



### 8.1.8 Specific Competencies and Measures taken by the Institution to attain the same

Subject	Specific competencies	Steps taken to attain specific competencies
<b>Dental Materials</b>	1.A graduate should be able to demonstrate the following skills necessary for practice of dentistry. 2.To develop skills in the management of various materials in dentistry. 3.Students should know about the physical and chemical properties of the dental materials	1.Manipulation of Gypsum 2.Self-cure and heat cure acrylic resin 3.Manipulation and curing Cements 4.Manipulation and studying setting time Silver Amalgam - manipulation, trituration
<b>Preclinical conservative &amp; Conservative Dentistry and Endodontics</b>	1.The students should be able to demonstrate the following skills which are necessary for practice in conservative dentistry 2.To develop skills in manipulation of various materials used in conservative dentistry. 3.To develop skills in preparation of various cavities and to perform various restorative procedures. 4.Competent to diagnose all carious lesions Competent to perform Class I and Class II cavities and their restoration with amalgam Restore class V and Class III cavities with glass ionomer cement 5.Able to diagnose and appropriately treat pulpally involved teeth (pulp capping procedures) 6.Able to perform RCT for anterior teeth Competent to carry out small composite restorations Understand the principles of aesthetic dental procedures	1.Cavity preparation Restoration of tooth Base and Matrix Restoration and Finishing. 2. Class I Amalgam Restoration Class II Amalgam Restoration Class III & V – Composite and GIC Restoration Class IV – Composite Deep Caries Management Endodontic Cases Acrylic Jacket Crowns
<b>General human anatomy including embryology and histology</b>	1.Students should be able to demonstrate and appreciate the structures of head & neck. 2. Students should understand the embryology and histology of the different structures of head and neck region. 3.The students should know the applied aspects of structures of head and neck.	1.Neatness of diagram labelling and basic knowledge of histology slides 2.Dissection of human cadavers 3.Study of dissected specimen
<b>General Physiology and biochemistry</b>	1. List the functions of various organ systems of human body and the physiological function. 2. Explain pathophysiology of common diseases like hypertension, diabetes and endocrinal disorders and physiological basis of treatment of various diseases.	1.Estimation of Red Blood Cell count 2.Estimation of White Blood Cell count 3.Differential leucocyte counts.



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	<p>3. To understand the biochemical changes at molecular level in health and disease and their clinical consequences.</p> <p>4. Knowledge of different types of vitamins and their deficiency manifestations and biochemical basis of diseases.</p> <p>5. Understand in detail about digestion, absorption and metabolism of carbohydrates, lipids and proteins.</p>	<p>4. Recording of blood pressure.</p> <p>5. Determination of Haemoglobin.</p> <p>6. Determination of blood group.</p> <p>7. Determination of, bleeding time and clotting time.</p> <p>8. Recording Blood Pressure by Palpatory Method</p> <p>9. Examining Radial Pulse</p> <p>10. Qualitative analysis of carbohydrates-</p> <p>11. Identification of reducing &amp; non reducing sugar</p> <p>12. Colour reactions of proteins and amino acids</p> <p>13. Normal constituents of urine-Demonstration-</p> <p>14. organic constituents &amp; inorganic constituents</p> <p>15. Abnormal constituents of urine</p> <p>16. Analysis of saliva including amylase by qualitative methods</p> <p>17. Blood glucose estimation - GOD/POD method</p> <p>18. Serum total protein estimation - Biuret method</p> <p>19. Urine creatinine estimation demonstration</p>
<b>Dental Anatomy and oral histology</b>	<p>1. To describe morphological features of primary and permanent teeth, its chronology, sequence of eruption, occlusion, function of each tooth and its abnormalities.</p> <p>2. To understand development of orofacial structures and teeth in particular and its applied aspects.</p> <p>3. To know various properties of dental tissues, their microscopic features, physiology, age changes and applied aspects.</p> <p>4. To appreciate macroscopic features, various functions of orofacial tissues and variations in dental anatomy.</p> <p>5. To understand basic concepts regarding lab techniques of hard and soft tissue specimen.</p>	<p>1. Drawing and wax carving of permanent tooth.</p> <p>2. Microscopic study of tooth germ, enamel, dentin, pulp, cementum, periodontal ligament, alveolar bone, salivary glands and oral mucosa including papillae and taste buds</p>
<b>General Pathology and Microbiology</b>	<p>1. To acquire knowledge of medical ailments of their clinical consequence and appreciate the interaction of body response to different types of medical manifestations.</p>	<p>1. Urine - Tests for Abnormal constituents Sugar, albumin, ketone bodies, Blood, bile salts, bile pigments.</p>

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	<p>2. To familiarize with the pathologies that effect human body.</p> <p>3. Acquire the knowledge of immune reactions and different types of hypersensitivity reactions.</p> <p>4. To know the different types of Bacteria, viruses, fungi and parasites, infections caused by them and their laboratory diagnosis.</p> <p>5. To acquire the knowledge of sterilization techniques and vaccinations in dental practice.</p>	<p>2Haemoglobin (Hb) estimation</p> <p>3.Total WBC count from the peripheral smear</p> <p>4.Differential WBC Count and commenting on the peripheral smear</p> <p>5. Blood grouping</p> <p>Microscopy-Different types, parts, maintenance and usage</p> <p>6.Gram staining</p> <p>7. ZiehlNeilsen's staining</p> <p>8.Hand washing Technique</p> <p>9.Bio medical waste segregation</p>
<b>General and Dental Pharmacology</b>	<p>1.Explain pharmacological basis of prescribing medication in compromised medical situations such as pregnancy, lactation, infancy and old age.</p> <p>2.Describe the pharmacokinetics and pharmacodynamics of essentials and commonly used drugs in general and dental pharmacology.</p> <p>3.Acquire practical knowledge of rational use of medications in clinical practice</p>	<p>1.Preparation of Tooth Paste</p> <p>2.Preparation of Tooth Powder</p> <p>3.Writing Prescription both medical &amp; dental problems</p> <p>4.Preparation calamine lotion</p> <p>5.Preparation of mouth wash, gumpaint.</p>
<b>General Medicine</b>	<p>1.The students should be able to examine and understand the general and clinical methods of body examination.</p> <p>2.The student should be familiar with the respective ailments of different body system and recognizing the ailment and effective treatment plan for the same.</p>	<p>1.System wise case presentation</p> <p>2.Local examination, inspection, palpation, percussion and auscultation of specific lesion.</p> <p>3.Demonstration of clinical signs</p> <p>4.Small group discussion of clinical manifestations, diagnosis, differential diagnosis, investigations and treatment.</p>
<b>General Surgery</b>	<p>1.The student should be Knowledgeable about the various investigations &amp; differential diagnosis before final treatment plan.</p> <p>2.The student should have acquired knowledge how to identify &amp; consider the pathological aspects of any case and have sound critical reasoning for management &amp; determining the prognosis.</p>	<p>1. Recording Detail Case history, diagnosis, investigation and Treatment Planning</p>

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<b>Oral Pathology and Microbiology</b>	<ol style="list-style-type: none"><li>1. Describe the pathological processes that involve the oral cavity with their clinical manifestations and differential diagnosis.</li><li>2. Discuss teeth abnormalities with the help of specimens and plaster casts.</li><li>3. Discuss the oral manifestations of systemic diseases co-relating with physical signs and lab findings.</li><li>4. Histopathological evaluation of diseases affecting oral and maxillofacial region</li><li>5. Describe the various methods used in forensic odontology.</li></ol>	<ol style="list-style-type: none"><li>1. Identification of Histopathological slides.</li><li>2. Identification of tooth specimens and casts.</li><li>3. Wet tissue specimen of Oral pathologies</li></ol>
<b>Oral Medicine and Radiology</b>	<ol style="list-style-type: none"><li>1. Have adequate knowledge about Significance of history recording, Develop Skills in Extra oral and intraoral examination, TMJ, lymph nodes, muscle of mastication, Salivary gland examination, Build Provisional diagnosis, Investigations, Final diagnosis, Prognosis, Formulate Treatment plan</li><li>2. Able to identify precancerous and cancerous lesions of the oral cavity and refer to the concerned specialty for their management</li><li>3. Should have an adequate knowledge about common laboratory investigations and interpretation of their results.</li><li>4. Should have adequate knowledge about medical complications that can arise while treating</li><li>5. Have adequate knowledge about radiation health hazards, radiations safety and protection.</li><li>6. Competent to take intra-oral radiographs and interpret the radiographic findings</li><li>7. Gain adequate knowledge of various extra-oral radiographic procedures, TMJ radiography and sialography.</li><li>8. Be aware of the importance of intra- and extra-oral radiographs in forensic identification and age estimation</li></ol>	<ol style="list-style-type: none"><li>1. Recording of Case History</li><li>2. Evaluation of Radiographic Technique</li><li>3. Interpretation of Radiographs</li></ol>
<b>Orthodontics and Dentofacial Orthopedics</b>	<ol style="list-style-type: none"><li>1. To develop complete understanding about normal growth and development of facial skeleton and dentition.</li></ol>	<ol style="list-style-type: none"><li>1. To fabricate &amp; manage the most appropriate appliance- intra or extra oral, removable.</li></ol>





	<p>2. Monitoring the growth process both dental and skeletal and plan necessary treatment.</p> <p>3. To take complete case history methodical examination of the patient, perform essential diagnostic procedures and interpret and achieve a reasonable diagnosis about the Dentofacial deformities.</p> <p>4. Develop adequate communication skills particularly with the patients motivating and giving them various treatment options to manage different malocclusion.</p> <p>5. Plan and execute preventive orthodontics (space maintainers or space and interceptive orthodontics (habit breaking appliances)</p> <p>6. Manage treatment of simple malocclusion such as anterior spacing using removable appliances</p> <p>7. Practice to make, deliver and activate removable orthodontic appliances.</p> <p>8. Develop the availability to diagnose complex malocclusion and appropriately refer patients to the specialist.</p>	<p>2. Impression taking &amp; study model preparation.</p> <p>3. Tracing of &amp; analysis of cephalometric exercises.</p> <p>4. Case history Recording</p> <p>5. Clinical work – fabrication of Orthodontic appliances.</p>
<b>Oral and Maxillofacial Surgery</b>	<p>1. Acquire knowledge and understanding of etiology, patho-physiology, diagnosis and treatment planning of various oral and maxillofacial surgical problems.</p> <p>2. Understand the general surgical principles, including pain management.</p> <p>3. Acquire knowledge of infection control, prevention of cross infection and hospital waste management.</p> <p>4. Learn to examine a patient and record blood pressure, use of different instruments and different injection techniques.</p> <p>5. Learn extraction of mobile and firm teeth; as well as trans-alveolar extraction of root stumps and surgical removal of simple impacted teeth, management of dento-alveolar fractures with arch bar fixation, eyelets and inter-maxillary fixations.</p>	<p>1. Recording of Case History</p> <p>2. Dental Extraction under Local anesthesia</p> <p>3. Assisting of Oral Surgery procedure</p>
<b>Periodontology</b>	<p>1. Diagnose the patients periodontal problem, plan and perform appropriate periodontal treatment.</p> <p>2. Competent to educate and motivate the patient.</p>	<p>1. Case history Recording</p> <p>2. Scaling</p> <p>3. Assisting Surgical Procedures</p>



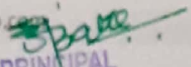
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	<p>3.Competent to perform thorough oral prophylaxis, subgingival scaling, root planning and minor periodontal surgical procedures.</p> <p>4.Give proper post treatment instructions and do periodic recall and evaluation.</p> <p>5.Familiar with concepts of osseointegration and basic surgical aspects of Implantology</p>	<p>4.Performing minor Periodontal surgical procedures</p>
<b>Prosthodontics, Crown &amp; Bridge and implantology</b>	<p>1.Able to understand and use various dental materials</p> <p>2.Competent to competently carry out treatment of conventional complete and partial removable dentures and fabricate fixed partial dentures</p> <p>3.Able to competently carry out treatment of routine prosthodontic procedures.</p> <p>4.Familiar with the basic concept of implant procedures, components, osseointegration and the value of implant-supported Prosthodontic Procedures</p>	<p>1.Theoretical and practical demonstrations conducted during pre-clinical and clinical postings for</p> <p>2.Complete denture</p> <p>3.Removable partial Denture</p> <p>4.Fixed Partial Denture</p> <p>5.Understanding TMJ occlusion</p> <p>6.Implantology</p> <p>7.Maxillofacial prosthodontics</p>
<b>Paediatric and Preventive Dentistry</b>	<p>1.Student is able to arrive at proper diagnosis following the scientific and systematic procedure.</p> <p>2.Adequate knowledge of the development structure and functions of the primary and permanent teeth.</p> <p>3.Student is able to instill positive attitude in child patients towards dentistry, guide and counsel parents regarding preventive measures and various treatment techniques.</p> <p>5.Student is able to explain the principles of prevention and preventive dentistry right from birth to adolescence.</p> <p>6.Student is able to treat dental diseases. Student has adequate knowledge regarding management of specially abled children.</p>	<p>1.Case history recording</p> <p>2.Teeth identification</p> <p>3.Various behavior management technique</p> <p>4.Anticipatory guidance, brushing technique, pit and fissure sealant, topical fluoride application</p> <p>5.Restoration</p> <p>6.Extraction</p> <p>7.Scaling</p>
<b>Public Health Dentistry</b>	<p>1.Diagnosis of disease</p> <p>2. Measure the dental disease</p> <p>3.prevention of disease</p> <p>4.promotion of the health</p> <p>5.Social responsibility</p>	<p>1.Case history with Comprehensive treatment plan</p> <p>2.Recording dental indices</p> <p>3.Topical fluoride application, pit and fissure sealant</p> <p>4Field visit (water purification/sewage treatment plant/Primary health Care)</p>

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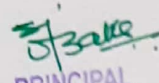


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		5. Dental camps, oral hygiene instruction, Diet counselling Cancer awareness camp, specially abled school camp, rallies, street play, National and International commemoration days .
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