# Programme Structure

## School of Dental Sciences

## MDS

## (Master of Dental Surgery)
## Conservative Dentistry & Endodontics

## Programme Code: SDS0103

## Batch: 2025-2028



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## 1.1 Vision, Mission and Core Values of the University

### Vision of the University

To serve the society by being a global University of higher learning in pursuit of academic excellence, innovation and nurturing entrepreneurship.

### Mission of the University

1. Transformative educational experience
2. Enrichment by educational initiatives that encourage global outlook
3. Develop research, support disruptive innovations and accelerate entrepreneurship
4. Seeking beyond boundaries

### Core Values

- Integrity
- Leadership
- Diversity
- Community



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## 1.2 Vision and Mission of the School

### Vision of the School

- To serve the society by being a global center in pursuit of academic and professional excellence in the field of dentistry.

### Mission of the School

1. Creating a stimulating and flexible learning environment amongst the faculty and students
2. Strongly promoting research, innovation, clinical excellence
3. Promote and inculcate ethical values and continued betterment in the dental profession and in all facets of life.

### Core Values

- Integrity
- Leadership
- Diversity
- Community



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## 1.3 Programme Educational Objectives (PEO)

Programme educational objectives are broad statements that describe the career and professional accomplishments that the programme is preparing graduates to achieve.

**PEO1** Describe aeitology, pathophysiology, periapical diagnosis and management of common restorative situations, endodontic situations that will include contemporary management of dental caries, management of trauma and pulpal pathoses

**PEO2** Demonstrate understanding of basic sciences as relevant to conservative / restorative dentistry and Endodontics

**PEO3** Identify social, economic, environmental and emotional determinants in a given case or community and take them into account for planning and execution at individual and community level

**PEO4** Master differential diagnosis and recognize conditions that may require multi disciplinary approach or a clinical situation outside the realm of the specialty, which he or she should be able to recognize and refer to appropriate specialist

**PEO5** Update himself by self-study and by attended basic and advanced courses, conferences, seminars, and workshops in the specialty of Conservative Dentistry- Endodontics-Dental Materials and Restorative Dentistry

**PEO6** Perform all levels of restorative work and surgical and non-surgical Endodontics, as well as endodontic-periodontal surgical procedures as part of multidisciplinary approach to clinical condition

**PEO7** Provide basic life-saving support in emergency situations

**PEO8** Manage acute pulpal and pulpo-periodontal situations

**PEO9** Be professionally honest and exhibit integrity and professional ethics and Respect patient's rights and privileges including patient's right to information.



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### 1.3.2 Mapping of PEOs with Mission Statements:

| PEO Statements | School Mission 1 | School Mission 2 | School Mission 3 |
|---|---|---|---|
| PEO1 | 3 | 2 | 1 |
| PEO2 | 3 | 2 | - |
| PEO3 | 2 | 1 | 3 |
| PEO4 | 2 | 3 | - |
| PEO5 | 2 | 3 | 1 |
| PEO6 | 2 | 2 | - |
| PEO7 | 1 | 1 | 2 |
| PEO8 | 1 | 1 | - |
| PEO9 | 2 | 1 | 3 |

1. Slight (Low)
2. Moderate (Medium)
3. Substantial (High)



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### 1.3.3 Programme Outcomes (PO's)

**PO1** Knowledge: Possess a thorough knowledge and comprehension of diagnosis and clinical management of the oral diseases, in addition to, the infection control measures in the dental clinical environment and laboratories

**PO2** Patient management: Take proper chair side history, examine the patient and perform medical and dental diagnostic procedures and order as well as perform relevant tests and interpret to them to come to a reasonable diagnosis about the dental condition in general and Conservative Dentistry - Endodontics in particular. And undertake complete patient monitoring including preoperative as well as post-operative care of the patient

**PO3** Patient treatment: Carry out appropriate and effective dental care treatment, including restorative, aesthetics and endodontics, once the diagnosis and treatment plan has been outlined.

**PO4** Communication skills: Develop communication skills- in particular to explain various options available management and to obtain a true informed consent from the patient. She shall not carry out any heroic procedures and must know his limitations in performing all aspects of restorative dentistry including Endodontics. Ask for help from colleagues or seniors when required without hesitation

**PO5** Life-long Learning: Teach and/or guide, colleagues and other students. Use information technology tools and carry out research both basic and clinical with the aim of publishing his/her work and presenting the same at scientific platform on a regular basis

**PO6** Ethics: Adopt ethical principles in all aspects of restorative and contemporary Endodontics, including non-surgical and surgical Endodontics. Apply high moral and ethical standards while carrying on human or animal research.

**PSO1** Train student to be sound and efficient about the prevention, diagnosis and treatment of sequelae of dental caries and the other dental defects.

**PSO2** Make the student to carry out proficiently the techniques and procedures to restore the teeth to full function and appearance in an aesthetically pleasing manner with as little loss of the healthy tooth structure as possible

**PSO3** To encourage and promote innovative research and publication and to promote collaboration with various institutions and disciplines

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**1.3.4 Programme Articulation Matrix:**

| | PEO1 | PEO2 | PEO3 | PEO4 | PEO5 | PEO6 | PEO7 | PEO8 | PEO9 |
|---|---|---|---|---|---|---|---|---|---|
| **PO1** | 3 | 2 | 1 | 2 | 1 | 2 | 2 | 2 | 1 |
| **PO2** | 2 | 1 | 1 | 2 | 2 | 3 | 2 | 2 | 1 |
| **PO3** | 3 | 3 | 2 | 1 | 2 | 2 | 1 | 2 | 1 |
| **PO4** | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| **PO5** | 1 | 2 | 2 | 1 | 1 | 1 | 2 | 1 | 1 |
| **PO6** | 2 | 1 | 1 | 1 | 2 | 2 | 2 | 1 | 2 |
| **PSO1** | 3 | 2 | 2 | 2 | 2 | 3 | 2 | 2 | 1 |
| **PSO2** | 2 | 3 | 2 | 3 | 3 | 3 | 2 | 3 | 1 |
| **PSO3** | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

**1.Slight (Low)**

**2.Moderate (Medium)**

**3.Substantial(High)**



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**1.3.5 Programme Articulation Matrix::**

| PROGRAMME OUTCOME COURSES | COURSE NAMES | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO 1 | PSO 2 | PSO 3 |
|---|---|---|---|---|---|---|---|---|---|---|
| CO1 | Applied Basic Sciences | 2 | 1 | 2 | 2 | 3 | 2 | 3 | 2 | 2 |
| CO2 | | 2 | 3 | 1 | - | 2 | 3 | 1 | 2 | 1 |
| CO1 | Conservative Dentistry | 3 | 3 | 3 | 2 | 2 | 1 | 3 | 3 | 2 |
| CO2 | | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| CO3 | | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 |
| CO1 | Endodontics | 3 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 1 |
| CO2 | | 2 | 1 | 3 | 1 | 2 | 3 | 1 | 1 | - |
| CO1 | Long Essay | 3 | 2 | 1 | 2 | 1 | 2 | 1 | 3 | 2 |
| CO2 | | 2 | 1 | - | 2 | 1 | 1 | - | 1 | 2 |

1. Slight (Low)
2. Moderate (Medium)
3. Substantial (High)



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**Programme Structure**
**School of Dental Sciences**
**Master of Dental Surgery (MDS)**
**Batch: 2025-2028**

| S.No. | Paper ID | Subject Code | Subjects | Teaching Load | | | Type of Course- 1. CC 2. AECC 3. SEC 4. DSE |
|---|---|---|---|---|---|---|---|
| | | | | L | T | P | |
| **Theory Subjects** | | | | | | | |
| 1. | MDS304 | MDS304 | Conservative Dentistry and Endodontics | 0 | 3 | 45 | CC |
| **Practical/Viva-Voce/Jury** | | | | | | | |
| 2. | MDS304 | MDS304 | Conservative Dentistry and Endodontics | 0 | 3 | 45 | CC |



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## 2.1 Module: Syllabus

| | | |
|---|---|---|
| **School:** | | **School of Dental Sciences** |
| **Program:** | | **Master of Dental Surgery - Conservative Dentistry and Endodontics** |
| **Batch:** | | **2025-2028** |
| **Course Code** | | **MDS304** |
| **Credits** | | **NA** |
| **Contact Hours (L-T-P)** | | **0-3-45** |
| **1.** | **Course Type** | Compulsory (CORE) |
| 2. | Course Objective | 1.1 To make the student understand the intricacies and relevance of basic sciences as applicable to conservative / restorative dentistry and Endodontics<br>1.2. To make the student aware of infection control measures in the dental clinical environment and laboratories<br>1.3. To imbibe in students the ethical principles in all aspects of restorative and contemporary Endodontics including non-surgical and surgical Endodontics<br>1.4. To help the students develop communication skills, in particular to explain various options available management and to obtain a true informed consent from the patient<br>2.1 To make the student sound in describing etiology, pathophysiology, diagnosis and management of common restorative situations, that will include contemporary management of dental caries, non-carious lesions and hypersensitivity.<br>2.2 To train the student to take proper chair side history, examine the patient and perform medical and dental diagnostic procedures; as well as perform relevant tests and interpret them to come to a reasonable diagnosis about the dental condition<br>2.3 To train the student to perform all levels of restorative work including Aesthetic procedures and treatment of complicated restorative procedures<br>3. to make the student to describe aeitology, pathophysiology, periapical diagnosis and management of common endodontic situations that will include contemporary management of trauma and pulpal pathoses including endo-periodontal pathoses<br>4. To make the student sound in diagnosing, planning and executioning challenging clinical cases requiring comprehensive management strategies using contemporary materials and techniques in the specialty of conservative dentistry and endodontics |
| 3 | Course Outcomes | The student will be able to:<br>CO1: To make the student understand the intricacies and relevance of basic sciences as applicable to conservative / restorative dentistry and Endodontics<br>CO2 To make the student aware of infection control measures in the dental |



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| | | clinical environment and laboratories<br>CO1: To make the student sound in describing aeitology, pathophysiology, diagnosis and management of common restorative situations, that will include contemporary management of dental caries, non-carious lesions and hypersensitivity.<br>CO2To train the student to take proper chair side history, examine the patient and perform medical and dental diagnostic procedures; as well as perform relevant tests and interpret them to come to a reasonable diagnosis about the dental condition<br>CO3 To train the student to perform all levels of restorative work including Aesthetic procedures and treatment of complicated restorative procedures<br>CO1: To make the student to describe aeitology, pathophysiology, periapical diagnosis and management of common endodontic situations that will include contemporary management of trauma and pulpal pathoses including endo-periodontal pathoses<br>CO2: To imbibe in students the ethical principles in all aspects of restorative and contemporary Endodontics including non-surgical and surgical Endodontics<br><br>CO1: To make the student sound in diagnosing, planning and executioning challenging clinical cases requiring comprehensive management strategies using contemporary materials and techniques in the specialty of conservative dentistry and endodontics<br>CO2 To help the students develop communication skills, in particular to explain various options available management and to obtain a true informed consent from the patient |
| 4 | Course Description | The M. D. S. in Conservative Dentistry & Endodontics is three-year Postgraduate program. It is the branch of dentistry which deals with the treatment of caries, deformed, stained, nonesthetic, or broken teeth and endodontics deals with treatment of pulpal and periapical diseases and dental pain management. The curriculum provides training in the prevention and treatment of the disease and injuries of the hard tissues and the pulp of the tooth and associated periodical lesions.The purpose of the course is to provide advanced education in the subject to highly qualified graduate dentists who are interested in a career of specialized practice, teaching and research. |



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| 8 | Outline syllabus | | | CO Mapping |
|---|---|---|---|---|
| | Unit 1 | APPLIED BASIC SCIENCES | | |
| | A | Topic 1 | Applied Anatomy of Head and Neck, Development of Teeth, Applied Physiology | CO1,CO2 |
| | B | Topic 2 | Pathology, Pharmacology, Biostatistics | CO1,CO2 |
| | C | Topic 3 | Research Methodology, Applied Dental Materials | CO1, CO2 |
| | UNIT 2 | CONSERVATIVE DENTISTRY | | |
| | A | Topic 1 | Examination, diagnosis and treatment plan, Occlusion, Dental caries, Hand and rotary cutting instruments, Infection control, Direct concepts in tooth preparation for amalgam, composite, GIC and restorative techniques, failures and management, Hand and rotary cutting instruments | CO1, CO2 |
| | B | Topic 2 | Infection control, Direct concepts in tooth preparation for amalgam, composite, GIC and restorative techniques, failures and management, Indirect tooth-colored restorations- ceramic, inlays and onlays, veneers, crowns, recent advances in fabrication and materials, Impression procedures used for direct restorations, Cast metal restorations, Direct gold restorations, Recent advances in restorative materials and procedures. | CO1, CO2 |
| | C | Topic 3 | Management of non-carious lesion restorative materials and procedures, Advance knowledge of minimal intervention dentistry Hypersensitivity, theories, causes and management, Lasers in Conservative Dentistry, CAD-CAM & CAD-CIM in restorative dentistry, Dental imaging and its applications in restorative dentistry, Principles of | CO1, CO2, CO3 |



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|---|---|---|---|
| | | esthetics | |
| **UNIT 1** | **ENDODONTICS** | | |
| **A** | Topic 1 | Rationale of Endodontics, Knowledge of internal anatomy, Dentin and pulp complex, Pulp and periapical pathology, Pathobiology of periapex | CO1, CO2 |
| **B** | Topic 2 | Diagnostic procedure, Case selection and treatment planning, Infection control procedures. Access cavity preparation, Endodontic instruments and instrumentation, Working length determination / cleaning and shaping of root canal system, Root canal irrigants and intra canal medicaments | CO1 |
| **C** | Topic 3 | Endodontic microbiology ,Obturating materials, various obturation techniques and recent advances, Traumatic injuries and management, Endodontic surgeries, recent developments, Endoperio interrelationship, Endo emergencies and management, Geriatric endodontics Lasers in endodontics, Endodontic radiology, Procedural errors in endodontics | CO1 |
| **UNIT 4** | **LONG ESSAY** | | |
| **A** | Topic 1 | Basic Sciences, Applied Sciences, Biostatistics | CO304.1.1, CO 304.1.2 |
| **B** | Topic 2 | Conservative Dentistry, recent advances and application | CO304.2.1, CO304.2.2, CO 304.2.3 CO 304.4.1 CO 304.4.2 |
| **C** | Topic 3 | Endodontics, recent advances and application, Recent advances, Tissue Engineering | CO 304.3.1, CO 304.3.2 CO304.4.2 |



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| **1.** | **Course evaluation** | Attendance | Minimum 75% is Needed for both theory and clinical/practical | | | |
| | | Quizzes | Taken every 2 months | | | |
| | | Presentations | Seminars, Journal Clubs, Case presentations, Thesis and Library Dissertation presentations | | | |
| | | Any Other | Project based learning, flip learning, Assignments | | | |
| | | End Term examination | 700 Marks | Theory | 1ST YEAR – 100 Marks | 3rd year – 300 marks |
| | | | | Practical | | 3rd year – 300 marks |
| **2.** | **Text book/s*** | 1. Sturdevant's – Art And Science of Operative Dentistry<br>2. Pickard's Manual of Operative Dentistry<br>3. Ingle's Textbook of Endodontics<br>4. Cohen's Pathways of the Pulp<br>5. Grossman's Endodontic Practice | | | | |
| **3.** | **Other References** | TED learning<br>EBSCOHOST<br>Various scientific articles from various sources | | | | |



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**Mapping of Course Outcomes with PO's and PSO's**

| CO's | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|---|---|---|---|---|---|---|---|---|---|
| CO304.1.1 | 2 | 1 | 2 | 2 | 3 | 2 | 3 | 2 | 2 |
| CO304.1.2 | 2 | 3 | 1 | - | 2 | 3 | 1 | 2 | 1 |
| CO304.2.1 | 3 | 3 | 3 | 2 | 2 | 1 | 3 | 3 | 2 |
| CO304.2.2 | 3 | 3 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| CO304.2.3 | 3 | 2 | 1 | 2 | 1 | 1 | 1 | 1 | 1 |
| CO304.3.1 | 3 | 2 | 1 | 1 | 2 | 1 | 2 | 2 | 1 |
| CO304.3.2 | 2 | 1 | 3 | 1 | 2 | 3 | 1 | 1 | - |
| CO304.4.1 | 3 | 2 | 1 | 2 | 1 | 2 | 1 | 3 | 2 |
| CO304.4.2 | 2 | 1 | - | 2 | 1 | 1 | - | 1 | 2 |



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