



# MANSAROVAR DENTAL COLLEGE

Mansarovar Campus, Rani Avanti Bai Marg, Village- Hinotia Aalam,  
Ward No. 84, Kolar Road, Bhopal (M.P) 462042

Tel: +91-9111777225, 761158888. Website: [www.mansarovardentalcollege.com](http://www.mansarovardentalcollege.com)

## **2.6.1 Methods of the assessment of learning outcomes and graduate attributes**



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## COURSE OUTCOME AND METHOD OF ASSESSMENT

### Measurable criteria for Course outcome and assessment

<b>Domain</b>	C	Communication
	KU	Knowledge & Understanding
	A	Attitude
	S	Skill
	V	Value
<b>Level</b>	K	Know
	MK	Must Know
	E	Expertise
<b>Assessment Methods</b>	Written Exam	
	Practical Exam	
	OSCE	Objective Structured Clinical Examination
	OSPE	Objective Structured Practical Examination
	Viva Voce	
	Problem Solving	
	DOPS	Direct observation of Procedural Skills



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## 1.1 COURSE OUTCOME AND METHOD OF ASSESSMENT: BDS (UG)

### BDS101: HUMAN ANATOMY, EMBRYOLOGY, HISTOLOGY & MEDICAL GENETICS

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS101	<b>HUMAN ANATOMY, EMBRYOLOGY, HISTOLOGY &amp; MEDICAL GENETICS</b>			
BDS101.1	Normal disposition of the structures in the body.	KU	MK	Written Exam/OSPE/ Viva Voce
BDS101.2	Anatomical basis of disease and injury.	KU	MK	Viva Voce/OSPE
BDS101.3	Microscopic structure of the various tissues.	KU	K	Written Exam
BDS101.4	Nervous system to locate the site of lesions.	KU	MK	Written Exam/OSPE
BDS101.5	Idea about the basis of abnormal development, critical stages of development, effects of teratogens, genetic mutations and environmental hazards.	KU	MK	Written exam
BDS101.6	Sectional anatomy of head neck and brain to read the features in radiographs.	KU	MK	OSPE/Viva Voce
BDS101.7	Anatomy of cardio-pulmonary resuscitation.	KU	K	Written Exam/OSPE
BDS101.8	Locate various structures of the body and to mark the topography of the living anatomy.	S	K	OSPE
BDS101.9	Identify various tissues under microscope.	S	K	OSPE
BDS101.10	Identify the features in radiographs and modern imaging techniques.	S	MK	OSPE
BDS101.11	Detect various congenital abnormalities.	S	K	OSPE



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## BDS102: DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS102	<b>DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY</b>			
BDS102.1	Normal development, morphology, structure & functions of oral tissues & variations.	KU	MK	Written exam
BDS102.2	Understand the histological basis of various dental treatment procedures.	KU	MK	Written exam
BDS102.3	Research methodologies.	KU	K	Written exam
BDS102.4	Carving of crowns of permanent teeth in wax.	S	MK	OSPE
BDS102.5	Microscopic study of Oral tissues.	S	MK	OSPE
BDS102.6	Identification of Deciduous & Permanent teeth.	S	MK	OSPE/Viva Voce
BDS102.7	Age estimation by patterns of teeth eruption from plaster casts of different age groups.	S	MK	OSPE

## BDS103: GENERAL HUMAN PHYSIOLOGY & BIOCHEMISTRY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS103	<b>GENERAL HUMAN PHYSIOLOGY &amp; BIOCHEMISTRY</b>			
BDS103.1	Normal functioning of all the organ systems and their interactions.	KU	MK	Written Exam
BDS103.2	Relative contribution of each organ system.	KU	MK	Written Exam
BDS103.3	Physiological principles underlying the pathogenesis and treatment of disease.	KU	MK	Written Exam
BDS103.4	Conduct experiments designed for the study of physiological phenomena.	S	K	OSPE
BDS103.5	Interprete experimental and investigative data.	S	K	OSPE/Viva Voce
BDS103.6	Distinguish between normal and abnormal data.	S	MK	Viva Voce
BDS103.7	Biochemical basis of the life processes relevant to the human system	KU	MK	Written Exam



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## BDS201: GENERAL PATHOLOGY & MICROBIOLOGY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS201	GENERAL PATHOLOGY & MICROBIOLOGY			
BDS201.1	Basic facts, concepts and theories.	KU	MK	Written Exam
BDS201.2	Pathological changes at macroscopically and microscopical levels.	KU	MK	Written Exam
BDS201.3	Basic sciences, clinical medicine and dentistry in the study of Patho+B18logy.	KU	MK	Written Exam
BDS201.4	Capabilities and limitations of morphological Pathology in its contribution to medicine.	KU	K	Written Exam
BDS201.5	Consult resource materials outside lectures, laboratory and tutorial classes.	KU	K	Written Exam
BDS201.6	Basics of various branches of microbiology	KU	K	Written Exam
BDS201.7	Methods of Sterilisation and disinfection in dental clinics.	KU	E	Written Exam/Viva Voce
BDS201.8	Understanding of various infectious diseases and lesions in the oral cavity.	KU	MK	Written Exam
BDS201.9	Diagnose and differentiate various oral lesions.	S	MK	OSPE
BDS201.10	Collect and transport clinical specimens to the laboratory.	S	K	Practical Exam
BDS201.11	Carry out proper aseptic procedures in the dental clinic.	S	MK	Practical Exam

  
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## BDS202: GENERAL AND DENTAL PHARMACOLOGY AND THERAPEUTICS

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS202	<b>GENERAL AND DENTAL PHARMACOLOGY AND THERAPEUTICS</b>			
BDS202.1	Pharmacokinetics and pharmacodynamics of essential and commonly used drugs.	KU	MK	Written Exam
BDS202.2	Indications, contraindications; interactions, and adverse reactions of commonly used drugs with reason.	KU	MK	Written Exam
BDS202.3	Use of appropriate drugs in disease with consideration to its cost, efficacy, safety for individual and mass therapy needs.	KU	MK	Written Exam
BDS202.4	Special care in prescribing common and essential drugs in special medical situations such as pregnancy, lactation, old age, renal, hepatic damage and immuno compromised patients	KU	MK	Written Exam/Viva Voce
BDS202.5	Rational drug therapy in clinical pharmacology.	KU	MK	Written Exam/Viva Voce
BDS202.6	Principles underlying the concepts of "Essential drugs".	KU	K	Written Exam
BDS202.7	Drugs for common dental and medical illness.	S	E	Written Exam/Viva Voce
BDS202.8	Appreciate adverse reactions and drug interactions	S	MK	Viva Voce
BDS202.9	Observe experiments designed for study of effects of drugs.	S	K	OSPE
BDS202.10	Critically evaluate drug formulations and be able to interpret the clinical pharmacology of marketed preparations commonly used in dentistry.	S	K	Practical exam

  
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## BDS203: DENTAL MATERIALS

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
14D00203	<b>DENTAL MATERIALS</b>			
BDS203.1	Evolution and development of science of dental materials.	KU	K	Written exam
BDS203.2	Physical and chemical properties of dental materials.	KU	MK	Written exam/Viva voce
BDS203.3	Biomechanical requirements of particular restorative procedure.	KU	MK	Written exam/Viva voce

## BDS204: PRE CLINICAL PROSTHODONTICS

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS204	<b>PRE CLINICAL PROSTHODONTICS</b>			
BDS204.2	Marking of anatomical and marks on maxillary and mandibular casts	KU/S	E	Practical Exam(OSPE)/ Viva voce
BDS204.3	Clinical & laboratory step in fabrication of complete denture	KU/S	MK	Practical Exam(OSPE)/ Viva voce

## BDS205: PRE CLINICAL CONSERVATIVE DENTISTRY LABORATORY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS205	<b>PRE CLINICAL CONSERVATIVE DENTISTRY LABORATORY</b>			
BDS205.1	Handcutting instruments chisels, gingival margin trimmers, excavators and hatchet.	KU	E	Practical Exam (OSPE)
BDS205.2	Rotary cutting instruments in contra angle hand pieces burs (Micromotor)	KU	E	Practical Exam (OSPE)
BDS205.3	class I and class II and MOD's and class V mounting in plaster models.	KU/S	E	Practical Exam (OSPE)
BDS205.4	Class I and class II and MOD's and class V mounting in extracted teeth.	KU/S	E	Practical Exam (OSPE)
BDS205.5	Class I - class V on Phantom Head.	KU/S	E	Practical Exam (OSPE)



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BDS205.6	Polishing and finishing of the restorations	KU/S	MK	Practical Exam (OSPE)
BDS205.7	Manipulation of varnish bases like Zinc Phosphate, Poly carboxylate, Glass Ionomers, Zinc Oxide, Eugenol cements.	KU	MK	Practical Exam (OSPE)
BDS205.8	Manipulation of various matrices, tooth separators and materials like composites and modified glassionomer cements.	KU	K	Practical Exam (OSPE)
BDS205.9	Cast Restoration - Preparation of Class II inlay cavity, Fabrication of wax pattern, Sprue for inner attachment investing, Investing of wax pattern, Finishing and cementing in extracted tooth.	KU	MK	Practical Exam (OSPE)
BDS205.10	Endodontics - Identification of basic endodontic instruments, Coronal access cavity preparation on extracted. Upper central incisors, Determination of working length, Biomechanical preparation of root canal space of central incisor, Obfuration of root canal spaces. Absens of coronal access cavity, Closure of acess cavity	KU	K	Practical Exam (OSPE)

## BDS301: GENERAL MEDICINE

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS301	<b>GENERAL MEDICINE</b>			
BDS301.1	Special precautions/ contraindication of anaesthesia and various dental procedures in different systemic diseases	KU	MK	Written Exam/Viva Voce
BDS301.2	Oral manifestations of systemic diseases.	KU	MK	Written Exam/Viva Voce
BDS301.3	Medical emergencies in dental practice.	KU/S	K	Written Exam/Viva Voce



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## BDS302: GENERAL SURGERY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS302	<b>GENERAL SURGERY</b>			
BDS302.1	Understand the relations of various specialities in the practice of modern surgery.	KU	MK	Written Exam
BDS302.2	Surgical principles as related to Oro Dental Diseases	KU	MK	Written Exam/Viva Voce
BDS302.3	Surgical Anatomy & Development of Face.	KU	MK	Written Exam/OSPE/Viva Voce
BDS302.4	Differential Diagnosis and Management of Oro Facial Diseases	KU	MK	Written Exam/OSPE/Viva Voce
BDS302.5	Different types of Biopsies used in Surgical Practice	KU	K	Written Exam/OSPE/Viva Voce

## BDS303: ORAL PATHOLOGY & ORAL MICROBIOLOGY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS303	<b>UNDER GRADUATE (BDS) - ORAL PATHOLOGY &amp; ORAL MICROBIOLOGY</b>			
BDS303.1	Different types of pathological processes, that involve the oral cavity.	KU	MK	Written Exam/Viva Voce
BDS303.2	Manifestations of common diseases, their diagnosis & correlation with clinical pathological processes.	KU	MK	Written Exam/Viva Voce/OSPE
BDS303.3	Oral manifestations of systemic diseases	KU	MK	Written Exam/Viva Voce
BDS303.4	Biological principles governing treatment of oral diseases.	KU	MK	Written Exam/Viva Voce
BDS303.5	Basic aspects of Forensic Odontology	KU	K	Written Exam/Viva Voce
BDS303.6	Microscopic study of common lesions affecting oral tissues through microscopic slides & projection slides.	S	MK	OSPE/Viva Voce
BDS303.7	Study of the disease process by surgical specimens.	S	K	OSPE/Viva Voce



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BDS303.8	Study of teeth anomalies/polymorphisms through tooth specimens & plaster casts.	S	MK	OSPE/Viva Voce
BDS303.9	Microscopic study of plaque pathogens.	S	K	Viva Voce
14D00303.10	Study of haematological preparations (blood films) of anaemias & leukemias.	S	K	OSPE/Viva Voce
14D00303.11	Forensic Odontology such as histological methods of age estimation and appearance of teeth in injuries.	S	K	Written Exam/OSPE/Viva Voce

## BDS401: ORAL MEDICINE & RADIOLOGY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS401	<b>UNDER GRADUATES (BDS) - ORAL MEDICINE &amp; RADIOLOGY</b>			
BDS401.1	Precancerous and cancerous lesions of the oral cavity	KU	MK	Written Exam
BDS401.2	Laboratory investigations and interpretation	KU	K	Written Exam/Viva Voce
BDS401.3	Medical complications while treating systemically compromised patients prior precautions/ consent	KU	MK	Written Exam/Viva Voce
BDS401.4	Radiation health hazards, safety and protection.	KU	E	Written Exam/Viva Voce
BDS401.5	Intra-oral radiographic interpretation	KU/S	E	OSPE/Practical Exam
BDS401.6	Extra-oral radiographic procedures	KU/S	K	OSPE

## BDS402: PAEDIATRIC & PREVENTIVE DENTISTRY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS402	<b>UNDER GRADUATES (BDS) - PAEDIATRIC &amp; PREVENTIVE DENTISTRY</b>			
BDS402.1	Understand the principles of prevention and preventive dentistry right from birth to adolescence	KU	K	Written Exam
BDS402.2	Guide and counsel the parents in regards to various treatment modalities including different facets of preventive dentistry	KU	MK	Written Exam/OSPE



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## BDS403: ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS403	<b>UNDER GRADUATES (BDS) - ORTHODONTICS &amp; DENTOFACIAL ORTHOPAEDICS</b>			
BDS403.1	Understand about normal growth and development of facial skeleton and dentition.	KU	MK	Written exam / Viva voce
BDS403.2	Pinpoint aberrations in growth process both dental and skeletal and plan necessary treatment	KU	K	Written exam / Viva voce
BDS403.3	Diagnose the various malocclusion categories	KU	MK	Written exam / Viva voce
BDS403.4	Able to motivate and explain to the patient (and parent) about the necessity of treatment	KU	K	Viva Voce
BDS403.5	Plan and execute preventive orthodontics (space maintainers or space regainers)	KU/S	MK	Practical Exam (OSPE)
BDS403.6	Plan and execute interceptive orthodontics (habit breaking appliances)	KU/S	MK	Practical Exam (OSPE)
BDS403.7	Manage treatment of simple malocclusion such as anterior spacing using removable appliances	KU/S	MK	Practical Exam (OSPE)
BDS403.8	Handle delivery and activation of removable orthodontic appliances	KU/S	MK	Practical Exam (OSPE)
BDS403.9	Diagnose and appropriately refer patients with complex malocclusion to the specialist	KU/S	MK	DOPS/Viva Voce

  
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## BDS404: PERIODONTOLOGY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS404	<b>UNDER GRADUATES (BDS) - PERIODONTOLOGY</b>			
BDS404.1	Perform dental scaling ,diagnostic tests of periodontal diseases; to use the instruments for periodontal therapy and maintenance of the same.	KU/S	E	Written Exam/ Practical Exam (OSPE/OSCE)
BDS404.2	Attitude to impart the preventive measures namely, the prevention of periodontal diseases and prevention of the progress of the disease, develop an attitude to perform the treatment with full aseptic precautions; shall develop an attitude to prevent iatrogenic diseases; to conserve the tooth to the maximum possible time by maintaining periodontal health and to refer the patients who require specialist's care.	A	MK	Practical Exam (OSPE/OSCE) /DOPS

## BDS405: PROSTHODONTICS AND CROWN & BRIDGE

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS405	<b>UNDER GRADUATES (BDS) - PROSTHODONTICS AND CROWN &amp; BRIDGE</b>			
BDS405.1	Able to understand and use various dental materials	KU	MK	Written Exam/Practical Exam (OSPE)/Viva Voce
BDS405.2	Competent to carry out treatment of conventional complete and partial removable dentures and fabricate fixed partial dentures	S	MK	OSCE/Written Exam/Viva Voce
BDS405.3	Able to carry out treatment of routine prosthodontic procedures.	S	MK	OSCE/Written Exam/Viva Voce
BDS405.4	Familiar with the concept of osseointegration and the value of implant-supported Prosthodontic procedures	KU/S	K	OSCE/Written Exam/Viva Voce



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## BDS406: CONSERVATIVE DENTISTRY AND ENDODONTICS

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS406	<b>UNDER GRADUATES (BDS) - CONSERVATIVE DENTISTRY AND ENDODONTICS</b>			
BDS406.1	Competent to diagnose all carious lesions	KU	E	Written Exam
BDS406.2	Competent to perform Class I and Class II cavities and their restoration with amalgam	S	E	Practical OSPE/OSCE/ Viva Voce
BDS406.3	Restore class V and Class III cavities with glass ionomer cement	S	MK	Practical OSPE/OSCE/ Viva Voce
BDS406.4	Able to diagnose and appropriately treat pulpally involved teeth (pulp capping procedures)	S	K	Practical OSPE
BDS406.5	Able to perform RCT for anterior teeth	S	K	Practical Exam/Viva Voce
BDS406.6	Competent to carry out small composite restorations	S	K	Practical Exam OSCE
BDS406.7	Understand the principles of aesthetic dental procedures	S	MK	Viva Voce

## BDS407: ORAL & MAXILLOFACIAL SURGERY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS407	<b>UNDER GRADUATES (BDS) - ORAL &amp; MAXILLOFACIAL SURGERY</b>			
BDS407.1	Able to apply the knowledge gained in the related medical subjects like pathology, microbiology etc.	KU	K	Written Exam/Viva Voce
BDS407.2	General medicine in the management of patients with oral surgical problem.	KU	K	Written Exam/Problem Solving
BDS407.3	Able to diagnose, manage and treat (understand the principles of treatment of) patients with oral Surgical problems.	KU	K	Written Exam/OSPE
BDS407.4	Knowledge of range of surgical treatments.	KU	MK	Written Exam/Viva Voce/Practical Exam



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BDS407.5	Ability to decide the requirement of a patient to have oral surgical specialist opinion or treatment.	KU	E	Problem Solving
BDS407.6	Understand the principles of in-patient management.	KU	K	Written Exam/Viva Voce
BDS407.7	A graduate should have acquired the skill to examine any patient with an oral surgical problem in an orderly manner. Be able to understand requisition of various clinical and laboratory	KU	E	Written Exam/Viva Voce
BDS407.8	Investigations and is capable of formulating differential diagnosis.	KU	MK	Practical Exam /Viva Voce
BDS407.9	Should be competent in the extraction of teeth under both local and general anaesthesia.	KU	E	Practical Exam (OSCE/OSPE)
BDS407.10	Should be able to carry out certain minor oral surgical procedures under L.A. like frenectomy,	KU	MK	Practical Exam (OSCE/OSPE)
BDS407.11	Alveolar procedures & biopsy etc.	KU	MK	Practical Exam (OSCE/OSPE)

## BDS408: PUBLIC HEALTH DENTISTRY

COURSE CODE	COURSE OUTCOMES	DOMAIN	LEVEL	ASSESSMENT METHODS
BDS408	<b>UNDER GRADUATES (BDS) - PUBLIC HEALTH DENTISTRY</b>			
BDS408.1	Basis of public health, preventive dentistry, public health problems in India, Nutrition, Environment and their role in health, basics of dental statistics, epidemiological methods, National oral health policy with emphasis on oral health policy.	KU	K	Written Exam
BDS408.2	Identifying health problems affecting the society, conducting health surveys, conducting health education classes and deciding health strategies.	S	MK	Practical Exam
BDS408.3	Communicate the needs of the community efficiently, inform the society of all the recent methodologies in preventing oral disease.	C	MK	Viva Voce

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## 1. Course Outcomes - MDS

### MDS101

Programme		MDS- Conservative Dentistry & Endodontics
Course Code	Name of the Course	Course outcome
MDS101.1	Applied Basic Science	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
MDS101.2	Conservative Dentistry	1. Students would be able to describe aetiology, 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
		1. Students would be able to describe aetiology, pathophysiology, periapical diagnosis and management of common endodontic situations that will include contemporary management of trauma and pulpal pathoses including endo-periodontal situations.



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MDS101.3	Endodontics	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
MDS101.4	Long Essay	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

  
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## MDS201

Programme		MDS in Prosthodontics and Crown & Bridge
Course Code	Name of the course	Course outcome
MDS201.1	Applied Anatomy, Physiology, Pathology and Dental Materials	1.The candidate would possess knowledge about applied basic and systematic medical sciences.
		2. The candidate would be able to examine the patients requiring Prosthodontics therapy, investigate the patient systemically, analyze the investigation results.
		3.The candidate would diagnose the ailment, plan a treatment, communicate it with the patient and execute it.
MDS201.2	Removable Prosthodontics and Oral Implantology	1.The candidate would possess knowledge about age changes and Prosthodontic Therapy for the aged related to removable Prosthodontics and oral Implantology
		2.The candidate would be able to demonstrate the clinical competence to restore lost functions of stomatognathic system namely mastication, speech, appearance and psychological comforts by removable prosthesis.
		3.The candidate would be able to adopt ethical principles in Prosthodontic practice. Professional honesty and integrity are to be fostered. Treatment to be delivered irrespective of social status, caste, creed or religion of patient.
MDS201.3	Fixed Prosthodontics	1.The candidate would be understand the prevalence and prevention of diseases of craniomandibular system related to fixed prosthetic dentistry.
		2.The candidate would be willing to adopt new methods and techniques in fixed prosthodontics from time to time based on scientific research, which is in patient's best interest.
		3.The candidate would be able to communicate in simple understandable language with the patient and explain the principles of fixed prosthodontics to the patient
MDS201.4	Essay	1.The candidate would be able to outline the knowledge, procedural and operative skills needed in Masters Degree in Prosthodontics.
		2.The candidate would possess comprehensive knowledge and the ability to apply the same in all the sub branches of prosthodontics in toto.



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## MDS301

Programme		MDS - Periodontology
Course Code	Name of the Course	Course outcome
MDS301.1	Applied basic sciences	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.
MDS301.2	Normal periodontal structure and etiopathogenesis and epidemiology	1. Should have a 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
MDS301.3	Periodontal Diagnosis, Therapy And Oral Implantology	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. Should be aware of the various designs and placement of oral implants and follow up of implant restorations.



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MDS301.4	Descriptive Analysing Type Question	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.

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## MDS401

Programme		MDS- Orthodontics & Dentofacial Orthopaedics
Course Code	Name of the Course	Course outcome
MDS401.1	Applied Basic Sciences	<b>1. Applied Anatomy</b>
		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.
		<b>2. Applied Physiology</b>
		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.
		<b>3. Dental Materials</b>
		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.
		<b>4. Genetics</b>
		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
		<b>5. Physical Anthropology</b>
Under Physical Anthropology they would have learnt about		
Evolutionary development of dentition, Evolutionary development of jaws		
<b>6. Pathology</b>		
Under Pathology they would have learnt about inflammation, and necrosis		
<b>7. Biostatistics</b>		



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		<p>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.</p> <p><b>8. Applied research methodology in Orthodontics</b></p> <p>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.</p>
MDS401.2	Diagnosis & Treatment planning	<p><b>1. Orthodontic history</b></p> <p>Under Orthodontic History they would have learnt about</p>
		<p>Historical perspective, Evolution of orthodontic appliances, Pencil sketch history of Orthodontic peers, History of Orthodontics in India.</p> <p><b>2. Concepts of occlusion and esthetics</b></p> <p>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.</p> <p><b>3. Etiology and Classification of malocclusion</b></p> <p>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.</p> <p><b>4. Dentofacial Anomalies</b></p> <p>Under this, the students would learn about, anatomical, physiological and pathological characteristics of major groups of developmental defects of the orofacial structures.</p> <p><b>5. Child and Adult Psychology</b></p> <p>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 /</p>



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		<p>orthodontics, Adolescent psychology, Behavioral psychology and communication.</p> <p><b>6. Diagnostic procedures and treatment planning in orthodontics</b></p> <p>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.</p> <p><b>7. Cephalometrics</b></p> <p>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.</p> <p><b>8. Practice management in Orthodontics</b></p> <p>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</p>
MDS401.3	Clinical Orthodontics	<p><b>1. Myofunctional Appliances</b></p> <p>The students will be capable of diagnosing and interpreting the knowledge obtained to treat developing malocclusion at a younger age.</p> <p><b>2. Dentofacial Orthopaedics</b></p> <p>The students will develop acumen to identify and deliver treatment regimes using orthopaedic appliances to the appropriate cases.</p> <p><b>3. Cleft Lip &amp; Palate Rehabilitation</b></p> <p>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 &amp; permanent dentition by harmonizing the treatment plan with the other members of the multidisciplinary cleft team.</p> <p><b>4. Biology of tooth movement</b></p>



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		<p>Basic understanding of the applied anatomy &amp; physiology regarding to tooth &amp; its surrounding structures will be inculcated into the student, so that the results of application of orthodontic forces can be understood and clinically used.</p> <p><b>5. Orthodontics/ Orthognathic Surgery</b></p> <p>Students will be thoroughly trained in conjoint diagnosis &amp; treatment planning of cases requiring surgical intervention.</p> <p><b>6. Ortho/ Perio/ Prostho inter relationship</b></p> <p>Students will be trained in treating complicated cases requiring a multi-disciplinary approach in patient management.</p> <p><b>7. Basic Principles of mechanotherapy</b></p> <p>Students will be trained in designing , construction , fabrication &amp; management of cases using both removable &amp; fixed orthodontics .</p> <p><b>8. Applied preventive aspects in Orthodontics</b></p> <p>A comprehensive view of diagnosing &amp; preventing caries, periodontal diseases to maintain proper inter arch relationship.</p> <p><b>9. Interceptive orthodontics</b></p> <p>Students will be trained in growth guidance, diagnosing &amp; treatment planning of early malocclusion both at mixed/ permanent dentition.</p> <p><b>10. Retention &amp; relapse</b></p> <p>Inculcating the acumen to analyze post treatment stability to prevent any replase.</p>
MDS401.4	Essay	<p><b>1. Recent Advances</b></p> <p>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.</p>

  
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