TERM II

COMMUNITY DENTISTRY				
Topic	**Learning Objectives**	**Mode of Teaching** **Lecture/ Tutorials**	**KSA Competencies Knowledge/ Skill/ Attitude**	**Assessment Tools**
The practice of dentistry	Define Primary health care (PHC) according to Alma Ata Declaration.	Lecture FLIPPED CLASSROOM PBL (2)	K,A	Assignment BCQ TBL
	Define the principles of PHC.		K	
	Discuss the concept of private dental practice and its advantages.		K,S,A	
	Explain the 3 levels of prevention with 1 examples of each.		K,S,A	
	Compare in 5 major points Private practice and Salaried practice.		K	
The measurement of oral disease	Define methods for measuring oral diseases with 1 example of each	Lecture (2)	K,A	CBL/OSPE/Bcqs Flipped classroom approach
	Discuss all 6 properties of Ideal Index with examples		K	
	Define all types of scale used in disease measurements		K,S,A	
	Discuss 2 major parameters to measure the value of a diagnostic test		K,S,A K	
Measuring dental caries	Define DMF index	Lecture (2)	K,A	BCQ OSPE Community visit/CBL
	Discuss the major Criteria for diagnosing		K	
	coronal caries and root caries	Lecture (2) Tutorial	K,S,A	
	List all the limitations of DMF index	Calculate DMF scores	K,S,A	

		on models	K	
Measuring periodontal disease	Define: 1. Gingivitis 2. Plaque 3. calculus			
	Discuss and perform the scores and criteria for gingival index			
	Discuss codes and criteria for community periodontal index by WHO			
	Discuss scores and criteria for plaque index			
	Classify the Severity of Periodontal Diseases			
Financing dental care	Define Quality assurance.	Lecture (2)	K	Flipp classroom/ Assignment BCQ Class Quiz
	Discuss all Insurance principles.		K	
	Define Third party payment in financial dental care.		K	
	Describe NOT FOR PROFIT dental plan.		K	
	Define: 1. Delta dental plan 2. Blue cross 3. Blue shield 4. Commercial insurance plan.		K	
	Differentiate between Medicare and Medicaid in 3 major points each.		K	
The Dental Workforce	Define Dental Team	Lecture / Tutorial (2) TEAM BASED LEARNING	K	Assignment BCQ OSPE/TBL PRACTICAL APPROACH
	List the types of Dental Personnel		K	
	Discuss the major duties of qualified Dentist		K	
	Define Dental auxiliaries		K	
	Classify dental auxiliaries a/c to their function		K	
	Describe all 4 levels of supervision of Allied dental personnel		K	

			K	
Access to Dental Care	Define access to dental care	Lecture (1)	K	Flipp class room / Bcqs/PBL
	Discuss major reasons for access problem to dental care		K	
	Explain 5 Strategies to solve the access problem to dental care		K	
The healthy dental practice: infection control and mercury safety	Define the following terms: infection, infestation, infection control, eradication, agent, host and environment	Lecture (3) Tutorial	K	OSPE Class Presentation/ PBL
	Discuss the guidelines of infection control based on the concept of standard precaution		K	
	Describe 3 principle signs of Oral manifestations of HIV patient		K,S	
	Discuss primary routes of transmission of HEP B and C		K	
	List s/s of HEP B and C		K,S	
	Discuss the measures to reduce contamination through Dental unit waterlines		K,S	
	Describe the composition of Dental amalgam.		K	
	Describe safety and environmental issues related to dental amalgam		K	
	Differentiate between disinfection and sterilization 10 points each.		K,S	
Biostatistics	Define Statistical analysis	Lecture (1)	K	Google Assignment BCQ
	Define the terms statistics and biostatistics			
	Discuss the procedures and skills in data collection.		K,S	

	Define Vital statistics and its types.	Tutorial	K	OSPE Class quiz
	Discuss the role of vital statistics in determining the health status of country.			
	Define and calculate measures of central tendency (mean, median, and mode).		K,S	
	List the major advantages and disadvantages of measures of dispersion.		K, S	
	Describe all methods of data presentation.		K,S K,S K	
Survey Methodology	Define research	Lecture (1) Tutorial/Online search engines/ sample size calculator	K	Assignment /TBL BCQS
	List the components of Research.		K	
	Explain the purpose of research, literature review.		K,S	
	Explain the role of search engines in data base collection		K,S	
	Discuss the components of research methodology (including study setting, target population, sample technique and sample size etc.).		K,S	

DENTAL MATERIALS				
Topic	**Learning Objectives**	**Mode of Teaching** Lecture/ Tutorials	**KSA Competencies** Knowledge/ Skill/ Attitude	**Assessment Tools**
CERAMICS				
Introduction	Discuss the History of ceramics & porcelain fused to metals, its uses and properties of PFM appliances.	Lecture (1) Practical/ Tutorial	K	Team-Based Learning (TBL)
Composition of traditional dental porcelain	Describe the composition of various types of porcelain (Decorative, High Fusing dental, Low Fusing dental porcelain) with its uses and properties.		K	
Compaction & Firing	Explain the mechanism of compaction & Firing for Porcelain buildup.	Lecture (1) Tutorial	K	
Properties of porcelain	List the Ideal requirements of porcelain and its uses in dentistry.	Lecture (1) Tutorial	K	
	Discuss the mechanical & thermal properties of porcelain, and mechanism to strengthen porcelain.	Lecture (1) Tutorial	K	
Alumina Inserts & Aluminous Porcelain	List the disadvantages of porcelain and the method to overcome the disadvantages	Lecture (1) Tutorial	K	
	Describe the materials used to improve the properties of porcelain.			
Sintered Alumina core-ceramics	Discuss the advantages by addition of sintered alumina cores to porcelain, and high flexural strength of sintered Alumina system.		K	
Injection moulded and pressed ceramics	Discuss the history of production of all ceramic crowns in dentistry, and pressed ceramics with indications and properties.	Lecture (1) Tutorial	K	
	List the Techniques for fabricating ceramic copings with compositions and indications.	Lecture (1) Tutorial	K	
Cast glass & Polycrystalline ceramics	Discuss the composition, casting of ceramics with advantages and disadvantages, and introduction of (Y-2TP) material with details.	Lecture (1) Tutorial	K	
	List the Indications and properties of ceramics		K	

CAD-CAM Restorations	Discuss the indications and procedure of CAD-CAM	Lecture (1) Tutorial	K	OSPE practice stations, feedback during practicals
	List the advantages and disadvantages of CAD-CAM		K	
	List the Materials used and milling technique of CAD-CAM restorations.		K	
Porcelain Veneers	Describe the techniques for construction of porcelain veneers	Lecture (1) Tutorial	K	
	Explain the factors to improve appearance of veneered tooth		K	
	Discuss the alternatives to porcelain veneers (preformed acrylic veneers, Polish-able composite Resin Veneer)		K	
Porcelain fused to metal (PFM)	Describe the requirements and mechanical properties of PFM	Lecture (1) Tutorial	K	
	Discuss the requirements of alloys used to form sub-structures for non-porcelain bonding along with their composition (High Gold Alloys, Low Gold Alloys, Silver Palladium, Nickel chromium alloys)		K	
Tooth preparation for PFM restorations	Discuss the clinical consideration for tooth preparation of PFM restorations, and Shoulder porcelains.	Lecture (1) Tutorial	K	
	List the Ideal depths for cutting tooth	Lecture (1) Tutorial	K	
Capillary Technology	Describe the technology alternatives to produce porcelain metal restoration.	Lecture (1) Tutorial	K	
Bonded Platinum Foil	Explain the technique & indications related to bonded platinum foil.			
Practical	1. Demonstrate Alginate impression taking(upper and lower) 2. Prepare OSPE Spots	Practical	S	

Topic	Learning Objectives	Mode of Teaching Lecture/ Tutorials	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
METAL AND ALLOYS				
Introduction to Metals & Alloys	Classify the Metals & Alloys on the basis of crystal structure.	Lecture (1)	K	Class test Group assignment Class Participation Group Presentations Flipped Classroom (pre-reading/videos with in-class problem solving)
	List the uses of metals and alloy in dentistry.		K	
	Discuss the shaping of metals and alloys for dental use		K	
	List different methods of shaping (Casting, Cold working, Amalgamation)			
Structure & Properties of metals	Analyze on the basis of the crystal structure of metals along with its properties.	Lecture (1)	K	
Cold Working	Discuss the procedure of cold working	Lecture (1) Practical/ Tutorial	K	
	List the use of cold working in dentistry.		S	
Structure & properties of alloys	Define the term Alloy	Lecture (1) Tutorial	K	
	classify alloys on the basis of Binary and tertiary elements		K	
	Enumerate the factors related to cooling below melting point.		K	
	Classify the solid solution on the basis of its forms (Random, ordered and interstitial solid solution)	Lecture (1) Tutorial	K	
Cooling Curves	Discuss the cooling curves used to characterize metals & alloys	Lecture (1) Tutorial	K	
Phase diagram	Describe the phase diagrams 1. Solid solution phase diagrams 2. Eutectic phase diagrams.	Lecture (1) Tutorial	K	

Topic	Learning Objectives	Mode of Teaching Lecture/ Tutorials	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
CASTING				
Casting Machines	Enumerate the different types of casting machines.	Lecture (1)	K	
Faults in Casting	Discuss the faults in casting 1. Finning & Bubbling 2. Incomplete Casting 3. Porosity in Casting 4. Oversized or Undersized casting	Lecture (1)	K	
Practical	Construct Plaster slab making of gypsum (3/2.5 INCHES)	Practical	S	
	Design Alphabet "B" wire bending Prepare the OSPE Spots	Practical	S	

Topic	Learning Objectives	Mode of Teaching Lecture/ Tutorials	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
GOLD & ALLOYS OF NOBLE METALS				
Introduction to Gold & alloys of Noble metals	Discuss the properties and characteristics of Gold & Noble metal alloys.	Lecture (1) Tutorial	K	Class test Group assignment Class Participation Group Presentations
Pure Gold fillings (Cohesive Gold)	Explain the mechanism of fabrication of gold fillings	Lecture (1) Tutorial	K	
	Define the term Cohesive Gold	Lecture (1) Tutorial	K	
	Discuss the mechanical properties of Gold filling	Lecture (1) Tutorial	K	
	List the advantages of Gold Fillings in dentistry.			
Traditional Casting Gold Alloys	List the Indication of Casting gold alloys	Lecture (1) Tutorial	K	
	Classify Casting Gold alloys on the basis of gold content		K	
	List the uses of casting gold alloy in dentistry.		K	
	Discuss the Composition of Casting Gold alloys in detail.		K	
	Explain the biocompatibility of Gold & Metal alloys to soft tissues.	Lecture (1) Tutorial	K	
Hardening Heat treatments (Theoretical consideratio ns)	Describe the Silver-Copper system and Gold copper systems with diagrams.	Lecture (1) Tutorial	K	
Heat Treatments (Practical Consideratio ns)	Discuss the Casting procedure	Lecture (1) Tutorial	K	
Alloys with Noble metal content at least (25% but < 75%)	Classify the group of alloys on the basis of composition range		K	
	1)Low Gold Content	Lecture (1) Tutorial	K	
	2)Silver palladium alloys	Lecture (1) Tutorial	K	

Soldering & Brazing Materials for Noble Metals	Define the term Soldering	Lecture (1) Tutorial	K	
	Define the term Brazing		K	
	Give the requirements of Soldering with their properties.		K	
	Give the requirements of Brazing with their properties.		K	
Noble alloys for metal bonded ceramic restorations	Discuss the uses of metal, alloys & their requirements.	Lecture (1) Tutorial	K	
	i)Thermal Stability	Lecture (1) Practical/ Tutorial	K	
	ii)Good Bonding	Lecture (1)	K	
	iii) Good Compatibility. Etc.		K	

Topic	Learning Objectives	Mode of Teaching Lecture/ Tutorials	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
STEEL AND WROUGHT ALLOYS				
Introduction	Define the Wrought Alloys.	Lecture (1) Practical	K	Class test Group assignment Class Participation Group Presentations
	Explain the methods to achieve alloy or metal structures.		K	
Steel	Describe the composition and properties of steel alloys, and transitions in iron- carbon phase with diagrammatic representation	Lecture (1) Practical	K	
	Define the Eutectoid alloy, Hypereutectoid alloy, Hypo-eutectoid alloy, Martensite alloy, and tempering alloy.		K	
Stainless steel	Discuss the composition and mechanism to achieve SS alloys	Lecture (1) Practical/ Tutorial	K	
	List the Uses of SS material in dentistry		K	
SS Denture bases	Discuss the methods to form SS denture base.	Lecture (1) Tutorial	K	
	List the Advantages and Disadvantages of SS denture bases.		K	
Wire	List the Uses of wires in dentistry, Requirements of a wire and its properties, and Available material.	Lecture (1) Practical/ Tutorial	K	
	Enumerate the commonly used materials for fabricating wires (SS, Gold Alloy, Co/Cr Alloy, Ni/Ti Alloy, B/Ti Alloy)		K	

Topic	Learning Objectives	Mode of Teaching	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
BASE METAL ALLOYS				
Introduction	Describe the composition and properties of Base Metal alloys (Cobalt Chromium alloys, Nickel Chromium alloys)	Lecture (1)	K	Class test Group assignment Class Participation Group Presentations
	Discuss the Alloys for fixed restorations.			
Manipulation of Base metal casting alloys	Explain the Methods for melting of base metal alloys	Lecture (1)	K	
	Discuss the casting of base metal alloys and electrolytic polishing			
Properties	Describe the Co/Cr & Ni/Cr alloys comparison of properties of	Lecture (1)	K	
	1. Co/Cr alloys & type 4 gold alloys for PD			Class test Group assignment Class Participation Group Presentations
	2. Ni/Cr alloys & type 3 gold alloys for cast restorations			
Base Metal Alloys for fixed dental restorations	Classify the (Type 1-4) with uses			
	Discuss the Mechanical properties of base metals alloys			
Base Metal Alloys for porcelain bonding	List the uses of Base Metals Alloy	Lecture (1)	K	
Metals & Alloys for Implants	Give the requirements & Classification with explanation			
	1. Sub periosteal			
	2. Blade-vent endosseous			
	3. Osseo Integrated			
Practical	1. Fabricate T spring	Practical	S	
	2. Fabricate C shaped clasp Prepare OSPE Spots			

PHARMACOLOGY				
Topic	**Learning Objectives**	**Mode of Teaching** **Lecture/ Tutorials**	**KSA Competencies Knowledge/ Skill/ Attitude**	**Assessment Tools**
ANTI BACTERIAL DRUGS				
Cell Wall Synthesis Inhibitors	Distinguish between bacteriostatic and bactericidal drugs along with examples	Lecture (1) Practical/ (small group discussion)	K/A	BCQ OSPE Group Presentation Class Participation Assignment
	Classify antimicrobial drugs according to mechanism of action			
	Enumerate all cell wall synthesis inhibitor drugs	Lecture (1) Practical/ Tutorial	K/A	
	Classify penicillins according to nature and antibacterial spectrum			
	Describe the history, chemistry, Pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of all Penicillins			
	Discuss the role of βlactamase inhibitors.	Lecture (1) Practical/ Tutorial	K/A	
	Classify Cephalosporins according to antibacterial spectrum			
	Describe the history, chemistry, Pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of all Cephalosporins.			
	Describe the Monobactams and Carbapenems on the basis of antibacterial spectrum, pharmacokinetics and adverse effects.	Lecture (1) Practical/ Tutorial	K/A	
	Discuss the properties of Vancomycin, Teicoplanin, Daptomycin, Fosfomycin, Bacitracin and Cycloserine			BCQ OSPE Group Presentation Case-based discussion Class Participation Assignment
	Explain the role beta-lactamase inhibitors in chemotherapy with beta lactam antibiotics			
	Demonstrate professional and ethical judgment in selecting appropriate antibiotics for patient care			

	Recognize and minimize patient safety risks including antibiotic resistance, allergic reactions, and nephrotoxicity			
Protein Synthesis Inhibitors				
Protein Synthesis Inhibitors	Classify protein synthesis inhibitors according to mode of action	Lecture (1) Practical/ (small group discussion)	K/A	
	Describe the role of protein synthesis in bacterial growth and multiplication			
Macrolides	Describe macrolides?	Lecture (1) Practical/ Tutorial	k/A	
	Classify macrolides?			
	Describe their pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication of macrolide			
Chloramphenicol	Describe chloramphenicol	Lecture (1) Practical/ Tutorial	k/A	
	Describe their pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication chloramphenicol			
Tetracyclines and Aminoglycosides	Classify tetracycline's according to duration of action	Lecture (1) Practical/ Tutorial	K/A	
	Describe their pharmacokinetics, mode of action, therapeutic uses/indications, adverse effects and contraindication			
	Name the Aminoglycosides	Lecture (1) Practical/ Tutorial	K/A	
	Describe the pharmacokinetics, mode of action, clinical uses, toxicities and contraindications of Aminoglycosides			

Sulfonamides and Fluoroquinolones	Classify Sulfonamides on the basis of duration of action Classify Fluoroquinolone according to antimicrobial spectrum. Describe the pharmacokinetics, mode of action, clinical uses, toxicities and contraindications of Sulfonamides, Trimethoprim and Fluoroquinolone.	Lecture (1) Practical/ Tutorial	K/A	
AntimycobacterialDrugs	Describe Tuberculosis along with signs and symptoms Classify antimycobacterial drugs on the basis of first line and second line therapy. Describe the pharmacokinetics , mode of action, therapeutic uses/indications, adverse effects and contraindication of first line antimycobacterial drugs	Flipped Class room (1) Practical/ Tutorial	K/A	
Anti-Leprosy Drugs	Name the anti-leprosy drugs Discuss the pharmacokinetics, mode of action therapeutic uses/indications and adverse effects of all anti-leprotic drugs.	Lecture (1) Practical/ Tutorial	K/A	
Urinary Tract Infections Drugs	List the common bacteria causing UTI Classify the drugs used for UTI on the basis of mode of action and antimicrobial spectrum Describe the pharmacokinetics and pharmacodynamics of the drugs used for UTI Exhibit rational prescribing and patient counseling for UTI management, including awareness of resistance and adverse effects	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE Case-based learning
IMMUNOMODULATORY DRUGS				
Immunosuppresants and Immunomodulators	Describe the meanings and major categories of Immunomodulation drugs Classify immunosuppressants and immunostimulants on the basis of mode of action	Lecture (1) Practical/ Tutorial	Practical/ Tutorial	BCQ OSPE

	Describe the role of each immunosuppressant		K/A	
	Describe the mechanism of action, clinical uses and toxicities of antibodies used as immunosuppressants			
	Identify the major cytokines and other immunomodulating drugs			
	Describe the role of major cytokines and other immunomodulating drugs			
	Describe the different types of allergic reactions to drugs			
RESPIRATORY DRUGS				
Antiasthmatic Drugs	Define Bronchial Asthma and Status Asthmaticus	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE Group Presentation Class Participation
	Classify antiasthmatic drugs according to mode of action			
	Describe the pharmacokinetics and mode of action of all antiasthamatic drugs			
	Enumerate therapeutic uses/indications, adverse effects and contraindication of all antiasthmatic drugs			
	Name the drugs used to treat COPD	Lecture (1) Practical/ Tutorial	K/A	
Drugs used for Pneumonia	Explain the role of the drugs used for Pneumonia	Lecture (1) Practical/ Tutorial	K/A	BCQ OSPE
	Explain the role of the drugs used for the prophylaxis of Community Acquired Pneumonia			
Anti-tussive Drugs	Describe antitussive drugs	Lecture (1) Practical/ Tutorial	K/A	
	Explain the role of the drugs that suppresses cough			
	Enumerate therapeutic uses/indications, adverse effects and contraindication of all antitussive drugs			

PATHOLOGY				
Topic	**Learning Objectives**	**Mode of Teaching** Lecture/ Tutorials	**KSA Competencies** Knowledge/ Skill/ Attitude	**Assessment Tools**
IMMUNOLOGY				
Introduction to immunity & Normal host defense	-Define immunity -Classify types of immunity according to their function -List the components of immune system -Discuss the functions of immune system -Explain Innate and acquired immunity, Active& passive Immunity	Lecture (1)	K	Class test Group assignment Class Participation Group Presentations
Adaptive immunity (I)	-Define adaptive immunity -Classify T cells according to its types. -Discuss the functions of CD4 and CD8 T cells with respect to activation, costimulation and memory formation -Discuss the effect of superantigens on T cells	Lecture (1)	K	
Adaptive immunity (II)	• Discuss the mode of activation of B cells • Discuss effector functions of B cells • Define antibody • Discuss the structure of antibody • Classify antibodies according to types • Define primary response and secondary response of antibodies • Discuss the functions of antibodies	Lecture (1)	K	
MHCs & transplantation	• Define Major Histocompatibility Complex (MHC) • Classify MHC proteins according to its classes • Define transplantation • Discuss the importance of MHC in transplantation • Classify types of transplant rejections • Define allograft rejection • Discuss HLA typing in the lab in association with transplantation	Lecture (1)	K	

Complement System	•Define complement system •Discuss complement system with respect to activation and regulation •Discuss the role of complement in immunity •Explain the clinical aspects of complement system	Lecture (1)	K	Class test Group assignment Class Participation Group Presentations
Hypersensitivity I& II	• Define Hypersensitivity reaction, desensitization, atrophy, drug hypersensitivity • Classify hypersensitivity according to its types • Discuss the pathogenesis of types I & II hypersensitivity • Discuss various clinical presentations of type I & II hypersensitivity reactions • Discuss the treatment and prevention of types I & II hypersensitivity	Lecture (1)	K	
Hypersensitivity III & IV	• Define Arthus reaction, Serum Sickness, Immune Complex Disease • Discuss the pathogenesis of type III & IV hypersensitivity • Discuss various clinical presentations of type III & IV hypersensitivity reactions • Discuss the treatment and prevention of type III & IV hypersensitivity • Discuss briefly Agglutination & precipitations reactions, ELISA • Discuss ABO blood groups, transfusion reactions & Rh- incompatibility.	Lecture (1)	K	
Immunodeficiency Disorders	• Define immunodeficiency • Classify immunodeficiency according to its types • Discuss various clinical presentations of immunodeficiency diseases	Lecture (1)	K	
Immunodeficiency Disorders	• Define immunodeficiency • Classify immunodeficiency according to its types • Discuss various clinical presentations of immunodeficiency diseases	Lecture (1)	K	

Tolerance & Auto-immunity disorders	• Define T & B cell tolerance, autoimmunity • Discuss the pathogenesis of autoimmune disease • Discuss various clinical presentations of autoimmune diseases	Lecture (1)	K	
Serological testing	Discuss the following: 1.Basic concepts (agglutination/ Precipitation) 2.Typhidot 3.ELISA 4.ICTe.gMalaria5.PCR basic concept	Lecture (1)	K	
	Discuss the various methods of serological diagnosis of disease	Practical	K	
	Perform stool examination to detect parasite. Draw and label the diagram of your finding	Practical	K	
	Perform the blood examination for the malarial parasite	Practical	K	

Topic	Learning Objectives	Mode of Teaching Lecture/ Tutorials	KSA Competencies Knowledge/ Skill/ Attitude	Assessment Tools
RESPIRATION				
COPD	Define COPD. Discuss its causes. Explain its sign and symptoms.	Lecture (1)	K	
SPECIAL BACTERIOLOGY				
	Define the Strepto coccal infection and their important properties	Lecture (1) Tutorial	K	BCQOSPE Group Presentation Class
	Classify strep to coccus organisms on the basis of antigenic difference in C carbohydrate? With their examples			
	Discuss the pathogenesis of strepto coccal infection			

Gram positive Cocci	List the clinical finding cause by strep to coccal infection			Participation Assignment
	Discuss the various methods of diagnosis for strepto coccal infection.			
	Define the Staphylococcal infection with their important properties	Lecture (1) Tutorial	K	BCQOSPE Group Presentation Class Participation
	Discuss the three species of staphylococci			
	Discuss the important features of pathogenesis by staphylococcal infection			
	Explain the important clinical manifestation caused by staphylococci			Assignment
	Discuss the various methods of diagnosis for staphylococcal infection.			
	Define Gram positive cocci and bacilli	Practical	K	
	Discuss various lab diagnostic procedure for gram positive organisms(cocci and bacilli)			
	Explain the coagulase and catalase test			
	Interpret the result of coagulase and catalase test			
Gram Positive Rods	List the Gram positive bacilli.	Lecture (1)	K	BCQ OSPE Group Presentation Class
	Classify the Gram positive bacilli on the basis of spore			
	Discuss the patho genesis of all gram positive bacilli			
	Enumerate the clinical findings of all Gram positive bacilli			
	Describe the lab diagnosis of Gram positive bacilli			
	List the gram negative cocci			

Gram negative Cocci	Explain the importance properties of Neisserias pecies	Lecture (1)	K	Participation Assignment
	Discuss the patho genesis &clinical finding of Neisseria			
	Explain the lab diagnosis of Neisserias pecies			
Gram negative Rods	Classify the organism on the basis of site of infection	Lecture(1) Tutorial	K	
	Define Entero bacteria ceae and related organism			
	List the lactose fermenters and non-lactose fermenter organisms			
	Discuss the important features of E.Coli, Salmonella, Vibrio Cholera, Compylobacter, Helico bacters and Pseudo monasaeruginosa			
	Describe the patho genesis and clinical finding of the above mention organisms.			
	Explain the lab diagnosis of gram negative rods			
	Demonstrate different types of biochemical reaction test for the lab diagnosis of gram negative organisms interpret the result	Practical	K	
	List the Gram Negative Rod related to the respiratory tract	Lecture(1) Tutorial	K	
	Describe the Bordetella pertussis; Important properties and pathogenesis and lab diagnosis			
	Discuss briefly			
	Bacteroides, Klebseilla			
	Explain the labdiagnosis			
Mycobacteria	Classify the myco bacterium infection into typical and atypicalmy co bacteria	Lecture(1) Tutorial	K	BCQOSPE Group Presentation Class Participation Assignment
	Describe the important properties of my cobacterium tuberculosis and Myco bacteriumleprae			
	Explain the mode of transmission			
	Discuss the pathogenesis of mycobacterium tuberculosis and Mycobacterium leprae			
	List the clinical finding of mycobacterium tuber culosis and Mycobacterium leprae			
	Explain Lab diagnosis of myco bacterium tuber culosis and Mycobacterium leprae			
	Demonstrate the lab diagnostic procedures for mycobacterium tuber culosis and Myco bacterium leprae Interpret the result	Practical	K	

JUNIOR OPERATIVE DENTISTRY				
Topic	**Learning Objectives**	**Mode of Teaching** **Lecture/ Tutorials**	**KSA Competencies Knowledge/ Skill/ Attitude**	**Assessment Tools**
Amalgam and composite restorative materials	By the end of Junior Operative lecture, students should be able to: 1. Discuss in detail classification, composition, advantages, disadvantages, indications and contraindications of the following restorative materials: - Amalgam - Composite resin	Lecture (4)	Knowledge	Flipped Classroom
Amalgam--- placement, carving and polishing in Class I Cavity	By the end of practical session students should be able to: 1. Demonstrate trituration, placement, carving, finishing, and polishing of amalgam in Class I cavity on maxillary and mandibular phantom/ extracted teeth. 2. Demonstrate handling and disposal of mercury waste	Practical Demonstration (2)	Knowledge/ Skill	Mini CEX/ OSAT DOPS
Composite Placement, finishing and polishing in Class I Cavity	By the end of practical session students should be able to: 1. Demonstrate etching, bonding followed by correct placement, curing, finishing and polishing of composite in Class I cavity on maxillary and mandibular phantom/ extracted teeth.	Practical Demonstration (2)	Knowledge/ Skill	Mini CEX DOPS
Matricing	By the end of Junior Operative lecture, students should be able to: 1. Define Matricing 2. Identify the different types of matrix bands, retainers, and wedges (Tofflemire, sectional) for amalgam and composite restorations. 3. Define the importance of using matrix bands and wedges during restoration placement. 4. Discuss various types of matrices used in Class III and Class IV composite restorations.	Lecture (2)	Knowledge	Class participation Class test
	By the end of Junior Operative practical session, students should be able to:			
	Demonstrate the correct technique of contouring , placement and removal of commonly used matrix system(Tofflemire,			

	sectional) and wedges on phantom heads for anterior & posterior teeth.			
Class II Amalgam Restoration	By the end of Junior Operative lecture, students should be able to: 1. Explain features of Class II cavity design for amalgam restoration 2. Explain the significance of matricing for Class II cavity 3. Explain in detail the steps of lining, placement of amalgam, precarving, carving, post carving and finishing of an amalgam in Class II cavity	Lecture (3)	Knowledge	Class participation Class test
	By the end of Junior Operative practical session, students should be able to: 1. Prepare Class II cavity for amalgam restoration in Phantom tooth on typodont 2. Place an amalgam in a prepared Class II cavity after application of matrix band on phantom teeth. 3. Demonstrate handling and disposal of mercury waste. 4. Demonstrate polishing of amalgam restoration	Practical Demonstration (2)	Knowledge/ Skill	Mini CEX/ OSAT DOPS
Sterilization & Disinfection	By the end of Junior Operative lecture, students should be able to: 1. Differentiate among Sterilization, Disinfection and Asepsis. 2. Discuss the importance of sterilization and disinfection. 3. Discuss elements of a sterilization plan. 4. List critical, semi critical and non-critical items 5. Describe various methods used for sterilization and methods to monitor effectiveness of sterilization. 6. List chemicals that are used for disinfection. 7. Describe techniques for sterilization and disinfection of endodontic instruments. 8. Discuss disinfection of dental unit waterlines	Lecture (2)	Knowledge	Class participation Class test
	CLASS TEST / PRESENTATION / REVISION	Lecture (3)		

JUNIOR PROSTHODONTICS				
Topic	**Learning Objectives**	**Mode of Teaching** **Lecture/ Tutorials**	**KSA Competencies Knowledge/ Skill/ Attitude**	**Assessment Tools**
Examination Diagnosis and Treatment planning / Evaluation of Patient	Take complete medical and dental history of patients presenting to OPD Evaluate Psychological and mental health of patients according to house's classification Discuss the drugs which affect the prosthetic treatment of the patient. Perform clinical examination of patients i) Extra oral examination i. Facial examination ii. Skin iii. Lips a) Lip length b) Lip Thickness c) Lip Mobility d) Lip support e) Smile Line iv. Neuromuscular evaluation v. Speech evaluation vi. TMJ evaluation ii) Intraoral examination i. Cheeks ii. Tongue a) Tongue size b) Tongue position c) Tongue biting iii. Frenal attachment iv. Floor of the mouth v. Maxillary tuberosity vi. Palate a) Hard Palate b) Palatal torus c) Mandibular tori d) Smoker's Palate e) Denture induced stomotitis f) Soft palate classification vii. Residual alveolar ridge classification viii. Bony Prominences ix. Undercuts x. Saliva a) Salivary flow b) Viscosity c) Xerostomia d) Oral mucosa examination	Lecture (3) Tutorial	Knowledge	Class Participation/ Flip Classroom

	e) Inter arch space iii) Radiographic examination			
	Describe treatment planning for patients			
	Define tissue conditioning			
	Define nutritional counseling			
Impression techniques	Discuss the objectives of impression making Types of impression techniques for complete denture Classification of impression materials	Lecture (3) Tutorial	Knowledge/ skill/ practical (ideal mode)	Class participation / Flip classroom
Maxillomandibular relations / Rim formation	Discuss the Vertical relations	Lecture (1) Group Discussion Tutorial	Knowledge Practical	Small group activity/DOPs
	Discuss the Horizontal relations			
Occlusion	Define the basic terminologies of occlusion Describe the different type of occlusion Discuss characteristics, importance, general considerations and types of balanced occlusion Discuss advantages, disadvantages, indications, contraindications of types of occlusion Discuss labial form of occlusion rims considering the facial landmarks, fullness of upper lip, philtrum, nasolabial fold and oral commissures Construct maxillary and mandibular occlusion rims on ideal edentulous model	Lecture (3)	Knowledge / practical	

RESEARCH				
Topic	**Objectives**	**Teaching methodology**	**Outcome**	**Assessment Tools**
Introduction to biostatistics and types of data	1. Introduction to Biostatistics 2. Define biostatistics and its importance. 3. Explain the role of biostatistics in medical research. 4. Identify key concepts and applications of biostatistics. 5. Types of Data 6. Classify data into qualitative (categorical) and quantitative (numerical). 7. Identify types of quantitative data (discrete, continuous). 8. 3. Distinguish between nominal, ordinal, interval, and ratio scales.	Lectures, Research meetings, small group discussions digital library sessions.	Submission &approval of Synopsis from Institutional IRB.	MCQs, Summative assignments research based.
Summarizing and displaying categorical data: frequencies, tables and graphs	1. Summarize categorical data using frequency distributions. 2. Construct frequency tables and interpret results. 3. Create and interpret bar charts, pie charts, and histograms. 4. Use SPSS to generate frequency tables and graphs. 5. Effectively communicate results through clear and informative displays.			
Displaying Scale data and the concept of normal and skewed distribution	1. Summarize and display scale data using histograms and stem-and-leaf plots. 2. Understand the concept of normal distribution and its characteristics. 3. Identify and interpret skewed distributions (positively, negatively). 4. Use SPSS to generate histograms and normality plots. 5. Interpret results to determine if data follows a normal distribution.			
Summarizing scale data: measure of central tendency	1. Calculate and interpret measures of central tendency (mean, median, mode). 2. Understand the advantages and limitations of each measure. 3. Apply the appropriate measure of central tendency for different types of data. 4. Use SPSS to calculate measures of central tendency. 5. Interpret results to understand the central tendency of the data.			

COMMUNICATION SKILLS				
Topic	**Objectives**	**Mode of Teaching** Lecture/ Tutorials	**KSA Competencies** Knowledge/ Skill/ Attitude	**Assessment Tools**
Presentation skills	• Develop a PowerPoint presentations based on principles of multimedia design • Present scientific content by using MS PowerPoint presentations • Respond to questions effectively in a presentation	Practical (3)	Skill/ Attitude	Presentation Competition
	• Actively listen to ensure understanding of facts and opinions and convey emotions effectively	Role Play (1)	Skill/ Attitude	OSCE
Assertive communication	• Define assertive communication • Differentiate between assertive and aggressive communication • Discuss the advantages of assertive communication • Discuss strategies for communicating assertively	Lecture + Role Play (1)	Knowledge/ Skill/ Attitude	MCQs + Role Play + OSCE
	• Given a simulated patient, demonstrate assertive communication	Practical + Role Play (1)		

PATIENT SAFETY				
Topic	**Objectives**	**Mode of Teaching** **Lecture/ Lectures**	**KSA Competencies Knowledge/ Skill/ Attitude**	**Assessment Tools**
Waste Management	• Define hospital or medical waste	Lecture (1) + Pre Readings (1)	Knowledge	BCQs + end Lecture Test
	• Classify waste in hospitals			
	• List the sources of waste			
	• List the adverse health outcomes associated with health care waste			
	• Name how each type of waste should be disposed			
	• Discuss how each type of waste is best disposed			
	• Demonstrate disposing of hazardous waste according to regulatory guidelines	Practical (1)	Skill/ Attitude	OSCE
	• Describe the environmental impact of waste treatment and disposal	Lecture (1) + Project Based Learning (Preparation - 2) + (Presentation – 2)	Knowledge	BCQs + Project Competition
	• Explain reasons for failure of waste management			
	• Describe strategies for improving health-care waste management			

LEADERSHIP, PROFESSIONALISM & ETHICS (LeaPE)				
Topic	**Objectives**	**Mode of Teaching** Lecture/ Tutorials	**KSA Competencies** Knowledge/ Skill/ Attitude	**Assessment Tools**
LEADERSHIP				
Honesty and Integrity	• Differentiate between the two terminologies • Discuss how and why honesty and integrity are important professionally • Discuss challenges of demonstrating honesty and integrity	TBL (2)	Knowledge/ Skill/ Attitude	MCQS
Ethics by Beauchamp and Childress	• Differentiate among the 4 principles of Ethics	Lecture Small Group Activity (1)	Knowledge	MCQS
	• Justify ethical solutions based on these 4 principles Truth telling, honesty, integrity, and respect		Knowledge/ Skill/ Attitude	MCQS
PROFESSIONALISM				
Significance of Professionalism	• Describe the factors affecting professionalism • Discuss the significance of professionalism in healthcare delivery and patient outcome	Lecture + Debate Competition (2)	Knowledge/ Skill/ Attitude	MCQS + Debate Competition

PAKISTAN STUDIES				
Topic	**Objectives**	**Mode of Teaching** **Lecture/ Tutorials**	**KSA Competencies Knowledge/ Skill/ Attitude**	**Assessment Tools**
GOVERNMENT AND POLITICS IN PAKISTAN				
Political and Constitutional Phases	• Describe the main events and their effects on development of Pakistan during the following time periods: • From 1947-58 • From 1958-71 • From 1971-77 • From 1988-99 • From 1999 onwards	Lecture (3)	K/A	BCQ /Assignment