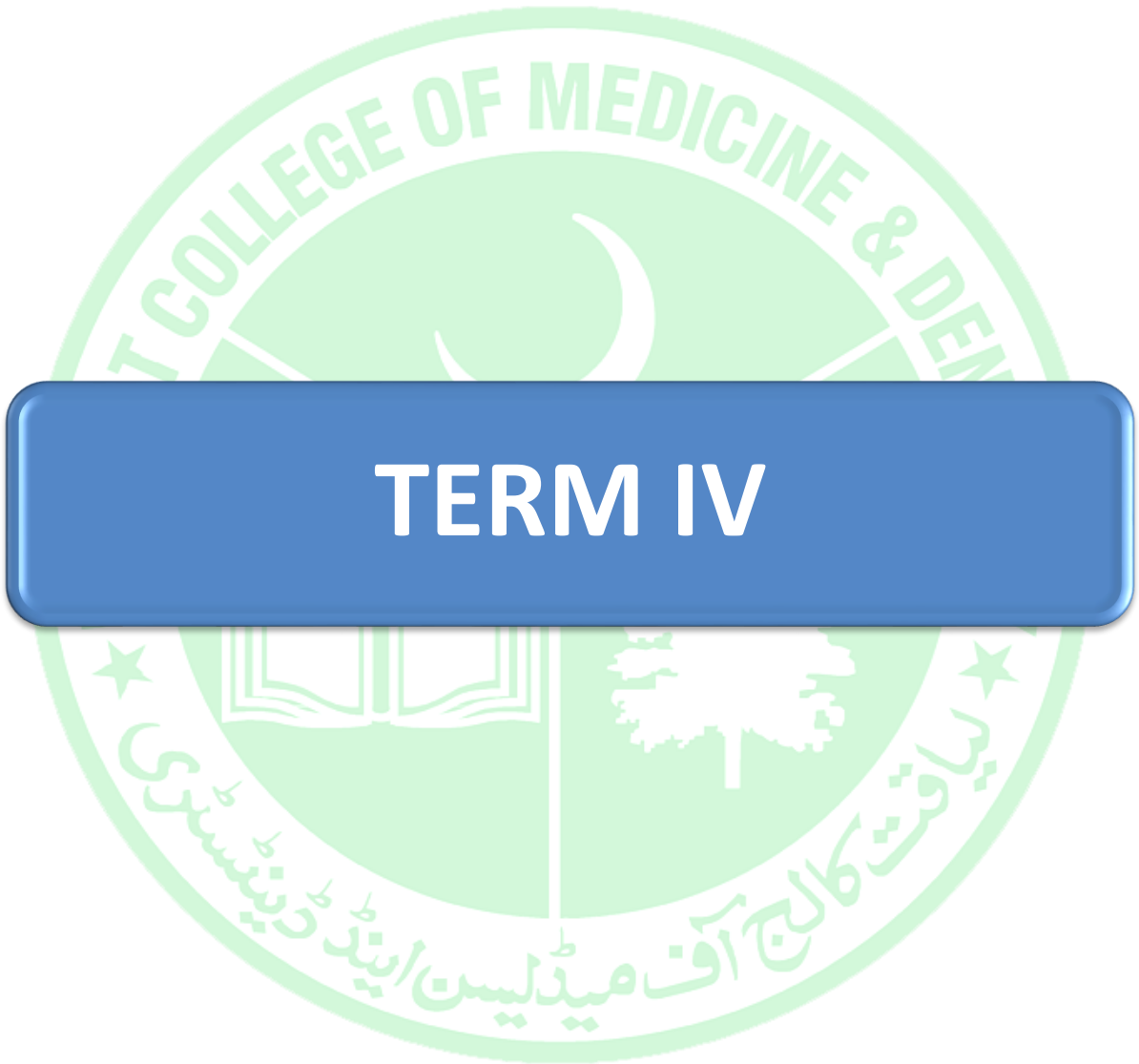




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COMMUNITY DENTISTRY				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies	Assessment Tools
		Lecture/ Tutorials	Knowledge/ Skill/ Attitude	
Fissure sealants	Define Fissure Sealant	Lecture (1) Tutorial CBL	K	Assignment BCQ OSPE Video Demonstration/P BL
	Discuss the Historical development of fissure sealant		K	
	Discuss Rationale for fissure sealants		K	
	List the materials used in fissure sealants		K	
	Explain the procedure for fissure sealant application		K,S	
	Discuss Public and professional perspectives towards fissure sealants		K,A	
CHAIR SIDE PREVENTION	Define Chair Side Preventive Procedures	Lecture (2) Tutorial CBL	K	BCQ OSPE Video Demonstration/P BL
	Describe Classification of Topical and Self-Applied Fluoride		K	
	Discuss the Various Method of Fluoride Application		K, S	
	Explain the Indication and Contraindication of topical and self-applied procedure		K, A	
Diet and plaque control	Define cariogenic food.	Lecture (2) Tutorial	K	Assignment BCQ OSPE
	Describe carcinogenicity of intrinsic and extrinsic sugars.		K	
	Discuss miller's theory of Plaque control		K	
	Discuss methods used for mechanical plaque control.		K,S,A	
	Describe and practice 5 types of brushing techniques.		K,S,A	
	Discuss caries control by dietary restrictions.		K	
	Describe methods and materials used for chemical plaque control.		K	
	List non cariogenic sugar substitutes.		K	



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			K	
Restricting the use of tobacco	Discuss the Prevalence of tobacco use	Lecture (1) CBL, INTERACTIV E SESSION	K	Flip classroom class quiz BCQ OSPE
	Describe the Pathological effects of smokeless tobacco		K	
	Discuss all the methods for restricting tobacco use by CDC		K	
	Discuss the usage of e-cigarette		K,A	
	Explain the therapies for tobacco cessation and its dependency by health professionals.		K	
TOOTH LOSS	Define Edentulism	Lecture (1) FLIP CLASS ROOM	K	Flip classroom class quiz BCQ OSPE
	Define Edentulous		K	
	Define Partial tooth loss		K, A	
	Explain all the reasons for tooth loss		K	
	Discuss the impact of edentulism		K, A	
	Discuss the modern preventive philosophy regarding Dental care and tooth loss		K, A	
Behavioral Sciences	Define Social Sciences and its five branches	Lecture (1) Tutorial TEAM BASED LEARNING, PICTORIAL LEARNING	K	BCQ OSPE/PBL/flip classroom
	Define behavioral Sciences		K	
	Explain the 7 components of Behavioral Sciences		K	
	Define Behavior Management		K	
	Discuss two types of Behavior management		K	
	Discuss child psychology and its importance in dental treatment		K	
	Discuss anxiety and fear management in pediatric dentistry		K,S,A	
	Describe pharmacological and Non-pharmacological behavior management		K,S,A	
		K		



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Atraumatic Restorative Treatment (ART)	Discuss Principle of ART	Lecture		
	Discuss Materials & Instruments in ART	(2),		
	Describe Technique Steps in ART application	tutorial, team-based learning,	K	BCQ, OSPE
	Discuss Advantages, Disadvantages, Indication and Contraindication of ART	CBL,	K K,S	Video Demonstration/PBL/CBL
	Discuss Who oral health assessment form	Hands-on skill learning, Video Demonstration	K K,S	
Tele dentistry	Define tele dentistry			
	Describe the components and types of tele dentistry			
	Identify indications and applications of tele dentistry	lecture (1) flip classroom, lecture		TBL/PBL/BCQS /OSPE
	Explain the advantages and limitations of tele dentistry			
	Appreciate the role of tele dentistry in dental education and training,			
ORAL HEALTH CARE SPECIAL NEED DENTISTRY	Define Autism Spectrum Disorder and Down syndrome and explain their etiology and classification.	Lecture (1)	K K	PBL/flip classroom
	Describe the medical, behavioral, and cognitive characteristics associated with autism and Down syndrome.	INTERACTIVE SESSION,CBL	K, S K	
	identify oral and dental manifestations		K, S	



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	commonly seen in Autism . Down syndrome			
	Recognize medical conditions and systemic associations relevant to dental care (e.g., congenital heart disease, seizures)			
	Explain the behavior management techniques suitable for autistic and Down syndrome patients.			





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DENTAL MATERIALS				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
REQUIREMENT OF DENTAL CEMENTS				
Introduction	Describe the uses of cements in dentistry	Lecture (1)	K/S	Team-Based Learning (TBL) Class test Group assignment Class Participation Group Presentations
	Classify the cements based on their application.	Lecture (1) Tutorial	K	
Requirements of cavity lining materials	Discuss the requirements of cements as a cavity lining material	Lecture (1) Practical/ Tutorial	K	
	• Thermal Barrier	Lecture (1)	K	
	• Chemical Barrier	Lecture (1) Practical/ Tutorial	K	
	• Electrical Barrier	Lecture (1) Tutorial	K	
	• Strength & Flow	Lecture (1) Tutorial	K	
• Radio opacity & compatibility.	Lecture (1) Tutorial	K		
Requirements of Luting Materials	Discuss the cements as luting materials used in dentistry, List the applications of Luting materials	Lecture (1) Tutorial	K/S	
Requirements of Endodontic cements	Explain the role of cements in Endodontics with properties.	Lecture (1)	K	
Requirements of orthodontic cements	Discuss the role and properties of orthodontics cement.	Lecture (1)	K	



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Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
CEMENTS BASED ON PHOSPHORIC ACID				
Cements	Classify the cements based on phosphoric acid	Lecture (1)	K	Class test Group assignment Class Participation Group Presentations
Zinc Phosphate cements	Explain the composition, setting reaction, manipulative variables and properties of Zinc Phosphate cements	Lecture (1) Practical	K	
Silicophosphate Cements	Describe the composition, setting reaction, manipulative variables and properties of Silicophosphate		K	
Copper Phosphate Cements	Discuss the composition, setting reaction, manipulative variables and properties of Copper Phosphate cements,		K	Flipped Classroom

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
CEMENTS BASED ON ORGANOMETALLIC CHELLATE				
Introduction cements based on	Describe the organometallic chelate compounds Classify cements on the basis of Aromatic compounds.		K	Class test Group assignment Class Participation Group Presentations
Zinc Oxide Eugenol Cements	Describe the composition, setting reaction, manipulative variables and properties of Zinc oxide eugenol cement.	Lecture (1) Practical	K	
OrthoEthoxy benzoic acid (EBA) Cements	Describe the composition, setting reaction, manipulative variables and properties of Ortho ethoxy benzoic		K	
Calcium Hydroxide Cements	Describe the composition, setting reaction, manipulative variables and properties of Calcium Hydroxide Cements,	Lecture (1) Practical/ Tutorial	K	



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Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
POLYCARBOXYLATE CEMENTS				
Introduction	Classify cements on the basis of their restorative use (luting and lining)	Lecture (1) Tutorial	K	Class test Group assignment Class Participation Group Presentations
Polycarboxylate cements	Describe the composition, setting reaction, manipulative variables and properties of polycarboxylate cements	Lecture (1) Practical/ Tutorial	K	
GIC Cements	Describe the composition, setting reaction, manipulative variables and properties of GIC	Lecture (1) Practical/ Tutorial	K	
Resin Modified Glass Ionomer and Compomers	Describe the composition, setting reaction, manipulative variables and properties of RMGIC Describe the composition, setting reaction, manipulative variables, applications and properties of Compomers	Practical	S	
Practical	1. Demonstrate Alginate impression taking(upper and lower) 2. prepare OSPE Spots			

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
BIOMECHANICS, BIOMATERIALS, BIOCOMPATIBILITY				
Introduction	Define the term biomaterials.	Lecture (1) Practical/ Tutorial	K	Class test Group assignment Class Participation Group Presentations
	Discuss the biocompatibility of Denture base materials, Soft denture liners, Denture adhesive, implant materials, Casting alloys, Polysulphide rubber ,impression materials, bleaching agents and Latex.	Lecture (1) Practical	K	
Biocompatibility & Biological Evaluation of Materials	Define the term biocompatibility	Lecture (1)	K	
	Define the terminologies related to biomaterials, such as: <ul style="list-style-type: none"> • Allergy • Mutagens • Cytotoxicity 		K	
	Describe the Biomaterial as scaffold.		K	



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	Discuss ways to measure biocompatibility		K	
Biomaterial Testing	Define the term In vitro testing	Lecture (1)	K	
	Discuss in vitro testing of dentine bonding agent, Composite resin, Amalgam, Glass ionomer cements, Calcium hydroxide, Zinc phosphate, Zinc Polycarboxylate and Zinc oxide eugenol.		K	
Biomechanics	Define the term biomechanics	Lecture (1)	K	
	Discuss the biomechanics of bone substitute		K	
Practical	Fabricate Acrylic Partial Denture Prepare OSPE Spots	Practical	S	

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
GLASS IONOMER CEMENTS				
Introduction	Describe the importance of composites and GIC as filling materials	Lecture		Team-Based Learning (TBL)
Composition & Classification	List the advantages and disadvantages of composites		K	
	List the advantages and disadvantages of GIC		K	
	Describe the properties of Resin Modified GIC		K	
	List the classification and composition of Modified composites			
	List the classification and composition of Resin Modified GIC.			
Setting Characteristics	Discuss the setting reactions of Resin Modified GIC, Modified composites and Gionomers.		K	
Properties	Describe the mechanical and physical properties of Modified GIC and Modified Composites.	Lecture (1) Practical/ Tutorial	K	
Advantages	List the advantages and disadvantages of the modifications of GIC and composite.		K	
Clinical Handling	Discuss the handling characteristics of clinical techniques of GIC and Composites		K	
Introduction	Explain the importance of Glass Ionomer Restorative materials in dentistry.	Lecture (1)	K	



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Composition	Enumerate the composition of GIC Cements with role of each component.		K	
	List the mode of dispersion of GIC			
Setting Reaction	Discuss the different stages of setting reaction of GIC.	Lecture (1) Tutorial	K	
Properties	Explain the properties and requirements of GIC	Lecture (1) Practical/ Tutorial	K	
Cermets	Describe the properties, composition, manufacturing and setting reaction of cermets.	Lecture (1) Practical/ Tutorial	K	
Application & Clinical handling notes	List the indications, handling and application of GIC			Flipped Classroom
Dentine Surface Treatment	Explain the role of GIC in dentine surface treatments.			
Matrix Techniques	Enumerate the Matrix band techniques in class II restorations	Lecture (1)	K	
Finishing & polishing	Discuss the finishing and polishing of GIC.	Lecture (1)	K	
Moisture control during placement	Explain the methods of moisture control for GIC.	Lecture (1) Tutorial	K	
Use as fissure sealants	Discuss GIC as a fissure sealant			
GIC as an adhesive cavity lining (Sandwich Technique)	Describe the uses of GIC in open and close sandwich technique.	Lecture (1)	K	
ART (Atraumatic restorative Techniques)	Explain the role of GIC in ART.	Lecture (1) Tutorial	K	



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Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
RESIN MODIFIED GLASS INOMER CEMENT				
Composition & Classification	Describe the properties of Resin Modified GIC	Lecture (1)	K	Class test Group assignment Class Participation Group Presentations
	List the classification and composition of Modified composites		K	
	List the classification and composition of Resin Modified GIC.		K	
Setting Characteristics	Discuss the setting reactions of Resin Modified GIC, Modified composites and Ginomers.	Lecture (1) Practical/ Tutorial	K	
Properties	Describe the mechanical and physical properties of Modified GIC and Modified Composites.		K	
Advantages	List the advantages and disadvantages of the modifications of GIC and composite.		S	

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
TEMPORARY CROWN AND BRIDGE				
crown and bridges	Define the temporary crown and bridges	Lecture (1) Practical/ Tutorial	K	Class test Group assignment Class Participation Group Presentations
	Enumerate the indications of temporary crown and bridge	Lecture (1) Tutorial	K	
Available materials	List the Ideal requirements of materials used for temporary crown and bridges List the materials used for cementation of temporary crown and bridges.	Lecture (1) Practical/ Tutorial	K	
Properties	Discuss the Mechanical and physical properties for temporary crown and bridge.		K	
Introduction	Define the Artificial teeth	Lecture (1) Practical/ Tutorial	K	
	Differentiate between acrylic and porcelain teeth.	Lecture (1) Tutorial	K	
Requirements	List the ideal requirements of artificial teeth.	Lecture (1) Practical/ Tutorial	K	



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Available Materials	List the materials and techniques for Production of artificial teeth.	Lecture (1) Practical	K	
Properties	Compare the properties of acrylic teeth and porcelain teeth	Lecture (1) Practical/ Tutorial	K	

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
ENDODONTIC MATERIAL				
Introduction	Describe the importance of Endodontic Materials.	Lecture (1) Practical	K	Class test Group assignment Class Participation Group Presentations Flipped Classroom
	Discuss the steps of Root canal preparations Discuss the purpose of Endodontics Treatment List the Indication of Endodontic Treatment.		K	
Irrigation & Lubricants	List the different types of irrigant solutions Discuss the properties of Ideal Irrigants, Describe the role of each Irrigation Solution.	Lecture (1) Practical/ Tutorial	K	
Intra Canal Medicaments	List the different type of intracanal medications Discuss the indication of Intra canal medicaments in Endodontic treatment.	Lecture (1)	K	
Endodontic Obturation materials	Discuss the composition of Endodontic obturation materials (GuttaPercha) List the advantages of GuttaPercha List the Disadvantages of GuttaPercha	Lecture (1)	K	
Sealants	Discuss the Ideal Properties of root canal sealer List the requirements of root canal sealer	Lecture (1)	K	
Bulk Filling Materials	Explain the role of bulk filling materials Discuss the properties of bulk filling material	Lecture (1)	K	
	Differentiate the types of bulk filling material		K	
Materials for root canal repair and periradicular surgery	List the Materials for root canal repair and periradicular surgery	Lecture (1)	K	
Ethical Handling	Discuss the Handling required for cleaning,shaping, and obturation of Root canal spaces	Lecture (1)	K/S	
Techniques for Obturating	Describe the procedure of different techniques of obturating canals (Cold Packing, Thermal Packing)	Lecture (1)	K/S	
Practicals	Construct Plaster slab making of Gypsum (¾ inches)	Practical	S	



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PHARMACOLOGY				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/ Practical/ Tutorial		
VITAMINS				
Vitamins and minerals	Enumerate water and lipid soluble vitamins	Lecture (1)	K/A	BCQ OSPE
	Describe the role of all vitamins and minerals	Practical/ Tutorial		
	Discuss the diseases caused by vitamin deficiency and its management.			
ANTI PROTOZOAL AND ANTI PARASITIC				
Anti Protozoal Drugs	List the protozoal diseases	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE
	Define malaria			
	Discuss different types of plasmodia			
	Classify anti-malarial drugs according to mode of action.			
	Describe the pharmacokinetics and mode of action, therapeutic uses/indications, adverse effects and contraindication of all antimalarial drugs	Lecture (1) Practical/ Tutorial	K/A	
	Classify anti amoebic drugs on the basis of mode of action			
	Name the drugs used for pneumocystosis, toxoplasmosis, trypanosomiasis and leishmaniasis			
Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of anti amoebic drugs				
Antihelminthic drugs	Classify anti-helminthic drugs according to type of infection	Lecture (1) Practical/ Tutorial	K/A	
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of anti-helminthic drugs			



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Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
ANTI NEOPLASTIC DRUGS				
Cancer Chemotherapy	Describe the cell cycle kinetics	Lecture (2) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation Class Participation Assignment
	Classify anticancer drugs according to mode of action			
	Discuss the mechanism by which tumor cells develop drug resistance			
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of anticancer drugs			
CENTRAL NERVOUS SYSTEM DRUGS				
Sedatives and Hypnotics	Differentiate between the terms sedative and hypnotic	Lecture (2) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation Class Participation
	Classify sedative hypnotic drugs according to mode of action			
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of sedative hypnotic drugs			
	Discuss the symptoms and management of overdose of sedative hypnotics and withdrawal from physiologic dependence			
Alcohol	Describe the clinical uses of alcohol	Lecture (2) Practical/ Tutorial	K/A	BCQ OSPE
	Differentiate between the ethanol, methanol and ethylene glycol			
	Explain the pharmacokinetics and pharmacodynamics of ethanol			
	Define fetal alcohol syndrome			
	Discuss management of alcohol poisoning			
	Describe symptoms and management of alcohol withdrawal			
Anti-Epileptic Drugs	Categorize the different forms of epilepsy	Lecture (2) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation
	Classify antiepileptic drugs on the basis of treatment			
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of antiepileptic			



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	drugs				
General Anesthesia	Classify general anesthetics according to use	Lecture (2) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation Assignment Class participation	
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of general anesthetics				
Local Anesthesia	Define local anesthetic	Lecture (2) Practical/ Small group discussion	K/A		
	Classify local anesthetics on the basis of chemical structure.				
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of all local anesthetics.				
	Apply knowledge of local anesthetics in dental procedures, including proper selection of drug, dose, and technique for safe patient care				
	Identify the patient safety and professionalism during local anesthesia administration, including monitoring for allergic reactions and toxicity				
Skeletal Muscle Relaxants	Classify skeletal muscle relaxants on the basis of mode of action	Lecture (2) Practical/ Tutorial	K/A		BCQ OSPE
	Describe the pharmacokinetics and pharmacodynamics of depolarizing drugs				
	Describe the pharmacokinetics and pharmacodynamics of non-depolarizing drugs				
	Describe the pharmacodynamics of spasmolytic drugs				
Anti-Parkinsonism Drugs	Describe parkinsonism	Lecture (1) Practical/ Tutorial	K/A	BCQ	
	Classify the drugs used for parkinsonism on the basis of mode of action				
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of anti-parkinson drugs				
	Describe the mechanisms by which levodopa, dopamine receptor agonists, selegiline and Muscarinic blocking drugs alleviate parkinsonism				



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Drugs use for Alzheimer's	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindications of anti- Alzheimer's drugs	Lecture (1) Practical/ Tutorial	K/A	BCQ
Anti-Psychotic Drugs	Classify antipsychotic drugs on the basis of generations.	Lecture (2) Practical/ Tutorial	K/A	BCQ
	Describe the pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of antipsychotic drugs			
	Identify the bipolar disorder according to mode of action			
	List the alternative drugs used in bipolar disorder			
	Describe the pharmacokinetics and pharmacodynamics of lithium			
Anti-Depressants	Classify the antidepressant drugs on the basis of mechanism of action	Lecture (2) Practical/ Tutorial	K/A	BCQ OSPE
	Describe the pharmacokinetics, pharmacodynamics, therapeutic uses/indications, adverse effects and contraindication of antidepressant drugs			
Opioids Analgesics And Antagonists	Classify Opioids on the basis of severity of action.	Lecture (2) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation Class Participation Assignment
	Name Opioid agonists, partial agonists and Opioid antagonists			
	Mention the endogenous Opioid peptides and Opioid receptors			
	List the Opioids used for antitussive effects and for antidiarrheal effects			
	Discuss the major drugs that are commonly abused	Lecture (1) Practical/ Tutorial	K/A	
	Describe the signs and symptoms of overdose with and withdrawal from CNS stimulants, Opioid analgesics and Sedative Hypnotics including Ethanol			
	Explain the most likely causes of death from commonly abused drugs			



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	Discuss the pharmacokinetics and pharmacodynamics of most important drugs used in the management of tremor, Huntington's disease and drug -induced dyskinesia and restless legs syndrome.			
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ANTI SEPTIC AND DENTAL PHARMACOLOGY				
Antiseptics and Disinfectants	Define antiseptics, disinfectants and sterilants	Lecture (1) Practical/ Tutorial	K/A	BCQs
	Classify antiseptics and disinfectants on the basis of mode of action			
	Describe the pharmacodynamics of commonly used antiseptics and disinfectants			
Dental Pharmacology	Define dentifrices, obtundants, antiseptics, mummifying agents and mouthwashes	Lecture (2) Practical/ Tutorial	K/A	BCQs
	Discuss the role of mouthwash in oral cavity and types of mouthwash			
	List anti-caries agents			
	Discuss the role of fluoride in caries control			
	Explain fluoride toxicity and its treatment			
	Define dentine hypersensitivity			
	Discuss different methods for the treatment of dentine hypersensitivity.			





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PATHOLOGY				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
NUTRITIONAL PATHOLOGY				
Nutritional pathology	List the three main categories of nutritional disorders.	Lecture (2)	K	BCQ OSPE Group Presentation Class Participation Assignment
	List main nutritional disorders.			
	Define mal nutrition			
	List the major causes of mal nutrition. Define Protein-Energy Malnutrition			
	Compare and contrast the following types of protein-energy malnutrition: marasmus, kwashiorkor, merasmic kwashiorkor, secondary protien-energy malnutrition with regard to: etiology and pathogenesis, effects on protein stores, physical findings, laboratory findings and morphologic features.			
	Compare anorexia nervosa and bulimia.			
	Define obesity and discuss its patho-physiology briefly.			
	Categorize vitamin deficiencies.			
	List fat-soluble vitamins and discuss deficiency states of each with regard to: causes, morphologic changes and clinical findings.			
	List the water-soluble vitamins and discuss deficiency states of each with regard to: causes, morphologic changes and clinical findings.			
List the morphologic changes and clinical manifestations caused by deficiency of: Folic acid, Iron, iodine, calcium, zinc, and copper.				



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Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
GENETICS				
Introduction to Genetics	Discuss the basic concepts of genetics including DNA and RNA structure, Mendel's Laws of inheritance and Pedigree Chart	Lecture (1)	K	BCQ OSPE Group Presentation Class Participation Assignment
Mutations	List the different types of mutations in the coding and non-coding regions of genes	Lecture (1)		
	Distinguish between the different types of mutations in the coding and non-coding regions of genes that result in phenotypic change			
	Differentiate between spontaneous and induced mutations			
Transmission pattern of single gene disorders	Explain how a point mutations or frame shift mutation in a gene may alter the activity of the protein it encodes Interactive Lectures	Lecture (1)	K	
	Define single gene disorders			
	List different types of single gene disorders			
	List characteristics of single gene which gives variation in expression of diseases			
Patho physiology of Inheritance	Describe genetic changes which occur in these disorders	Lecture (1) Small Group Discussion	K	
	Explain the patho-physiology of classical and non-classical mode of inheritance of genetic diseases			
	Discuss the clinical features of important genetic disorders which includes Down's syndrome, Turner's syndrome, Cystic Fibrosis, Sickle Cell Anemia, Thalassemia			
	List different techniques used for prenatal diagnosis			



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NEOPLASIA				
Introduction to Neoplasia	<ul style="list-style-type: none"> Define Neoplasia & terminologies related to it. Classify tumors with examples. Discuss Nomenclature of benign and malignant tumors with respect to tissue of origin 	Lecture (1) Practical	K	
Gross & Microscopy of Benign & Malignant tumors	<ul style="list-style-type: none"> Describe characteristic features of benign & malignant tumors Define Anaplasia, Metaplasia, Dysplasia, Metastasis Define cell Differentiation and de-differentiation Discuss all the components and morphological features of anaplasia Discuss Local Invasion of tumors Discuss Pathways of Spread of malignant tumors Compare features of Benign and Malignant Tumors 	Lecture (1) Tutorial	K	BCQ OSPE Group Presentation Class Participation Assignment
Epidemiology of Cancer	<ul style="list-style-type: none"> Discuss the global Impact of cancer List the Environmental Factors involved in the pathogenesis of malignancy Discuss different types of occupational Cancers Define Acquired Predisposing Conditions leading to cancer development. Discuss association between Chronic Inflammatory States and Cancer Discuss the role of genetic predisposition and Interactions between Environmental and Inherited factors in cancer development 	Lecture (1) Tutorial	K	BCQ OSPE Group Presentation Class Participation Assignment



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<p>Molecular Basis of cancer I & II</p>	<ul style="list-style-type: none"> • List Four classes of normal regulatory genes with respect to neoplasia • Discuss Stepwise Accumulation of driver and passenger mutations • Describe Cellular and Molecular Hallmarks of Cancer • Define oncogenes • Define Proto-oncogenes, and Oncoproteins • Classify oncogenes according to their mode of action and associated tumors • Define Tumor Suppressor Genes • Classify tumor suppressor genes according to their mode of action and associated tumors • Discuss RB gene with respect to its role in tumor development • Discuss p53 gene with respect to its role in tumor development • Define the Warburg Effect and angiogenesis • Define Evasion of Programmed Cell Death (Apoptosis) • Discuss the Stem Cell-Like Properties of Cancer Cells • Discuss the effect of angiogenesis on tumor progression • Discuss local Invasion and distant metastasis in neoplastic lesions • Explain the molecular basis of Multistep- Carcinogenesis 	<p>Lecture (2) Tutorial</p>	<p>K</p>	
<p>Carcinogenic agents</p>	<ul style="list-style-type: none"> • Define Chemical Carcinogenesis, Radiation Carcinogenesis, Microbial Carcinogenesis • Classify chemical and radiation carcinogens according to their types and modes of action • Classify microbial carcinogenesis according to the Viral and Bacterial involvement 	<p>Lecture (1) Tutorial</p>	<p>K</p>	<p>BCQ OSPE Group Presentation Class Participation</p>



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Grading, staging & clinical effects of Neoplasia	<ul style="list-style-type: none"> Define Grading and Staging of Tumors Define Cancer Cachexia Classify Paraneoplastic Syndromes according to their clinical effects and association with various tumors 	Lecture (1) Tutorial	K	Assignment
Lab diagnosis of cancer & Tumor markers	<ul style="list-style-type: none"> Discuss different types of Laboratory investigations used for Diagnosis of Cancer Classify Tumor Markers according to types and mode of action 	Lecture (1)	K	
PARASITIC AND PROTOZOAL DISEASES				
	Define parasite	Lecture (1) Practical	K	BCQ OSPE Group Presentation Class Participation Assignment
	Classify the medically important parasite			
	List the intestinal protozoa			
	Explain the mode of transmission of both protozoa			
	Discuss the life cycle and pathogenesis of Entamoeba Histolytica and Giardia			
	List the clinical findings and lab diagnosis of both protozoa			
	Protozoa			
List the plasmodium species				
Name the disease and vector of plasmodium species				
Identify the risk factors of malaria				
Describe the life cycle of plasmodium species				
Explain the pathogenesis and epidemiology of plasmodium species				
Discuss the clinical findings of malaria				
Interpret lab diagnosis of plasmodium species				



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	List the four major pathogen of Leishmania Name the diseases and vector	Lecture (1)	K	
	Describe the life cycle and pathogenesis	Practical		
	List the clinical findings			
	Name the procedure required for lab diagnosis.			





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Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools		
		Lecture/ Tutorials				
Nematodes	Name and define the Hookworms		K	BCQ OSPE Group Presentation Class Participation Assignment		
	Discuss the life cycle					
	Describe the pathogenesis and clinical findings					
	Explain the lab diagnosis.					
	Name and define the roundworms					
	Name the disease cause by ASCARIS					
	Describe the lifecycle					
	Discuss the pathogenesis and clinical findings					
	Identify the lab diagnosis.					
	Name and define the pinworm				Lecture (1)	K
	Name the disease cause by Enterobius vermicularis					
	Describe the life cycle					
	Discuss the pathogenesis and clinical findings					
	Name the technique use for lab diagnosis					
Cestodes	Name and define the Cestodes	Lecture (1)	K			
	Discuss the mode of transmission of all cestodes					
	Describe the lifecycle of all cestodes					
	List the clinical finding of all cestodes					
	Explain the lab diagnosis of all cestodes					



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JUNIOR OPERATIVE DENTISTRY				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
		Lecture/ Tutorials		
Pits and fissure sealants	By the end of Junior Operative lecture, students should be able to: 1. Discuss the indications, types and method of placement of pits and fissures sealants.	Lecture (2)	knowledge	Class Test Socratic
Class V GIC restorations	By the end of Junior Operative lecture session, students should be able to: 1. Give indications for Class V Glass Ionomer Cement restorations 2. Describe features of Class V restoration.	Lecture (2)	knowledge	Flipped Classroom
	By the end of practical session students should be able to: 1. Design and prepare cavity for class V Glass Ionomer Cement restoration on phantom/extracted teeth 2. Demonstrate correct technique for mixing, placement and finishing of GIC and RMGIC in Class V cavity on phantom /extracted teeth.	Practical Demonstration (3)	knowledge / Skill	Mini CEX/ OSAT DOPS
Class VI Composite restoration	By the end of Junior Operative lecture, students should be able to: 1. Give indications for Class VI composite restoration. 2. Describe features for Class VI composite restoration.	Lecture (2)	knowledge	Class participation
	By the end of practical session students should be able to: 1. Design and prepare cavity for class VI composite restoration. 2. Demonstrate placement of composite in Class VI cavity.	Practical Demonstration (2)	knowledge / Skill	Mini CEX/ OSAT
	CLASS TEST / PRESENTATION / REVISION	Lecture (4)		



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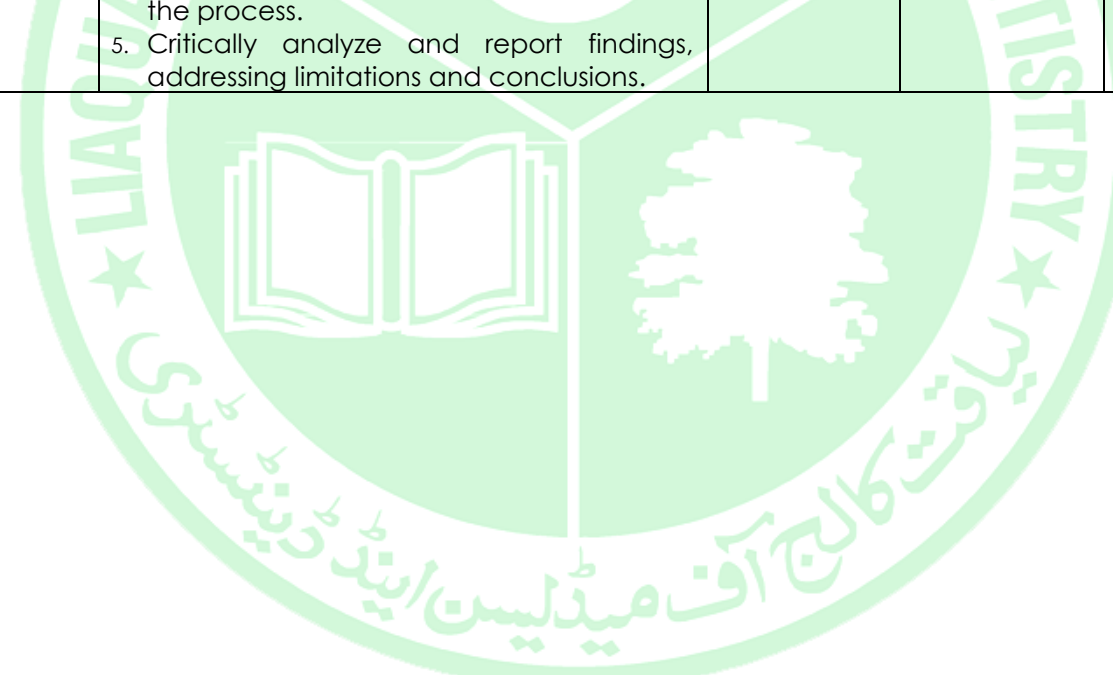
JUNIOR PROSTHODONTICS				
Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/Skill/ Attitude	Assessment Tools
		Lecture/Tutorials		
FIXED PROSTHODONTICS				
Introduction to fixed prosthodontics	Define the basic terminologies pertinent to fixed prosthodontics Discuss the applied anatomy and physiology for temporomandibular joint, muscles of mastication and dentition Describe Posselt's Envelop of Motion	Lecture (1)	knowledge	Class participation
Basics of fixed partial denture	Define the basic terminologies pertinent to fixed partial dentures Discuss the various components and types of fixed partial dentures Discuss the indications and contraindications for fixed partial dentures	Lecture (1) Tutorial	knowledge	Class participation /small group activity
Crown and its types	Discuss the various partial and full coverage indirect restorations Describe the principles of tooth preparation for indirect prosthesis Discuss the indications, contraindications, required clinical assessment and steps of preparation for provision of inlay and onlay. Discuss the materials, impression techniques, clinical and laboratory procedures for the fabrication of indirect prosthesis Describe the latest innovations including CAD-CAM Technology	Lecture (1) Tutorial Practical	Knowledge Skill/Practical PFM Crown preparation	Class participation /small group activity



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RESEARCH				
Topic	Objectives	Teaching methodology	Outcome	Assessment Tools
Clinical Trials And Good Clinical Practices Guidelines	<ol style="list-style-type: none"> 1. Explain clinical trials, their purpose, and ethical considerations. 2. Learn Good Clinical Practice (GCP) guidelines and regulatory requirements. 3. Describe the process of designing, conducting, and reporting clinical trials. 4. Identify risks and biases in clinical trial design and implementation. 	Lectures, Research meetings, small group discussions digital library sessions.	Submission & approval of Synopsis from Institutional IRB.	MCQs, Summative assignments research based.
Systematic Review	<ol style="list-style-type: none"> 1. Define the purpose and steps of conducting a systematic review, including formulating questions, searching, and selecting studies. 2. Assess study quality, extract data, and perform meta-analysis when applicable. 3. Use tools like the PRISMA checklist for quality assessment. 4. Ensure transparency and reproducibility in the process. 5. Critically analyze and report findings, addressing limitations and conclusions. 			

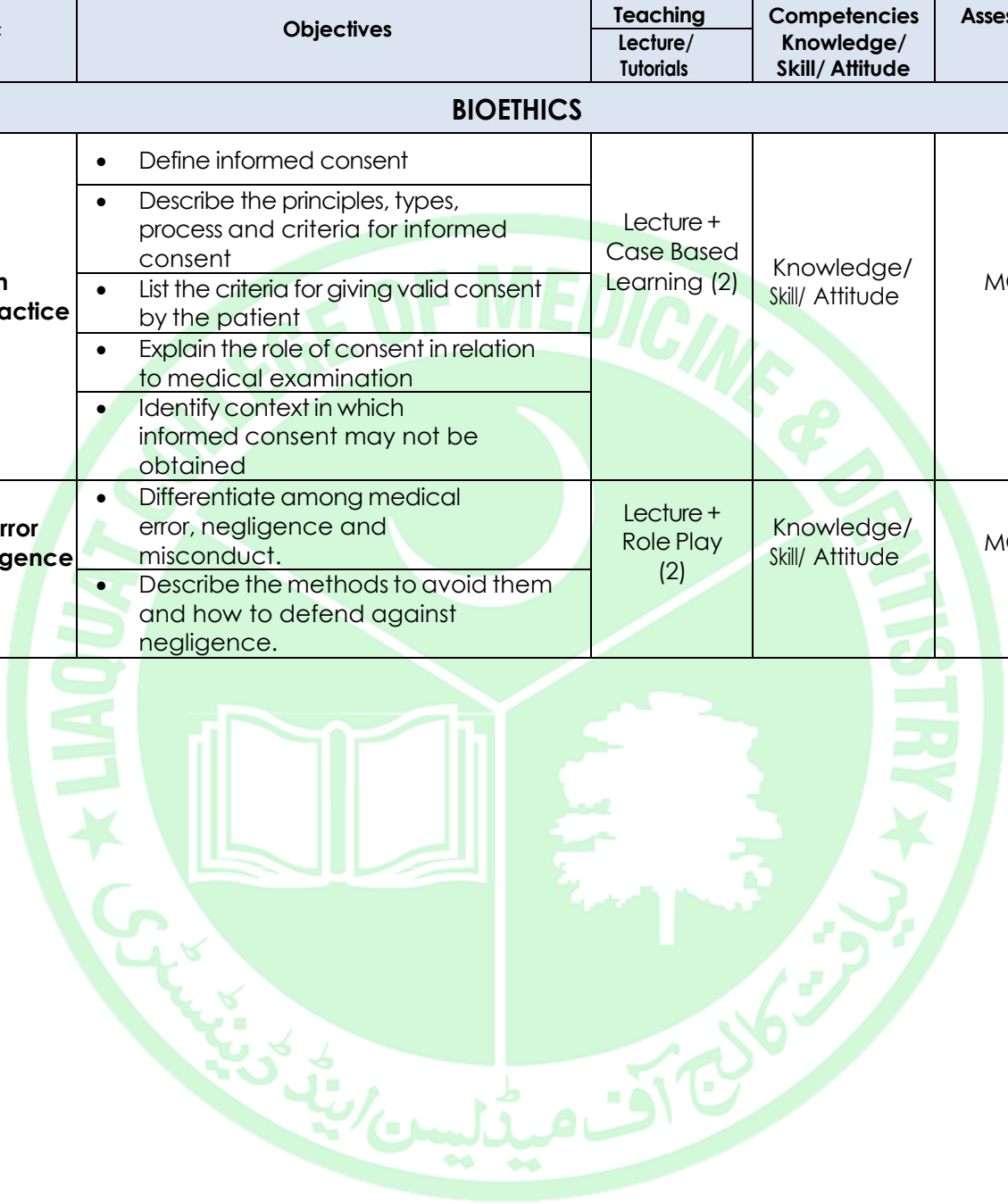




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LEADERSHIP, PROFESSIONALISM & ETHICS (LeaPE)				
Topic	Objectives	Mode of Teaching	KSA Competencies	Assessment Tools
		Lecture/ Tutorials	Knowledge/ Skill/ Attitude	
BIOETHICS				
Informed Consent in Clinical Practice	<ul style="list-style-type: none"> Define informed consent 	Lecture + Case Based Learning (2)	Knowledge/ Skill/ Attitude	MCQS
	<ul style="list-style-type: none"> Describe the principles, types, process and criteria for informed consent 			
	<ul style="list-style-type: none"> List the criteria for giving valid consent by the patient 			
	<ul style="list-style-type: none"> Explain the role of consent in relation to medical examination 			
	<ul style="list-style-type: none"> Identify context in which informed consent may not be obtained 			
Medical Error and Negligence	<ul style="list-style-type: none"> Differentiate among medical error, negligence and misconduct. 	Lecture + Role Play (2)	Knowledge/ Skill/ Attitude	MCQS
	<ul style="list-style-type: none"> Describe the methods to avoid them and how to defend against negligence. 			





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PAKISTAN STUDIES				
Topic	Objectives	Mode of Teaching	KSA Competencies	Assessment Tools
		Lecture/ Tutorials	Knowledge/ Skill/ Attitude	
CONTEMPORARY PAKISTAN				
Ethnicity	<ul style="list-style-type: none"> Explain the ethnic structure of Pakistan 	Lecture (1)	K/A	BCQ /Assignment
	<ul style="list-style-type: none"> Discuss Interprovincial conflicts, Intra provincial conflicts of ethnicity in Pakistan, 		K/A	
	<ul style="list-style-type: none"> Discuss the inclusive and exclusive trends based on Ethnicity and their implications on Pakistan 		K/A	
Foreign policy of Pakistan and Challenges	<ul style="list-style-type: none"> Foreign policy of Pakistan (Aims and objectives) 	Lecture (2)	K/A	BCQ /Assignment
	<ul style="list-style-type: none"> Pakistan and World powers (Russia, United States and China), Pakistan's relations with SAARC states, Middle East countries and Europe, Emerging Power centers and Pakistan 		K/A	
	<ul style="list-style-type: none"> Overview of demographic, social, economic, global and political challenges and resolutions 		K/A	

