



MESDentalCollege

Malaparamba, Perinthalmanna, Malappuram 679 338

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COURSE OUTCOMES FOR BDS & MDS COURSES



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2.6.1 Learning outcomes and graduate attributes

S.NO		COURSE OUTCOME
1.	HUMAN ANATOMY, EMBRYOLOGY, HISTOLOGY & MEDICAL GENETICS	<ol style="list-style-type: none">1. Know the normal disposition of the structures in the body while clinically examining a patient and while conducting clinical procedures.2. Know the anatomical basis of disease and injury.3. Know the microscopic structure of the various tissues, a pre-requisite for understanding of the disease processes.4. Know the nervous system to locate the site of lesions according to the sensory and or motor deficits encountered.5. Have an idea about the basis of abnormal development, critical stages of development, effects of teratogens, genetic mutations and environmental hazards.6. Know the sectional anatomy of head neck and brain to read the features in radiographs and pictures taken by modern imaging techniques.7. Know the anatomy of cardio-pulmonary resuscitation.
2.	HUMAN PHYSIOLOGY	<ol style="list-style-type: none">1. Explain the normal functioning of all the organ systems and their interactions for well co-ordinated total body function.2. Assess the relative contribution of each organ system towards the maintenance of the milieu interior.3. List the physiological principles underlying the pathogenesis and treatment of disease.
3.	BIOCHEMISTRY	<ol style="list-style-type: none">1. Need not know the structure of cholesterol. Should know why it cannot be carried free in plasma.2. Mutarotation should not be taught. Student should know why amylase will not hydrolyse cellulose.3. Need not know the details of alpha - helix and beta - pleats in proteins. Should know why haemoglobin is globular and keratin is fibrous.4. Need not know mechanism of oxidative phosphorylation. Should know more than 90 % of ATP is formed by this process.5. Need not know details of the conversion of pepsinogen to



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		<p>pepsin. Should know hydrochloric acid cannot break a peptide bond at room temperature.</p> <p>6. Need not remember the steps of glycogenesis. Should know that excess intake of carbohydrate will not increase glycogen level in liver or muscle.</p> <p>7. Need not know about urea or creatinine clearance tests. Should know the basis of increase of urea and creatinine in blood in renal insufficiency.</p>
4.	DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY	<p>1. The student is expected to appreciate the normal development, morphology, structure & functions of oral tissues & variations in different pathological/non-pathological states.</p> <p>2. The student should understand the histological basis of various dental treatment procedures and physiologic ageing process in the dental tissues.</p> <p>3. The students must know the basic knowledge of various research methodologies.</p> <p>4. Carving of crowns of permanent teeth in wax.</p> <p>5. Microscopic study of Oral tissues.</p> <p>6. Identification of Deciduous & Permanent teeth.</p> <p>7 Age estimation by patterns of teeth eruption from plaster casts of different age groups.</p>
5.	GENERAL PATHOLOGY	<p>At the end of the course the student should be competent to: Apply the scientific study of disease processes, which result in morphological and functional alterations in cells, tissues and organs to the study of pathology and the practice of dentistry.</p>
6.	MICROBIOLOGY	<p>At the end of the Microbiology course the student is expected to :</p> <p>1. Understand the basics of various branches of microbiology and able to apply the knowledge relevantly.</p> <p>2. 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.</p> <p>3. Understand and practice various methods of Sterilisation and disinfection in dental clinics.</p> <p>4. Have a sound understanding of various infectious diseases and lesions in the oral cavity.</p>
7.	GENERAL AND DENTAL PHARMACOLOGY AND THERAPEUTICS	<p>1 Describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs in general and in dentistry in particular.</p> <p>2. List the indications, contraindications; interactions, and adverse reactions of commonly used drugs with reason.</p> <p>3. Tailor the use of appropriate drugs in disease with consideration to its cost, efficacy, safety for individual and mass therapy needs.</p> <p>4. Indicate special care in prescribing common and essential drugs</p>





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		<p>in special medical situations such as pregnancy, lactation, old age, renal, hepatic damage and immuno compromised patients.</p> <p>5. Integrate the rational drug therapy in clinical pharmacology.</p> <p>6. Indicate the principles underlying the concepts of "Essential drugs".</p> <p>7. Prescribe drugs for common dental and medical ailments.</p> <p>8. To appreciate adverse reactions and drug interactions of commonly used drugs.</p> <p>9. Observe experiments designed for study of effects of drugs.</p> <p>10. Critically evaluate drug formulations and be able to interpret the clinical pharmacology of marketed preparations commonly used in dentistry.</p>
8.	DENTAL MATERIALS	<p>To understand the evolution and development of science of dental material. To explain purpose of course in dental materials to personnels concerned with the profession of the dentistry. Knowledge of physical and chemical properties. Knowledge of biomechanical requirements of particular restorative procedure. An intelligent compromise of the conflicting as well as co-ordinating factors into the desired Ernest. Laying down standards or specifications of various materials to guide to manufacturers as well as to help professionals. Search for newer and better materials which may answer our requirements with greater satisfaction. To understand and evaluate the claims made by manufactures of dental materials</p>
9.	PRE CLINICAL CONSERVATIVE DENTISTRY LABORATORY EXERCISES	<p>1. Identification and study of handcutting instruments chisels, gingival margin trimmers, excavators and hatchet.</p> <p>2. Identification and use of rotary cutting instruments in contra angle hand pieces burs (Micromotor)</p> <p>3. Preparation class I and extended class I and class II and MOD's and class V amounting to 10 exercises in plaster models.</p> <p>4. 10 exercises in mounted extracted teeth of following class I, 4 in number class I extended cavities 2, class II 4 in number and Class V 2 in number. Cavity preparation base application matrix and wedge placement restoration with amalgam.</p> <p>5. Exercises on phantom head models which includes cavity preparation base and varnish application matrix and wedge placement followed by amalgam restoration. Class I 5 Class I with extension 2 Class II 10 Class II Mods 2 Class V and III for glass ionomers 4 Class V for amalgam 2</p> <p>6. Polishing of above restorations.</p> <p>7. Demonstration of Class III and Class V cavity preparation. For composites on extracted tooth completing the restoration.</p> <p>8. Polishing and finishing of the restoration of composites.</p> <p>9. Identification and manipulation of varnish bases like Zinc Phosphate, Poly carboxylate, Glass Ionomers, Zinc Oxide, Eugenol cements.</p>



Prof. Dr. S...



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		<p>10. Identification and manipulation of various matrices, tooth separators and materials like composites and modified glassionomer cements.</p> <p>11. Cast Restoration 1. Preparation of Class II inlay cavity 2. Fabrication of wax pattern 3. Sprue for inner attachment investing 4. Investing of wax pattern 5. Finishing and cementing of class II inlay in extracted tooth.</p> <p>12. Endodontics 1. Identification of basic endodontic instruments 2. Coronal access cavity preparation on extracted. Upper central incisors 3. Determination of working length. 4. Biomechanical preparation of root canal space of central incisor 5. Obfuration of root canal spaces. Absens of coronal access cavity. 6. Closure of access cavity</p>
10.	Preclinical Orthodontic	Preclinical basic wire bending exercises enable the candidate to get accustomed with the orthodontic wire, learn the basic skills of wire bending, learn how to construct various components of removable appliances and to acrylise various removable appliances.
11.	Preclinical Prosthodontics and Crown & Bridg	<p>Laboratory steps related to complete denture</p> <p>Laboratory steps related to partial denture</p> <p>Maxillofacial Prosthesis</p> <p>Fixed Prosthodontic</p>
12.	ORAL PATHOLOGY & ORAL MICROBIOLOGY	<p>1. The different types of pathological processes, that involve the oral cavity.</p> <p>2. The manifestations of common diseases, their diagnosis & correlation with clinical pathological processes.</p> <p>3. An understanding of the oral manifestations of systemic diseases should help in correlating with the systemic physical signs & laboratory findings.</p> <p>4. The student should understand the underlying biological principles governing treatment of oral diseases.</p> <p>5. The principles of certain basic aspects of Forensic Odontology.</p>
13.	GENERAL MEDICINE	<p>1. Special precautions/ contraindication of anaesthesia and various dental procedures in different systemic diseases. 2. Oral manifestations of systemic diseases. 3. Medical emergencies in dental practice.</p> <p>2. Student is able to record the arterial pulse, blood pressure and be capable of suspecting by sight and superficial examination of the body – diseases of the heart, lungs, kidneys, blood etc. He should be capable of handling medical emergencies encountered in dental practice.</p>
14.	GENERAL SURGERY	To acquaint the student with various diseases, which may require surgical expertise and to train the student to analyze the history and be able to do a thorough physical examination of the patient. The diseases as related to head and neck region are to be given due importance, at the same time other relevant surgical problems



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		are also to be addressed. At the end of one year of study the student should have a good theoretical knowledge of various ailments, and be practically trained to differentiate benign and malignant diseases and be able to decide which patient requires further evaluation
15.	CONSERVATIVE DENTISTRY AND ENDODONTICS	<p>i. To diagnose and treat simple restorative work for teeth. ii. To gain knowledge about aesthetic restorative material and to translate the same to patients needs. iii. To gain the knowledge about endodontic treatment on the basis of scientific foundation. iv. To carry out simple endodontic treatment. v. To carry out simple luxation of tooth and its treatment and to provide emergency endodontic treatment.</p> <p>SKILLS: He should attain following skills necessary for practice of dentistry</p> <p>i) To use medium and high speed hand pieces to carry out restorative work. ii) Poses the skills to use and familiarise endodontic instruments and materials needed for carrying out simple endodontic treatment. iii) To achieve the skills to translate patients esthetic needs along with function</p>
16.	ORAL & MAXILLOFACIAL SURGERY	<p>1. Able to apply the knowledge gained in the related medical subjects like pathology, microbiology and general medicine in the management of patients with oral surgical problem. 2. Able to diagnose, manage and treat (understand the principles of treatment of) patients with oral surgical problems. 3. Knowledge of range of surgical treatments. 4. Ability to decide the requirement of a patient to have oral surgical specialist opinion or treatment. 5. Understand the principles of in-patient management. 6. Understanding of the management of major oral surgical procedures and principles involved in patient management. 7. Should know ethical issues and communication ability.</p>
17.	ORAL MEDICINE AND RADIOLOGY	<p>(1) To train the students to diagnose the common disorders of Orofacial region by clinical examination and with the help of such investigations as may be required and medical management of oro-facial disorders with drugs and physical agents. (2) To train the students about the importance, role, use and techniques of radiographs/digital radiograph and other imaging methods in diagnosis. (3) The principles of the clinical and radiographic aspects of Forensic Odontology. The syllabus in ORAL MEDICINE & RADIOLOGY is divided into two main parts. (I) Diagnosis, Diagnostic methods and Oral Medicine (II) Oral Radiology. Again the part ONE is subdivided into three</p>



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		<p>sections. (A) Diagnostic methods (B) Diagnosis and differential diagnosis (C) Oral Medicine & Therapeutics.</p> <p>(1) Emphasis should be laid on oral manifestations of systemic diseases and ill-effects of oral sepsis on general health.</p> <p>(2) To avoid confusion regarding which lesion and to what extent the student should learn and know, this elaborate syllabus is prepared. As certain lesions come under more than one group, there is repetition.</p>
18.	ORTHODONTICS & DENTAL ORTHOPAEDICS	<p>student should be able to diagnose different types of malocclusion, develop a treatment plan and manage simple malocclusions. The student should acquire skills to recognize Complex malocclusions and the same may be referred to a specialist.</p>
19.	PAEDIATRIC & PREVENTIVE DENTISTRY	<p>Be 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.</p> <p>Be able to guide and counsel the parents/guardian in regards to various treatment modalities including different facets of preventive dentistry.</p> <p>Be able to treat dental diseases occurring in child patient.</p> <p>Be able to manage the physically and mentally challenged / disabled children effectively and efficiently, tailored to the needs of individual requirement and conditions</p>
20.	PUBLIC HEALTH DENTISTRY	<p>Apply the principles of health promotion and disease prevention.</p> <p>Have knowledge of the organization and provision of health care in community and in the hospital service</p> <p>Have knowledge of the prevalence of common dental conditions in India</p> <p>Have knowledge of community based preventive measures</p> <p>Have knowledge of the social, cultural and environmental factors, which contribute to health or illness. Be able to administer hygiene instructions, topical fluoride therapy and fissure sealing.</p> <p>Be able to educate patients concerning the etiology and prevention of oral disease and encourage them to assure responsibility for their oral health.</p>
21.	PROSTHODONTICS AND CROWN & BRIDGE	<p>Be able to understand and use various dental materials.</p> <p>Be competent to carry out treatment of conventional Simple complete and partial removable dentures and anterior crowns.</p> <p>Be able to carry out Prosthodontic laboratory procedures.</p> <p>Be familiar with the concepts of osseointegration and the value of implantsupported Prosthodontic procedures.</p> <p>Be able to diagnose and appropriately refer patients requiring complex treatment procedures to the specialist</p>



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22.	PERIODONTOLOGY	<p>Be able to diagnose the patient's periodontal problem, plan and perform appropriate periodontal treatment.</p> <p>Be Competent to educate and motivate the patient.</p> <p>Be Competent to perform thorough oral prophylaxis, subgingival scaling, root planning and minor periodontal surgical procedures.</p> <p>Give proper post treatment instructions and do periodic recall and evaluation. Be Familiar with concepts of osseointegration and basic surgical aspects of implantology</p>
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