



**8.1.8: The Institution has introduced objective methods to measure and certify attainment of specific clinical competencies by BDS students/interns as stated in the undergraduate curriculum by the Dental Council of India**

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**MAHE INSTITUTE OF DENTAL SCIENCES & HOSPITAL**  
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Chalakkara, P.O. Pallor, Mahe-673 310  
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## **CERTIFICATE OF THE HEAD OF INSTITUTION**



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**Dr.ANIL MELATH, MDS.,**  
**PRINCIPAL**

**TO WHOMSOEVER IT MAY CONCERN**

**This is to certify that, our Institution has introduced objective methods to measure and certify attainment of specific clinical competencies by BDS students/interns as stated in the undergraduate curriculum by the Dental Council of India details are given :**

**PRINCIPAL**



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## **LIST OF COMPETENCIES**

**LIST OF COMPETENCIES AND MEASURES TAKEN TO ACHIEVE THEM**

<b>SUBJECT</b>	<b><u>COMPETENCIES</u></b>	<b>MEASURES TAKEN TO ACHIEVE THEM</b>
<b>HUMAN ANATOMY, EMBRIOLOGY, HISTOLOGY</b>	<p>1) TO LOCATE VARIOUS STRUCTURES OF THE BODY AND TO MARK THE TOPOGRAPHY OF THE LIVING ANATOMY</p> <p>2) TO IDENTIFY VARIOUS TISSUES UNDER MICROSCOPE</p> <p>3) TO IDENTIFY THE FEATURES IN RADIOGRAPHS AND MODERN IMAGING TECHNIQUES</p>	<p>1) LECTURES AND SMALL GROUP TEACHINGS</p> <p>2) DEMONSTRATIONS</p> <p>3) DISSECTION OF HUMAN CADAVER</p> <p>4) STUDY OF DISSECTED SPECIMENS</p> <p>5) STUDY OF FEATURES IN RADIOGRAPHS AND MODERN IMAGING TECHNIQUES</p>
<b>HUMAN PHYSIOLOGY</b>	<p>1) CONDUCT EXPERIMENTS DESIGNED FOR THE STUDY OF PHYSIOLOGICAL PHENOMENA.</p> <p>2) INTERPRETE EXPERIMENTAL AND INVESTIGATION DATA</p> <p>3) DISTINGUISH BETWEEN NORMAL AND ABNORMAL DATA DERIVED AS A RESULT OF TESTS WHICH HE /SHE HAS PERFORMED AND OBSERVED IN THE LABORATORY.</p>	<p>1) ENUMERATION OF RED BLOOD CELLS</p> <p>2) ENUMERATION OF WHITE BLOOD CELLS</p> <p>3) DIFFERENTIAL LEUCOCYTE COUNTS</p> <p>4) DETERMINATION OF HAEMOGLOBIN</p> <p>5) DETERMINATION OF BLOOD GROUP</p> <p>6) DETERMINATION OF BLEEDING TIME AND CLOTTING TIME</p> <p>7) EXAMINATION OF PULSE</p> <p>8) RECORDING OF BLOOD PRESSURE</p>

<p><b>BIOCHEMISTRY</b></p>	<p><b>MAKE USE OF CONVENTIONAL TECHNIQUES /INTRUMENTS TO PERFORM BIOCHEMICAL ANALYSIS RELEVANT TO CLINICAL SCREENING &amp;DIAGNOSIS ANALZE &amp;INTERPRET INVESTIGATION DATA</b></p>	<ol style="list-style-type: none"> <li>1)QUALITATIVE ANALYSIS OF CARBOHYDRATES</li> <li>2)COLOR REACTION OF PROTEINS AND AMINO ACIDS</li> <li>3)IDENTIFICATION OF NONPROTEIN NITROGEN SUBSTANCE</li> <li>4)NORMAL &amp;ABNORMAL CONSTITUENT OF URINE</li> <li>5)ANALYSIS OF SALIVA INCLUDING AMYLASE</li> <li>6)ANALYSIS OF MILK QUANTITATIVE ESTIMATIONS</li> <li>7)TITRABLE ACIDITY AND AMMONIA IN URINE</li> <li>8)FREE AND TOTAL ACIDITY IN GASTRIC JUICE</li> <li>9)BLOOD GLUCOSE ESTIMATION</li> <li>10)SERUM TOTAL PROTEIN ESTIMATION</li> <li>11)URINE CREATINE ESTIMATIONDEMONSTRATION</li> <li>12)PAPER ELETROPHORESIS CHARTS/CLINICAL DATA EVALUATION</li> <li>13)GLUCOSE TOLERANCE TEST PROFILES</li> <li>14)SERUM LIPID PROFILES</li> <li>15)PROFILES OF HYPOTHYROIDISM AND HYPERTHYROIDISM</li> <li>16) PROFILES OF HYPER AND HYPOPARATHYROIDISM.</li> </ol>
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		<p>17)PROFILES OF LIVER FUNCTION</p> <p>18)UREA,URIC ACID CREATINE PROFILE IN KIDNEY DISORDERS</p> <p>19)BLOOD GAS PROFILE IN ACIDOSIS/ALKALOSIS</p>
<p>DENTAL ANATOMY,EMBROLOGY AND ORAL HISTOLOGY</p>	<p>1)CARVING OF CROWN OF PERMANENT TEETH IN WAX</p> <p>2)MICROSCOPIC STUDY OF ORAL TISSUES</p> <p>3)IDENTIFICATION OF DECIDUOUS&amp;PERMANENT TEETH</p> <p>4) AGE ESTIMATION BY PATTERNS OF TEETH ERUPTION FROM PLASTER CASTS OF DIFFERENT AGE GROUPS.</p>	<p>DRAWING &amp;WAX CARVING OF VARIOUS PERMANENT TEETH. DETAILED MICROSCOPIC STUDY OF ENAMEL, DENTIN, CEMENTUM &amp; PULP TISSUE 7 OTHER ORAL RELATED STRUCTURES.</p> <p>PROCESSING OF HARD 7 SOFT TISSUES FOR MICROSCOPIC STUDY.</p>
<p>GENERAL PATHOLOGY</p>	<p>1)APPLY THE SCIENTIFIC STUDY OF DISEASE PROCESSES,WHICH RESULT IN MORPHOLOGICAL AND FUNCTIONAL ALTERATIONS IN CELL,TISSUES AND ORGANS TO THE STUDY OF PATHOLOGY THE PRACTICE OF DENTISRY</p>	<p>1) URINE-ABNORMAL CONSTITUENTS</p> <p>2)HAEMOGLOBIN(Hb) ESTIMATE ,TOTAL WBC COUNT,PACKED CELL VOLUME(PCV),ERYTHROCYTE SEDIMENTATION RATE(ESR), BLEEDING TIME &amp; CLOTTING TIME</p> <p>3) HISTOPATHOLOGY TISSUE PROCESSING STAINING</p> <p>4) HISTOPATHOLOGY SLIDES &amp; SPECIMENS OF VARIOUS SYSTEMIC PATHOLOGY</p>

<p><b>MICROBIOLOGY</b></p>	<p>1) STUDENT SHOULD HAVE ACQUIRED THE SKILL TO DIAGNOSE VARIOUS ORAL LESIONS.  2) SHOULD BE ABLE TO SELECT , COLLECT AND TRANSPORT CLINICAL SPECIMENS TO THE LABORATORY.  3)SHOULD BE ABLE TO CARRY OUT PROPER ASEPTIC PROCEDURES IN THE DENTAL CLINIC</p>	<p>1) MORPHOLOGY AND PHYSIOLOGY OF BACTERIA &amp; VIRUS.  2)DETAIL ACCOUNT OF STERILISATION AND DISINFECTION  3) BRIEF ACCOUNT OF CULTURE MEDIA AND CULTURE TECHNIQUES.  4)BASIC KNOWLEDGE OF SELECTION , COLLECTION,TRANSPORT,PROCESSING OF CLINICAL  5) SPECIMENS AND IDENTIFICATION OF BACTERIA.</p>
<p><b>GENERAL AND DENTAL PHARMACOLOGY AND THERAPEUTICS</b></p>	<p>1) PRESCRIBE DRUGS FOR COMMON DENTAL AND MEDICAL AILMENTS.  2) TO APPRECIATE ADVERSE REACTION AND DRUGS INTERACTION OF COMMONLY USED DRUGS.  3)OBSERVE EXPERIMENTS DESIGNED FOR STUDY OF EFFECTS OF DRUGS  4) CRITICALLY EVALUATE DRUG FORMULATION AND BE ABLE TO INTERPRET THE CLINICAL PHARMACOLOGY OF MARKETED PREPARATIONS COMMONLY USED IN DENTISTRY.  5)INTEGRATION: PRACTICAL KNOWLEDGE OF USE OF DRUGS IN CLINICAL PRACTISE WILL BE ACQUIRED THROUGH INTEGRATED TEACHING WITH CLINICAL DEPARTMENTS</p>	<p>PREPARATION OF VARIOUS DRUGS 7 MEDICINE FORMULATION PRESCRIPTION WRITING AND DISPENSING.  RATIONALE OF DRUG COMBINATIONS OF MARKETED DRUGS.</p>
<p><b>DENTAL MATERIALS</b></p>	<p>1)TO POSSESS ADEQUATE</p>	<p>MANIPULATION OF RESTORATIVE MATERIALS,IMPRESSION MATERIALS,</p>



	<p><b>KNOWLEDGE OF MATERIALS TO EXERCISE HIS BEST THROUGH KNOWLEDGE OF PROPERTIES OF DIFFERENT TYPES OF MATERIALS.</b></p> <p><b>3) POSSESS KNOWLEDGE ABOUT THE COMPOSITION , PROPERTIES ,MANIPULATIVE TECHNIQUES AND THEIR VARIOUS COMMERCIAL NAMES.</b></p> <p><b>4)THE STUDENT SHOULD ALSO ACQUIRE SKILLS TO SELECT AND USE THE MATERIALS APPROPRIATELY FOR LABORATORY AND CLINICAL USE</b></p>	<p><b>GYPSUM PRODUCTS ,SELF CURE &amp; HEAT CURE RESIN MATERIALS.</b></p>
<b>PRE CLINICAL CONSERVATIVE DENTISTRY</b>	<p><b>IDENTIFY VARIOUS HAND CUTTING &amp; ROTARY CUTTING INSTRUMENTS USED FOR CAVITY PREPARATION , TO PERFORM DIFFERENT CAVITY PREPARATION FOR VARIOUS TYPES OF RESTORATION TO BE ABLE TO RESTORE THE PREPARED CAVITY WITH PROPER RESTORATIVE MATERIAL &amp; POLISH IT.</b></p>	<p><b>CAVITY PREPARATION IN PLASTER MODEL.</b></p> <p><b>CAVITY PREPARATION IN TYPODONT MODEL IN PHANTOM HEAD</b></p> <p><b>PLACEMENT OF BAND &amp; MATRIX RESTORATION OF PREPARED CAVITY WITH BASE &amp; RESTORATIVE MATERIAL</b></p> <p><b>POLISHING OF RESTORED MATERIAL.</b></p>
<b>ORAL PATHOLOGY AND MICROBIOLOGY</b>	<p><b>1 ) MICROSCOPIC STUDY OF COMMON LESIONS AFFECTING ORAL TISSUES THROUGH MICROSCOPIC SLIDES &amp; PROJECTION SLIDES.</b></p> <p><b>2) STUDY OF THE DISEASE PROCESS BY SURGICAL SPECIMENS.</b></p>	<p><b>IDENTIFICATION OF HISTOLOGY SLIDES &amp; SPECIMENS RELATED TO ORAL STRUCTURES &amp; RELATED PATHOLOGIES.</b></p>
	<p>3. Study of teeth anomalies/polymorphisms through tooth specimens and plaster casts.</p> <p>4. Microscopic study of plaque</p>	

	<p>pathogens.</p> <p>5. Study of haematological preparation (blood films) of anaemias and leukemias.</p> <p>6. Basic exercises in Forensic Odontology such as histological methods of age estimation and appearance of teeth in injuries.</p>	
GENERAL MEDICINE	<p>The study must be able to take history, do general physical examination (including build, nourishment, pulse, BP, respiration, clubbing, cyanosis, jaundice, lymphadenopathy, oral cavity) and be able to examine CVS, RS and abdomen and facial nerve.</p>	<p><b>OSCE</b></p> <p>1. Case history and clinical examination of patients with systemic disease.</p> <p>2. Measurements of vitals.</p> <p>3. Record of sign and symptoms related to systemic disease, clinical diagnosis, able to provide differential diagnosis and final diagnosis of systemic disease.</p>
GENERAL SURGERY	<p>1. To acquaint the knowledge 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.</p> <p>2. To understand disease as related to head and neck region and relevant surgical problems are also to be addressed.</p>	<p><b>OSCE</b></p> <p>Case history and clinical examination of various swellings, ulcers, tumors .</p>

	<p>3. To acquire good theoretical knowledge of various ailments,</p>	
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	<p>and be practically trained to differentiate benign and malignant diseases.</p> <p>4. To be able to decide which patient requires further evaluation.</p> <p>5. To examine a routine swelling, ulcer and other related diseases and to perform minor surgical procedures such as draining an abscess, taking a biopsy etc.</p>	
<p>ORAL MEDICINE AND RADIOLOGY</p>	<ol style="list-style-type: none"> <li>1. Able to identify precancerous and cancerous lesions of the oral cavity and refers to the concerned speciality for their management.</li> <li>2. Should have an adequate knowledge about common laboratory investigations and interpretation of their results.</li> <li>3. Should have adequate knowledge about medical complications that can arise while treating.</li> <li>4. Systemically compromised patients and take prior precautions\ consent from the concerned medical specialist.</li> <li>5. Have adequate knowledge about radiation hazards, radiations safety and protection.</li> <li>6. Competent to take intra-oral radiographs and interpret the radiographic findings.</li> </ol>	<ol style="list-style-type: none"> <li>1. Case history and clinical examination.</li> <li>2. Identify, assess and give differential diagnosis and final diagnosis of oral lesions.</li> <li>3. Capture, develop and interpret radiographs.</li> </ol>

<p><b>ORTHODONTICS AND DENTOFACIAL ORTHOPAEDICS</b></p>	<ol style="list-style-type: none"> <li>1. Understand about normal growth and development of facial skeleton and dentition.</li> <li>2. Pinpoint oberrations in growth process both dental and skeletal and plan necessary treatment.</li> <li>3. Diagnose the various malocclusion categories.</li> <li>4. Able to motivate and explain to the patient (and parents) about the necessity of treatment.</li> <li>5. Plan and execute preventive orthodontics (space maintainces or space regaines ).</li> <li>6. Manage treatment of simple malocclusion such as anterior spacing using removable appliances.</li> <li>7. Handle delivery and activation of removable orthodontic appliances.</li> <li>8. Diagnose and appropriately refer patients with complex malocclusion to the specialist.</li> </ol>	<ol style="list-style-type: none"> <li>1. Making alginate impression.</li> <li>2. Study model preparation and model analysis.</li> <li>3. Fabricating wire components and acrylic components for removable appliances.</li> <li>4. Case history taking, case discussion and treatment planning.</li> <li>5. Cephalometric tracings.</li> </ol>
<p><b>PERIODONTOLOGY</b></p>	<ol style="list-style-type: none"> <li>1. Diagnose the patients periodontal problem, plan and perform appropriate periodontal treatment.</li> <li>2. Competent to educate and motivate the patient.</li> </ol>	<ol style="list-style-type: none"> <li>1. Case history taking, case discussion and treatment planning of periodontal diseases.</li> <li>2. Oral prophylaxis through hand scaling, ultrasonic scaling and Oral hygiene instructions.</li> </ol>

	<p>3. Competent to perform through oral prophylaxis, subgingival scaling, root planning and minor periodontal surgical procedures.</p> <p>4. Give proper post treatment instructions and do periodic recall and evaluation familiar concepts of osseointegration and basic surgical aspects of implantology.</p>	
<b>PROSTHODONTICS AND CROWNS AND BRIDGE</b>	<p>1. Able to understand and use various dental materials.</p> <p>2. Competent to carry out treatment of conventional complete and partial removable dentures.</p> <p>3. Able to carry out treatment of routine prosthodontic procedures.</p> <p>4. Familiar with the concept of osseointegration and the value of implant- supported prosthodontic procedures.</p>	<p>1. Making alginate impression and model preparation.</p> <p>2. Fabrication of removable partial dentures.</p> <p>3. making primary and secondary impression for complete denture fabrications, base plate, occlusion rim, teeth setting, acrylisation, finishing and polishing of dentures.</p> <p>4. Tooth preparation for fixed partial dentures.</p>
<b>CONSERVATIVES DENTISTRY AND ENDODONTICS</b>	<p>1. To use medium and high speed hand pieces to carry out restorative work.</p> <p>2. Poses the skills to use and familiarise endodontic instruments and materials needed for carrying out simple endodontic procedures.</p> <p>3. To achieve the skills to translate patients esthetics needs along with function.</p>	<p>1. Various types of cavity preparations for amalgam, composite, GIC and inlay restorations.</p> <p>2. Endodontic treatment of teeth.</p> <p>3. Deep caries management.</p> <p>4. Acrylic jacket crown.</p>

<p><b>ORAL AND MAXILLOFACIAL SURGERY</b></p>	<ol style="list-style-type: none"> <li>1. Able to apply the knowledge gained in the basic medical and clinical subjects in the management of patients with surgical problems.</li> <li>2. Able to diagnose, manage and treat patients with basic oral surgical problems.</li> <li>3. Have a broad knowledge of maxillofacial surgery and oral implantology.</li> <li>4. Should be familiar with legal, ethical and more issues pertaining to the patient care and communication skills.</li> <li>5. Should have acquired the skills to examine any patient with oral surgical problem in an orderly manner.</li> <li>6. Understand and practice the basic principles of asepsis and sterilization.</li> <li>7. Should be competent in the extraction of teeth in the extraction of teeth under both local and general anaesthesia.</li> <li>8. Competent to carry out certain minor oral surgeries procedures under LA like transalveolar.</li> <li>9. Extraction, frenectomy, dento-alveolar procedures, simple impaction, biopsy, etc.</li> <li>10. Competent to assess , prevent and manage common complications that arise during and after minor surgery.</li> </ol>	<ol style="list-style-type: none"> <li>1. Case history recording and clinical examination of patient.</li> <li>2. Performing minor surgical procedures and dental extraction under local anesthesia.</li> <li>3. Assisting trans alveolar extraction and major surgical procedures.</li> </ol>
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	<p>11. Able to provide primary care and manage medical emergencies in the dental office familiar with the management of major oral surgical problems and principles involved in the inpatient management.</p>	
PUBLIC HEALTH DENTISTRY	<p>1. Apply the principles of health promotion and disease prevention.</p> <p>2. Have knowledge of the organization and provision of health care in community and in the hospital service.</p> <p>3. Have knowledge of the prevalence of common dental conditions in India.</p> <p>4. Have knowledge of community based preventive measures.</p> <p>5. Have knowledge of the social, cultural, and env. Factors which contribute to health or illness.</p> <p>6. Administer and hygiene instructions, topical fluoride therapy and fissure sealing.</p> <p>7. Educate patients concerning the aetiology and prevention of oral disease and encourage them to assure responsibility for their oral health.</p>	<p>1. Case history taking, case discussions and planning comprehensive treatment plan for patients.</p> <p>2. Recording indices.</p> <p>3. Preventive dental procedures.</p> <p>4. Outreach activities and field activities.</p> <p>5. Oral health survey.</p> <p>6. Dental health survey.</p> <p>7. Dental health education.</p>

	<p>8. Gain adequate knowledge of various extra-oral radiographic procedures, TMJ radiography and sialography.</p> <p>9. Be aware of the importance of intra- and extra- oral radiographics in forensic identification and age estimation.</p> <p>10. Should be familiar with jurisprudence, ethics and understand the significance of dental records with respect to law.</p>	
<p><b>PAEDIATRIC AND PREVENTIVE DENTISTRY</b></p>	<p>1. Able to instill a positive attitude and behaviour in children towards oral health and understand the principles of preventive and preventive dentistry right from birth to adolescence.</p> <p>2. Able to guide and counsel the parents in regards to various treatment modalities including different facets of preventive dentistry.</p> <p>3. Able to treat dental diseases occurring in child patient.</p> <p>4. Able to manage the physically and mentally challenged disabled children effectively and</p>	



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