

PROGRAMME OUTCOMES FOR BDS CURRICULUM

PO.1. Critical thinking: Acquire adequate basic knowledge , critical thinking and analysis skills for identifying relevant and appropriate dental, oral and craniofacial conditions.

PO.2. Patient care: Evaluate and apply the principles of an evidence based approach to clinical care and decision making necessary for patient care to provides preventive, promotive, curative, palliative and holistic oral health care with compassion.

PO.3. Communication and interpersonal skills: Communicator with patients, families, colleagues and community. Possess sufficient knowledge to communicate information using technologies available in contemporary dental practice.

PO.4. Modern tool and ICT usage: Learn, select, and apply appropriate methods and procedures, resources, and modern dental education and patient management-related computing technical tools with an understanding of the limitations

PO.5. Leadership: Leader and member of the health care team and system with capabilities to collect, analyze, synthesize and communicate dental health information appropriately.

PO.6. Lifelong learner and researcher: Lifelong learner committed to continuous improvement of skills and knowledge through research. Self-access and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

PO.7. Professionalism and ethics: Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

PO1 : Critical thinking :-

Acquire adequate basic knowledge, critical thinking and analysis skills for identifying relevant and appropriate dental, oral and craniofacial conditions.

Graduates should be able to

1. Demonstrate knowledge of oro-facial structures and associated pathologies
2. Analyse, diagnosis and formulate necessary treatment plan for oral health care
3. Evaluate and integrate the knowledge, research outcomes with required clinical expertise to maintain patient care
4. Evaluate and integrate emerging trends in oral health care from time to time

PO2 : Patient care:-

Evaluate and apply the principles of an evidence based approach to clinical care and decision making necessary for patient care to provide preventive, promotive, curative, palliative and holistic oral health care with compassion.

A. Diagnosis and treatment planning-

Dental graduates must be competent in-

1. Recording & obtaining the case history & radiographs, interpreting clinical and radiological findings and other diagnostic test results of the patient to enable clinical reasoning and decision making.
2. Formulating a diagnosis and comprehensive treatment plan appropriate to the need of the patients.
3. Managing the oral health care needs of the infants, children, adolescents and adults including special needs of the pregnant women, geriatric and special needs patients.
4. Screening and recognizing oral manifestations of the systemic diseases / conditions which affect the conduct of the dental treatment.
5. Referring to specialist / higher centre for opinion and / or treatment of conditions beyond the scope of their abilities/ expertise.

B. Establishment and maintenance of oral health-

Dental graduates must be competent in –

1. Following the universal infection control guidelines for all the clinical procedures.
2. Recognizing, preventing, and managing the dental emergencies (medical emergencies like syncope & allergies).
3. Recognizing and managing dental, oro-facial pain and Temporo-mandibular joint disorders and counseling for psychological distress.
4. Clinical diagnosis, formulating and executing oral prophylaxis (scaling).
5. Restoration of carious teeth with GIC, composite restoration, vital pulp therapy and anterior RCT.
6. Planning and performing common prosthetic procedures for replacing the missing teeth with removable, complete and partial denture prosthesis.
7. Carry out extractions, have knowledge about minor surgical procedures under LA like frenectomy, alveolar procedures and biopsy. Give appropriate prescriptions to the patients.
8. Recognising and referring minor developmental or acquired dento-alveolar, growth related and functional abnormalities, oral mucosal and osseous diseases in paediatric, adult and geriatric patients.
9. Identifying, preventing and managing the concerned dental occupational hazards.

PO3 : Communication and interpersonal skills:-

Communicator with patients, families, colleagues and community. Possess sufficient knowledge to communicate information using technologies available in contemporary dental practice.

Graduates should be able to

1. Establish effective & interactive communication with patients & their relatives, dental team and with other health professionals involved in their care, irrespective of age, social and cultural background.
2. To establish a patient–dentist relationship that allows effective delivery of dental treatment.
3. To identify patient expectations and attitudes (needs and demands) when considering treatment planning and during treatment.
4. To identify the psycho-social factors that initiate and / or perpetuate dental, oral & facial diseases, diagnose, treat or refer, as appropriate.
5. To explain & share information and professional knowledge with both the patient and other professionals, verbally and in writing.

PO4 : Modern Tool and ICT Usage:-

Learn, select and apply appropriate methods and procedures, resources, and modern dental education and patient management-related computing technical tools with an understanding of the limitations

Graduates should be able to

1. Select the current tools for effective learning for evidence based dentistry.
2. Apply the software for patient related care thereby increasing the quality of life of the patients.
3. Demonstrate the ability of understanding the limitations and application of modern tools in learning and patient care.

PO5 : Leadership Competencies:–

Leader and member of the health care team and system with capabilities to collect, analyze, synthesize and communicate dental health information appropriately

Graduates should be able to

1. Work effectively, responsibly and appropriately with colleagues in primary and secondary healthcare settings respecting diversity of roles, responsibilities and competencies of other professionals, so as to deliver quality oral health care with safety.
2. Educate and motivate other members of the team and work in collaborative and collegial fashion that will help maximize the healthcare delivery potential of the team.
3. Access, analyze and utilize components of the oral healthcare system and delivery in a manner that is appropriate, cost effective, in compliance with the national healthcare priorities & policies.
4. Recognize and promote oral health care, prevent oral disease through early detection and re-organization.

PO6 : Lifelong learner and researcher:

Lifelong learner committed to continuous improvement of skills and knowledge through research. Self-access and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

A. Lifelong learner

Graduate should be able to

1. Identify learning (knowledge and skill) needs
2. Formulate learning goals and objectives
3. Identify human and material resources for learning
4. Choosing and implement appropriate learning strategies
5. Evaluating learning outcomes.

B. Researcher

Graduate should be able to

1. Identify and explain the area of interest (Subject and expert knowledge)
2. Plan and Execute Research
3. Manage Time and resources effectively
4. Exhibit academic writing and presentation skills
5. Design effective proposal and write for grant

PO7 :Professionalism and ethics :

Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession

A. Professionalism

Graduate must be competent at

1. Displaying appropriate behavior towards patients, colleagues and dental team.
2. Managing and maintaining a safe working environment. (working posture, visual perception, instrument handling, use of equipment, cross infection control)

B. Ethics

Graduate must be competent at

1. Providing humane and compassionate care to all patients irrespective of socio economic status, gender and education.
2. Practicing with personal and professional integrity, honesty and truthfulness.
3. Respecting patient's rights, particularly in regards to confidentiality and informed consent.
4. Producing and maintaining an accurate patients treatment and medico-legal record
5. Selecting and prioritizing treatment options that are sensitive to each individuals need.

Course Code	BDS COURSES
	I BDS
2. 1.1.	General Human Anatomy including Embryology, Osteology and Histology
2. 1.2	General Human Physiology, Biochemistry, Nutrition and Dietics
2. 1.3	Dental Anatomy, Embryology and Oral Histology
	II BDS
2.2.1.	General and Dental Pharmacology & therapeutics
2.2.2	General Pathology & Microbiology
2.2.3	Dental Materials
2.2.4	Pre Clinical Prosthodontics & Crown & Bridge
2.2.5	Pre Clinical Conservative Dentistry
	III BDS
2.3.1.	General Medicine
2.3.2	General Surgery
2.3.3(6)	Oral Pathology and Oral Microbiology
	IV BDS
2.4.1	Prosthodontics and Crown & Bridge
2.4.2	Periodontology
2.4.3	Oral & Maxillofacial Surgery
2.4.4	Conservative Dentistry and Endodontics
2.4.5	Orthodontics and Dentofacial Orthopaedics
2.4.7	Public Health Dentistry
2.4.8	Paediatric and Preventive Dentistry
2.4.9.	Oral Medicine and Radiology

**GENERAL HUMAN ANATOMY INCLUDING EMBRYOLOGY, OSTEOLOGY &
HISTOLOGY**

Course Outcomes - Theory

At the end of General Human Anatomy including Embryology, Osteology & Histology course, the students should be able to:	
T 2.1.1.1	Describe the normal disposition of the structures in the body while clinically examining a patient and while conducting clinical procedures.
T 2.1.1.2	Describe the anatomical basis of disease and injury.
T 2.1.1. 3	Describe the microscopic structure of the various tissues, a pre-requisite for understanding of the disease processes.
T 2.1.1.4	Discuss the nervous system to locate the site of lesions according to the sensory and / or motor deficits encountered.
T 2.1.1.5	Explain the basis of abnormal development, critical stages of development, effects of teratogens, genetic mutations and environmental hazards.
T 2.1.1.6	Describe the sectional anatomy of head and neck and brain to read the features in radiographs and pictures taken by modern imaging techniques.
T 2.1.1.7	Describe the anatomy of cardio-pulmonary resuscitation.

Programme Outcome & Course Outcome (POCO)Matrix - Theory

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.1.1.1	2	2	1	1	1	2	1
T 2.1.1.2	2	2	1	2	1	2	1
T 2.1.1. 3	2	1	2	2	1	2	1
T 2.1.1.4	1	2	1	1	1	2	1
T 2.1.1.5	2	1	1	2	1	2	1
T 2.1.1.6	2	2	2	2	2	2	1
T 2.1.1.7	2	2	2	1	1	2	2
Average Score	1.8	1.7	1.4	1.6	1	2	1

Course Outcomes – Practical

At the end of General Human Anatomy including Embryology, Osteology & Histology course, the students should be able to:	
P 2.1.1.1	Locate various structures of the body and to mark the topography of the living anatomy.
P 2.1.1.2	Identify various tissues under microscope.
P 2.1.1.3	Identify the features in radiographs and modern imaging techniques.
P 2.1.1.4	Detect various congenital abnormalities

Programme Outcome & Course Outcome (POCO) Matrix - Practical

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
P 2.1.1.1	2	1	1	1	1	2	1
P 2.1.1.2	2	1	1	2	1	2	1
P 2.1.1.3	1	2	2	2	1	2	1
P 2.1.1.4	2	2	2	1	1	2	2
Average score	1.7	1.5	1.5	1.5	1	2	1.5

GENERAL HUMAN PHYSIOLOGY, BIOCHEMISTRY, NUTRITION & DIETICS

Course Outcomes - Theory

At the end of General Human Physiology, Biochemistry, Nutrition & Dietics course, the students should be able to:	
T 2.1.2.1	Explain the normal functioning of all the organs systems and their interactions and describe the molecular and functional organization of a cell and list its subcellular components;
T 2.1.2.2	Assess the relative contribution of each organ system and delineate structure, function and inter-relationships of biomolecules and consequences of deviation from normal
T 2.1.2.3	Elucidate the physiological aspects of normal growth and development
T 2.1.2.4	Describe the physiological response and adaptations to environmental stresses and summarize the molecular concept of body defenses and their application in medicine;

Programme Outcome & Course Outcome (POCO) Matrix - Theory

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.1.2.1	1	1	1	2	2	2	1
T 2.1.2.2	2	2	1	2	2	2	1
T 2.1.2.3	1	1	1	2	2	2	1
T 2.1.2.4	2	2	2	2	2	2	1
Average Score	1.5	1.5	1.3	2	2	2	1

Course Outcomes - Practical

At the end of General Human Physiology, Biochemistry, Nutrition & Dietics course, the students should be able to:	
P 2.1.2.1	Explain the normal functioning of all the organs systems and their interactions and describe the molecular and functional organization of a cell and list its subcellular components
P 2.1.2.2	summarize the fundamental aspects of enzymology and clinical application wherein regulation of enzymatic activity is altered and to integrate the various aspects of metabolism and their regulatory pathways
P 2.1.2.3	Analyse and interpret investigative data.

Programme Outcome & Course Outcome (POCO) Matrix- Practical

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
P 2.1.2.1	2	2	2	2	2	2	1
P 2.1.2.2	1.5	2	2	2	2	2	1
P 2.1.2.3	2	2	2	2	2	2	1
Average Score	1.5	2	2	2	2	2	1

DENTAL ANATOMY, EMBRYOLOGY & ORAL HISTOLOGY

Course Outcomes - Theory

At the end of dental anatomy, embryology & oral histology course, the students should be able to:	
T 2.1.3.1	State and utilize the appropriate terminology used in dental anatomy and oral histology
T 2.1.3.2	Integrate the knowledge regarding head and neck embryology and oral physiology for clinical application
T 2.1.3.3	Recognize and describe the morphology of deciduous and permanent dentition and relate it to clinical application
T 2.1.3.4	Describe the histology of normal oral structures
T 2.1.3.5	Explain laboratory techniques for preparation of oral biopsy tissue for microscopic examination (Hard and Soft)

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.1.3.1	1	1	1	-	-	2	1
T 2.1.3.2	2	3	2	2	-	2	1
T 2.1.3.3	2	3	2	2	1	2	1
T 2.1.3.4	1	3	1	1	1	2	1
T 2.1.3.5	1	1	1	1	1	2	1
Average score	1.4	2.2	1.4	1.2	0.6	2	1

Course Outcomes - Practical

At the end of Dental Anatomy, embryology & Oral histology course the students should be able to:	
P 2.1.3.1	Recognize and explain the morphology of deciduous and permanent teeth
P 2.1.3.2	Identify the dentition in cast models and relate the approximate age
P 2.1.3.3	Identify normal oral histology slides under microscope and illustrate the histological diagrams in record book
P 2.1.3.4	Illustrate permanent teeth by carving in paraffin wax blocks and write the morphology of permanent teeth in record book

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
P 2.1.2.1	2	3	1	2	1	2	1
P 2.1.2.2	3	3	1	1	1	2	1
P 2.1.2.3	2	3	1	2	1	2	1
P 2.1.2.4	2	3	1	2	1	2	1
Average score	2.2	3	1	1.7	1	2	1

GENERAL & DENTAL PHARMACOLOGY & THERAPEUTICS

Course Outcomes - Theory

At the end of General & Dental Pharmacology & Therapeutics course, the students should be able to:	
T 2.2.1.1	Describe the pharmacokinetics and pharmacodynamics of drugs used in general and in dentistry in particular.
T 2.2.1.2	Describe Principles of prescription of drugs in special medical situations such as pregnancy, lactation, infancy and old age.
T 2.2.1.3	Describe Principles of Prescription writing.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.2.1.1	2	2	0	0	1	1	1
T 2.2.1.2	2	2	1	0	1	1	1
T 2.2.1.3	2	2	1	0	1	1	1
Average Score	2	2	0.6	0	1	1	1

Course Outcomes – Practical

At the end of General & Dental Pharmacology & Therapeutics course, the students should be able to:	
P 2.2.1.1	Describe the equipment's used in dispensing pharmacy, prescription parts and model prescription.
P 2.2.1.2	Critically evaluate the drug formulations and interpret the clinical pharmacology of marketed preparations commonly used in dentistry
P 2.2.1.3	Demonstrate dental pharmacy experiments and observe experiments designed for study of effects of drugs
P 2.2.1.4	Write prescription for common dental and medical ailments

Programme Outcome & Course Outcome (POCO) Matrix- Practical

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
P 2.2.1.1	2	2	1	2	1	1	1
P 2.2.1.2	2	2	1	1	1	1	1
P 2.2.1.3	2	2	1	2	1	1	1
P 2.2.1.4	2	2	2	0	1	1	1
Average score	2	2	1.25	1.25	1	1	1

GENERAL PATHOLOGY & MICROBIOLOGY

Course Outcomes - Theory

At the end of General Pathology & Microbiology course, the students should be able to:	
T 2.2.2.1	Describe the structure and ultra-structure of cell in injury, mechanisms of cell degeneration, cell death and repair and be able to correlate structural and functional alterations and to state the infective micro-organisms of the human body and describe the host parasite relationship.
T 2.2.2.2	Describe the normal homeostasis & hemopoiesis. Explain the clinical manifestations, pathogenesis, pathology of deranged states of common diseases (RBC, WBC, Platelet disorders)
T 2.2.2.3	Explain the morphological and clinical manifestations, pathophysiological processes and pathogenesis associated with bacteria, viruses, parasites and fungi infection. Describe the modes of transmission of pathogenic and opportunistic organisms and their sources, including insect vectors responsible for transmission of infection
T 2.2.2.4	Discuss methods of disinfection and sterilization to control and prevent hospital and community acquired infections.
T 2.2.2.5	Correlate normal and altered morphology (gross and microscopic) of different organ systems in common diseases and tumours, with disease processes, clinical significance and describe the mechanisms of immunity to infections.
T 2.2.2.6	Describe the antimicrobial agents used for treatment of common infections and scope of immunotherapy and vaccines for prevention of communicable diseases.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.2.2.1	2	1	1	2	2	2	2
T 2.2.2.2	2	2	1	2	2	2	2
T 2.2.2.3	2	2	2	2	1	2	2
T 2.2.2.4	2	2	2	2	2	2	2
T 2.2.2.5	2	1	1	2	2	2	2
T 2.2.2.6	2	2	2	2	2	2	2
Average Score	2	1.6	1.5	2	1.5	2	2

Course Outcomes – Practical

At the end of General Pathology & Microbiology course, the students should be able to:	
P 2.2.2.1	Identify the various methods of disinfection and sterilization to control and prevent hospital and community acquired infections
P 2.2.2.2	Identify the various culture media – aerobic and anaerobic used for in Bacteriology.
P 2.2.2.3	Identify the Albert-stained slide and describe the morphology of CBD
P 2.2.2.4	Identify the Fontana-stained slide and describe the morphology of spirochetes.
P 2.2.2.5	Perform Gram stain and interpret the slide. Discuss the various morphological forms of bacteria observed in gram stain and its application.
P 2.2.2.6	Perform ZiehlNeelsen stain and interpret the slide. Discuss the various modifications of ZiehlNeelsen stain and its application.
P 2.2.2.7	Perform staining of hematology smear, Identify and interpret the common hematological disorders.
P 2.2.2.8	Identify and describe the organ pathology of common diseases and tumors.
P 2.2.2.9	Perform common tests in hematology & clinical pathology and interpret the results.

Programme Outcome & Course Outcome (POCO) Matrix- Practical

CourseOutcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
P 2.2.2.1	2	2	1	1	1	2	2
P 2.2.2.2	2	2	1	1	1	2	2
P 2.2.2.3	3	2	1	1	1	2	2
P 2.2.2.4	3	2	1	1	1	2	2
P 2.2.2.5	3	2	1	1	1	2	2
P 2.2.2.6	3	2	1	1	1	2	2
P 2.2.2.7	3	3	1	3	1	3	3
P 2.2.2.8	3	3	1	1	1	3	3
P 2.2.2.9	3	3	1	3	1	3	3
Average Score	2.7	2.3	1	1.4	1	2.3	2.3

DENTAL MATERIALS

Course Outcomes - Theory

At the end of Dental Materials course, the students should be able to:	
T 2.2.3.1	Recall and explain about the use and properties of all dental materials
T 2.2.3.2	Describe and explain about biocompatibility of dental materials and their clinical applications
T 2.2.3.3	Describe the evolution and development of various scientific aspects of the material science.
T 2.2.3.4	Describe physical, chemical, mechanical and biological behavior of various dental materials
T 2.2.3.5	Discuss the clinical application of various dental material

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.2.3.1	2	3	1	2	1	3	3
T 2.2.3.2	2	3	2	1	1	2	3
T 2.2.3.3	2	2	2	2	1	2	2
T 2.2.3.4	3	2	2	1	1	2	2
T 2.2.3.5	1	2	3	2	2	1	3
Average Score	2	2.5	2	1.5	1	2	2.5

Course Outcomes - Practical

At the end of Dental Materials course, the students should be able to:	
P 2.2.3.1	Classify, manipulate and use appropriate dental materials in given clinical scenario and laboratory procedures
P 2.2.3.2	Understand how to use dental materials without causing injury to the patient and use the material without wastage
P 2.2.3.3	Perform newer methods and techniques of various dental materials from time based scientific research which is in patient's best interest
P 2.2.3.4	Chart and integrate the applications of these materials to meet high quality prosthodontics demands for the patient
P 2.2.3.5	Respect the patients' rights about biohazards of various dental materials and privileges including patient's right to information.

Programme Outcome & Course Outcome (POCO) Matrix- Practical

Course Outcome	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7
P 2.2.3.1	3	2	1	2	1	2	2
P 2.2.3.2	2	3	2	2	2	2	3
P 2.2.3.3	2	2	2	3	2	1	2
P 2.2.3.4	2	3	2	2	1	2	3
P 2.2.3.5	1	3	3	1	2	1	3
Average Score	2	2.5	2	2	1.5	1.5	2.5

PRE-CLINICAL PROSTHODONTICS

Course Outcomes - Practical

At the end of Pre-Clinical Prosthodontics course, the students should be able to:	
P 2.2.4.1	Recall and explain appropriate terminologies and components pertaining to the rehabilitation of various edentulous conditions.
P 2.2.4.2	Summarize the properties and use of various materials used in Prosthodontics.
P 2.2.4.3	Describe and demonstrate effective use of various instruments and equipment's involved in the fabrication of the prosthesis.
P 2.2.4.4	Demonstrate various preclinical and laboratory procedures to fabricate complete and partial dentures.
P 2.2.4.5	Use materials carefully without causing any injury to the patient.
P 2.2.4.6	Manipulate required dental materials for complete and partial dentures without any wastage.

Programme Outcome & Course Outcome (POCO) Matrix- Practical

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
P 2.2.4.1	2	2	2	2	1	2	2
P 2.2.4.2	2	2	2	2	1	2	2
P 2.2.4.3	3	3	2	2	2	1	3
P 2.2.4.4	3	3	2	2	2	2	3
P 2.2.4.5	3	3	2	2	2	2	3
P 2.2.4.6	3	2	2	2	2	1	2
Average Score	2.5	2.5	2	2	1.5	1.5	2.5

PRE-CLINICAL OPERATIVE DENTISTRY

Course Outcomes - Practical

At the end of Pre-Clinical Operative Dentistry course, the students should be able to:	
P 2.2.5.1	Utilize appropriate knowledge of dental terminology and normal anatomy and morphology of teeth.
P 2.2.5.2	Apply etiology and pathophysiology of dental caries in diagnosis, prevention and treatment planning.
P 2.2.5.3	Apply usage of dental instruments [Hand & Rotary] in management of such lesions on simulation models.
P 2.2.5.4	Select, manipulate & use of various restorative dental materials.
P 2.2.5.5	Use skills necessary to deliver quality treatment to patients.

Programme Outcome & Course Outcome (POCO) Matrix- Practical

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
P 2.2.5.1	3	1	1	1	1	2	1
P 2.2.5.2	2	2	1	1	1	1	1
P 2.2.5.3	2	2	1	2	1	1	1
P 2.2.5.4	2	2	1	2	1	1	1
P 2.2.5.5	2	2	1	1	1	2	2
Average Score	2.2	1.8	1	1.4	1	1.4	1.2

GENERAL MEDICINE

Course Outcomes - Theory

At the end of General Medicine course, the students should be able to:	
T 2.3.1.1	Describe the applied anatomy and physiology of various systems of the human body.
T 2.3.1.2	Describe the natural history of common medical diseases. Broad outline of principles of management and the drug interactions and drug induced complications.
T 2.3.1.3	Describe & interpret investigations relevant to most common diseases.
T 2.3.1.4	Describe lifestyle diseases like diabetes, hypertension and ischemic heart disease

Programme Outcome & Course Outcome (POCO) Matrix– Theory

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.3.1.1	1	2	1	2	1	2	1
T 2.3.1.2	2	2	2	2	2	2	2
T 2.3.1.3	2	2	2	2	1	2	2
T 2.3.1.4	2	2	2	2	2	2	2
Average Score	1.7	2	1.7	2	1.5	2	1.7

GENERAL MEDICINE

Course Outcomes - Clinical

At the end of General Medicine course, the students should be able to:	
C 2.3.1.1	Record proper history and counsel the patient about treatment outcomes and complications.
C 2.3.1.2	Perform systematic general physical examination, systemic examination & diagnose common conditions.
C 2.3.1.3	Identify medical emergencies and provide primary care & offer timely referral to higher centers
C 2.3.1.4	Manage medical emergencies like syncope, anaphylaxis and perform cardio pulmonary resuscitation

Programme Outcome & Course Outcome (POCO) Matrix - Clinical

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C 2.3.1.1	1	2	2	1	2	2	2
C 2.3.1.2	2	2	2	2	2	2	2
C 2.3.1.3	2	2	2	2	1	2	2
C 2.3.1.4	2	2	2	1	1	2	2
Average Score	1.7	2	2	1.5	1.5	2	2

GENERAL SURGERY

Course Outcomes - Theory

At the end of General Surgery course, the students should be able to:	
T 2.3.2.1	Describe etiology, pathophysiology and principle of diagnosis and treatment of common surgical conditions (I&D of abscess, debridement and suturing of open wounds) affecting head and neck.
T 2.3.2.2	Define asepsis, disinfection and sterilization along with the understanding of universal precautions and judicious use of antibiotics.
T 2.3.2.3	Understand and give initial management of shock/anaphylaxis.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.3.2.1	2	2	1	1	1	1	1
T 2.3.2.2	2	2	1	1	1	1	1
T 2.3.2.3	2	2	1	1	1	1	1
Average Score	2	2	1	1	1	1	1

GENERAL SURGERY

Course Outcomes - Clinical

At the end of General Surgery course, the students should be able to:	
C 2.3.2.1	Record appropriate history, comprehensive Head and Neck examinations, ulcers & swellings examination, diagnosis and surgical treatment of common general surgical conditions.
C 2.3.2.2	Record & document history and clinical examination findings of the patients.
C 2.3.2.3	Examine, diagnose and plan initial management of patients with shock / anaphylaxis.
C 2.3.2.4	Examine, diagnose and plan treatment of common general surgery conditions like ulcer and swelling.
C 2.3.2.5	Apply splints, bandages and POP slabs
C 2.1.2.6	Perform I & D of abscesses & suturing of superficial wounds

Programme Outcome & Course Outcome (POCO) Matrix–Clinical

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C 2.3.2.1	3	3	3	2	2	2	3
C 2.3.2.2	3	3	3	2	2	2	3
C 2.3.2.3	3	2	3	2	2	2	3
C 2.3.2.4	3	3	3	2	2	2	3
C 2.3.2.5	2	2	3	2	2	2	2
C 2.1.2.6	2	2	3	2	2	2	2
Average Score	2.6	2.5	3	2	2	2	2.6

ORAL PATHOLOGY AND MICROBIOLOGY

Course Outcomes - Theory

At the end of Oral Pathology and Microbiology course, the students should be able to:	
T 2.3.3.1	Recall the appropriate definitions, terminologies related to pathologies affecting head and neck (Knowledge)
T 2.3.3.2	Describe the characteristics and manifestations related to developmental disturbances of oral and paraoral structures (Comprehension)
T 2.3.3.3	Discuss oral manifestation of systemic infectious diseases and relevant laboratory findings
T 2.3.3.4	Describe the etiopathogenesis of dental caries and its sequelae and correlate it with clinical application
T 2.3.3.5	Explain and summarize the diseases of Periodontium and correlate it with clinical application (Knowledge)

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.3.3.1	1	3	1	1	1	2	1
T 2.3.3.2	3	3	2	2	1	2	2
T 2.3.3.3	2	3	2	2	1	3	1
T 2.3.3.4	2	3	2	2	1	2	2
T 2.3.3.5	2	3	2	1	1	2	2
Average Score	2	3	1.8	1.6	1	2.2	1.6

Course Outcomes - Practicals

At the end of Oral Pathology and Microbiology course, the students should be able to:	
P 2.3.3.1	Interpret special stains of oral tissues under microscope and illustrate the diagrams of the same in record book
P 2.3.3.2	Identify the common oral diseases under microscope and illustrate diagrams of the same in record book
P 2.3.3.3	Identify the developmental anomalies in tooth specimens and cast models and illustrate in record book

Programme Outcome & Course Outcome (POCO) Matrix- Practicals

Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7
P 2.3.3.1	2	2	1	1	1	2	1
P 2.3.3.2	2	2	2	1	1	2	2
P 2.3.3.3	2	3	3	1	1	2	2
AverageScore	2	2.3	2	1	1	2	1.6

PROSTHODONTICS AND CROWN AND BRIDGE

Course Outcomes - Theory

At the end of Prosthodontics and Crown and Bridge course, the students should be able to:	
T 2.4.1.1	Identify and explain various dentulous conditions; outline the different treatment modalities and treatment planning to restore missing dentition
T 2.4.1.2	Demonstrate the skills in the selection and manipulation of various dental materials and techniques related to rehabilitation of various missing oral and maxillofacial structures.
T 2.4.1.3	Recall and explain about pharmacology and effect of drugs on the oral tissues and their significance in prosthodontic treatment
T 2.4.1.4	Analyze effect of systematic conditions on the oral tissues and their significance in prosthodontic treatment.
T 2.4.1.5	Discuss various newer dental materials and techniques

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Out come	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.4.1.1	3	2	2	1	2	2	2
T 2.4.1.2	3	2	2	2	2	2	2
T 2.4.1.3	3	3	1	2	2	1	3
T 2.4.1.4	2	3	2	1	2	2	2
T 2.4.1.5	2	3	1	3	2	3	3
Average Total	2.6	2.6	1.6	1.8	2	2	2.4

Course Outcomes - Clinical

At the end of Prosthodontics And Crown And Bridge course, the students should be able to:	
C 2.4.1.1	Carry out various clinical and laboratory procedures to fabricate complete and partial dentures.
C 2.4.1.2	Implement personal hygiene, infection control, prevention of cross infection and safe disposal of waste to prevent any cross contamination
C 2.4.1.3	Read and interpret radiograph and other investigations for the purpose of diagnosis and treatment plan in prosthodontic treatment
C 2.4.1.4	Practice ethics, law and jurisprudence in prosthodontic treatment. The student should respect patients' rights and privileges including patients' rights to information about prosthodontic treatment
C 2.4.1.5	Diagnose failed prosthesis and provide prosthodontic treatment and after care for these conditions.
C 2.4.1.6	Differentiate and refer complex cases to Prosthodontic specialist for further treatment.
C 2.4.1.7	The student knows and practice about ethics, law and jurisprudence in prosthodontic treatment.

Programme Outcome & Course Outcome (POCO) Matrix - Clinical

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C 2.4.1.1	2	2	1	1	2	2	2
C 2.4.1.2	1	3	2	2	1	2	2
C 2.4.1.3	2	3	2	2	2	3	2
C 2.4.1.4	1	3	2	1	2	1	2
C 2.4.1.5	2	2	2	1	1	2	2
C 2.4.1.6	1	2	3	2	1	2	2
C 2.4.1.7	1	2	3	2	1	1	2
Average score	1.5	2.5	2	1.5	1.5	1.8	2

PERIODONTOLOGY

Course Outcomes - Theory

At the end of Periodontology course, the students should be able to:	
T 2.4.2.1	Describe and explain the components of periodontium which includes gingiva, periodontal ligament, cementum and bone.
T 2.4.2.2	Describe various etiological factors contributing to gingival and periodontal disease.
T 2.4.2.3	Discuss clinical & diagnostic features of gingival and periodontal disease.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.4.2.1	1	1	1	1	1	1	1
T 2.4.2.2	2	2	1	1	1	2	1
T 2.4.2.3	2	2	1	1	1	1	1
Average Score	1.6	1.6	1	1	1	1.3	1

Course Outcomes - Clinical

At the end of Periodontology course, the students should be able to:	
C 2.4.2.1	Plan treatment protocol for gingival and periodontal disease.
C 2.4.2.2	Render non-surgical treatment (scaling, root planning and local drug delivery).
C 2.4.2.3	Plan oral hygiene maintenance protocol, explain and implement the same to the patient.
C 2.4.2.4	Incorporate dental ethics and demonstrate acumen for continuous learning and research.

Programme Outcome & Course Outcome (POCO) Matrix- Practical

Course Out come	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C 2.4.2.1	2	2	2	1	1	1	1
C 2.4.2.2	2	2	2	1	1	1	1
C 2.4.2.3	2	2	2	1	1	1	1
C 2.4.2.4	1	1	1	1	1	1	1
Average Score	1.75	1.75	1.75	1	1	1	1

ORAL AND MAXILLOFACIAL SURGERY

Course outcomes - Theory

At the end of Oral and Maxillofacial Surgery course, the students should be able to:	
T 2.4.3.1	Describe the evaluation, diagnosis and management of common oral surgical diseases and discuss the various surgical treatments.
T 2.4.3.2	Discuss the treatment modifications required in the medically compromised patient.
T 2.4.3.3	Describe the major oral surgical diseases and the principals involved in in-patient management.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Out come	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.4.3.1	2	2	1	2	1	2	2
T 2.4.3.2	2	2	1	2	1	2	2
T 2.4.3.3	1	1	1	1	1	1	1
AverageScore	1.6	1.6	1	1.6	1	1.6	1.6

Course Outcomes - Clinical

At the end of Oral and Maxillofacial Surgery course, the students should be able to:	
C 2.4.3.1	Record case history, demonstrate clinical examination, advise and interpret radiological and laboratory investigations to arrive at a specific diagnosis.
C 2.4.3.2	Perform exodontia and minor surgical procedures like suturing and alveoloplasty under Local Anesthesia following the standard sterilization protocols.
C 2.4.3.3	Identify and manage medical emergencies on dental chair and minor oral surgical complications intraoperatively and postoperatively.
C 2.4.3.4	Diagnose (Impacted 3 rd molar, Cysts, Tumors, and Fractures etc.) and refer cases beyond their expertise to Oral and Maxillofacial Surgeon.

Programme Outcome & Course Outcome (POCO) Matrix- Clinical

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C 2.4.3.1	3	3	3	3	1	2	2
C 2.4.3.2	3	3	1	3	1	2	2
C 2.4.3.3	3	2	2	2	1	2	2
C 2.4.3.4	2	2	2	2	2	2	2
Average Score	2.75	2.5	2	2.5	1.25	2	2

CONSERVATIVE DENTISTRY AND ENDODONTICS

Course Outcomes - Theory

At the end of Conservative Dentistry and Endodontics course, the students should be able to:	
T 2.4.4.1	Recall and explain appropriate dental terminologies of Conservative Dentistry and Endodontics.
T 2.4.4.2	Describe etiology and pathophysiology of Caries and non-Carious diseases of dental tissues in clinical diagnosis, prevention and treatment planning.
T 2.4.4.3	Discuss knowledge in selection, manipulation & application of various restorative dental materials and dental instruments in clinical dental practice.
T 2.4.4.4	Describe various with endodontic instruments, materials and techniques required to carry out simple Endodontic procedures.
T 2.4.4.5	Describe steps of research and right protocol, collect, analyze and interpret data and publish scientific paper
T 2.4.4.6	Describe ethical principles, honesty and integrity in various aspects of dental practice.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.4.4.1	3	2	1	1	1	1	1
T 2.4.4.2	2	2	1	1	1	2	1
T 2.4.4.3	2	2	1	1	1	1	1
T 2.4.4.4	2	1	1	2	1	2	1
T 2.4.4.5	2	1	1	1	1	1	1
T 2.4.4.6	2	1	1	1	1	2	1
Average Score	2.1	1.5	1	1.1	1	1.5	1

Course Outcomes - Clinical

At the end of Conservative Dentistry and Endodontics course, the students should be able to:	
C 2.4.4.1	Utilize appropriate knowledge of fundamentals of tooth preparation and restoration in managing simple and compound cavities
C 2.4.4.2	Communicate effectively and sensitively with patients and public to bring about satisfaction and trust
C 2.4.4.3	Selection, manipulate & use of various restorative dental materials and dental instruments in clinical dental practice.
C 2.4.4.4	Perform endodontic treatment of single rooted anterior teeth with endodontic instruments, materials and techniques.
C 2.4.4.5	Use newer materials and techniques to deliver high quality treatment to the patients.
C 2.4.4.6	Identify and refer patients requiring specialist care

Programme Outcome & Course Outcome (POCO) Matrix- Clinical

CourseOutcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C 2.4.4.1	2	1	1	1	1	1	1
C 2.4.4.2	2	2	1	1	1	2	1
C 2.4.4.3	2	2	1	1	1	1	1
C 2.4.4.4	2	2	1	2	1	1	1
C 2.4.4.5	2	2	1	2	1	1	1
C 2.4.4.6	2	1	1	1	1	2	1
Average Score	2	1.6	1	1.3	1	1.3	1

ORTHODONTICS AND DENTOFACIAL ORTHOPEDICS

Course Outcomes - Theory

At the end of Orthodontics and DentofacialOrthopedics course, the students should be able to:	
T 2.4.5.1	Define and explain the basics of growth and development ,factors influencing and Clinical application of growth and development
T 2.4.5.2	Explain and relate the dynamic interaction of biologic processes & mechanical forces acting on the Stomatognathic system during orthodontic treatment
T 2.4.5.3	Define,Identify,describe,classify malocclusion and differentiate it with normal occlusion and understand the etiology of malocclusion
T 2.4.5.4	Describe importance of various diagnostic aids and relate the findings by analyzing various cephalometric and model analysis to enable the students to diagnose and manage minor malocclusions requiring removable appliances
T 2.4.5.5	Discuss and write a plan of treatment for patients needing orthodontic treatment.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Out Come	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.4.5.1	3	3	3	3	3	3	3
T 2.4.5.2	3	3	3	4	3	3	3
T 2.4.5.3	3	3	3	3	3	3	3
T 2.4.5.4	4	4	3	3	3	3	3
T 2.4.5.5	3	5	4	5	3	4	4
Average Score	3.4	3.6	3.2	3.6	3.0	3.2	3.2

Course Outcomes - Practical

At the end of Orthodontics and Dentofacial orthopedics course, the students should be able to:	
C 2.4.5.1	Explain the basics of different types of orthodontic materials used with emphasis on stainless steel.
C 2.4.5.2	Demonstrate the dynamic functioning and create various springs, retractors, clasps
C 2.4.5.3	Identify, describe and produce various removable appliances for minor orthodontic problems
C 2.4.5.4	Diagnose and manage minor malocclusions cases requiring removable appliances and do analysis of various cephalometric and model .
C 2.4.5.5	Plan and design an orthodontic treatment plan based on patients need.

Programme Outcome & Course Outcome (POCO) Matrix- Practical

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C 2.4.5.1	3	4	4	3	4	3	3
C 2.4.5.2	4	3	3	3	3	3	3
C 2.4.5.3	3	3	4	4	3	3	3
C 2.4.5.4	4	4	3	3	3	3	3
C 2.4.5.5	3	5	4	5	3	4	4
Average Score	3.4	3.8	3.6	3.6	3.2	3.2	3.2

PUBLIC HEALTH DENTISTRY

Course Outcomes - Theory

At the end of Public Health Dentistry course, the students should be able to:	
T 2.4.7.1	Classify various risk factors affecting oral Health in the community.
T 2.4.7.2	Discuss various risk group.
T 2.4.7.3	Describe levels of prevention.
T 2.4.7.4	Describe Health Education methods.
T 2.4.7.5	Describe barriers of Health Education.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Out come	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.4.7.1	2.1.2.1	1	1	2	2	1	1
T 2.4.7.2	2.1.2.2	1	1	1	2	1	1
T 2.4.7.3	2.1.2.3	1	1	1	2	1	1
T 2.4.7.4	2.1.2.4	1	1	1	2	1	1
T 2.4.7.5	2.1.2.5	1	1	1	2	1	1
Average Score	2.1.2	1	1	1.2	2	1	1

Course Outcomes - Clinical

At the end of Public Health Dentistry course, the students should be able to:	
C 2.4.7.1	Collect information on various diseases in the community.
C 2.4.7.2	Perform various preventive procedures in preventing dental disease
C 2.4.7.3	Perform comprehensive treatment for patients.
C 2.4.7.4	Apply the basic principles of health education in imparting health education
C 2.4.7.5	Demonstrate role play as a medium for educating general population and target population.
C 2.4.7.6	Plan the steps for research protocol, collect data, analyze and interpret the results and encourage students to publish a paper.
C 2.4.7.7	Record and interpret a comprehensive and contemporaneous patient history with emphasis on oral health education.
C 2.4.7.8	Treat all patients with equality, respect and dignity and comply with current best practice guidelines.
C 2.4.7.9	Plan the oral health education materials and application of the same to educate, create awareness and motivate the population to adapt the best oral health practice.

Programme Outcome & Course Outcome (POCO) Matrix - Clinical

Course Out come	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C 2.4.7.1	1	1	2	1	2	1	3
C 2.4.7.2	2	2	2	1	1	1	3
C 2.4.7.3	2	2	2	1	2	1	3
C 2.4.7.4	2	1	2	2	3	1	1
C 2.4.7.5	2	1	2	2	3	1	1
C 2.4.7.6	3	1	2	2	3	1	3
C 2.4.7.7	2	2	3	1	1	1	3
C 2.4.7.8	2	2	3	1	1	1	3
C 2.4.7.9	2	2	3	2	2	1	3
Average Score	2	1.5	2.3	1.4	2	1	2.5

PAEDIATRIC AND PREVENTIVE DENTISTRY

Course Outcomes - Theory

At the end of Paediatric and Preventive Dentistry course, the students should be able to:	
T 2.4.8.1	Describe principles and scientific evidence of clinical practice of Pediatric dentistry.
T 2.4.8.2	Describe the development, structure and function of the teeth, mouth, jaws and other oral tissues in health and disease and its effect on general health and social well-being of the patient.
T 2.4.8.3	Discuss the scientific basis of child psychology and behavior management in treatment of children with dental anxiety.
T 2.4.8.4	Describe oral health and prevention of oral diseases in children.
T 2.4.8.5	Discuss causes for pain and anxiety during dental treatment.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T 2.4.8.1	3	3	2	3	1	3	2
T 2.4.8.2	3	3	1	1	1	1	2
T 2.4.8.3	2	2	2	1	1	1	1
T 2.4.8.4	2	2	2	2	1	1	1
T 2.4.8.5	2	2	2	1	1	1	1
Average Score	2.4	2.4	1.8	1.6	1	1.4	1.4

Course Outcomes - Clinical

At the end of Paediatric and Preventive Dentistry course, the students should be able to:	
C 2.4.8.1	Record history, examine and diagnose common oral diseases like dental caries, periodontal diseases, other common soft and hard tissue pathologies of the oral cavity in children and provide preventive and therapeutic treatment .
C 2.4.8.2	Assess and manage effects of psychological and social environment on behavior of children and provide effective dental treatment for the child.
C 2.4.8.3	Perform treatment of common dental problems encountered in pediatric dental practice meeting the expectations of child and parent.
C 2.4.8.4	Demonstrate management of common complications encountered while carrying out various dental procedures.
C 2.4.8.5	Carry out necessary investigative procedures and interpret.
C 2.4.8.6	Perform pain control and behavior management during dental treatment.
C 2.4.8.7	Perform necessary treatment in trauma to the Or facial and dental structures.
C 2.4.8.8	Perform oral check- up and render dental treatment during oral health programs

Programme Outcome & Course Outcome (POCO) Matrix- Clinical

Course Out Come	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C 2.4.8.1	3	3	2	3	1	3	2
C 2.4.8.2	3	3	2	2	1	2	2
C 2.4.8.3	3	3	2	2	2	2	2
C 2.4.8.4	3	3	2	1	1	1	3
C 2.4.8.5	3	3	2	3	1	1	3
C 2.4.8.6	2	3	3	3	2	2	3
C 2.4.8.7	3	3	3	3	2	2	3
C 2.4.8.8	2	3	3	3	3	2	3
Average Score	2.75	3	2.3	2.5	1.6	1.8	2.6

ORAL MEDICINE AND RADIOLOGY

Course Outcomes - Theory

At the end of Oral Medicine and Radiology course, the students should be able to:	
T 2.4.9.1	Discuss orofacial disorders (mucosal/non mucosal/para oral structure/pain) with clinical features, diagnostic methods, radiography & medical management.
T2.4.9.2	Describe effects of systemic diseases on oral health
T2.4.9.3	Describe basics of radiology, intraoral, extraoral, radiography and specialized imaging.
T2.4.9.4	Describe clinical & radiographic aspects of forensic odontology.

Programme Outcome & Course Outcome (POCO) Matrix- Theory

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
T.2.4.9.1	2	2	2	2	1	2	2
T.2.4.9.2	2	2	2	2	2	2	2
T.2.4.9.3	1	2	1	1	1	2	1
T.2.4.9.4	2	2	2	2	1	2	1
Average Score	1.75	2	1.75	1.75	1.25	2	1.5

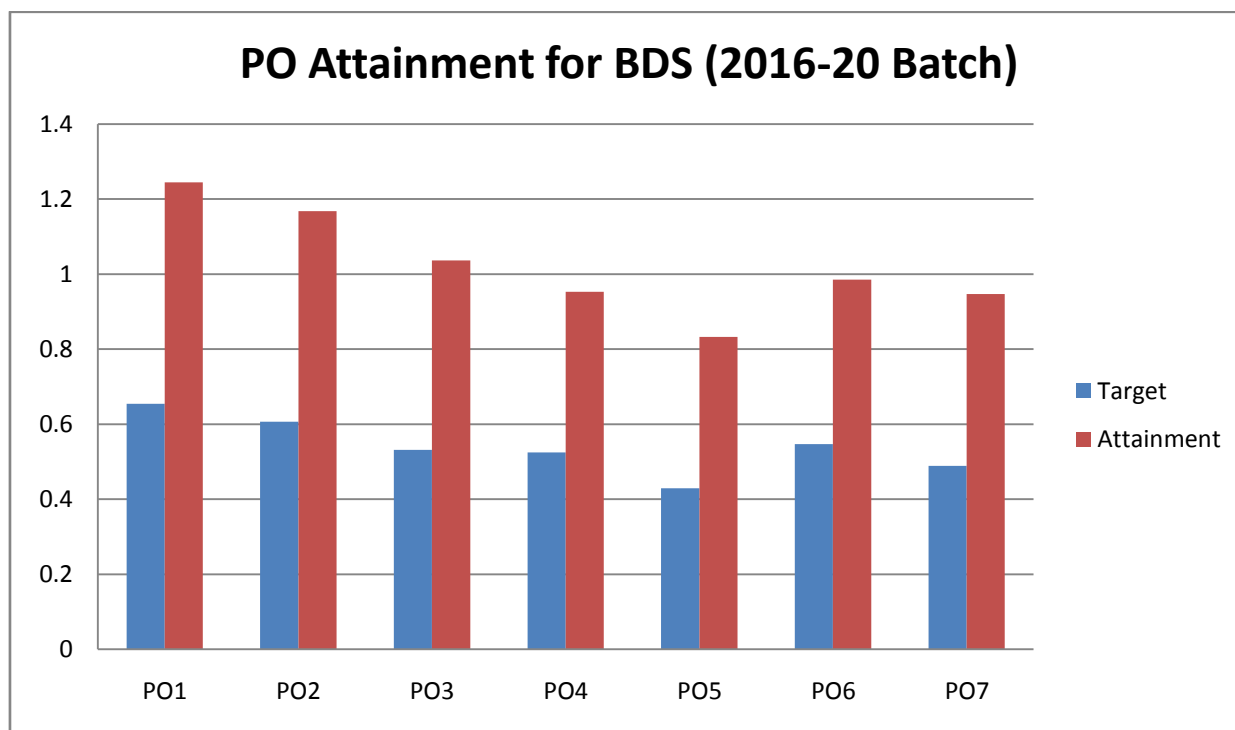
Course Outcomes - Clinical

At the end of Oral Medicine and Radiology course, the students should be able to:	
C 2.4.9.1	Record appropriate history, perform comprehensive extraoral & intraoral examination, diagnose and provide medical line of treatment for common orofacial disorders.
C2.4.9.2	Demonstrate adequate understanding of influence of systemic disease on oral health and prescribe appropriate referral.
C2.4.9.3	Demonstrate proficiency in intraoral radiography following appropriate safety & protection measures
C2.4.9.4	Demonstrate the understanding of maintaining dental records and age estimation by radiological methods.

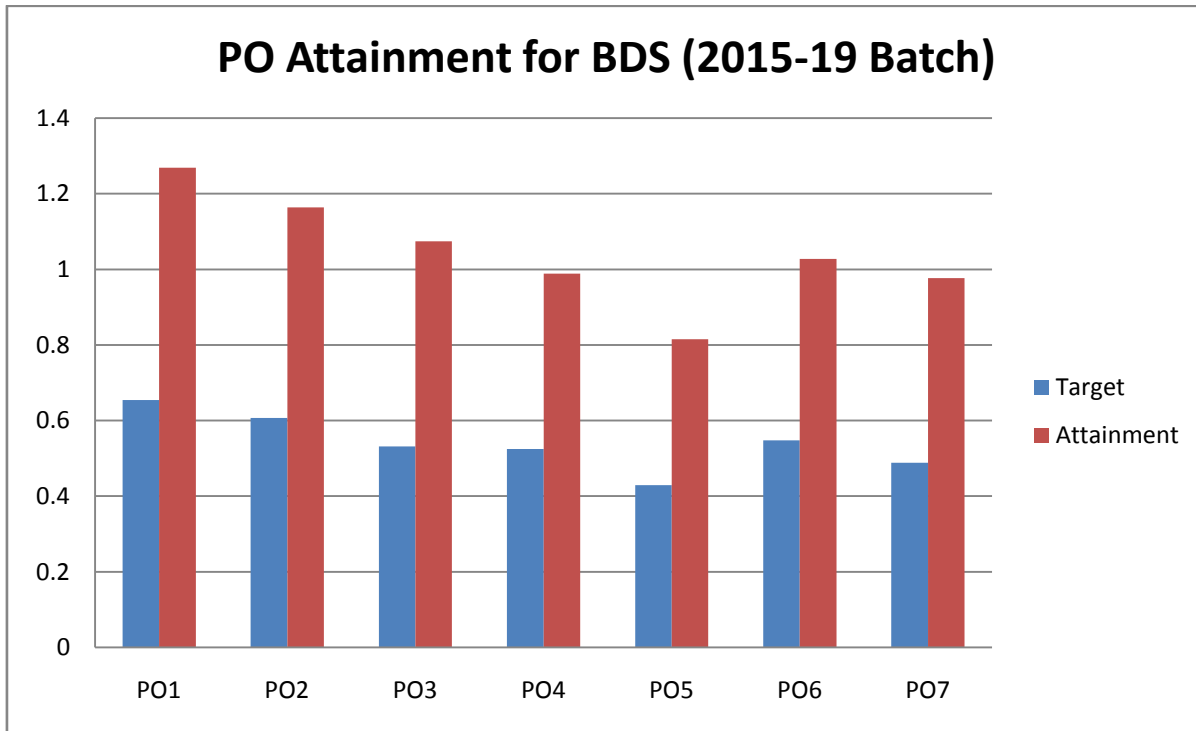
Programme Outcome & Course Outcome (POCO) Matrix- Practical

Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7
C.2.4.9.1	3	3	3	2	2	2	3
C.2.4.9.2	2	2	2	2	1	2	2
C.2.4.9.3	3	3	3	3	2	2	2
C.2.4.9.4	2	2	2	2	2	2	2
Average Score	2.5	2.5	2.5	2.25	1.75	2	2.25

POCO ATTAINMENT GRAPH



POCO ATTAINMENT GRAPH



POCO ATTAINMENT GRAPH

