

STUDY GUIDE

PROGRAM	BDS
COURSE TITLE	Junior Operatives
ACADEMIC YEAR	2nd Year 2023
INTRODUCTION	This course is designed to impart basic theoretical knowledge and initial practical skills to the students, that will subsequently be required in the clinical specialty of Operative Dentistry and Endodontics. The theoretical component of the course will be disseminated through lectures, while the basic clinical procedures will be taught through demonstration and hands-on practice on phantom heads in the dental skills lab.
RATIONALE	The rationale of this course is to introduce the students to the basic theoretical and procedural skills in a simulated environment, which would provide the basis and be supplemented in subsequent years with gradual implementation of the skills learned in this course to actual clinical situations.
OUTCOMES	By the end of this course, students should be able perform basic procedural skills pertinent to operative dentistry in a simulated environment
DEPARTMENTS INVOLVED	Department of Operative Dentistry
COURSE OBJECTIVES	<p>By the end of the course, BDS students will be able to:</p> <p><u>INTRODUCTION TO OPERATIVE DENTISTRY AND BIOLOGIC CONSIDERATIONS</u></p> <ul style="list-style-type: none"> • Define Operative Dentistry. • Discuss chemical composition, structure and properties of enamel, dentin, pulp, cementum and gingiva. • Discuss morphologic and histologic structure of tooth tissues with their clinical impact on restorations. • Discuss the importance of dentogingival complex and biologic width when planning restorations. <p><u>DENTAL CARIES – ETIOLOGY, CLINICAL FEATURES AND PREVENTIONS</u></p> <ul style="list-style-type: none"> • Define different types of caries based on location, spread, extent, rate etc.

- Classify dental caries based on site, size, location etc.
- Explain the factors responsible for caries development.
- Identify clinical features of different types of caries on clinical pictures.
- Describe the various methods of caries control.

ISOLATION

- Describe the advantages of isolation in operative dentistry.
- Describe the different methods of isolation.
- Identify all the armamentarium required for rubber dam isolation.

CROSS INFECTION CONTROL

- Define cross infection.
- Explain the exposure risks in dentistry, including COVID-19
- Discuss different methods of cross infection control in dental office.
- List universal/ standard precautions for cross infection control
- Describe blood borne infections
- Describe methods of hand hygiene
- Discuss vaccination/ immunization of dental health care professionals
- Discuss elements of personal protective equipment (PPE)
- Describe how to prevent needle stick injury
- Explain needle stick injury management
- Discuss dental waste disposal
- Discuss management of dental sharps

STERILIZATION AND DISINFECTION

- Differentiate among Sterilization, Disinfection and Asepsis.
- Explain the importance of sterilization and disinfection.
- Discuss elements of a sterilization plan.
- Describe various methods used for sterilization and methods to monitor effectiveness of sterilization.
- List chemicals that are used for disinfection.

- Describe techniques for sterilization and disinfection of endodontic instruments.
- List critical, semi critical and non-critical items
- Discuss disinfection of dental unit waterlines

INSTRUMENTS

- Describe the terminologies used to describe hand instruments.
- Classify hand instruments.

MATRIX BAND

- Identify the different types of matrix bands, retainers, and wedges (Tofflemire, sectional)
- Describe the importance of using matrix bands and wedges during restoration placement.

CAVITY PREPARATION

- Identify the objectives of tooth preparation.
- Differentiate tooth preparation features for amalgam and composite restorations.
- Describe various tooth preparation terminologies, walls, angles and margins.
- Classify various tooth preparations.
- Describe the initial and final stages of tooth preparation.

LINERS AND BASES

- Describe the materials that can be used as liners and bases for different clinical scenarios
- Describe the clinical scenarios where liners and bases should be applied.

AMALGAM (PLACEMENT, CARVING, FINISHING, DISPOSAL)

- Identify the indications of amalgam restoration.

COMPOSITE (PLACEMENT, FINISHING, POLISHING)

- Identify the indications of composite restorations.

PITS AND FISSURE SEALANTS

	<ul style="list-style-type: none"> • Discuss the indications, types and method of placement of pit and fissure sealants.
<p>PROCEDURAL SKILLS</p>	<p><u>DENTAL UNIT</u></p> <ul style="list-style-type: none"> • Identify all parts of a dental unit. • Describe the use of different parts of the dental unit. • Demonstrate correct operation of different parts of dental unit. • Perform accurate placement of different attachments (high speed, slow speed handpieces) to the dental unit. <p><u>ISOLATION</u></p> <ul style="list-style-type: none"> • Perform rubber dam isolation on phantom head for both anterior and posterior teeth demonstrating all steps accurately. • Perform rubber dam isolation on phantom head using different techniques accurately (dam over clamp, clamp over dam, dam and clamp simultaneously) <p><u>PATIENT AND OPERATOR POSITIONING</u></p> <ul style="list-style-type: none"> • Describe the importance of correct patient and operator positioning during operative procedures. • Demonstrate the correct patient and operator position on phantom heads for working on different quadrants/teeth. <p><u>INSTRUMENTS IN OPERATIVE DENTISTRY</u></p> <ul style="list-style-type: none"> • Demonstrate the accurate techniques of grasping hand instruments. • Identify the different types of dental burs based on their shape. • Identify the parts of high speed and slow speed handpieces. • List the precautions to be undertaken while using rotary instruments. • Demonstrate the accurate handling of high speed and slow speed handpieces on plastic teeth. <p><u>MATRIX BANDS</u></p> <ul style="list-style-type: none"> • Demonstrate the correct technique of contouring, placement and removal of commonly used matrix systems (Toefflemire, sectional

	<p>matrices) and wedges on phantom head for anterior and posterior teeth.</p> <p><u>CAVITY PREPARATION</u></p> <ul style="list-style-type: none"> • Demonstrate accurately the principles of tooth preparation for anterior and posterior cavities on phantom/ extracted teeth <p><u>LINERS AND BASES</u></p> <ul style="list-style-type: none"> • Demonstrate correct technique for placement of different liners (Calcium hydroxide, GIC), and bases in cavities prepared on phantom/ extracted teeth. <p><u>AMALGAM</u></p> <ul style="list-style-type: none"> • Demonstrate trituration, placement, carving, finishing, and polishing of amalgam restoration on phantom/ extracted teeth. • Demonstrate handling and disposal of mercury waste <p><u>COMPOSITE</u></p> <ul style="list-style-type: none"> • Demonstrate the correct placement, curing, finishing and polishing of composite restoration on phantom/ extracted teeth. <p><u>GLASS IONOMER CEMENT (PLACEMENT AND FINISHING)</u></p> <ul style="list-style-type: none"> • Demonstrate correct technique for mixing, placement and finishing of GIC and RMGIC restoration (class V) on phantom/ extracted teeth
INTERNAL ASSESSMENT	Assessment will be done throughout the rotation in a simulated environment. Students need to contact the concerned office in their dental colleges for details of internal assessment of this course in 2 nd year.
ANNUAL EXAMINATION	Content of this course will be assessed in final professional examination though OSCEs and MCQS