

Specific Competencies and Measures taken by Institution to attain the same (2023-24)

S.No	Subject	Specific Competencies	Steps Taken to Attain the Specific Competencies
1	Anatomy	<ul style="list-style-type: none">To locate various structures of the body and to mark the topography of the living anatomyTo identify various tissues under a microscopeTo identify the features in radiography and modern imaging techniques.To detect various congenital abnormalities.	<ul style="list-style-type: none">DemonstrationsDissection of human cadaversStudy of dissected specimens
2	Physiology	<ul style="list-style-type: none">Conduct experiments designed for the study of physiological phenomena.Interpret experimental and investigative dataDistinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory.	<ul style="list-style-type: none">Enumeration of Red Blood Cells.Enumeration of White Blood Cells.Differential leucocyte counts.Recording of blood pressure, radial pulseDetermination of Hemoglobin, blood group, bleeding/clotting time.Recording Blood Pressure by Palpatory Method


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3	Biochemistry	<ul style="list-style-type: none">• Make use of conventional techniques/instruments to perform biochemical analysis relevant to clinical screening and diagnosis;• Analyze and interpret investigative data;	<ul style="list-style-type: none">• Qualitative analysis of carbohydrates• Identification of reducing & non reducing sugar• Color reactions of proteins and amino acids Principal• Normal constituents of urine-Demonstration-organic constituents• inorganic constituents• Abnormal constituents of urine• Analysis of saliva including amylase by qualitative methods• Blood glucose estimation – GOD/POD method• Serum total protein estimation - Biuret method• Urine creatinine estimation Demonstration
4	Dental Anatomy, Embryology and Oral Histology	<ul style="list-style-type: none">• Able to carve and reproduce the morphology of human permanent teeth in wax blocks• Able to identify different oral hard tissues in clinical situations	<ul style="list-style-type: none">• Drawing and wax carving of permanent tooth except the maxillary second, mandibular first, maxillary

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		<ul style="list-style-type: none">• Able to differentiate normal from abnormal and diseased states.• Able to identify various types of human teeth based on their morphology.• Able to appreciate the influence of age and gender on oral and para-oral structures. To locate different areas/surfaces of the teeth• Able to understand the implications of the disease process and ageing on normal oral structures• Able to appreciate the eruption and shedding pattern of human teeth• Able to appreciate and integrate the concept of occlusion, range of human jaw movements in preclinical and clinical situations• Able to use effectively the terminologies and anatomical terms for clinical and patient communications	<p>second and third molars.</p> <ul style="list-style-type: none">• Microscopic study of tooth germ, enamel, dentin, pulp, cementum, periodontal ligament, alveolar bone, salivary glands and oral mucosa including papillae and taste buds
5	General Pathology	<ul style="list-style-type: none">• A dental graduate should be able to identify the abnormal diseases like tumor, non tumours and also to arrive what are the investigations needed for the diagnosis of the diseases.• Carry out certain investigations and ability to interpret lab findings	<ul style="list-style-type: none">• Urine – Tests for Abnormal constituents Sugar, albumin, ketone bodies, Blood, bile salts, bile pigments. <p>OSPE:</p> <ul style="list-style-type: none">• Haemoglobin (Hb) estimation• Total WBC count from the peripheral smear• Differential WBC Count and commenting on the peripheral smear• Blood grouping

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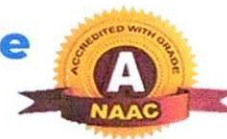
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6	Microbiology	<ul style="list-style-type: none">• Student should have acquired the skill to diagnose, differentiate various oral lesions.• Should be able to select, collect and transport clinical specimens to the laboratory.• Should be able to carry out proper aseptic procedures in the dental clinic.• Interpretation of antimicrobial susceptibility tests and to make right choice of antibiotic based on a spectrum of infection and ensure appropriate use to avoid antibiotic resistance	<ul style="list-style-type: none">• Microscopy-Different types, parts, maintenance and usage <p>OSPE:</p> <ul style="list-style-type: none">• Gram staining• Ziehl Neilsen's staining• Hand washing Technique• Bio medical waste segregation
7	General Pharmacology	<ul style="list-style-type: none">• Prescribe drugs for common medical and dental ailments.• Appreciate adverse reactions and drug interactions of commonly used drugs• Observe experiments designed for study of effects of drugs.• Critically evaluate drug formulations and be able to interpret the clinical pharmacology of marketed preparations commonly used in dentistry.--	<p>OSPE:</p> <ul style="list-style-type: none">• Preparation of Tooth Paste• Preparation of Tooth Powder• Writing of Prescription
8	Dental Materials	<ul style="list-style-type: none">• A graduate should be able to demonstrate the following skills necessary for practice of dentistry. To develop skills in the management of various materials in dentistry. Students should know about the physical and chemical properties of the dental materials	<ul style="list-style-type: none">• Manipulation of Gypsum• Self-cure and heat cure acrylic resin manipulation and curing• Cements - manipulation and studying setting time• Silver Amalgam - manipulation, trituration

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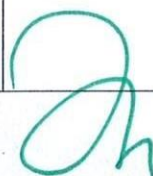
9	Pre-clinical Conservative Dentistry	<ul style="list-style-type: none">The students should be able to demonstrate the following skills which are necessary for practice in conservative dentistry. To develop skills in manipulation of various materials used in conservative dentistry. To develop skills in preparation of various cavities and to perform various restorative procedures.	<ul style="list-style-type: none">Cavity PreparationRestoration of toothBase and MatrixRestoration and Finishing
10	Pre-clinical Prosthodontics & Crown & Bridge	<ul style="list-style-type: none">Diagnose and manage various common dental problems encountered in general dental practice keeping in mind the expectations and the right of the society to receive the best possible treatment available wherever possible.Prevent and manage complications if encountered while carrying out various surgical and other procedures.Carry out certain investigative procedures and ability to interpret laboratory findings.Promote oral health and help prevent oral disease where possible.Control pain and anxiety among the patients during dental treatment.	<ul style="list-style-type: none">Preparation of special traysPreparation of temporary and permanent denture basesPreparation of occlusion rimsOrientation of occlusion rims on articulatorArrangement of teethProcessing of complete dentures
11	General Medicine	<ul style="list-style-type: none">Record case history from the patientDo a complete general physical examination include build and nourishmentAssess the vitals-recording the details of Pulse, recording the BP, temperature, checking capillary blood glucose and oxygen saturationLook for cyanosis, clubbing, pallor, icterus, pedal edema, lymphadenopathy, rashes, ecchymosis. <p>Able to examine the CVS, RS, Abdomen and Facial Nerve</p>	<ul style="list-style-type: none">System wise case presentationDemonstration of clinical signsSmall group discussion of clinical manifestations, diagnosis, differential diagnosis, investigations and treatment

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		<ul style="list-style-type: none">• Interpret the elicited signs and symptoms of various systemic disease processes• Interpreting lab reports such as importance of CBC, RFT, ECG, BT, CT, PT, INR etc• To be trained in simple procedures such as giving intramuscular, intravenous Injection as well as starting an IV line• To be trained in basic life support and writing prescriptions	
12	General Surgery	<ul style="list-style-type: none">• Know the interpretation of Radiological films of Head and Neck• Know the Operative procedures, Post operative complications and Post operative management• To differentiate between Benign and Malignant diseases of Head & Neck• Know to perform minor surgical procedures such as Draining an Abscess and taking a Biopsy	OSCE: <ul style="list-style-type: none">• Patient Care – Diagnosis• Patient Care - Treatment Planning
13	Oral Pathology and Oral Microbiology	<ul style="list-style-type: none">• Microscopic study of common lesions affecting oral tissues through microscopic slides & projection slides.• Study of the disease process by surgical specimens.• Study of teeth anomalies/polymorphisms through tooth specimens & plaster casts.• Microscopic study of plaque pathogens.• Study of haematological preparations (blood films) of anaemias & leukemias.• Basic exercises in Forensic Odontology	<ul style="list-style-type: none">• Identification of Histopathological slides and spotters of Oral diseases OSCE <ul style="list-style-type: none">• Identification of tooth anomalies• Knowledge of steps in staining• Identification of oral tissues in slides

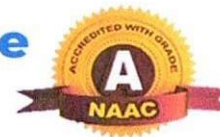

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14	Oral Medicine and Radiology	<ul style="list-style-type: none">• Able to identify precancerous and cancerous lesions of the oral cavity and refer to the concerned• Should have an adequate knowledge about common laboratory investigations and interpretation of their results.• Should have adequate knowledge about medical complications that can arise while treating• systemically compromised patients and take prior precautions/ consent from the concerned• 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, TMJ radiography and sialography.• Awareness 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	<ul style="list-style-type: none">• Recording of Case History• Interpretation of Radiographs <p style="text-align: right;">Principal</p> <p>OSCE</p> <ul style="list-style-type: none">• Knowledge of different red and white lesions• Knowledge of different types of radiographs• Interpretation of radiographs
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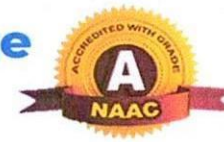
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15	Conservative Dentistry and Endodontics	<ul style="list-style-type: none">• Competent to diagnose all carious lesions• Competent to perform Class I and Class II cavities and their restoration with amalgam• Restore class V and Class III cavities with glass ionomer cement• 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	<ul style="list-style-type: none">• Class I & II Amalgam Restoration• Class III & V – Composite and GIC Restoration• Class IV – Composite• Deep Caries Management• Endodontic Cases <p>OSCE</p> <ul style="list-style-type: none">• Identification of Pin amalgam• Knowledge of type of composites• Identification of different cavity cutting dental burs
16	Oral and maxillofacial surgery	<ul style="list-style-type: none">• 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 about the patient care and communication skills• Should have acquired the skill to examine any patient with an oral surgical problem in an orderly manner	<ul style="list-style-type: none">• Recording of Case History• Dental Extraction under Local anesthesia• Assisting of Oral Surgery procedures <p>OSCE</p> <ul style="list-style-type: none">• Identification of correct instruments• Knowledge of correct technique of Local anesthesia• Knowledge of route of administration of emergency drugs

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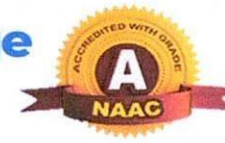
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		<ul style="list-style-type: none">• Understand and practice the basic principles of asepsis and sterilization• Should be competent in the extraction of the teeth under both local and general anaesthesia• Competent to carry out certain minor oral surgical procedure under LA like trans-alveolar extraction, frenectomy, dento-alveolar procedures, simple impaction, biopsy, etc.• Competent to 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 principles involved in the inpatient management	
17	Orthodontics and Dentofacial Orthopaedics	<ul style="list-style-type: none">• Understand about normal growth and development of facial skeleton and dentition.• 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 regainer)	<ul style="list-style-type: none">• Wire bending Exercises• Study model• Cephalometric exercises• Case sheet Recording• Clinical work – Orthodontic appliances <p>OSCE</p> <ul style="list-style-type: none">• Identification of appliances• Identification of various malocclusion

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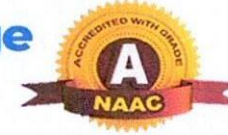
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		<ul style="list-style-type: none">• Plan and execute interceptive orthodontics (habit breaking appliances)• Manage treatment of simple malocclusion such as anterior spacing using removable appliances• Handle delivery and activation of removable orthodontic appliances• Diagnose and appropriately refer patients with complex malocclusion to the specialist	
18	Paediatric and Preventive Dentistry	<ul style="list-style-type: none">• Able to instill a positive attitude and behaviour in children towards oral health and understand the 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 efficiently, tailored to the needs of individual requirement and conditions.	<ul style="list-style-type: none">• Case sheet recording• Restoration• Extraction• Scaling <p>OSCE</p> <ul style="list-style-type: none">• Identification of habit breaking appliances• Application of APF gel
19	Periodontology	<ul style="list-style-type: none">• Diagnose the patient's periodontal problem, plan and perform appropriate periodontal treatment• Competent to perform thorough oral prophylaxis, subgingival scaling, root planning and minor periodontal surgical procedures• Give proper post treatment instructions and do periodic recall and evaluation• Familiar with concepts of osseointegration and basic surgical aspects of Implantology	<ul style="list-style-type: none">• Case history Recording• Scaling• Assisting Surgical Procedures <p>OSCE</p> <p>Identification of hand scalers, disclosing solution</p>

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20	Prosthodontics and Crown & Bridge	<ul style="list-style-type: none">• Able to understand and use various dental materials• Competent to carry out treatment of conventional complete and partial removable dentures and fabricate fixed partial dentures• Able to carry out treatment of routine prosthodontic procedures.• Familiar with the concept of osseointegration and the value of implant-supported Prosthodontic procedures.	<ul style="list-style-type: none">• Complete denture• Removable partial Denture• Fixed Partial Denture <p>OSCE</p> <ul style="list-style-type: none">• Identification of various dental materials• Identification of crown cutting burs• Identification of edentulous spaces
21	Public Health Dentistry	<ul style="list-style-type: none">• Apply the principles of health promotion and disease prevention• Know the organization and provision of health care in the community and in the hospital service• Know the prevalence of common dental conditions in India.• Know community based preventive measures• Know the social, cultural and Factors that contribute to health or illness.• Administer and hygiene instructions, topical fluoride therapy and fissure sealing.• Educate patients concerning the etiology and prevention of oral disease and encourage them to assure responsibility for their oral health.	<ul style="list-style-type: none">• Comprehensive Case history• Recording of Indices• Preventive dental procedures• Field Programs• Oral Health survey• Dental Health Education <p>OSCE</p> <ul style="list-style-type: none">• Identification of Probe• Knowledge of Tobacco Cessation counseling• Identification of selants


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