



भारतीय दन्त परिषद
Dental Council of India



AMC DENTAL COLLEGE

Khokhra, Ahmedabad 380008

Affiliated to Gujarat University

SELF STUDY REPORT (CYCLE 1) 2022-2023

CRITERIA: 2: Teaching learning and evolution

KEY INDICATOR: 2.6: Student performance and learning

METRIC: 2.6.3: The teaching learning and assessment process of institution are aligned with the stated learning outcome

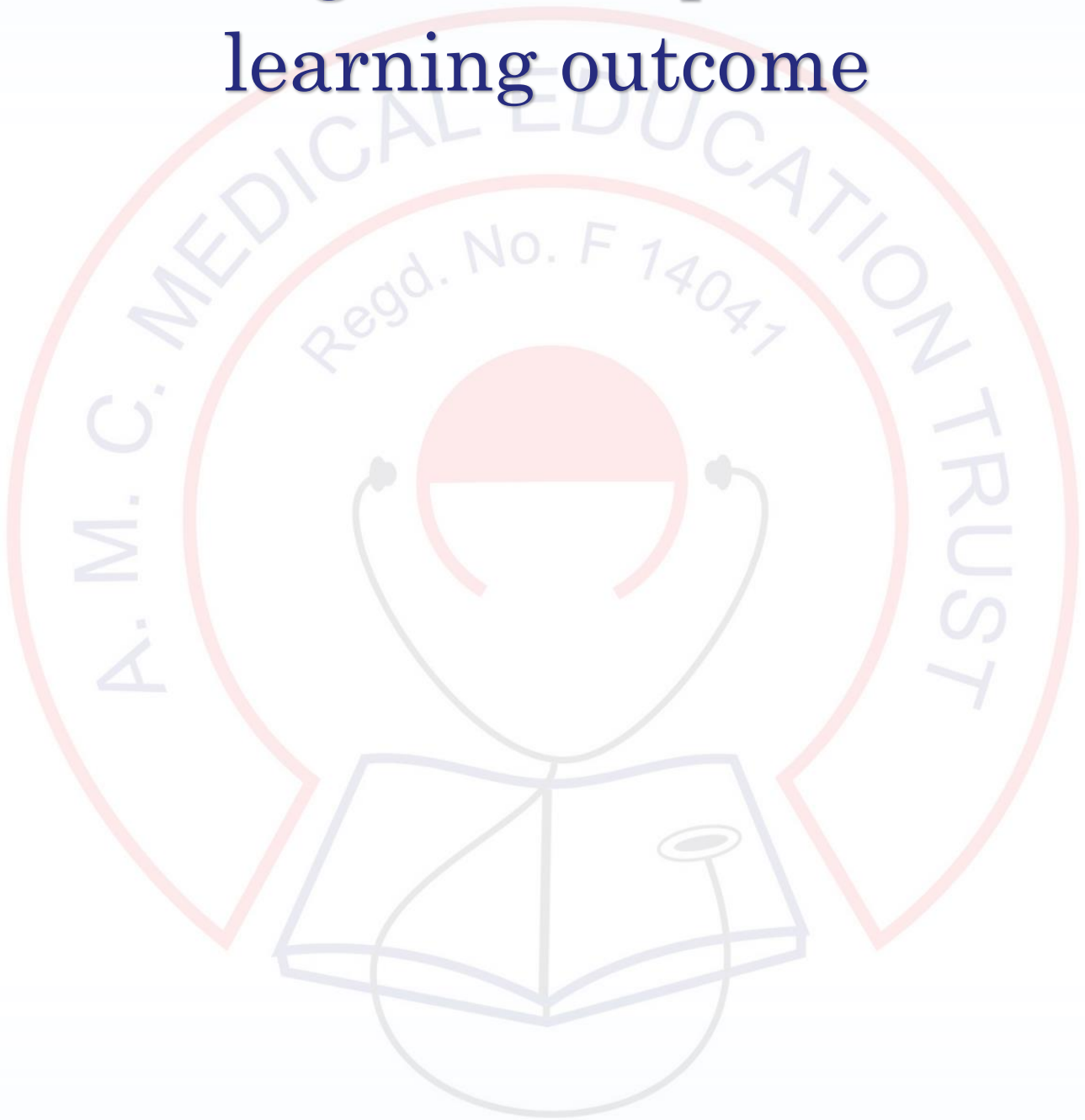


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Data

Programme specific learning outcome



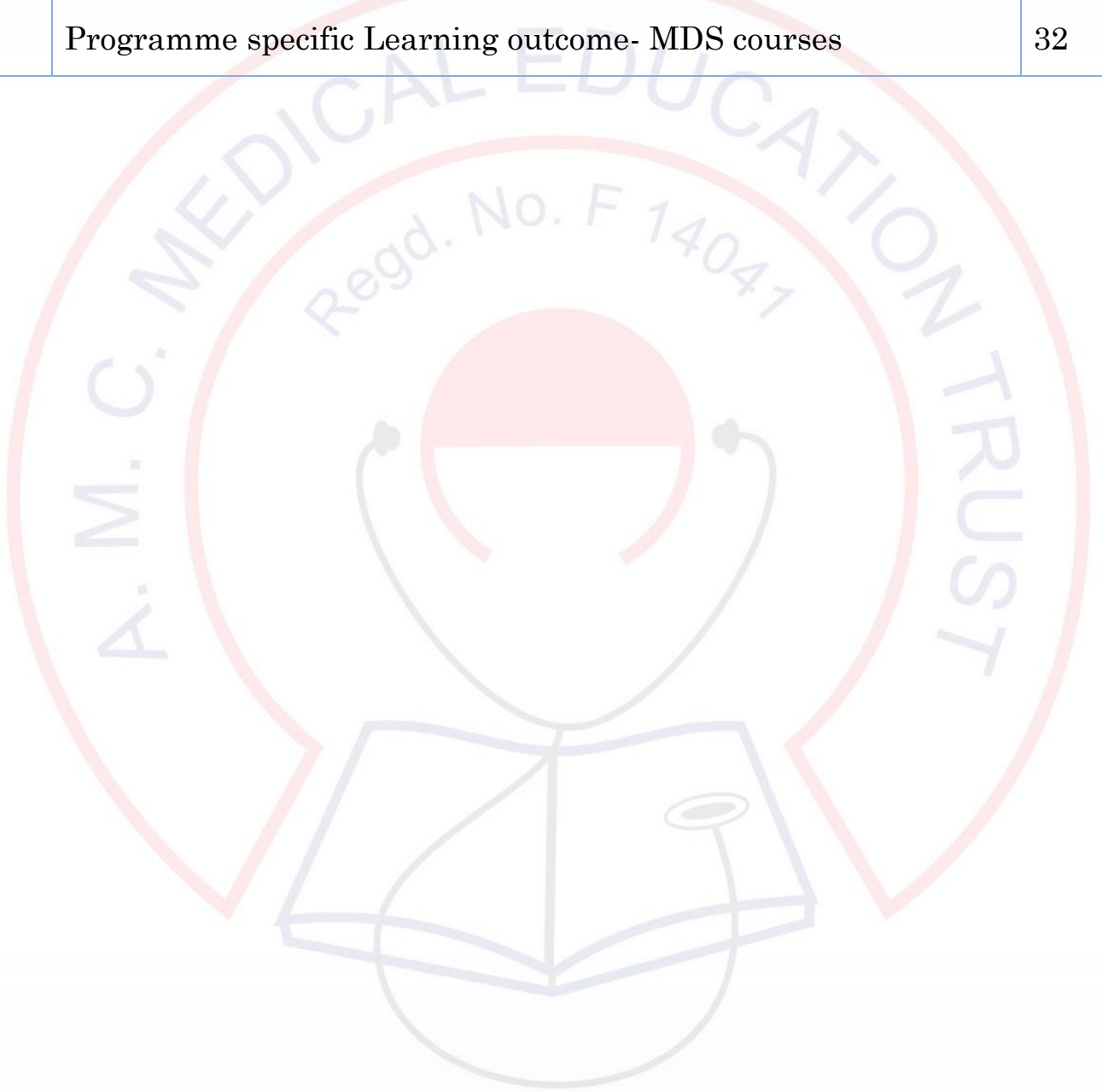


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Program Outcomes

At the end of the program, the dental Graduate shall have the following attributes:

PO1- Knowledge and understanding

PO2- Skills

PO3- Attitudes.

PO1- KNOWLEDGE AND UNDERSTANDING

The graduate should have:

Key Elements-

1. Adequate knowledge of the scientific foundations on which dentistry is based and good understanding of various relevant scientific methods, principles of biological functions and be able to evaluate and analyze scientifically various established facts and data.
2. Adequate knowledge of the development, structure and function of the teeth, mouth and jaws and associated tissues both in health and disease and their relationship and effect on general state of health and also bearing on physical and social well being of the patient.
3. Adequate knowledge of clinical disciplines and methods which provide a coherent picture of anomalies, lesions and diseases of the teeth, mouth and jaws and preventive diagnostic and therapeutic aspects of dentistry.
4. Adequate clinical experience required for general dental practice.
5. Adequate knowledge of the constitution, biological function and behavior of persons in health and sickness as well as the influence of the natural and social environment on the state of health in so far as it affect dentistry.



PO2- SKILLS

A graduate should be able to demonstrate the following skills:

Key Elements-

1. Able to diagnose and manage various common dental problems encountered in general dental practice keeping in mind the expectations and the right of the society to receive the best possible treatment available wherever possible.
2. Acquire the skill to prevent and manage complications if encountered while carrying out various surgical and other procedures.
3. Possess skill to carry out certain investigative procedures and ability to interpret laboratory findings.
4. Promote oral health and help prevent oral diseases where possible.
5. Competent in the control of pain and anxiety among the patients during dental treatment.

PO3: ATTITUDES

A graduate should develop following attitudes:

Key Elements-

1. Willing to apply the current knowledge of dentistry in the best interest of the patients and the community.
2. Maintain a high standard of professional ethics and conduct and apply these in all aspects of professional life.
3. Seek to improve awareness and provide possible solutions for oral health problems and needs throughout the community.
4. Willingness to participate in the CPED Programmes to update the knowledge and professional skill from time to time.
5. To help and participate in the implementation of the national oral health policy.



Criteria for PO and CO Mapping

- **Score3=Fully Met (For a particular CO, if there are ≥ 4 Key elements in a particular PO met)**
- **Score 2=Partially Met (For a particular CO, if there are ≥ 2 Key elements < 4 Key Elements in a particular PO met)**
- **Score1=Poorly Met (For a particular CO, if there is 1 key element in a particular PO met)**
- **NA-Not Applicable**



COURSE OUTCOMES

Physiology and Biochemistry

Course Name	Course Outcome	Statement
Physiology & Biochemistry	CO1	The student should understand the unique role of each organ and organ system in maintaining the health
	CO2	The student should learn to identify the bodily process, which enable them to recognize impairment thereof.
	CO3	Structure and composition of human blood and its metabolism. Regulation and functions of essential organ like liver, kidney and blood sugar level and its regulation
	CO4	Nomenclature, classification and basic structure of essential nutrients and their metabolism and interaction with human body. Energy needs nutritional balance and malnutrition including energy and mineral Metabolism. Read and interpret biochemical report and relate them clinically.
	CO5	Structure and composition of human blood And its metabolism. Regulation and functions of essential organ like liver, kidney and blood sugar level and its regulation

PO-CO Mapping

Year	Course name	PO CO	PO1	PO2	PO3
I Year	Physiology & biochemistry	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
		CO5	3	3	3
Average		CO	3	3	3



Dental Anatomy, Histology Embryology and Oral Physiology

At the end of course, the student would be able to:

CO1: Identification of deciduous & permanent teeth and carving of permanent teeth in wax

CO2: Detailed microscopic study and applied aspects (clinical and forensic significance and histological considerations) of oral and paroral tissues

CO3: The student is expected to appreciate the normal anatomy, morphology, physiology & functions of oral tissues & variations in different physiologic /non-pathological conditions

CO4: The student should understand physiologic ageing process in the dental hard and soft tissues and age estimation by patterns of teeth eruption from plaster casts of different age groups

CO5: Development, growth and age changes oral and paroral tissues with applied aspects

PO-CO Mapping

Year	Course name	PO CO	PO1	PO2	PO3
I Year	DENTAL ANATOMY, HISTOLOGY EMBRYOLOGY AND ORAL PHYSIOLOGY	CO1	3	2	2
		CO2	3	2	2
		CO3	3	2	2
		CO4	3	2	2
		CO5	3	2	2
	Average	CO	3	2	2



General and Dental Pharmacology & Therapeutics

At the end of course, the student would be able to:

CO1: Describe the Pharmacodynamics, pharmacokinetics of essential & commonly used drugs in general and particularly in dentistry.

CO2: Tailor use the appropriate drugs in disease with consideration to its cost, efficacy, and safety for individual and mass therapy needs.

CO3: List the indications, contraindications, interactions and adverse reactions of commonly used drugs with reason.

CO4: Describe pathogenesis and etiology of oral disease as well as systemic disease having oral manifestations.

CO5: Integrate the rational drug therapy in clinical Pharmacology.

PO-CO Mapping

Year	Course name	PO → CO ↓	PO1	PO2	PO3
II Year	General and Dental Pharmacology & Therapeutics	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
		CO5	3	3	3
Average		CO	3	3	3



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Dental Materials

YEAR	COURSE NAME	CO	STATEMENT
II Year	Dental materials	CO.1	The student has knowledge about the use and properties of all dental materials.
		CO.2	The student shall choose, manipulate and use appropriate dental materials in a given clinical scenario and laboratory procedures.
		CO.3	The student is now prepared to adopt new methods and advances in dental material science.

PO-CO Mapping

Year	Course name	PO CO	PO1	PO2	PO3
II Year	Dental material	CO1	3	3	3
		CO2	3	2	3
		CO3	3	3	2
Average		CO	3	2.66	2.66



Pre- Clinical Prosthodontics

YEAR	COURSE NAME	CO	STATEMENT
II Year	Pre- Clinical Prosthodontics	CO.1	The student has acquired knowledge pertaining to diagnosis and treatment planning for patients requiring complete denture treatment.
		CO.2	The student has acquired skills to carry out various laboratory procedures to fabricate complete dentures and removable partial dentures.
		CO.3	Properties and use of various materials used in fabricating complete and removable partial dentures.

PO-CO Mapping

Year	Course name	PO CO	PO1	PO2	PO3
II Year	Pre-Clinical Prosthodontics	CO1	3	2	2
		CO2	3	3	2
		CO3	3	3	2
Average		CO	3	2.66	2



General Medicine

CO	COURSE OUTCOME DESCRIPTION
CO1	Has basic knowledge of diseases and medicines and be able to take general case history of the medical cases
CO2	Has basic knowledge about general investigations like blood pressure recording , inspection, palpation of medical cases.
CO3	Has basic knowledge about the dental management of medically compromised cases.
CO4	Ability to apply current knowledge of general medicine in the best interest of patients and community.

Co-Po Mapping:

Year	Course name	PO → CO ↓	PO1	PO2	PO3
III Year	General Medicine	CO1	3	3	3
		CO2	3	3	3
		CO3	2	2	3
		CO4	3	3	3
Average		CO	2.75	2.75	3



Course Outcomes General Surgery

CO1: Basic knowledge of surgical treatment of diseases of head, neck and face.

CO2: Basic knowledge of treatment of surgical emergencies.

CO3: Knowledge of dental surgery in diabetic, hypertensive patients.

CO4: Knowledge of investigations and management of medical disease in patients of dental surgery.

PO-CO Mapping

Year	Course name	PO → CO ↓	PO1	PO2	PO3
III Year	General surgery	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
Average		CO	3	3	3



Oral Pathology & Microbiology

At the end of course, the student would be able to:

- Acquire the competence pertaining to Oral pathology and disease of oral cavity that is required to be practiced in the community and record clinical presentation with histopathological features and enumerate list of diagnostic methods and various treatment modalities
- Describe pathogenesis and etiology of oral disease as well as systemic disease having oral manifestations. And acquire the skills to handle soft and hard tissue specimens and teeth casts.
- Effectively communicate with patient,
- Define, classify and describe various aspects of forensic odontology and its applied aspects and Know about the latest developments in the field of oral pathology.
- Acquire knowledge and skill about identification of human and its age, medico legal record keeping and presentation.

PO-CO Mapping

Year	Course name	PO CO	PO1	PO2	PO3
III Year	Oral Pathology & Microbiology	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
		CO5	3	3	3
Average		CO	3	3	3



Oral Medicine & Radiology

At the end of course, the student would be able to:

CO1.The student can identify precancerous and cancerous lesions of oral cavity and knows about its medical and surgical management record clinical presentation with histopathological features and enumerate list of diagnostic methods and various treatment modalities.

CO2.The student educates patient with common dental problems like dental caries, periodontal disease and their sequel.

CO3.The student knows about oral manifestation of systemic disease and about the medical complications that can arise while treating systemically compromised patients and takes prior precaution/consent from the concerned medical specialist, effectively communicate with patient,

CO4.The student can record a detailed case history and perform clinical examination of patients to arrive at a provisional diagnosis and formulates the order of investigation to seek expert consultation.

CO5.Know about the latest developments in the field of oral pathology.

CO6.The student is able to handle patients with great compassion, explain them the required treatment options and also to educate about the preventive aspects of oral diseases and orofacial pain.

CO7.The student should learn about the basics of radiation physics and knows about the radiation hazards, radiation safety and protection

CO8.Student knows about the intraoral and extraoral techniques, interpretations and extraoral radiographic techniques and knows about their application in oral lesions and trauma management.

PO-CO Mapping

Year	Course name	PO CO	PO1	PO2	PO3
III Year	Oral Medicine & Radiology	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
		CO5	3	3	3
		CO6	3	3	3
		CO7	3	3	3
		CO8	3	3	3
Average		CO	3	3	3

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Public Health Dentistry

CO	COURSE OUTCOME DESCRIPTION
CO1	Understand and analyse various health problems related to dentistry and medicine based on planning, implementation, administration and evaluation technique
CO2	Design and analyse community health programs
CO3	Understand and adopt ethical practices during conduction of researches
CO4	Ability to conduct health survey in order to analyse for the effective utilization of manpower, met and unmet needs

CO-PO MATRIX:

Year	Course name	PO → CO ↓	PO1	PO2	PO3
IV Year	Public Health Dentistry	CO1	3	3	3
		CO2	3	3	3
		CO3	2	2	3
		CO4	3	3	3
Average		CO	2.75	2.75	3



Orthodontics and Dentofacial Orthopaedics



CO1. Be able to understand about normal growth and development of facial skeleton and dentition.

CO2. Be able to pinpoint aberrations in growth process both dental and skeletal and plan necessary treatment. Be able to diagnose the various malocclusion categories. **CO3.** Be able to motivate and explain to the patient (and parent) about the necessity of treatment and plan and execute preventive orthodontics (space maintainers or space regainers). Execute interceptive orthodontics (habit breaking appliances).

CO4. Be able to manage treatment of simple malocclusions such as anterior spacing using removable appliances and to handle delivery and activation of removable orthodontic appliances.

CO5. Be able to diagnose and appropriately refer patients with complex malocclusion to the specialist. Be able to appreciate the role of dentofacial growth in the development and treatment of malocclusion.

PO-CO Mapping

Year	Course name	PO  CO 	PO1	PO2	PO3
IV Year	Orthodontics and Dentofacial Orthopaedics	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
		CO5	3	3	3
Average		CO	3	3	3



Periodontology

At the end of course, the student would be able to:

Year	Course Name	CO	Statement
Final Year BDS	Periodontology	CO1	The student now knows the normal anatomy of Oral mucosa, Gingiva and supporting structures of the teeth & differentiation between the normal and diseased structures of periodontium.
		CO2	The student knows the periodontal conditions that could be manifestations of systemic conditions in the body and knowledge to refer patients to Specialists and Physicians whenever needed.
		CO3	The student can now formulate statistical analysis of the common and rare conditions occurring in the given populations.
		CO4	The student now diagnoses periodontal conditions based on risk factors and formulate treatment plan to eliminate those risk factors.
		CO5	The student can identify social, economic, environmental and emotional determinants in periodontal health and disease conditions and take them into account for planned treatment. The student can now undertake preventive programs in the community.

PO-CO Mapping

Year	Course name	PO → CO ↓	PO1	PO2	PO3
IV Year	Periodontology	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
		CO5	3	3	3
Average		CO	3	3	3



Prosthodontics

At the end of course, the student would be able to:

CO1: The student has knowledge about dental materials their uses and clinical applications in various field of dentistry. The students also acquire the skills to handle the materials.

CO 2: The student is now able to use dental material without harming the patient and use the material without wastage, the student knows about Personal hygiene, infection control, prevention of cross infection, and also Know about the recent advances in field of dental materials.

CO3: The student knows about Ethics, laws and Jurisprudence and forensic odontology in Prosthodontics. The student now has Professional honesty, integrity & effective communication with patients.

CO4: The student is now willing to share the knowledge and clinical experience with professionals and adopt new methods, recent advances, techniques in prosthodontics which based on scientific research which is in the patient's best interest.

CO5: The student can diagnose and plan proper treatment for patients requiring simple Prosthodontic therapy, the student can read and interpret a radiograph and other investigations for the purpose of diagnosis and treatment plan. The student can also diagnose failed restorations and provide Prosthodontic therapy and after care, and refer complex cases to specialist.

PO-CO Mapping

Year	Course name	PO → CO ↓	PO1	PO2	PO3
IV Year	Prosthodontics	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
		CO5	3	2	2
Average		CO	3	2.8	2.8



Conservative Dentistry and Endodontics

At the end of course, the student would be able to:

CO1 Acquire adequate knowledge, necessary skill and attitude to carry out dental practice involving prevention, diagnosis and treatment of anomalies and diseases of teeth and associated hard and soft tissues

CO2 Define and Classify disease of teeth and adjacent tissues and plan out the treatment preferences

CO3 Understand and demonstrate the etiology, patho-physiology and clinical manifestation of diseases of the teeth and adjacent hard and soft tissues.

CO4 Acquire basic knowledge of etiology, biology, prevention, interception and management of carious and non-carious lesion of teeth. Choose various methods to identify the disease process at different stages and determine the treatment modalities.

CO5 Demonstrate basic knowledge of the biological basis of endodontics and management of various endodontic situations including diagnosis, treatment planning and treatment modalities. Understand and able to perform Root Canal Therapy in the Anterior Teeth.

PO-CO Mapping

Year	Course name	PO → CO ↓	PO1	PO2	PO3
III Year	Conservative Dentistry &Endodontics	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
		CO5	3	3	3
Average		CO	3	3	3



Oral & Maxillofacial Surgery

At the end of course, the student would be able to:

- CO1 Acquire the competence pertaining to local anesthesia and exodontia
- CO2 Record clinical presentation, diagnostic methods and various treatment modalities for various cases requiring surgical intervention in maxillofacial region.
- CO3 Knowledge on pathogenesis and etiology of oral disease as well as systemic disease having oral manifestations.
- CO4 Acquire the skills to various oral surgical procedures including pre-prosthetic procedures, alveoloplasty, surgical extraction of impacted teeth, dentoalveolar infections and Apicectomy. Acquire knowledge and skill in managing basic maxillofacial trauma.
- CO5 Effectively communicate with patient and maintain high professional ethics. Through knowledge on advanced oral and maxillofacial surgical interventions and protocols to refer complex cases to a specialist. Knowledge about the latest developments and advances in the field of oral & maxillofacial surgery.

PO-CO Mapping

Year	Course name	PO → CO ↓	PO1	PO2	PO3
IV Year	Oral & Maxillofacial Surgery	CO1	3	3	3
		CO2	3	3	3
		CO3	3	3	3
		CO4	3	3	3
		CO5	3	3	3
Average		CO	3	3	3



Pediatric & Preventive Dentistry

At the end of course, the student would be able to:

CO1: General skills and Communication

Able to instill a positive attitude and behavior in children towards oral health and understand the principles of prevention and preventive dentistry right from birth to adolescence.

Able to guide and counsel the guardian/ parents with regard to various treatment.

CO2: Practice Management

Have knowledge of the organization and community and apply the principles of health promotion and disease prevention.

CO3: Patient care – Diagnosis and Treatment

Able to diagnose and treat dental diseases occurring in the child patient. Plan and execute caries control, surgical intervention, preventive orthodontics and interceptive orthodontics.

CO4: Patient care – Special Children

Able to manage physically and mentally challenged/ disabled and medically compromised children, effectively and efficiently, tailored to the needs of individual requirement and conditions.

PO-CO Mapping

Year	Course name	PO CO	PO1	PO2	PO3
IV Year	Pediatric & Preventive Dentistry	CO1	3	3	3
		CO2	2	2	2
		CO3	3	3	3
		CO4	3	3	3
Average		CO	2.75	2.75	2.75



MDS-Prosthodontics and Crown & Bridge

Program outcomes (POs)

PO-1 The candidate should be able to examine the patients requiring Prosthodontic therapy, investigate the patient systemically, analyse the investigation results, radiographs, diagnose the ailment, plan the treatment, communicate it with the patient and execute it.

PO -2 To understand the prevalence and prevention of diseases of craniomandibular system related to prosthetic dentistry.

PO -3 The candidate should be able to restore lost functions of stomatognathic system like mastication, speech, appearance and psychological comforts by understanding biological, biomedical, bioengineering principles and systemic conditions of the patients to provide quality health care in the craniofacial regions.

PO -4 The candidate should be able to demonstrate good interpersonal, communication skills and team approach in interdisciplinary care by interacting with other specialties including medical specialty for planned team management of patients for craniofacial & oral acquired and congenital defects, temporomandibular joint syndromes, esthetics, Implant supported Prosthetics and problems of Psychogenic origins. To identify target diseases and create awareness amongst the population regarding Prosthodontic therapy.

PO -5 Should be able to demonstrate the clinical competence necessary to carry out appropriate treatment at higher level of knowledge, training and practice skills currently available in their specialty area with a patient centered approach. Should be able to interpret various radiographs like IOPA, OPG, CBCT and CT. Should and be able to plan and modify treatment plan based on radiographic findings.

PO -6 should be able to critically appraise articles published and understand various components of different types of articles and be able to gather the weight of evidence from the same. Explore the applications of ICT to simplify prosthodontic treatment and to carry out material science research based on patient needs

PO -7 To perform Clinical and Laboratory procedures with a clear understanding of biomaterials, tissue conditions related to prosthesis and have required dexterity & skill for performing clinical and laboratory all procedures in fixed, removable, implant, maxillofacial, TMJ and esthetics Prosthodontics.

PO-8 To carry out necessary adjunctive procedures to prepare the patient before prosthesis like tissue preparation and preprosthetic surgery and to prepare the patient before prosthesis / prosthetic procedures.



COURSE OUTCOMES Part - 1

1. To have acquired adequate knowledge and understanding of applied basic and systematic medical science knowledge in general and particular to head and neck.
2. Scientific literature drafting practice and research project planning ability development. Inculcates Problem based analysis and learning for material development and research.

Course: Part- I - Applied Anatomy, Physiology, Pathology and Dental Materials

Mapping of COs to POs								
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓		✓			✓	✓	✓
CO2		✓			✓			✓

COURSE OUTCOME Part - 2

1. Training programme in Prosthodontics dentistry including Crown & Bridge & Implantology is structured to achieve knowledge and skill in theoretical and clinical laboratory, attitude, communicative skills and ability to research with understanding of social, cultural, education and environment background of the society.
2. The postgraduates will be able to provide Prosthodontics therapy for patients with competence and working knowledge with understanding of applied medical behavioral and clinical science that are beyond the treatment skills of the general BDS graduate and MDS graduate of other specialties to demonstrate evaluative prevention, treatment after care referral to deliver comprehensive care to patients.
3. Scientific literature drafting practice and research project planning ability development. Inculcates Problem based analysis and learning for material development and research.



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PART-II, PAPER-1- Removable Prosthodontics and implant supported prosthesis (Oral Implantology), Geriatric dentistry and Cranio & maxillofacial Prosthodontics

Mapping of COs to POs								
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓		✓	✓	✓	✓		✓
CO2		✓	✓	✓	✓		✓	
CO3		✓	✓	✓			✓	

PAPER - 2

Course Outcomes Part – 2

1. Training programme in Prosthodontics dentistry including Crown & Bridge & Implantology is structured to achieve knowledge and skill in theoretical and clinical laboratory, attitude, communicative skills and ability to research with understanding of social, cultural, education and environment background of the society.
2. Scientific literature drafting practice and research project planning ability development. Inculcates Problem based analysis and learning for material development and research.

PART-II, PAPER-2 - Fixed Prosthodontics, occlusion, TMJ and esthetics.

Mapping of COs to POs								
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓		✓		✓	✓	✓	
CO2		✓		✓	✓			✓



PAPER – 3

COURSE OUTCOMES

1. Training programme in Prosthodontics dentistry including Crown & Bridge & Implantology is structured to achieve knowledge and skill in theoretical and clinical laboratory, attitude, communicative skills and ability to research with understanding of social, cultural, education and environment background of the society. To have acquired adequate knowledge and understanding of applied basic and systematic medical science knowledge in general and particular to head and neck.
2. The postgraduates will be able to provide Prosthodontics therapy for patients with competence and working knowledge with understanding of applied medicalbehavioral and clinical science that are beyond the treatment skills of the general BDS graduate and MDS graduate of other specialties to demonstrate evaluative prevention, treatment after care referral to deliver comprehensive care to patients.
3. Scientific literature drafting practice and research project planning ability development. Inculcates Problem based analysis and learning for material development and research.

Program: MDS in Prosthodontics and Crown & Bridge

Course: PART-II, Paper-3: Descriptive and analyzing type questions

Mapping of COs to POs								
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓		✓	✓		✓		✓
CO2		✓			✓		✓	
CO3	✓		✓		✓	✓		✓



**MASTER OF DENTAL SURGERY (MDS)
CONSERVATIVE DENTISTRY AND ENDODONTICS**

Programme Outcome:

PO1: Demonstrate an understanding of basic sciences as relevant to conservative/restorative dentistry and Endodontics.

PO2 : Perform a physical and oral examination of the patient, identify normal and abnormal functioning of various systems of the body, take proper chair side history, examine the patient and perform medical and dental diagnostic procedures; as well as perform relevant tests and interpret them to come to a reasonable diagnosis about the dental condition.

PO3: Diagnose and recognize conditions that may require multidisciplinary approach or a clinical situation outside the realm of the specialty, which he or she should be able to recognize and refer to an appropriate specialist.

PO4: Perform infection control measures in the dental clinical environment and laboratories.

PO5: Adopt ethical principles in all aspects of restorative and contemporary Endodontics including non-surgical and surgical Endodontics.

PO6: Perform all levels of restorative work including Aesthetic procedures and treatment of complicated restorative procedures.

PO7: Describe and manage etiology, pathophysiology, periapical diagnosis and management of common endodontic situations that will include contemporary management of trauma and pulpal pathosis including endodontic-periodontic considerations.

PO8: Diagnose, plan and execute challenging clinical cases requiring comprehensive management strategies using contemporary materials and techniques in the specialty of conservative dentistry and endodontics.

PO9: Demonstrate communication skills in particular to explain various options available management and to obtain a true informed consent from the patient.

PO10: Apply moral and ethical standards while carrying on human or animal research.



Paper-1

Part 1

1. Students would be able to demonstrate understanding of basic sciences as relevant to conservative / restorative dentistry and Endodontics
2. Students would demonstrate infection control measures in the dental clinical environment and laboratories.
3. Student would adopt ethical principles in all aspects of restorative and contemporary Endodontics including non-surgical and surgical Endodontics
4. Students would be able to demonstrate communication skills in particular to explain various options available management and to obtain a true informed consent from the patient
5. Students would be able to apply high moral and ethical standards while carrying on human or animal research.

Mapping of COs to POs

Program: MDS in Conservative Dentistry and Endodontics

Course: Part I: Applied basic sciences

	Course Outcomes	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
Applied Basic Sciences	CO1	✓									
	CO2	✓					✓				
	CO3			✓			✓			✓	✓
	CO4		✓	✓		✓	✓	✓	✓	✓	
	CO5					✓					✓



Paper-1

Part-2

COURSE OUTCOMES:

1. Students would be able to describe etiology, pathophysiology, diagnosis and management of common restorative situations that will include contemporary management of dental caries, non- carious lesions and hypersensitivity.
2. Students would be able to take proper chair side history, examine the patient and perform medical and dental diagnostic procedures; as well as perform relevant tests and interpret them to come to a reasonable diagnosis about the dental condition
3. Perform all levels of restorative work including Aesthetic procedures and treatment of complicated restorative procedures.

Mapping of COs to POs

Program: MDS in Conservative Dentistry and Endodontics

Course: Part II:

Paper I: Conservative Dentistry

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	✓	✓	✓	✓		✓		✓		
CO2	✓	✓	✓		✓	✓		✓	✓	
CO3	✓	✓	✓			✓		✓		✓



Paper-2
Part-2

Course Outcome:

1. Students would be able to describe etiology, pathophysiology, periapical diagnosis and management of common endodontic situations that will include contemporary management of trauma and pulpal pathoses including endo-periodontal.
2. Students would be able to master differential diagnosis and recognize conditions that may require multidisciplinary approach or a clinical situation outside the realm of the specialty, which he or she should be able to recognize and refer to appropriate specialist
3. Students would undertake complete patient monitoring including preoperative as well as post-operative care of the patient.
4. Students would perform all levels of surgical and non -surgical Endodontics including endodontic endosseous implants, retreatment as well as endodontic -periodontal surgical procedures as part of multidisciplinary approach to clinical condition
5. Students would be able to manage acute pulpal and pulpo periodontal situations.

Mapping of COs to POs

Program: MDS in Conservative Dentistry and Endodontics

Course: Part II:

Paper II: Endodontics

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1		✓		✓			✓	✓		
CO2	✓	✓	✓				✓	✓		
CO3								✓	✓	✓
CO4	✓				✓	✓	✓			
CO5					✓	✓				



Paper-3

Part-2

COURSE OUTCOMES:

1. Students would diagnose, plan and execute challenging clinical cases requiring comprehensive management strategies using contemporary materials and techniques in the specialty of conservative dentistry and endodontics
2. Should be able to analyze various clinical scenarios and apply their knowledge accordingly.

Mapping of COs to POs

Program: MDS in Conservative and Endodontics

Course: Part II:

Paper III: Descriptive Analysing Type Question

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓	✓		✓	✓	✓	✓	✓
CO2			✓	✓	✓	✓	✓	



**MASTER OF DENTAL SURGERY (MDS)
PERIODONTICS AND ORAL IMPLANTOLOGY**

PROGRAM OUTCOMES

At the end of the program, graduates will be able to...

PO1: Describe the biology and pathology of the periodontium as well as the principles of bone biology and wound healing.

PO2: Collect, organize, analyze, interpret and present clinical data related to the examination of periodontal tissues and for implant placement

PO3: Utilize the appropriate diagnosing techniques relevant to periodontal and implant treatment and establish a prognosis for the outcomes of periodontal and implant treatments.

PO4: Demonstrate competence in non-surgical and surgical management of periodontal defects, regenerative techniques, mucogingival procedures for normal and medically compromised patients. Also for managing medical emergencies in the dental clinic.

PO5: Perform restoration driven implant placement based on the pre-operative planning. And, perform augmentation procedures prior to implant placement by using the appropriate material and techniques.

PO6: Communicate effectively with other disciplines in treatment planning and in treatment sequencing.

PO7: Teach in both didactic and clinical areas of undergraduate. Conduct, present and publish research projects based on national and global needs.

PO8: Demonstrate appropriate professional attitudes and behaviour in dealing with staff members and helping personnel. Converse with patients in an attentive manner that conveys concern, compassion, and the moral support of patients or their families.



PAPER - 1

COURSE OUTCOMES:

Part - 1

1. Should have abroad overview of the current research and methods used in studying problems in periodontal disease.
2. Should have an understanding of the broad range of infection diseases affecting the oral cavity.
3. Should have an understanding the clinical and biological factors to be considered in the appropriate use of antimicrobial drugs
4. Be aware of the contemporary principles and practices of laboratory diagnostic techniques and interpretation of laboratory reports.
5. Should have an understanding of hospital acquired infections and infections in the compromised host
6. Should have a basic knowledge on research methodology, biostatistics and be able to apply it in various research projects as well as dissertations.

Mapping of COs to POs

Program: MDS in Periodontology

Course: Part I: Applied basic sciences

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓					✓	✓	
CO2	✓					✓	✓	
CO3	✓		✓	✓				✓
CO4			✓	✓	✓			
CO5				✓		✓		✓
CO6		✓				✓	✓	



COURSE OUTCOMES:

Part - 2

1. Should have an understanding on the normal structure of periodontium and the contributing etiological factors resulting in the pathogenesis of periodontal diseases and be able to apply this knowledge in the diagnosis.
2. Should be able to record indices and plan out epidemiological survey to assess the prevalence and incidence of early onset periodontitis and adult periodontitis in Indian Population

Mapping of COs to POs

Program: MDS in Periodontology

Course: Part II:

Paper I: Normal periodontal structure and etiopathogenesis and epidemiology

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓		✓				✓	
CO2		✓	✓				✓	



PAPER - 2

COURSE OUTCOMES:

Part - 2

1. Should have a sound knowledge of the etiopathogenesis and apply it in diagnosing various periodontal diseases and should be familiar with various periodontal therapies available to treat those cases.
2. Should have an updated knowledge on the recent advancements and be able to modify their treatment accordingly.
3. Develop knowledge skill and the science of oral Implantology.
4. Should be aware of the various designs and placement of oral implants and follow up of implant restorations.

Mapping of COs to POs

Program: MDS in Periodontology

Course: Part II

Paper II- Periodontal Diagnosis, Therapy and Oral Implantology

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1			✓	✓		✓		✓
CO2			✓	✓		✓	✓	
CO3		✓	✓	✓	✓			
CO4			✓	✓		✓		✓



PAPER - 3

COURSE OUTCOMES:

Part - 2

1. Should be knowledgeable to provide clinical care for patients with complex problems that are beyond the treatment skills of general dentist and demonstrate evaluative and judgment skills in making appropriate decision regarding prevention, correction and referral to deliver comprehensive care to patients.
2. Should be able to analyze various clinical scenarios and apply their knowledge accordingly.

Mapping of COs to POs

Program: MDS in Periodontology

Course: Part II:

Paper III: Descriptive Analysing Type Question

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1				✓		✓		✓
CO2			✓	✓	✓	✓	✓	



MASTER OF DENTAL SURGERY

ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

PROGRAM OUTCOMES:

This includes the list of objectives a post graduate student in Orthodontics is expected to know at the end of three years of training.

- PO 1. Effect of biologic processes and mechanical forces on the stomatognathic system throughout orthodontic treatment.
- PO 2. Gain an understanding of the etiology, pathophysiology, diagnosis and treatment planning of various common Malocclusion.
- PO 3. Become competent in Orthodontics prevention, interception and correction modalities.
- PO 4. Orthodontics relevant basic science knowledge gathering.
- PO 5. Become proficient about the interaction of social, cultural, economic, genetic and environmental factors related to management of oro-facial deformities.
- PO 6. Elements influencing the long-range stability of orthodontic correction and their management.
- PO 7. In depth understanding of personal hygiene, infection control, prevention of cross infection and safe disposal of hospital waste.



PAPER -1 (Applied basic science)

COURSE OUTCOME:

Part – 1

CO1. Applied Anatomy: Under anatomy they would have learnt about Prenatal and post natal growth of head, bone growth, assessment of growth and development, muscles of mastication, Development of dentition and occlusion.

CO2. Applied Physiology: Under Physiology they would have learnt about Endocrinology and its disorders, Calcium and its metabolism, Nutrition- metabolism and their disorders, Muscle physiology, craniofacial biology, bleeding disorders.

CO3. Dental Materials: Under Dental Materials they would have learnt about Gypsum products, impression materials, acrylics, composites, banding and bonding cements, wrought metal alloys, orthodontic arch wires, elastics, applied physics, specification and tests methods, survey of all contemporary and recent advances of above.

CO4. Genetics: Under Genetics they would have learnt about Cell structure, DNA, RNA, protein synthesis, cell division, Chromosomal abnormalities, Principles of orofacial genetics, Genetics in malocclusion, Molecular basis of genetics, Studies related to malocclusion, Recent advances in genetics related to malocclusion, Genetic counselling, Bioethics and relationship to Orthodontic management of patients

CO5. Physical Anthropology: Under Physical Anthropology they would have learnt about Evolutionary development of dentition, Evolutionary development of jaws

CO6. Pathology: Under Pathology they would have learnt about inflammation, and necrosis

CO7. Biostatistics: Under Biostatistics they would have learnt about Statistical principles Sampling and Sampling technique, Experimental models, design and interpretation, Development of skills for preparing clear concise and cogent scientific abstracts and Publication.

CO 8. Applied research methodology in Orthodontics: Under Applied research methodology in Orthodontics they would have learnt about Experimental design, Animal experimental protocol, Principles in the development, execution and interpretation of methodologies in Orthodontics, Critical Scientific appraisal of literature.



Mapping of COs to POs

Program: MDS in ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

Course: Part I - Applied Basic Sciences

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	✓	✓	✓	✓		✓	
CO2		✓		✓	✓		
CO3	✓		✓	✓		✓	
CO4	✓	✓	✓	✓	✓	✓	✓
CO5	✓	✓		✓		✓	
CO6			✓	✓	✓	✓	✓
CO7	✓	✓	✓	✓			✓
CO8	✓	✓		✓	✓	✓	✓

COURSE OUTCOME:

Part – 2

CO1. Orthodontic history: Under Orthodontic History they would have learnt about Historical perspective, Evolution of orthodontic appliances, Pencil sketch history of Orthodontic peers, History of Orthodontics in India.

CO2. Concepts of occlusion and esthetics: Under this, the students would learn about Structure and function of all anatomic components of occlusion, Mechanics of articulation, Recording of masticatory function, Diagnosis of Occlusal dysfunction, Relationship of TMJ anatomy and pathology and related neuromuscular physiology.

CO3. Etiology and Classification of malocclusion: Under this, the students would learn about, a comprehensive review of the local and systemic factors in the causation of Malocclusion and Various classifications of malocclusion.

CO4. Dentofacial Anomalies: Under this, the students would learn about, anatomical, physiological and pathological characteristics of major groups of developmental defects of the orofacial structures.

CO5. Child and Adult Psychology: Under this, the students would learn about Stages of child development, Theories of psychological development, Management of child in orthodontic treatment, Management of handicapped child, Motivation and Psychological problems related to malocclusion /orthodontics, Adolescent psychology, Behavioral psychology and communication.

CO6. Diagnostic procedures and treatment planning in orthodontics: Under this, the students would learn about Stages of child development, Theories of psychological development, Management of child in orthodontic treatment, Management of handicapped child, Motivation and



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Psychological problems related to malocclusion / orthodontics, Adolescent psychology, Behavioral psychology and communication.

CO7. Cephalometrics: Under this the student would learn about, Instrumentation, Image processing, Tracing and analysis of errors and applications, Radiation hygiene, Advanced Cephalometrics techniques, Comprehensive review of literature, Video imaging principles and application.

CO8. Practice management in Orthodontics: Under this the student would learn about, Economics and dynamics of solo and group practices, Personal management, Materials management, Public relations, Professional relationship, Dental ethics and jurisprudence, Office sterilization procedures, Community based Orthodontics.

Mapping of COs to POs

Program: MDS in ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

Course: Part II

Paper-I: Basic Orthodontics

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	✓	✓	✓	✓		✓	✓
CO2		✓	✓		✓	✓	
CO3	✓	✓	✓	✓		✓	✓
CO4	✓	✓		✓	✓		
CO5	✓		✓	✓	✓	✓	✓
CO6	✓	✓		✓	✓	✓	
CO7		✓	✓	✓	✓	✓	✓
CO8	✓	✓	✓	✓			✓

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PAPER - 2

COURSE OUTCOME:

Part – 2

CO1. Myofunctional Appliances: The students will be capable of diagnosing and interpreting the knowledge obtained to treat developing malocclusion at a younger age.

CO2. Dentofacial Orthopaedics: The students will develop acumen to identify and deliver treatment regimes using orthopedic appliances to the appropriate cases.

CO3. Cleft Lip & Palate Rehabilitation: The students will be trained to treat the CLCP cases with empathy starting with Naso alveolar moulding at the infant stage and then systematically treat the malocclusion using removable / fixed orthodontics during the mixed & permanent dentition by harmonizing the treatment plan with the other members of the multidisciplinary cleft team.

CO4. Biology of tooth movement: Basic understanding of the applied anatomy & physiology regarding to tooth & its surrounding structures will be inculcated into the student, so that the results of application of orthodontic forces can be understood and clinically used.

CO5. Orthodontics/ Orthognathic Surgery: Students will be thoroughly trained in conjoint diagnosis & treatment planning of cases requiring surgical intervention.

CO6. Ortho/ Perio/ Prosth inter relationship: Students will be trained in treating complicated cases requiring a multi-disciplinary approach in patient management. **CO7. Basic Principles of mechanotherapy:** Students will be trained in designing, construction, fabrication & management of cases using both removable & fixed orthodontics.

CO8. Applied preventive aspects in Orthodontics: A comprehensive view of diagnosing & preventing caries, periodontal diseases to maintain proper interarch relationship.

CO9. Interceptive orthodontics: Students will be trained in growth guidance, diagnosing & treatment planning of early malocclusion both at mixed/ permanent dentition.

CO10. Retention & relapse: Inculcating the acumen to analyze post treatment stability to prevent any relapse.



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Mapping of COs to POs

Program: MDS in ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

Course: Part II

Paper-II: Clinical Orthodontics

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	✓		✓			✓	✓
CO2	✓	✓			✓		
CO3	✓		✓	✓	✓	✓	✓
CO4	✓	✓	✓		✓	✓	✓
CO5	✓	✓		✓	✓		
CO6		✓	✓	✓		✓	
CO7	✓			✓	✓		✓
CO8	✓	✓	✓	✓	✓	✓	
CO9	✓						✓
CO10		✓	✓	✓	✓	✓	



Paper 3 Essays (descriptive and analyzing type questions)

COURSE OUTCOME:

Part – 2

CO1. Recent Advances: The Students would be trained in above mentioned topics in detail, so that the student would know the recent updates along with the previous literature available.

Mapping of COs to POs

Program: MDS in ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

Course: Part II

	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	✓	✓	✓	✓	✓	✓	✓



MASTER OF DENTAL SURGERY ORAL AND MAXILLOFACIAL SURGERY

PROGRAM OUTCOMES

At the end of the program, graduates will be able to...

PO1: Practice with apt knowledge and understanding of etiology, pathophysiology and diagnosis, appropriate treatment planning of various oral and maxillofacial surgical problems.

PO2: Manage and treat minor oral surgical procedures and common maxillofacial surgery both surgically and medically with competence (if required multispecialty approach).

PO3: Apply basic sciences and general surgical principles to pre and post- surgical management particularly evaluation, post-surgical care, fluids and electrolyte management, blood transfusion and post-surgical pain, management.



PAPER - 1

COURSE OUTCOMES

Part - 1

1. Should have a thorough knowledge on theory and principles in general and basic medical subjects as relevant to the practice of maxillofacial surgery.
2. Should have knowledge of application of basic science knowledge in diagnosis, treatment and pre and post-operative care of a patient.
3. Should have adequate knowledge in bio-statistics, epidemiology, research methodology, nutrition and computers and be able to apply it in various research projects as well as dissertations
4. Should have an understanding the clinical and biological factors to be considered in the appropriate use of various drugs used pre and post- operative phase.
5. Should have an understanding of hospital acquired infections and infections in the compromised host.

Mapping of COs to POs

Program: MDS in Oral and maxillofacial Surgery

Course: Part I -Applied basic sciences

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓	✓	✓	✓				
CO2	✓	✓	✓					
CO3							✓	✓
CO4		✓	✓					
CO5			✓					

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Part – 2

COURSE OUTCOMES:

1. To have a basic understanding on the principles of surgery, diagnosis of the pathology in the oral cavity and head & neck region and to perform the accurate minor surgical procedures for the treatment of the pathology under local anaesthesia in a surgical field free of excess blood and fluids.
2. To have a basic knowledge and could be able to perform minor surgical procedures such as trans-alveolar extraction, impacted tooth, periapical surgeries, pre prosthetic surgeries, biopsy etc independently without hampering the normal anatomical structures.
3. To have a basic idea about the maxillofacial fractures, diagnosis and management that includes both open and close reduction (IMF, splints etc)

Mapping of COs to POs

- **Program:** MDS in Oral and maxillofacial Surgery
- **Course:** Part II Paper 1 – Minor oral surgery and maxillofacial trauma

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓	✓					✓	
CO2		✓	✓		✓		✓	
CO3	✓	✓	✓	✓			✓	



PAPER - 2

COURSE OUTCOMES:

Part – 2

1. To diagnose the deformity in the head and neck region clinically as well as radiologically to identify the deformity and to have a proper treatment plan accordingly and to counsel the patient regarding the need of treatment.
2. To have a basic knowledge on the systemic diseases and its treatment so that it does not interfere with the maxillofacial injuries and to have capability to manage the maxillofacial injury patient peri-operatively. To have basic knowledge on General anesthesia such as pre-anesthetic checkup of the patient, medications used in General anesthesia and intubation techniques.
3. To have a fine skill on treatment of various congenital deformities of head and neck of newborn such as clefts, proper reduction of facial trauma, excision of the pathological tumors, proper treatment plan for head and neck carcinoma patients and excision and reconstruction of the excised regions so that it will not affect much to the lifestyle of the patient postoperatively.

Mapping of COs to POs

Program: MDS in Oral and maxillofacial Surgery

Course: Part II Paper II - Maxillofacial Surgery

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓						✓	
CO2		✓	✓	✓	✓		✓	
CO3	✓	✓		✓	✓			

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PAPER-3

COURSE OUTCOME

Part-3

1. To know about the several studies as well as different surgical procedures and its outcome that is being done on various topics of maxillofacial surgeries and recent advances throughout the world.
2. To have a basic idea on studies and could be able to conduct various studies related to different disciplines of maxillofacial surgeries and record its outcome in a proper manner and to evaluate the study statistically

Mapping of COs to POs

Program: MDS in Oral and Maxillofacial Surgery

Course: Part II Paper III -: Essay (Descriptive and Analysing Type Questions)

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
CO1	✓					✓		✓
CO2	✓	✓				✓		✓

Dr. Mahesh Jain

AC Coordinator

Dr Dolly Patel

Chairman
Dean,

A.M.C. Dental College