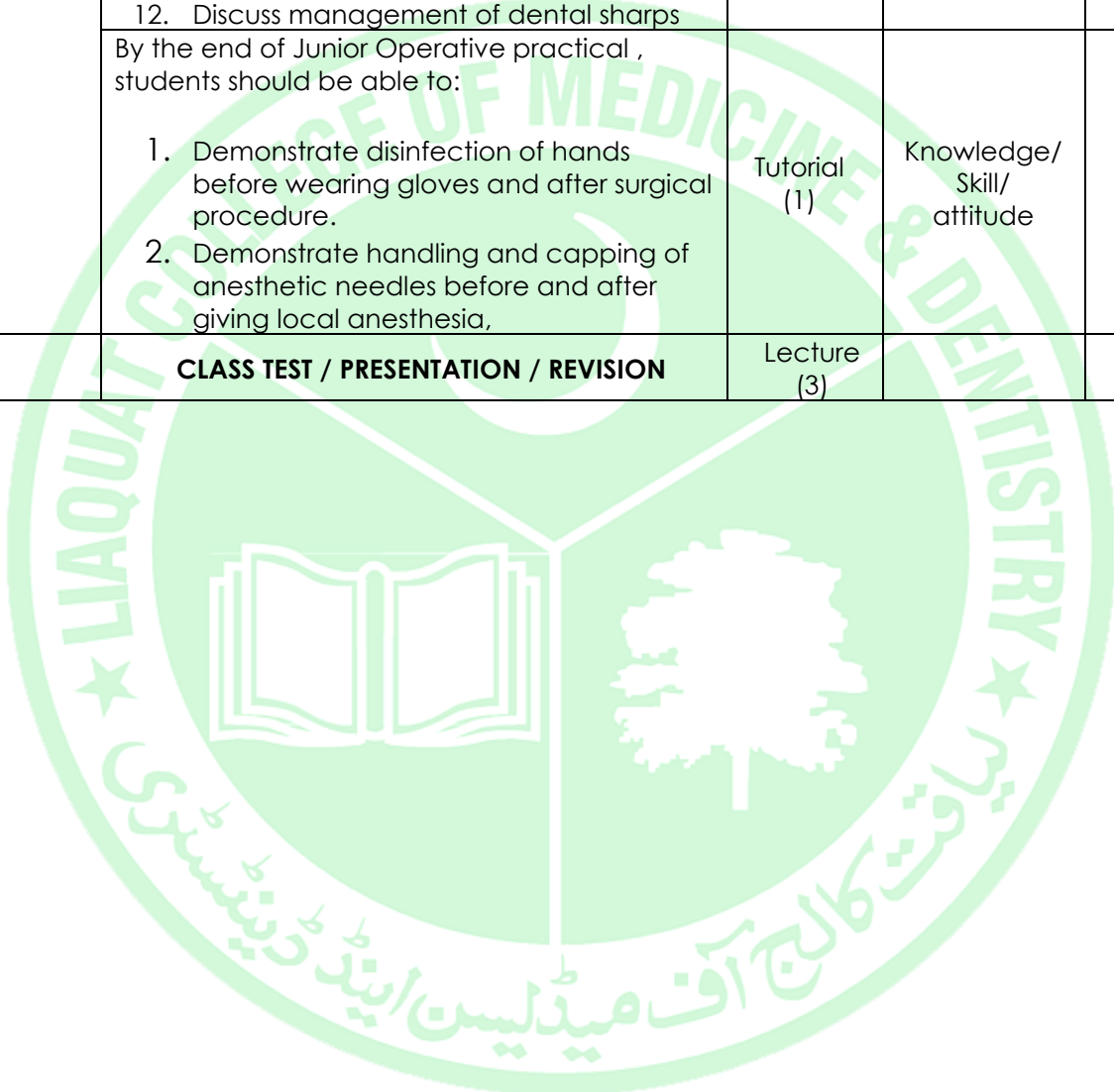
JUNIOR OPERATIVE DENTISTRY				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
Class II Composite Restoration	By the end of Junior Operative lecture, students should be able to: <ol style="list-style-type: none"> 1. Explain features of Class II cavity design for composite restoration 2. Explain the significance of matricing for Class II cavity 3. Explain in detail the steps of etching, bonding, curing and finishing of resin composite in a Class II cavity on typodont 	Lecture (3)	knowledge	Class Participation Socrative
	By the end of Junior Operative practical session, students should be able to: <ol style="list-style-type: none"> 1. Demonstrate etching, bonding followed by correct placement, curing, finishing and polishing of composite in Class I cavity on phantom/ extracted teeth 	Tutorial/ Practical Demonstration (3)	Knowledge/Skill	Mini CEX DOPS
Class III & Class IV Composite Restoration	By the end of Junior Operative lecture, students should be able to: <ol style="list-style-type: none"> 1. Explain features of cavity design for Class III and Class IV composite restoration 2. Explain the significance of matricing for Class III and Class IV cavities 3. Explain in detail the steps of etching, bonding, curing and finishing of a resin composite restoration in Class III and Class IV cavities 	Lecture (3)	knowledge	Class Participation Socrative
	By the end of Junior Operative practical session, students should be able to: <ol style="list-style-type: none"> 1. Design and prepare Class III on phantom teeth 2. Perform matricing with cellulose strip and lining of Class IV cavity on phantom teeth. 3. Demonstrate polishing of composite restoration 	Practical Demonstration (3)	Knowledge/Skill	Mini CEX/ OSAT DOPS
Cross infection control	By the end of Junior Operative lecture , students should be able to: <ol style="list-style-type: none"> 1. Define cross infection. 2. Explain the exposure risks in dentistry, including COVID-19 3. Discuss different methods of cross infection control in dental office. 	Lecture (2)	knowledge	Class Test Socrative



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DEPARTMENT OF HEALTH PROFESSIONS EDUCATION
COLLEGE OF DENTISTRY



	<ol style="list-style-type: none"> 4. List universal/ standard precautions 5. Describe blood borne infections 6. Describe methods of hand hygiene 7. Discuss vaccination/ immunization of dental health care professionals 8. Discuss elements of personal protective equipment (PPE) 9. Discuss how to prevent needle stick injury 10. Discuss needle stick injury management 11. Discuss dental waste disposal 12. Discuss management of dental sharps 			
	<p>By the end of Junior Operative practical , students should be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate disinfection of hands before wearing gloves and after surgical procedure. 2. Demonstrate handling and capping of anesthetic needles before and after giving local anesthesia, 	Tutorial (1)	Knowledge/ Skill/ attitude	Mini CEX DOPS
	CLASS TEST / PRESENTATION / REVISION	Lecture (3)		





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JUNIOR PROSTHODONTICS				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
Articulators	Define articulators	Lecture (1) Practical	Knowledge/skill / practical	Small group
	Explain the functions of articulator			
	List down the types of articulators			
	Explain the advantages and limitations of articulators			
	Describe the purpose of an articulator			
	Discuss the minimum and additional requirements of articulator			
	Discuss the prosthetic use of <ul style="list-style-type: none"> i) Simple hinge articulator ii) The mean value articulator iii) Semi-adjustable articulator iv) Fully adjustable articulator 			
Describe the prosthetic importance of <ul style="list-style-type: none"> i) Protrusive records ii) Lateral records iii) Hanau formula 				
Face bow	Describe face bow and its types	Lecture (1)	Knowledge	
Selection of artificial teeth and arrangement of artificial teeth	Describe the objectives of teeth selection	Lecture (5) Group Discussion Tutorial Practical Videos Flip Classroom	Knowledge/skill / practical Class 1 setup on ideal model	DOPs/flip classroom
	Explain the general considerations in teeth selection			
	Describe the size of teeth			
	Discuss the methods used to select size of teeth <ul style="list-style-type: none"> i) Methods using pre-extraction records ii) Methods using anthropological measurements of the patient iii) Methods using anatomical landmarks iv) Methods using theoretical concepts 			
	Describe the factors in selection of artificial teeth <ul style="list-style-type: none"> i) Size of face ii) Inter-arch spacing iii) Distance between the distal ends of the maxillary cusped iv) Length of lips 			



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	v) Size and relation of arches vi) Size of posterior teeth Discuss the factor affecting the shade selection of artificial teeth i) Hue ii) Saturation iii) Translucency iv) Age v) Habit vi) Complexion vii) Color of eyes viii) Color of patient hair			
	Describe positioning and relationship of teeth			
	Discuss advantages and disadvantages i) Anatomic teeth ii) Non anatomic teeth			
	Explain the prosthetic importance of cusp less teeth			
	Describe features in i) Class I relationship ii) Class II relationship iii) Class III relationship			
Try-in	Discuss try-in complete denture fabrication	Lecture (1)	Knowledge	
Lab procedures for complete denture	Discuss the laboratory steps of fabrication of complete dentures and perform them in practical. i) Flasking/investing ii) Dewaxing iii) Trial packing of acrylic resin iv) Final closure and bench curing v) Deflasking vi) Remounting vii) Laboratory remounting viii) Finishing and polishing	Tutorial and Practical (2) videos	knowledge Practical	Class Participation
Denture placement and patient education	Discuss causes of denture errors	Lecture (1) videos	knowledge	Class Participation
	Describe denture insertion and evaluation procedure			
	Explain evaluation of the processing			
	Describe evaluation of fit and comfort			
	Discuss evaluation of retention stability and support			
	Discuss i) Evaluation of occlusion			



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	<p>ii) Evaluation of esthetic iii) Evaluation of jaw relation iv) Evaluation of speech</p>			
	<p>Discuss instruction and education of a new denture wear</p>			





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RESEARCH				
Topic	Objectives	Teaching methodology	Outcome	Assessment Tools
Summarizing scale data: measure of dispersion	<ol style="list-style-type: none"> 1. Calculate and interpret measures of dispersion (range, variance, standard deviation). 2. Understand the advantages and limitations of each measure. 3. Apply the appropriate measure of dispersion for different types of data. 4. Use SPSS to calculate measures of dispersion. 5. Interpret results to understand the spread of the data. 	Lectures, Research meetings, small group discussions digital library sessions.	Submission & approval of Synopsis from Institutional IRB.	MCQs, Summative assignments research based.
Threats to Validity	<ol style="list-style-type: none"> 1. Identify and understand threats to internal, external, construct, and statistical conclusion validity. 2. Recognize biases and errors that affect research accuracy. 3. Learn strategies to control confounding variables, ensure generalizability, and improve measurement tools. 4. Apply methods to minimize threats to validity in dental research design and analysis. 			



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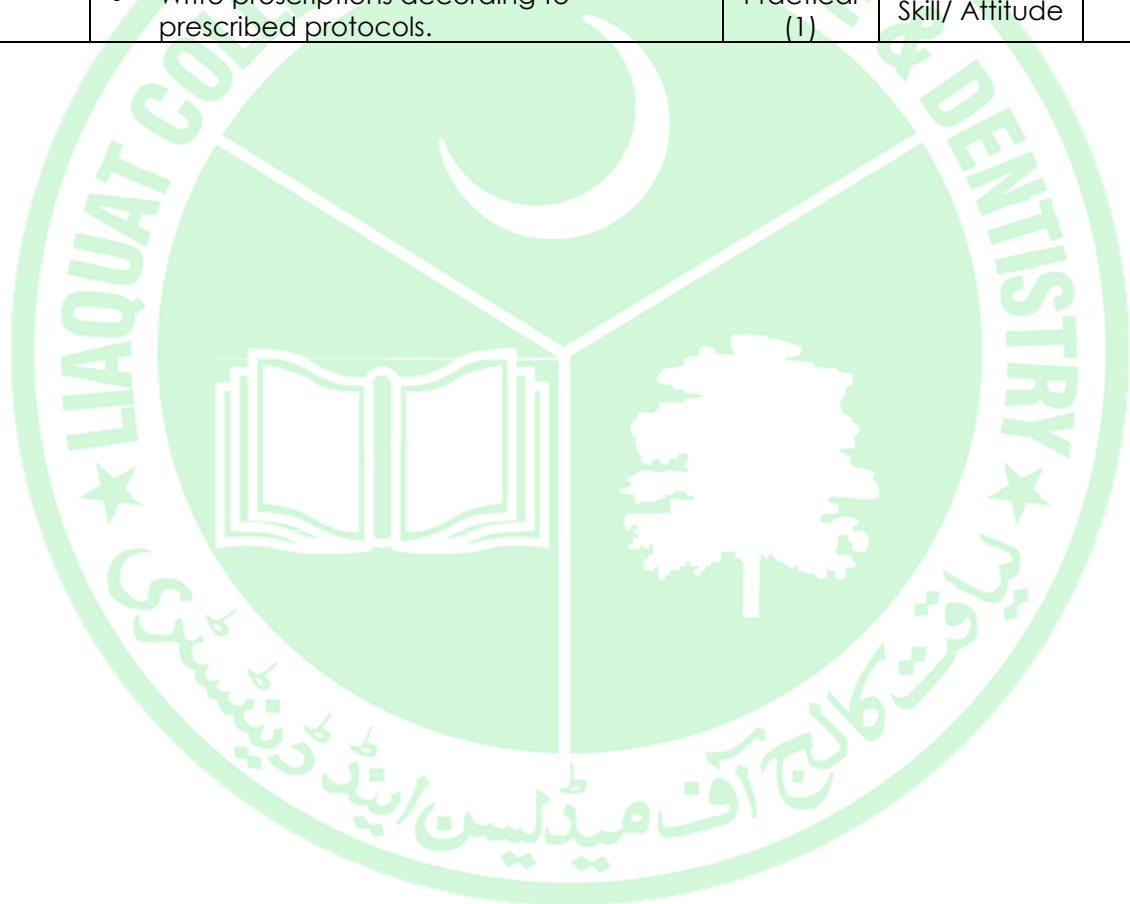
COMMUNICATION SKILLS				
Topic	Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
Poster Development	<ul style="list-style-type: none"> Develop high-quality posters 	Practical (7)	Skill/ Attitude	Research Day Competition
	<ul style="list-style-type: none"> Present posters clearly, concisely and within the given time limits 			
Cultural Competence and sensitivity during communication	<ul style="list-style-type: none"> Define cultural sensitivity, cultural competence, cultural stereotyping and ethnocentrism 	Pre Readings (1)	Knowledge	BCQs + Role Play + OSCE
	<ul style="list-style-type: none"> Discuss strategies demonstrating cultural competence and for avoiding cultural sensitivity, cultural stereotyping and ethnocentrism while communicating verbally and in writing 	Lecture (1) Video based & Case scenario based activities (1)	Knowledge	
	<ul style="list-style-type: none"> Actively listen to ensure understanding of facts and opinions and convey emotions effectively 	Role Play (1)	Skill/ Attitude	



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PATIENT SAFETY				
Topic	Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
		Lecture/ Lectures		
Drug Safety	<ul style="list-style-type: none">Discuss the concept, inception and significance of drug safety	Lecture (2)	Knowledge	BCQs + end Lecture Test
	<ul style="list-style-type: none">Discuss the causes of drug resistance and how to minimize this			
	<ul style="list-style-type: none">List the high alert medications			
	<ul style="list-style-type: none">Discuss the rationale for these drugs being labeled as 'high alert'			
	<ul style="list-style-type: none">Discuss how to use such medications (that are high alert)	Practical (1)	Skill/ Attitude	OSCE
<ul style="list-style-type: none">Write prescriptions according to prescribed protocols.				

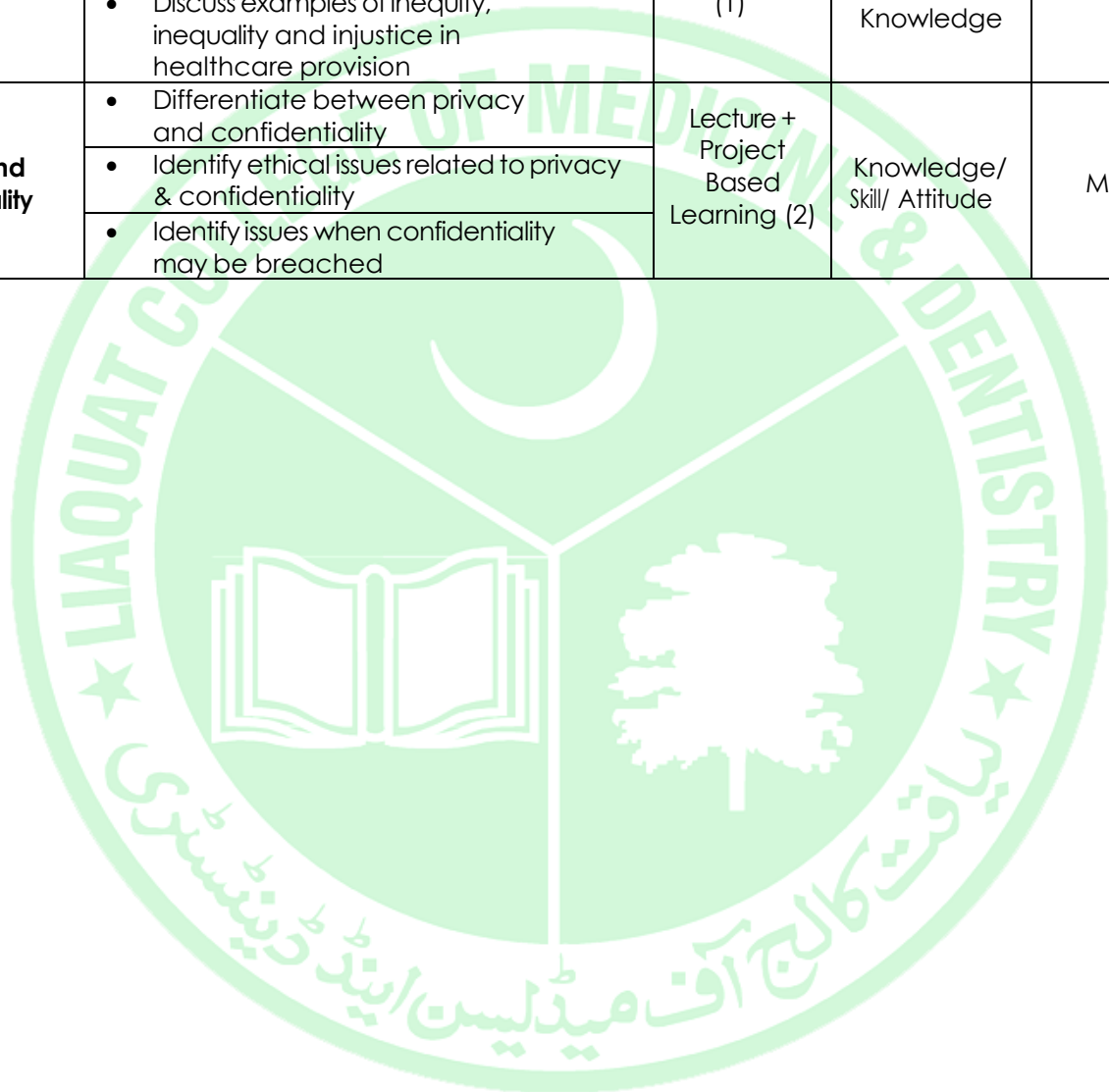




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LEADERSHIP, PROFESSIONALISM & ETHICS (LeaPE)				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
BIOETHICS				
Justice and equity	<ul style="list-style-type: none"> Differentiate among equity, equality and justice 	Lecture (1)	Knowledge	MCQS
	<ul style="list-style-type: none"> Discuss examples of inequity, inequality and injustice in healthcare provision 		Knowledge	MCQS
Privacy and confidentiality	<ul style="list-style-type: none"> Differentiate between privacy and confidentiality 	Lecture + Project Based Learning (2)	Knowledge/ Skill/ Attitude	MCQS
	<ul style="list-style-type: none"> Identify ethical issues related to privacy & confidentiality 			
	<ul style="list-style-type: none"> Identify issues when confidentiality may be breached 			





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PAKISTAN STUDIES				
Topic	Objectives	Mode of Teaching	KSA Competencies	Assessment Tools
		Lecture/ Tutorials	Knowledge/ Skill/ Attitude	
CONTEMPORARY PAKISTAN				
Economic Institutions & Issues	<ul style="list-style-type: none"> Explain the structure of Pakistan's economy (Agriculture, Industry, Services sector and Trade). 	Lecture (4)	K/A	BCQ /Assignment
	<ul style="list-style-type: none"> Discuss the agriculture sector in Pakistan 		K/A	
	<ul style="list-style-type: none"> Discuss the process of Industrialization in Pakistan 		K/A	
	<ul style="list-style-type: none"> Explain the growth of the services sector in Pakistan (IT, Telecommunication, Trade and Banking industry). 		K/A	
	<ul style="list-style-type: none"> Discuss contemporary issues related to Pakistan's economy 		K/A	
	<ul style="list-style-type: none"> Explain the concept of 'Balance of Payment (BoP) crisis' 		K/A	
	<ul style="list-style-type: none"> Describe the role of foreign remittance transfers 		K/A	
	<ul style="list-style-type: none"> Describe the economic developments in Pakistan such as Roshan Digital Account, Financial Inclusion etc. 		K/A	
	<ul style="list-style-type: none"> Define 'Budget deficit' 		K/A	
	<ul style="list-style-type: none"> Discuss the of external factors such as Foreign aid, Foreign debt, IMF and World Bank in economic progress 		K/A	
	<ul style="list-style-type: none"> Describe the existing Taxation structure of Pakistan and implications for the poor 		K/A	
Society and social structure	<ul style="list-style-type: none"> Discuss the following issues related to Pakistan's society and social structure 	Lecture (4)	K/A	BCQ /Assignment
	<ul style="list-style-type: none"> Literacy in Pakistan 		K/A	
	<ul style="list-style-type: none"> Population growth, composition, related issues, and reforms. 		K/A	
	<ul style="list-style-type: none"> Population distribution and implications for resource distribution and geopolitics. 		K/A	
	<ul style="list-style-type: none"> Poverty trends and related reforms. 		K/A	
	<ul style="list-style-type: none"> Wealth concentration and regional inequality 		K/A	
	<ul style="list-style-type: none"> Rural-Urban migration and related issues. 		K/A	
	<ul style="list-style-type: none"> Issues of gender equality and developments 		K/A	
	<ul style="list-style-type: none"> Class, Caste and Tribal system in Pakistan 		K/A	