JINNAH MEDICAL AND DENTAL COLLEGE

BDS CURRICULUM

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LIST OF ABBREVIATIONS

Abbreviations	Full Form
BCQS	Best choice questions
OSCE	Objective structured clinical examination
OSPE	Objective structured practical examination
SGDs	Small group discussions
DOPS	Direct observation of procedural skills
TMJ	Temporo-mandibular Joint

INTRODUCTION

Jinnah Medical and Dental College offers a four year degree program leading to Bachelor of Dental Surgery (BDS). The program utilizes contemporary teaching and learning methodologies and computer based assessments on a regular basis. The rich blend of active teaching and learning methodologies employed at JMDC are geared towards engaging students and assisting them in developing their critical thinking and problem-solving abilities. Moreover, these student-centered methodologies comply with the current trends; and allow students to learn and enhance their clinical skills, ensuring that compassionate patient care and community services lie at the heart of all the skills developed. Formative assessments are done on a regular basis to provide feedback to students and summative assessments are used for promotion of students to the next academic year. Continuous assessment contributes to the summative examination at the end of the year, also known as the professional examination. Orientation sessions are arranged for computer based examinations to ensure the students are accustomed to the assessment system. A mix of tools is used to cover the various aspects of the learning and for a well-rounded assessment of future clinicians who will be catering the society. The 4-year teaching and clinical training is provided at the Shaheed-e-Millat Campus. However, a few subjects are covered in Korangi campus.

VISION

To set local and global standards for quality patient outcomes – creating a culture of excellence to promote a transformative experience for the 21st century clinicians, educators and researchers to benefit all humanity.

MISSION

To develop well-rounded academicians, thinkers, clinicians and researchers by strengthening a global view, broadening intellectual foundations and teach effective communication. It is our aspiration to cultivate creative and critical thinking skills for problem solving, sensitive to cultural and ethical values and responsibilities. Our graduates will be role models and society leaders.

VALUES

We at Dental College under the auspices of Jinnah Sind Medical University, value equity, quality, compassionate behavior, accountability, social justice, humanistic approach, leadership, innovation, integrity and collaboration.

PROGRAM GOALS

To produce safe and competent oral health care providers who are capable of preventing and treating patients with oral diseases in alignment with the latest protocols and guidelines; and the socio-cultural context; who meet the international standards of undergraduate dental education and are well-prepared to greet the challenges in the world.

To emphasize a student-centered approach to teaching and learning

To continuously improve quality of teaching and research through revision of curriculums, review of assessment methodologies of students' performance and faculty development with provision of adequate resources to support these endeavors

To promote a sense of belonging that results in lifelong associations with the College.

To encourage an atmosphere of diversity and to protect free exchange of ideas

To recruit and retain a diverse and highly-qualified faculty and staff committed to excellence in all College pursuits

To expand phase-wise with new faculties to complement existing faculties of medicine, dentistry and nursing

To initiate post graduate programs in basic, applied and social sciences

To expand existing infrastructure to accommodate new academic programs

To expand existing infrastructure to accommodate new academic programs

110To expand existing infrastructure to accommodate new academic programs

111To conduct University affairs in a manner that is transparent, deliberative, and ethical

112To foster and strengthen effective partnerships with educational, government.

*PROGRAM LEARNING OUTCOMES**

(7 Star Doctor – PMDC)

Our dental graduate shall be able to:

Perform all basic dental procedures founded on current evidence.

Demonstrate professional approach to patient care, with ethical and moral reasoning, manifesting a pursuit of excellence in knowledge and skills

Show cultural sensitivity in all matters of healthcare and disease prevention for an individual as well as community

Advocate health promotion and disease prevention, with emphasis on social determinants of health, and rooted in empirical evidence with best judgment

Effectively perform as a team player, working above and beyond personal interest

Demonstrate mastery in communication with patients, colleagues, teachers and other members of society

Exhibit leadership qualities when working in a team of oral health care professionals

Contribute to research for the benefit of self, professional community and public at large.

DURATION AND STRUCTURE

The BDS program comprises four academic years with an annual professional examination. The first two years focus delivery of basic medical and dental science subjects or the pre-clinical years and the last two years revolve around the clinical sciences centering on developing crisp clinical skills and compassionate patient care.

STUDY PLAN (YEAR –WISE DISTRIBUTION OF SUBJECTS)

	Core Subjects	Longitudinal themes	Special Classes
Year 1	Anatomy		Study skills
	Physiology		Management
	Bio-Chemistry		Leadership skills
	Oral Biology		
	Islamiat/Ethics		
Year 2	Science of Dental Materials	Professionalism & Ethics	
	Community Dentistry	Research Methodology	
	Pharmacology		
	Pathology		
	Pakistan Studies		
Year 3	Oral Pathology	Professionalism & Ethics	Infection control
	Oral Medicine	Research Methodology	
	Periodontology		
	General Surgery		
	General Medicine		
Year 4	Oral Surgery	Professionalism	
	Operative Dentistry		
	Orthodontics		
	Prosthodontics		

ASSESSMENT POLICY

Continuous Assessment Policy		
1.	Assignment/ class test/ ward test etc.	25%
2.	Mid-term exam	35%
3.	Pre-prof. exam	35%
4.	Extra effort	5%

Details of assignments/ Test/Mid-term/ Pre-prof.		
1.	Present and fail	25%
2.	Pass	Actual percentage
3.	**ABSENT**	**ZERO**

Eligibility for sitting in the Professional Annual Examinations will be as follows:

Minimum of **40% aggregate** marks in all continuous assessment examinations (Mid-Term, Pre-Prof. , Assignments and Tests)

Students less than **75% overall attendance** will not be allowed to sit in the Annual Professional Examinations.

Clinical attendance will be maintained separately. Attendance in any clinical rotation which falls below **75%** must be made up by students.

Students must obtain **passing marks in the clinical ward tests**. Failing to do so, students will have to sit for re-take ward test (Only one re-take is allowed).

Professional Annual Examinations

Professional annual examinations are conducted by the University and comprise theory examinations and OSPE/OSCE.

PROMOTION POLICY

To be considered successful in annual professional examination and promotion to the next academic year, the students must pass individual components of the professional examination.

This is to say, that the students must pass theory and OSPE/ OSCE examinations independent of each other. Failing one component will result in failing the whole examination of that subject. The student will then have to appear for supplementary examination in that subject.

FIRST YEAR

ANATOMY

JINNAH MEDICAL AND DENTAL COLLEGE

FIRST YEAR BDS CURRICULUM

COURSE: ANATOMY

COURSE CODE: 1.1

ALLOCATION OF CREDIT HOURS: 100 lecture hours; 300 practical hours

GENERAL ANATOMY AND HISTOLOGY

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of first year BDS, the student should be able to	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1	Introduction to Anatomy	Define anatomy Differentiate its branches (with their practical implications). Describe special investigation techniques used for anatomical studies	Lectures SGDs	BCQS Viva Voce
2	Terms of position and movements	Identify the location and movement of different parts of body with respect to various terms of position and movement	Lectures Demonstrati on (Skills lab/ museum/ Anatomy lab teaching) Tutorial	BCQS Viva Voce OSPE
3	Cell	Discuss the functions of cell Discuss the cell cycle	Lectures Anatomy/ Histology lab teaching	BCQS Viva Voce
4	Microscopy and types of microscope	Demonstrate operational steps of microscope handling.	Anatomy/ Histology lab teaching	BCQS Viva Voce
5	Epithelial Tissue	Compare different types of epithelia with regard to their features,	Lectures	BCQS Viva Voce OSPE

		functions and locations. 2. Classify glandular epithelia with examples	Anatomy/ Histology lab teaching SGD/ Tutorial	
6	Connective Tissue	Classify the following with respect to structure, functions and locations: Connective tissue Components of connective tissue	Lecture Anatomy/ Histology lab teaching SGD/ Tutorial	BCQS Viva Voce OSPE
7	Bones	Describe the features of Axial & appendicular skeleton Compare various types of bone with regard to their development, shape, histological features and blood supply. Define different clinical conditions of bone.	Lectures Anatomy/ Histology lab teaching SGD/ Tutorial	BCQS Viva Voce OSPE
8	Cartilages	Classify cartilages with regard to their location, morphology, histology and function Define different clinical conditions of cartilage.	Lectures Anatomy/ Histology lab teaching Tutorial	BCQS Viva Voce OSPE
9	Joints of Body	Classify joints with respect to location, structure & movements List the general features of synovial joints with their locations Identify different clinical conditions of joints.	Lectures Demonstrati on (museum/ Anatomy lab teaching) Tutorial	BCQS Viva Voce OSPE
10	Muscle	Classify muscles on the basis of structure (gross & microscopic) & function.	Lectures Anatomy/ Histology lab teaching Tutorial	BCQS Viva Voce OSPE

		Describe the Neurovasculature of muscles Name the connective tissue coverings of muscles. Define different clinical conditions of muscles.		
11	General organization of CVS	Discuss the organization of circulatory system	Lectures SGD/ Tutorial	BCQS Viva Voce OSPE
12	Histology of blood vessels	Differentiate between macroscopic & microscopic features of different types of blood vessels	Lectures Anatomy/ Histology lab teaching	BCQS OSPE
13	Lymphatic system	Describe the immune system component.	Lectures SGD	BCQS OSPE
14	Lymphoid tissue	Differentiate the lymphoid organs histologically and functionally	Lectures Anatomy/ Histology lab teaching Tutorial	BCQS Viva Voce OSPE
15	Skin and Fascia	Describe the structural details and distribution of skin and fascia throughout the body.	Lectures Demonstrati on (museum/ Anatomy lab teaching) Tutorial	BCQS OSPE
16	Histology of skin	Discuss the gross & histological features of skin and its appendages.	Lectures Demonstrati on (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
17	Introduction to nervous system	Identify the structural and functional	Lectures Demonstrati on	BCQS Viva Voce OSPE

	& nervous tissue	components of nervous system	(museum/ Anatomy lab teaching) 3. Tutorial	

GENERAL EMBRYOLOGY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction & terminologies of embryology	Define Embryology and Embryological terms with clinical application.	Lecture SGD	BCQS Viva Voce
2.	Introduction to Male and Female reproductive parts, Uterine & Ovarian Cycle	Identify parts of male and female reproductive system in relation to reproductive cycle	Lecture SGD/ Tutorial Demonstration (museum/ Anatomy lab teaching)	BCQS OSPE
3.	Cell division & Cell Cycle	Discuss different types of cell divisions and their clinical importance	Lecture SGD	BCQS Viva Voce OSPE
4.	Meiosis & Gametogenesis	Correlate meiosis with steps of gametogenesis.	Lecture SGD/ Tutorial	BCQS Viva Voce OSPE
5.	Fertilization & Implantation	Discuss steps of fertilization & implantation	Lecture SGD/ Tutorial	BCQS Viva Voce OSPE
6.	Development up to 3 weeks	Discuss the changes which occur up to 3rd week	Lecture SGD / Tutorial	BCQS Viva Voce OSPE
7.	Embryonic Period	Describe the stages of embryogenesis.	Lecture SGD	BCQS Viva Voce OSPE
8.	Fetal Period	Discuss the events of fetal period according to timeline.	Lecture SGD	BCQS Viva Voce
9.	Fetal membranes and Placenta	Elaborate on the formation of placenta and fetal membranes. Discuss the functions & clinical significance of placenta and fetal membranes.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD/ Tutorial	BCQS Viva Voce OSPE

10.	Role of Genes &Teratogens in birth defects	Discuss the role of teratogens in congenital anomalies.	Lecture Tutorial	BCQS Viva Voce OSPE
11.	Antenatal diagnostic techniques	Appreciate the importance of antenatal diagnostic techniques.	Lecture Tutorial	BCQS Viva Voce

NEUROANATOMY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	The cranial fossae	Identify important features of cranial cavity	Demonstration (museum/ Anatomy lab teaching) Tutorial	BCQS Viva Voce OSPE
2.	Development of nervous system	Outline the basic steps of development of central nervous system.	Lecture Tutorial	BCQS Viva Voce OSPE
3.	Blood supply of brain and spinal cord	Enumerate the blood vessels of brain and spinal cord. Explain their clinical importance	Lecture Demonstration (museum/ Anatomy lab teaching) SGD/ Tutorial	BCQS Viva Voce OSPE
4.	Meninges of the brain and spinal cord	Discuss the features of clinical importance of meninges of brain and spinal cord Describe their clinical relevance and importance in relation with epidural, subdural and subarachnoid spaces.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD/ Tutorial	BCQS Viva Voce OSPE
5.	Spinal Cord	Describe the general features, ascending & descending tracts of spinal cord	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
6.	Dural venous sinuses	Explain the location, communications and clinical significance of dural venous sinuses	Lecture Demonstration (museum/	BCQS Viva Voce OSPE

			Anatomy lab teaching) 3. SGD / Tutorial	
7.	Ventricular system of brain	Describe the anatomy of ventricular system with clinical correlation of CSF disorders.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
8.	Brain stem (Mid brain, Medulla & pons)	Describe their external & internal features Locate the attachment & nuclei of cranial nerves in brain stem	Lecture Demonstration (museum/ Anatomy lab teaching) SGD / Tutorial	BCQS Viva Voce OSPE
9.	Cerebellum	Describe the parts & gross features of cerebellum Discuss deep cerebellar nuclei and connections of cerebellum	Lecture SGD/ Tutorial	BCQS Viva Voce OSPE
10.	Diencephalon & Thalamus	Describe the parts & gross features of Diencephalon and Thalamus Discuss functional connections of Diencephalon and Thalamus with other parts of brain	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
11.	Cerebrum	Describe the parts & gross features of Cerebrum. Identify functional cortical areas of Cerebrum Elaborate general distribution of white matter of cerebrum	Lecture Demonstration (museum/ Anatomy lab teaching) SGD/ Tutorial	BCQS Viva Voce OSPE
12.	Cranial nerves I-XII	Identify the location of cranial nerve nuclei Describe their course and functional components.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD/ Tutorial	BCQS Viva Voce OSPE

13.	Autonomic nervous system	Describe the structural and functional organization of autonomic nervous system.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
14.	Imaging of Brain and spinal cord	Apply anatomical knowledge on radiological images.	Lecture Demonstration (museum/ Anatomy lab teaching)	BCQS Viva Voce OSPE

HEAD AND NECK

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction of head and neck structures	1. Identify the location of the structures in the head and neck region.	Lecture	BCQS Viva Voce OSPE
2.	The 4 Normas of skull	Identify the features of frontal, occipital, vertical, lateral and basal Normas	Demonstration (museum/ Anatomy lab teaching) SGD/ Tutorial	BCQS Viva Voce OSPE
3.	Osteology of mandible	Identify the features and muscle attachments of mandible	Demonstration (museum/ Anatomy lab teaching) SGD/ Tutorial	BCQS Viva Voce OSPE
4.	The scalp	Discuss the clinical importance of the structures arranged in the layers of the scalp.	Lecture SGD	BCQS Viva Voce OSPE
5.	Face	Identify the different functional groups of muscles of face. Discuss the blood supply, lymphatic drainage and nerve supply of muscles of facial expression List the important clinical conditions related to them.	Lecture Demonstration (museum/ Anatomy lab teaching) Tutorial	BCQS Viva Voce OSPE

6.	Development of Face	Discuss development and common congenital anomalies of face	Lecture SGD	BCQS Viva Voce OSPE
7.	Pharyngeal arches & its anomalies	Describe the development and anomalies of pharyngeal apparatus.	Lecture SGD	BCQS Viva Voce OSPE
8.	Orbital boundaries and contents	Describe the walls, boundaries and contents of the orbital cavity.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
9.	Gross anatomy of eye ball	Describe the anatomy of eye ball.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
10.	Development of Eye	Describe the development of the eye ball	Lecture	BCQS Viva Voce OSPE
11.	The External, middle & Internal ear	Describe the boundaries, walls and contents of the external, middle and internal ear	Lecture Demonstration (museum/ Anatomy lab teaching) Tutorial	BCQS Viva Voce OSPE
12.	Development of Ear	Describe the development of the ear	Lecture	BCQS Viva Voce OSPE
13.	Temporal fossa	Identify the boundaries & contents of temporal and infra-temporal region.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD/ Tutorial	BCQS Viva Voce OSPE
14.	Infratemporal fossa			
15.	Temporomandibular joint & Muscles of mastication	Discuss the articulation, neurovascular supply and the muscles producing the movements on Temporomandibular joint	Lecture Demonstration (museum/ Anatomy lab teaching) SGD/ Tutorial	BCQS Viva Voce OSPE

16.	Gross anatomy & histology of Nose & Paranasal sinuses	Discuss the gross & histological features of nose and paranasal sinuses with its clinical application.	Lecture Demonstration (museum) Histology lab teaching SGD	BCQS Viva Voce OSPE
17.	Development of nose & Paranasal sinuses	Outline development of nose and paranasal sinuses & their congenital anomalies	Lecture SGD	BCQS Viva Voce OSPE
18.	Gross anatomy of oral cavity	Discuss the boundaries and gross features of oral cavity Describe its contents with innervation , blood supply & lymphatic	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
19.	Histology of oral cavity	Differentiate the histological features of contents of oral cavity	Lecture Histology lab teaching SGD	BCQS Viva Voce OSPE
20.	Gross & Histology of Tongue	Describe the gross feature, muscles, neurovascular supply & microscopic features of tongue	Lecture Demonstration (museum) Histology lab teaching SGD / Tutorial	BCQS Viva Voce OSPE
21.	Development of Tongue & Palate	Discuss the development and common anomalies of oral structures	Lecture SGD	BCQS Viva Voce OSPE
22.	Development of Teeth			
23.	Gross anatomy of Major salivary glands	Discuss the gross anatomy & important relations with clinical correlation of major salivary glands.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
24.	Histology of salivary glands	Differentiate between histological features of salivary glands with their function.	Lecture Histology lab teaching SGD	BCQS Viva Voce OSPE
25.	Development of Major salivary glands	Discuss development of major salivary gland	Lecture SGD	BCQS Viva Voce

26.	Cervical vertebra	Identify the cervical vertebrae Describe the importance of land marks on cervical vertebrae.	Demonstration (museum/ Anatomy lab teaching) SGD	BCQS OSPE
27.	Skin, Fascia & muscles of neck & back	Identify the superficial structures of the neck & back with their neurovascular supply and surface land marks.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
28.	Triangles of neck, the anterior triangle & posterior triangle	Identify the boundaries of the triangles and their contents.	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
29.	Gross & Histology of Pituitary & Pineal gland	Outline the gross anatomy and histology of pituitary and pineal gland.	Lecture Demonstration (museum) Histology lab teaching) SGD	BCQS Viva Voce OSPE
30.	Gross & Histology of Thyroid & Parathyroid glands	Discuss location, relations, gross & histological features, neurovascular supply and clinical importance of thyroid and parathyroid glands	Lecture Demonstration (museum) Histology lab teaching) SGD	BCQS Viva Voce OSPE
31.	Development of Thyroid & Parathyroid glands	Discuss development and anomalies of thyroid and parathyroid gland	Lecture SGD	BCQS Viva Voce OSPE
32.	Development of Pituitary gland	Trace the dual origin of pituitary gland	Lecture SGD	BCQS Viva Voce OSPE
33.	Gross anatomy of Pharynx	Identify division of pharynx and structures within each division	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
34.	Gross and histology of Larynx	Identify the boundaries, division, composite	Lecture Demonstration (museum)	BCQS Viva Voce OSPE

		structures, neurovascular supply of Larynx 2. List histological features of Larynx.	Histology lab teaching) SGD	
35.	Gross and histology of Trachea	Identify relations, gross and histological features of trachea & their clinical importance	Lecture Demonstration (museum) Histology lab teaching) SGD	BCQS Viva Voce OSPE
36.	Cranial nerves 1 to 12	Describe the course & distribution of cranial nerves and effects of injury. Demonstrate the clinical nerve examination techniques	Lecture Demonstration (museum/ Anatomy lab teaching) SGD Skills lab	BCQS Viva Voce OSPE
37.	Major Vessels of neck.	Identify major arteries, veins & their main branches/tributaries in neck	Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
38.	Lymphatic drainage of head & neck	List the groups of lymph nodes & their drainage present in head & neck	Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE
39.	Ganglia of the head & neck	Describe the location, connection and supply of different ganglia of head & neck	Lecture Demonstration (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce OSPE

ABDOMEN, THORAX AND LIMBS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction to thoracic cavity	Outline the boundaries of thoracic cavity and its contents	Lecture Demonstratio n (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce

2.	Mediastinum	Identify the boundaries and contents of mediastinum	Lecture Demonstratio n (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce
3.	Gross and histology of thoracic part of respiratory tract	Identify the gross and microscopic feature of lung.	Lecture Demonstratio n (museum) Histology lab teaching SGD	BCQS Viva Voce
4.	Development of respiratory system	Enumerate derivatives of Lung Bud	Lecture SGD	BCQS Viva Voce
5.	Overview of Pericardium and Heart	Outline gross features and main vessels of heart and pericardium	Lecture Demonstratio n (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce
6.	Development of CVS	Enumerate parts of primitives of heart tube & their derivatives	Lecture SGD	BCQS Viva Voce
7.	General & Histological features of GIT	Differentiate gross & histological features of different parts of GIT & associated glands	Lecture Demonstratio n (museum) Histology lab teaching SGD	BCQS Viva Voce
8.	Development of GIT	Enumerate derivatives of foregut, Midgut & Hindgut	Lecture SGD	BCQS Viva Voce
9.	Introduction to Limbs	Explain general arrangement of bones and muscles in limbs	Lecture Demonstratio n (museum/ Anatomy lab teaching) SGD	BCQS Viva Voce
10.	Development of Musculoskeletal system	Outline musculoskeletal system development	Lecture SGD	BCQS Viva Voce
11.	Endocrine Glands (adrenal gland)	Enlist gross & histological features of endocrine glands	Histology lab teaching SGD	BCQS Viva Voce

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 1 CURRICUUM
ANATOMY PRACTICAL

S.NO.	PRACTICAL TOPICS	LEARNING OBJECTIVES By the end of the session the first year BDS student should be able to demonstrate the following	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed in mid-term and final examination through:
1	Microscopy and types of microscope	1. Demonstrate operational steps of microscope handling.	1. Histology lab teaching	1. BCQS
2	Cell	1. Identify the different cell type and organelles under microscope	2. Histology lab teaching	BCQS Viva Voce
3.	Epithelial Tissue	Identify the covering & glandular epithelia according to histological features Classify the covering & glandular epithelia according to histological features.	Histology lab teaching SGD/Tutorials	BCQS Viva Voce OSPE
4.	Connective Tissue	Classify the following with respect to histological structure: Connective tissue Components of connective tissue	Histology lab teaching SGD/Tutorials	BCQS Viva Voce OSPE
5.	Bones	Identify the bone according to histological features. Classify the bone according to histological features.	Histology lab teaching SGD/Tutorials	BCQS Viva Voce OSPE
6.	Cartilages	Identify the cartilage according to histological features.	Histology lab teaching SGD/Tutorials	BCQS Viva Voce OSPE

		2. Classify the cartilage according to histological features.		
7.	Muscle	Identify the muscles according to histological features. Classify the muscles according to histological features.	Histology lab teaching SGD/Tutorials	BCQS Viva Voce OSPE
8.	Histology of blood vessels	Identify the blood vessels according to histological features. Classify the blood vessels according to histological features.	Histology lab teaching SGD	BCQS Viva Voce OSPE
9.	Lymphoid tissue & organs (lymph node, thymus, spleen, tonsils)	Identify the histological features of different lymphoid organs	Histology lab teaching SGD/Tutorials	BCQS Viva Voce OSPE
10.	Histology of Skin (Neurons & neuroglia)	Identify the microscopic structural details of skin	Histology lab teaching SGD	BCQS Viva Voce OSPE
11.	Histology of nervous tissue	Identify the microscopic features of nervous tissue	Histology lab teaching SGD/Tutorials	BCQS Viva Voce OSPE
12.	Spinal Cord	Identify the microscopic features of spinal cord	Histology lab teaching SGD	BCQS Viva Voce OSPE
13.	Brain stem (Mid brain, Medulla & pons)	Identify the microscopic features of brain stem	Histology lab teaching SGD	BCQS Viva Voce OSPE
14.	Cerebellum	Identify the microscopic features of Cerebellum	Histology lab teaching SGD	BCQS Viva Voce OSPE
15.	Cerebrum	Identify the microscopic features of cerebrum	Histology lab teaching SGD	BCQS Viva Voce OSPE
16.	Histology of oral cavity	Identify the histological features of oral cavity & its contents	Histology lab teaching SGD	BCQS Viva Voce

		2. Enlist the histological features of oral cavity & its contents		
17.	Histology of Tooth	Identify the microscopic features of Tooth Enlist the microscopic features of Tooth	Histology lab teaching SGD	BCQS Viva Voce OSPE
18.	Histology of Tongue	Identify the microscopic features of tongue	Histology lab teaching SGD/Tutorials	BCQS Viva Voce OSPE
19.	Histology of Nose & Paranasal sinuses	Identify histological features of nose and Paranasal sinuses	Histology lab teaching SGD	BCQS Viva Voce OSPE
20.	Histology of eye lids, retina & lacrimal apparatus	Identify the microscopic features of eye lids, retina & lacrimal apparatus Enlist the microscopic features of eye lids, retina & lacrimal apparatus	Histology lab teaching SGD	BCQS Viva Voce OSPE
21.	Histology of salivary glands	1. Identify the microscopic structural components of salivary glands	1. Histology lab teaching 2. SGD/Tutorials	1. BCQS 2. Viva Voce 3. OSPE
22.	Histology of Ganglia (Autonomic & Spinal)	1. Identify histological features of Ganglia	1. Histology lab teaching 2. SGD	1. BCQS 2. Viva Voce 3. OSPE
23.	Histology of Larynx & Trachea	1. List the histological features of Larynx & Trachea 2. Identify the histological features of Larynx & Trachea	1. Histology lab teaching 2. SGD	1. BCQS 2. Viva Voce 3. OSPE
24.	Histology of thoracic part of respiratory tract	1. Identify microscopic features of Lung.	1. Histology lab teaching 2. SGD	1. BCQS
25.	Histological features of GIT	1. Identify histological features of different	1. Histology lab teaching	1. BCQS

		parts of GIT & associated glands	2. SGD	
26.	Histology of Endocrine Glands (adrenal, thyroid, parathyroid, pituitary, pancreas)	1. List histological features of endocrine glands 2. Identify histological features of endocrine glands	1. Histology lab teaching 2. SGD/Tutorials	1. BCQS 2. Viva Voce 3. OSPE

JINNAH MEDICAL AND DENTAL COLLEGE

FIRST YEAR BDS CURRICULUM

ANATOMY PRACTICAL / HISTOLOGY LABS TIMELY SCHEDULE

TIME: 1 HOUR 45 MINUTES EACH

DAY: ONCE A WEEK

OBJECTIVE:

By the end of the practical/histology labs students should be able to:

Demonstrate the slide setting under a microscope
Identify the tissue present on slides under the microscope
List down the identifying histological features
Draw the tissue showing histological features with proper labelling

WEEK 1

PRACTICAL TOPIC	TIME	TEACHING METHODOLOGY	ASSESSMENT TOOL
Microscope handling	1 hour 45 minutes	Demonstration by teacher (20 minutes) Demonstration by each student (80 minutes) Drawing on journal (15 minutes)	1. BCQS 2. OSPE

PHYSIOLOGY

JINNAH MEDICAL AND DENTAL COLLEGE
FIRST YEAR BDSCURRICULUM

COURSE: PHYSIOLOGY

COURSE CODE: 1.2

ALLOCATION OF CREDIT HOURS: 50 lecture hours; 200 practical hours

FOUNDATION

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of first year BDS, the student should be able to	LEARNING STRATEGIES	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Homeostasis	1. Discuss • Importance of Physiology in modern medicine • Basic life processes and survival needs of the body. • Principle of homeostasis as a central theme of Physiology • Negative and positive feedback systems.	1. Lecture 2. Tutorial	1. BCQS
2.	Body fluid compartments	1. Describe the body fluid compartments 2. Discuss the composition of body fluid compartments.	1. Lecture 2. Tutorial	1. BCQS
3.	Cell membrane	1. Define cell 2. Discuss the importance of cell as the basic unit of life 3. Describe the composition of cell membrane 4. Discuss the structure and functions of components of cell.	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

4.	Membrane transport	1. Define the following: • osmotic pressure • tonicity • bulk transport • phagocytosis • pinocytosis 2. Discuss the types of membrane transport 3. Compare types of solutions with regard to their tonicity	1. Lecture /Practical 2. Tutorial	1. BCQS 2. OSPE

NERVE AND MUSCLE

S.NO.	TOPICS	TOPIC OBJECTIVES	LEARNING STRATEGIES	ASSESSMENT TOOLS
1.	Resting membrane potential	1. Discuss • Distribution of ions across the plasma • Resting potential & its importance 2. Define Nernst potential 3. Write the Nernst equation	1. Lecture 2. Tutorial	1. BCQS
2.	Structure of neuron & synapse	1. Describe the structure & function of different parts of neuron 2. Define synapse 3. Discuss the following types of synapse • Electrical • chemical	1. Lecture 2. Tutorial	1. BCQS
3.	Graded potential	1. Discuss graded potential	1. Lecture 2. Tutorial	1. BCQS
4.	Action potential, its properties and propagation	1. Discuss the action potential, its propagation in myelinated and non myelinated nerve fibers. 2. Describe the graph of action potential 3. Differentiate between graded and action potentials	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
5.	Structure of skeletal muscle	1. Describe muscle tissue and its functions. 2. Discuss organizational level of skeletal muscle	1. Lecture 2. Tutorial	1. OSPE

6.	Neuromuscular junction	1. Discuss the parts of neuromuscular junction (NMJ) 2. Discuss the steps of impulse transmission through neuromuscular junction 3. Discuss the physiological basis of disorders of NMJ	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
8.	Excitation contraction coupling	1. Discuss muscle contraction in skeletal muscle 2. Describe structure and function of sarcoplasmic reticulum and T tubules.	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
9.	Skeletal muscle contraction	1. Define power stroke. 2. Discuss mechanism of skeletal muscle contraction and relaxation at molecular level 3. Describe the role of ATP in muscle contraction.	1. Lecture 2. Tutorial	1. BCQS
10.	Skeletal muscle mechanics	1. Define • Motor unit • Motor unit recruitment • Simple muscle twitch • Summation • Tetanization • Fatigue 2. Differentiate between isotonic and isometric muscle contraction.	1. Lecture/Practical 2. Tutorial	1. BCQS 2. OSPE
11.	Energetic of skeletal muscle	1. List the sources of energy for muscle contraction 2. Explain the basis of muscle fatigue 3. Differentiate among the types of muscle fibers on the basis of structure and function.	1. Lecture 2. Tutorial	1. BCQS
12.	Smooth muscle	1. List the types of smooth muscles 2. Discuss the following: 3. Membrane & action potentials in smooth muscles 4. Contractile mechanism of smooth muscle	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

		5. Nervous and hormonal control of smooth muscle contraction		
13.	Smooth & skeletal muscle	1. Compare smooth and skeletal muscles with regard to their structure and function.	1. Lecture 2. Tutorial	1. BCQS

BLOOD

S.NO.	TOPICS	TOPIC OBJECTIVES	LEARNING STRATEGIES	ASSESSMENT TOOLS
1.	Composition of blood	1. Describe the components of blood and their functions 2. Describe the functions of blood.	1. Lecture 2. Tutorial	1. BCQS
2.	Erythropoiesis and factors affecting erythropoiesis	1. Describe the structure and functions of erythrocytes 2. Draw a flowchart of RBC production 3. Enumerate the sites of erythropoiesis 4. Discuss the humoral, maturation & nutritional factors affecting erythropoiesis	1. Lecture 2. Tutorial	1. BCQS
3.	Hemoglobin	1. Discuss the formation, functions, fate & pathologies of hemoglobin	1. Lecture 2. Tutorial	1. BCQS
4.	Anemia And polycythemia	1. Define the following • Anemia • polycythemia 2. Classify anemia on the basis of: • Morphology • Etiology 3. Discuss various types of polycythemia	1. CBL 2. Tutorial	1. BCQS 2. OSPE
5.	Blood groups	1. Discuss the following: • ABO blood types • Rh blood types • Mismatched blood transfusion hazards • Erythroblastosifetalis	1. Lecture/CBL/Practical 2. Tutorial	1. BCQS 2. OSPE

6.	Hemostasis	1. Define hemostasis 2. Discuss the events of hemostasis 3. List the contents and functions of platelets 4. Discuss the following: • Intrinsic and extrinsic coagulation pathways • Fibrinolytic mechanism • Factors that prevent clotting in normal vascular system • Conditions that cause excessive bleeding in human beings	1. Lecture /CBL /Practical 2. Tutorial	1. BCQS 2. OSPE
9.	White blood cells	1. Discuss leukopoiesis and inflammation 2. Differentiate among the types of WBCs on the basis of their function and physical characteristics	1. Lecture /Practical 2. Tutorial	1. BCQS 2. OSPE
10.	Immunity Antigen, antibody structure Humoral immunity Cell mediated immunity	1. Describe immunity & its types 2. Discuss types & functions of T lymphocytes 3. Discuss the structure and mechanism of action of antigen and antibody 4. Describe the complement system 5. Describe the allergy and hypersensitivity reactions	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

CARDIOVASCULAR SYSTEM

S.NO.	TOPICS	TOPIC OBJECTIVES	LEARNING STRATEGIES	ASSESSMENT TOOLS
1.	Structure of heart	1. Discuss the physiology of cardiac muscle and the importance of intercalated discs in cardiac muscle function 2. Compare types of muscles with regard to their structure and function	1. Lecture 2. Tutorial	1. BCQS

2.	Cardiac muscle	1. Correlate the structure of cardiac muscle with its function	1. Lecture 2. Tutorial	1. BCQS
3.	Cardiac action potential	1. Discuss the cardiac action potential 2. Compare the skeletal muscle and heart with regard to their action potentials	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
4.	Conduction system of heart	1. Discuss the electrical conduction system of heart 2. Discuss role of SA node in conduction system of heart	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
5.	Basic electrocardiography	1. Draw electrocardiogram (ECG) of a normally functioning heart 2. Discuss the following: • Myocardial events • 12 lead ECG • Tachycardia • Bradycardia • Myocardial infarction/ischemia • Atrial flutter • Atrial fibrillation • Heart blocks 3. Define the cardiac vector and axis of heart	1. Lecture /Practical 2. Tutorial	1. BCQS 2. OSPE
6.	Cardiac cycle heart sounds	1. Discuss the cardiac cycle	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
7.	Cardiac output and factors affecting cardiac output	1. Discuss the following: • Cardiac output • Frank starling law • Nervous and chemical factors that alter heart rate, stroke volume and cardiac output	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
8.	Hemodynamics	1. Discuss the physical characteristics of circulation 2. Discuss the interrelationships of	1. Lecture 2. Tutorial	1. BCQS

		pressure, blood flow and resistance 3. Discuss vascular distensibility and functions of arterial and venous systems		
9.	Blood pressure & its regulation	1. Define: • Systolic blood pressure • Diastolic blood pressure • Mean arterial blood pressure • Pulse pressure 2. Discuss short, intermediate and long term regulations of blood pressure 3. Describe renin angiotensin aldosterone system	1. Lecture/CBL/Practical 2. Tutorial	1. BCQS 2. OSPE
10.	Local control of blood flow	1. Discuss the following: • Local control of blood flow • Humoral control of circulation	1. Lecture 2. Tutorial	1. BCQS
11.	Microcirculation	1. Discuss the capillary system, vasomotion and fluid filtration across capillaries	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
12.	Shock	1. Discuss the physiological causes of shock	1. Lecture 2. Tutorial	1. BCQS

RESPIRATORY SYSTEM

S.NO.	TOPICS	TOPIC OBJECTIVES	LEARNING STRATEGIES	ASSESSMENT TOOLS
1.	Respiratory passageways, alveoli	1. List the structures that make up the respiratory system in correct order 2. Discuss the functions of each structure of respiratory system 3. Differentiate between the conducting and respiratory zones of respiratory passages	1. Lecture 2. Tutorial	1. BCQS

2.	Pulmonary ventilation	1. Describe the roles of muscles of respiration in breathing 2. Discuss: • Pressure gradients • Significance of dead space • Boyle's law	1. Lecture 2. Tutorial	1. BCQS
3.	Lung volumes and capacities	1. Describe lung volumes and capacities in adult male	1. Lecture/Practical 2. Tutorial	1. BCQS 2. OSPE
4.	Gas exchange	1. Discuss the relationship of partial pressure to a gas mixture 2. Describe partial pressures of oxygen and carbon dioxide in venous and arterial blood, alveolar air and cells 3. Discuss factors affecting exchange through respiratory membrane 4. Compare inspired and alveolar air with regard to their composition	1. Lecture 2. Tutorial	1. BCQS
5.	Transport of gases	1. Discuss the role of partial pressure in gas transport by the blood 2. Describe the transport of oxygen and carbon dioxide in blood	1. Lecture 2. Tutorial	1. BCQS
6.	Oxygen-Hb dissociation curve	1. Discuss the role of Hb in oxygen transport 2. Describe the factors affecting release or binding of oxygen to Hb 3. Discuss Bohr's and Haldane effects 4. Interpret the oxygen Hb dissociation curve graph	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

7.	Regulation of respiration	1. Describe the role of four main groups of nuclei in the medulla and pons that control breathing 2. Discuss the factors that can influence rate and depth of breathing 3. Describe locations of chemoreceptors that monitor blood PH and gas concentrations 4. Discuss the role of chemoreceptors in the regulation of respiration	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
8.	Respiratory disorders/hypoxia	1. Discuss the causes of these respiratory disorders: • Emphysema • Bronchitis • Asthma • Pneumonia • Pulmonary edema • Hypoxia	1. CBL 2. Tutorial	1. BCQS 2. OSPE

NEUROSCIENCE

S.NO.	TOPICS	TOPIC OBJECTIVES	LEARNING STRATEGIES	ASSESSMENT TOOLS
1.	Electrical properties of neuron	1. Describe the basic organization of nervous system 2. Discuss electrical conduction across neuronal membrane, generation of action potential and transmission of nerve signal	1. Lecture 2. Tutorial	1. BCQS
2.	Synapse	1. Define synapse 2. List the properties of synapse 3. Discuss transmission of electrical signals between neurons	1. Lecture 2. Tutorial	1. BCQS
3.	Receptors	1. Describe the general characteristics of receptors 2. Classify receptors according to location and stimulus type 3. Discuss the following: • Receptor potential	1. Lecture 2. Tutorial	1. BCQS

		• Transduction of sensory stimuli into nerve impulses		
4.	Sensory pathways	1. List the different types of sensory pathways 2. Discuss the transmission of sensory information into CNS (DCML) 3. Discuss the transmission of sensory information into CNS (Anterolateral system)	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
6.	Types of pain	1. Discuss types of pain, their qualities and pain receptors 2. Discuss dual pathways for transmission of pain signals into CNS	1. Lecture /CBL 2. Tutorial	1. BCQS
7.	Analgesia system	1. Discuss analgesia system in the brain and spinal cord 2. Describe brain opioids system	Lecture Tutorial	BCQS
8.	Spinal level of motor control	1. Discuss the organization of spinal cord for motor functions 2. Describe the role of muscle spindles &golgi tendon organs in muscle control 3. Discuss cord reflexes	1. Lecture/Practical 2. Tutorial	1. BCQS 2. OSPE
9.	Descending tracts (pyramidal)	1. Describe the pathway of pyramidal efferent tracts	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
10.	Descending tracts (extra pyramidal)	1. Compare pyramidal and extra pyramidal tracts with regard to their origin, termination and function	1. Lecture 2. Tutorial	1. BCQS
11.	Brainstem	1. Describe the major functions of: • Mid brain • Pons • Medulla oblongata 2. Discuss the control of motor functions by the brain stem	1. Lecture 2. Tutorial	1. BCQS
12.	Cerebellum	1. Discuss the structure, functions, input and output connections of cerebellum 2. Describe various cerebellar disorders	1. Lecture/Practical 2. Tutorial	1. BCQS 2. OSPE
13.	Basal ganglia	1. Discuss the structure, functions, pathways and related disorders of basal ganglia	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

14.	Limbic system	1. List the components of limbic system 2. Describe the functions of components of limbic system	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
15.	Autonomic nervous system (ANS)	1. Discuss the general organization and activation of ANS 2. Discuss structure and functions of sympathetic, parasympathetic nervous system and adrenal medulla 3. Compare the divisions of the ANS with regard to origin of preganglionic fibers, location of ganglia and neurotransmitter substances 4. Discuss the value of adrenal medullae in the function of the sympathetic nervous system	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

SPECIAL SENSES & ENDOCRINOLOGY

S.NO.	TOPICS	TOPIC OBJECTIVES	LEARNING STRATEGIES	ASSESSMENT TOOLS
1.	Vision	1. Draw a labeled diagram of an eye 2. Describe the physiological functions of each part of the eye 3. Discuss refraction and refractory structures of the eye 4. Discuss: • Errors of refraction and their correction • Accommodation • Fluid system of eye • Anatomy of retina • Photochemistry of vision • Visual pathway and associated lesions • Image formation	1. Lecture/Practical 2. Tutorial	1. BCQS 2. OSPE

2.	Hearing and equilibrium	1. Discuss physiological anatomy of ear 2. Describe the role of ossicles in the process of hearing 3. Draw the auditory pathway 4. Discuss conductive and perceptive deafness 5. Explain the role of vestibular apparatus functions in monitoring equilibrium	1. Lecture/Practical 2. Tutorial	1. BCQS 2. OSPE
3.	Sense of taste	1. Discuss types of taste sensations and their perception on tongue 2. List factors affecting taste sensation 3. Describe location and activation of taste buds 4. Describe the gustatory pathway.	1. Lecture/Practical 2. Tutorial	1. BCQS 2. OSPE
4.	Sense of smell	1. Describe the location and activation of olfactory receptors 2. Discuss the primary sensations of smell 3. Describe the olfactory pathway to brain 4. Define the following: • Anosmia • Hyposmia • Dysosmia	1. Lecture/Practical 2. Tutorial	1. BCQS
5.	Classification and mechanism of action of hormones Mechanism of action of hormones	1. Classify hormones 2. Discuss endocrine hormones 3. Discuss the secretion, transport, clearance and mechanism of actions of different hormones 4. Describe the hormone receptors and their activation 5. Differentiate between endocrine and exocrine glands 6. List the major endocrine glands and their locations	1. Lecture 2. Tutorial	1. BCQS
6.	Hypothalmo-hypophyseal system	1. Describe the following structural and functional relationships of the hypothalamus-pituitary unit	1. Lecture 2. Tutorial	1. BCQS

		2. Discuss the control, site of action and functions of the adenohypophysis hormones 3. Discuss the effects of hypo and hyper secretions of adenohypophysis hormones 4. Correlate the function of the neurohypophysis and the hypothalamus		
7.	Anterior and posterior pituitary hormones	1. Discuss the synthesis, secretions and effects of anterior and posterior pituitary hormones	1. Lecture 2. Tutorial	1. BCQS
8.	Thyroid hormones	1. Describe the formation, secretion, function and regulation of thyroid hormones 2. Discuss disorders of thyroid hormones	1. Lecture/CBL 2. Tutorial	1. BCQS 2. OSPE
9.	Pancreatic hormones	1. Discuss the following mode of action of insulin release 2. Describe the functions of insulin, glucagon, somatostatin and pancreatic polypeptide	1. Lecture/CBL 2. Tutorial	1. BCQS 2. OSPE
10.	Calcium homeostasis	1. List the hormones that regulate the calcium and phosphate homeostasis 2. Discuss the functions of parathyroid hormone, vitamin D and calcitonin 3. Describe hypocalcemia and hypercalcemia	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
11.	Adrenal hormones	1. Describe the site of formation, function and control of secretion of the following adrenal hormones: • Mineralocorticoids • Glucocorticoids 2. Discuss Cushing syndrome, Cushing disease and Addison's disease	1. Lecture/CBL 2. Tutorial	1. BCQS 2. OSPE

DIGESTIVE & URINARY SYSTEM

S.NO.	TOPICS	TOPIC OBJECTIVES	LEARNING STRATEGIES	ASSESSMENT TOOLS
1.	Digestive system – Introduction	1. Describe the structural and functional organization of the digestive system 2. Discuss the physiological anatomy of gastrointestinal tract 3. Discuss the characteristic features of GIT smooth muscle	1. Lecture 2. Tutorial	1. BCQS
2.	Regulation of digestive system	1. Discuss the neural and hormonal control of GIT – Enteric nervous system 2. Describe: • Role of interstitial cells of cajal in generation of basic electrical rhythm (BER) of the GIT • Types of GI reflexes • Correlate the role of interstitial cells of cajal with smooth muscle contractile activity • Contrast the effects of parasympathetic and sympathetic nervous activity in modulating GI activity	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
3.	Salivation	1. Describe the composition and functions of saliva 2. List the factors that increase salivary secretion 3. Discuss the nervous regulation of salivary secretion	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
4.	Mastication & swallowing	1. Discuss the chewing and swallowing reflex 2. Describe the function of lower esophageal sphincter 3. Discuss the mechanisms that prevent food from entering the nasal cavity and larynx during swallowing	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
5.	Stomach & its secretions	1. List the functions of stomach 2. Describe composition of gastric juice & their functions 3. Discuss the phases of gastric secretory activity , gastric emptying and its regulation	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

6.	Small intestine	1. Describe types of movement in small intestine 2. Discuss the inhibition of motility and secretion in stomach 3. Discuss peristaltic rush and migrating motor complex 4. List structures that increase the absorptive surface area of small intestine 5. Differentiate between segmentation and migrating motor complex of the small intestine 6. Discuss the factors affecting the motility and secretion of food in the stomach 7. Discuss the glands of small intestine with regard to their secretions and functions 8. Describe the function of each enzyme of intestinal brush border 9. Describe the absorption of each type of nutrient in the small intestine	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
7.	Liver	1. Discuss the composition, formation, conduction and functions of Bile and Bile salts 2. Describe the functions and emptying of gall bladder	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
8.	Pancreas	1. Describe the composition, function and role of pancreatic secretion 2. Discuss factors which affect the pancreatic secretion 3. Illustrate the phases of pancreatic secretion 4. Discuss the role of hormones in regulating pancreatic secretion	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
9.	Large intestine, defecation reflex	1. Describe the structure, functions and major types of movements in large intestine 2. Discuss the defecation reflex 3. Discuss functions of internal and external anal sphincters	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
10.	Gastrointestinal hormones	1. Discuss the secretion and role of following GIT hormones in digestion of food • Cholecystokinin	1. Lecture 2. Tutorial	1. BCQS

		• Secretin • GIP • Gastrin • Gastrin Releasing Peptide • Pancreatic Polypeptide • Somatostatin • Vasoactive Intestinal Polypeptide • Motilin		
11.	Kidney function & nephron	1. Discuss the functional anatomy of kidney 2. Define nephron & its types 3. Sketch the structure of nephron 4. Describe parts of a nephron 5. Discuss the functions of kidney	1. Lecture 2. Tutorial	1. BCQS
12.	Glomerular filtration rate (GFR)	1. Define GFR 2. State the normal range of GFR 3. Describe the glomerular filtration membrane & its function 4. Discuss the forces that promote and oppose glomerular filtration 5. Calculate net filtration pressure	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
13.	Regulation of GFR	1. Discuss the significance of auto-regulation of GFR 2. Describe the regulation of glomerular filtration by hormones and the nervous system	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
14.	Tubular reabsorption	1. Discuss passive and active mechanism of transport for tubular reabsorption 2. Discuss reabsorption of fluid by peritubular capillaries 3. Discuss tubular reabsorption along different parts of nephron and its regulation 4. Define tubular load and tubular transport maximum (Tm)	1. Lecture 2. Tutorial	1. BCQS
15.	Tubular secretion	1. Discuss the tubular secretion process 2. Describe the secretion in different parts of nephron	1. Lecture 2. Tutorial	1. BCQS
16.	Renal concentrating, diluting mechanism	1. Discuss: • Osmotic gradient • Counter current mechanism	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

		• Renal mechanisms for excreting • diluted urine • Role of anti-diuretic hormone &osmoreceptors		
17.	Micturition reflex	1. Discuss the role of bladder in accommodating a wide range of urine volume 2. Describe the neural reflex pathway that regulates emptying of bladder	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
18.	Hormones acting on kidney	1. Discuss the effect of following hormones on kidney • ADH • Aldosterone • Angiotensin II • ANP • PTH	1. Lecture 2. Tutorial	1. BCQS

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 1 CURRICUUM

PHYSIOLOGY PRACTICAL

S.NO.	PRACTICAL TOPICS By the end of the session the first year BDS student should be able to demonstrate the following	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed in mid-term and final examination through:
1.	Introduction to microscope	Demonstration	OSPE/ VIVA
2.	Osmotic Fragility	Demonstration and Performance	OSPE/ VIVA
3.	Erythrocyte Sedimentation Rate	Demonstration and Performance	OSPE/ VIVA
4.	Peripheral Blood Film	Demonstration and Performance	OSPE/ VIVA
5.	Blood Grouping	Demonstration and Performance	OSPE/ VIVA
6.	Bleeding time Clotting time	Demonstration and Performance	OSPE/ VIVA
7.	Muscle Twitch	Demonstration and performance	OSPE/ VIVA
8.	Summation Tetanization Fatigue	Demonstration and performance	OSPE/ VIVA
9.	Heart sounds	Demonstration and performance	OSPE/ VIVA
10.	ECG	Demonstration and performance	OSPE/ VIVA
11.	Blood Pressure Estimation	Demonstration and performance	OSPE/ VIVA
12.	Lung volumes and capacities	Demonstration and performance	OSPE/ VIVA
13.	Spirometry	Demonstration and performance	OSPE/ VIVA

14.	Superficial reflex	Demonstration and performance	OSPE/ VIVA
15.	Deep reflex	Demonstration and Performance	OSPE/ VIVA
16.	Cerebellar Function Testing	Demonstration	OSPE/ VIVA
17.	Visual acuity	Demonstration and Performance	OSPE/ VIVA
18.	Color vision	Demonstration and Performance	OSPE/ VIVA
19.	Test of hearing	Demonstration and Performance	OSPE/ VIVA

JINNAH MEDICAL AND DENTAL COLLEGE

FIRST YEAR BDSCURRICULUM

PHYSIOLOGY PRACTICAL / LABS TIMELY SCHEDULE

TIME: 1 HOUR 45 MINUTES EACH

DAY: ONCE A WEEK (TUESDAY) (kindly check if this is appropriate)

WEEK No. 15:

TOIPC: BLOOD PRESSURE

TUESDAY: 10.45 AM TO 12.30 PM

10:45 AM to 11:00 AM (Theory Demonstration)

11:00 AM to 11:30 AM (Practical Demonstration)

11:30 AM to 12:30 PM (Practical performance by students)

BIOCHEMISTRY

JINNAH MEDICAL AND DENTAL COLLEGE

FIRST YEAR BDS CURRICULUM

COURSE: BIOCHEMISTRY

COURSE CODE: 1.3

ALLOCATION OF CREDIT HOURS: 50 lecture hours; 120 practical hours

BIOCHEMISTRY OF CELL

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of first year BDS, the student should be able to	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Introduction to Biochemistry	1. Define Biochemistry 2. Discuss the importance of in Dentistry	1. Lectures	1. BCQS
2.	Cell- Biochemical Composition & Cell Organelles.	1. Describe: • Important micro and macro molecules found in the cell and the major functions of Organelles.	1. Lectures 2. Tutorial	1. BCQS
3.	Cell Membrane	1. Describe: • Biochemical structure • Functions of cell membrane/ Active and Passive transport	1. Lectures 2. Tutorial 3. Practical	1. BCQS
4.	Water	1. Describe: • Biochemical structure • Properties of water	1. Lectures 2. Tutorial	1. BCQS
5.	pH & Buffers	1. Describe: • Buffers, Acidosis & Alkalosis • Types of Buffers, Acidosis & Alkalosis • Mechanism of action of Buffers, Acidosis & Alkalosis	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

CARBOHDRATE CHEMISTRY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction of Carbohydrates	1. Define carbohydrates. 2. Classify carbohydrates. 3. List source of carbohydrates. 4. Discuss the biomedical importance of carbohydrates	1. Lectures	1. BCQ
2.	Monosaccharides + Disaccharides and Oligo saccharides	1. Define monosaccharides, Disaccharides, Oligosaccharides, isomerism. 2. Classify monosaccharides, Disaccharides, Oligosaccharides, isomerism. 3. Discuss the biomedical importance of monosaccharides, Disaccharides, Oligosaccharides.	1. Lecture 2. Tutorial	1. BCQS
3.	Polysaccharides	1. Define Polysaccharides. 2. Classify Polysaccharides. 3. Explain the functions of Polysaccharides.	1. Lecture 2. Tutorial 3. Practical	1. BCQS

LIPID CHEMISTRY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction of Lipids + Lipid Peroxidation	1. Define lipids. 2. Classify lipids. 3. Discuss the functions of lipids. 4. Discuss the biomedical importance of lipids. 5. Explain the complications of lipid peroxidation.	1. Lecture	1. BCQS
2.	Fatty Acids + Eicosanoids & Derived Lipids	1. Define fatty acids 2. Classify fatty acids 3. Explain their properties, functions & nutritional importance 4. Define derived lipids & Eicosanoids	1. Lecture 2. Lecture 3. Tutorial	1. BCQ

		5. Classify derived lipids & Eicosanoids 6. Discuss the biomedical importance of derived lipids & Eicosanoids		
3.	Compound Lipids + Cholesterol	1. Discuss compound lipids 2. Classify compound lipids with functions 3. Discuss the biomedical importance of each (PL, LP, GL, Sphingo lipid) 4. Explain the structure, properties, functions, sources, transport & biomedical importance of cholesterol, LP	1. Lecture 2. Lecture 3. Tutorial 4. Practical	1. BCQ 2. OSPE

PROTEIN AMINO ACID CHEMISTRY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Amino Acids + Introduction of Protein	1. Describe the properties, functions and chemical reactions shown by amino acids, 2. Classify amino acid 3. Define of protein 4. Explain structure of protein 5. Classify protein	1. Lecture 2. Lecture 3. Tutorial	1. BCQ
2.	Protein structure + Collagen & Elastin	1. Describe the structure & physical properties of the protein molecule 2. Explain the structure, function 3. Discuss biomedical importance of Collagen & Elastin	1. Lecture	1. BCQ
3.	Plasma Proteins & Immunoglobulins	1. Define Plasma proteins 2. Classify Plasma proteins 3. Discuss biomedical importance of simple proteins (plasma protein)	1. Lecture 2. Tutorial 3. Practical	1. BCQ

ENZYMES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction of Enzymes Mechanism of Action of Enzymes	1. Define Enzymes. 2. Explain structure and classification of enzymes. mechanism of action enzymes & MM equation	1. Lecture 2. Tutorial	1. BCQ
2.	Factors & Inhibitors	1. Discuss the factors affecting enzyme activity & regulation of enzyme activity	1. Lecture 2. Practical	1. BCQ
3.	Clinical Enzymology	1. Discuss the clinical importance of enzymes in diagnosis	1. Lecture 2. Tutorial	1. BCQ

NUCLEOPROTEINS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Nucleotides	1. Define nucleoproteins 2. Explain the chemical structure & significance of nucleoproteins	1. Lecture 2. Tutorial	1. BCQ
2.	DNA & RNA	1. Describe the chemical structure, properties and functions of DNA & RNA	1. Lecture	1. BCQ
3.	Central Dogma of Molecular Biology	1. Discuss the central dogma of molecular biology	1. Lecture 2. Tutorial 3. Practical	1. BCQ 2. OSPE

HEMOGLOBIN CHEMISTRY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Heme-Structure	1. Discuss, structure, functions, & types of hemoglobin	1. Lecture 2. Tutorial	1. BCQ
2.	Heme-Synthesis & Porphyrias	1. Explain heme synthesis & its disorders	Lecture	1. BCQ
3.	Hemoglobinopathies	1. Discuss the types, biochemical defects & clinical manifestation of hemolytic anemia	1. Lecture 2. Tutorial 3. Practical	1. BCQ

		(Thalassemia, Sickle cell Anemia etc.)		
3.	Heme-Degradation & Jaundice	1. Discuss Bilirubin synthesis, types and fate. Classify Jaundice & LFTs	Lecture	1. BCQ

VITAMIN

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Vitamin A+ Vitamin E & K	1. Discuss the structure, functions RDA, sources & clinical abnormalities of vitamin A , E & K	1. Lecture 2. Lecture 3. Tutorial	1. BCQ
2.	Vitamin D	1. Discuss the structure, functions RDA, sources & clinical abnormalities of vitamin D	1. Lecture	1. BCQ
3.	Vitamin C	1. Discuss the structure, functions RDA, sources & clinical abnormalities of vitamin C	1. Lecture 2. Tutorial	1. BCQ
4.	Vitamin B12 & Folic Acids	1. Discuss the structure, functions RDA, sources & clinical abnormalities of vitamin B12 & Folic acids	1. Lecture 2. Tutorial	1. BCQ
5.	Vitamin B1+ Vitamin B2, B3 & B6	1. Discuss the structure, functions RDA, sources & clinical abnormalities of vitamin B1, B2, B3 & B6	1. Lecture 2. Lecture 3. Practical	1. BCQ

1.3.8 MINERALS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Iron	1. Discuss the functions RDA, sources, transport, storage & clinical importance of iron	1. Lecture 2. Tutorial	1. BCQ
2.	Calcium, Phosphorus	1. Discuss the functions RDA, sources, transport, storage & clinical importance of calcium & phosphorus	1. Lecture	1. BCQ
3.	Fluoride & Other Minerals	1. Discuss the functions, RDA, sources & biochemical role of fluoride & other important Minerals.	1. Lecture 2. Lecture 3. Tutorial 2. Practical	1. BCQ

1.3.10 CARBOHYDRATE METABOLISM

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Digestion & Absorption of Carbohydrates	1. Describe the mechanism by which complex dietary carbohydrates are broken down to simple sugars & their absorption from GIT into portal blood	1. Lecture 2. Tutorial	1. BCQ
2.	Glycolysis	1. Define glycolysis 2. Explain the reactions involved in glycolytic pathway along with the fate of pyruvate formed from glucose	2. Lecture	1. BCQ
3.	TCA	1. Explain the reactions of citric acid cycle & its regulation.	1. Lecture 2. Lecture 3. Tutorial 4. Practical	1. BCQ
4.	Gluconeogenesis	1. Define glucogeneoesis 2. Explain the reactions and its regulations	1. Lecture 2. Tutorial	1. BCQ
5.	Glycogen Metabolism	1. Describe the formation and break down of glycogen & its regulation	1. Lecture	1. BCQ
6.	HMP	1. Describe the purpose importance & reactions of Hexose Monophosphate Pathway.	1. Lecture	1. BCQ
7.	Regulation Of Blood Glucose & Diabetes Mellitus	1. Discuss the normal blood glucose level, clinical significance of its variations & metabolic derangements that occur in Diabetes Mellitus	1. Lecture 2. Tutorial	1. BCQ 3. OSPE

1.3.11 LIPID METABOLISM

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Digestion & Absorption of Lipids	1. Describe the mechanism by which complex dietary lipids are broken down to simpler forms and their absorption from GIT.	1. Lecture 2. Tutorial	1. BCQ

2	Lipid Transport (Lipoproteins)	1. Discuss the chemistry, metabolism and associated clinical disorders of lipoproteins.	1. Lecture	1. BCQ
3.	β Oxidation	1. Explain the oxidation of fatty acid in the body to give energy	1. Lecture 2. Tutorial 3. Practical	1. BCQ
4.	Ketone Bodies & Bile salts	1. Explain the synthesis & utilization of Ketone Bodies in the body. 2. Explain the biosynthesis of bile salts.	1. Lecture 2. Tutorial	1. BCQ

1.3.12 ETC

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Electron Transport Chain	1. Discuss the structure & functions of Electron Transport Chain & synthesis of ATP.	1. Lecture 2. Tutorial	1. BCQ

1.3.13 PROTEIN METABOLISM

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Digestion & Absorption of Proteins	1. Describe the mechanism by which dietary proteins are broken down into simpler forms & their absorption from GIT.	1. Lecture 2. Tutorial	1. BCQ
2	Reactions of Amino acids + Urea Cycle and NH3 Toxicity	1. Explain the reactions of amino acids & Ammonia Metabolism. 2. Explain the reactions of urea cycle & its disorders	1. Lecture 2. Lecture	1. BCQ
3.	Phenylalanine + Tyrosine + Tryptophan Metabolism	1. Discuss the metabolism of specific amino acids & its inborn errors (Phenylalanine Tyrosine & Tryptophan)	1. Lecture 2. Lecture 3. Tutorial 4. Practical	1. BCQ

1.3.14 NUTRITION

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction of Nutrition	1. Discuss the biomedical importance of nutrition	1. Lecture 2. Tutorial	1.BCQ
2	Balanced diet, Malnutrition & Obesity	1. Explain the importance of balanced diet 2. Discuss the clinical abnormalities of Malnutrition & Obesity	1. Lecture	1. BCQ

1.3.15 ENDOCRINOLOGY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction of Hormones	1. Define hormones 2. Classify Hormones 3. Discuss the general characteristic & mechanism of action of hormones	1. Lecture 2. Tutorial	1.BCQ
2	Classification	1. Describe the various hypothalamic releasing factors that control the secretion , anterior pituitary hormones & posterior pituitary hormones	1. Lecture 2. Lecture	1. BCQ
3.	Adrenal Hormones	1. Explain the chemistry, biosynthesis, mechanism of action & metabolic role of adrenal hormones	1. Lecture 2. Lecture 3. Tutorial 4. Practical	1.BCQ

1.3.16 NEUROTRANSMITTERS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Neurotransmitters	1. Explain the chemistry, biosynthesis, mechanism of action & metabolic role of neurotransmitters	1. Lecture 2. Tutorial	1.BCQ 3.OSPE

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 1 CURRICUUM

BIOCHEMISTRY PRACTICAL

S.NO.	TOPICS	OBJECTIVES By the end of the session the first year BDS student should be able to demonstrate the following	TEACHING AND PRACTICAL METHODOLOGY	ASSESSMENT TOOLS The students will be assessed mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Lab Hazards & Solutions	Safety procedures during practical and how to make hypotonic, hypertonic, isotonic solution	Demo and preparing slides and Preparing Solution, writing in journals	OSPE/ VIVA
2	Carbohydrates	Polysaccharides Mono& Disaccharides	Demo, performs and identify all the reducing sugars. Writing in journals	OSPE/ VIVA
3.	Amino Acid	Detection of individual amino acid	Demo, performs, writing in journals.	OSPE/ VIVA
5.	Protein	Scheme , detection of individual proteins	Demo, performs and identify all protein & Writing in journals	OSPE/ VIVA
6.	Lipids	Properties of lipids	Demo, performs and identify all lipid & Writing in journals	OSPE/ VIVA
8.	Spectrophotometry	Laws, its mechanism, its uses	Demo and presentation	-
9.	Estimations	Cholesterol by kit Method importance	Demo, Calculations	OSPE/ VIVA
10.	Estimations with kit	Protein, Albumin and A?G ration by kit Method importance	Demo, Calculations	OSPE/ VIVA
11	Liver Function Test (LFT) enzymes	Importance, types of jaundice and interpretations	Demo, presentation	OSPE/ VIVA
12	Bilirubin estimation with Kit	Importance and interpretations	Demo, presentation	OSPE/ VIVA
14	Estimation with Kit /glucometer	Estimation of glucose with kit, glucometer and oral	Demo and presentation	OSPE/ VIVA

		glucose tolerance test and its interpretation		
15.	Hb electrophoresis, chromatography,	Its application and importance	Presentation	OSPE/ VIVA
16.	Urine analysis	Normal and Abnormal contents	Demo, performs and identify all Normal and abnormal & Writing in journals	OSPE/ VIVA

JINNAH MEDICAL AND DENTAL COLLEGE

FIRST YEAR BDS CURRICULUM

BIOCHEMISTRY PRACTICAL / LABS TIMELY SCHEDULE

S.NO.	TOPICS	OBJECTIVES	TEACHING METHODOLOGY	PRACTICAL MINUTES	ASSESSMENT TOOLS
1.	Lab Hazards & Solutions	Safety procedures during practical and how to make hypotonic, hypertonic, isotonic solution	Demo and preparing slides and Preparing Solution, writing in journals	90	OSPE/ VIVA
2	Carbohydrates	Polysaccharides Mono& Disaccharides	Demo, performs and identify all the reducing sugars. Writing in journals	90	OSPE/ VIVA
3.	Amino Acid	To detection of individual amino acid	Demo, performs, writing in journals.	90	OSPE/ VIVA
5.	Protein	Scheme , detection of individual proteins	Demo, performs and identify all protein & Writing in journals	90	OSPE/ VIVA
6.	Lipids	Properties of lipids	Demo, performs and identify all lipid & Writing in journals	90	OSPE/ VIVA
8.	Spectrophotometry	Laws, its mechanism, its uses	Demo and presentation	90	-
9.	Estimations	Cholesterol by kit Method importance	Demo, Calculations	90	OSPE/ VIVA
10.	Estimations with kit	Protein, Albumin and A/G ratio by kit Method importance	Demo, Calculations	90	OSPE/ VIVA
11	Liver Function Test (LFT) enzymes	Importance, types of jaundice and interpretations	Demo, presentation	90	OSPE/ VIVA
12	Bilirubin estimation with Kit	Importance and interpretations	Demo, presentation	90	OSPE/ VIVA
14	Estimation with Kit /glucometer	Estimation of glucose with kit, glucometer and oral glucose tolerance test and its interpretation	Demo and presentation	90	OSPE/ VIVA

15.	Hb electrophoresis, chromatography,	its application and importance	Presentation	90	OSPE/ VIVA
16.	Urine analysis	Normal and Abnormal contents	Demo, performs and identify all Normal and abnormal & Writing in journals	90	OSPE/ VIVA

TIME: 1 HOUR 30 MINUTES EACH

DAY: ONCE A WEEK (WEDNESDAY)

WEEK No. 1:

TOIPC: LAB HAZARDS & SOLUTIONS

08:30 AM to 09:00 AM (Demonstration)

09:00 AM to 9:20 AM (Preparing Slides)

09:25 AM to 09:45 AM (Preparing Solution)

9:45 AM to 10:15 AM (Writing in journals)

WEEK No. 2:

TOIPC: CARBOHYDRATES

08:30 AM to 09:00 AM (Demonstration)

09:00 AM to 9:454 AM (Performs and identify all the reducing sugars)

9:45 AM to 10:15 AM (Writing in journals)

ORAL BIOLOGY

JINNAH MEDICAL AND DENTAL COLLEGE

FIRST YEAR BDS CURRICULUM

COURSE: ORAL BIOLOGY

COURSE CODE: 1.4

CREDIT HOURS: 60 lecture hours; 100 practical hours

INTRODUCTION TO STRUCTURES OF ORAL TISSUES

S.NO.	TOPIC	LEARNING OBJECTIVES By the end of first year BDS, the student should be able to	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Introduction to oral biology & structure of tooth	1. Relate the application of subject of oral biology with the clinical practice 2. List tissues of the tooth 3. Distinguish between dental tissues 4. Locate dental hard tissues correctly	1. Lectures 2. Tutorials 3. Practical (model demonstration)	1. BCQS 2. OSPE
2.	Introduction to the supporting structure of tooth	• Discuss supporting structures of tooth • Identify the supporting structures of tooth	1. Lectures 2. Tutorials 3. Practical(model demonstration)	1. BCQS 2. OSPE
3.	Age changes & clinical relevance of the structure of tooth	1. Discuss the clinical relevance & age changes of enamel & dentine 2. Discuss the clinical relevance & age changes of cementum, periodontal ligament	1. Lecture	1. BCQS 2. OSPE

GENERAL EMBRYOLOGY

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Germ cell formation and fertilization, prenatal	1. Discuss the concept of germ & formation & fertilization, prenatal development	1. Lecture 2. Tutorial	1. BCQS

	development, induction, competence and differentiation			
2.	Formation of three layered embryo, formation of the neural tube and fate of the germ layers	1. Discuss the concept of formation of three layered embryo & neural tube	1. Lecture 2. Tutorial	1. BCQS

EMBRYOLOGY OF HEAD FACE AND ORAL CAVITY

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Neural crest cells and head formation, brachial (pharyngeal) arches and the primitive mouth.	1. Explain the formation of head 2. List the derivatives of pharyngeal arches and pouches	1. Lecture 2. Tutorial	1. BCQS
2.	Formation of the face, formation of the secondary palate.	1. Explain the formation of face & palate	1. Lecture 2. Tutorial	1. BCQS
3.	Formation of tongue.	1. Discuss the formation of tongue	1. Lecture 2. Tutorial	1. BCQS
4.	Development of the skull	1. Discuss the development of skull 2. Differentiate between intra membranous & cartilaginous development	1. Lecture 2. Tutorial	1. BCQS
5.	Development of the mandible and maxilla	1. Discuss the development of mandible & maxilla 2. Differentiate between development of mandible & maxilla	1. Lecture 2. Tutorial	1. BCQS
6.	Development of the temporomandibular joint	1. Discuss the development of temporomandibular joint 2. Locate the anatomical landmarks associated with TMJ	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
7.	Congenital defects	1. List different type of teratogens 2. Explain various types of cleft lip & palate	1. Lecture 2. Tutorial	1. BCQS

CYTOSKELETON, CELL JUNCTIONS, FIBROBLASTS AND EXTRACELLULAR MATRIX

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Cytoskeleton, intercellular junctions, epithelium-connective tissue interface.	1. Define the cytoskeleton 2. Differentiate between various filament types within cytoskeleton 3. Distinguish between various intercellular junctions	1. Lecture 2. Tutorial	1. BCQS
2.	Fibroblasts, secretory products of fibroblasts.	1. Discuss the function & secretory products of fibroblasts	1. Lecture 2. Tutorial	1. BCQS

DEVELOPMENT OF THE TOOTH AND ITS SUPPORTING TISSUES

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Stages of tooth development	1. Discuss the formation of primary epithelial band 2. Describe the formation of dental & vestibular lamina	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OPSE
2.	Stages of tooth development & tooth type determination	1. Differentiate various stages of tooth development 2. Discuss the theories of tooth type determination	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
3.	Hard tissue formation & root formation	1. Explain the hard tissue formation 2. Discuss the formation of root 3. Distinguish between development of single rooted & multi rooted tooth	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE

BONE

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Gross bone histology & bone cells	1. State the composition of bone 2. Describe the histology of bone 3. Explain the structure & function of bone cells	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
2.	Development of bone	1. Differentiate between endochondral & intramembranous bone formation 2. Interpret the histology of endochondral & intramembranous bone	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE

ENAMEL: COMPOSITION, FORMATION AND STRUCTURE

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction to enamel	1. Discuss the composition & physical properties of enamel	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
2.	Stages of amelogenesis & mineralization	1. Discuss the stages of amelogenesis 2. Differentiate among the stages of amelogenesis 3. Explain various secretory products during amelogenesis and mineralization	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
3.	Structural and organizational features of enamel	1. Identify histological features of enamel 2. Discuss histological features of enamel	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE

DENTINE-PULP COMPLEX

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introductions, types, dentine formation	1. Describe the basic composition of dentine 2. Describe the formation of dentine	1. Lecture 2. Tutorial 3. Practical	1. BCQS 2. OSPE

		3. Report the pattern of dentine formation 4. Identify the types of dentine	(histological slide)	
2.	Histology of dentine	1. Identify & explain various histological landmarks present in the dentine	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OPSE
3.	Pulp & cell of dental pulp	1. Identify the zones within the dental pulp 2. Explain the zones within the dental pulp 3. Describe the cells that are present the dental pulp	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
4.	Theories of dentine sensitivity	1. Explain the theories of dentine sensitivity 2. Critique the theories of dentine sensitivity	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

PERIODONTIUM

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction to periodontium & biochemical composition of cementum	1. Define the periodontium 2. List the components of periodontium 3. Explain the biochemical composition of cementum	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
2.	Cementum formation & types of cementum	1. Explain the formation of cementum 2. Classify the cementum into different types 3. Explain the factors that regulates cementum formation	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
3.	Alveolar bone	1. Explain the structure of alveolar bone 2. Identify the histological features within the alveolar bone	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
4.	Periodontal ligaments	1. Classify the periodontal ligaments 2. Explain the cells within the periodontal ligaments space	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE

PHYSIOLOGIC TOOTH MOVEMENT: ERUPTION AND SHEDDING

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Preeruptive tooth movement & eruptive tooth movement	1. Describe pre-eruptive tooth movement	1. Lecture 2. Tutorial	1. BCQS
2.	Posteruptive tooth movement & abnormal tooth movement	1. Describe post-eruptive & abnormal tooth movement with examples 2. Discuss the orthodontic tooth movement	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
3.	Shedding of teeth	1. Explain the shedding of teeth & pattern of shedding	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

SALIVARY GLANDS

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Anatomy, development & functions of salivary glands	1. Explain the anatomy of salivary glands 2. Explain the composition of saliva 3. Relate the composition of saliva with functions	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
2.	Histology of the major & minor salivary glands	1. Classify salivary glands 2. Differentiate between secretory cells of salivary glands 3. Explain the mechanism & secretion of saliva 4. Identify the histological features of salivary glands	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
3.	Clinical consideration	1. Describe the age changes & diseases associated with the salivary glands	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

ORAL MUCOSA

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Definition boundaries & function of the oral mucosa	1. Define oral mucosa 2. Define the boundaries of oral cavity 3. Explain the structure of oral mucosa 4. Relate the structure with the functions of oral mucosa	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
2.	Structural variation of oral mucosa, oral epithelium & lamina propria	1. Classify different types of oral mucosa 2. Differentiate histological between different types 3. Describe the cells within the epithelium & connective tissue	1. Lecture 2. Tutorial 3. Practical (histological slide)	1. BCQS 2. OSPE
3.	clinical variations & age changes in oral mucosa	1. Describe the clinical variations & age changes within the oral mucosa	1. Lectures	2. BCQS 3. OSPE

TEMPOROMANDIBULAR JOINT

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Classification of joints anatomy & histology of temporomandibular joint	1. Explain the classification of joint with examples 2. Discuss the anatomy & histology of temporomandibular joint	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
2.	Muscles of mastication & biomechanics, innervations & blood supply to TMJ	1. Explain the muscle associated with temporomandibular joint 2. Relate the muscle attachments with movement of joint 3. Describe the innervations & blood supply of TMJ	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

FACIAL GROWTH AND DEVELOPMENT

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Facial types & profiles	1. Discuss various facial types & profiles 2. Relate the facial profiles with gender & age 3. Discuss the basic concept of facial growth	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

REPAIR AND REGENERATION OF ORAL TISSUES

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Wound healing in oral mucosa	1. Discuss various faces of bone healing in oral mucosa	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
2.	Repair of tooth & supporting structures 1	1. Explain the bone healing act dentinogingival junction 2. Describe the mechanism of enamel repair	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
3.	Repair of tooth & supporting structures 2	1. Know the repair of dentine pulp complex 2. Explain the repair of periodontium	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

INTRODUCTION TO DENTAL ANATOMY

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction to dental anatomy	1. Describe the clinical application & importance of oral biology/dental anatomy 2. Explain the primary, transitional permanent dentition periods 3. Identify the primary, transitional permanent dentition periods 4. Discuss tooth rotation systems 5. Apply the knowledge of tooth rotation system	1. Lectures 2. Tutorials 3. Practical (model demonstration)	1. BCQS 2. OSPE

		6. Identify surfaces & landmarks associated with human teeth 7. Identify surfaces & landmarks associated with human teeth		

DEVELOPMENT AND ERUPTION OF THE TEETH

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Development and eruption/emergence of the primary & permanent teeth	1. Describe the pattern & age of eruption of primary 2. Describe the pattern & age of eruption of permanent teeth 3. Estimate the dental age of as individual	1. Lecture 2. Tutorial 3. Practical	1. BCQS 2. OSPE

THE PRIMARY (DECIDUOUS) TEETH

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Maxillary central incisor & maxillary lateral incisor	1. Identify the maxillary central & lateral incisor 2. Explain briefly the landmarks associated with these teeth 3. Identify the basic endodontic anatomy of these teeth	1. Lecture 2. Tutorial 3. Practical	1. BCQS 2. OSPE
2.	Mandibular central incisor & mandibular lateral incisor	1. Identify the mandibular central & lateral incisor 2. Explain briefly the landmarks associated with these teeth 3. Recognize the basic endodontic anatomy of these teeth	1. Lecture 2. Tutorial 3. Practical	1. BCQS 2. OSPE
3.	Maxillary canine & mandibular canine	1. Identify the maxillary & mandibular canine 2. Explain briefly the landmarks associated with these teeth 3. Recognize the basic endodontic anatomy of these teeth	1. Lecture 2. Tutorial 3. Practical	1. BCQS 2. OSPE

4.	Maxillary first molar & maxillary second molar	1. Identify the maxillary first molar & maxillary second molar 2. Explain briefly the landmarks associated with these teeth 3. Identify the basic endodontic anatomy of these teeth	1. Lecture 2. Tutorial 3. Practical	1. BCQS 2. OSPE
5.	Mandibular first molar & mandibular second molar	1. Identify the mandibular first molar & mandibular second molar 2. Explain briefly the landmarks associated with these teeth 3. Recognize the basic endodontic of these teeth	1. Lecture 2. Tutorial 3. Practical	1. BCQS 2. OSPE

FORENSICS, COMPARATIVE ANATOMY, GEOMETRIES AND FORM AND FUNCTION

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction & application forensic dentistry	1. Define forensic dentistry 2. Describe various methods for identification of unidentified individuals 3. Recognize the application of forensic dentistry	1. Lecture 2. Tutorial	1. BCQS 2. OSPE

OROFACIAL COMPLEX: FORM AND FUNCTION

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Physiological form of the teeth and periodontium	1. Memorize the physiological form of the teeth and periodontium	1. Lecture 2. Tutorial	1. BCQS 2. OSPE
2.	Contact areas, interproximal spaces & embrasures	1. Explain contact areas, interproximal spaces & embrasures 2. Identify contact areas, interproximal spaces & embrasures	1. Lecture 2. Practical	1. BCQS 2. OSPE

THE PERMANENT MAXILLARY TEETH:

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Maxillary central incisor	1. Identify maxillary central incisor 2. Memorize the landmarks associated with this tooth 3. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
2.	Maxillary lateral incisor	1. Identify maxillary lateral incisor 2. Differentiate between maxillary central & lateral incisors 3. Recognize the landmarks associated with this tooth 4. Know the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
3.	Maxillary canine	1. Identify maxillary canine 2. Recognize the landmarks associated with this tooth 3. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
4.	Maxillary first premolar	1. Identify maxillary first premolar 2. Recognize the landmarks associated with this tooth 3. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
5.	Maxillary second premolar	1. Identify maxillary second premolar 2. Differentiate between maxillary first & second premolar 3. Recognize the landmarks associated with this tooth 4. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
6.	Maxillary first molar	1. Identify maxillary first molar 2. Recognize the landmarks associated with this tooth 3. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
7.	Maxillary second molar	1. Identify maxillary second molar 2. Recognize the landmarks associated with this tooth	1. Lecture 2. Practical	1. BCQS 2. OSPE

		3. Recognize the basic endodontic anatomy		
8.	Maxillary third molar	1. Identify maxillary third molar 2. Recognize the landmarks associated with this tooth 3. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE

THE PERMANENT MANDIBULAR TEETH:

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Mandibular central incisor	1. Identify mandibular central incisor 2. Recognize the landmarks associated with this tooth 3. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
2.	Mandibular lateral incisor	1. Identify mandibular lateral incisor 2. Differentiate between mandibular central & lateral incisors 3. Recognize the landmarks associated with this tooth 4. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
3.	Mandibular canine	1. Identify mandibular canine 2. Differentiate between maxillary canine & mandibular canine 3. Recognize the landmarks associated with this tooth 4. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
4.	Mandibular first premolar	1. Identify mandibular first premolar 2. Recognize the landmarks associated with this tooth 3. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
5.	Mandibular second premolar	1. Identify mandibular second premolar 2. Differentiate between mandibular first & second premolar	1. Lecture 2. Practical	1. BCQS 2. OSPE

		3. Recognize the landmarks associated with this tooth Recognize the basic endodontic anatomy		
6.	Mandibular first molar	1. Identify mandibular first molar 2. Recognize the landmarks associated with this tooth 3. Know the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSPE
7.	Mandibular second molar	1. Identify mandibular second molar 2. Recognize the landmarks associated with this tooth 3. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSCE
8.	Mandibular third molar	1. Identify mandibular third molar 2. Recognize the landmarks associated with this tooth 3. Recognize the basic endodontic anatomy	1. Lecture 2. Practical	1. BCQS 2. OSCE

DENTO-OSSEOUS STRUCTURES, BLOOD VESSELS AND NERVES

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Structure of maxilla & mandible	1. Recognize the gross anatomy of maxillary bone 2. Know the gross anatomy of mandible	1. Lecture 2. Tutorial	1. BCQS 2. OSCE
2.	Arterial supply & nerve supply to the jaws and teeth	1. Memorize arterial supply & nerve supply to the jaws and teeth	1. Lecture 2. Tutorial	1. BCQS 2. OSCE

OCCULUSION

S.NO.	TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Basic of the primary occlusion	1. Identify the basic concepts of occlusion 2. Explain the details of primary occlusion	1. Lecture 2. Tutorial 3. Practical	1. BCQS 2. OSCE

2.	Basics of the permanent occlusion	Recognize the basic concepts of occlusion 1. Explain the details of occlusion	1. Lecture 2. Tutorial 3. Practical	1. BCQS 2. OSCE

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 1 CURRICUUM

ORAL BIOLOGY PRACTICAL

S. NO.	PRACTICAL TOPICS By the end of the clinical rotation the first year BDS student should be able to identify the following:	TEACHING METHODOLOGY	ASSESSMENT TOOLS
1.	Model demonstration of structure of tooth and its supporting structure	1. Model demonstration 2. Identification of histological slide 3. Teaching on phantom teeth 4. Teaching on extracted teeth and Individual tooth models 5. Diagrams of histological slides and tooth morphology plotted on graph papers done under supervision	1. OSPE 2. Viva 3. Direct observation of skills 4. Plotting of graphs of individual teeth according to given dimensions Will be assessed during: 1. Weekly supervision 2. Mid term 3. End-of term (Pre-prof)
2.	Different stages of tooth development, tooth type determination and root formation through histological slides		
3.	Tooth numbering system and charting		
4.	Gross bone histology, bone cells &development of bone		
5.	Structural and organizational features of enamel		
6.	Types of dentin, histology of dentin, pulp & cell of dental pulp		
7.	Periodontium, types of cementum, alveolar bone and periodontal ligament		
8.	Anatomy & histology of salivary glands		
9.	Distinguishing structural variation of oral mucosa, oral epithelium & lamina propria		
10.	Landmarks associated with dental anatomy		
11.	Eruption sequence in primary & permanent teeth		
12.	Illustration of all permanent teeth according to the given dimensions		
13.	Description of primary & permanent occlusion		

JINNAH MEDICAL AND DENTAL COLLEGE

FIRST YEAR BDS CURRICULUM

ORAL BIOLOGY CLINICAL ROTATION TIMELY SCHEDULE

One week plan of practical rotation in detail (along with the duration and timings)

ORIENTATION SESSION:

- Introduction to department
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
    - Lab timings (Punctuality)
    - Dress code
        - Lab coat
        - Tied-up hair
        - Covered shoes etc.
- Hand wash technique
- Briefing about :
    - microscopes
    - instruments,
    - models
    - Journal maintenance
- Quota requirements

FIRST YEAR PRACTICALS

Twenty-Nine Weeks

WEEK No. 1

DAY 1:

2:00 PM to 2:30 PM (Orientation)

2:30 PM to 3:00 PM (Model Demonstration)

3:00 PM to 03:30 PM (Illustration in Journals)

TABLE 1-A

STUDENTS	DEMONSTRATORS	2:00 PM TO 2:30 PM	2:30 PM TO 3:00 PM	3:00 PM TO 3:30 PM
1-10	D-1	Orientation	Model Demonstration	Illustration in Journals
11-20	D-2	Model Demonstration	Illustration in Journals	Orientation

ISLAMIAT

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of first year BDS, the student should be able to	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	**INTRODUCTION TO THE HOLY QURAN**	Lecture 1-Discuss the importance of the Quran in our daily lives	Lectures	MCQs
		Lecture-2- Describe briefly the history of revelation of the Quran (Prediction of Warqa bin Naufal, 1st Revelation etc) Explain how the Quran is the greatest miracle of Rasool Allah (S.A.W) Explain how the Quran was compiled in different ways in the era of: Rasool Allah (S.A.W) Abu Bakar (R.A.) Usman Ghani (R.A.) Discuss the Quranic Sciences (Uloom ul Quran) Definition and differences between Makkan and Madinan verses or chapters Explain the Shan e Nuzool / reasons for the revelation (Two examples) Differentiate between the Abrogator & Abrogated verses (Nasikh & Mansookh) (Two examples).	Lectures	MCQs

2.	**SELECTED TEXTS FROM THE HOLY QURAN**	LECTURE-1: (Excerpts from: Surah Al Baqarah : 284-286). Discuss the different aspects of Eman	Lectures	MCQs
		LECTURE – 2: (Excerpts from: Surah Al Hujurat, 1- 18) Explain the reason for the revelation of these Ayat Explain the high status of Rasool Allah (S.A.W) Justify the importance of verification of news Explain the importance of Reconciliation Explain the importance of brotherhood and unity of the Muslim Ummah List the Moral values of a Muslim Justify why discrimination and intolerance is condemned in Islam. Differentiate between Islam and Eman. Explain the harm of Hypocrisy and show off. Explain the ability to do good is given by Allah S.W.T.	Lectures	MCQs
		LECTURE - 3: (Excerpts from: Surah Al-Mumanoon : 1- 11) Explain the Concept of success. Emphasize the importance of humanity.	Lectures	MCQs

		Justify the importance of abstinence from useless activities. Emphasize the importance of paying zakat. Describe the moral and character values of believers. Emphasize the importance of trust and pledges. Recognize the importance of prayers. Describe the characteristics of the inheritors of Paradise.		
		<u>LECTURE - 4: (Excerpts from: Surah Al-Furqan : 63-77)</u> Describe the characteristic of Ibad ur Rahman Recognize the importance of supplication Explain why Shirk is the biggest sin Explain the meaning of spiritual; blindness. Recognize the importance of belief in resurrection. Compare permanent life in paradise with that of Hell. Describe reasons why the disbelievers will stay in Hell permanently.	Lectures	MCQs
		<u>LECTURE - 5: (Excerpts from: Surah Al-Anam : 152- 154)</u>	Lectures	MCQs

		Describe the importance of caring for orphans. Explain the importance of honesty in weights & measure Discuss the importance of justice Justify that Shariah is the only right path in life		
		<u>LECTURE – 6: (Surah Al-Kahf – Part 1 : 1-12)</u> Explain the cause of revelation Discuss the significance of Surah Al Kahf Describe the story of the people of the cave who preferred Deen to Dunya	Lectures	MCQs
		<u>LECTURE – 7: (Surah Al-Fateha: 1 - 7)</u> Explain the significance of Surah Al Fateha List the other names of Suratul Fateha Explain that Allah swt answers Suratul Fatiha Justify the importance of reciting Suratul Fatiha in every rakah of salah Explain the benefit of saying Ameen after surah e Fatiha Explain the 3 different paths in life	Lectures	MCQs
		<u>LECTURE – 8: (Surah KAHF - Part 2: 13-22)</u> Discuss the story of the people of the cave in detail Summarize the moral of	Lectures	MCQs

		the story Provide reasons why the elite youth got disillusioned by paganism Explain that Allah forbids arguments about useless issue		
		LECTURE – 9: (Surah Al-Kahf- part 3: 60-82) Discuss from Suratul Kahf the Story of Musa a.s. and Khizr a.s. Discuss the etiquette of gaining knowledge Explain the lessons learnt from the story of Musa a.s. and Khizr a.s.	Lectures	MCQs
		LECTURE – 10: (Surah Al-Falaq:1-5 & An-Naas: 1-6) Define the term Al-Mu'awwidhatayn Describe the background of revelation of these Surahs Explain the importance of these Surahs Describe how Surah al Falaq and Surat al-Naas share a common theme.	Lectures	MCQs
3.	**SEERAH**	LECTURE - 1 Describe the early life of Rasool Allah (S.A.W) before prophethood	Lectures	MCQs
		LECTURE – 2	Lectures	MCQs

		Describe the life of Rasool Allah (S.A.W) in the early stage of prophethood		
		LECTURE – 3 Describe the life of Rasool Allah (S.A.W) in Makkah before the Hijrah	Lectures	MCQs
		LECTURE – 4 Describe the journey of Hijrah and the early Madinan period	Lectures	MCQs
		LECTURE– 5 Explain the Charter of Madinah Describe the Change of Qiblah and the Ghazwaat	Lectures	MCQs
		LECTURE – 6 Describe the Treaty of Hudaibiyah and its significance	Lectures	MCQs
		LECTURE – 7 Describe the conquest of Makkah and its significance Explain the sermon of Hajja-tul-Wida Describe the lessons derived from the Madinan period	Lectures	MCQs
4.	**INTRODUCTION TO HADITH & SUNNAH**	LECTURE – 1 Recognize the importance of Hadith as being the 2nd basic source of Shariah Explain the history of the compilation of hadith in the different eras Classify different kinds of hadith	Lectures	MCQs
		LECTURE – 2 Justify the significance and legal position of Hadith (Hujjiyat e Hadith) Discuss Uloom ul Hadith Differentiate between	Lectures	MCQs

		Hadith & Sunnah		
5.	**SELECTED TEXTS FROM HADITH**	Recognize the importance and benefits of Husn e Akhlaq in the light of the Quran and Hadith Illustrate with examples from the life of Rasool Allah s.a.w. as our role model Provide examples from everyday life to highlight the significance of Husn e Akhlaq Discuss the importance of self-assessment and conscious effort for improving our conduct	Lectures	MCQs
6.	**ISLAMIC LAW & JURISPRUDENCE**	<u>LECTURE – 1: Significance of Islamic Jurisprudence</u> Define Islamic Jurisprudence Explain the significance of Islamic Jurisprudence in Quran & Hadith Discuss the importance of Ijtihad Name the famous Mujtahideen	Lectures	MCQs
		<u>LECTURE – 2 : Sources of Islamic Jurisprudence</u> Discuss the primary sources of Islamic Jurisprudence Explain the importance of Jurisprudence in Modern Era Define Fatwa and its significance in daily	Lectures	MCQs

		life Name the famous books of Jurisprudence		
7.	**ISLAMIC CULTURE**	LECTURE – 1 Explain the role of civilization in the development of human personality and communities Discuss the distinct features of various Islamic civilizations Discuss the contemporary issues in Islamic societies.	Lectures	MCQs
8.	**ISLAM & SCIENCE**	LECTURE - 1 Explain the close relationship between Islam & Science List the contributions of Muslim scientists in the development of science LECTURE - 2 Identify how the Quran explains Scientific facts	Lectures	MCQs
9.	**ISLAMIC ECONOMIC SYSTEM**	LECTURE – 1 Describe the significance of the Islamic Economic system List the basic Principles of the Islamic Economic System Explain how Islam ensures Social Justice Justify the importance of Zakat Explain why Interest (Riba / Sood) is prohibited Explain the significance of Earning Money	Lectures	MCQs

		Through Legitimate / Lawful Sources (Halal) Distinguish clearly between Halal & Haram Explain the Forbidden Means of Livelihood		
10.	**POLITICAL SYSTEM OF ISLAM**	LECTURE – 1 Explain the basic concepts of the Islamic political system Discuss the Islamic concept of sovereignty Explain the functions of the basic institutions of an Islamic Government	Lectures	MCQs
11.	**ISLAMIC HISTORY**	<u>LECTURE – 1: ABU BAKR (R.A).</u> Describe the life of Abu Bakr (RA) Explain how he is a role model in upholding the unity of the Muslim Ummah	Lectures	MCQs
		<u>LECTURE – 2 : UMAR BIN KHATTAB (R.A).</u> Explain the contribution of Umar r.a. in laying the foundation of Islamic Political and civil administration List the Military expansion under Umar r.a. Discuss his reforms and laying the foundation of the Welfare state Discuss the incomparable justice and taqwa of Umar (RA)	Lectures	MCQs
		<u>LECTURE – 3 : USMAN BIN AFFAN (R.A).</u> Discuss his life & legacy	Lectures	MCQs

		of the Compilation of the Quran Explain his Economic and social administration List his Military expansions Explain the prophecy in the Quran about the tragic martyrdom of Hazrat Usman (R.A)		
		LECTURE – 4: ALI BIN ABI TALIB (R.A.) Discuss his life and legacy Explain the reasons for the battles fought during his era: Battle of Jaml (Camel) Battle of Siffin Describe the final years of his caliphate Explain the reasons of assassination of Ali r.a and its consequences	Lectures	MCQs
		LECTURE – 5 Describe the Period Of the Umayyads with regard to: Their background & origin Important Events Conquest Of Spain By Tariq Bin Ziyad & Musa Bin Nusair Conquest Of Sindh By Muhammad Bin Qasim Umar Bin Abdul Aziz Milestones in the era of Umayyads Describe the Period Of the Abbasids with regard to: Their background & origin	Lectures	MCQs

		Huge Development in the Sciences of: Hadith Fiqh Other Islamic Sciences in the Abbasid era Milestones in the era of the Abbasids		

ETHICS

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of first year BDS, the student should be able to	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	**An Overview of Ethical Theory**	Differentiate among ethics, philosophy and morality Define the following with examples: Utilitarianism Deontology Social Contract Theory Virtue Theory Feminist Ethics	Lectures	MCQs
2.	**Worldview and Philosophy**	Briefly describe the four categories of philosophy with examples i.e. epistemology, logic, metaphysics, ethics, and aesthetics Briefly describe the sub-categories of world view with examples i.e. naturalism, pantheism, theism, spiritism and polytheism, and postmodernism	Lectures	MCQs

3.	**Development of Critical Thinking Skills**	Define critical thinking Briefly describe the history of critical thinking List the advantages of critical thinking Discuss how critical thinking can be developed in one-self	Lectures	MCQs
4.	**Introduction to Logic**	Compare logic and reasoning Differentiate between deductive and inductive logic Differentiate between statements and propositions Discuss the fundamental principles of logic	Lectures	MCQs
5.	**Introduction to Arguments**	Classify Arguments Define each type of argument with examples	Lectures	MCQs
6.	**Religion and Morality**	Compare the Concerns, Pre-Occupations and Constituent Elements of Religion and Morality	Lectures	MCQs
7.	**Moral Relativism**	Define moral relativism Describe the various aspects of moral relativism	Lectures	MCQs
8.	**Conflict of interest**	Define conflict of interest Explain the various forms of conflict of interest	Lectures	MCQs
9.	**Ethical Egoism**	Describe the main characteristics of ethical egoism		
10.	**Utilitarianism**	Describe the main characteristics of Utilitarianism	Lectures	MCQs
11.	**Axiology**	Differentiate between axiology and ethics	Lectures	MCQs
12.	**Deontology**	Describe the characteristics of Deontology and its role in ethics	Lectures	MCQs
13.	**Ross's Moral**	Define the various prima facie	Lectures	MCQs

	Theory	obligations according to Ross' theory		
14.	**Virtue Ethics**	Define virtue ethics	Lectures	MCQs

SECOND YEAR

2.1 GENERAL PATHOLOGY

JINNAH MEDICAL AND DENTAL COLLEGE

SECOND YEAR BDS CURRICULUM

COURSE: PATHOLOGY

COURSE CODE: 2.1

ALLOCATION OF CREDIT HOURS: 50 lecture hours; 200 practical hours

GENERAL PATHOLOGY AND SPECIAL PATHOLOGY

2.1.1 CELLULAR RESPONSES TO STRESS AND NOXIOUS STIMULI

S. NO.	TOPIC	LEARNING OBJECTIVES By the end of lectures the second year BDS student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1	Introduction to Pathology	1. Define Pathology. 2. Classify its various types with regards to its application.	1. Lectures 2. Small Group Discussions (SGD)	1. BCQS 2. OSPE
2	Cellular Responses to Stress and Noxious Stimuli	1. List nature of various injurious Stimulus. 2. Describe cellular adaptations	1. Lectures 2. SGD	1. BCQS 2. OSPE
	Adaptations of Cellular Growth and Differentiation	1. Define Hyperplasia, Metaplasia, Atrophy and Hypertrophy. 2. Explain with example: • Hyperplasia. • Metaplasia. • Atrophy. • Hypertrophy.		
3	Sequence and events of cell injury	1. Describe morphologic alterations and biochemical changes in response to reversible and irreversible cell injury.	1. Lectures 2. SGD	1. BCQS 2. OSPE
4	Mechanisms of Cell Injury	1. Explain mechanism of cell injury in context with effect on various cell organelles Mitochondria, Cell membrane & DNA.	1. Lectures 2. SGD	1. BCQS 2. OSPE

		2. Discuss role of Ischemia, Free radical and calcium accumulation.		
5	Overview of cell death Necrosis	1. Define two principal types of cell death, Necrosis and Apoptosis. 2. Classify the various types of necrosis. 3. Discuss briefly: • Coagulative necrosis • Liquifactive necrosis • Fat necrosis • Caseous necrosis • Fibrinoid necrosis	1. Lectures 2. SGD	1. BCQS 2. OSPE
6	Apoptosis	1. Discuss the pathogenesis and its significance in physiology and disease.	1. Lectures 2. SGD	1. BCQS 2. OSPE
7	Abnormal Intracellular Depositions and Calcifications	1. Enlist the various abnormal intracellular deposit associated with cell damage. 2. Discuss and differentiate b/w dystrophic and metastatic calcification along with clinical significance.	1. Lectures 2. SGD	1. BCQS 2. OSPE

2.1.2 INFLAMMATION AND WOUND HEALING

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	General Features and Causes of Inflammation	1. Define inflammation 2. Discuss causes and features of acute and chronic inflammation	1. Lecture 2. SGD	1. BCQS 2. OSPE
2	Acute inflammation	1. Discuss the steps of acute inflammation in response to: • Recognition of the injurious agent. • Recruitment of leukocytes. • Removal of the agent. • Regulation (control) of the response. • Resolution (Repair).	1. Lectures 2. SGD	1. BCQS 2. OSPE
3	Principal Mediators of acute Inflammation	1. List the cell derived and plasma derived chemical mediators of acute inflammation.	1. Lecture 2. SGD	1. BCQS 2. OSPE

		2. Discuss the pathway and principal Actions of Arachidonic acid metabolites, complement and coagulation pathways.		
4	Morphologic Patterns of Acute Inflammation	• Describe the various morphological features of acute inflammation. • Discuss systemic effects and outcome of inflammation.	1. Lecture 2. SGD	1. BCQS 2. OSPE
5	Chronic inflammation	1. Define chronic inflammation. 2. List the causes of nonspecific and specific (granulomatous) inflammation. 3. Define granuloma, its pathogenesis, types and morphology.	1. Lecture 2. SGD	1. BCQS 2. OSPE
6	Repair by Regeneration	1. Define regeneration and repair 2. Discuss healing by 1st and 2nd intention. 3. List the factors that delay wound healing. 4. Discuss briefly complications of wound healing.	1. Lecture 2. SGD	1. BCQS 2. OSPE

2.1.3 FLUID & HEMODYNAMIC DISORDERS

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Edema and effusion	1. Define edema. 2. List the causes of edema. 3. Define various Categories of Edema, ascites, hydrothorax and anasarca.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE
2	Hemorrhage, Hyperemia and Congestion	1. Define various term of hemorrhagic manifestation. 2. Differentiate between Hyperemia and Congestion	1. Lecture 2. SGD	1. BCQS 2. OSCE
3	Hemostasis, Hemorrhagic Disorders, and Thrombosis	1. Explain primary abnormalities • Endothelial injury. • Stasis or turbulent blood flow. • Hypercoagulability of the blood (the so-called Virchow triad) which lead to thrombosis.	1. Lecture 2. Tutorial/ Small Group Discussion	1. Case presentation 2. BCQS

		2. Describe: • Thrombus, its types with examples & DIC.		
4	Embolism	1. Define embolism formation. 2. Discuss the mechanism of various embolism formations. 3. Discuss: • Pulmonary Embolism, e.g. Fat. • Marrow Embolism. • Air Embolism.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE
5	Infarcts	1. Define infarcts 2. Differentiate between red and white infarct.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE
6	Shock	1. Define pathogenesis of various type of shock. 2. Classify pathogenesis of various type of shock. 3. Discuss pathogenesis of various type of shock.	1. Lecture 2. Small Group Discussion	1. BCQS 2. OSCE

2.1.4 NEOPLASIA

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Introduction to neoplasia	1. Define neoplasia. 2. List the Nomenclature of various tumors with regard to their cell and tissue of origin.	1. Lecture 2. SGD	1. BCQS 2. OSPE
2	Characteristics of Benign and Malignant Neoplasms	1. Discuss Characteristics of benign and malignant neoplasms. 2. Discuss differentiation and features of anaplastic changes. 3. Identify anaplastic changes. 4. Describe route of spread of tumors.	1. Lecture 2. SGD	1. BCQS 2. OSPE
3	Molecular Basis of Cancer I & II	1. Discuss epidemiology and molecular basis with role of genetics, Oncogenes, Oncoproteins. 2. Discuss role of tumor suppressor gene (p53 & Rb gene) and Unregulated Cell Proliferation	1. Lecture 2. SGD	1. BCQS 2. OSPE

4	Carcinogenic Agents and Their Cellular Interactions	1. Classify the carcinogenic agents. 2. Discuss chemical, radiation and microbial carcinogenic agents associated with various tumors.	1. Lecture 2. SGD	1. BCQS 2. OSPE
5	Clinical aspect of neoplasia	1. Explain the clinical manifestation Cachexia etc. and paraneoplastic syndrome.	1. Lecture 2. SGD	1. BCQS 2. OSPE
6	Tumor diagnosis	1. Explain: • Staging • Grading • Tumor marker • Specific lab tests.	1. Lecture 2. SGD	1. BCQS 2. OSPE

2.1.5 ENVIRONMENTAL AND NUTRITIONAL DISEASES

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Environmental and Nutritional Diseases	1. Describe: • Nutritional deficiency. • Protein-Energy. • Malnutrition and vitamins deficiency. • Effects of Tobacco. • Effects of Alcohol. • Burns and Radiation.	1. Lecture 2. SGD	1. BCQS 2. OSPE

2.1.6 GENETIC DISORDERS

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Mutation	1. Define mutation. 2. List various types of mutation.	1. Lecture 2. SGD	1. BCQS 2. OSPE
2	Transmission Patterns of Single-Gene Disorders	1. Describe: • Mendelian Disorders. • Autosomal Dominant Disorders. • Autosomal Recessive Disorders. • X-Linked Disorders 2. Describe cytogenetic disorders: • Down syndrome. • Klinefelter syndrome.		

		• Turner syndrome.		
3	Proteins	1. Enumerate: • Disorder associated with defect in structural protein. • Disorder associated with Receptor proteins. • Disorder associated with Enzymes.		

2.1.7 SPECIAL PATHOLOGY

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Blood disorders	1. Define anemia. 2. Classify anemia. 3. Interpret lab results of various type of anemia.	1. Lecture 2. Interpretation of *CBC* 3. SGD	1. BCQS 2. OSPE
		1. Discuss bleeding and clotting disorders: • Hemophilia. • Von willebrand disease. • Thrombocytopenia.	1. Lecture 2. SGD	
2	Blood vessels	1. Define atherosclerosis. 2. Discuss atherosclerosis's: • Risk factors • Pathogenesis • Characteristic microscopic features • Complications 3. List the common causes of hypertension. 4. Describe the effects of hypertension on blood vessels and heart.	1. Lecture 2. SGD	1. BCQS 2. OSPE
3	CVS	1. Discuss types and features of Ischemic heart disease. 2. Define myocardial infarction 3. Discuss: • Clinical feature of MI. • Morphological feature of MI. • Lab diagnosis of MI.	1. Lecture 2. SGD	1. BCQS 2. OSPE
		1. Discuss pathogenesis,	1. Lecture	

		complication and diagnostic criteria of rheumatic heart disease. 2. Define Endocarditis. 3. Explain causes of acute and Sub-acute infective endocarditis. 4 Discuss differentiating feature of acute and Sub-acute infective endocarditis.	2. SGD	
4	Respiratory system	1. Discuss pathogenesis, clinical features of chronic bronchitis. 2. Discuss pathogenesis, clinical features of Emphysema. 3. Discuss pathogenesis, clinical features of asthma. 4. Discuss pathogenesis, clinical features of bronchiectasis.	1. Lecture 2. SGD	1. BCQS 2. OSPE
5	GIT	1. Discuss briefly IBD (Crohn's disease & Ulcerative colitis) Peptic ulcer disease and gastritis. 2. Discuss diarrhea and dysentery	1. Lecture 2. SGD	1. BCQS 2. OSPE
6	Endocrinology	1. Thyroid disorders (briefly discuss Grave disease its pathogenesis and diagnosis) 2. Diabetes mellitus(discuss briefly its types pathogenesis, complications and diagnosis	1. Lecture 2. SGD	1. BCQS 2. OSPE

MICROBIOLOGY AND IMMUNOLOGY

2.1.8 GENERAL BACTERIOLOGY

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Introduction to Microbiology	1. Define microbiology. 2. Classify the different groups of microorganisms with examples. 3. Differentiate Eukaryotes from prokaryotes and give examples.	1. Lectures 2. SGD	1. BCQS 2. OSPE
2	Morphology of bacteria	1. Describe staining procedures for bacteria. 2. Identify various shapes of bacteria. 3. Report presence or absence of accessory structures.	1. Lectures	1. BCQS 2. OSPE

3	Anatomy of bacterial cell wall	1. Describe essential & non essential structures of bacteria with regards to their properties and functions. 2. Differentiate between gram positive & negative bacterial cell wall.	1. Lectures 2. SGD	1. BCQS 2. OSPE
4	Physiology of bacteria	1. Categorize bacteria according to their oxygen requirements. 2. List different examples of aerobes, anaerobes, microaerophilic, carboxyphilic organism. 3. Discuss their nutritional requirements. 4. Describe their growth curve.	1. Lectures 2. SGD	1. BCQS 2. OSPE
5	Genetics of bacteria	1. Describe different methods of transfer of genetic material between bacterial cells.	1. Lecture 2. SGD	1. BCQS 2. OSPE
6	Classification of medically important bacteria	1. Classify medically important bacteria based on their various characteristics.	1. Lecture 2. SGD	1. BCQS
7	Normal Flora of Human	1. List the microorganisms present as normal flora at various body sites. 2. Discuss the significance of normal flora.	1. Lecture 2. SGD	1. BCQS 2. OSPE
8	Pathogenesis of bacterial infections	1. Define: • Communicable endemic, • Epidemic and pandemic infections, • Carriers, • Pathogens, • Opportunists, • Commensals, • Colonizers. 2. Identify the stages of pathogenesis. 3. Explain determinants of bacterial pathogenesis in regards to methods of transmission of infections, adherence to cell surface and invasion, inflammation and intracellular survival. 4. Discuss bacterial virulence factors: • Structural,	1. Lecture 2. SGD	1. BCQS 2. OSPE

		• Enzymes, • Toxins. 5. Differentiate between exotoxins and endotoxins 6. Describe the typical stages of an infectious disease		
9	Lab diagnosis of bacterial infections	1. Discuss the principles of proper collection, submission and transport of specimens (throat swabs, blood culture etc.) for laboratory investigations with due precautions. 2. Describe the principles and steps of the following lab procedures: • Preparation of smears of specimens, • Use of relevant staining methods, • Observation by direct microscopy, • Use of unstained preparation in wet mount. 3. Demonstrate and inoculate different culture media and discuss their use: • Enriched & selective media, • SDA. 4. Describe different types of hemolysis 5. Demonstrate different methods of anaerobic culture: • Cooked meat media, • Thioglycolate broth, • Gas pack jar. 6. Describe the principles and steps of Culture & Sensitivity testing and media used for it. 7. Demonstrate sensitivity plates. 8. Perform biochemical testing: • Coagulase, • Catalase, • Oxidase, • TSI & Urease. 9. Discuss serological tests of bacterial diseases: • Widal test demonstration, • Typhidot.	1. Lectures 2. SGD	1. BCQS 2. OSPE

		10. Describe the general principles of Mountox test.		
10	Sterilization & Disinfection	1. Differentiate between sterilization and disinfection. 2. Describe the principles of aseptic techniques. 3. Describe universal precautions for infection control. 4. Describe various physical & chemical methods of sterilization with examples.	1. Lectures 2. SGD	1. BCQS 2. OSPE

2.1.9 SPECIAL BACTERIOLOGY

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Overview of major pathogens & anaerobic bacteria	1. Summarize major bacterial pathogens. 2. Classify medically important anaerobic bacteria. 3. Describe briefly important properties, clinical infections & lab diagnosis of Bacteroides.	1. Lectures 2. SGD	1. BCQS 2. OSPE
2	Gram positive cocci: Staphylococci	1. Classify Staphylococci. 2. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of Staphylococci.	1. Lectures 2. SGD	1. BCQS 2. OSPE
3	Gram positive cocci: Streptococci	1. Classify Streptococci. 2. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of Streptococcus pyogenes and S. pneumonia. 3. Discuss briefly other Streptococci.	1. Lectures 2. SGD	1. BCQS 2. OSPE
4	Gram negative cocci: Neisseria	1. Describe important properties, diseases, pathogenesis, clinical features & lab diagnosis, of N. meningitis and N.gonorrhoeae.	1. Lectures 2. SGD	1. BCQS 2. OSPE
5	Gram positive rods: Aerobes:	1. Classify gram positive rods. 2. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis,	1. Lectures 2. SGD	1. BCQS 2. OSPE

	C. diphtheriae, Listeria	treatment and prevention of C. diphtheria. 3. Discuss Listeria.		
6	Gram positive rods: Bacillus sp., Anaerobes: Clostridium tetani & C. difficile, Actinomyces	1. Classify Clostridia. 2. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of Clostridium tetani & C. difficile. 3. Discuss briefly Bacillus sp. and Actinomyces.	1. Lectures 2. SGD	1. BCQS 2. OSPE
7	Gram negative rods: Enterobacteraceae: E.coli	1. Classify gram negative rods. 2. List organisms in each group. 3. Describe the properties of family Enterobacteraceae. 4. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of E.coli.	1. Lectures 2. SGD	1. BCQS 2. OSPE
8	Gram negative rods: Salmonella	1. Classify Salmonella. 2. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of Salmonella typhi. 3. Discuss other groups of Salmonella.	1. Lectures 2. SGD	1. BCQS 2. OSPE
9	Gram negative rods: Pseudomonas, Klebsiella, Shigella, Proteus, Vibrio, Campylo, Helicobacter	1. Discuss important properties, diseases, pathogenesis, clinical features & lab diagnosis of the following enteric rods: • Pseudomonas aeruginosa, • Klebsiella, • Shigella, • Proteus, • Vibrio cholera, • Campylobacter, • Helicobacter.	1. Lectures 2. SGD	1. BCQS 2. OSPE
10	Gram negative respiratory rods: H.influenzae & Bordetella,	1. Classify respiratory pathogens. 2. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of	1. Lectures 2. SGD	1. BCQS 2. OSPE

	Zoonotic organisms	H.influenzea & Bordetella pertussis. 3. List zoonotic organisms and their diseases.		
11	Mycobacteria	1. Classify Mycobacteria. 2 .Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of Mycobacterium tuberculosis. 3. Discuss Mycobacterium leprae.	1. Lectures 2. SGD	1. BCQS 2. OSPE

2.1.10 VIROLOGY

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Introduction to basic virology	1. Discuss basic concept of viral structure, growth curve, replicative cycle and atypical virus like agents. 2. List the major group of DNA and RNA viruses. 3. Demonstrate specific lab diagnosis of viral infection.	1. Lectures 2. SGD	1. BCQS 2. OSPE
2	Clinical virology	1. Classify Herpes viruses with example of disease associated with them. 2. Discuss clinical feature and complication of herpes simplex & herpes zoster viruses. 3. Classify Hepatitis viruses, explain their mode of transmission. 4 .Discuss structure, clinical manifestation, complication and serological markers of HBV. 5. Discuss structure function, clinical features, opportunistic infection and lab diagnosis of HIV. 6. Describe clinical manifestation, lab diagnosis and preventive measure for following viruses: • Dengue, • Mumps virus,	1. Lectures 2. SGD	1. BCQS 2. OSPE

		• Influenza virus, • Polio virus, • Rabies virus, • Measles.		

2.1.11 PARASITOLOGY

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Introduction to Parasitology, Protozoa: *Entameba histolytica*	1. Classify parasites. 2. Define different types of parasites, hosts, vectors. 3. Classify protozoa. 4. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of *E. histolytica.*	1. Lectures 2. SGD	1. BCQS 2. OSPE
2	Protozoa: Malaria	1. Classify malarial parasites (plasmodia). 2. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of *Plasmodium falciparum* and *P. vivax.*	1. Lectures 2. SGD	1. BCQS 2. OSPE
3	Protozoa: *Giardia,* *Leishmania, Toxoplasma, Trichomonas & Naegleria*	1. Discuss important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of *Giardia, Leishmania, Toxoplasma, Trichomonas & Naegleria.*	1. Lectures 2. SGD	1. BCQS 2. OSPE
4	Cestodes	1. Classify Cestodes. 2. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of *Taenia solium, Taenia saginata, Echynococcus granulosus & Diphyllobothrium latum.*	1. Lectures 2. SGD	1. BCQS 2. OSPE
5	Nematodes	1. Classify Nematodes. 2. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of	1. Lectures 2. SGD	1. BCQS 2. OSPE

		Hookworms, *Ascaris lumbricoides & Entrobius vermicularis.* 3. Discuss tissue nematodes: *Filaria, D.medinensis.*		

2.1.12 MYCOLOGY

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Introduction to Basic mycology, Dermatophytes (Taenias)	1. Classify Fungi. 2. Discuss the structure, growth and general features of fungi. 3. Describe important properties, diseases, pathogenesis, clinical features, lab diagnosis, treatment and prevention of Dermatophytes (Taenias).	1. Lectures 2. SGD	1. BCQS 2. OSPE
2	Opportunistic mycosis: *Candida & Aspergillus*	1. Define opportunistic mycosis. 2. Describe important properties, diseases, clinical features & lab diagnosis of opportunistic mycoses: *Candida albicans & Aspergillus*.	1. Lectures 2. SGD	1. BCQS 2. OSPE

2.1.13 IMMUNOLOGY

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Introduction of immune system	1. Define immunity. 2. Classify immunity. 3. Define antigen & antibodies. 4. Explain main components of innate immunity and their mode of action. 5. Compare the feature of specific and non-specific immunity.	1. Lectures 2. SGD	1. BCQS 2. OSPE
2	Cell mediated and humoral immunity	1. Discuss the role and function of cell mediated immunity. 2. Classify antibodies. 3. Discuss their structure and function.	1. Lectures 2. SGD	1. BCQS 2. OSPE
3	Complement and MHC	1. Define and discuss pathway, function and clinical aspect of complement system.	1. Lectures 2. SGD	1. BCQS 2. OSPE

		2. Discuss MHC and its significance in immune regulation and autoimmune diseases.		
4	Immune pathology: -Hypersensitivity -Autoimmunity - Immunodeficiency diseases	1. Define hypersensitivity. 2. Discuss mechanism of action of type I, 2, 3 and 4 hypersensitivity with examples. 3. Discuss tolerance induction of tolerance list various singe organ and multi organ autoimmune disorder. 4. List various B cell, T cell, complement and phagocyte cell deficiency diseases.	1. Lectures 2. SGD	1. BCQS 2. OSPE
5	Immunization, Serological testing	1. Define various vaccines. 2. Classify various vaccines. 3. Discuss EPI schedule. 4. Discuss the concept of agglutination/ Precipitation test along with commonly used serological techniques: • ELISA • ICT e.g. Malaria, • Typhidot, • PCR basic concept.	1. Lectures 2. SGD	1. BCQS 2. OSPE

JINNAH MEDICAL AND DENTAL COLLEGE
SECOND YEAR BDS CURRICUUM
PATHOLOGY PRACTICAL SCHEDULE OF HISTO PATHOLOGY & MICROBIOLOGY

Orientation Session:

- Introduction to department
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
    - Lab timings (Punctuality)
    - Dress code
        - Lab coat
        - Tied-up hair
- Briefing about :
    - microscopes
    - instruments,
    - Journal maintenance

Second Year Practicals

Thirty-Five Weeks

WEEK No. 1

DAY 1:

2:00 PM to 2:20 PM (Orientation)

2:15 PM to 3:00 PM (Demonstration on multimedia)

3:00 PM to 03:30 PM (Illustration in Journals)

By the end of the second year, the student should be able to demonstrate the following procedural skills:

S. NO.	WEEKS	TIME	PRACTICAL DESCRIPTION	TEACHING METHADOLOGY	ASSESSMENT TOOLS
1.	One Day-1&2	2 pm to 3:30 pm	Practical Histopathology: • To study tissue processing and preparation of slide	Demonstration on multimedia	• OSCEs • Direct observation of procedure skills will be assessed during: • Mid and end of teaching practical test
2.	Two Day-1&2	2pm to 2:30 pm	Practical Microbiology: • Introduction to microbiology	Demonstration on multimedia	
		2.30pm to 3pm	• Use of oil immersion lens	Practical demonstration	
		3pm to 3:30 pm	• To observe stained bacterial smear	Practical demonstration	
3.	Three Day1 &2	2 pm to 3:30 pm	Practical Histopathology: • To study microscopic slide of lymphoid hyperplasia	Demonstration and observation on glass slide	
4.	Four Day-1&2	2pm to 2:45pm	Practical Microbiology: • To make bacterial smear from given culture	Practical demonstration and performance	
		2:45 to 3:30pm	• Perform Simple staining	Practical demonstration and performance	
5.	Five Day-1&2	2 pm to 3:30 pm (Practical Histology	Practical Histopathology: • To study the gross specimen of left ventricular	Demonstration and observation	

			hypertrophy & atrophy of brain		
6.	Six Day-1&2	2pm to 2:30 pm	Practical Microbiology: • Demonstration of Gram staining of given bacterial smear	Demonstration	
		2.30pm to 3:30 pm	• To perform Gram staining of given bacterial smear	Performance	
7.	Seven Day-1&2	2 pm to 3:30pm	Practical Histopathology: • To study slide of Caseous necrosis	Demonstration and observation on glass slide	
8.	Eight Day-1&2	2pm to 3:30 pm	Practical Microbiology: • To perform Acid fast staining (Ziehl-Neelsen staining) for *M. tuberculosis*	Demonstration	
9.	Nine Day-1&2	2 pm to 3:30 pm	Practical Histopathology: • To study the gross specimen of Coagulative necrosis	Demonstration and observation on power point	
10.	Ten Day-1&2	2pm to 3:30 pm	Practical Microbiology: • To study specimen collection for lab diagnosis	Demonstration	
11.	Eleven Day-1&2	2 pm to 3:30pm	Practical Histopathology: • To study gross specimen of gangrene finger	Demonstration	

12.	Twelve Day-1&2	2pm to 3:30 pm	Practical Microbiology: • To study different culture media: Un-inoculated and inoculated: nutrient, blood, chocolate & MacConkey's agar, α-hemolysis & β-hemolysis, lactose and non-lactose fermentation, green growth of pseudomonas, LJ medium, TSI medium, SDA	Demonstration	
13.	Thirteen Day-1&2	2 pm to 3:30 pm	Practical Histopathology: • To study metaplasia	Demonstration and observation glass slide	
14.	Fourteen Day-1&2	2pm to 3:30 pm	Practical Microbiology: • To study different methods of anaerobic culture: i. Cooked meat medium ii. Thioglycollate broth iii. Gas pack jar	Demonstration	
15.	Fifteen Day-1&2	2 pm to 3:30 pm	Practical Histopathology: • To study fatty change	Demonstration and observation glass slide	
16.	Sixteen Day-1&2	2pm to 2:30pm 2:30 to 3:30pm	Practical Microbiology: • Inoculation of culture media	Demonstration Practical performance	
17.	Seventeen Day-1&2	2 pm to 3:30 pm	Practical Histopathology: • To study morphological pattern of acute inflammation	Demonstration on power point	

18.	Eighteen Day-1&2	2pm to 3:30 pm	Practical Microbiology: • Antibiotic sensitivity testing	Demonstration	
19.	Nineteen Day-1&2	2 pm to 2:30 pm	Practical Histopathology: • To study acute appendicitis gross specimen	Demonstration	
		2.30 pm to 3:30 pm	• To study acute appendicitis microscopic slide	Demonstration and observation glass slide	
20.	Twenty Day-1&2	2pm to 3:30 pm	Practical Microbiology: • To study various serological tests in lab diagnosis of infectious diseases: i. Widal test demonstration ii. Typhidot iii. ELISA–Hepatitis (A,B,C,D,E,G) iv. HIV, Rubella and CMV v. ICT e.g Malaria vi. Haemagglutination – TPHA vii. Western blot – HIV viii. ICT – Malaria	Demonstration	
21.	Twenty one Day-1&2	2 pm to 3:30 pm	Practical Histopathology: • To study chronic cholecystitis	Demonstration on glass slide	
22.	Twenty two Day-1&2	2pm to 3:30pm	Practical Microbiology: • To study briefly the basic concept of PCR	Multimedia demonstration	

23.	Twenty three Day-1&2	2 pm to 3:30 pm	Practical Histopathology: • To study gross specimen of tuberculous lymphadenitis	Demonstration	
24.	Twenty four Day-1&2	2pm to 3:30 pm	Practical Microbiology: • To study various methods of Sterilization & Disinfection	Demonstration	
25.	Twenty five Day-1&2	2 pm to 3:30 pm \	Practical Histopathology: • To study the gross specimen of keloid	Demonstration	
26.	Twenty six Day-1&2	2pm to 2:30 pm	Practical Microbiology: • To observe gram positive cocci: Staphylococci & Streptococci	Demonstration	
		2.30 pm to 3:30 pm	• Gram staining of Staphylococci & Streptococci	Practical performance and observation of glass slide	
27.	Twenty seven Day-1&2	2 pm to 3:30 pm	Practical Histopathology: • To study pulmonary (saddle) embolism	Demonstration and observation on power point	
28.	Twenty eight Day-1&2s	2 pm to 2:30 pm	Practical Microbiology: • To observe gram negative bacilli: E.coli	Demonstration	
		2.30 pm to 3:30 pm	• Gram staining of gram negative bacilli: E.coli	Practical performance and	

				observation of glass slide	
29.	Twenty nine Day-1&2	2 pm to 3:30 pm	Practical Histopathology: • To study infarct and it types	Demonstration and observation on power point	
30.	Thirty Day-1&2	2 pm to 2:45 pm	Practical Microbiology: • To study the commensals of GIT including Klebsiella, Proteus and Pseudomonas	Demonstration	
		2.45pm to 3.30 pm		Practical staining and observation of glass slide	
31.	Thirty one Day-1&2	2 pm to 2:30 pm	Practical Histopathology: • To study the microscopic slide of leiomyoma & lipoma	Demonstration	
		2.30 pm to 3 pm		Observation on glass slide	
		3 pm to 3:30 pm	• To study the gross specimen of leiomyoma & lipoma	Demonstration	
32.	Thirty two Day-1&2	2 pm to 3:30 pm	Practical Microbiology: • To examine blood slides for malarial parasites	Demonstration	
33.	Thirty three	2 pm to 3:30 pm	Practical Histopathology: • To study the microscopic slide of	Demonstration and observation on glass slide	

	Day-1&2		adenocarcinoma and squamous cell carcinoma		
34.	Thirty four Day-1&2	2pm to 3:30 pm	Practical Microbiology: • To examine the sample of stool for ova & cysts	Practical demonstration	
35.	Thirty five Day-1&2	2 pm to 3:30 pm	Practical Microbiology: • To study the gross specimens of Helminths: Hydatid cyst, Ascaris lumbricoides & Taenia saginata	Demonstration	

2.2 PHARMACOLOGY

JINNAH MEDICAL AND DENTAL COLLEGE

SECOND YEAR BDS CURRICULUM

COURSE: PHARMACOLOGY

COURSE CODE: 2.2

ALLOCATION OF CREDIT HOURS: 50 lecture hours; 200 practical hours

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of second year BDS, the student should be able to	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1	GENERAL PHARMACOLOGY	1. Explain general pharmacology definitions, terms and along with examples. 2. Describe the advantage and disadvantage of routes of administration. 3. List the dosage forms and doses of drugs. 4. Describe the absorption of drugs and factors affecting. 5. Describe bioavailability and factors affecting. 6. Describe drug distribution, plasma protein binding. 7. Describe biotransformation and factors affecting biotransformation. 8. Describe plasma half-life, steady state concentration. 9. Describe pharmacology of excretion of drugs and factors affecting. 10. Describe drug receptors, properties and types of receptors and mechanism of action of drugs. 11. Identify dose-response curve relationships, Potency, & efficacy and therapeutic index.	1. Lectures 2. Tutorials 3. Demonstrations	1. BCQS 2. OSPE 3. Viva Voce

		12. Identify format and abbreviation in prescription writing. 13. Identify the adverse drug reactions in given prescription.		
2	AUTONOMIC NERVOUS SYSTEM PHARMACOLOGY (ANS)	1. Explain various definition, receptors and neurotransmitter related to ANS. 2. Classify Parasympathomimetic drugs. 3. Describe their mechanism of action and adverse effects. 4. Classify Parasympatholytics drugs. 5. Describe their mechanism of action and adverse effects. 6. Classify Sympathomimetic drugs. 7. Describe their mechanism of action and adverse effects. 8. Classify Sympatholytic drugs 9. Describe their mechanism of action and adverse effects. 10. Identify the effects of drugs on rabbit eyes- Atropine, Pilocarpine, Epinephrine and Lidocaine.	1. Lectures 2. Tutorials 3. Practical	1. BCQS 2. OSPE 3. Viva Voce
3	CARDIOVASCULAR SYSTEM PHARMACOLOGY (CVS)	1. Classify drugs for dyslipidemias. 2. Describe their mechanism of action and adverse effects. 3. Classify diuretics. 4. Describe their mechanism of action and adverse effects. 5. Classify drugs used for ACS and anticoagulants. 6. Describe their mechanism of action and adverse effects.	1. Lectures 2. Tutorials	1. BCQS 2. OSPE 3. Viva Voce

		7. Classify drugs used for angina & MI. 8. Describe their mechanism of action and adverse effects. 9. Classify anti-hypertensive drugs. 10. Describe their mechanism of action and adverse effects. 11. Classify drugs used for treatment of cardiac failure. 12. Describe their mechanism of action and adverse effects. 13. Classify anti -arrhythmic Drugs. 14. Describe their mechanism of action and adverse effects.		
4	CENTRAL NERVOUS SYSTEM PHARMACOLOGY (CNS)	1. Explain various definition, receptors and neurotransmitter related to central nervous system. 2. Classify sedative-hypnotics. 3. Describe their mechanism of action and adverse effects. 4. Classify drugs for migraine. 5. Describe their mechanism of action and adverse effects. 6. Classify general anesthesia. 7. Describe their mechanism of action and adverse effects. 8. Classify local anesthesia. 9. Describe their mechanism of action and adverse effects. 10. Classify skeletal muscle relaxants. 11. Describe their mechanism of action and adverse effects. 12. Classify anti-Parkinson's drugs.	1. Lectures 2. Tutorials 3. Practical	1. BCQS 2. OSPE 3. Viva Voce

		13. Describe their mechanism of action and adverse effects. 14. Classify anti psychotics drugs. 15. Describe their mechanism of action and adverse effects. 16. Classify anti –depressants. 17. Describe their mechanism of action and adverse effects. 18. Classify opioids. 19. Describe their mechanism of action and adverse effects.		
5	GASTROINTESTINAL PHARMACOLOGY	1. Classify drugs used for dyspepsia and prokinetic drugs. 2. Describe their mechanism of action and adverse effects. 3. Classify drugs used for acid peptic disorders including H. pylori infection. 4. Describe their mechanism of action and adverse effects. 5. Classify laxatives drugs. 6. Describe their mechanism of action and adverse effects. 7. Classify antidiarrheal drugs. 8. Describe their mechanism of action and adverse effects. 9. Classify anti- emetic drugs. 10. Describe their mechanism of action and adverse effects.	1. Lectures 2. Tutorials	1. BCQS 2. OSPE 3. Viva Voce
6	DRUGS USED FOR RESPIRATORY DISORDERS	1. Classify drug used In asthma and COPD. 2. Describe their mechanism of action and adverse effects. 3. Classify anti- tussives & mucolytic.	1. Lectures 2. Tutorials	1. BCQS 2. OSPE 3. Viva Voce

		4. Describe their mechanism of action and adverse effects. 5. Classify anti- histamines. 6. Describe their mechanism of action and adverse effects. 7. Classify anti- tuberculosis drugs. 8. Describe their mechanism of action and adverse effects. 9. Describe administration of drugs by inhalers & nebulizers.		
7	ENDOCRINE PHARMACOLOGY	1. Classify pituitary hormones. 2. Describe their mechanism of action and adverse effects. 3. Classify drugs used in hyperthyroidism / hypothyroidism. 4. Describe their mechanism of action and adverse effects. 5. Classify drugs used in hypo/ hypercalcemia. 6. Describe their mechanism of action and adverse effects. 7. Classify insulin preparations. 8. Describe their mechanism of action and adverse effects. 9. Classify oral hypoglycemic. 10. Describe their mechanism of action and adverse effects. 11. Classify corticosteroids. 12. Describe their mechanism of action and adverse effects. 13. Classify gonadal hormones. 14. Describe their mechanism of action and adverse effects.	1. Lectures 2. Tutorials	1. BCQS 2. OSPE 3. Viva Voce
8	VITAMINS	1. Classify drugs used for iron deficiency anemia.	1. Lectures 2. Tutorials	1. BCQS 2. OSPE

		2. Describe their mechanism of action and adverse effects. 3. Classify drugs used for megaloblastic anemia. 4. Describe their mechanism of action and adverse effects.		3. Viva Voce
9	LOCALLY ACTING DRUGS	1. Classify demulcents, Emollients, Irritants, and astringents. 2. Describe their mechanism of action and adverse effects. 3. Classify antiseptics & disinfectants. 4. Describe their mechanism of action and adverse effects.	1. Lectures 2. Tutorials	1. BCQS 2. OSPE 3. Viva Voce
10	ANTI-INFLAMMATORY DRUGS	1. Classify eicosanoids. 2. Describe their mechanism of action and adverse effects. 3. Classify NSAIDs. 4. Describe their mechanism of action and adverse effects. 5. Classify corticosteroids. 6. Describe their mechanism of action and adverse effects. 7. Describe aspirin toxicity. 8. Describe acetaminophen toxicity. 9. Classify DMARDS. 10. Describe their mechanism of action and adverse effects.	1. Lectures 2. Tutorials	1. BCQS 2. OSPE 3. Viva Voce
11	CHEMOTHERAPEUTIC AGENTS	1. Explain various definition, terms and examples related to chemotherapeutic agents. 2. Classify cell wall inhibitors. 3. Describe their mechanism of action and adverse effects. 4. Classify protein-synthesis inhibitors. 5. Describe their mechanism of action and adverse effects.	1. Lectures 2. Tutorials	1. BCQS 2. OSPE 3. Viva Voce

		6. Classify fluoroquinolones 7. Describe their mechanism of action and adverse effects. 8. Classify sulfonamides & trimethoprim. 9. Describe their mechanism of action and adverse effects. 10. Classify anti- Viral agents. 11. Describe their mechanism of action and adverse effects. 12. Classify anti-protozoal agents. 13. Describe their mechanism of action and adverse effects. 14. Classify antifungal agents. 15. Describe their mechanism of action and adverse effects. 16. Classify anti- helminthic agents. 17. Describe their mechanism of action and adverse effects. 18. Classify anticancer therapy. 19. Describe their mechanism of action and adverse effects.		

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 2 CURRICUUM

PHARMACOLOGY PRACTICAL

S.NO.	PRACTICAL TOPICS	LEARNING OBJECTIVES By the end of the session the second year BDS student should be able to demonstrate the following	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed in mid-term and final examination through:
1.	Introduction and basic definitions	1. Explain various basic definitions and terms related to pharmacology.	Mini lecture.	1. BCQS
2.	Prescription Order writing	1. Write a prescription in a structured form.	Demonstration	1. BCQS 2. Viva Voce
3.	Metrology: Weight and measurement	1. Identify different weights and measurements used in pharmacology.	Demonstration	1. BCQS 2. Viva Voce 3. OSPE
4.	Pharmaceutical formulation and dosage form	1. Identify various pharmaceutical formulation and dosage form.	Demonstration	1. BCQS 2. Viva Voce 3. OSPE
5.	Drug-drug interaction	1. Explain types and examples of drug- drug interactions.	Mini lecture	1. BCQS 2. Viva Voce 3. OSPE
6.	To study the effect of pilocarpine on rabbit's eye	1. Administer pilocarpine in rabbit's eye. 2. Identify the effects of the drug on rabbit's eye.	Demonstration and performance	1. BCQS 2. Viva Voce 3. OSPE
7.	To study the effect of epinephrine on rabbit's eye	1. Administer pilocarpine in rabbit's eye. 2. Identify the effects of the drug on rabbit's eye.	Demonstration and performance	1. BCQS 2. Viva Voce 3. OSPE

8.	To study the effect of atropine on rabbit's eye	1. Administer atropine in rabbit's eye. 2. Identify the effects of the drug on rabbit's eye.	Demonstration and performance	1. BCQS 2. Viva Voce 3. OSPE
9.	To study the effect of local anesthetic agents on rabbit's eye	1. Administer local anesthetic in rabbit's eye. 2. Identify the effects of the drug on rabbit's eye.	Demonstration and performance	1. BCQS 2. Viva Voce 3. OSPE
10.	Administration of drug using nebulizer and inhaler	1. Administer drug using nebulizer and inhaler.	Demonstration and performance	1. BCQS 2. Viva Voce 3. OSPE
11.	To prepare and dispense 5 % dextrose solution	1. Prepare and dispense 5 % dextrose solution.	Demonstration and performance	1. BCQS 2. Viva Voce 3. OSPE
12.	To prepare and dispense 100ml NaCl mouthwash with peppermint flavor	1. Prepare and dispense 100ml NaCl mouthwash with peppermint flavor.	Demonstration and performance	1. BCQS 2. Viva Voce 3. OSPE
13.	To study the effect of skeletal muscle relaxants on rectus abdominus muscle of frog	1. Identify the effect of skeletal muscle relaxants on rectus abdominus muscle of frog.	Demonstration and performance	1. BCQS 2. Viva Voce 3. OSPE

JINNAH MEDICAL AND DENTAL COLLEGE

SECOND YEAR BDS CURRICULUM

PHARMACOLOGY PRACTICAL/ LAB TIMELY SCHEDULE

WEEK No. 02:

TOIPC: PRESCRIPTION ORDER WRITING

TUESDAY: 08.30 AM TO 10.15 AM

08:30 AM to 09:15 AM (Theory Demonstration)

09:15 AM to 09:30 AM (Practical Demonstration)

09:30 AM to 10:15 PM (Practical performance by students)

WEEK No. 06:

TOIPC: TO STUDY THE EFFECT OF PILOCARPINE ON RABBIT'S EYE

TUESDAY: 08.30 AM TO 10.15 AM

08:30 AM to 09:00 AM (Theory Demonstration)

09:00 AM to 09:15 AM (Practical Demonstration)

09:15 AM to 10:15 PM (Practical performance by students)

2.3 COMMUNITY DENTISTRY

JINNAH MEDICAL AND DENTAL COLLEGE

SECOND YEAR BDS CURRICULUM

COURSE: COMMUNITY DENTISTRY

COURSE CODE: 2.3

ALLOCATION OF CREDIT HOURS: 40 lecture hours; 200 practical hours

2.3.1 DENTAL PUBLIC HEALTH

S. NO.	TOPIC	LEARNING OBJECTIVES By the end of final year BDS, the student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Introduction to health and public health	1. Describe • The introduction to public health and dental public health principles, practices and major public health achievements of the 21 century.	1. Lecture 2. Tutorial 3. Practical (community visits)	1. BCQS 2. OSCE
2.	Dental public health	1. Describe: • Elements of oral health care, • Delineate roles and responsibility of individuals to provide oral health care • Social and health care systems and determinants of health and their impact on oral health of an individual and population	1. Lecture 2. Tutorial 3. Practical (community visit)	1. BCQS 2. OSCE
3.	Ethics in dentistry	1. Recognize and differentiate between the values and ethical concepts that are often used in health care setting 2. List ethical principles used in dentistry 3. Define the ethical principles used in dentistry	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

		4. Describe the difference between the problem and an ethical dilemma		
4.	Surveillance and its types	1. Define Public health surveillance. 2. Describe the different uses of the surveillance systems. 3. List the steps in establishing surveillance system	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

2.3.2 ORAL HEALTH PROMOTION

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Health promotion	1. Develop a critical awareness of theory, concepts and practical issues related to health promotion • Introduce key principles and methods in health promotion • Explore key debates and discussions within health promotion • Evaluate examples of health promotion, practice in a variety of settings • Develop team working, information literacy skills and inquiry based learning	1. Lecture 2. Tutorial 3. Practical (community visit)	1. BCQS 2. OSCE
2.	Oral health education	1. Describe the Ottawa Charter for health promotion 2. List the global goals of oral health in 2000 3. Recognize the importance of oral health literacy 4. Describe the consequences of limited oral health literacy 5. Describe methods to achieve oral health literacy in children 6. Educate children on oral hygiene instructions, use of dental hygiene aids and healthy diet choices 7. Evaluate the program properly.	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

2.3.3 THE DENTAL WORKFORCE

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Dental auxiliaries	1. Classify dental auxiliaries. 2. Describe types of dental auxiliaries. 3. Describe the functions of dental auxiliaries. 4. Describe the levels of supervision.	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

2.3.4 THE MEASUREMENT OF ORAL DISEASE

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Epidemiology	1. Describe the contribution of epidemiology and biostatistics to health research 2. Describe the design, conduct, and analysis of epidemiologic studies 3. Describe critical appraisal of epidemiologic studies, synthesis and integration of epidemiologic research, and causal inference in epidemiologic research communication of scientific results 4. Discuss basic knowledge of some substantive epidemiology, including a general appreciation of broad public health problems in Pakistan and internationally.	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE
2	Methods of Measuring oral diseases	1. Recognize the various methods for measuring oral diseases 2. Identify various types of scales used in disease measurement. 3. Enumerate properties of an ideal index.	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

2.3.5 DENTAL HEALTH PRACTICE: INFECTION CONTROL AND MERCURY SAFETY

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Dental Health Practice	1. Infer the rationale for and develop policies and practices (i.e., an office infection control/exposure control protocol) intended to prevent or minimize healthcare-associated infections in the oral healthcare setting. 2. Distinguish the role of and implement vaccination strategies intended to reduce the risk of vaccine preventable diseases in the oral healthcare setting. 3. Recognize the role of and implement the use of personal protective equipment to prevent or reduce the risk of occupational exposure in the oral healthcare setting. 4. Summarize the role and implement appropriate hand hygiene. 5. Describe the role of and incorporate engineering and work practice controls to eliminate or isolate the hazard in the workplace. 6. Explain the role of and implement environmental infection control to provide a safer work environment. 7. List safety and environmental issues of dental amalgam **8.** Review the principles of and implement transmission-based precautions to prevent the potential spread of specific diseases (e.g., TB, HIV and Hepatitis B/C).	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

2.3.6 EVIDENCE BASED DENTISTRY AND DENTAL LITERATURE

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Evidence Based Dentistry and Dental Literature	1. Define evidence based practice and evidence based dentistry. 2. Explain the process of peer review. 3. Describe the process of conducting systemic reviews. 4. Distinguish quality journals from paper mills. 5. Review individual papers.	1. Lecture 2. Tutorial 3. Practical 4. Presentations	1. BCQS 2. OSCE

2.3.7 RESEARCH DESIGN IN ORAL EPIDEMEOLOGY

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Research design in oral epidemiology.	1. Distinguish various types of epidemiological study designs. 2. Apply the basic terminology and definition of epidemiology. 3. Identify key sources of data for epidemiologic purposes. 4. Identify the principles and limitations of public health screening programs. 5. Describe a public health problem in terms of magnitude, person, time and place. 6. Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data. 7. Calculate basic epidemiology measures. 8. Communicate epidemiologic information to lay and professional audiences. 9. Draw appropriate inferences from epidemiologic data. 10. Evaluate the strengths and limitations of epidemiologic reports.	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

2.3.8 DENTAL CARIES

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Dental Caries	1. Identify the role of the environment in dental caries etiology. 2. Define and describe the Stephan curve. 3. Explain the impact of various diets on the incidence of caries. 4. Describe the concept of frequency versus amount of cariogenic carbohydrates. 5. Be familiar with the complex chemical structure of sugars. 6. Relate the cause and effect of diet and dental caries to patients.	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

2.3.9 PERIODONTAL DISEASES

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Periodontal Diseases	1. Describe components of the healthy periodontium. 2. Define periodontal health goals. 3. Describe an overview of periodontal physiology and bone remodeling. 4. Identify manifestations of diseased periodontium. 5. Discuss periodontal disease classification and enumerate the various indexes used to measure PD. 6. Describe patterns of attachment loss and their prognostic and treatment implications. 7. Evaluate choices of treatment strategies and how they meet periodontal health goals.	1. Lecture 2. Tutorial 3. Practical 4. Presentations	1. BCQS 2. OSCE

2.3.10 ORAL CANCER AND OTHER CONDITIONS OF ORAL DISEASES

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Oral Cancer	1. Identify the significance of oral cancer, its prevalence and overall survival. 2. List the most common risk factors for oral cancer. 3. List the causes of oral cancer. 4. Describe the most common clinical presentations of oral cancer. 5. Describe how oral cancer is treated	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE
2.	Cleft Lip and Palate	1. Describe Cleft lip and palate 2. Describe etiology and pathogenesis 3. Classify cleft lip and palate 4. Recognize its dental implications.	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

2.3.11 FLUORIDE AND ORAL HEALTH

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Fluoride and Oral Health	1. Explain the history of fluoride in caries control. 2. Discuss how fluoride is processed by the body. 3. Describe how fluoride concentration varies in different parts of the tooth. 4. Identify the multiple ways in which fluoride provides protection from caries 5. Discuss the primary methods of systemic and topical fluoride delivery. 6. Recognize when professional forms of fluoride delivery may be necessary	1. Lecture 2. Tutorial 3. Practical 4. presentations	1. BCQS 2. OSCE
2.	Dental Fluorosis	1. Explain the dental health consequences of too much fluoride exposure.	1. Lecture 2. Tutorial 3. Practical 4. presentations	1. BCQS 2. OSCE

		2. Differentiate between various stages of fluorosis and identify them. 3. Enumerate indices used to measure fluorosis.		

2.3.12 PRIMARY HEALTH CARE

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Primary Health Care	1. Demonstrate knowledge, skills and application integral to professional practice and primary health care 2. Examine health promotion as a primary health care strategy. 3. Debate issues related to equity of access for individual from marginalized or isolated communities. 4. Articulate the principles of primary health care as defined by WHO and ALMA ATA declaration. 5. List the general outline of Pakistan's primary health care system	1. Lecture 2. Tutorial 3. Practical 4. presentations	1. BCQS 2. OSCE

2.3.13 BIOSTATISTICS

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Biostatistics	1. Evaluate the structure of various types of data sets and which analytical methods can be used to evaluate the questions asked by the dental investigator. 2. Analyze articles in the dental literature with recognition of the appropriateness of the study design in relationship to the hypotheses posed by the investigator. 3. Determine if conclusions in the dental literature that are based	1. Lecture 2. Tutorial 3. presentations	1. BCQS 2. OSCE

		upon utilization of appropriate study design and statistical methodologies are valid. 4. Interpret the language of statistics and study design in order to be able to knowledgeably work with a statistical consultant.		

2.3.14 FISSURE SEALANTS

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Fissure sealants	1. Describe the current findings and recommendations on the effectiveness and safety of pit and fissure sealants. 2. Discuss why the use of pit and fissure sealants has been controversial. 3. List and identify the different natural occlusal characteristics of human teeth that could benefit from sealant placement. 4. Discuss the different methods of preparing the teeth for sealant placement. 5. Describe the proper steps in sealant placement i.e., proper tooth preparation, isolation, etching, rinsing and drying, applying bonding agent and pacing sealants, evaluation, and follow-up. 6. Discuss different types of sealant materials and their effectiveness. 7. Discuss the use of pit and fissure sealants in public health programs.	1. Lecture 2. Tutorial 3. presentations	1. BCQS 2. OSCE

2.3.15 PLAQUE CONTROL

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Plaque Control	1. Explain the process of plaque formation. 2. Identify foods that are considered cariogenic. 3. Identify foods that are considered to be non-or low-acidogenic. 4. Discuss how energy drinks, sports drinks and soda affect the oral cavity. 5. Describe the various tooth brushing techniques. 6. Identify the correct tooth brushing technique for the individual patient. 7. Describe the two flossing methods. 8. Identify which patients require auxiliary aids	1. Lecture 2. Tutorial 3. Presentations	1. BCQS 2. OSCE

2.3.16 RESTRICTING THE USE OF TOBACCO

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Restricting the Use of Tobacco	1. Identify an approach to counselling smokers about becoming ex-smokers 2. Describe some of the major concerns that women and men have about quitting smoking 3. Describe an approach to discussing the long-term negative effects of smoking with young males and females who are focused only on the short-term positive associations with tobacco 4. Identify and analyze social factors influencing increasing smoking rates among young	1. Lecture 2. Tutorial 3. presentations	1. BCQS 2. OSCE

		people and think of ways you can help change these 5. Recognize the patterns, determinants and health effects of tobacco and e-cigarette use 6. Describe the biology and epidemiology of tobacco and e-cigarette use 7. Identify the various smoking cessation interventions including population and individual approaches 8. Identify the common programs and policies for protection and prevention against smokeless tobacco, Shesha cafes, Gutka and betel nut.		

2.3.17 BEHAVIORAL SCIENCES

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Behavioral Sciences	1. To explain human behavior in health and disease. 2. To summarize bio psychosocial aspects of disease. 3. Discuss anxiety and fear management in dentistry 4. Recall various theories of behavior change. 5. Recognize various personality types	1. Lecture 2. Tutorial 3. presentations	1. BCQS 2. OSCE

JINNAH MEDICAL & DENTAL COLLEGE
BDS 2nd YEAR CURRICUUM

COMMUNITY DENTISTRY PRACTICAL AND FIELD ASSIGNMENTS

S. NO.	PRACTICAL AND FIELD ASSIGNMENTS	TYPES	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Field Visits	1. Factory visits 2. OPD visits	1. Introduction/Orientation (1Hour) 2. Infection Control Protocol (45 minutes) 3. Quality control observation(30 minutes) 4. Assignment instruction (15 minutes) 5. Report writing(30 minutes)	1. OSCE 2. Viva
2.	School visits		1. Examination of institutionalized population like school children.(1 Hour) 2. Dental health education session (15 minutes) 3. Dietary counseling (15 minutes) 4. Tooth brushing demonstration(15 minutes) 5. Instruction about oral hygiene measures. (15 minutes) 6. Data Collection/Diagnosis • Diagnostic forms/WHO forms(1 HOUR)	
3.	Exercise on Models and extracted teeth	1. Tooth Numbering system	1. Model Distribution (15 minutes) 2. Demonstration (45 minutes) 3. Exercise time (2 Hours)	
		2. DMFT Index	1. Model Distribution(15 minutes) 2. Demonstration(45 minutes) 3. Exercise time (2 Hours)	
		3. CPITN	1. Model Distribution(15 minutes) 2. Demonstration(45 minutes) 3. Exercise time (2 Hours)	
		4. Fluorosis	1. Model Distribution(15 minutes) 2. Demonstration(45 minutes) 3. Assignments given (2 Hours)	

4.	Exercise on patients	1. DMFT Scoring on patients	1. Assignments (3 Hours)	
		2. CPITN recording with CPITN probe.	2. Assignments (3 Hours)	

JINNAH MEDICAL AND DENTAL COLLEGE

SECOND YEAR BDS CURRICULUM

COMMUNITY DENTISTRY CLINICAL ROTATION TIMELY SCHEDULE

ORIENTATION SESSION:

- Introduction to department
    - Community dentistry
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
    - Timings (Punctuality)
    - Dress code
        - ID Cards
        - Lab coat
        - Tied-up hair
        - Covered shoes etc.
- Hand wash technique
- Briefing about :
    - Examination instruments,
    - Patient Handling
    - Tooth Numbering
    - Brushing Techniques
    - Primary and secondary teeth anatomy and differences
    - diagnosis and
    - patients' record maintenance (WHO Forms , OPD Diagnosis Forms)
    - Log book maintenance
- List of instruments required by the students
- Cross infection control
- Quota requirements
    - diagnosis forms
    - WHO Form

- OPD Visit report
- Field/Company visit report

SECOND YEAR FIELD/COMPANY VISIT

WEEK No. 1

8:30 AM to 9:20 AM (Orientation)

- Lectures (Following syllabus)

9:30 AM to 10:30 AM

- Lectures (Following syllabus)

10:30 AM to 12:30 PM (Demonstration)

- Introduction to field visit
- Log book maintenance
- Report writing

WEEK No. 2

8:30 AM to 9:20 AM

- Lectures (Following syllabus)

9:30 AM to 10:30 AM

- Lectures (Following syllabus)

10:30 AM to 12:30 PM (Demonstration)

- Tooth Numbering
- DMFT Data Collection Forms Demonstration
- DMFT Assignment

WEEK No. 3

8:30 AM to 9:20 AM

- Lectures (Following syllabus)

9:30 AM to 10:30 AM

- Lectures (Following syllabus)

10:30 AM to 12:30 PM (Demonstration)

- Survey Visits/Field visits/School visits

WEEK No. 4

8:30 AM to 9:20 AM

- Lectures (Following syllabus)

9:30 AM to 10:30 AM **(FIELD VISIT SCHOOL/COMPANY)**

- School/Company/NGOs Visit (Orientation)
- Visiting Different departments/classes

10:30 AM to 11:30 AM

- Diagnosis(WHO Forms/DMFT Forms)
- Treatment Planning

11:30 AM to 12:00 PM

- Lecture on Brushing Techniques
- Oral health education activity

12:00 PM to 12:30 PM

- Session concludes
- Giveaways (Goodie Bags Provided by the department)

TABLE – 1 (FIELD VISIT)

STUDENTS	DEMONSTRATORS	9:30 AM to 10:30 AM	10:30 AM to 011:30 AM	11:30 AM to 12:00 PM	12:00 PM to 12:30 PM
25	D-1	• Arrival • Visiting Different departments/classes	• Diagnosis(WHO Forms/DMFT Forms) • Treatment Planning	• Lecture on Brushing Techniques • Oral health education activity	• Session concludes • Giveaways • Transport
25	D-2	• Arrival • Visiting Different departments/classes	• Diagnosis(WHO Forms/DMFT Forms) • Treatment Planning	• Lecture on Brushing Techniques • Oral health education activity	• Session concludes • Giveaways • Transport

WEEK No. 5

8:30 AM to 9:20 AM

- Lectures (Following syllabus)

9:30 AM to 10:30 AM

- Lectures (Following syllabus)

10:30 AM to 12:30 PM (Following Syllabus)

- Tutorials

WEEK NO. 6 to WEEK NO.16

Week No. 6-16 follows the Week 4 or week 5 time table as per Community visit arrangement.

MIDTERM: 2 WEEKS

SECOND TERM:

19 WEEKS: Follows week 4 and 5 time table as per community visit arrangement.

Pre- Professional assessment

2.4 DENTAL MATERIALS

JINNAH MEDICAL AND DENTAL COLLEGE

SECONF YEAR BDS CURRICULUM

COURSE: DENTAL MATERIALS

COURSE CODE: 2.4

ALLOCATION OF CREDIT HOURS: 75 lecture hours; 250 practical hours

2.4.1 INTRODUCTION TO DENTAL MATERIALS SCIENCES AND TERMINOLOGIES

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of second year BDS, the student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Introduction, Selection & Evaluation of Dental Materials	1. Define Dental Materials Science. 2. Identify the different materials used in dentistry. 3. Classify Dental materials. 4. Report the criteria for dental material selection and evaluation in relation to the clinical problem to be addressed.	1. Lectures 2. Tutorials 3. Lab	1. BCQS 2. Viva 3. Presentations

2.4.2 BIOCOMPATIBILITY, BIOMECHANICS AND BIOMATERIAL TESTING

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Biocompatibility & Biological Evaluation of Materials	1. Define: • Biocompatibility • Post-operative sensitivity • Hypersensitivity 2. Discuss:	1. Lectures 2. Tutorials	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments

		• Toxicity-corrosion • Influence of dental materials on biological systems • Performance of dental materials with regard to in vitro and in vivo tests and clinical trials.		
2.	Biomaterials	1. Relate interaction of dental biomaterials (DBMs) with the biological system. 2. Discuss: • Use of DBMs in the body • Scaffolds in materials • Tooth and tissue engineering 3. Identify different biomaterials in use		
3.	Biomechanics	1. Discuss biomechanics of: • Dental amalgam • Metals • Ceramic • Resin based materials		
4.	Biomaterial testing	1. Discuss: • In vivo models • In vitro models • Three levels of testing/usage of dental biomaterials 2. List the names of biomaterial quality assurance and monitoring agencies. 3. Discuss the importance of clinical tests/randomized clinical trials (RCTs) as the gold standard in biomaterial testing.		

2.4.3 PROPERTIES USED TO CHARACTERISE DENTAL MATERIALS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Physical properties of materials	1. Describe the ideal properties of dental materials. 2. Define: • Hue • Chroma	1. Lectures 2. Tutorials 3. Lab demonstration	1. BCQS 2. Viva 3. Presentations 4. OSPE 5. Assignments
2.	Mechanical properties of materials			

3.	Thermal Properties of materials	• Value • Metamerism • Translucency • Transparency • Opalescence • Modulus of elasticity • Elastic/plastic strain • Resilience • Toughness • Ductility • Malleability • Brittleness • Hardness • Elasticity/viscoelasticity • Creep • Viscoelasticity • Percolation • Solubility • Erosion (tooth wear) • Corrosion • Tarnish 3. Discuss: • Physical characteristics of dental materials • Wettability and it significance • Stress and its types • Stress and strain relationships of different dental materials • Tooth wear and its types • Reaction of material under oral conditions • Fracture of restorative materials • Thermal properties of dental materials • Risks/benefit analysis • Chemical stability of materials 4. Illustrate stress and strain relationships of different dental materials 5. Differentiate between/among the following: • Absorption, adsorption & sorption • Adhesion & cohesion		
4.	Rheological Properties of Materials			
5.	Biological Properties of Materials			
6.	Chemical properties of Materials			

	• Mechanical & chemical adhesion • Radiopacity & radiolucency • Thermal conductivity & thermal diffusivity • Creep & flow • Chemical & electrochemical corrosion 6. Analyze factors affecting color, appearance and selection of materials 7. Justify the choice of materials according to their mechanical properties 8. Relate flow characteristics of dental materials with their behavior. 9. Contrast the different features of fluid behavior. 10. Discuss the various states of materials during their mixing, manipulation and oral conditions.		

2.4.4 IMPRESSION MATERIALS; CLASSIFICATION AND REQUIREMENTS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction to Impression materials	1. Classify impression materials 2. Describe ideal properties of impression materials. 3. Discuss: • Impression making • Impression materials as duplicating materials • General requirements, manipulative variables and clinical considerations of impression materials • Tissue management and cross infection control • Application of impression materials	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. Presentations 4. OSPE 5. Assignments
2.	Non-elastic impression materials			
3.	Elastic impression materials			

		• Composition, properties, indications, contraindications of elastic impression materials. 4. Identify the different types of impression materials used in dentistry. 5. Justify selection of impression materials 6. Mix alginate impression powder and water in the recommended ratio 7. Record an alginate impression on a phantom head 8. Write their composition and selection based on the clinical problem to be addressed.		

2.4.5 GYPSUM PRODUCTS FOR DENTAL CASTS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	General introduction and Classification of gypsum products	1. Write down: • Chemical formula of dental gypsum • Composition and setting reaction of dental plaster and dental stone 2. Classify gypsum according to ISO standard 3. Describe the requirements of dental cast materials 4. Discuss the setting characteristics of dental plaster and the set material 5. Define die and cast 6. List the following: • Advantages and disadvantages of gypsum • Different types of die materials	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. Presentations 4. OSPE 5. Assignments

2.	Manipulative variables and setting characteristics	1. Manipulate materials using the correct technique 2. Mix soft plaster using the recommended technique and water/powder ratio 3. Build a plaster slab following the allocated dimensional guidelines. 4. Justify any visualized change in slab dimensions during and after completion of setting reaction. 5. Demonstrate the technique of model pouring. 6. Fabricate dental caste/model 7. Trim study models 8. Perform finishing of study models		
3.	Manufacturing processes	1. Discuss dry and wet calcination for dental plaster and dental stone.		

2.4.6 WAXES USED IN DENTISTRY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Ideal requirements and classification of dental waxes	1. Discuss application of different dental waxes in dentistry 2. Describe the components of dental waxes 3. Discuss: • Ideal requirements for wax pattern materials • Properties of dental waxes • Types of waxes • Steps of partial dental construction	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 4. Presentations 5. OSPE 6. Assignments
2.	Properties and applications of dental waxes			

	4. Classify dental waxes according to their use and origin 5. Identify the different classes of Kennedy's classification on study models 6. Analyze partial denture design on study models 7. Justify the use of waxes for partial denture pattern 8. Demonstrate the steps of wax up on given model		

2.4.7 POLYMERS AND SEPARATING MEDIA USED IN DENTISTRY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Synthetic polymers	1. Discuss stages of polymerization 2. Describe structure and properties of synthetic polymers. 3. Classify synthetic and prosthetic laboratory resins. 4. Describe the types, compositions, characteristics, clinical applications, manipulation the synthetic and prosthetic laboratory resins.	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. Presentations 5. OSPE 4. Assignments
2.	Denture base polymers	1. Discuss: • Requirement of denture base materials. • Properties of acrylic resin as a denture base material • Composition, manipulation and processing of denture base polymers. • Alternative denture base material • Temporization (chair side and laboratory) in light of appropriate PMMA material based selection and setting chemistry. 2. Define: • Polymethylmethacrylate		

		• Synthetic resins • Acrylics • Polymers • Monomers • Polymerization • Self-cured, light-cured, heat-cured 3. Mix monomers according to standard ratios. 4. Identify the physical stages of PMMA polymerization/acrylic denture base polymerization (cold cure). 5. Fabricate an acrylic partial denture.		
3.	Denture lining materials	1. Discuss: • Hard reline materials; • Tissue conditioners; • Temporary soft lining materials; • Permanent relining materials.		
4.	Separating media	1. List the different types of separating media used in dentistry 2. Discuss the clinical and laboratory indications and applications of separating media.		

2.4.8 DENTAL CEMENTS AND THEIR APPLICATIONS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction and classification	1. Classify dental cements 2. Differentiate between temporary and final cements.	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments
2.	Manipulation and setting characteristics	1. Mix: • Zinc phosphate cement as a luting agent and base • Glass ionomer cement as a luting agent. • Calcium hydroxide as a cavity lining agent.		

3.	Application of dental cements	1. Compare the types of dental cements with regard to their use as intra pulpal medicaments, bases, lining, luting and restorative materials. 2. Discuss the requirements of dental cements for cavity lining, luting, endodontic and orthodontic purposes.		

2.4.9 METALS AND ALLOYS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction; Structure and properties	1. Discuss: • Micro leakage • Creep • Galvanism • Tarnish • Corrosion • Significance of cubic crystal structure and eutectic alloys • Properties of alloys • Crystallization process in metals • Coring • Homogenization • Solid state reactions occurring in alloys 2. List different methods of metal shaping in dentistry. 3. Define annealing.	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments
2.	Gold and alloys of noble metals	1. Discuss the following: 2. Types and properties of pure gold fillings and casting gold alloys 3. Heat treatments 1. Compare the soldering and brazing materials with regard to their properties 2. Describe composition of pure gold fillings and casing alloys		

		4. Classify gold and alloys of noble metals.		
3.	Base Metal casting alloys	1. Compare the different types of base metal casting alloys with regard to their properties and clinical indications.		
4.	Steel and wrought alloys	1. Identify the different types of wrought alloys 2. Discuss: • Cold working • Annealing • Welding • Soldering 3. Correlate the properties of steel and wrought alloys with their clinical applications 4. Construct the following • Alphabets A, B, G, S using 0.7 mm SS wire on given outline • Clasp for partial denture according to the standard protocol.		

2.4.10 INVESTMENT MATERIALS AND CASTING

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Investment materials	1. Differentiate between different types of investment materials. 2. Discuss the composition and physiochemical properties requires to manipulate investment materials.	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments
2.	Casting	1. Illustrate the following: • Formation of investment mould • Casting process/lost wax technique 2. Discuss casting process/lost wax technique		

		3. Correlate faults in casting with incorrect selection of materials or faulty technique.		

2.4.11 CERAMICS AND PORCELAIN FUSED TO METAL

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Composition and properties	1. Classify the major types of ceramics 2. Compare the major types of ceramics with regard to composition, physical and optical properties 3. Relate the composition and properties of ceramics to their manufacturing clinical applications and performance.	1. Lectures 2. Tutorials	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments
2.	Preparation of porcelain and types of ceramic	1. Discuss compaction and firing 2. List types of ceramic restorations 3. Describe the principles of preparation of ceramics restorations.		
3.	CAD CAM restorations	1. Discuss the fundamental concept behind computer aided prosthesis design		

2.4.12 DENTAL AMALGAM

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction	1. Discuss the requirements and historical perspective of direct filling/restorative materials 2. Describe the primary purpose of each component of amalgam alloy 3. Relate the importance of the role of mercury/alloy ratio and its influence/effect on	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments

		setting reaction and restorative procedures		
2.	Setting characteristics and properties	1. Discuss the setting chemistry associated with amalgam production 2. Discuss properties of dental amalgam		
3.	Clinical handling and manipulative variables	1. Discuss: • Ideology of Black's cavity design • Cavity design and matrices with regard to properties of material; 2. Justify Black's cavity design as an unchallenged baseline upon which information has been added over years 3. Correlate the manipulative parameters of amalgam with the properties of the final restoration		
4.	Environmental consideration-Dental amalgam	1. List the hazards of incorrect handling of mercury. 2. Discuss the importance of mercury hygiene, mercury/amalgam scrap handling and disposal at chair side		

2.4.13 DENTAL COMPOSITE RESIN BASED RESTORATIVE MATERIALS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction	1. Describe components and composition of dental composites 2. Discuss the use of resin based dental composite materials for restorative procedures. 3. Describe historical pretext of dental composites	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments
2.	Properties and setting characteristics	1. Discuss general properties of composite		

3.	Clinical handling and manipulative variables	1. Correlate filler particle size, setting reaction and method of manufacture of dental composite resin bases restorative materials with properties and behavior of the material in situ. 2. Discuss the use of composites in vivo. 3. Describe new resin based restorative materials variants available in the market		

2.4.14 ADHESION

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction	1. Illustrate the general mechanistic aspects and approaches to adhesion. 2. Describe: • Adhesion • Acid etching • Conditioning • Priming	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments
2.	Bonding systems and smear layer	1. Describe the following: • Enamel & dentine bonding agents • Bonding systems 2. Define smear layer 3. List constituents of smear layer 4. 4. Discuss the importance of smear layer as a determinant of the clinical success of dental composites		
3.	Bonding at tooth-restoration interface	1. Describe hybridization in relation to dental composites 2. Discuss the dental composite adhesion to tooth structure based on the principles of micromechanical attachment.		

2.4.15 GLASS IONOMER RESTORATIVE MATERIALS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction	1. Discuss the historical importance of glass ionomer cements (GIC) as restorative cements 2. Correlate the constituents of GIC to its properties. 3. Describe the composition and properties of GIC.	1. Lectures 2. Tutorials 3. Lab Practical	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments
2.	Setting characteristics and manipulative variables	1. Describe the : • Setting reaction of GIC • Fluoride release and ion exchange • Interaction between GIC and the external environment and tooth interface • Dimensional stability 2. Relate the properties of set GIC to its clinical manipulation and performance		
3.	Modified GIC restorative materials	1. Justify the development of resin-modified glass ionomers 2. Discuss the significance of modified GIC constituents, the influence on properties and the impact on the materials clinical performance. 3. Discuss the properties, performance and clinical indications of cermets.		

2.4.16 ENDODONTIC MATERIALS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction	1. Describe root canal treatment.	1. Lectures	1. BCQS

		2. List the various endodontic materials (i.e. irrigants, lubricants, intra-canal medicaments, obturating materials).	2. Tutorials	2. Viva 3. OSPE 4. Presentations 5. Assignments
2.	Irrigants & lubricants	1. Discus intra-canal medicaments and filling materials; CaOH2 cements, GP. 2. ISO standardized color coding Reamers. Files Broaches Spreaders Paper points GP points 3. Discus clinical handling characteristics for optimal endodontic outcomes. 4. Manual vs rotary instrumentation		

2.4.17 ARTIFICIAL TEETH

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Properties and clinical applications	1. Describe the techniques for manufacturing artificial teeth 2. Differentiate between acrylic & porcelain teeth. 3. List the requirements of artificial teeth 4. Identify the types of artificial teeth. 5. Identify the type of wax on the teeth strip. 6. Select the appropriate teeth for the given model for teeth setup 7. Demonstrate the technique for teeth setup.	1. Lectures 2. Tutorials	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments

2.4.18 FINISHING AND POLISHING MATERIALS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction and general concepts	1. Describe finishing and polishing of dental prostheses and restorative materials 2. Identify equipment used in finishing and polishing of dental restorations.	1. Lectures 2. Tutorials 3. Lab	1. BCQS 2. Viva 3. OSPE 4. Presentations 5. Assignments

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 2 CURRICULUM

DENTAL MATERIALS PRACTICALS

One week plan of practical rotation in detail (along with the duration and timings)

Orientation Session:

- Introduction to department
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
    - Lab timings (Punctuality)
    - Dress code
        - Lab coat
        - Tied-up hair
        - Covered shoes etc.
- Hand wash technique
- Briefing about :
    - laboratory discipline
    - instruments,
    - models
    - log book
- Quota requirements

Second Year Practical

Twenty-Nine Weeks

WEEK No. 1

Group A & B: Wednesday (2:00 PM- 3:30 PM)

Group C & D: Thursday (2:00 PM- 3:30 PM)

DAY 1:

2:00 PM to 2:30 PM (Orientation)

2:30 PM to 3:00 PM (Introduction to instruments and materials)

3:00 PM to 03:30 PM (Demonstration on mixing gypsum and plaster slab making)

TABLE 1-A

Students	Demonstrators	2:00 PM to 2:30 PM	2:30 PM to 3:00 PM	3:00 PM to 3:30 PM
13	D-1	Orientation	Introduction to instruments & materials	Demonstration on mixing gypsum and plaster slab making
13	D-2	Orientation	Introduction to instruments & materials	Demonstration on mixing gypsum and plaster slab making

PROSTHODONTICS

One week plan of practical rotation in detail (along with the duration and timings)

Orientation Session:

- Introduction to department
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
    - Lab timings (Punctuality)
    - Dress code
        - Lab coat
        - Tied-up hair
        - Covered shoes etc.
- Cross infection control
- Briefing about :
    - laboratory discipline
    - instruments,
    - models
    - log book
- Quota requirements

Second Year Practicals

Twenty-Nine Weeks

WEEK No. 1

Group A & B: Thursday (10:45am-12:30pm)

Group C & D: Friday (10:30am-12:10pm)

DAY 1:

10:45AM to 11:15 AM (Orientation)

11:15 AM to 11:45 AM (Introduction to instruments and materials)

11:45 AM to 12:30 PM (Demonstration of Model/anatomical landmarks)

Students	Demonstrators	10:45AM to 11:15 AM	11:15 AM to 11:45 AM	11:45 AM to 12:30 PM
1-13	D-1	Orientation	Introduction to instruments & materials	Demonstration of Model/anatomical landmarks
14-26	D-2	Orientation	Introduction to instruments & materials	Demonstration of Model/anatomical landmarks

OPERATIVE DENTISTRY

One week plan of practical rotation in detail (along with the duration and timings)

Orientation Session:

- Introduction to department
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
    - Lab timings (Punctuality)
    - Dress code
        - Lab coat

        - Tied-up hair
        - Covered shoes etc.
- Cross infection control
- Briefing about :
    - laboratory discipline
    - instruments,
    - models
    - log book
    - Chair positioning
- Quota requirements

Second Year Practical's

Twenty-Nine Weeks

WEEK No. 1

Group C & D: Wednesday (2:00pm-03:30pm)

Group A & B: Thursday (2:00pm-03:30pm)

DAY 1:

2:00PM to 2:30 PM (Orientation)
2:30 PM to 3:00 PM (History taking)
3:00PM to 3:30PM (Examinations and radiograph)

Students	Demonstrators	2:00PM to 2:30 PM	2:30 PM to 3:00 PM	3:00 PM to 3:30 PM
1-13	D-1	Orientation	History taking	Examinations and radiograph
14-26	D-2	Orientation	History taking	Examinations and radiograph

THIRD YEAR

3.1 GENERAL SURGERY

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

COURSE: GENERAL SURGERY

COURSE CODE: 3.1

CREDIT HOURS: 50 lecture hours; 150 practical hours

3.1.1 PRINCIPLES OF SURGERY

S.NO.	TOPIC	LEARNING OBJECTIVES By the end of third year BDS, the student should be able to	MODE OF TEACHING	ASSESSMENT TOOL The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1	Physiological response to surgical Trauma and homeostasis	1. Discuss the classical concepts of homeostasis and the physiochemical and biochemical changes associated with it. 2. List: • Mediators of metabolic response to injury, • Avoidable factors that compound the metabolic response to injury. 3. Describe changes in body composition. 4. Describe optimal preoperative care.	1. Lecture	1. BCQS
2	Wound and its Repair	1. Describe the normal healing response. 2. Discuss management of wound. 3. List disorders of healing. 4. Categorize variety of scars and their treatment.	1. Lecture	1. BCQS 2. OSCE
3	Pathophysiology and Management of shock	1. Discuss the pathophysiology and patterns of shock. 2. Prioritize the sequence of resuscitation.	1. Lecture	1. BCQS

		3. Discuss the use of blood and blood products in shock. 4. Describe risks of blood transfusion.		
4	Investigation and treatment of Infections and Parasitic Infestations of surgical Importance	1. Classify Infections. 2. List the determining factors for development of infections. 3. Discuss the local and systemic manifestations, sign and symptoms of bacterial and parasitic infections. 4. Describe the principles of antimicrobial treatment. 5. Justify the choice of antibiotics and prophylaxis in various infections.	1. Lecture	2. BCQS
5	Hemorrhage Blood Transfusion and their implications	1. Define: • Hemorrhage • Blood transfusion 2. Describe the types and pathophysiology of Hemorrhage. 3. List various blood and blood products used for transfusion. 4. Describe the preparation of blood products and the procedure for transfusion.	1. Lecture	1. BCQS
6	Management of Acutely injured & critically ill patients including aspiration pneumonia and embolic phenomenon	1. Define: • Trauma • Aspiration pneumonia and • Embolic phenomenon 2. Describe types of injuries. 3. Discuss: • Primary and secondary survey, and • Resuscitation 4. Discuss the sign and symptoms of acutely injured & critically ill patients. 5. Diagnose acutely injured and critically ill patients	1. Lecture 2. Skills Lab (Manikins, Videos)	1. BCQS 2. OSCE

		based on history and clinical examination and investigations. 6. Formulate and treatment and prevention plan for acutely injured & critically ill patients.		
7	Principles in the Management of common Skin and Soft Tissue problems: Ulcers, Abscesses, Sinus & Fistula, Swellings, Embedded foreign bodies and Minor injuries	1. Define: • Ulcers, • Accesses, • Sinus, • Fistula, • Swelling. 2. Discuss types, sign and symptoms and pathophysiology of common skin and soft tissue problems. 3. List investigation 4. Diagnose common skin and soft tissue problems based on history and clinical examination and investigations. 5. Justify management of common skin and soft tissue problem by antibiotics, surgery or a combination of both.	1. Lecture 2. Beside Clinical Teaching 3. Skills Lab (Videos, Simulated Patients)	1. BCQS 2. OSCE
8	Principles of Anaesthesia	1. Define Anesthesis. 2. Classify various types of anesthesia. 3. Discuss the mechanism and stages of different anesthesias. 4. Manage patients that are scheduled for general anesthesia including consideration for pre-operative fasting and airway assessment.	1. Lecture 2. Skills Lab (Manikins, Videos)	1. BCQS 2. OSCE
9	Nutrition of surgical patients	1. Discuss pre-operative and post-operative malnutrition. 2. Describe balance of electrolytes. 3. Evaluate the nutritional status of surgical patients. 4. Manage the nutritional status of surgical patients.	1. Lecture	1. BCQS

3.1.2 MEDICAL EMERGENCIES

S.NO.	TOPIC	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOL
1	Polytrauma with airway difficulty and circulatory instability	1. Discuss initial evaluation and intervention of patients with Polytrauma and airway difficulty. 2. Discuss steps of intubation of trauma patient. 3. Describe simple airway strategy.	1. Lecture 2. Skills Lab (Manikins, Videos)	1. BCQS 2. OSCE
2	Uncontrolled External Hemorrhage	1. Define uncontrolled external hemorrhage. 2. Discuss types of uncontrolled external hemorrhage. 3. Describe primary and secondary survey. 4. Manage patients with uncontrolled external hemorrhage.	1. Lecture	1. BCQS
3	Patient in Hypovolumic or Septicemic Shock	1. Define: • Hypovolumic, • Septicemic Shock 2. Classify Hypovolumic and Septicemic shock 3. Differentiate between Hypovolumic and Septicemic shock based on pathogenesis and signs and symptoms. 4. Discuss management of Hypovolumic and Septicemic shock.	1. Lecture	1. BCQS
4	Tension Pneumothorax	1. Define Tension Pneumothorax. 2. Discuss pathophysiology, signs and symptoms and treatment of Tension Pneumothorax.	1. Lecture	1. BCQS
5	Cardiac Temponade	1. Define Cardiac Temponade. 2. Discuss pathophysiology, signs and symptoms and treatment of cardiac temponade.	1. Lecture	1. BCQS

6	Unconscious patient due to Head injury	1. Discuss signs, symptoms and management of unconscious patient due to head injury.	1. Lecture	1. BCQS
7	Patient with Gas Gangrene and Tetanus	1. Define: • Gas Gangrene • Tetanus 2. Discuss types of Gas Gangrene and Tetanus. 3. Differentiate gas gangrene and tetanus bases on sign and symptoms and treatment.	1. Lecture	1. BCQS
8	Burns	1. Discuss depth of burn, quantity of fluid to be given, techniques and pathophysiology of burn. 2. Manage patients presenting to the department with burns.	1. Lecture	1. BCQS 2. OSCE

3.1.3 HEAD AND NECK

S.NO.	TOPIC	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOL
1	Development abnormalities of palate, lip	1. Discuss types and features of development abnormalities of palate lip. 2. Manage developmental abnormalities of palate and lip.	1. Lecture	1. BCQS 2. OSCE
2	Principles of management of Head injuries and its complications	1. List types of head injuries. 2. Manage patients presenting to the hospital with head injuries. 3. Discuss complications of patients presenting with head injuries.	1. Lecture	1. BCQS 2. OSCE
3	Diseases of salivary glands (Inflammation, Calculus, Tumors)	1. Describe various diseases and abnormalities of salivary glands. 2. Discuss clinical features and management of various diseases and abnormalities of salivary glands.	1. Lecture	1. BCQS 2. OSCE

4	Neck lumps including Lymphatics Thyroid, Parathyroid	1. Describe abnormalities, clinical features and management neck lumps including Lymphatics Thyroid, Parathyroid.	1. Lecture 2. Skills Lab Beside Clinical Teaching	1. BCQS 2. OSCE

3.1.4 GASTROINTESTINAL TRACT

S.NO.	TOPIC	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOL
1	Conditions Causing Acute Abdomen	1. Discuss causes, clinical features and management of conditions causing acute abdomen.	1. Lecture	1. BCQS

3.1.5 ABDOMINAL WALL HERNIA

S.NO.	TOPIC	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOL
1	Abdominal Wall Hernia	1. Discuss clinical presentation and management of patients with abdominal wall hernia.	1. Lecture	1. BCQS 2. OSCE

3.1.6 LIVER

S.NO.	TOPIC	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOL
1	Obstructive Jaundice	1. Discuss clinical features and management of Obstructive Jaundice.	1. Lecture	1. BCQS
2	Hydated cyst	1. Discuss clinical features management of Hydated cysts.	1. Lecture	1. BCQS

3.1.7 GALL BLADDER

S.NO.	TOPIC	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOL
1	Acute and chronic Cholecystitis	1. Discuss types, clinical features and management of acute and chronic cholecystitis.	1. Lecture 2. Beside Clinical Teaching	1. BCQS 2. OSCE
2	Cholelithiasis and its Complications	1. Discuss clinical features, management and complications of Cholelithiasis.	1. Lecture	1. BCQS

3.1.8 SKIN & SOFT TISSUES

S.NO.	TOPIC	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOL
1	Common benign and malignant skin lesion	1. Discuss causes, clinical features and management of common benign and malignant skin lesions.	1. Lecture 2. Skills lab (Manikins, Videos) 3. Bed side clinical teaching	1. BCQS 2. OSCE
2	Wounds/ Ulcers/ abscesses/ Sinuses/ Fistulae	1. Discuss clinical features and management of: • Wounds/ Ulcers/ abscesses/ Sinuses/ Fistula	1. Lecture 2. Skills lab (Manikins, Videos) 3. Bed side clinical teaching	
3	Soft Tissue Lumps	1. Discuss clinical features and management of Soft Tissue Lumps.	1. Lecture 2. Skills lab (Manikins, Videos) 3. Bed side clinical teaching	

3.1.9 VASCULAR AND NERVE DISORDERS

S.NO.	TOPIC	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOL
1	Arterial Disorders (Aneurysm & Gangrene)	1. Discuss causes, clinical features and management of Aneurysm & Gangrene	1. Lecture	1. BCQS
2	Varicosities	1. Discuss causes, clinical features and management of Varicosities.	1. Lecture	1. BCQS
3	Deep venous thrombosis	1. Discuss causes, sign and symptoms and management of deep venous thrombosis.	1. Lecture	1. BCQS
4	Peripheral nerve Injuries	1. Discuss causes, clinical features and management of peripheral nerve injuries.	1. Lecture	1. BCQS

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 3 CURRICUUM

GENERAL SURGERY PRACTICAL

S.NO.	SKILL	TEACHING METHODOLOGY	ASSESSMENT TOOLS
1.	History Taking Skills	1. Bedside Teaching 2. Skill lab (videos, simulated patient)	OSCE
2.	General Physical Examination	1. Bedside Teaching 2. Skill lab (videos, simulated patient)	OSCE
3.	Examination of Lymph Nodes	1. Bedside Teaching 2. Skill lab (videos, simulated patient)	OSCE
4.	Examination of Swelling	1. Bedside Teaching 2. Skill lab (videos, simulated patient, manikin)	OSCE
5.	Examination of Ulcer	1. Bedside Teaching 2. Skill lab (videos, simulated patient, manikin)	OSCE
6.	Thyroid Examination	1. Bedside Teaching **2.** Skill lab (videos, simulated patient)	OSCE
7.	Abdominal Examination	1. Bedside Teaching 2. Skill lab (videos, simulated patient, Manikin)	OSCE
8.	Scrubbing, Gowning, Gloving	1. Skill Lab (videos, Hands on training) 2. OR	OSCE
9.	Knott Tying	1. Skill Lab (videos, hands on training) 2. OR	OSCE
10.	Instruments	1. Skill Lab 2. OR	OSCE
11.	Suturing Skills	1. Skill Lab (videos, hands on training) 2. OR	OSCE
12.	Intravenous Cannulation	1. Skill lab (videos, Manikin)	OSCE
13.	Airway Management	1. Skill lab (videos, Manikin)	OSCE

14.	Nasogastric Tube Insertion	1. Skill lab (videos, Manikin)	OSCE
15.	Uretheral Catherterization	1. Skill lab (videos, Manikin)	OSCE

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

GENERAL SURGERY CLINICAL TIMELY SCHEDULE

DAYS	CLASS TIMING	LECTURE TIMING	SKILL LAB TIMING		CLINICAL (WARD)
Thursday	09:00-1:30 PM	09:50 AM - 10:40 AM (50 Minutes)	Tea break	11:00 AM – 13:30 PM (90 Minutes)	12:30 PM – 01:30 PM (60 Minutes)
Friday	09:00- 12:30 PM	-	09:00 AM – 10:30 AM (90 Minutes)		10:30 AM - 12:30 PM (120 Minutes)

3.2 GENERAL MEDICINE

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

COURSE: GENERAL MEDICINE

COURSE CODE: 3.2

ALLOCATION OF PMDC CREDIT HOURS: 50 lecture hours; 150 practical hours

3.2.1 INTRODUCTION TO GENERAL MEDICINE & PRINCIPLES OF HISTORY

S.NO.	TOPICS	LEARNING OBJECTIVES **By the end of third year BDS, the student should be able to**	MODE OF TEACHING	ASSESSMENT TOOLS **The students will be assessed during class tests, and end-of rotation tests; mid-term, pre-prof and final examination through:**
1	Introduction to general medicine	1. Discuss scope of general medicine. 2. Identify goals of studying medicine. 3. Discuss the importance of patient –doctor relation. 4. Explain the importance of Ethics when managing patients.	1. Lecture 2. Bedside teaching 3. Clinical Group discussion	1. BCQS 2. OSCE
2.	Clinical teachings: 1. History taking. 2. General physical examination	1. Take proper history. 2. Perform General physical examination.	1. Lecture 2. Bedside teaching 3. Clinical Group discussion	1. Individual /Group Assessment 2. OSCE 3. Direct Observation

3.2.2 GI/LIVER DISEASES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	1. GERD 2. Gastritis / Peptic Ulcer 3. Acute diarrhoea/Gastro enteritis 4. Malabsorption/ coeliac disease 5. IBS / IBD 6. Hepatitis (Acute / Chronic) 7. CLD & Hepatocellular Ca. **8.** liver abscess	1. Discuss: • Etiology, • Clinical features, • Types, • Differential diagnosis • Investigation & diagnosis • Management complications	1. Lectures 2. Clinical group discussion	1. BCQS 2. OSCE
2.	**Clinical teachings:** 1. History of GIT/ Liver Disease 2. Examination GI and abdomen 3. Uses of Naso-gastric tube 4. LFTs interpretation 5. Counseling; Needle stick injury with hepatitis B/C infected needle	1. Formulate proper history of GI/ Liver symptoms (vomiting, diarrhea, abdominal pain, jaundice) 2. Perform abdominal examination(Inspection, Palpation, Percussion, Auscultation 3. Identify /descried Naso-gastric tube (indications, contraindication, complications) 4. Recognize abnormalities in LFTs 5. Explain the chances of infection, initial management and follow	1. Bedside teaching 2. Clinical group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE

		up of a needle stick injurywith B/C infection.		

3.2.3 CARDIOVASCULAR SYSTEM

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	1. Ischemic Heart Disease (Angina / MI) 2. CHF 3. Rheumatic Fever / Infective Endocarditis 4. Hypertension 5. Valvular Heart Diseases (MS / MR / AS / AR) 6. Congenital Heart Diseases (VSD / TOF	1. Discuss: • Etiology • Clinical features • Types • Differential diagnosis • Investigation & diagnosis • Management complications	1. Lectures 2. Group Discussions	1. BCQS 2. OSCE
2.	**Clinical Teachings** 1. History taking 2. Cardiovascular examination 3. **Counseling**; uncontrolled hypertension	1. Able to formulate proper history of cardiovascular symptoms (chest pain, dyspnea, syncope) 2. Able to perform cardiovascular examination (Inspection, Palpation, , Auscultation, pulses, JVP) 3. Able to counsel patients regarding treatment of uncontrolled hypertension	1. Bedside teaching 2. Clinical group discussion	1. Individual/Group Assessment 2. OSCE

3.2.4 RESPIRATORY DISEASES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	**Diseases of Respiratory System** 1. TB 2. COPD 3. Pneumonia 4. Asthma 5. Bronchogenic Ca 6. Bronchiectasis 7. Pneumothorax / Pleural effusion	1. **Discuss:** • Etiology • Clinical features • Types • Differential diagnosis • Investigation & diagnosis • Management complications	1. Lectures 2. Group Discussions	1. BCQS 2. OSCE
2.	**Clinical Teaching** 1. History taking 2. Examination in respiratory diseases 3. Counseling; smoking cessation 4. X ray chest	1. Formulate history of respiratory symptoms (cough, chest pain, dyspnea, wheezing, haemoptysis) 2. Perform proper respiratory examination (Inspection, Palpation, Percussion & Auscultation 3. Explain risk of smoking tobacco and how to stop smoking 4. Interpret chest x-ray findings for COPD, cardiomegaly, pleural effusion, pneumothorax, tuberculosis and pneumonia	1. Bedside teaching 2. Clinical group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE

3.2.5 NEUROLOGICAL DISEASES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	**Neurological disease** 1. Facial Pain / trigeminal neuralgia 2. Facial Palsy 3. Headache (cluster,migraine,tension) 4. Stroke /TIA 5. Epilepsy 6. Parkinson's disease 7. Meningitis/ Encephalitis 8. Movement disorders 9. Dementia	1. Discuss: • Etiology • Clinical features • Types • Differential diagnosis • Investigation & diagnosis • Management complications	1. Lectures 2. Group Discussions	1. BCQS 2. OSCE

2.	**Clinical teachings** 1. History taking 2. Neurological Examination 3. Lumber puncture needle 4. Spinal fluid report analysis	1. Able to formulate history of neurological problems(headache, facial pain, dizziness, coma, amnesia) 2. Able to • Assess Higher mental functions\Level of consciousness\Behavior • Speech\Memory • Perform cranial nerves examination • Perform motor system and sensory system • Demonstrate cerebellar signs 3. Able to identify and describe lumber puncture needle (indications,	1. Bedside teaching 2. Clinical group discussions	1. Individual /Group Assessment 2. Ward test 3. OSCE
		contraindication, complications) 4. Able to interpret Spinal fluid DR		

3.2.6 RENAL DISOREDERS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS

1.	**Diseases of kidney and urinary tract** 1. Acute renal failure 2. Chronic Renal Failure 3. Nephrotic syndrome. 4. Nephritic Syndromes 5. UTI 6. Electrolytes Imbalances(Na,K, Ca)	1. Discuss: • Etiology • Clinical features • Types • Differential diagnosis • Investigation & diagnosis • Management complications	1. Lectures 2. Group Discussions	1. BCQS 2. OSCE
2.	**Clinical teaching** 1. UCE/Urine DR 2. Foley's catheter	1. Able to recognize abnormalities in UCE/Urine DR 2. Able to identify and describe Foleys catheter (indications, contraindication	1. Clinical group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE

3.2.7 RHEUMATOLOGY AND BONE DISEASES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	1. SLE 2. RA 3. Seronegative Arthropathies 4. Osteoporosis /Osteomalacia 5. Sjogren's syndrome 6. Osteoarthritis	1. Discuss: • Etiology • Clinical features • Types • Differential diagnosis • Investigation & diagnosis • Management complications	1. Lectures 2. Group Discussions	1. BCQS 2. OSCE

3.2.8 ENDOCRINE DISORDERS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	**Diseases of endocrine** 1. Pituitary Diseases 2. Thyroid Disorders 3. Para thyroid Disorders 4. Adrenal Disorders 5. Diabetes Mellitus 6. Vitamin Deficiencies (Vit. A, D, E, K & C.)	1. Discuss: • Etiology • Clinical features • Types • Differential diagnosis • Investigation & diagnosis • Management complications	1. Lectures 2. Group Discussions	1. BCQS 2. OSCE
2.	**Clinical teaching** 1. Thyroid profile	1. Able to recognize and interpret	1. Clinical group discussions.	1. Individual /Group Assessment

	2. Insulin syringe 3. Counseling; uncontrolled diabetes mellitus	hyper/hypothyroidism in thyroid profile report 2. Able to identify and describe insulin syringe (indications, contraindication) 3. Able to explain diet, exercise, medication to a diabetic patient.		2. Ward test 3. OSCE

3.2.9 BLOOD DISORDERS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	1. Anemia/iron deficiency anemia 2. Megloblastic anemia 3. Thalssemia/ herediatary spherocytosis 4. Sickel cell/aplastic anemia 5. Acute/chronic Leukemia 6. Lymphoma 7. Thrombocytopenia /ITP 8. Bleeding disorders (Hemophilia/vWFD/DIC) 9. Blood products & transfusions/anticoagulants & anti-thrombotic therapies	1. Discuss: • Etiology • Clinical features • Types • Differential diagnosis • Investigation & diagnosis • Management complications	1. Lectures 2. Group Discussions	1. BCQS 2. OSCE

	10. Shock (anaphylactic, cardiogenic, hypovolumic			
2.	**Clinical teaching** 1. IV cannula/ disposable syringes 2. CBC interpretation 3. Clotting profile interpretation	1. Identify IV cannula and syringes (indications, contraindication) 2. Identify anemia and Interpret types of anemia 3. Interpret PT/APTT and INR report	1. Clinical Group Discussions	1. BCQS 2. OSCE

3.2.10 INFECTIOUS DISEASES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	1. Malaria 2. Viral hemorrhagic fever(Dengue Fever, Congo fever, c hikunguya) 3. Typhoid 4. HIV 5. Mumps/measles 6. Diphtheria/ tetanus 7. Sepsis/Hospital Acquired Infections(UTI, pneumonia) 8. Influenza & COVID-19	1. Discuss: • Etiology • Clinical features • Types • Differential diagnosis • Investigation & diagnosis • Management complications	1. Lectures 2. Group discussion	1. BCQS 2. OSCE

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 3 CURRICUUM

GENERAL MEDICINE PRACTICAL

S.NO.	CLINICAL AND PROCEDURAL SKILLS By the end of the session the third year BDS student should be able to demonstrate the following:	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed in mid-term and final examination through:
1.	Introduction and History taking in medicine	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
2.	General Physical Examination	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
3.	**GIT** – history for Vomiting, diarrhea, pain in Abdomen, and jaundice	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
4.	Examination of GIT – Inspection, Palpation, Percussion, Auscultation of abdomen.	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
5.	Uses, indications contraindications, complications of Naso-gastric tube	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
6.	LFTs Interpretation	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
7.	Counseling for needle stick injury with hepatitis B/C infected needle	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
8.	**CVS-** History taking in CVS – Common symptoms (dyspnea, syncope and Chest pain	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE

9.	CVS Examination; Inspection, Palpation, auscultation of Pericardium./JVP/pulses	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
10.	Counseling; Treatment of uncontrolled hypertension	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
11.	**PULMONOLOGY**- History taking of common respiratory symptoms; Cough dyspnea/wheezes and hemoptysis	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
12.	Chest Examination (Front/back); Inspection, Palpation, Percussion, Auscultation	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
13.	Counseling; smoking cessation/Asthma/COPD/use of inhaler devices	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
14.	X ray- chest interpretation; COPD. Pneumonia, pleural effusion, pneumothorax, pulmonary TB, cardiomegaly	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
15.	**CNS**-History taking of common neurological symptoms, (headache, facial pain, dizziness, amnesia)	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
16.	Assessment of Higher Mental Functions; Level of Consciousness, Behavior, Speech & Memory	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
17.	Examination of Cranial Nerves	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
18.	Examination of Motor and sensory system, and cerebellar signs	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test

			3. OSCE
19.	Lumbar puncture needle (uses, indications, contraindications, complications)	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
20.	Interpretation of spinal fluid DR	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
21.	**Renal disorders-** Interpretation of UCE/Urine DR	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
22.	Foley's catheter (uses, indications, contraindications, complications)	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
23.	**Endocrinology-** Interpretation of thyroid function test	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
24.	Insulin syringe (uses, indications, contraindications, complications)	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
25.	Counseling; Diet and management of un-controlled diabetes mellitus	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
26.	**Hematology-**IV cannula/disposable syringes (uses, indications, contraindications, complications)	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
27.	Interpretation of CBC	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE
28.	Interpretation of Clotting profile PT/INR/APTT	1. Bed side teaching 2. Group discussion	1. Individual /Group Assessment 2. Ward test 3. OSCE

29	**PROCEDURES:** □ Administer I/M and I/V and S/C injections. □ Maintain I/V line via cannula □ Perform cardiopulmonary resuscitation (CPR) on mannequins	1. Bed side teaching 2.Group discussion	1.Individual /Group Assessment 2.Ward test 3.OSCE

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

GENERAL MEDICINE CLINICAL TIMELY SCHEDULE

ORIENTATION SESSION:

- Introduction to medicine departments and facilitators.
- Tour of medicine department and explaining work in medicine ward/OPD.
- Code of conduct
    - Rotation timings (Punctuality)
    - Dress code
        - Lab coat
        - Tied-up hair
        - Covered shoes etc.
- Hand wash technique.
- Learning about medical instrument kit required for working in medicine department (BP apparatus, thermometer, torch, measuring tape, patellar hammer, tuning fork etc.)

MEDICINE WARD ROTATION 1:

Total duration; Nine Weeks (every Thursday (11am -12.30pm and 12.50-2.00pm) / Friday 9-10.30 am and 11.45-1.30 pm) = 18 day

DAY	TOPIC	TIMINGS
1	Orientation Ward tour	11-12.30 pm 12.50-2;00 pm
2	Introduction to history taking techniques	9-10.30am 11.45-1.30 pm
3	History taking –II	11-12.30pm 12.50-2;00pm
4	History taking –III	9-10.30am 11.45-1.30 pm

5	General physical examination; demonstration	11-12.30pm 12.50-2.00pm
6	General physical examination; Practice	9-10.30am 11.45-1.30 pm
7	General physical examination; Practice	11-12.30pm 12.50-2;00pm
8	Gastrointestinal history	9-10.30am 11.45-1.30 pm
9	Gastrointestinal examination; Demonstration	11-12.30pm 12.50-2;00pm
10	Gastrointestinal examination; practice	9-10.30am 11.45-1.30 pm
11	Gastrointestinal examination; practice	11-12.30pm 12.50-2;00pm
12	Respiratory system; history	9-10.30am 11.45-1.30 pm
13	Respiratory examination ;demonstration	11-12.30pm 12.50-2;00pm
14	Respiratory examination; practice	9-10.30am 11.45-1.30 pm
15	Respiratory examination; practice	11-12.30pm 12.50-2;00pm
16	Data Interpretation; CBC/LFT/PT APTT	9-10.30am 11.45-1.30 pm
17	Data Interpretation; Thyroid profile/blood glucose/HbA1c	11-12.30pm 12.50-2;00pm

18	Data Interpretation Urine DR,UCE/Lumber puncture	11-12.30pm 12.50-2;00pm

MEDICINE WARD ROTATION 2:

Total duration; Nine Weeks (every Thursday/Friday) =18 day

DAY	TOPIC	TIMINGS
1	CVS: HISTORY	11-12.30pm 12.50-2;00pm
2	CVS Examination: Demonstration	9-10.30am 11.45-1.30 pm
3	CVS Examination: Practice	11-12.30pm 12.50-2;00pm
4	CVS Examination: Practice	9-10.30am 11.45-1.30 pm
5	CNS: History	11-12.30pm 12.50-2;00pm
6	HMF/cranial nerves: Demonstration	9-10.30am 11.45-1.30 pm
7	HMF/cranial nerves: Practice	11-12.30pm 12.50-2;00pm
8	Sensory/motor system: Demonstration	9-10.30am 11.45-1.30 pm
9	Sensory/motor system: Practice	11-12.30pm 12.50-2;00pm
10	Sensory/motor system: Practice	9-10.30am 11.45-1.30 pm

11	Medical Instruments- I	11-12.30pm 12.50-2;00pm
12	Medical Instruments- II	9-10.30am 11.45-1.30 pm
13	X ray Chest- I	11-12.30pm 12.50-2;00pm
14	X ray Chest -II	9-10.30am 11.45-1.30 pm
15	Picture Interpretation-I	11-12.30pm 12.50-2;00pm
16	Picture Interpretation-II	9-10.30am 11.45-1.30 pm
17	Counseling-I	11-12.30pm 12.50-2;00pm
18	Counseling-II	9-10.30am 11.45-1.30 pm

3.3 ORAL PATHOLOGY

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

COURSE: ORAL PATHOLOGY

COURSE CODE: 3.3

ALLOCATION OF CREDIT HOURS: 50 lecture hours; 100 practical hours

3.3.1 ABNORMALITIES OF TEETH

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of third year BDS, the student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Disturbance in number and size of teeth	1. Describe clinical and radiographic features of : • Hyperdontia and hypodontia and their associated syndromes. • Anodontia /Oligodontia. 2. Describe the clinical and diagnostic features of: • Macrodontia • Microdontia	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Disturbance in form of teeth	1. Discuss the clinical and radiographic features of the following alterations in shape of teeth: • Dilaceration • Taurodontism • Double teeth • Concrescence		
3.	Disturbance in structure of teeth	1. Discuss the clinical features, types and etiology of the following : • Amelogenesis imperfecta • Dentinogenesis imperfect		

		• Dentinal dysplasia • Hypercementosis/ hypercemetosis • Regional odontodysplasia		
4.	Discoloration of teeth	1. Discuss in detail the external and internal factors responsible for discoloration of teeth.		

3.3.2 DENTAL CARIES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Etiology of dental caries	1. Discuss the role of following in dental caries: • Dental plaque • Microorganisms • Carbohydrates 2. Describe other etiological variable involved in dental caries.	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Classification of dental caries	1. Give a detailed classification of dental caries according to the following : • By site of attack • By rate of attack		
3.	Pathology and Histopathogenesis of dental caries	1. Discuss the histopathology according to the microscopic zones of the following : • Enamel carious lesions • Dentinal carious lesions 2. Discuss the causes and microorganisms involved in Root caries.		

3.3.3 DISEASES OF PULP

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Pulpitis	1. Discuss pulpitis of the basis of the following: • Clinical features • Etiology • Diagnostic features • Types • Histopathology 2. Describe clinical features of chronic hyperplastic pulpitis.	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Spread of infection	1. Describe the spread of infection of following oral infections: • Periapical abscess • Periapical granuloma • Cellulitis and Ludwig's angina • Acute and chronic periapical periodontitis 2. Discuss various routes of spread of infections associated with each tooth in oral cavity. 3. Differentiate between cellulitis and Ludwig's angina.		

3.3.3 SPECIFIC AND NON-SPECIFIC INFECTION

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Tuberculosis and Syphilis, Actinomycosis and Pericoronitis	1. Discuss the oral features and histopathology of : • Syphilis (with types) • Tuberculosis • Actinomycosis • Pericoronitis associated with impacted teeth	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE

3.3.5 CYST OF THE JAWS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Cysts of the jaws	1. Discuss the origin of all cysts. 2. Classify cysts on the basis of: • Origin • Epithelial lining	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Odontogenic cysts	1. Discuss the clinical, histological and radiographic features and pathogenesis of the following cysts with their differential diagnosis. • Radicular cyst • Dentigerous cyst • Odontogenic keratocyst • Lateral periodontal cyst • Glandular odontogenic cyst • Calcifying odontogenic cyst • Gingival cyst		
3.	Non- Odontogenic cysts	1. Describe the clinical, radiographic and histopathological features with their differential diagnosis: • Nasopalatine cyst • Nasolabial cyst • Median cyst • Globulomaxillary cyst		
4.	Non-epithelial/ pseudo cyst	1. Describe the clinical, radiographic and histopathological features with their differential diagnosis • Aneurismal bone cyst • Hemorrhagic bone cyst • Stafne's bone cavity		

3.3.6 ODONTOGENIC TUMOUR

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Odontomes and Odontogenic tumors	1. Classify odontomes. 2. Classify odontogenic tumors. 3. Discuss in detail the etiology, pathogenesis, clinical and radiographic features of tumors with odontogenic epithelium: • Ameloblastoma • Califying epithelial odontogenic tumors • Adenomatoid odontogenic tumors 4. Discuss in detail the etiology, pathogenesis, clinical and radiographic features of tumors with non-odontogenic epithelium • Ameloblastic fibroma • Odontoma • Ameloblastic fibroodontome	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Non-Odontogenic tumors	1. Discuss briefly the benign mesenchymal Odontogenic tumors.		

3.3.7 VESSICULOBULLOUS LESIONS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Vessiculo-bullous Lesions	1. Classify : • Intraepithelial vesiculobullous dieaseas • subepithelial vesiculobullous diseases 2. Discuss the clinical and diagnostic features of the following: • Pemphigus vulgaris	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE

		• Mucous membrane pemphigoid • Bullous pemphigoid • Erythema multiforme • Epidermolysis bullosa		
2.	Ulcerative Conditions	1. Compare and discuss the different types of Aphthous ulcers. 2. Discuss the clinical features of Behcet's syndrome.		
3.	Infection	1. Discuss the following characteristics of candidal infection: • Types • Histopathology • Diagnostic features		

3.3.8 VERRUCAL-PAPILLARY LESIONS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Benign lesions associated with Human Papilloma	1. Describe the clinical and diagnostic features, etiology and pathogenesis of following: • Papillary hyperplasia • Squamous cell papilloma • Condyloma acuminatum • Focal epithelial hyperplasia • Condyloma latum	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE

3.3.9 WHITE AND COLORED LESION

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Classification of White Lesions	1. Classify white lesions on the basis of etiology.	1. Lectures 2. Tutorials 3. SGDs	1. BCQS 2. OSCE

2.	Hereditary white lesions	1. Discuss the clinical and histological features of hereditary conditions of oral mucosa	4. Clinical Demonstrations 5. PPT Presentations	
3.	Reactive white lesions	1. Describe the clinical features and histology of the following reactive lesions: • Traumatic keratosis • Hairy leukoplakia • Hairy tongue		
4.	Pre-neoplastic and neoplastic white lesions	1. Describe the clinical features, etiology, histopathology and prognosis of the following lesions: • Leukoplakia • Oral submucous fibrosis • Actinic cheilitis • Chronic hyperplastic candidosis • Lichen planus • Lupus erythmatosis		
5.	Vascular lesions	1. Discuss in detail the types, clinical features, histology and diagnostic feature of hemangioma.		
6.	Reactive lesions	1. Discuss in detail the following reactive lesions: • Pyogenic granuloma • Generalized gingival hyperplasia • Peripheral giant cell granuloma • Peripheral fibroma • Denture induced hyperplasia		

3.3.10 SQUAMOUS CELL CARCINOMA AND OTHER EPITHELIAL TUMORS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Squamous cell carcinoma	1. Discuss the clinical features, pathogenesis, histology, and epidemiology, routes of	1. Lectures 2. Tutorials 3. SGDs	1. BCQS 2. OSCE

		spread and diagnostic features of Squamous cell carcinoma. 2. Discuss the prognosis and differential diagnosis of SCC. 3. Describe grading and staging of Squamous cell carcinoma.	4. Clinical Demonstrations 5. PPT Presentations	
2.	Basal cell carcinoma	1. Discuss the clinical features, etiology and histopathology of Basal cell carcinoma.		

3.3.11 SALIVARY GLAND DISEASES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Reactive lesions of salivary gland	1. Describe: • Extravasation mucocele • Retention mucocele • Necrotizing sialometaplasia	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Bacterial and viral lesions of salivary gland	1. Discuss the various stages, clinical features, pathogenesis and diagnostic features of the following: • Bacterial sialedenitis • Sjogren's syndrome • Mumps • Cytomegaloviral sialedenitis		
3.	Salivary gland tumors	1. Discuss the etiology , site and features of the following: • Pleomorphic adenoma • Warthin's tumor • Adenoid cystic carcinoma • Acinic cell carcinoma		

		• Mucoepidermoid carcinoma • Basal cell adenoma		

3.3.12 METABOLIC AND GENETIC DISEASES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Genetic and developmental disorders of bone	1. Explain various dental and facial abnormalities related to: • Cleidocranial dysplasia • Cherubism • Osteopetrosis	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Fibro-osseous lesion	1. Describe the following in detail about fibro-osseous lesions: • Clinical features • Types • Associated syndrome • Radiographic features • Histological features • Differential diagnosis		
3.	Metabolic and endocrinal of bone	1. Discuss the pathogenesis, radiographic and diagnostic features of the following: • Paget's disease • Hyperparathyroidism • Hypothyroidism • Hypophosphatesia		
4.	Central giant cell granuloma	1. Describe clinical features, radiographic features and other disorders associated with central giant cell granuloma.		
5.	Tumors of bone	1. Classify bone tumors; 2. Describe clinical features, pathogenesis and diagnostic features of		

		various types of bone tumors.		

3.3.13 TEMPORO-MANDIBULAR JOINT DISORDERS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Developmental disorders	1. Discuss: • Aplasia of condyle • Hyperplasia/ hypoplasia of condyle	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Inflammatory disorders	1. Describe the clinical, histological and diagnostic features of : • Traumatic • Infective • Rheumatoid arthritis		
3.	Osteoarthritis	1. Discuss the Clinical features and causes of osteoarthritis.		
4.	Functional disorders	1. Discuss the etiology and clinical features of: • Myofascial pain – dysfunction syndrome • Disc displacement 2. Discuss age related changes in temporomandibular joint.		

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 3 CURRICUUM

ORAL PATHOLOGY CLINICAL ROTATION

S. NO.	CLINICAL AND PROCEDURAL SKILLS By the end of the clinical rotation the third year BDS student should be able to demonstrate the following:	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Instruments and chair position- demonstration.	1. Chair- side teaching 2. Teaching in radiology department 3. Supervised work on patients 4. Assessment of histological slides under microscope	1. OSCE 2. Direct observation of clinical skills 3. Direct observation of procedural skills Will be assessed during: 1. Daily supervision
2.	History taking and clinical examination.		
3.	Clinical examination of pathological conditions in OPD.		
4.	Interpretation of radiographs (Peri-apical, bitewing, OPG and occlusal).		
5.	Microscopic examination of oral pathologies.		

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

ORAL PATHOLOGY CLINICAL ROTATION TIMELY SCHEDULE

ORIENTATION SESSION:

- Introduction to department
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
    - OPD timings (Punctuality)
    - Dress code
        - Lab coat
        - Tied-up hair
        - Covered shoes etc.
- Hand wash technique
- Briefing about :
    - dental units,
    - instruments,
    - diagnosis and
    - patients' record maintenance
- History taking
- Clinical Examination
- Cross infection control

Third Year OPD Rotation

One Week

WEEK No. 1

DAY 1:

10:30 AM to 11:30 AM (Orientation)

11:30 AM to 12:30 PM (Demonstration – History taking)

12:30 PM to 01:00 PM (Demonstration – Clinical Examination)

DAY 2:

10:30 AM to 11:30 PM (History taking and clinical examination)

11:30 AM to 1:00 PM (See Table 1-A)

STUDENTS	DEMONSTRATORS	11:30 AM to 11:50 PM	11:50 AM to 12:20 PM	12:20 PM to 1:00 PM
1	D-1	Case presentation	Case assessment & discussion (Q & A session)	Log Book Entry
2				
3				
4	D-2	Case presentation	Case assessment & discussion (Q & A session)	Log book Entry
5				
6				
7	D-3	Case presentation	Case assessment & discussion (Q & A session)	Log book Entry
8				
9				
10	D-4	Case presentation	Case assessment & discussion (Q & A session)	Log book Entry
11				
12				

DAY 3:

10:30 AM to 11:30 AM History taking and clinical examination

11:30 AM to 1:00 PM Case presentation, case assessment and discussion

3.4 ORAL MEDICINE

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

COURSE: ORAL MEDICINE

COURSE CODE: 3.4

ALLOCATION OF CREDIT HOURS: 50 lecture hours; 75 practical hours

3.4.1 PRINICPLES OF INVESTIGATIONS AND DIAGNOSIS

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of third year BDS, the student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	History taking	1. Record a comprehensive history 2. Explain the significance of each component of history: A) Importance of recording the presenting complaint. B) Discuss underlying medical condition on the patients' oral health management	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2	Examination	Identify the steps for conducting extra-oral and intra-oral examination including examination of a. TMJ and muscles of mastication b. Cervical lymph nodes c. Cranial nerve examination, with emphasis on CN V and VII d. Describe the structure and function in health of the CN V & VII		

3.	Investigations	List the type of investigations related to: a. Basic Haematological b. Conventional Radiological c. Histological d. Special imaging e. Special lab investigation.		
		• 2. Define biopsy, classification and its indications		
4.	Diagnosis	• Outline the steps of diagnostic triage.		
5.	Treatment planning	Outline the steps for making of appropriate planning.		
6.	Prescription Writing, Referral letter & consent	1.Discuss the components and formulation of Prescription writing. 2.Discuss the formulation and importance of referral letters. 3.Discuss consent, its types and importance.		

3.4.2 ORAL INFECTIONS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS

1.	Bacterial Infections	1. Determine the signs, symptoms and clinical features of bacterial infections of the oro-facial region, e.g. a. Odontogenic infections, Cellulitis, Ludwig's angina b. Actinomycosis c. Syphilis d. Tuberculosis e. ANUG f. Noma 2. Determine the relevant investigations required for diagnosis. 3. Discuss the management with choice of antibiotic therapy.	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Viral Infections	1. Determine the signs, symptoms and clinical features of viral infections of the oro-facial region listed below: a. Herpes simplex virus b. Varicella zoster virus c. Coxsackie virus d. Epstein Barr virus e. Cytomegalovirus f. Human immunodeficiency virus 2. Determine the relevant investigations required for diagnosis of different viral infections of oral cavity. 3. Discuss the management with choice of antiviral therapy.		
3.	Fungal Infections	1. Describe the classification of oral candiadiasis 2. Determine the signs, symptoms and clinical features of fungal infections of the orofacial region 3. Determine the relevant investigations required for diagnosis 4. Discuss the management with choice of antifungal therapy. 5. Discuss the importance of mucor-mycosis and aspergilosis.		

3.4.3 ORAL ULCERATIVE LESIONS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Classification	1. Recall classification on the basis of etiology	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Non-vesiculobullous conditions	1.Define oral ulcers 2.Classify oral ulcers on the basis of etiology. 3.List Etiology, Clinical features and Management options for: Traumatic ulcer: Recurrent Apthous Stomatitis: Minor Apthous Ulcer Major Apthous Ulcers Herpetiform ulcers 4.Distinguish between Minor, Major and Herpetiform ulcers on the basis of their features. 5.Define Behcet's Disease. 6.List clinical features and management options of Behcet's disease. 7.Write down the Diagnostic criteria for Behcet's disease		
3.	Vesiculobullous conditions	1. Define Vesiculobullous Diseases. 2. Discuss Etiology, clinical features, Immunopathology and management of A. Pemphigus vulgaris. B. Pemphigoid C. Mucous membrane pemphigoid. D. Dermatitis herpetiformis and linear IgA disease. E. Epidermolysis bullosa. F. Erythma multiform		

3.4.4 ORAL SOFT TISSUE LESIONS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS

1.	White lesions	1. Describe the classification of white lesions 2. Describe the differences in etiology, history and clinical features of white lesions of oral cavity 3. Ascertain options for the management of persistent, un-resolving white lesions	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Red lesions	1. Describe classification of red lesions of oral cavity 2. Describe the differences in etiology, history and clinical features of red lesions of oral cavity 3. Ascertain options for the management of persistent, unresolving lesions		
3.	Pigmented lesions	1. Describe classification of pigmented lesions of oral cavity 2. Differentiate between malignant melanoma and other pigmented lesions of the oral cavity 3. Ascertain management of malignant melanoma		
4.	Pre-malignant lesions and ulcers	1. Differentiate between premalignant lesions and premalignant conditions 2. Describe the management of dysplastic lesions		
		3. Determine various risk factors for malignant changes in oral premalignant lesions/conditions		

3.4.5 MOTOR AND SENSORY CHANGES IN THE ORO-FACIAL

REGION

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Facial pain	1. Classify Oro facial pain on the basis of its etiology. 2. List Etiological factors ,Clinical Features, Investigation and Management Options of following: A. Trigeminal neuralgia. B. Atypical facial pain. C. Post herpetic neuralgia. D. Glossopharyngeal neuralgia E. Chronic orofacial pain. F. Giant cell Arthritis. G. Burning mouth syndrome. 3. Distinguish trigeminal neuralgia and post herpetic neuralgia. 4. Discuss tension type headache. 5. Distinguish between Migraine, cluster headache on the basis of its features, 6. Etiology and management option.	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Facial palsy	1. Develop understanding of the causes of facial palsy 2. Describe diagnosis and management of Bell's palsy 3. Discuss syndromes related to facial palsy 4. Refer patients presenting with Bell's palsy requiring complex treatment following the recommended guidelines		

3.4.6 SALIVARY GLAND DISORDERS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS

1.	Salivary flow obstruction	1. Classify diseases of salivary gland on the basis of: a. Functional disorders b. Obstructive disorders 2. Define Ptyalism and Xerostomia. 3. List causes and treatment options of ptyalism and Xerotomia Distinguish between Ranula and Mucoceole on the basis of clinical features, etiology, diagnostic criteria and treatment options. Salivary calculi	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
2.	Infections (sialadenitis)	1. Discuss various risk factors of salivary gland infections.		
		2. Discuss clinical features, etiology, investigation and management options for: a. Acute Bacterial Sialadenitis. b. Suppurtive parotitis . c. Chronic sialadenitis . d. Viral sialadenitis.		
3.	Non-neoplastic disorders	1. Define Sjogren's syndrome. 2. List clinical features, etiology, diagnostic criteria and management protocols of Sjogren's syndrome 3. Nacrotizing sialometaplasia. 4. Sialadenosis.		

3.4.7 TEMPOROMANDIBULAR JOINT DISORDERS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Evaluation	Determine etiology, common signs and symptoms, investigation and of : a. TMPDS. b. Arthritidies. c. Dislocation. d. Internal derangement. e. Ankylosis.	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE

2.	Treatment	1. Describe common pharmacological treatment options, 2. Occupational therapy 3. Prosthetic splint therapy 4. Alternative medical therapy for TMJ pain		

3.4.8 SYSTEMIC DISORDERS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Cardiovascular diseases	1.Describe protocol for thedental management of patients with CV diseases 2. Describe management of patients on warfarin therapy 3. Describe dental management of patients on antiplatelet medication	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. PPT Presentations	1. BCQS 2. OSCE
		4. Describe current guidelines for antibiotic prophylaxis for infective endocarditis 5. Describe oral manifestations of antihypertensive medication		
2.	Respiratory diseases	1. Ascertain management of an asthmatic and chronic obstructive pulmonary disease patient, e.g. risk of administration of general anaesthesia 2. Describe the clinical features, investigations and treatment of Sarcoidosis		
3.	Gastrointestinal diseases	1. Report on oral manifestations of GI diseases, e.g. Crohn's disease, ulcerative colitis, orofacial granulomatosis, Coeliac disease, hepatitis B and C 2. Describe protocol for the dental management of a patient with inflammatory bowel disease and hepatitis B and C		

4.	Renal diseases	1. Describe oral manifestations of renal diseases 2. Describe protocol for the dental management of a patient with chronic renal disease		
5.	Hematological diseases	1. Report on oral manifestations of the following hematological diseases • Anemia • Leukemia • Lymphoma 2. Describe protocol for the dental management of a patient with haematological disease		
6.	Hemorrhagic diseases	1. Report on oral manifestations of a. Purpura b. von Willebrand's disease c. Haemophilia 2. Describe protocol for the dental management of a patient with haemorrhagic disease		

Medical Emergencies Relevant to Dentistry

S. No	SUB-TOPICS	OBJECTIVES
1	Loss of consciousness Vasovagal syncope Acute hypoglycemia Adrenal crises Anaphylactic reaction Cardiac arrest Strokes Acute chest pain Angina Myocardial infarction Difficulty in breathing	At the end of course, student should be able to: **To have knowledge about the medical emergencies that may happen in dental clinic and their management**
2	Asthma Anaphylactic reaction Convulsions Epilepsy Other emergencies Hemorrhage Drug reactions and interactions Local anesthesia with adrenaline G.A Corticosteroids	At the end of course, student should be able to: **To have knowledge about the medical emergencies that may happen in dental clinic and their management**

Head and Neck swellings

S. No	SUB-TOPICS	OBJECTIVES
1.	Differential Diagnosis	Formulate a list of differentials for 1. Swellings of the lip 2. Swellings of the tongue 3. Ulceration of Tongue 4. Swellings of the neck including cervical lymphadenopathy

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 3 CURRICUUM
ORAL MEDICINE CLINICAL ROTATION

TOPICS	OBJECTIVES By the end of the clinical rotation the third year BDS student should be able to demonstrate the following	TEACHING METHODOLOGY	ASSESMENT TOOLS The students will be assessed mid-rotation and end-of rotation tests; mid-term and final examination through:
History taking and clinical examination	Take proper history To do proper clinical examination Refer to the respective department	A. Chair- side teaching B. Teaching in radiology department C. Supervised work on patients D. Presentations and Discussions	A. OSCEs B. Direct observation of clinical skills C. Direct observation of procedural skills Will be assessed during: Daily supervision Clinical rotation
Examination of TMJ	At the end of this practical students should be able to Examine the TMJ Diagnose different conditions related to TMJ Manage the TMDs	A. Chair- side teaching B. Teaching in radiology department C. Supervised work on patients D. Presentations and Discussions	A. OSCEs B. Direct observation of clinical skills C. Direct observation of procedural skills Will be assessed during: Daily supervision Clinical rotation
Diagnosing pulpitis and periodontitis	At the end of the practical the students should be able to Diagnose reversible and irreversible pulpitis	A. Chair- side teaching B. Teaching in radiology department C. Supervised work on patients	A. OSCEs B. Direct observation of clinical skills C. Direct observation of procedural skills Will be

	Differentiate between pulpitis and periodontitis Refer the patient to respective department	D. Presentations and Discussions	assessed during: Daily supervision Clinical rotation
Examination of Swelling	At the end of the course the student should be able to Examine the swellings related to orofacial region Differentiate between different types of swellings Investigations related to these swellings	A. Chair- side teaching B. Teaching in radiology department C. Supervised work on patients D. Presentations and Discussions	A. OSCEs B. Direct observation of clinical skills C. Direct observation of procedural skills Will be assessed during: Daily supervision Clinical rotation
Cranial Nerve Examination	At the end of this practical students should be able to Examine cranial nerves Diagnose the deficit of different nerves	A. Chair- side teaching B. Teaching in radiology department C. Supervised work on patients D. Presentations and Discussions	A. OSCEs B. Direct observation of clinical skills C. Direct observation of procedural skills Will be assessed during: Daily supervision Clinical rotation
Intra Oral Radiography and Orthopentamogram	At the end of the practical student should be able to Practically do the intra oral radiographs Develop the radiographs Diagnose different radiographic lesions	A. Chair- side teaching B. Teaching in radiology department C. Supervised work on patients D. Presentations and Discussions	A. OSCEs B. Direct observation of clinical skills C. Direct observation of procedural skills Will be assessed during: Daily supervision Clinical rotation

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

ORAL MEDICINE CLINICAL ROTATION TIMELY SCHEDULE

ORIENTATION SESSION:

- Introduction to department
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
    - OPD timings (Punctuality)
    - Dress code
        - Lab coat
        - Tied-up hair
        - Covered shoes etc.
- Hand wash technique
- Briefing about :
    - dental units,
    - instruments,
    - diagnosis and
    - patients' record maintenance
- History taking
- Clinical Examination
- Cross infection control

Third Year OPD Rotation

One Week

WEEK No. 1

DAY 1:

10:30 AM to 11:30 AM (Orientation)

11:30 AM to 12:30 PM (Demonstration – History taking)

12:30 PM to 01:30 PM (Demonstration – Clinical Examination)

DAY 2:

10:30 AM to 12:30 PM (History taking and clinical examination)

12:30 PM to 01:00 PM (See Table 1-A)

STUDENTS	DEMONSTRATORS	12:30 PM to 1:00 PM	1:00 PM to 01:00 PM
1	D-1	Case presentation	Case assessment & discussion (Q & A session)
2			
3			
4	D-2	Case presentation	Case assessment & discussion (Q & A session)
5			
6			
7	D-3	Case presentation	Case assessment & discussion (Q & A session)
8			
9			
10	D-4	Case presentation	Case assessment & discussion (Q & A session)
11			
12			

DAY 3:

10:30 AM to 12:30 AM History taking and clinical examination

12:30 AM to 1:00 PM Case presentation, case assessment and discussion

3.5 PERIODONTOLOGY

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

COURSE: PERIODONTOLOGY

COURSE CODE: 3.5

ALLOCATION OF CREDIT HOURS: 50 lecture hours; 125 practical hours

3.5.1 ANATOMY OF THE PERIODONTIUM

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of third year BDS, the student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Anatomy of the periodontium	1. Define Periodontal phenotype and classify its types. 2. Discuss external anatomic features related to the periodontium. 3. Describe types of oral mucosa and their characteristics. 4. Describe healthy periodontium 5. Describe the anatomy of Periodontium 6.Describe the physiology of Periodontium	1. Lecture	1. BCQS 2. Assignment
2.	Oral mucosa	1. Describe the types of Oral Mucosa	1. Lecture	1. BCQS 2. Assignment

3.	Gingiva	1. Explain the clinical features of healthy Gingiva 2. Classify the types of Gingiva and Anatomy • Marginal • Attached • Interdental 3. Enumerate the blood supply, Nerve supply and Lymphatic System of Gingiva 4. Enumerate the functions, features and types of Gingival epithelium& Connective Tissue 5. Describe biological Width	1. Lecture 2. Tutorial	1. BCQS 2. Assignment
4.	Periodontal Ligament	1. Discuss clinical features of Periodontal Ligament 2. Describe types of Periodontal fibers and Anatomy 3. Recognize blood supply, Nerve supply and Lymphatic system of Periodontium 4. Appraise functions of Periodontal ligament	1. Lecture 2. Tutorial	1. BCQS 2. Assignment
5.	Cementum	1. Describe clinical features of Cementum 2. Enumerate types and classification of cementum 3. Explain vascularization, innervation and its functions. 4. Describe cementoenamel junction 5. Describe hypercementosis 6. Explain ankylosis	1. Lecture 2. Tutorial	1. BCQS

6.	Alveolar Bone	1. Describe anatomy of alveolar bone 2. Discuss vascularization of the alveolar bone 3. Discuss composition of Alveolar bone 4. Describe bone marrow, Periosteum and Endosteum 5. Differentiate between fenestration and Dehiscence 6. Describe bone remodeling	1. Lecture 2. Tutorial	1. BCQS 2. Assignment
7.	Saliva	1. List composition of Saliva 2. List micro-flora of Saliva 3. Enlist Functions of Saliva	1. Lecture 2. Tutorial	1. BCQS
8.	Gingival crevicular fluid (GCF)	1. Describe Composition of GCF 2. Discuss micro-flora of GCF 3. Enlist functions of GCF	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.2 CLASSIFICATION, ETIOLOGY AND EPIDEMIOLOGY OF PERIODONTAL DISEASES

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Classification of Periodontal & Gingival Diseases	1. Describe the rationale to classify periodontal diseases 2. Classify periodontal diseases according to the current classifications (2017 classification). 3. Define staging and grading in periodontology. 4. Describe the characteristic features of gingival and	1. Lecture	1. BCQS 2. Assignment

		periodontal diseases and classify it according to staging and grading. 5. Discuss peri-implant diseases and conditions.		
2.	Epidemiology of Periodontal diseases; All Indices	1. Define epidemiology and index. 2. Discuss the need for epidemiology. 3. Classify different types of epidemiologic study design. 4. Describe the purpose and use of an index. 5. Discuss the characteristics of an ideal index. 6. Discuss the various indices used to assess periodontal diseases	1. Lecture 2. Tutorial 3. Clinical demonstration	1. BCQS 2. OSCE

3.5.3 PATHOGENESIS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		1. Discuss the characteristics of the epithelial component of Dento- gingival unit. 2. Enlist the key features of the histologic stages of Gingivitis and Periodontitis. 3. Discuss various inflammatory responses in the Peridontium 4. Enlist different	1. Lecture	1. BCQS 2. Assignment

		molecules involved in resolution of inflammation.		

3.5.4 Biofilm and Periodontal Microbiology

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Periodontal microbiology (Dental Plaque)	Define a biofilm. Discuss dental plaque, its formation and clinical significance List the microorganisms associated with various periodontal diseases.	Lecture Tutorial	BCQS Assignment OSCE
2.	Bacteria and their biofilm mode of living	Discuss the nonbacterial inhabitants of the oral cavity.		
3.	Supragingival dental biofilm	Discuss the factors that affect supragingival dental biofilm formation.		
4.	Histological and contemporary concepts in the etiology of periodontitis	Discuss different types of plaque hypothesis.		
5.	The microbiota of other periodontal	Discuss features of necrotizing		

	conditions	periodontal diseases. Discuss features of periodontal abscesses. Discuss features of endo-periodontal lesions. Discuss features of peri-implantitis.		

3.5.5 Aging and the Periodontium

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Periodontal changes with aging	Describe the general age changes and those in the periodontium. Discuss the effects of aging on progression of periodontal diseases. Discuss the effects of treatment on aging individual	1. Lecture	1. BCQS 2. Assignment

3.5.5 Defence mechanisms 0f the gingiva

S.NO.		TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSME TOOLS
1. 2.		Junctional Epithelium Defense Mechanisms	Discuss anatomic and structural aspects of junctional epithelium. List the various defense mechanisms of the gingiva. Describe the structure of the gingival crevice. Discuss the significance of the gingival sulcus and vasculature Discuss the composition and clinical significance of, and the effects of drugs on crevicular fluid. Describe the methods of collection of sulcular fluid. Discuss gingival fluid with regard to periodontal therapy	1. Lecture 2. Tutorial	1. BCQS 2. OSCE

3.5.7 Dental biofilm induced

1.		Discuss stage I, II, III, AND IV gingival inflammation.	Lecture	BCQS Assignment

3.5.8 Systemic and local diseases affecting gingiva

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Gingival manisfestations of systemic disease	Discuss features of: Granulomatosis with polyangitis Plasminogen deficiency Crohns disease Sarcoidosis Leukemia	Lecture Tutorial	BCQS Assignment OSCE
2.	Discoloration of the gingiva resulting from systemic disease	Discuss: Addison disease Peutz- jegher syndrome Laugier hunziker syndrome HIV/ AIDS associated melanosis.		
3.	Iatrogenic discoloration of the gingiva	Discuss silent features of Heavy metal induced pigmentation Drug induced melanosis Intentional gingival tatoos		

4.	Reactive lesions of gingiva	Discuss diseases involved in reactive lesions of the gingiva		
5.	Tumors	Discuss various types of benign and malignant tumors.		
6.	Discoloration of gingiva	Discuss features involved in Amalgum tatoo Smokers melanosis		

3.5.9 Acute gingival infections and management

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss the clinical features and management of: NUG Primary herpetic gingivostomatitis. Pericoronitis	Lecture Tutorial	MCQS Assignments OSCE

3.5.10 Desquamative gingivitis

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		1. Define desquamative gingivitis 2. Describe its clinical features 3. Differentiate between mild, moderate and severe form 4. Discuss factors involved □ Nutritional factors □ Hormonal factors □ Dermatological condition □ Chemotherapeutic agents □ Fungal infection	Lecture Tutorial	MCQS Assignments

3.5.11 Gingival enlargement and management

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
		1. Describe Inflammatory Enlargement 2. Discuss drug-induced Gingival Enlargement 3. Discuss: □ Enlargements associated with Systemic diseases □ Neoplastic enlargement □ Idiopathic gingival enlargement □ False enlargement □ Hormonal Changes	Lecture Tutorial	BCQS Assignment

3.5.12 Periodontitis

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Define periodontitis Discuss its general characteristics and symptoms Discuss its systemic dignosis related to staging and grading.	Lecture Tutorial	BCQS Assignment

3.5.13 The Periodontal Pockets and Patterns of Bone loss

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Periodontal pocket	1. Define periodontal pocket and pseudo pocket 2. Describe soft and hard tissue wall of Periodontal pocket 3. Enlist pocket contents 4. Classify periodontal pockets 5. List the features of periodontal pockets 1. Suprabony 2. Infrabony 6. Define pseudo pocket 7. List the Clinical Features of Pseudo pocket	Lecture	BCQS Assignment

2.	Pattern of Bone loss	Describe □ Bone destruction caused by extension of Gingival inflammation □ Bone destruction caused by Trauma from Occlusion □ Bone destruction caused by Systemic disorders 2. Discuss pattern of bone loss in periodontal disease: □ Horizontal bone loss □ Vertical/angular bone loss □ Radiological findings in Periodontitis	Lecture	BCQS Assignment

3.5.14 Smoking risk factor

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS

		Discuss: Effects of Smoking on the Prevalence and Severity of Periodontal Disease. Effects of Smoking on the Etiology and Pathogenesis of Periodontal Disease. Effects of Smoking on the Response to Periodontal Therapy. Effects of Smoking Cessation on Periodontal Treatment Outcomes	Lecture Tutorial	BCQS Assignment

3.5.15 Calculus and other local factors

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		1. Define calculus 2. Discuss calculus with reference to: □ Composition □ Maturation □ Structure microbiology 3. Discuss features of □ Supragingival calculus □ Subgingival calculus 4. Discuss pre-disposing factors of calculus	Lecture Tutorial	BCQS Assignment Osce

3.5.16 Influence of Systemic Diseases

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
		Describe the dietary and nutritional aspect of periodontal disease. Discuss the effects of hematologic, metabolic and endocrine disorders on periodontium. Describe the effect of cardiovascular diseases on periodontium. Describe the effects of antibody deficiency disorders on periodontium.	Lecture	BCQS Assignment

3.5.17 Impact of periodontal infection

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Pathobiology of Periodontiti. Discuss, Periodontal Disease and Oncogenesis Periodontal Disease, Coronary Heart Disease and Atherosclerosis Periodontal Disease and Stroke Periodontal Disease and Diabetes Mellitus Periodontal Disease and Asthma Periodontal Disease and Pregnancy Outcome	1.Lecture	BCQS Assignment

3.5.18 HIV and periodontium

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Oral and Periodontal Manifestations of HIV	lecture	BCQS

3.5.19 Acute periodontal infections + Abscess

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Acute periodontal infections	Discuss, Clinical Features of NUP Microscopic Findings of NUP Management of NUP	lecture	BCQS Assignment
2.	Periodontal abscess	1. Differentiate between: □ Acute Periodontal Abscess □ Chronic Periodontal Abscess 2. Discuss: □ Management and Treatment of Acute and Chronic Periodontal Abscess	1. Lecture 2. Tutorial	1. BCQS 2. OSCE 3. Assignment

3.5.20 Halitosis (Bad breath)

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss, Epidemiology of Malodor Etiology of Malodor Diagnosis of Malodor Treatment of Oral Malodor	1. Lecture 2. Tutorial	1. BCQS 2. OSCE 3. Assignment

3.5.21 Periodontal response to external forces

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Trauma from Occlusion	1. Define □ Acute & Chronic trauma □ Primary & Secondary trauma □ Discuss consequences of trauma □ iv) Describe tissue response to trauma	1. Lecture 2. Tutorial	1. BCQS 2. OSCE

3.5.22 Periodontal examination

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss 1. Diagnosis, Prognosis and Treatment Plan 2. Demonstrate □ History taking □ Examination of the Oral Cavity with emphasis on periodontitis 3. Formulating a list of Differential Diagnosis Fill the periodontal charting of the giving patient.	1. Lecture 2. Tutorial 3. Clinical demonstration	1. BCQS 2. OSCE

3.5.23 Radiographic aids

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Imaging Modalities for Periodontal Assessment. Intraoral Imaging Panoramic Imaging Digital Radiologic Imaging Cone-Beam Computed Tomography	1. Lecture 2. Tutorial 3. Clinical demonstration	1. BCQS 2. OSCE

3.5.24 Determination of Prognosis

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Types of Prognosis Discuss Factors in Determination of Prognosis Discuss Prognosis of Specific Periodontal Diseases Discuss Determination and Reassessment of Prognosis	1. Lecture 2. Tutorial 3. Clinical demonstration	1. BCQS 2. OSCE

3.5.25 Periodontal treatment plan

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss treatment options □ Mechanical control of Dental Plaque □ Motivation, education and instruction. □ Interdental cleaning □ Scaling and root planning with advantages and disadvantages. □ chemical control of dental Plaque □ chemotherapeutic agents for topical and systemic administration	1. Lecture 2. Tutorial 3. Clinical demonstration	1. BCQS 2. OSCE

3.5.26 Non-surgical phase of periodontal therapy

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss rationale of non surgical phase of periodontal therapy Discuss steps invoved in non surgical phase of periodontal therapy.	1. Lecture 2. Tutorial	1. BCQS 2. OSCE

3.5.27 Clinical Practice guideline for Treatment of Periodontitis

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Steps in the Management of Periodontitis	1. Lecture 2. Tutorial	1. BCQS 2. OSCE

3.5.28 Endo-perio lesions

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		1. Discuss: □ Biologic effects of pulpal infection on periodontal tissues □ Biologic effects of periodontal infection on dental pulp 2. Differentiate between pulpal and periodontal infection 3. Discuss the different treatment considerations	1. Lecture 2. Tutorial	1. BCQS 2. OSCE

3.5.29 Plaque biofilm control

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS

1.		Discuss Brushing Frequency, Duration, and Force required. Discuss various Toothbrushing Methods. Enlist Interdental Cleaning Devices Enlist various types of Dentifrices Discuss Chemical Plaque Biofilm Control With Oral Mouthrinses Enlist various types of Disclosing Agents	1. Lecture 2. Tutorial	1. BCQS 2. OSCE

3.5.30 Scaling and root instrumentation

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Classification of Periodontal Instruments Discuss General Principles of Instrumentation Discuss Principles of Scaling and Root Instrumentation Discuss, Evaluation of Sharpness Objectives of sharpness	1. Lecture 2. Tutorial 3. Clinical demonstration	1. BCQS 2. OSCE

3.5.31 Systemic antibiotics

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Power-Driven Instruments Discuss Mechanism of Action of Power Scalers Discuss Type and Benefit of Power Instruments Discuss Clinical Outcomes of Power-Driven Instruments Discuss Mechanism of Action of Irrigation	1. Lecture 2. Tutorial 3. Clinical demonstration	1. BCQS 2. OSCE

3.5.32 Locally derived antimicrobials

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Enlist Locally Delivered, Controlled-Release Antimicrobials Discuss Combination Adjunctive Therapy	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.33 Surgical phase of periodontal therapy

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Objectives of the Surgical Phase Discuss Surgical Pocket Therapy Discuss Critical Zones in Pocket Surgery Discuss Indications for Periodontal Surgery Discuss Methods of Pocket Therapy Discuss Criteria for Selection of the Method of Surgical Therapy Approaches to Specific Pocket	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.34 Periodontal and peri-implant surgical anatomy

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss basic anatomy of Mandible Maxilla Exostoses Muscles	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.35 General principles of periodontal surgery

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss the Presurgical Patient Preparation Enlist the Surgical Instruments used for the periodontal surgery Discuss Intraoperative Surgical Considerations Discuss Postsurgical Management of periodontal surgery Discuss the indications for the Periodontal Surgery in the Hospital	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.36 Periodontal surgical therapy

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Rationale for Periodontal Access Surgery Discuss Fundamentals of Periodontal Surgery Discuss Periodontal Surgical Techniques	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.37 Pocket reduction therapy

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Osseous Resection Technique Discuss Specific Osseous Reshaping Situations Discuss Flap Placement and	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

		Closure		

3.5.38 Periodontal regeneration

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Assessment of Periodontal Wound Healing versus Regeneration Enlist Regenerative Supportive Graft Materials Discuss Factors That Influence Therapeutic Success of periodontal regeneration	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.39 Periodontal plastic and aesthetic surgery

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss objectives of periodontal plastic surgery Discuss Causes of Marginal Tissue Recession Discuss Factors That Affect Surgical Outcome Discuss the different types of technque used in periodontal plastic and aesthetic surgery.	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.40 Preparation of periodontium for restorative dentistry

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Rationale for Therapy for the preparation of periodontium for restorative dentistry Discuss Sequence of Treatment for the preparation of periodontium for restorative dentistry	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.41 Supportive periodontal treatment

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Rationale for Supportive Periodontal Treatment Discuss Classification of Posttreatment Patients and Risk Assessment	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.42 Peri implant anatomy biology and function

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Implant Geometry (Macrodesign) Discuss Implant Surface Characteristics (Microdesign) Discuss Clinical Comparison of Teeth and Implants	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.43 Clinical evaluation of implant patient

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS

1.		Discuss, Case Types and Indications of implant. Pretreatment Evaluation for implant placement. Risk Factors and Contraindications of implant. Posttreatment Evaluation of implant placement.	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.44 Diagnostic imaging for implant patient

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss various types of radiographs used in implant placement. Discuss Clinical Selection of Diagnostic Imaging.	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.45 Basic implant surgical procedures

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss, General Principles of Implant Surgery Two-Stage “Submerged” Implant Placement One-Stage “Nonsubmerged” Implant Placement	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

3.5.46 Complications in implantology

S.NO	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.		Discuss Definitions of Implant Survival and Success Discuss Types and Prevalence of Implant Complications Discuss Types of Dental Implants	1. Lecture 2. Tutorial	1. BCQS 2. Assignment

		Discuss Planning to Avoid or Minimize Complications Discuss Surgical Complications Biologic Complications Discuss Complications Related to Augmentation Procedures Discuss Complications Related to Placement and Loading Protocols Discuss Prosthetic or Mechanical Complications Discuss Esthetic Complications and Phonetic Problems		

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 3 CURRICUUM

PERIODONTOLOGY CLINICAL ROTATION

S. NO.	CLINICAL AND PROCEDURAL SKILLS By the end of the clinical rotation the third year BDS student should be able to demonstrate the following:	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	General information on OPD rules	• Chair side teaching • Teaching on phantom teeth • Teaching in radiology department • Supervised work on patients	1. OSCEs 2. Chair-side viva 3. Direct observation of clinical skills 4. Direct observation of procedural skills Will be assessed: Daily supervision Mid-rotation test End-of rotation test (Ward test)
2.	Explain periodontal anatomy on models/ figures		
3.	History taking and clinical examination (demonstration on patient)		
4.	Periodontal examination (using different probes on models)		
5.	Plaque index and gingival index (on models)		
6.	Furcation grades (on phantom teeth)		
7.	Radiographic findings (peri- apical, bitewing, OPG and occlusal)		
8.	Oral hygiene aid, plaque control, antimicrobial agents, toothpastes, method of writing prescription		
9.	Revision of tooth numbering system and charting		
10.	Instruments and chair position-demonstration		
11.	Demo on manual scaling		
12.	Demo on ultrasonic scaling		

JINNAH MEDICAL AND DENTAL COLLEGE

THIRD YEAR BDS CURRICULUM

PERIODONTOLOGY CLINICAL ROTATION TIMELY SCHEDULE

ORIENTATION SESSION:

- Introduction to department
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
    - OPD timings (Punctuality)
    - Dress code
        - Lab coat
        - Tied-up hair
        - Close shoes etc.
- Hand wash technique
- Briefing about:
    - dental units,
    - instruments,
    - diagnosis and
    - patients' record maintenance
    - Log-book maintenance
- List of instruments required by the students
- Cross infection control
- Quota requirements
    - Manual Scaling
    - Ultrasonic Scaling

Clinical rotation schedule of 3rd year BDS

- Total months: 10
- Clinical timings: 10:30-1:30 pm
- No of groups: 2 (AB and CD)

WEEK 1

Day 1

10:30 AM to 11:30 AM (Orientation)

11:30 AM to 1:00 PM (general OPD rules)

01:00 PM to 01:30 PM (course information)

Day 2

10:30 AM to 11:30 AM (Periodontal anatomy)

11:30 AM to 1:00 PM (Periodontitis and gingivitis)

01:00 PM to 01:30 PM (Periodontal classification)

Day 3

10:30 AM to 11:30 AM (History taking demo)

11:30 AM to 1:00 PM (Periodontal examination)

01:00 PM to 1:30 PM (History taking of patients under supervision)

DEMONSTRATOR	LECTURE TOPIC	TIMINGS 10:30-11:30	TIMINGS 11:30-1:00	TIMINGS 1:00-1:30
D1	Orientation	Orientation	OPD rules	Course information
D2	Periodontal anatomy	Periodontal anatomy	Periodontitis and gingivitis	Periodontitis Classification
D3	History taking	History taking demo	Periodontal examination	History taking on patients

WEEK 2

Day 1

10:30 AM to 11:30 AM (Plaque index)

11:30 AM to 1:00 PM (Gingival index)

01:00 PM to 01:30 PM (History taking and Plaque index on patients under supervision)

Day 2

10:30 AM to 11:30 AM (Furcation grades)

11:30 AM to 1:00 PM (History and examination on patients)

01:00 PM to 01:30 PM (log book checking)

Day 3

10:30 AM to 11:30 AM (Radiograph types)

11:30 AM to 1:00 PM (Radiographic findings)

01:00 PM to 01:30 PM (Observe patient's radiographs)

DEMONSTRATOR	LECTURE TOPIC	TIMINGS 10:30-11:30	TIMINGS 11:30-1:00	TIMINGS 1:00-1:30
D1	Indices	Plaque index	Gingival index	History and plaque index on patient
D2	Furcation grades	Furcation grades	History and examination on patients	Logbook checking
D3	Radiograph types	Radiograph types	Radiographic findings	Observe patients radiographs

WEEK 3

Day 1

10:30 AM to 11:30 AM (Periodontal treatment plan)

11:30 AM to 1:00 PM (Instruments)

01:00 PM to 01:30 PM (log book checking)

Day 2

10:30 AM to 11:30 AM (Plaque control)

11:30 AM to 1:00 PM (Oral hygiene aids, Plaque control, Antimicrobial agents, toothpastes)

01:00 PM to 01:30 PM (Prescription writing and log book checking)

Day 3

10:30 AM to 11:30 AM (Gingival curettage)

11:30 AM to 1:00 PM (Gracey Curettes numbering and uses)

01:00 PM to 01:30 PM (Method of using curettes)

WEEK 4

DEMONSTRATOR	LECTURE TOPIC	TIMINGS 10:30-11:30	TIMINGS 11:30-1:00	TIMINGS 1:00-1:30
D1	Periodontal Treatment plan	Periodontal treatment plan	Instruments	Logbook
D2	Plaque control	Plaque control	Oral hygiene aid Prescription writing	Prescription writing and Logbook
D3	Gingival curettage	Gingival curettage	Gracey Curettes numbering	Method of using curettes and Logbook

Day 1

10:30 AM to 11:30 AM (Patient history)

11:30 AM to 1:00 PM (Patient history and examination)

01:00 PM to 01:30 PM (log book checking)

Day 2 and 3

Ward test

DEMONSTRATOR	LECTURE TOPIC	TIMINGS 10:30-11:30	TIMINGS 11:30-1:00	TIMINGS 1:00-1:30
D1	How to take patient history	Patient history practical	Patient examination	Logbook
D2	Ward test			
D3	Ward test			

FINAL YEAR

4.1 ORAL SURGERY

JINNAH MEDICAL AND DENTAL COLLEGE

FINAL YEAR BDS CURRICULUM

COURSE: ORAL SURGERY

COURSE CODE: 4.1

ALLOCATION OF CREDIT HOURS: 75 lecture hours; 250 practical hours

4.1.1. BASIC PRINCIPALS OF ORAL SURGERY

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of final year BDS, the student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Introduction, History, Diagnosis and Treatment Planning	1. Formulate treatment plan. 2. Describe: • Patient assessment • history 3. Perform clinical examination. 4. Identify radiographs.	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Sterilization. (instruments and armamentarium)	1. Discuss: • Techniques for disinfection and sterilization • Aseptic techniques • Universal Precautions		
3.	Incision. Flap design and tissue handling	1. Demonstrate: • Incisions • Flap design • Prevention of mishandling of tissue		
4.	Hemostasis management and suturing	1. Discuss dead space management. 2. Describe hemostasis 3. Describe means hemostasis		
5.	Post-operative care, nutrition, prevention of infection	1. Describe: • Decontamination and debridement • Edema control • Patient health nutrition		

6.	Wound healing (soft tissue and hard tissue)	1. List causes of tissue damage 2. Discuss wound repair and stages of wound healing 3. Discuss epithelialization 4. Discuss nerve injury and nerve healing		

4.1.2 MEDICAL ASPECTS OF ORAL SURGERY

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Prevention and Management of Medical Emergencies	1. History taking. 2. Demonstrate: • Physical examination on patients 3. Discuss: • Conditions that can worse the pre-existing medical conditions • Preventive measures	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Management of Medically compromised patient	1. Diagnose: • Dental problems 2. Discuss: • Obtain written consent. • Management of medically compromised patients • Prescribe medications, before and after procedure according to the requirement. • Management of pregnant patient.		

4.1.3 ANESTHESIA AND SEDATION

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Introduction and types of anesthesia	○ Classify anesthesia ○ Discuss different type of anesthetic solutions	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Preoperative assessment	1. Interpret investigations for general anesthesia fitness 2. Discuss criteria for patient selection		

		3. Describe mechanism of local anesthesia		
3.	Indication and contraindications	○ Discuss indications and contraindications of local anesthesia ○ Discuss indications and contraindications of general anesthesia		
4.	Administration and technique	○ Explain convention and specialized techniques for administration of local anesthesia		

4.1.4 EXODONTIA

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Clinical and radiographic evaluation of teeth for removal	1. Discuss: • Pain and anxiety control • Pre-surgical medical assessment • Clinical evaluation of teeth for removal • Radiographic examination	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Principles of use of instruments	▪ Identify instruments used for different types of procedures ▪ Demonstrate handling of instruments ▪ Discuss instrument tray setup		
3.	Non-surgical extraction	1. Discuss: • Indications and contraindications, techniques for removal of teeth. • Mechanical principles involved in tooth extractions • Principles for forceps use		

		• Post extraction care of tooth socket 2. Demonstrate chair positioning and procedure of closed extraction		
4.	Surgical extraction	1. Discuss: • Principles of flap design, suturing. • Types of mucoperiosteal flaps. o Demonstrate techniques for removal of single and multi-rooted teeth o Discuss policy for leaving root fragments o Formulate a treatment plan for extraction sequencing.		

4.1.5 IMPACTED TEETH

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Definition, Assessment & evaluation of impacted teeth	1. Define impactions 2. Classify impactions 3. Classify maxillary impacted teeth according to modified classification	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Indication contraindication & type of impaction	1. Discuss: • Indications and contraindications for removal of impacted teeth. • Preoperative and post-operative patient management after extractions		
3.	Techniques of removal	1. Demonstrate techniques for removal of teeth		
4.	Post-operative management and complications	1. Discuss intra-operative complications 2. Discuss root morphology 3. Describe surgical procedures for extractions		

		4. Discuss measures to prevent post-operative complication.		

4.1.6 INFECTIONS

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Acute infection	1. Classify spaces of infections 2. Explain: • Microbiology of infections, • Odontogenic infections	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Chronic infection			
3.	Spread of infection	1. Discuss natural history of progression of odontogenic infection		
4.	Principles of management of infection	1. Discuss principles of: • Therapy and prevention of Odontogenic infections. • Prophylaxis of wound infection and against metastatic infection		

4.1.7 CYSTS

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Diagnosis and management cyst	1. Discuss basic surgical goals 2. Describe surgical management of cysts and cyst like lesions of jaw	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE

4.1.8 ODONTOGENIC TUMOUR

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Diagnosis and management	1. Identify odontogenic tumors on patients 2. Describe surgical management of benign lesions in oral soft tissues 3. Discuss principles of surgical management of jaw tumors	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students'	1. BCQS 2. OSCE

2.	Resection	1. Discuss resections types and their indications. 2. Explain reconstruction of jaws after removal oral tumors.	Presentations	

4.1.9 MALIGNANT OROFACIAL TUMOURS

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Clinical features. Investigation & diagnosis of cancer	1. Discuss principles of surgical management of jaw tumors	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Principles of differential diagnosis and Biopsy	1. Discuss examination and diagnostic methods. 2. List principles of biopsy 3. Formulate a referral letter for biopsies if needed		
3.	Management (surgical radiography and chemotherapy)	1. Describe dental management of patient undergoing radiotherapy of head and neck 2. Describe dental management of patients on systemic chemotherapy for malignant disease		
4.	Reconstruction Principles	1. Classify the mucosal flaps used for construction 2. Describe basic constructive principles		

4.1.10 SALIVARY GLAND DISEASE

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Salivary gland infection, obstructive disease & tumors	1. Discuss: • Embryology, anatomy and physiology of salivary glands • Diagnostic modalities for salivary gland diseases • Obstructive salivary gland disease • Mucous retention and extravasation phenomenon	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Clinical features, investigation &			

	management of salivary gland disorders	• Salivary gland infections • Necrotizing Sialometaplasia • Sjogren's syndrome • Traumatic salivary gland injuries • Salivary gland disorders		

4.1.11 TMJ DISORDERES

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Classification of TMJ disorders	1. Classify temporo-mandibular disorders	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Clinical features, investigation & treatment modalities	1. Identify sign and symptoms of TMJ disorders 2. Evaluate a patient with TMJ disorder 3. Formulate a management plan for patient presenting with disorders 4. Prescribe relevant investigation		

4.1.12 PRE-PROSTHETIC SURGERY

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Correction of soft & hard tissue abnormities	1. Discuss: • Objectives of pre-prosthetic surgery • Principles of patient evaluation and treatment planning • Re-contouring alveolar ridges • Tori removal • Soft tissue abnormalities • Immediate dentures • Overdenture surgery • Mandibular and maxillary augmentation • Soft tissue surgery for ridge extension of mandible/maxilla	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Dental implants	1. Discuss: • Biologic considerations for osteointegration • Clinical implant components		

		• Implant prosthetic options • Preoperative evaluation • Surgical phases, treatment planning • Basic surgical techniques • Complications • Advanced surgical techniques		

4.1.13 FACIAL PAIN

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Diagnosis and management of Oro-facial pain	1. Classify orofacial pains. 2. Discuss: • Basics of pain neurophysiology • Neuropathic facial pains • Chronic headache • Chronic head pains of dental interest 3. Evaluate patients presenting to the OPD with orofacial pain	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE
2.	Clinical evaluation and management of trigeminal neuralgia	1. Discuss signs and symptoms, clinical history and management options of trigeminal neuralgia		

4.1.14 ORO-FACIAL NEUROPATHIES

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Diagnosis and management of facial palsy	1. Discuss the causes and management of facial nerve pathology	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE

4.1.15 CLEFT LIP AND PALATE

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Management of cleft lip and palate patents	1. Discuss embryology, causative factors and problems of the cleft affected individual 2. Discuss treatment and dental needs of cleft lip and palate	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE

4.1.16 ORTHOGNATHIC SURGERY

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Objectives & principles of management of Orthognathic surgery	1. Classify orthognathic procedures 2. Evaluation of patient 3. Discuss the procedure to correct jaw abnormality	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE

4.1.17 SURGICAL ENDODONTICS

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	Indication and technique (surgical Endodontics)	1. Discuss the following: • Drainage of abscess • Periapical • Corrective surgery • Healing • Recall • Adjunct • When to consider referral	1. Lectures 2. Tutorials 3. SGDs 4. Clinical Demonstrations 5. Students' Presentations	1. BCQS 2. OSCE

4.1.18 MAXILLOFACIAL TRAUMA

S.NO.	TOPICS	OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1.	BLS and ATLS	1. Discuss evaluation of patients with facial trauma 2. Demonstrate BLS and ATLS 3. Discuss emergency management	1. Lectures 2. Tutorials 3. SGDs 4. Clinical	1. BCQS 2. OSCE

2.	Traumatic injuries of teeth	1. Discuss: • Soft tissue injuries • Dento-alveolar injuries	Demonstrations 5. Students' Presentations	
3.	Management of soft tissue injuries			
4.	Management of mandibular fractures	1. Classify mandibular fractures 2. Discuss causes, signs, symptom, complications and management of mandibular fractures		
5.	Clinical features, investigation & manage of ZMC	1. Classify ZMC fractures 2. Discuss causes, signs, symptom, complications and management of ZMC fractures		
6.	Nasal & Orbital fractures	1. Discuss anatomy of orbit 2. Classification of orbital and nasal fractures 3. Discuss causes, signs, symptom, complications and management of orbital and nasal fractures		
7.	Mid face fracture	1. Classify Mid face fractures 2. Discuss causes, signs, symptom, complications and management of mid face fractures		

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 4 CURRICUUM

ORAL SURGERY CLINICAL ROTATION

S. NO.	CLINICAL AND PROCEDURAL SKILLS By the end of the clinical rotation the final year BDS student should be able to demonstrate the following:	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Instruments and chair position-demonstration.	1. Chair- side teaching 2. Teaching on models. 3. Teaching in radiology department 4. Teaching on extracted teeth 5. Supervised work on patients	1. OSCEs 2. Chair-side viva 3. Direct observation of clinical skills 4. Direct observation of procedural skills Will be assessed during: 1. Daily supervision 2. End-of rotation test (Ward test)
2.	History taking and clinical examination, treatment planning.		
3.	Interpretation of radiographs (Peri-apical, bitewing, OPG and occlusal)		
4.	Correct usage of instruments. (patients)		
5.	Administration of Local anesthesia. (patients)		
6.	Open and closed Extraction of teeth		
7.	Emergency management (patients)		
8.	Pre-operative assessment of medical conditions.		
9.	Post –operative care and homeostasis.		
10.	Management of Infection.		
11.	Suturing on foam suturing board.		
12.	Eyelet wiring on the plaster model.		

JINNAH MEDICAL AND DENTAL COLLEGE

FINAL YEAR BDS CURRICULUM

ORAL SURGERY CLINICAL ROTATION WEEKLY SCHEDULE

ORIENTATION SESSION:

- Introduction to department.
- Introduction to demonstrators/lecturers.
- Effective communication.
- Code of conduct:
  - OPD timings (Punctuality)
  - Dress code
    - -Lab coat
    - -Tied-up hair
    - -Covered shoes etc.
- Hand wash technique.
- Briefing about;
  - Dental units,
  - Instruments,
  - Diagnosis and
  - Patients' record maintenance
  - Log book maintenance
- Cross infection control.

Final Year OPD Rotation

Nine Weeks

WEEK No. 1

DAY 1:

10:30 AM to 11:30 AM (Orientation)

11:30 AM to 12:30 PM (History taking Demonstration)

12:30 PM to 01:30 PM (Patient history and short case presentation)

DAY 2:

10:30 AM to 11:30 AM (Diagnosis, general and intra-oral examination Demonstration)

11:30 AM to 12:30 PM (Radiograph Demonstration)

-Identifying the radiographs.

-Assessment of radiographs.

12:30 PM to 01:30 PM (Patient history and Diagnosis)

DAY 3:

10:30 AM to 12:00 AM (Examination cranial nerves)

12:00 AM to 12:30 PM (Patient history and diagnosis)

12:30 PM to 01:30 PM (Diagnosis)

DAY 4:

10:30 AM to 11:30 AM (Local anesthesia Demonstration)

11:30 AM to 12:30 PM (Patient history and Diagnosis)

12:30 PM to 01:30 PM (Diagnosis)

TABLE 1-A

STUDENTS	DEMONSTRATORS	11:30 PM TO 12:50 PM	12:50 PM TO 01:20 PM	01:20 PM TO 01:30 PM
1	D-1	Diagnosis supervision	Patient procedure supervision	Log book entry
2	D-1	Patient procedure supervision	Diagnosis supervision	Log book entry
3	D-1	Diagnosis supervision	Patient procedure supervision	Log book entry
4	D-2	Diagnosis supervision	Patient procedure supervision	Log book entry
5	D-2	Patient procedure supervision	Diagnosis supervision	Log book entry
6	D-2	Log book entry	Patient procedure supervision	Log book entry
7	D-3	Diagnosis supervision	Patient procedure supervision	Log book entry
8	D-3	Patient procedure supervision	Diagnosis supervision	Log book entry

9	D-3	Diagnosis supervision	Patient procedure supervision	Log book entry
10	D-4	Diagnosis supervision	Patient procedure supervision	Log book entry
11	D-4	Patient procedure supervision	Diagnosis supervision	Log book entry
12	D-4	Diagnosis supervision	Patient procedure supervision	Log book entry

Day 5:

10:30 AM to 11:00 AM (Patient history and Diagnosis)

11:00 AM to 12:00 PM (Diagnosis) – See Table 1-B

TABLE 1-B

STUDENTS	DEMONSTRATORS	11:00 PM TO 11:20 AM	11:20 AM TO 11:50 AM	11:50 AM TO 12:00 PM
1	D-1	Diagnosis supervision	Patient procedure supervision	Log book entry
2	D-1	Patient procedure supervision	Diagnosis supervision	Log book entry
3	D-1	Diagnosis supervision	Patient procedure supervision	Log book entry
4	D-2	Diagnosis supervision	Patient procedure supervision	Log book entry
5	D-2	Patient procedure supervision	Diagnosis supervision	Log book entry
6	D-2	Log book entry	Patient procedure supervision	Log book entry
7	D-3	Diagnosis supervision	Patient procedure supervision	Log book entry
8	D-3	Patient procedure supervision	Diagnosis supervision	Log book entry
9	D-3	Diagnosis supervision	Patient procedure supervision	Log book entry

10	D-4	Diagnosis supervision	Patient procedure supervision	Log book entry
11	D-4	Patient procedure supervision	Diagnosis supervision	Log book entry
12	D-4	Diagnosis supervision	Patient procedure supervision	Log book entry

Week 2 to 7:

Further demonstrations and practicing of these demonstrations along with patient extraction procedures, hemostasis and Post-operative care management, Presentations.

BLS/ATLS introduction and basic steps.

Suturing.

Wiring (IMF).

WEEK 8, 9:

End-of-rotation Assessment (Ward test)

4.2 OPERATIVE DENTISTRY

JINNAH MEDICAL AND DENTAL COLLEGE

FINAL YEAR BDS CURRICULUM

COURSE: OPERATIVE DENTISTRY

COURSE CODE: 4.2

ALLOCATION OF CREDIT HOURS: 55 lecture hours; 250 practical hours

4.2.1 OPERATIVE DENTISTRY

S. NO.	TOPIC	LEARNING OBJECTIVES By the end of final year BDS, the student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1	Clinical significance of dental anatomy, histology, physiology	1. Describe teeth and supporting structures with respect to morphology, structure and properties of the following tissues: • Enamel • Pulp-Dentin complex • Cementum • Gingiva • Oral mucosa 2. Describe the clinical impact of restorative dentistry on teeth and supporting structures of the teeth. 3. Describe the importance of dento-gingival complex and biologic width in restorative dentistry.	1. Lecture 2. Group presentations	1. Group presentations 2. BCQS 3. OSCE
2	Dental Caries: Etiology, Clinical Characteristics, Risk Assessment, and Management	1. Define dental caries. 2. Describe the etiology and pathogenesis of dental caries. 3. Describe factors influencing dental caries process. 4. Discuss the role of plaque bio-film in progression of dental caries. 5. Discuss the role of saliva in prevention of dental caries	1. Lecture 2. Small group discussion	1. BCQS 2. OSCE

		6. Name the microorganisms responsible for dental caries. 7. Draw the Stephan's curve. 8. Describe clinical characteristics and progression of carious lesions in: • Pit and fissures, • Smooth surfaces, • Root surfaces. 9. Describe the progression of carious lesions in: • Enamel, • Dentin. 10. Discuss the different zones of enamel and dentin caries. 11. Discuss methods of detection and diagnosis of dental caries. 12. Apply International Caries Detection and Assessment System (ICDAS II) to clinical scenarios. 13. Assess dental caries risk for a patient. 14. Discuss Caries Management by Risk Assessment (CAMBRA). 15. Discuss protocols and strategies for prevention of dental caries. 16. Discuss non-invasive options for treatment of existing lesions. 17. Define caries control restorations. 18. Describe the clinical protocol for caries control restorations. 19. Justify maintenance care and recall visit intervals for high risk individuals 20. Summarize the various possible reactions of the pulp-dentin complex to a deep carious lesion. 21. Define: • Stepwise excavation, • Indirect pulp cap, • Direct pulp cap (carious and iatrogenic). 22. Discuss the rationale of stepwise excavation.		

		23. Enumerate materials that can be used for direct and indirect pulp cap. 24. Explain the clinical protocol for direct and indirect pulp cap procedures.		
3	Patient assessment, examination, diagnosis and treatment planning	1. Discuss the importance of a thorough medical and dental history. 2. Demonstrate history taking Analyze the symptoms of presenting complaint. 3. Interpret information gained from the elements of a clinical examination: • Dentition • Occlusion • Periodontium, • Evaluation of radiographs, • Evaluation of diagnostic casts and photographs. 4. Discuss esthetic parameters to be considered when restoring the dentition. 5. Discuss the importance of dental record keeping. 6. Explain dental disease; interpretation and use of diagnostic findings	1. Lecture 2. Tutorial/ Small Group Discussion, 3. Case presentations 4. Clinical teaching	1. BCQS 2. OSCE
4	Preliminary Considerations in Operative Dentistry	1. Explain the need of correct patient and operator positions while performing restorative procedures. 2. Demonstrate the ideal operating positions when carrying out various procedures. 3. Discuss the importance of isolation in operative dentistry and endodontics. 4. Describe different methods used for isolation. 5. List the armamentarium required for rubber dam isolation. 6. Demonstrate application and removal of rubber dam for operative dentistry and endodontics.	1. Tutorial/ Small Group Discussion 2. Clinical Teaching	1. Assignment 2. OSCE

5	Sterilization and Disinfection	1. Differentiate between the following terms: • Sterilization, • Disinfection, • Asepsis. 2. Discuss the importance of sterilization and disinfection. 3. Enlist elements of a sterilization plan. 4. Compare various methods used for sterilization. 5. Discuss methods to monitor effectiveness of sterilization. 6. List the chemicals that are used for disinfection. 7. Discuss general considerations for infection control in the dental office.	1. Lecture 2. Tutorial	1. Group presentations 2. Quiz
6	Radiographic Assessment	1. Describe importance of radiographs in operative dentistry. 2. Identify normal anatomic structures of maxilla and mandible on a: • Periapical x-ray, • Bitewing x-ray, • Occlusal x-ray, • Orthopantomogram (OPG). 3. Discuss the indications and limitations of the following x-rays views for diagnostic purposes: • Periapical x-ray, • Bitewing x-ray, • Occlusal x-ray, • Orthopantomogram (OPG).	1. Lecture 2. Tutorial/ Small Group Discussion 3. Clinical Teaching	1. OSCE
7	Fundamental concepts of Enamel and Dentin Adhesion	1. List advantages of adhesive techniques over conventional, non-adhesive methods. 2. Explain why the structure of enamel is a favorable substrate for bonding. 3. Explain how the structure of dentine is different from enamel. 4. Discuss the effect of smear layer on dentin bonding.	1. Lecture 2. Small group discussion 3. Students group presentation	1. BCQS

		5. Explain the effect of Configuration Factor (C-factor) on bonding. 6. Classify modern adhesives. 7. Describe smear layer modifying adhesives. 8. Discuss etch and rinse adhesives. 9. Explain the effect of acid conditioning on enamel. 10. Discuss difficulties in dentine conditioning. 11. Discuss chemistry of primers and adhesive resin (bonding agent). 12. Explain the importance of hybridization for effective dentine bonding. 13. Discuss self-etch adhesives. 14. Compare 4th, 5th 6th and 7th generation adhesives. 15. Explain the steps involved in enamel bonding. 16. Describe steps in dentin bonding 17. Explain the difference between moist vs. dry dentin surfaces while bonding with etch and rinse adhesives 18. Differentiate between microleakage and nanoleakge 19. Explain the role of water and proteins in dentin bonding		
8	Fundamentals of Tooth Preparation	1. Classify carious lesions and tooth preparation. 2. Describe the nomenclature of tooth surfaces in a prepared cavity 3. Describe the objectives of tooth preparation. 4. Enlist factors that need to be considered before tooth preparation. 5. Outline the steps in the initial and final stages of tooth preparation. 6. Plan restorations in different clinical situations.	1. Lecture 2. Tutorial 3. Clinical teaching/ chair side teaching	1. BCQS 2. OSCE

9	Instruments and Equipment for Tooth Preparation	1. Differentiate between hand and rotary instruments used for tooth preparation. 2. List various cutting and noncutting hand instruments. 3. Discuss the design features and nomenclature of hand cutting instruments. 4. Demonstrate the various instrument grasp techniques 5. Identify rotary cutting equipment, instruments based on their design characteristics. 6. Analyze the latest developments for tooth preparation and caries removal including: • Lasers, • Ozone, • Air abrasion. 7. Discuss hazards of cutting instruments and their prevention.	1. Lecture 2. Tutorial/ Small Group Discussion 3. Chair side teaching/ clinical teaching	1. BCQS 2. OSCE
10	Occlusion concepts	1. Define the terms: • Occlusion, • Static occlusion, • Dynamic occlusion, • Centric relation, • Maximum intercuspation, • Supporting cusps, • Non-supporting cusps. 2. Explain the types and directions of mandibular movements. 3. Review the importance of restoring occlusion in restorative dentistry.	1. Lecture	1. BCQS
11	Restorative Materials	1. Discuss the composition, properties, merits and shortcomings of materials used for direct restorations: • Amalgam, • GIC, • Composite.	1. Lecture 2. Tutorial/ Small Group Discussion	1. Group presentations 2. BCQS
12	Amalgam Restorations	1. Discuss chemistry of dental amalgam. 2. Discuss mercury hazards and how to manage mercury disposal	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE

		3. List advantages and disadvantages of amalgam restorations. 4. Demonstrate class I and II cavity preparation. 5. Discuss methods of improving resistance and retention form of a simple class I and II restoration. 6. Define complex restorations. 7. Discuss ways of improving resistance and retention form of complex restorations. 8. Highlight the need for cuspal coverage with special reference to rule of thirds. 9. Describe types of dentin pins. 10. Describe the method of placement of dentin pins. 11. Discuss importance of matrices and wedges. 12. Enlist various types of matrix band systems. 13. List various parts of tofflemire. 14. Describe the method of using a tofflemire. 15. List different types of wedges. 16. Explain bonded amalgam restorations. 17. Describe placement of amalgam in simple and complex cavities. 18. Discuss other cavity preparation designs e.g. box only preparation, tunnel preparation. 19. Discuss cavity preparation and restoration of a class VI lesion.	3. Clinical teaching	
13	Direct Anterior Composite Restorations	1. Discuss the chemistry of anterior composites. 2. Describe pre-operative evaluation for an anterior composite restoration. 3. Analyze factors influencing shade selection. 4. Discuss guidelines for shade matching. 5. Discuss various methods of shade selection.	1. Lecture 2. Individual presentations	1. BCQS 2. OSCE

		6. Demonstrate cavity preparation for class III restorations. 7. Demonstrate cavity preparation for class IV restorations. 8. Discuss importance of matrices and wedges. 9. Demonstrate composite placement technique for class III and IV restorations. 10. List indications, contraindications, advantages and disadvantages of direct composite veneers. 11. Describe clinical steps for placing direct resin composites veneer. 12. Explain the technique for diastema closure with direct composite. 13. Discuss different instruments used for finishing and polishing of composite restorations and their use.		
14	Direct Posterior Composite Restorations	1. List indications, contraindications, advantages and disadvantages for composite resin as a posterior restorative material. 2. Describe preoperative evaluation for a posterior composite restoration. 3. Describe placement technique for preventive resin restoration. 4. Explain the importance of pre-wedging in class II composites. 5. Prepare a class II cavity. 6. Explain bonded base technique. 7. Classify matrix systems available for composite restorations. 8. Compare circumferential and sectional matrix systems. 9. Discuss methods to minimize polymerization shrinkage when placing composite.	1. Lecture 2. Individual presentation 3. Clinical teaching	1. OSCE 2. BCQS

		10. List different methods to create a tight contact for class II composite restorations. 11. List various resin polymerization equipment. 12. Discuss other cavity preparation designs e.g. box only preparation, tunnel preparation. 13. Discuss cavity preparation and restoration of a class VI lesion.		
15	Class V Restorations	1. Demonstrate cavity preparation for class V restorations. 2. Describe non-surgical and surgical techniques for isolating class V restorations. 3. Justify the choice of restorative materials from those available for restoring class V lesions. 4. List ways of improving retention of class V composite restorations.	1. Lecture 2. Clinical teaching	1. BCQS 2. OSCE
16	Diagnosis and Treatment of Root Caries	1. Define root caries. 2. Describe appearance and location of root caries. 3. List etiology and risk factors associated with root caries. 4. Discuss preventive and chemotherapeutic strategies to treat root caries. 5. Discuss available restorative materials for treating root caries.	1. Lecture 2. Clinical teaching	1. BCQS 2. OSCE
17	Tooth Surface Loss	1. Explain the following types of tooth surface loss: • Abrasion, • Attrition, • Erosion, • Abfraction. 2. Discuss the etiology of each. 3. Discuss the prevention and management of tooth surface loss. 4. Discuss etiology, pathogenesis and management of dentine hypersensitivity.	1. Lecture 2. Small group discussion	1. BCQS 2. OSCE

18	Discoloration of Teeth	1. Describe the intrinsic and extrinsic causes of tooth discoloration. 2. Describe mode of action of bleaching agent on stains. 3. List the advantages and disadvantages of commonly used bleaching agents and their strengths. 4. List the indications and contraindications of various types of bleaching techniques. 5. Explain technique for: • In-office/power vital bleaching • At-home vital bleaching • Non-vital bleaching. 6. Describe the procedure for micro-abrasion and macro-abrasion.	1. Lecture 2. Small group discussion	1. OSCE 2. BCQS
19	Periodontology applied to Operative Dentistry	1. Discuss the basic concept of the periodontium relevant for restorative dentistry 2. Relate the concept of the biological width to clinical scenarios 3. Describe the challenges in periodontal health affecting restorative dentistry 4. Describe different gingival biotypes 5. Discuss crown lengthening procedures 6. Discuss the sequalae of biological width violation 7. Describe retraction cords and impressions	1. Lecture	1. BCQS 2. OSCE

4.2.2 ENDODONTICS

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Biology of Dental Pulp and Peri-radicular Tissue	1. Describe the stages of development of tooth. 2. Describe the development of dentin and its types. 3. Explain the properties of root dentin.	1. Lecture 2. SGD	1. BCQS

		4. Illustrate the morphological zones of the pulp. 5. Explain the importance of different type of cells in the pulp. 6. Describe the blood vessels and lymphatic of pulp. 7. Explain the neural components of pulp and its distribution. 8. Describe the pathways of efferent nerves from the pulp to central nervous system. 9. Discuss the theories of dentin sensitivity. 10. Discuss changes in pulp morphology with age. 11. Describe the structure and function of peri-radicular tissues.		
2	Preserving Pulp Vitality	1. Explain the physiologic and structural characteristics of pulp. 2. Discuss pulp response to injury. 3. Discuss pulp reaction to local anesthesia. 4. Discuss pulp reaction to restorative procedures. 5. Discuss pulp reaction to 6. Restorative materials. 7. Discuss pulp reaction to Laser procedures. 8. Discuss pulp reaction to Bleaching. 9. Discuss pulp reaction to Periodontal procedures. 10. Discuss pulp reaction to Orthodontic procedures. 11. Explain the formation and role of tertiary dentin in pulp protection. 12. Describe preventive measures during dental restorative procedures to preserve pulp vitality.	1. Lecture 2. Clinical teaching	1. BCQS 2. OSCE
3	Endodontic Microbiology	1. Describe the association of microbes with pulpal and peri-radicular diseases. 2. Describe the routes of entry of microorganisms to the pulp and peri-radicular tissues.	1. Lecture 2. Clinical teaching	1. BCQS 2. OSCE

		3. Discuss the different types of endodontic infections. 4. Discuss the detection and identification of putative pathogens 5. Describe the management of abscess and cellulitis 6. Discuss the types of anti-biotic in endodontic infection 7. Discuss the role of prophylactic antibiotics for medically compromised patients 8. Explain the association of oral and systemic diseases.		
4	Pulp and Peri radicular Pathosis	1. Classify pulpal diseases 2. Classify peri-radicular lesions of pulpal origin along with their clinical and histological features. 3. Describe etiological factors of pulp inflammation. 4. Explain mechanism of spread of inflammation in the pulp. 5. Explain why the pulp has difficulty in recovering from severe injury. 6. List specific and non-specific indicators of pulpal inflammation. 7. Classify pulpal diseases along with their clinical and histological features. 8. Explain the consequences of spread of pulpal inflammation into peri-radicular tissues. 9. Describe steps involved in repair of periapical pathosis after successful root canal treatment. 8. Describe non-endodontic lesions that may simulate endodontic peri-radicular pathosis.	1. Lecture	1. BCQS 2. OSCE
5	Endodontic Diagnosis and Treatment Plan	1. Justify questions regarding history and symptoms of presenting complaint. 2. Describe the importance of medical and dental history. 3. Perform complete extra- and intraoral examination to	1. Lecture 2. Tutorial/ Small Group Discussion 3. Clinical teaching	1. Case presentations 2. BCQS 3. OSCE

		ascertain pulpal and periapical health. 4. Correlate findings from different investigations 5. Select the correct method of investigation keeping in mind their limitations. 6. Correlate radiographic findings with history and clinical examination. 7. Discuss the common medical diseases that may influence endodontic treatment planning. 8. Discuss special considerations when planning treatment for geriatric patients. 9. Synthesize all the data to formulate a diagnosis and treatment plan. 10. Discuss the importance of an informed consent in endodontics. 11. Justify referral to an endodontist in certain cases.		
6	Endodontic Radiology	1. Identify normal anatomic structures of maxilla and mandible on radiograph. 2. Describe importance of radiographs in endodontics. 3. Discuss the principles of endodontic radiography. 4. Interpret the radiographs in relation to endodontics. 5. Discuss the limitations of radiograph in endodontics. 6. Describe radiographic characteristics of periapical lesion of endodontic origin. 7. Describe reasons for varying horizontal and vertical cone angulations to create image shift. 8. Describe the SLOB rule. 9. Describe new technologies for radiographic imaging and how they will affect the prognosis of your treatment.	1. Lecture 2. Tutorial/ Small Group Discussion 3. Clinical Teaching	1. BCQS 2. OSCE 3. Case-based viva
7	Pulp Anatomy	1. Explain the components of root canal system.	1. Lecture	1. BCQS 2. Individual Assignment

		2. Discuss objectives and guidelines for access cavity preparation. 3. Explain the relationship of shape of pulp system to root anatomy. 4. State laws of canal orifice location. 5. List the significance of iatrogenic or pathologic factors that may cause alterations in pulp anatomy. 6. Define pulp space and list and describe its major components. 7. Describe variations in the pulp system in apical third. 8. Describe how to determine clinically the distance from occlusal/incisal surface to the roof of chamber. 9. Define accessory canals. 10. Differentiate between anatomic, radiographic and actual location of apical foramen. 11. Describe common variations in pulp anatomy resulting from developmental abnormalities. 12. Describe changes in pulp anatomy that occur with age. 13. Draw a representative example of the most common internal and external anatomy of each tooth in sagittal section and in cross section.	2. Tutorial/ Small Group Discussion	3. Final Examination
8	Instruments in Endodontics	1. Describe diagnostic materials and devices. 2. Perform a tray set-up for basic set of instruments appropriate for various endodontic procedures. 3. Explain materials for endodontic field isolation. 4. Explain the general physical properties of instruments. 5. Identify the endodontic instruments based on the design and use.	1. Lecture 2. Clinical teaching	1. BCQS 2. OSCE

		6. Explain the basis for sizing and taper of hand operated instruments. 7. Describe proper use of instruments to prevent breakage within canal. 8. Recognize visible changes in instruments that will predispose to breakage. 9. Describe techniques for sterilization and disinfection. 10. Describe nickel titanium rotary instruments.		
9	Local anesthesia in endodontics	1. Discuss the mechanism of action for anesthetics. 2. Define pain threshold and the factors affecting it. 3. Explain the selection of local anesthetic and their possible side effects. 4. Enlist important clinical factors in local anesthesia. 5. List techniques that are helpful in giving "painless" injections. 6. Describe the "routine" approach to conventional local anesthesia. 7. Describe circumstances that create difficulties in obtaining profound anesthesia. 8. Describe when to use supplemental methods of obtaining pulpal anesthesia. 9. Review techniques of intraosseous, periodontal ligament, and intrapulpal injections.	1. Lecture 2. Clinical Training	1. BCQS 2. OSCE
10	Isolation, Endodontic Access, and Length Determination	1. Describe methods of isolation in endodontics with emphasis on rubber dam isolation. 2. Explain the importance of pre-operative assessment as pre-requisite for treatment success. 3. Explain the importance of pre-endodontic buildup. 4. Describe the objectives of access cavity preparation. 5. Discuss the general principles of endodontic access cavity.	1. Lecture 2. Clinical Teaching	1. BCQS 2. OSCE

		6. Discuss the challenging access preparation. 7. Explain the mechanical phases of access cavity preparation. 8. Draw outline of access cavity of each tooth. 9. Describe average length and canal configuration of various teeth. 10. Describe technique for locating canal orifices. 11. Identify errors during access cavity preparations 12. List the methods to correct errors during access cavity preparation. 13. Describe various methods of working length determination.		
11	Cleaning and Shaping	1. List the steps of root canal treatment. 2. Differentiate infection of pulp space from other tissues of body. 3. Explain the purpose of cleaning the pulp space. 4. Enumerate the biological and mechanical objectives of root canal cleaning and shaping. 5. Explain the concept of apical patency. 6. Describe basic and combined instruments movements. 7. Describe different techniques of canal preparation. 8. Explain step-back and crown-down technique. 9. Explain how to minimize preparation errors in curved canal. 10. Discuss management of calcified canals. 11. Differentiate between NiTi rotary files and SS files 12. Explain the importance of irrigants. 13. Name various irrigants that are used in endodontics 14. List properties of an ideal irrigant.	1. Lecture 2. SGD 3. Clinical Teaching	1. BCQS 2. OSCE

		15. Choose irrigation techniques that provide maximum effect. 16. Explain disinfection of canal. 17. Discuss smear layer management.		
12	Intra Canal Medicaments and Temporary Filling Materials	1. Enumerate different microorganisms involved in endodontic pathosis. 2. Explain the importance of intracanal medicament. 3. Discuss the properties and role of intra-canal, inter-appointment medicaments. 4. Categorize various agents used as intra-canal medicament. 5. Describe the method of application and instruments used for intra-canal medication. 6. Describe techniques used for placement and removal of temporary filling materials.	1. Lecture 2. SGD 3. Clinical teaching	1. BCQS 2. OSCE
13	Root Canal Obturation	1. Discuss the importance of coronal seal. 2. Explain the purpose of obturation 3. Summarize the reasons why inadequate obturation may result in treatment failure. 4. Explain the timing of obturation. 5. Explain the length of obturation and its significance. 6. Explain the clinical criteria that determines the time of obturation. 7. List the properties of ideal obturation material. 8. Name the core obturation materials. 9. Describe the composition and properties of gutta percha. 10. Describe advantages and disadvantages of each core material. 11. Enlist properties of ideal sealer 12. Explain the need for using a sealer. 13. Name various types of sealers.	1. Lecture 2. Clinical teaching	1. BCQS 2. OSCE

		14. Describe lateral condensation technique. 15. Describe briefly other techniques used for obturation. 16. Discuss the clinical and radiographic criteria for evaluating the quality of obturation.		
14	Procedural Accidents	1. Identify procedural endodontic mishaps 2. Describe their causes, prevention and treatment during: • Access cavity preparation, • Cleaning and shaping • Obturation. 3. Discuss the management of following errors: • Transportation, • Ledging, • Elbow, • Zipping, • Root perforations- apical, middle and coronal, • Separated instruments, • Aspiration and ingestion, • Hypochlorite accident, • Air Emphysema. 4. Discuss how procedural errors can affect the prognosis of treatment.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. Individual Assignment 3. OSCE
15	Endodontic Emergencies	1. Explain the causes of emergencies before treatment, inter-appointment and after obturation. 2. Explain how the emotional status of emergency patient can complicate diagnosis and treatment. 3. Discuss the importance of sequential approach to endodontic emergencies. • Determine source of pain, • Establish a pulpal and periapical diagnosis, • Design an emergency (short term) treatment plan, • Design a long term treatment plan.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE

		4. Describe the management of various endodontic emergencies including: • Painful irreversible pulpitis, • Necrotic pulp with acute apical periodontitis, • Acute apical abscess, • Acute apical periodontitis. 5. Identify inter-appointment flare-up 6. Describe the management of inter-appointment flare-up. 7. Recognize post-obturation flare-up 8. Describe the management of post-obturation flare-up. 9. Discuss pharmacological therapy used in emergency and its role in controlling pain and infection. 10. Enlist the indications and contraindications for prescribing analgesics, antibiotics, anti-inflammatory agents and anxiolytics. 11. Discuss the development of a treatment plan consisting of appropriate endodontic and pharmacologic strategies for managing pain, anxiety, and infection.		
16	Restoration of Endodontically Treated Tooth	1. Explain pre-treatment evaluation. 2. Explain why endodontically treated teeth are different from vital teeth. 3. Describe the importance of coronal seal. 4. Explain the restorative treatment planning for endodontically treated teeth. 5. Explain ferrule effect and its importance. 6. Enlist indications of post placement in anterior and posterior teeth. 7. Describe ideal dimensions of a post.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE

		8. Describe common post systems, their advantages and disadvantages. 9. Describe method of placement of prefabricated and cast post. 10. Describe core materials and their placement. 11. Discuss complications that can occur during placement of post.		
17	Endodontic considerations in geriatric patients	1. Describe changes in pulp morphology with age. 2. Discuss special considerations when planning treatment for geriatric patients. 3. Identify management of the difficulties that can be encountered during root canal treatment of older patients.	1. Lecture 2. SGD	1. BCQS 2. OSCE
18	Nonsurgical Endodontic Retreatment	1. Discuss etiology of persistent apical periodontitis. 2. Describe the diagnosis of post treatment disease. 3. Enlist the indications of endodontic retreatment. 4. Describe the alternatives to endodontic retreatment. 5. Describe technique of accessing through extra coronal restorations. 6. Describe technique of removing crowns and posts. 7. Identify various types of canal obstructions 8. Describe the management of various types of canal obstructions. 9. Describe the techniques for gutta percha removal. 10. Explain the role of intra-canal medicament in retreatment. 11. Discuss prognosis of retreatment.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. Class Participation 3. OSCE
19	Endodontic Surgery	1. Discuss general principles of wound healing. 2. Discuss preoperative evaluation of medically compromised patients. 3. Discuss indications for peri-radicular surgeries.	1. Lecture	1. BCQS

		4. Recognize situations when endodontic surgery is contraindicated. 5. Discuss the role of endodontic surgery alone or in combination with nonsurgical root canal therapy. 6. Define the terms: • Incision for drainage, • Apical curettage, • Root-end resection, • Root-end preparation • Root-end filling, • Root amputation, • Hemisection, • Bicuspidization. 7. Discuss patient preparation for surgery. 8. Describe, step by step procedures involved in peri-radicular surgery. 9. Enumerate local hemostatic agents. 10. Discuss guided tissue regeneration and endodontic surgery. 11. Discuss prognosis of endodontic surgical cases.		
20	Longitudinal Tooth Fractures	1. Differentiate Craze line, Cracks and Fractures. 2. Describe the causes of these fractures of tooth structure. 3. Describe symptoms and clinical features of crack tooth. 4. Discuss the diagnosis, treatment, prognosis and prevention of a crack at various levels.	1. Lecture 2. SGD 3. Clinical teaching	1. BCQS 2. OSCE 3. Case presentation
21	Endodontic and Periodontal Inter Relationship	1. Discuss intercommunication between pulpal and periodontal tissue. 2. Describe the influence of pulpal pathologic condition on the periodontium. 3. Describe the influence of periodontal inflammation on the pulp. 4. Discuss theoretic pathways of osseous lesion formation.	1. Lecture	1. BCQS 2. OSCE

		5. Justify the differential diagnosis for lesions of endodontic and periodontal origin based on clinical, radiographic and histopathological features. 6. Discuss treatment options.		

4.2.3 PAEDODONTICS

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Craniofacial growth and development	1. Discuss growth and development of jaws and dentition. 2. Differences between permanent and primary teeth. 3. Discuss the chronology of development of primary and permanent dentition. 4. Discuss eruption timing and sequence of primary and permanent teeth.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE
2	Management of Pain and Anxiety	1. Enlist various pharmacological and non-pharmacological methods of pain and anxiety control. 2. Discuss different behavioral management strategies for pediatric patients. 3. Describe different sedation techniques for pediatric patients. 4. Discuss the dental management of children with special needs.	1. Lecture 2. SGD	1. BCQS 2. OSCE
3	History, examination, risk assessment, treatment planning and Prevention of Dental Disease	1. Discuss the importance of a detailed medical and dental history for management of the paediatric patient. 2. Describe various medical conditions that may affect the management of paediatric patient. 3. Discuss effects of diet on dental tissues. 4. Describe various sources of sugars. 5. Discuss the effect of fluoride on dental caries process.	1. Lecture 2. Tutorial/ Small Group Discussion	1. Case presentation 2. BCQS

		6. Explain the rationale for fluoride supplementation. 7. Describe different vehicles of fluoride delivery. 8. Describe correct tooth brushing technique. 9. Explain the importance of parental counseling. 10. Describe the importance of dietary management and home care in caries prevention. 11. Discuss the importance of regular dental follow-ups. 12. Understand the importance of fissure sealing and acid etch technique as a preventive measure. 13. Describe the placement of pit and fissure sealants and preventive resin restorations in primary teeth.		
4	Local Anesthesia for Paediatric Patient	1. Describe available topical anesthesia solutions. 2. Describe new techniques for achieving topical anesthesia. 3. List various techniques of local anesthesia administration. 4. Describe pain free anesthesia technique. 5. Discuss possible complications of local anesthesia.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE
5	Operative Dentistry for Paediatric Dentition	1. Discuss methods to detect and diagnose dental caries in primary teeth. 2. Describe the pattern of early childhood caries and its management. 3. Discuss the radiographic views that are of value in diagnosing dental caries. 4. Explain the importance of isolation when restoring teeth. 5. Discuss restorative materials used to restore a carious lesion. 6. Describe restoration of occlusal and proximal caries. 7. List the indications and contra-indications for stainless steel crowns	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE

		8. Describe the technique for stainless steel crown and acrylic crown placement.		
6	Pulp Therapy for Primary and Young Permanent Teeth	1. Explain the development of a tooth from its eruption to root maturation. 2. Explain the need to save a primary tooth. 3. Describe the importance of case assessment. 4. Describe the indications and contraindications of pulp therapy in deciduous teeth. 5. Describe the stabilization of mouth in case of rampant caries. 6. Describe the indications, contraindications and procedures in primary dentition for: Pulp cap, Pulpotomy, Pulpectomy. 7. Describe indications, contraindications and procedure in young permanent dentition for: • Indirect pulp cap, • Direct pulp cap, • Cvek pulpotomy, • Apexogenesis, • Apexification. 8. Discuss the role of regenerative endodontics in the management of non-vital immature teeth.	1. Lecture 2. Small Group Discussion	1. BCQS 2. OSCE
7	Inherited Anomalies of Enamel andDentin	1. Enlist various inherited enamel and dentin defects. 2. List the clinical problems associated and treatment objectives with inherited enamel and dentin defects. 3. Discuss the etiology, prevention, clinical features and management of: • Amelogenesis Imperfecta • Dentinogenesis Imperfecta • Molar Incisor Hypomineralization	1. Lecture	1. BCQS

8	Periodontal Diseases in children	1. Classify periodontal diseases 2. Discuss the etiology, clinical features and management of acute gingival conditions: • Primary herpetic gingivostomatitis • Necrotizing ulcerative gingivitis. 3. Discuss the etiology, clinical features and management of chronic gingivitis and periodontitis. 4. Discuss etiology, clinical features and management of drug induced gingival enlargement. 5. Discuss periodontal disease as a manifestation of various syndromes and systemic diseases in children.	1. Lecture	1. BCQS
9	Anomalies of Tooth Formation and Eruption	1. Discuss the prevalence, etiology and management of variation in number of teeth. 2. Discuss various anomalies in tooth size and their management. 3. Discuss various anomalies of tooth form and their management. 4. Describe disturbances in eruption and exfoliation; and its clinical significance.	1. Lecture	1. BCQS 2. OSCE
10	The Pedodontics-Orthodontic Interface	1. Explain the importance of screening patients for orthodontic referral at the correct time. 2. Define interceptive orthodontics. 3. Discuss the rationale and sequence of serial extractions. 4. Discuss various space maintainers used in mixed dentition. 5. Describe various habit breaking appliances in paediatric patients.	1. Lecture	1. BCQS 2. OSCE
11	Oral Surgery and Pathology in Paediatric Patients	1. Discuss lesions affecting the oral soft tissues in children: • Infections, • Ulcers,	1. Lecture	1. BCQS

		• Vesiculobullous, • White lesions, • Cysts, • Tumors. 2. Discuss lesions affecting the jaws in children: • Cysts, • Developmental, • Osteodystrophies, • Tumors.		
12	Dental Trauma basics	1. Classify dento-alveolar injuries. 2. Explain the importance of a detailed history of trauma including past medical and dental history. 3. Justify questions to be inquired from a patient presenting with history of dental trauma. 4. Perform a thorough extraoral and intraoral examination. 5. Justify the appropriate radiographs needed for an accurate diagnosis.	1. Lecture 2. Tutorial/ Small Group Discussion 3. Clinical Teaching	1. BCQS 2. OSCE
13	Injury to Tooth and Healing After Trauma	1. Describe different types of healings. 2. Describe the healing of pulp and factors affecting its healing. 3. Describe the healing of periodontium and factors affecting its healing 4. Differentiate between various types of root resorptions: External resorption, Cervical resorption, Internal resorption, Replacement resorption.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE
14	Traumatic injuries to Primary Dentition	1. Describe the management of hard tissue injury: • Uncomplicated crown fracture, • Complicated crown fracture, • Crown-root fracture, • Root fracture. 2. Describe management of soft tissue injury: • Concussion, • Subluxation, • Extrusive luxation,	Lecture Tutorial/ Small Group Discussion	OSCE BCQS

		• Lateral luxation, • Intrusion, • Avulsion. 3. Describe the sequelae of injuries to the primary dentition.		
15	Traumatic injuries to Permanent Dentition-Hard Tissue	1. Describe the management of hard tissue injury in the following categories: • Enamel infarction, • Enamel fracture, • Enamel-dentin fracture, • Complicated crown fracture, • Uncomplicated crown-root fracture, • Complicated crown-root fracture, • Root fracture. 2. Discuss the types and uses of splints. 3. Describe the duration of splint therapy in each injury. 4. Describe the procedure for placement of composite and wire splint.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE
16	Injury to Permanent Dentition-Luxation and Avulsion	1. Describe the management of soft tissue injury in following categories: Concussion, Subluxation, Extrusive luxation, Lateral luxation, Intrusion, Avulsion. 2. Describe duration of splint therapy in each injury. 3. Describe the rationale of delayed reimplantation of an avulsed tooth.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE

4.2.4 INDIRECT RESTORATIONS

S. NO.	LECTURE TOPIC	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS
1	Review of Restorative Materials	1. Explain indications and contraindications of cast restoration.	1. Lecture 2. Tutorial/ Small Group Discussion	1. BCQS 2. OSCE

		2. Discuss the composition, properties, merits and shortcomings of materials used for indirect restorations: • Metals, • Ceramics.	3. Group presentations	
2	Partial Coverage Indirect Restorations	1. List various partial and full coverage indirect restorations. 2. Discuss the principles of tooth preparation for indirect restorations. 3. Describe the indications and contraindications for provision of: • Inlay, • Onlay. 4. Describe the clinical evaluation required and the steps of preparation for: • Inlay, • Onlay. 5. Enlist materials available for these restorations. 6. Discuss soft tissue management and impression making for inlays and onlays. 7. Discuss laboratory steps for these restorations. 8. Enlist the materials used for cementation. 9. Describe the clinical procedure for cementation. 10. Discuss the latest innovations including CAD-CAM technology.	1. Lecture	1. BCQS 2. OSCE
3	Porcelain Veneers	1. Discuss types of veneers and their advantages and dis advantages. 2. Discuss indications and contraindications for veneers. 3. Describe the procedures involved in treatment planning. 4. Explain the importance of quality and quantity of enamel for predictable bonding. 5. Describe tooth preparation, soft tissue management and	1. Lecture	1. BCQS 2. OSCE

		impression making for veneers. 6. Describe methods of temporization. 7. Describe step by step procedure of veneer placement. 8. Describe the importance of silane coupling agent and hydro fluoric acid. 9. Explain techniques for intra-oral repair of indirect restorations.		
4	Full Coverage Indirect Restorations	1. Discuss the treatment planning for extra-coronal restoration 2. Describe the principles of occlusion and periodontal consideration for extra-coronal restoration 3. Discuss the general principles of tooth preparation and their biological and mechanical consideration. 4. Describe the indications and contraindications for: • Porcelain fused to metal crown, • All metal crown, • All ceramic crown. 5. Discuss factors influencing shade selection. 6. Describe guidelines for accurate shade matching. 7. Discuss various methods of shade selection. 8. Describe the clinical assessment required and the steps of preparation for: • Porcelain fused to metal crown, • All metal crown, • All ceramic crown. 9. List different materials available for these restorations. 10. Discuss soft tissue management and impression making for full coverage restorations.	1. Lecture	1. BCQS 2. OSCE

		11. Discuss the indications, contra indications and technique for the use of electrosurgery. 12. Discuss laboratory steps for these restorations. 13. Enlist the materials used for cementation. 14. Describe the clinical procedure for cementation. 15. Discuss the latest innovations including CAD-CAM technology.		
5	Implant Supported Restorations	1. Discuss indications and contraindications of implant supported restorations. 2. Discuss advantages and disadvantages of implant supported restorations 3. Explain the treatment planning for implant recipient. 4. Discuss the assessment of implant placement in esthetic zone 5. Describe various implant supported restorations that can be used for replacement of missing teeth.	1. Lecture	1. BCQS

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 4 CURRICUUM

OPERATIVE DENTISTRY CLINICAL ROTATION

S. NO.	CLINICAL AND PROCEDURAL SKILLS By the end of the clinical rotation the final year BDS student should be able to demonstrate the following:	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Instruments and chair position- demonstration	1. Chair- side teaching 2. Teaching on phantom teeth 3. Teaching in radiology department 4. Teaching on extracted teeth 5. Supervised work on patients	1. OSCEs 2. Chair-side viva 3. Direct observation of clinical skills 4. Direct observation of procedural skills Will be assessed during: 5. Daily supervision 6. Mid-rotation test 7. End-of- rotation test (Ward test)
2.	Tooth numbering system and charting		
3.	History taking and clinical examination including clinical tests (e.g. pulp testing)		
4.	Peri-apical radiograph (exposure and development)		
5.	Interpretation of radiographs (peri-apical, bitewing, OPG and occlusal)		
6.	Cavity preparation, lining and restoration- Class I-V (phantom teeth)		
7.	Hands-on matrix band and rubber dam application		
8.	Cavity preparation, lining and restoration (patients)		
9.	Endodontics - single rooted tooth (extracted tooth)		
10.	Endodontics - single rooted tooth (patient)		

JINNAH MEDICAL AND DENTAL COLLEGE

FINAL YEAR BDS CURRICULUM

OPERATIVE DENTISTRY CLINICAL ROTATION TIMELY SCHEDULE

ORIENTATION SESSION:

- Introduction to departments
  - Operative
  - Endodontics
  - Paedodontics
- Introduction to demonstrators/lecturers
- Effective communication
- Code of conduct
  - OPD timings (Punctuality)
  - Dress code
    - Lab coat
    - Tied-up hair
    - Covered shoes etc.
- Hand wash technique
- Briefing about :
  - dental units,
  - instruments,
  - diagnosis and
  - patients' record maintenance
  - Log book maintenance
- Use of rubber dam for every patient
- List of instruments required by the students
- Cross infection control
- Quota requirements
  - Cavity preparation
  - Endodontics

Final Year OPD Rotation

Nine Weeks

WEEK No. 1

DAY 1:

10:30 AM to 11:30 AM (Orientation)

11:30 AM to 12:30 PM (Diagnosis Demonstration)

12:30 PM to 01:30 PM (Radiograph Demonstration)

Exposure of Peri-apical radiographs
Development of Radiographs

DAY 2:

10:30 AM to 11:30 AM (Cavity Prep. Demonstration Class I Compound and Class II Conventional)

11:30 AM to 12:30 PM (Log Book Maintenance Explanation + Hands on practice of developing radiographs)

12:30 PM to 01:30 PM (See Table 1-A)

TABLE 1-A

STUDENTS	DEMONSTRATORS	12:30 PM to 12:50 PM	12:50 PM to 01:10 PM	01:10 PM to 01:30 PM
1	D-1	Diagnosis supervision	Log book entry	Hands on cavity prep. practice
2	D-1	Hands on cavity prep. practice	Diagnosis supervision	Log book entry
3	D-1	Log book entry	Hands on cavity prep. practice	Diagnosis supervision
4	D-2	Diagnosis supervision	Log book entry	Hands on cavity prep. practice
5	D-2	Hands on cavity prep. practice	Diagnosis supervision	Log book entry
6	D-2	Log book entry	Hands on cavity prep. practice	Diagnosis supervision
7	D-3	Diagnosis supervision	Log book filling	Hands on cavity prep. practice
8	D-3	Hands on cavity prep. practice	Diagnosis supervision	Log book entry
9	D-3	Log book entry	Hands on cavity prep. practice	Diagnosis supervision
10	D-4	Diagnosis supervision	Log book entry	Hands on cavity prep. practice

11	D-4	Hands on cavity prep. practice	Diagnosis supervision	Log book entry
12	D-4	Log book entry	Hands on cavity prep. practice	Diagnosis supervision

DAY 3:

10:30 AM to 11:30 AM (Class II, Class III Dovetail Demonstration)

11:30 AM to 12:30 PM (Diagnosis)

12:30 PM to 01:30 PM (Rubber Dam Demonstration + Practice)

DAY 4:

10:30 AM to 11:30 AM (Class III, Class IV Demonstration)

11:30 AM to 12:30 PM (Diagnosis)

12:30 PM to 01:30 PM (Matrix Band Demonstration + Practice)

Day 5:

10:30 AM to 11:00 AM (Class V Demonstration)

11:00 AM to 12:00 PM (Diagnosis) – See Table 1-B

TABLE 1-B

STUDENTS	DEMONSTRATORS	11:00 AM to 11:20 AM	11:20 AM to 11:40 AM	11:40 AM to 12:00 PM
1	D-1	Diagnosis supervision	Log book entry	Hands on cavity prep. practice
2	D-1	Hands on cavity prep. practice	Diagnosis supervision	Log book entry
3	D-1	Log book entry	Hands on cavity prep. practice	Diagnosis supervision
4	D-2	Diagnosis supervision	Log book entry	Hands on cavity prep. practice

5	D-2	Hands on cavity prep. practice	Diagnosis supervision	Log book entry
6	D-2	Log book entry	Hands on cavity prep. practice	Diagnosis supervision
7	D-3	Diagnosis supervision	Log book entry	Hands on cavity prep. practice
8	D-3	Hands on cavity prep. practice	Diagnosis supervision	Log book entry
9	D-3	Log book entry	Hands on cavity prep. practice	Diagnosis supervision
10	D-4	Diagnosis supervision	Log book entry	Hands on cavity prep. practice
11	D-4	Hands on cavity prep. practice	Diagnosis supervision	Log book entry
12	D-4	Log book entry	Hands on cavity prep. practice	Diagnosis supervision

WEEK 2, 3 & 4:

10:30 AM to 12:00 PM (6 Students – Diagnosis and 6 Students – Cavity Preparation)

12:00 PM to 01:30 PM (Interchange/ crossover)

WEEK 5:

Mid-Rotation Assessment

WEEK 6, 7:

10:30 AM to 12:00 PM (6 Students – Diagnosis and 6 Students – Will do Patients)

12:00 PM to 01:30 PM (Interchange/crossover)

WEEK 8, 9:

End-of-rotation Assessment

4.3 ORTHODOTONICS

JINNAH MEDICAL AND DENTAL COLLEGE

FINAL YEAR BDS CURRICULUM

COURSE: ORTHODOTONICS

COURSE CODE: 4.3

ALLOCATION OF CREDIT HOURS: 45 lecture hours; 250 practical hours

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of final year BDS, the student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	INTRODUCTION, OVERVIEW AND BRANCHES OF ORTHODONTICS	1. Define terminologies related to orthodontics 2. Discuss the following: • Preventive treatment • Interceptive treatment • Corrective treatment 3. Discuss indications, contraindication, aims and needs for orthodontic treatment	1. Lecture 2. Tutorial	BCQS OSCE Group assignment
2.	GROWTH AND DEVELOPMENT	1. Define basic concepts and definitions 2. Discuss the following: • Variables affecting growth • Prenatal and postnatal craniofacial growth • Methods of studying growth • Theories of growth • Clinical application of growth and development in orthodontics	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. OSCE
3.	OCCLUSION	1. Discuss the clinical features of normal occlusion 2. Describe Andrews six keys of occlusion	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. OSCE

4.	DIAGNOSTIC AIDS IN ORTHODONTICS	1. Take a comprehensive History of patients 2. Perform: • Clinical Evaluation • Extra oral examination • Intraoral examination • Cephalometric tracing and analysis • Tooth mass and size analysis • Cast analysis • Bolton analysis • Mixed dentition analysis 3. Interpret cephalometric radiograph 4. Formulate a problem list 5. Identify relevant anatomical structures and landmarks on • Periapical X-rays • Orthopantomogram • Occlusal X-rays	1. Lecture 2. Tutorial 3. Demonstrations	1. BCQS 2. Ward Test 3. OSCE 4. Group assignment
5	DENTAL RADIOLOGY	1. Discuss the roentgen anatomy of teeth, jaws and T.M.Joints 2. Describe variations within normal limits, and abnormalities 3. Differentiate between types of X-Rays machines 4. Differentiate between varieties of X-Ray Films e.g. Extra Oral, Intra oral, Bite wing and Occlusal films 5. Discuss film taking and exposure procedure. 6. Describe different development techniques 7. Describe indications and uses of dental radiology 8. Interpret different radiographic films 9. Identify radiation hazards	1. Lecture 2. Tutorial	1. BCQS 2. OSCE
6.	DEVELOPMENT OF DENTITION AND OCCLUSION	1. Discuss prenatal development of dentition 2. Describe features of primary dentition	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. OSCE

		3. Describe features of mixed dentition period 4. Describe features of permanent dentition period 5. Explain dimensional changes in dental arch 6. Discuss variations in development including size, form, number and position of teeth 7. Describe factors affecting development		
7.	MALOCCLUSION	1. Classify malocclusion 2. Discuss the etiology of malocclusion	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. OSCE
8.	ETIOLOGY OF MALOCCLUSION	1. Discuss local factors of malocclusion 2. Discuss heredity factors of malocclusion 3. Discuss the environmental factors which include: • Para-functional habits ▪ Thumb sucking ▪ Mouth breathing ▪ Tongue thrusting ▪ Bruxism ▪ Lip sucking • Syndromes ▪ Treacher Collin ▪ Pierre robin syndrome ▪ Cleidocranial dysplasia ▪ Ectodermal dysplasia ▪ Downs syndrome ▪ Achondroplasia ▪ Hemifacial microsomia	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. OSCE
9.	PREVENTIVE AND INTERCEPTIVE ORTHODONTICS	1. Diagnose different habits 2. Discuss management of habits 3. Discuss space supervision 4. Identify space maintainers 5. Identify space retainers 6. Discuss steps of serial extractions	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. OSCE

10.	BONE METABOLISM	1. Discuss normal structure of periodontal ligament and bone 2. Discuss the role of bone in eruption and stabilization 3. Describe effects of orthodontic force 4. Identify factors affecting tooth movement	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. OSCE
11.	BIOMECHANICS	1. Discuss concepts, types and control of anchorage 2. Differentiate between types of wires and alloys used in orthodontics 3. Describe properties of orthodontic wires and comparison of different alloys 4. Discuss deleterious effects of orthodontic forces	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. OSCE
12	RETENTION AND RELAPSE	1. Discuss concepts of retention and relapse 2. Describe occlusal stability and factors related to retention 3. Discuss strategies of management 4. Differentiate between types of retainers	1. Lecture 2. Tutorial	1. BCQS 2. OSCE
13	REMOVABLE APPLIANCES	1. Discuss the types, indications and construction of functional appliances 2. Name various extra oral appliances for tooth movement 3. Identify different expansion appliances	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. Ward Test
14	FIXED APPLIANCES	1. Discuss the introduction and background of different systems 2. Discuss indications and drawbacks 3. Name different components and its accessories 4. Describe edgewise and straight wire systems 5. Discuss different bonding and banding materials	1. Lecture 2. Tutorial	1. BCQS 2. OSCE 3. Ward Test

15	TREATMENT PLANNING	1. Discuss non-skeletal problems including Class I malocclusion, crowding, spacing, cross bite, open bite, deep bite 2. Discuss Skeletal problems 3. Discuss Class II i) Division 1 ii) Division 2 malocclusion 4. Describe Class III malocclusion 5. Discuss different extraction patterns in orthodontics 6. Describe adjunctive treatment goals and principles	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment
16	SURGICAL ORTHODONTICS	1. Discuss principles of ortho-gnathic surgery 2. Discuss Class II surgical treatment options 3. Discuss Class III surgical treatment options 4. Discuss indications and contraindications	1. Lecture 2. Tutorial	1. BCQS 2. Group assignment 3. OSCE
17	CLEFT LIP AND PALATE	1. Describe etiology & clinical features of cleft patients 2. Discuss orthodontic management of cleft patients	1. Lecture 2. Tutorial	1. BCQS 2. OSCE
18	ADULT ORTHODONTICS AND PERIODONTAL CONSIDERATIO N	1. Discuss minor adjunctive procedures in orthodontics 2. Describe etiology and classification of periodontal problems 3. Discuss role of orthodontics in the management of periodontal problems 4. Describe clear aligner therapy	1 Lecture 2 Tutorial	1. BCQS 2. Group assignment 3. OSCE

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 4 CURRICUUM

ORTHODONTICS CLINICAL ROTATION

S.NO.	CLINICAL AND PROCEDURAL SKILLS By the end of the clinical rotation the final year BDS student should be able to demonstrate the following	TEACHING METHODOLOGY	ASSESSMENT TOOLS The students will be assessed mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Wire bending exercises - Fabrication of • Adams's clasp • Labial bow • Canine retractor • Cantilever and Z spring	1. Chair- side teaching 2. Teaching on radiographs (Lateral Cephalometric radiograph and OPG) 3. Teaching on maxillary and mandibular casts 4. Teaching on various orthodontic instruments and appliances	1. OSCE 2. Chair-side viva 3. Midterm exams 4. End of rotation test (Ward test)
2.	History taking and clinical examination • Extra oral examination • Intra oral examination • TMJ examination		
3.	Model analysis • Space analysis • Mixed dentition analysis • Bolton analysis • Cast analysis		
6.	Cephalometric analysis • Sagittal analysis • Vertical analysis • Dental analysis • Soft tissue analysis		
7.	OPG analysis • Predict age of patient • Identify Nolla's stages • Identify pathology		
8.	Diagnosis of a patient		
9	Formulation of a treatment plan		
10	Orthodontic instruments and appliance demonstration		

JINNAH MEDICAL AND DENTAL COLLEGE

FINAL YEAR BDS CURRICULUM

ORTHODONTICS CLINICAL ROTATION TIMELY SCHEDULE

ORIENTATION SESSION:

- Introduction to department
  - Orthodontic lab
  - Cephalometric room

- Introduction to demonstrators/lecturers/senior registrars
- Effective communication
-
- Code of conduct
  - OPD timings (Punctuality)
  - Dress code:
    - Lab coat
    - Tied-up hair
    - Covered shoes etc.

- Hand wash technique
- Briefing about :
  - Dental units,
  - Instruments,
  - Diagnosis and
  - Patients' record maintenance
  - Log book maintenance

- List of instruments required by the students
- Cross infection control

- Quota requirements
  - Wire Bending Exercise
  - History and Clinical Examination of Orthodontic Patient
  - Cephalometric tracing
  - Model analysis (Space analysis, Bolton analysis, Cast analysis and Mixed Dentition Analysis)

Final Year OPD Rotation

Nine Weeks

WEEK No. 1

DAY 1:

10:30 AM to 11:30 AM (Orientation)

11:30 AM to 12:30 PM (Adam's clasp Demonstration)

12:30 PM to 01:30 PM

- Practice of Fabricating Adam's clasp on Cast

DAY 2:

10:30 AM to 11:30 AM (Labial Bow Demonstration)

11:30 AM to 12:30 PM

- Practice of Fabricating Labial Bow on Cast
- Log Book Maintenance Explanation

12:30 PM to 01:30 PM (See Table 1-A)

TABLE 1-A

STUDENTS	DEMONSTRATORS	12:30 PM TO 12:50 PM	12:50 PM TO 01:10 PM	01:10 PM TO 01:30 PM
1	D-1	Supervision of wire bending skill	Log book entry	Demonstration of wire bending skill
2	D-1	Demonstration of wire bending skill	Supervision of wire bending skill	Log book entry
3	D-2	Log book entry	Demonstration of wire bending skill	Supervision of wire bending skill
4	D-2	Supervision of wire bending skill	Log book entry	Demonstration of wire bending skill
5	D-3	Demonstration of wire bending skill	Supervision of wire bending skill	Log book entry
6	D-3	Log book entry	Demonstration of wire bending skill	Supervision of wire bending skill

DAY 3:

10:30 AM to 11:30 AM (Double cantilever Demonstration)

11:30 AM to 12:30 PM (Practice on the cast)

12:30 PM to 01:30 PM (Log Book Entry + Practice)

DAY 4:

10:30 AM to 11:30 AM (Canine Retractor Demonstration)

11:30 AM to 12:30 PM (Practice on the cast)

12:30 PM to 01:30 PM (Practice + logbook entry)

Day 5:

10:30 AM to 11:00 AM (Cephalometric Analysis Demonstration on Radiograph)

TABLE 1-B

STUDENTS	DEMONSTRATOR	11:00 AM TO 11:20 AM	11:20 AM TO 11:40 AM	11:40 AM TO 12:00 PM
1	SR	Supervision of Cephalometric Analysis on Radiograph	Log book entry	Demonstration on Cephalometric Radiograph
2	D-1	Demonstration on Cephalometric Radiograph	Supervision of Cephalometric Analysis on Radiograph	Log book entry
3	D-1	Log book entry	Demonstration on Cephalometric Radiograph	Supervision of Cephalometric Analysis on Radiograph
4	D-2	Supervision of Cephalometric Analysis on Radiograph	Log book entry	Demonstration on Cephalometric Radiograph
5	D-2	Demonstration on Cephalometric radiograph	Supervision of Cephalometric Analysis on Radiograph	Log book entry
6	D-3	Log book entry	Demonstration on Cephalometric Radiograph	Supervision of Cephalometric Analysis on Radiograph

7	D-3	Supervision of Cephalometric Analysis on Radiograph	Log book entry	Demonstration on cephalometric radiograph

WEEK 2, 3 & 4:

10:30 AM to 12:00 PM (Demonstration on Cephalometric radiograph)

12:00 PM to 01:30 PM (Practice Analysis on the Provided Cephalometric Radiograph)

WEEK 5:

10:30 AM to 12:00 PM (Model analysis Demonstration)

12:00 PM to 01:30 PM (Practice Cast analysis, Space and Bolton Analysis on the given Cast)

WEEK 6, 7:

10:30 AM to 12:00 PM (History and Clinical Examination on Patients)

12:00 PM to 01:30 PM (Log Book Entry)

WEEK 8, 9:

Demonstration on Various Orthodontic Instruments and Appliances

End-of-rotation Assessment

4.4 PROSTHODONTICS

JINNAH MEDICAL AND DENTAL COLLEGE

FINAL YEAR BDS CURRICULUM

COURSE: PROSTHODONTICS

COURSE CODE: 4.4

ALLOCATION OF CREDIT HOURS: 75 lecture hours; 250 practical hours

4.4.1 COMPLETE DENTURE

S.NO.	TOPICS	LEARNING OBJECTIVES By the end of final year BDS, the student should be able to:	MODE OF TEACHING	ASSESSMENT TOOLS: The students will be assessed during class tests, mid-rotation and end-of rotation tests; mid-term and final examination through:
1.	Anatomy and physiology of edentulous mouth, biomechanics of oral cavity	1. Define various terminologies used in complete denture construction 2. Recognize the anatomy, physiology and biomechanics of oral cavity 3. Discuss the importance of saliva, soft and hard tissue health, psychology of patient , effect of systemic and local condition on oral tissues 4. Describe the effect of aging on stomatognathic system	1. Lecture 2. Small group discussion 3. Tutorials	1. BCQS 2. OSPE
2.	Treatment planning for removable prosthodontics Patient	1. Design the proper treatment plan for the patient. 2. Discuss the patient's oral cavity for recommended treatment procedures 3. List the oral manifestations of local and systemic disorders 4. Record history. 5. Perform general and oral examination 6. Evaluate the patient 7. Diagnose the patient 8. Formulate treatment plan for patient 9. Interpret the investigative findings.	1. Lectures 2. SGD 3. Clinical demonstration 4. Lab demonstration	1. BCQS 2. OSPE 3. DOPS

		10. Summarize the bio-mechanics of oral cavity and contributory factors 11. List the factors responsible for retention, (physical physiological, mechanical). Support and stability 12. Solve the issues related to Support, Stability and Retention.		
3.	Impression and impression Procedures	1. Describe the objectives of impression making 2. Explain theories and concept of various laws and its corollaries, (atm. pressure, intermolecular attraction, interfacial, surface tension) 3. Classify the techniques of impression for partially dentate and edentulous patients 4. Classify the impressions Materials 5. Select appropriate impression tray for primary impressions 6. Construct the secondary tray. 7. Classify study cast, master cast, working cast. 8. Perform the duplication of impression 9. Outline the areas of primary and secondary support 10. Construct the special tray according to the clinical situation	1. Lecture 2. Clinical demonstration 3. Lab demonstration	1. BCQS 2. OSPE 3. DOPS
4.	Maxillo-mandibular relations.	1. Recognize the anatomy, physiology and pathology of oro- fascial musculature and TMJ 2. Discuss the importance of various jaw position in different planes 3. Describe the theories of articulation 4. Classify the types of Face bow 5. Write Hanau's formula. 6. Describe protrusive records, Hinge axis, and condylar path.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSPE 3. DOPS
5.	Selection of teeth and occlusion	1. Select the size, shape and shade of artificial teeth, 2. Arrange prosthetic teeth for different skeletal jaw relation and ridge morphology 3. Write factors responsible for size, shape, color, shade, position and relationship of teeth. 4. Discuss the denture occlusion and factor affecting occlusion.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSPE 3. DOPS

6.	Phonetics and Complete denture	1. Describe the effect of teeth position on phonetics 2. Select the artificial teeth for the patient 3. Arrange teeth according to phonetics.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSPE 3. DOPS
7.	Tooth try -in	1. Evaluate retention, support and stability, occlusal plane, phonetics and esthetics of removable prosthesis. 2. Record the centric relation and maximum intercuspation 3. Adjust the dentures according to need. 4. Make posterior palatal seal 5. Correct the occlusal plane errors.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSPE
8.	Prosthesis insertion and post insertion	1. Examine the patient for the problems of retention support, stability and occlusion of patient. 2. Manage the patient complaint. 3. Set up the articulators for check record.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSPE 3. DOPS
9.	Immediate Dentures	1. Define immediate dentures 2. Classify immediate denture 3. Select the patient and make treatment plane 4. List indications and contra-indications of immediate dentures 5. Write advantages and disadvantages of immediate denture.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSPE 3. DOPS
10.	Over Dentures	1. Define overdenture 2. Select the suitable patient for the overdenture after evaluate and Diagnosis 3. Make treatment plan for the patient 4. Tell the prognosis of treatment to the patient. 5. Describe bio-mechanics of oral cavity and contributory factors 6. Classify over-denture 7. List indications contra indications, advantages and disadvantages 8. Explain the steps of over-denture construction. 9. Select and prepare abutment for over-denture.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSCE 3. DOPS

11.	Single complete denture and removable partial denture	1. Recognize the applied anatomy and physiology of partially dentate and edentulous arch. 2. Summarize oral manifestations of local and systemic disorder. 3. Take history of patient 4. Perform general and oral examination findings 5. Evaluate the patient properly 6. Diagnosis the patient 7. Make the treatment plan 8. Outline component of support, retention, bracing and reciprocation, connectors. 9. Use the surveyor for Surveying, Design of partial dentures 10. Classify the mouth rehabilitation/ Odontoplasty 11. Select impression techniques and modifications 12. Outline wax pattern and explain casting procedures 13. Tell the steps of trial of metal frame work. 14. Describe the precision retained dentures (Intra coronal, extra coronal and Intra radicular attachments). 15. List the indication and contraindication of precision retained dentures Intra coronal, extra coronal and intra radicular attachments. 16. Explain the laboratory procedure of casting. 17. Point the problems in casting Solve the issues of casting.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSCE 3. DOPS
12.	Prolonging the useful life of removable prosthesis	1. Describe the general indications, contraindications advantages and disadvantages of relining, rebasing, and copy dentures 2. Select the patient for relining, rebasing and copy dentures 3. Perform impression procedures for relining rebasing and copy dentures 4. Perform laboratory procedures for relining rebasing and copy dentures.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSCE 3. DOPS

4.4.2 GERODONTOLOGY

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS:
1.	Gerodontology	1. Plan the management strategies for the dental care of the elderly. 2. List the dental and oral diseases and disorder in the elderly. Range of psychological and social factors involved with geriatric patients. 3. Distinguish between normal and abnormal consequences of aging. List the problems of Gerodontology patient 4. Select materials used for the management of old age patient. 5. Summarize the effect of various medication on health and dentition. 6. Discuss the principles of prosthodontic procedures in geriatric patients 7. Recognize tooth wear, Root dental caries, Recession of the gingival tissues and the special difficulties of providing removable prostheses.	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSCE 3. DOPS

4.4.3 MAXILLOFACIAL PROSTHODONTICS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS:
1.	Maxillo Facial Prosthodontics	1. Distinguish the anatomy of normal and altered tissues 2. Classify oro-facial defect 3. Estimate the problems of maxillofacial patient. 4. Discuss various materials used for the impression and fabrication of prosthesis 5. Identify the means of retention, support and stability for obturators 6. Make the problem list of the case 7. Prepare the patient for obturator	1. Interactive Lectures 2. SGD	1. BCQS 2. OSCE 3. DOPS

4.4.4 OCCLUSION INCLUDING TMP/ MPD

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS:
1.	Occlusion including TMD/MPD	1. Describe the anatomy of TMJ 2. Describe various type of natural occlusion 3. Classify the splint 4. List the indication of various splints	1. Interactive Lectures 2. Lab demonstration	1. BCQS 2. OSCE/OSPE 3. DOPS

4.4.5 FIXED PROSTHODONTICS

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS:
1.	Introduction and Principles of Fixed prosthodontics	Write the definitions, applied anatomy and physiology of oral soft and hard tissues List the oral manifestations of local and systemic disorders Record history. Perform general and oral examination Evaluate the patient Diagnosis the patient Make the treatment plan for patient Describe the bio-mechanics of oral cavity and contributory factors Select the shade for the patient Recognize the postoperative complaints	1. Interactive Lectures 2. Lab demonstration 3. Clinical demonstration	1. BCQS 2. OSCE 3. DOPS
2.	Bridges (FPD)	1. List the indication, contraindication, classification and Components of a bridge 2. Select the types of abutment and retainer according to situation. 3. Plan the types of margin placement 4. Classify the pontic designs. 5. List the steps of procedures of Tooth preparation for partial coverage, veneers, full coverage crowns Metal ceramic, all Metal and all Ceramic	1. Interactive Lectures 2. Lab Demonstration 3. Clinical demonstration	1. OSCE 2. BCQS 3. DOPS

		6. Choose the methods for control the saliva 7. Make the impression with different materials for fix restorations. 8. List the lab procedures 9. Plan the trial of bridge frame work 10. Prepare the patient for final cementation 11. Recognize the post insertion follow up, complication 12. Explain material considerations for fix bridge 13. Prepare the patient for cementation 14. Select the luting agent for patient 15. Classify resin – bonded bridge, fiber reinforce and temporary bridges 16. List indication and contraindication of RBB		

4.4.6 USE OF IMPLANTS IN EDENTULOUS, PARTIALLY DENTATE PATIENT AND MAXILLOFACIAL PATIENT

S.NO.	TOPICS	LEARNING OBJECTIVES	MODE OF TEACHING	ASSESSMENT TOOLS:
1.	Use of Implants in Complete denture and fixed partial denture	1. Describe Osseiointegration 2. List the factors affecting Osseiointegration 3. Classify types of implants 4. State the indications, contraindications and limitations of implants. 5. Select the Prosthodontics Options according to situation 6. List the clinical and laboratory procedures involved in implant treatment. 7. Recognize the complication related to implant prosthodontics	1. Interactive Lectures 2. SGD	1. BCQS 2. DOPS 3. OSPE

JINNAH MEDICAL & DENTAL COLLEGE
BDS YEAR 4 CURRICUUM

PROSTHODONTICS CLINICAL ROTATION

S. NO.	CLINICAL AND PROCEDURAL SKILLS **By the end of the clinical rotation the final year BDS student should be able to demonstrate the following:**	TEACHING METHODOLOGY	ASSESSMENT TOOLS **The students will be assessed mid-rotation and end-of rotation tests; mid-term and final examination through:**
1.	Use of instruments and equipment, as recommended, in prosthodontics	1. Chair- side teaching 2. Teaching on extracted teeth Supervised work on patients	1. OSCE 2. Chair-side viva 3. Direct observation of clinical skills 4. Direct observation of procedural skills Will be assessed during: 1. Daily supervision 2. Mid-rotation test 3. End-of rotation test (Ward test)
2.	Chair positioning		
3.	Manipulation of materials in laboratory and clinics		
4	Record in log books		
5	History taking, clinical examination of patient		
6	Selection of tray, modification of tray for partially dentate and edentate patient		
7	Mixing of different impression material in clinics		
8	Pouring of impression		
9	Construction of base for impression		
10	Construction of custom tray		
11	Making of different types of secondary impression		
12	Boxing of final impressions		
13	Construction of clasp		
14	Wax up for temporary denture base		
15	De-waxing of denture base		

16	Curing of denture base		
17	Finishing for final denture base		
18	Construction of wax bite rim for jaw relation		
19	Orientation, vertical and horizontal jaw relation		
20	Selection of anterior and posterior teeth size and shade for patient		
21	Selection of articulators and do the mounting of jaw record on articulators		
22	Set-up anterior and posterior teeth		
23	Tooth try in (Evaluate of retention, support and stability)		
24	Verification of vertical and horizontal jaw relation and phonetics		
25	Final wax up of trail denture base		
26	Finishing of denture base		
27	Curing of denture base		
28	Polishing of denture		
29	Denture insertion		
30	Addition of clasp in RPD		
31	Repair of partial or complete denture		
32	Selection of shade for fixed restoration		
33	Preparation of tooth for cast metal and porcelain fused to metal crown		
34	Instructions to the patient for post insertion care of fix and removable prosthesis		

JINNAH MEDICAL AND DENTAL COLLEGE

FINAL YEAR BDS CURRICULUM

PROSTHODONTICS CLINICAL ROTATION TIMELY SCHEDULE

ORIENTATION SESSION:

- Introduction to departments
  - Removable prosthodontics
  - Fixed prosthodontics
  - Laboratory (removable prosthodontics)

- Introduction to demonstrators/lecturers
- Effective communication

- Code of conduct
  - OPD timings (Punctuality)
  - Dress code
    - Lab coat
    - Tied-up hair
    - Covered shoes etc.

- Hand wash technique
- Briefing about :
  - Dental units, Instruments,
  - Diagnosis and Patients' record maintenance
  - Log book maintenance

- List of instruments required by the students
- Cross infection control

- Quota requirements
  - Removable partial denture
  - Complete dentures

Final Year OPD Rotation

Nine Weeks

WEEK No. 1

DAY 1:

Demonstrator	Students	10:30 PM to 12:30 PM	12:31 PM to 01:30 PM
D1	Group of 3 students	Clinical demonstration Chair positioning, history taking and Extra-oral and intraoral examination, Log book entry)	Laboratory work (upper and lower model pouring (for ideal case)and Base formation)
D2	Group of 3 students	Laboratory work Model pouring (upper and lower for ideal case) and Base formation	Clinical demonstration Chair positioning, history taking and Extra-oral and intraoral examination, Log book entry)
D3	Group of 3 students	Clinical demonstration Chair positioning, history taking and Extra-oral and intraoral examination, Log book entry)	Laboratory work (Upper and lower Model pouring and Base formation for ideal case)

WEEK No. 1

DAY 2:

Demonstrator	Students	10:30 PM to 12:20 PM	12:21 PM to 01:30 PM
D1	Group of 3 students	Clinical demonstration (Tray selection and modification, Primary impression making)	Lab demonstration (Impression pouring and special tray construction)
D2	Group of 3 students	Laboratory work (Impression pouring and special tray construction),	Clinical demonstration (Tray selection and modification, Primary impression making)

D3	Group of 3 students	Clinical demonstration (Tray selection and modification, Primary impression making)	Lab demonstration (Impression pouring and special tray construction)

WEEK No. 1

DAY 3:

Demonstrator	Students	10:30 PM to 12:20 PM	12:21 PM to 01:30 PM
D1	Group of 3 students	Clinical demonstration (Tray modification for secondary impression and impression making)	Lab demonstration (secondary Impression pouring and wax up)
D2	Group of 3 students	Laboratory work (Impression pouring and wax up),	Clinical demonstration (Tray modification for secondary impression and impression making)
D3	Group of 3 students	Clinical demonstration (Tray modification for secondary impression and impression making)	Lab demonstration (secondary Impression pouring and wax up)

WEEK No. 1

DAY 4:

Demonstrator	Students	10:30 PM to 12:20 PM	12:21 PM to 01:30 PM
D1	Group of 3 students	Clinical demonstration (orientation jaw relation record)	Lab demonstration (flasking, Cold de-waxing and curing , wax rim construction)
D2	Group of 3 students	Laboratory work (flasking, Cold de-waxing and curing , wax rim construction)	Clinical demonstration (Orientation jaw relation record)
D3	Group of 3 students	Clinical demonstration (Orientation jaw relation record)	Lab demonstration Flasking, cold de-waxing and curing , wax rim construction)

WEEK No. 1

DAY 5:

Demonstrator	Students	10:30 PM to 12:20 PM	12:21 PM to 01:30 PM
D1	Group of 3 students	Clinical demonstration (Vertical jaw relation record)	Lab demonstration (Articulators and mounting of orientation relation)
D2	Group of 3 students	Laboratory work (Articulators and mounting of orientation relation)	Clinical demonstration (Vertical jaw relation record)
D3	Group of 3 students	Clinical demonstration (Vertical jaw relation record)	Lab demonstration (Articulators and mounting of orientation relation)

WEEK No. 2

DAY 1:

Demonstrator	Students	10:30 PM to 12:20 PM	12:21 PM to 01:30 PM
D1	Group of 3 students	Clinical demonstration (Horizontal jaw relation record)	Lab demonstration (Mounting of maxilla-mandibular relation records)
D2	Group of 3 students	Laboratory work (Mounting of maxilla-mandibular relation records)	Clinical demonstration (Horizontal jaw relation record)
D3	Group of 3 students	Clinical demonstration (Horizontal jaw relation record)	Lab demonstration (Mounting of maxillomandibular relation records)

WEEK No. 2

DAY 2:

Demonstrator	Students	10:30 PM to 12:20 PM	12:21 PM to 01:30 PM
D1	Group of 3 students	Clinical demonstration (selection of anterior teeth)	Lab demonstration (Marking of models for teeth set up and anterior teeth set up)
D2	Group of 3 students	Laboratory work (Marking of models for teeth set up and anterior teeth set up)	Clinical demonstration (selection of anterior teeth)
D3	Group of 3 students	Clinical demonstration (selection of anterior teeth)	Lab demonstration (Marking of models for teeth set up and anterior teeth set up)

WEEK No. 2

DAY 3:

Demonstrator	Students	10:30 PM to 12:20 PM	12:21 PM to 01:30 PM
D1	Group of 4 students	Clinical demonstration (selection of posterior teeth)	Lab demonstration (Marking of models for posterior teeth set up)
D2	Group of 4 students	Laboratory work (Marking of models for posterior teeth set up)	Clinical demonstration (selection of posterior teeth)
D3	Group of 4 students	Clinical demonstration (selection of posterior teeth)	Lab demonstration (Marking of models for posterior teeth set up)

WEEK No. 2

DAY 4:

Demonstrator	Students	10:30 PM to 12:20 PM	12:21 PM to 01:30 PM
D1	Group of 4 students	Clinical demonstration (Anterior tooth try in)	Lab demonstration (correction of denture base and tooth position
D2	Group of 4 students	Laboratory work (Marking of models for posterior teeth set up)	Clinical demonstration (selection of posterior teeth)
D3	Group of 4 students	Clinical demonstration (selection of posterior teeth)	Lab demonstration (Marking of models for teeth set up and posterior teeth set up)

WEEK No. 2

DAY 5:

Demonstrator	Students	10:30 PM to 12:20 PM	12:21 PM to 01:30 PM
D1	Group of 4 students	Clinical demonstration (Final tooth try in)	Lab demonstration (correction of any complain and final wax up and flasking
D2	Group of 4 students	Laboratory work (Correction of any complain and final wax up and flasking)	Clinical demonstration (final tooth try in)
D3	Group of 4 students	Clinical demonstration ((final tooth try in)	Lab demonstration (Correction of any complain and final wax up and flasking)

WEEK 3 & 4:

10:30 AM to 12:20 PM (6 Students will do diagnosis and clinical rotation and 6 Students will do Lab work)

12:21 PM to 01:30 PM (Interchange/ crossover)

WEEK 5:

Mid-Rotation Assessment

WEEK 6, 7, and 8:

10:30 AM to 12:20 PM (6 Students will do diagnosis and clinical work and 6 students will do Lab work)

12:21 PM to 01:30 PM (Interchange/crossover)

WEEK 9:

End-of-rotation Assessment.