



Program and Course Outcomes

To ensure that Learning Outcomes of the teaching programs offered by GDC has defined Program objectives clearly stating program outcomes on the basis of course outcomes that are in relevance with the Regulatory councils.

- The course outcomes are mapped to the program outcomes.
- Program outcomes are achieved by evaluation methods given by the statutory council.
- The learning outcomes determine the graduate attributes.
- The institution has formulated course outcomes to make the students enhance their learning experiences with respect to all domains of learning. Accordingly, their learning assessment is conducted in form of formative at institutional level and summative at the university level.

Process of Outcome Analysis of Program and course outcomes

Statutory council's requirement (DCI) Competency based curriculum



STUDENT LEARNING OUTCOMES



GRADUATE ATTRIBUTES



LEVELS OF ATTAINMENT



COURSE OUTCOMES

PROGRAM OUTCOMES







Assessment methods

1. Formative assessment

2. Summative assessment

Modes of Assessment

Formative:

Viva-voce

OSCE

Seminars

Assignments

Project Work

Record book for UG

Summative

PG Dissertation

Practical and Viva-voce







Program outcomes

Graduates, on completion of program will demonstrate command of the following learning outcomes. Graduates will be able to:

- Develop critical skills in their practice and application of knowledgeenabling them to make a valuable contribution to patient and health care as individuals and as responsible members of society.
- Be Competent in diagnosis and management of common dental problems of the individual and the community.
- Communicate effectively in writing on a variety of topics related to dental health.
- Demonstrate an awareness and appreciation of the delivery of culturally competent health
- Appreciate the socio-psychological, cultural, economic and environmental factors affectinghealth.
- Effectively communicate and acknowledge the impact of the legal, ethical, and politicalenvironment on health care policy and delivery.
- Describe and demonstrate management / leadership skills.
- Demonstrate knowledge of and effectively apply health care models, theories, and tools toissues impacting health care delivery.

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Program	Course	Program Outcome
1st BDS	General Human Anatomy, including Embryology	 Know the normal disposition of the structures in the body while clinically examining a patient. Know the anatomical basis of disease and injury. Know the microscopic structure of the various tissues, a pre-requisite for understanding of the
~		disease processes.
	and Oral	 Know the nervous system to locate the site of lesions according to the sensory and or motor deficits encountered.
	Histology	 Have an idea about the basis of abnormal development, critical stages of development, effects of teratogens, genetic mutations and environmental hazards.
		 Know the sectional anatomy of head neck and brain to read the features in radiographs and pictures taken by modern imaging techniques. Know the anatomy of cardio-pulmonary
		resuscitation. • To locate various structures of the body and to mark the topography of the living anatomy.
		 To identify various tissues under microscope. To detect various congenital abnormalities.
	General Human Physiology and	• At the end of the course, the student will be able to:
	Biochemistry,	• Explain the normal functioning of all the organ systems and their interactions for well-co-
	Nutrition	ordinated body function.Assess the relative contribution of each organ
	and	system towards the maintenance of the milieu interior.
	Dietetics	 List the physiological principles underlying he pathogenesis and treatment of disease Conduct experiments designed for thestudy of physiological phenomena.
CIVIL	HOSPITAL CAMPUS, ASAF	 Interpret experimental and investigative data Distinguish between normal and abnormal data derived as are sult of tests which he/she has performed and observed in the laboratory A sound but crisp knowledge on the biochemical







	Dental Anatomy, Embryology and oral Histology.	 basis of the life processes relevant to the human system and to dental/medical practice. Dental student with knowledge on biochemical agents related to dentistry, various micro and macro nutrients. The student is expected to appreciate the normal development, morphology, structure & functions of oral tissues & variations indifferent pathological/non-pathological states. The student should under the histological basis of various dental treatment procedures and physiologic aging process in the dental tissues The students must know the basic knowledge of various research methodologies.
		· · ·
2 nd BDS	General	Pathology
	Pathology and Microbiology	 To demonstrate and apply basic facts, concepts and theories in the field of Pathology. To recognize and analyse pathological changes at macroscopical and microscopical levels and explain their observations in terms of disease processes. To integrate knowledge from the basic sciences, clinical medicine and dentistry in the study of Pathology. To demonstrate understanding of the capabilities and limitations of morphological Pathology in its contribution to medicine, dentistry and biological research. To demonstrate ability to consult resource materials outside lectures, laboratory and tutorial classes.
		Microbiology
		 Understand the basics of various branches of microbiology and able to apply the knowledge







•		 Apply the knowledge gained in related medical subjects like General Medicine and General Surgery and Dental subjects like Oral Pathology, Community Dentistry, Periodontics, Oral Surgery, Pedodontics, Conservative Dentistry and Oral medicine in higher classes. Understand and practice various methods of Sterilisation and disinfection in dental clinics. Have a sound understanding of various infectious diseases and lesions in the oral cavity.
	General and Dental Pharmacology Therapeutics	 Describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs in general and in dentistry in particular. List the indications, contraindications; interactions, and adverse reactions of commonly used drugs with reason. Tailor the use appropriate drugs in disease with consideration to its cost, efficacy, safety for individual and mass therapy needs. Indicate 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.
	Dental Materials	 Integrate the rational drug therapy in clinical pharmacology. Indicate the principles underlying the concepts of "Essential drugs". To understand the evolution and development of science of dental material. Dental student with knowledge of physical, chemical, mechanical and biological properties of all materials used in dentistry. Knowledge of biomechanical requirements of particular restorative procedure. To understand and evaluate the claims made by manufactures of dental materials. Dental student with an ability to manipulate various dental materials.







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•	Pre clinical Conservative Dentistry	 Dental student will have sound knowledge on hand and rotary cutting Instruments. Dental student with basic skill to prepare cavity designs to receive various restorative materials on typhodont teeth in skill laboratory.
	Pre clinical Prosthodontics and Crown Bridge	Dental student with sound knowledge on landmarks in edentulous patients would be able to do all lab procedures to make a conventional complete denture.
3 rd BDS	General General Surgery	 Dental student with sound knowledge on oral manifestations of systemic diseases, medical emergencies in dental practice. Special precautions/ contraindication of anaesthesia. Dental students with ability to diagnose and manage various common medical problems encountered in general, dental practice and dental emergencies. Dental student with basic skill to prevent and manage complications encountered while carrying out various dental surgical and other procedures. Dental student with sound surgical knowledge on anomalies, lesions and diseases of the teeth, mouth and jaws. Dental student with an ability to diagnose and manage various common surgical problems encountered in general, dental practice and dental emergencies.
	Oral Pathology	The manifestations of common oral and systemic diseases, their diagnosis & correlation with clinical
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and Oral Microbiology	 pathological processes. Study of teeth anomalies through tooth specimens & plaster models. Microscopic study of common lesions affecting oral tissues through microscopic slides Basic principles of Forensic Odontology.
Medicine& Radiology	 Able to identify precancerous and cancerous lesions of the oral Cavity and refer to the concerned-speciality for their management Should have adequate knowledge about medical complications that can arise while treating systemically compromised patients and take prior precautions/consent from the concerned medical specialist. Have adequate knowledge about radiation health hazards radiations safety and protection. Competent to take intra-oral radiographs and interpret the radiographic findings Gain adequate knowledge of various extra-oral radiographic procedures. TMI radiography and-sialography. Be aware of the importance of intra- and extra-oral radiographs In forensic identification and age- estimation Should be familiar with jurisprudence, ethics and understand the significance of dental records- with respect to law.
Paediatric& Preventive	Able to install a positive attitude and behaviour in children towards oral health and understand- the
Dentistry	 principles of prevention and preventive dentistry right from birth to adolescence. Able to guide and counsel the parents in regards to various treatment modalities Including- different facets of preventive dentistry. Able to treat dental diseases occurring in child patient. Able to manage the physically and mentally challenged disabled children effectively and-
	Oral Microbiology Oral Medicine& Radiology Paediatric& Preventive







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	Orthodontics &	efficiently.
	Dentofacial	 Understand about normal growth and development of facial skeleton and dentition.
	Demoracial	Pinpoint aberrations in growth
•	Orthopaedics	 Pinpoint aberrations in growth process both dental and skeletal and plan necessary treatment Diagnose the various malocclusion categories Able to motivate and explain to the patient (and parent) about the necessity of treatment Plan and execute preventive orthodontics (space maintainers or space regainers) Plan and execute interceptive orthodontics (habit breaking appliances) Manage &treatment of simple malocclusion such as anterior spacing using removable appliances Handle delivery and activation of removable
		Orthodontic appliances.
•		 Diagnose and appropriately refer patients with complex malocclusion to the specialist.
	Prosthodontics	Able to understand and
	And	 Able to understand and use various dental materials Competent to carry out treatment of conventional complete and partial remarkable.
	Crown	complete and partial removable: dentures and fabricate fixed partial dentures
	Bridge	 Able to carry out treatment of routine prosthodontic procedures
î		 Familiar with the concept of osseointegration and th value of Implant-supported Prosthodontic- procedures
•	Conservative	Competent to diagnose all carious lesions
	Dentistry	Competent to perform Class I and Class II cavities and their restoration with amalgam
	And	Restore class Vand Class III cavities with glass
	Endodontics	 Able to diagnose and appropriately treat pulpally
		involved teeth(pulp capping procedures)Able to perform RCT for anterior teeth







		 Competent to carry out small composite restorations Understand the principles of aesthetic dental procedures
	Oral Maxillofacial surgery	 Able to apply the knowledge gained in the basic medical and clinical subjects in the management- of patients with surgical problems Able to diagnose, manage and treat patients with basic oral surgical problems Have a broad knowledge of maxillofacial surgery and oral implantology Should be familiar with legal, ethical and moral issues pertaining to the patient care and communication skills Should have acquired the skill to examine any patient with an oral surgical problem in an- orderly manner Understand and practice the basic principles of
		 asepsis and sterilization. Should be competent in the extraction of the teeth under both local and general anaesthesia. Competent to carry out certain minor oral surgical procedure under LA like trans alveolar extraction, frenectomy, dentoalveolar procedures, simple impaction, biopsy, etc. Competent H/O assess, prevent and manage common complications that arise during and after
:		 minor oral surgery Able to provide primary care and manage medical emergencies in the dental office Familiar with the management of major oral surgical problems and principals involved in the patient management.
	Public Health Dentistry	 Apply the principles of health promotion and disease prevention Have knowledge of the organization and provision of health care in community and in the hospital service
		 Have knowledge of the prevalence of common dental conditions Have knowledge of community-based preventive







measuresHave knowledge of the social , cultural and
environmental factors which contribute to health or
illness.
 Administer and hygiene instructions, topical fluoride therapy and fissure sealing Educate patients concerning the aetiology and prevention of oral disease and encourage them to assure responsibility for their oral health.
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Course outcome-BDS

Name of	Name of the Course	
the	Name of the Course	Course outcome
program		
BDS -1 st		1. Dental student with
Year		1 1 1
1 001	GeneralHuman	knowledge on normal
	Anatomy,IncludingEmbryology,	disposition of the structures in the body, microscopic
	Osteology & Histology	structure of the various
		tissues, nervous system to
		locate the site of lesions,
		sectional anatomy of head,
		neck and brain.
×		2. Dental student possessing
		skills to locate various
	,	structures of head and neck
-		of the body, identify
		various tissues under
-		microscope,
		3. Dental student with
		knowledge on basic
		sciences and clinical subjects.
		subjects.
BDS -1 st	General Human Physiology	1. Dental student with
Year		knowledge on normal
		functioning of all the organ
		systems and their
		interactions, relative
		contribution of each organ
		system towards the
•		maintenance of total body
	,	function, physiological principles underlying the
		pathogenesis of various
		diseases and oral and para
		oral structures.
	•	2. Dental student with basic
		skill to conduct and
		and and and







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ot et		interpret experimental and investigative data.
BDS -1 st	Biochemistry	Dental student with knowledge on
Year		biochemical agents related to
		dentistry, various micro and
		macro nutrients.
	,	macro nutrients.
BDS -1 st	Dental Anatomy, Embryology	1. Dental graduate with
Year	And Oral Histology	basic knowledge on
		Morphology of both
		deciduous and permanent
:		teeth, Methods of
		identifying the teeth and
		age of the plaster cast
		2. Dental graduate with
		basic skills in Wax
		carving of teeth,
		Identifying the basic
		histology slides by
		microscopy.
		3. Dental graduate with
		potential efficiently
		communicate
		physiological
		development,
		morphology. structure&
		functions of teeth and oral
		& para-oral tissues& its
BDS -		variations.
DDS -		1. Dental student with
2	General Pathology	knowledge on pathological
YEAR		changes at macroscopic and
		microscopic levels,
		capabilities and limitations of morphological Pathology
•		
		inits contribution to dentistry.
		2. Dental student with an ability to integrate
		knowledge from the basic
		sciences to clinical
		sciences to chilical







DDC		application in dentistry
BDS - 2 ND YEAR	Microbiology	 Dental student with sound. understanding of various infectious diseases and lesions in the oral cavity, various methods of Sterilisation and disinfection. Dental student with basic skills to select, collect and transport clinical specimens to the laboratory and be able to carry out proper aseptic procedures in the dental clinic.
BDS - 2 ND YEAR	General and Dental Pharmacology and Therapeutics	1. Dental student with knowledge on indications, contraindications; interactions, allergies and adverse reactions of commonly used drugs, use of appropriate drugs in disease with consideration to its efficacy, safety for individual and mass therapy needs. 2. Dental student with an ability to advice special care in prescribing common and essential drugs in special medical situations such as pregnancy, lactation, old age, renal, hepatic damage and immune compromised patients. 3. Dental student with skills to prescribe drugs for common dental and medical ailments,







		appreciate adverse reactions and drug interactions of commonly used drugs.
BDS - 2 ND YEAR	Dental Materials	 Dental student with knowledge of physical, chemical, mechanical and biological properties of all materials used in dentistry. Dental student with an ability to manipulate various dental materials.
BDS - 2 ND YEAR	Pre-Clinical Prosthodontics	1. Dental student with sound knowledge on landmarks in edentulous patients would be able to do all lab procedures to make a conventional complete denture.
BDS - 2 ND YEAR	Pre-Clinical Conservative Dentistry	 Dental student will sound knowledge on hand and rotary cutting instruments. Dental student with basic skill to prepare cavity designs to receive various restorative materials on typhodont teeth in skill laboratory.
BDS -3 rd YEAR	General Medicine	 Dental Student with sound knowledge on oral manifestations of systemic diseases, medical emergencies in dental practice. Special precautions/contraindicati on of anaesthesia. Dental students with ability to diagnose and manage various common medical problems encountered in general,







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BDS -3 rd YEAR	General Surgery	1.	dental practice and dental emergencies. Dental student with basic skill to prevent and manage complications encountered while carrying out various dental surgical and other procedures. Dental student with sound surgical knowledge on anomalies, lesions and diseases of the teeth,
		2.	mouth and jaws. Dental student with an ability to diagnose and manage various common surgical problems encountered in general, dental practice and dental emergencies.
BDS -3 rd YEAR	Oral Pathology	2.	Dental graduate with basic knowledge on pathogenesis of Oral disease, diagnosis and comparison based on clinical, radiograph and histopathology features of oral disease Dental graduate with basic skills in preparation of ground sections and oral smears, age estimation based on teeth, identifying and diagnosing the pathology. based on light
CIVIL HOSPITA	L CAMPUS, ASARWA.AHMEDABAD GUIARA	3.	Dental graduate with potential to efficiently







The state of the s		communicate diagnosis & correlate with other oral disease with their pathological processes.
BDS -4 th	Oral Medicine and	1. Generate graduates that
YEAR	Radiology	demonstrate the necessary knowledge, skills and attitude in Oral & Maxillofacial Diagnosis, Diagnostic procedures and medical management of such disorders.
		2. Create confident and competent Dental professionals. who can accomplish and execute clinical deftness in the diagnosis and management of facial disorders.
BDS -4 th YEAR	Oral and Maxillofacial Surgery	1. Application of knowledge of related medical subjects in management of patients
		with oral surgical problem. 2. Sufficient knowledge to diagnose, manage and treat minor oral surgical procedures.
		3. Understanding and exposure to the management of major oral surgical problems and principles involved in inpatient management.
BDS -4 th	Periodontology	-
YEAR		 Oral health professionals who are efficient and trained to handle oral health issues. Dental graduates on par







•			2	with latest technologies which would develop them as professionals as well as help them in their employment opportunities 3. Dental graduate with practical skills which would improve doctor patient relationship having positive impact on society 4. Dental graduate who is skilled to apply multidisciplinary approach for successful treatment outcome 5. Dental graduate with a research mindset trained on par with international standards.
BDS -4 th	Pedodontics a	nd Preven	tive 1.	KNOWLEDGE:
YEAR	Dentistry	nd Freven		Dental practitioners with ability to diagnose common dental problems and/or capability-to-assessgrowth and development variations and suggest necessary referrals or actions as needed timely.
	AL CAMPUS, ASARWA,		2.	SKILL: Clinicians who can effectively and efficiently perform basic dental treatments in children from birth to adolescence with proper behavioural management of child

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				and the parent, as well as give positive dental
				attitude with
BDS -4 th	Conservative	Dontista		preventive modalities
YEAR	Endodontics	Dentistry	&	1. To educate and impart clinical skill to students which will help them in providing quality restorative treatment and
				basic endodontic
				procedures.
				2. To provide restorative care in dentistry in a manner which will competent and ethical contribute to the oral health and general wellbeing of the individual and community.
				3. As a graduate, the dentist would exhibit professional behaviour, basic skills to carry out range of dental procedures in general dental practice independently with consistency and accuracy.
				4. To instill the importance of life-long learning and updating the knowledge in the field of restorative dentistry and endodontic.
BDS -4 th	Prosthodontics	& Crown	&	1 D 1
YEAR .	bridge	& Clowif	æ	 Dental graduate with knowledge on prosthetics needs of patients, fabrication of all prosthodontics modes of treatment. Dental graduate who is able to diagnose, motivate and treat patients who are partially and completely







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		edentulous (including geriatric patients) with
		complete and partial
ar.		dentures. 3. Dental graduate skilled
		3. Dental graduate skilled enough to identify cases
		requiring specialist
		prosthodontics treatment
		needs and refer them for
BDS -4 th	Orthodontics and Dentofacial	further follow-up.
YEAR	Orthopaedics and Demoracian	1. Graduates emerging from this institute are excelling
	Striopaedies	in academics &Practice.
		2. Many undergraduates from
		our institutes are pursuing
		post-graduation in this
BDS-	Public health dentistry	specialty.
4th year	a some meaning definishing	1. Dental graduate with basic knowledge on oral health
		knowledge on oral health problems in India, methods for
		collecting data on these problems,
		methods for prevention and
		control of these problems at
		individual and community levels.
41		2. Dental graduate with basic
		skills in identifying oral health
	·	problems, collecting data on oral
		health problems prevailing in the
		country through surveys,
		developing strategies for their
;		control at individual and
		communitylevels.
		3. Dental graduate with potential
.		to efficiently communicate needs
	,	of the community, simple self-
		care strategies to promote oral
		health of population.
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Course outcome-MDS

Name Of the Program	Name of the Course	Course Outcome
MDS in Prosthodontics and crown & bridge	Applied Anatomy, Physiology, Pathology and Dental materials	 The candidate would possess knowledge about applied basic and systematic medical sciences. The candidate would be able to examine the patients requiring Prosthodontics therapy, investigate the patient systemically, analyse the investigation results. The candidate would diagnose, plan treatment, communicate it with the patient and execute it.
	Removable Prosthodonti cs and Oral Implantology	 The candidate would knowledge about age changes and possess Prosthodontics Therapy for the aged related removable oral Prosthodontics Implantology The candidate would be able to demonstrate the clinical competence to restore lost functions of stomatognathic system namely mastication, speech, psychological comforts removable prosthesis. The candidate would be able to adopt ethical principles Prosthodontic practice. Professional honesty and integrity are to be appearance fostered. Treatment be delivered irrespective of social andstatus, caste, creed or religion of patient.
	Fixed Prosthodonti cs	1. The candidate would understand the prevalence prevention diseases of cranio-mandibular system related to fixed prosthetic







A .		The state of the s
•		dentistry. 2. The candidate would be willing to methods adopt new 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 1 principles of fixed prosthodontics to the patient.
	Essay	The candidate would be able to outline the knowledge, procedural and operative skills needed in Master's Degree in Prosthodontics. The candidate would possess comprehensive knowledge and the ability to apply the same in all the sub branches of prosthodontics.
MDS- Pedodontics and Preventive & dentistry	Applied Basic Sciences	 Student should be able to understand applied Anatomy, genetics, Applied Physiology, Applied Pathology, Nutrition, Diet, Growth & Development, Cariology and Fluoride. Student will be get acquainted with Dental health concepts, Effects of civilization and environment, Dental Health delivery system, Public Health measures related to children along with principles of Paediatric Preventive Dentistry Student should be able develop an attitude of Counselling in Paediatric Dentistry. Student should be able to do Case History, Recording, Outline of principles of examination, diagnosis & treatment planning.
	Clinical	1. Student should be competent to







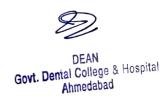
•	Pedodontics	treat dental diseases which are occurring in child patient. Student should be able to manage to repair and restore the lost / tooth structure to maintain harmony between both hard and soft tissues of the oral cavity. 2. Student should be able to manage the disabled children effectively and efficiently tailored to the needs of individual requirement and conditions. 3. Student should be able to acquire skills in managing efficiency life threatening condition with emphasis on basic life support measures. 4. Student should able to develop an attitude to adopt ethical principles in all aspects of Paediatric dental practice along with professional honesty and integrity.
	Preventive Community Dentistry as applied to Paediatric Dentistry	 Student should be able to create a good oral health in the child with Installing a positive attitude and behaviour in children Student should able to understand the principles of prevention and preventive dentistry right from birth to adolescence. Student should able to guide and counsel the parents in regards to various treatment modalities including different facets of preventive dentistry. Student should able to deliver care irrespective of the social status, cast, creed, and religion of the patients. Student should able to share the







knowledge and clinical experi with professional colleagues with willingness. Essay 1. For a given case, the student a critical assessment should ab	ience own
a critical assessment should ab	
adopt new methods and technic of Paediatric dentistry that developed time to time, based scientific researches, which are the best interest of the child patient. 2. Student should able to respect child patient's rights privileges, including child patient right to information and right seek as second opinion.	ole to ques t is d on re in and pect and ent's t to
MDS- Oral & Applied basic The student would be knowledged	able
Maxillofacial sciences about: Development and growth of fa	
Surgery teeth and jaws,	acc,
Age changes and evaluation of mandi in detail	ible
 Congenital abnormality of or factoregions Surgical anatomy of scalp, temporal face 	
Anatomy and its applied aspects triangles of neck and destructures of neck	of eep
surrounding soft tissues Cranial nerves Tongue Temporal and infratemporal	
regionand Temporomandibu	lar







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joint	m	detail

- Orbits and its contents
- · Muscles of face and neck
- General consideration of the structure and function of brain and applied anatomy of intracranial venous sinuses
- Cavernous sinus and superior sagittal sinus
- Brief consideration of autonomous nervous system
- Functional anatomy
- Mastication, Deglutition and speech
- Respiration and circulation
- Histology of oral mucosa, connective tissue, bone, cartilage, cellular elements of blood vessels, lymphatic nerves, muscles.
- Tooth and its surrounding structures.
- Cross- sectional Anatomy of head and neck, as applied in CT, MRI interpretation
- Salivary glands Anatomy, Embryology and Histology

APPLIED PHYSIOLOGY

- Nervous system -physiology of nerve conduction, pain pathway, and parasympathetic & sympathetic nervous system, hypothalamus body temperature, mechanism of controlling body temperature.
- 2. Blood its composition haemostasis, blood dyscrasias and its management,







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		haemorrhage and its control, blood grouping, cross matching, blood component therapy, complications of blood
	3.	transfusion, blood substitutes, auto transfusion, cell savers. Digestive system composition and functions of saliva, digestion, assimilation,
	×	mastication, deglutition, urine formation, normal and abnormal constituents.
	4.	Respiratory system - respiration control of ventilation, anoxia, asphyxia, artificial respiration, hypoxia type and management
	5.	CVS cardiac cycle, shock, heart sounds, blood pressure, hypertension.
	6.	Endocrinology - metabolism of calcium endocranial activity and
	,	disorder relating thyroid gland, parathyroid gland, adrenal gland, pituitary gland, pancreas and gonads.
•	7.	Nutrition - general principles balanced diet, effect of dietary deficiency, protein energy malnutrition, nutritional assessment, metabolic responses to stress, need for nutritional
	8.	support. Fluid and electrolytic balance / acid base metabolism - the body fluid compartment, metabolism of water and electrolytes, factors maintaining haemostasis causes for treatment of acidosis and
		alkalosis.







APPLIED PATHOLOGY

- 1. Inflammation acute and chronic inflammation. repair and regeneration, necrosis and gangrene and role of component system in acute inflammation, role arachidonic acid and metabolites in acute inflammation. growth factors in acute inflammation role of NSAIDS inflammation, cellular changes in radiation injury and manifestations.
- 2. Wound management wound healing factors influencing healing, properties of suture materials, and appropriate uses of sutures.
- 3. Haemostasis -role of endothelium, thrombogenesis, arterial thrombi disseminated venous intravascular coagulation.
- 4. Hypersensitivity shock and pulmonary failure, types of shock, shock, diagnosis, resuscitation, pharmacological support, ARDS and its causes and prevention, ventilation and support
- 5. Neoplasia -classification of tumours, carcinogens carcinogenesis, and spread tumours, characteristics of benign and malignant tumours, grading and staging of tumours various laboratory investigation.
- 6. Chromosomal abnormalities facial manifestations.
- 7. Basics of immunology-primary and acquired immune deficiencies.







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	Minor	Oral	The students would be well trained in the
•	Surgery	and	assessment and management of:
•	Trauma		 Basic Exodontia Complicated Exodontia Surgical management of Impacted teeth Ectopically positioned and unerupted teeth Tooth Reimplantation and Transplantation Surgical uprighting and Repositioning Principles of EndodonticMicrosurgery Periodontal Considerations for OralSurgery Procedures involving the Dentogingival junction Pediatric DentoalveolarSurgery Lasers in Oral and Maxillofacial Surgery Complications of DentoalveolarSurgery
-			The students would be able to diagnose and manage medical emergencies like, prevention and management of altered consciousness (syncope, orthostatic hypotension, seizures, diabetes mellitus, adrenal insufficiency), hypersensitivity reactions, chest discomfort, and respiratorydifficulty
			The students would be knowledgeable about

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and

Diagnosis

1.

Perioperative





•		Management of Head and Neck Injuries
		2. Basic Principles of Treatment: Hard and Soft tissue injuries
		The students would be acquainted with the knowledge and clinical skills in the management of
	Maxillofacial Surgery	 Dentoalveolar Injuries Mandibular Fractures Temporomandibular Joint Region Injuries Zygomatic Complex Fractures Orbital Trauma Midface injuries Frontal Sinus Fractures and associated Injuries Nasal injuries Soft Tissue injuries Special Soft Tissue injuries Avulsive Hard Tissue injuries Maxillofacial Injuries in Children Maxillofacial Injuries in the Elderly Complex Facial Trauma Patient Students would be acquainted with the knowledge and clinical skills in the management of
·		Salivary gland Sialography, Salivary fistula and management diseases of salivary gland developmental disturbances, cysts, inflammation and sialolithiasis, Mucocele and Ranula, Tumours of salivary gland and their







management, Staging of salivary gland tumours, Parotidectomy

2. Temporomandibular Joint: Aetiology, history signs, anddiagnosis examination temporomandibular joint disorders. Ankylosis and management of the same different modalities. treatment MPDS and management. Condylectomy procedures, Various approaches to TM), dislocations Recurrent differenttreatment modalities, MPDS and management, Condylectomy - different procedures, Various approaches to TMJ,

Oncology: Biopsy, Management of premalignant tumours of head and neck region, Benign and Malignant tumours of Head and Neck region, Staging of oral cancer and tumour markers

Recurrent dislocations Aetiology

Management

Management of oral cancer, Radial Neck dissection, Modes of spread of tumours, Diagnosis and management of tumours of nasal, paranasal, neck, tongue, cheek, maxilla and mandible

Radiation therapy in maxillofacial regions,Lateral neck swellings

Orthognathic surgery: Diagnosis and treatment planning. Cephalometric







analysis, Model surgery, Maxillary and mandibular repositioning procedures, Segmental osteotomies, Management of apertognathia, Genioplasty, Distraction osteogenesis Odontogenic and non

Cysts and tumour of oro-facial region: Odontogenic tumours and their management

Giant lesions of jawbone, Fibro osseous lesions of jawbone, Cysts of jaw

Laser surgery: The application of laser technology in surgical

Treatment of lesions

Cryosurgery: Principles, applications of cryosurgery in surgical management

Cleft lip and palate surgery: Detailed knowledge of the development of the face, head and neck, Diagnosis and treatment planning Current concepts in the management of cleft lip and palate deformity Knowledge of Naso endoscopy and other diagnostic techniques in the evaluation of speech and hearing Concept of multidisciplinary team management

Aesthetic facial surgery: Detailed knowledge of the structures of the face

CIVIL HOSPITAL CAMPUS, ASARWA, AHMEDABAD, GUJARAT, INDIA-380016



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	and neck including skin andunderlying soft tissue, Diagnosis and treatment planning of deformities and conditions affecting facial skin Underlying facial muscles, bone. Eyelids external ear Surgical management of post acne scarring, facelift, blepharoplasty, otoplasty, facial bone recontouring, etc Craniofacial surgery: Basic knowledge of developmental anomalies of the face, head and neck, Basic concepts in the diagnosis and planning of various head and neck anomalies including facial clefts, craniosynostosissyndromes, etc. Current concept in the management of Craniofacial anomalies Implantology: Principles for the Surgical Placement Of Endosseous Implants, Subperiosteal Implants, The Trans mandibular Implant Reconstruction System, Single-tooth Replacement in Oral Implantology, Posterior Implant Restorations For Partially Edentulous Patients, Maxillary Sinus Grafts and Implants, Surgical Implant Failures, Soft Tissue Considerations
Essay	The students would be able to diagnose, meticulously plan and manage competently various conditions in maxillofacial surgeryincluding challenging cases. They would be knowledgeable about conventional and recent advances in the diagnosis and management of oral and
	Essay







		maxillofacial conditions.
		The students would be well versed in basic surgicaltechniques and knowledgeable about the advanced skills required in maxillofacial surgery.
MDS-Orthodontics and DentofacialOrthopa edics	Applied Basic sciences	1. AppliedAnatomy 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.
•		2. 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.
		3. DentalMaterials Under Dental Materials they would have learnt about Gypsum products, impression materials, acrylics, composites, banding and bonding cements, wrought metal alloys, orthodontic wires. elastics, applied physics, specification and tests methods, survey of all contemporary and recent advances of above.
		4. 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,
		specification and tests methods, survey of all contemporary and recent advances of above.
		5. Physical Anthropology Under Physical Anthropology they would have learnt about Evolutionary development of dentition, Evolutionary development of jaws
		6. Pathology Under Pathology they would have learnt about inflammation, and necrosis
		7. Biostatistics Under Biostatistics they would have learnt about Statistical principles, Sampling and Sampling technique, Experimental
		models, design interpretation, Development of skills for preparing clear concise and scientific abstracts and Publication.
		8. Applied research methodology in Orthodontics Under Applied research methodology
÷		in Orthodontics, they would have learnt about Experimental design,
•		Animal experimental protocol,
		execution and interpretation of
		methodologies in Orthodontics, Critical Scientific appraisal of literature
	Diagnosis	1. Orthodontic history Under Orthodontic History they







And Treatment Planning Planning Planning Treatment Planning Planning Treatment Planning Perspective, Evolution of orthodontics in peers, History of Orthodontics in India. Planning Perspective, Evolution of Orthodontics in peers, History of Orthodontics in India. Planning Plan
Planning orthodontic appliances, Pencisketch history of Orthodontics in India. 2. Concepts of occlusion and aesthetics 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.
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neuromuscular physiology.
3. AetiologyandClassification 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.
4. DentofacialAnomalies
Under this, the students would learn
about, anatomical, physiological
andpathological characteristics
major groups
developmental defects
oforofacialstructures.
5 Child and Adulthan 1
5. Child and AdultPsychology
Under this, the students would learn
aboutStages of childdevelopment,
Theories of psychological
development, Management of an
orthodontic treatment,
Management of handicapped
child, Motivation and







Psychological problems relatedmalocclusion / orthodontics,
Adolescentpsychology,Behaviour alpsychology and communication.

6. Diagnostic procedures and treatment planning in orthodontics

Under this, the students would learn about Stages of child development, Theories of psychological development, Management

orthodontic treatment, Management of handicapped child, Motivation and Psychological problems relatedto malocclusion/orthodontics, Adolescentpsychology, Behavioural psychology and communication.

7. Cephalometric

Under this the student would Instrumentation. learnabout. Image processing. Tracing and analysis of errors applications, Radiation hygiene. Cephalometric Advanced Comprehensive techniques. Video review of literature, principles imaging andapplication.

8. 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
	Clinical Orthodontics	1. MyofunctionalAppliances The students will be capable of diagnosing and interpreting the knowledge obtained to treat developing malocclusion at a younger age.
		2. DentofacialOrthopaedics
		The students will develop acumen to identify and deliver treatment regimesusing orthopaedic appliances to the appropriate cases.
		3. Cleft Lip & PalateRehabilitation
•		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.
		4. Biology of toothmovement
		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.
		5.Orthodontics/ Orthognathic Surgery
		Students will be thoroughly trained in conjoint diagnosis & treatment planning







		of cases requiring surgical intervention.
		6.Ortho/ Perio/ Prostho inter relationship
		Students will be trained in treating complicated cases requiring a multi-disciplinary approach in patient management.
•		7. Basic Principles mechanotherapy
		Students will be trained in designing, construction, fabrication &management of cases using orthodontics.
		8.Applied preventive aspects in orthodontics
		A comprehensive view of diagnosing & preventing caries, periodontal diseases to maintain proper inter arch relationship.
		9. Interceptiveorthodontics Students will be trained in growth guidance, diagnosing & treatment planning of early malocclusion both at mixed/ permanent dentition.
		10. Retention & relapse
		To analyse post treatment stability, prevent to anyrelapse.
	Essay	1. 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 previousliteratureavailable.
MDS- Oral	Applied	1. The students should havebasic







Pathology: 0	n ·	
Pathology & Microbiology	Basic Science	 knowledge of biostatistics and researchmethodology. 2. They would have learnt the anatomy, histology, biochemical and physiology of oral and paraoralstructure. 3. They would have learnt the basic pathology, microbiology and basic molecular aspects ofpathology.
	Oral Pathology, Microbiology , Immunology and Forensic Odontology	 The student should have to understand the pathological processes of oraldiseases. The student would have to understand the pathological processes of oral diseases, compare and diagnose based on clinical, radiographicaland histopathological findings which involves the oral and paraoralstructures. They would have learnt andperform the preparation of ground sections oral smears and histologyslides. Student would have studied and be able to identify and diagnose the disease based onmicroscopy.
	Laboratory Techniques Diagnosis and Oncology	 The students should have basic knowledge of biopsy procedureand slidepreparation. They would have the basicknowledge on laboratory chemicals and equipments. Student should have learnt toidentify and appreciate the microscopic slide and writing a report on oraldiseases /lesion. Student should have knowledge on Basic haematological tests, urine analysis and its clinicalsignificance.







	Essay	1. Student should
		havecomprehensiveknowledgeo
		n oral and para-oral structures
		and related pathologies and also
		on recent advanced
		methodology/techniques and
1000		molecular aspect.
MDS-	Applied	1. Should have abroad overview of the
Periodontology	Basic	current research and methods used
	Sciences	in studying problems in periodontal
		disease.
		2. Should have an understanding
		of thebroad range of infection
		diseases affecting the oral
i		cavity.
		3. Should have an understanding
		the clinical and biological
		factors to be considered in the
		appropriate use of
		antimicrobialdrugs
		4. Be aware of the contemporary
		principles and practices of
		laboratory diagnostic techniques
		and interpretation of laboratory
		reports.
· •		5. Should have 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.
	Normal	1. Should have a understanding on the
	Periodontal	normal structure of periodontium
	Structure and	and the contributing etiological
	Etiopathogen	factors resulting in the pathogenesis
		of periodontal diseases and be able
•		to apply this knowledge in the
	epidemiology	diagnosis.
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		2. Should be able to record indices
		andplan out epidemiological survey to assess the prevalence and incidence of early onset
		incidence of early onset periodontitis and adult periodontitis in Indian Population
	Periodontal	1. Should have a sound knowledge of
	Diagnosis, therapy And	the etiopathogenesis and apply it in diagnosing various periodontal diseases
	Oral	and should be familiar with various
	Implantology	periodontal therapies available to treat thosecases.
		2. Should have an updated knowledge on the recent advancements and be tomodify their treatmentaccordingly.
.*		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.
	Descriptive	1. Should be knowledgeable clinical
	Analysing Type	care for to provide with complex problems that are beyond the
	Question	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 analyse various
		clinical scenarios and apply their knowledge accordingly.
MDS-Conservative	Applied basic	1.Students would be able to
Dentistry and Endodontics	sciences	demonstrate understanding of basic sciences as relevant to conservative/
. Endodonties		restorative dentistry and Endodontics
		•







	 Students would demonstrate infection control measures in the dental clinical environment and laboratories. Student would adopt ethical principles in all aspects of restorative and contemporary Endodontics including non-surgical and surgical Endodontics. Students would be able to demonstrate communication skills in particular to explain various options available management and toobtain a true informed consent from the patient.
	5. Students would be able to applyhigh moral and ethical standards while carrying on human oranimal research.
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, noncarious 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 treatment of complicated restorative procedures.







	Endodontics	 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. Students would be able to master differential diagnosis and recognize conditions that may require
		multidisciplinary approach or aclinical 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 patientmonitoring including preoperative as well as postoperative care of the Patient.
•	-	4. Students would perform all levels of surgical and non-surgical Endodontics including endodontic endoosseousimplants 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 periodontal situations
	Long Essay	1. Students would diagnose plan and execute challenging clinical cases requiring comprehensive. management







strategie	s using	cont	empo	rary mate	rials
and ted	chniques	in	the	specialty	of
conserva	tive dent	istry	and e	ndodontics	3.



GOVT. DENTAL COLLEGE AND HOSPITAL, AHMEDABAD.