



# MEGHNA INSTITUTE OF DENTAL SCIENCES

(Managed by : VELS EDUCATION SOCIETY)

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## SYLLABUS FOR M.D.S IN VARIOUS SPECIALITIES

The syllabus for MDS course includes both applied basic sciences and subject of concerned speciality the syllabus in applied basic sciences shall vary according to the speciality, similarly the candidate shall also acquired knowledge in another subject related to their respective speciality

## PROSTHODONTICS AND CROWN AND BRIDGE

### AIM:

- To provide dental graduates with a higher level of competence in both the general and specialty areas of prosthodontics and to prepare candidates with teaching, research, and clinical ability in areas such as prosthodontics prevention and aftercare, including implantology, maxillofacial prosthodontics, aesthetic dentistry, and removable dental prosthodontics.
- The course's primary goals are as follows:
- The goal of a training program for dental graduates in prosthetic dentistry—removable dental prosthodontics, fixed dental prosthodontics, implantology, maxillofacial prosthodontics, and aesthetics dentistry—is to acquire knowledge and skill in theoretical and clinical laboratory attitude, communicative skills, and the capacity to conduct research with a thorough understanding of the social, cultural, educational, and environmental context of the society.
- To have sufficient prior knowledge and comprehension of applied fundamental and systemic medical sciences, particularly those pertaining to the head and neck region.
- Postgraduates should be able to provide patients with prosthodontics therapy with competence and working knowledge of applied medical, behavioural, and clinical sciences that go beyond the treatment skills of general BDS graduates and MDS graduates of other specialties.
- To demonstrate evaluative and judgment skills in making appropriate decisions regarding prevention, treatment after care, and referrals in order to provide patients with comprehensive care

### KNOWLEDGE

- The candidate should be familiar with systemic and applied basic medical sciences.

- On human embryology, histology, physiology and biochemistry, pathology, microbiology, and virology, health and disease of various body systems, and pharmacology, applied in general and particularly to the head and neck.
- The student must acquire knowledge of various dental materials used in the speciality and be able to provide appropriate indication. • Age-related genetics, anthropology, immunology, congenital defects, and behavioural sciences
- Capability for a comprehensive rehabilitation concept with a pre-prosthetic treatment plan that includes surgical reevaluation and prosthodontics treatment planning, impressions, jaws relations, utility of face bows, articulators, selection and positioning of teeth, teeth arrangement for retention, stability, aesthetics, phonation, psychological comfort, and fit and insertion
- The students must have access to instructions for patients regarding post-treatment and preventative prosthodontics, as well as the management of damaged restorations.
- An understanding of how to achieve physical, psychological, and insertion comfort.
- The students must have access to instructions for patients regarding post-care and prevention prosthodontics as well as the management of damaged restorations.
- The theoretical knowledge and clinical practice must include principles involving support, retention, stability, aesthetics, phantom, mastication, occlusion, behavioural, psychological, preventive, and social aspects of prosthodontics science of oral and maxillofacial prosthodontics and implantology. They must also be able to read and interpret radiographs and other investigations for the purpose of diagnosis and treatment planning.
- Tooth and surface restorations, complete dentures, removable partial dentures, fixed prosthodontics, maxillofacial and craniofacial prosthodontics, implant, and implant support prosthodontics, TMJ and occlusion, craniofacial aesthetics, and biomaterials, craniofacial disorders, and psychogenic problems
- Should be familiar with geriatric psychology, nutrition, and the treatment of the elderly with prosthodontics.
- Should be able to diagnose a damaged restoration and offer prosthodontic treatment and follow-up care.
- Should identify the patient's social, cultural, economic, educational, and emotional determinants and take them into consideration when planning the treatment • Should be aware of general health conditions and emergencies related to prosthodontics treatment, such as allergies to various materials and first-line management of aspiration of prosthesis

### **SKILLS**

- The candidate should be able to examine a patient who needs prosthodontic treatment
- Analyse the results of the investigation, interpret the radiographs, diagnose the condition, plan the treatment, communicate it with the patient, and carry it out.

### **ATTITUDE**

- In order to adhere to ethical standards in prosthodontic practice, professional honesty, credibility, and integrity must be fostered. The patient's treatment must be provided regardless of their social status, caste, religion, or creed.
- Should be willing to share their clinical expertise and knowledge with professional co-workers.
- Should cultivate an attitude of treatment quality, excellence, and non-compromise.
- Should be able to do their own self-evaluation, reflection, and improvement.
- Should conduct research with the intention of providing the scientific community with significant, pertinent, and useful information, concepts, or methods.

#### COMMUNICATION SKILLS

- To improve one's ability to communicate, particularly to explain the management's treatment options.
- To lead and get the most out of his or her team in a natural working environment.
- Should be able to explain the principles of prosthodontics to patients and communicate with them in terms that the patient can understand. The patient should be able to be guided and counselled about the various treatment options available.
- To improve one's ability to communicate with professional colleagues via a variety of media, such as the Internet, e-mail, videoconferences, and so on. • To improve one's ability to communicate with professional colleagues via a variety of media. to provide the best treatment possible.
- Should demonstrate proficiency in explaining and teaching in order to

#### PERIODONTOLOGY

The following objectives are outlined to accomplish the course's objectives:

#### SKILLS:

- Perform both non-surgical and surgical procedures independently
- Provide Basic Life Support Service (BLS) recognizes the need for advanced life support and performs the immediate need for that
- Take a proper clinical history, conduct a thorough examination of intraoral, extraoral, and medical history evaluation, advise essential diagnostic procedures, and interpret them to arrive at a reasonable diagnosis
- Effective motivation and education regarding periodontal disease maintenance after the o treatment Perform both non-surgical and education regarding periodontal disease maintenance after the o treatment Perform both non
- Adopt ethical principles in all treatment modalities;
- Human values, ethical behaviour, and communication skills Honesty and integrity in the workplace should be encouraged. Be humble, accept the limitations of his or her knowledge and skill, and ask colleagues for help when needed. Respect patients' rights and privileges, including the right to information and the right to seek a second opinion. Develop communication skills to raise awareness about periodontal disease. Apply high moral and ethical standards when conducting research on humans or animals.

## MAXILLOFACIAL AND ORAL SURGERY

### OBJECTIVES:

- The objectives of the oral and maxillofacial surgery training program are:
- Knowledge
- Skills
- Attitude
- Communication abilities and skills
- Research
- Knowledge:
  - To have a sufficient understanding of the aetiology, pathophysiology, diagnosis, and treatment planning of a variety of minor and major oral and maxillofacial surgical problems. To have a general understanding of the principles of surgery, such as pre- and post-operative management, particularly evaluation, post-operative care, fluid and electrolyte management, blood transfusion, and post-surgical pain management.
  - Capable of identifying social, cultural, economic, genetic, and environmental factors and their relevance to disease process management in the oral and maxillofacial region;
  - Knowledge of basic sciences relevant to the practice of oral and maxillofacial surgery
  - Capable of identifying social, cultural, economic, genetic, and environmental factors and their relevance to disease process management in the oral and maxillofacial region;
  - Knowledge of basic sciences relevant to the practice of oral and maxillofacial surgery
  - In light of the high prevalence of hepatitis and HIV, essential knowledge of personal hygiene and infection control, including the prevention of cross-infection and the secure disposal of hospital waste.
    - Talents:
  - To obtain an accurate clinical history, conduct a methodical examination of the patient, carry out necessary diagnostic procedures, order relevant laboratory tests, and interpret those results in order to arrive at a reasonable surgical condition diagnosis.
  - To perform common maxillofacial surgery and minor oral surgery with proficiency and to treat oral and maxillofacial issues both surgically and medically.
    - Able to care for people who have had maxillofacial surgery.

### Optimism:

- Establish a mindset that encourages the adoption of ethical principles in all aspects of surgical practice, and foster honesty and integrity. The patient's social status, caste, creed, or religion should not affect the provision of surgical care.
- willing to share clinical expertise and knowledge with professional colleagues.
- willing to use new surgical management methods that have been developed from time to time; based on scientific research that is in the patient's best interest; and respectful of the rights and privileges of the

patient, such as the right to information and the right to get a second opinion.

- Develop the mindset to seek advice from dental and allied health professionals whenever necessary.

## **ENDODONTICS AND CONSERVATIVE DENTISTRY**

### **OBJECTIVES:**

- The following objectives are laid out to accomplish the course's objectives. These must be accomplished by the candidate's graduation from the course. The subtitles listed below can be used to think about these goals.

### **EXPERIENCE:**

- The candidates ought to be able to, after 36 months of training:
- Describe the etiology, pathophysiology, periapical diagnosis, and treatment of common endodontic, restorative, and contemporary pulpal pathosis and pulpal caries, as well as pulpal pathosis and periodontal, conditions.
- Be able to demonstrate an understanding of the fundamental sciences in relation to endodontics and restorative dentistry.
- Plan and carry out at the individual and community levels by determining the social, economic, environmental, and emotional determinants of a case or Community.
- The capacity to instruct and direct colleagues and students.
- Conduct basic and clinical research using IT tools with the intention of publishing and presenting the results on a scientific platform.
- Talents:
- To arrive at a reasonable diagnosis regarding the dental condition in general and Conservative Dentistry - • Endodontics, it is necessary to take the appropriate chairside history, examine the patient, and carry out relevant tests and medical and dental diagnostic procedures. And carry out comprehensive patient monitoring, which includes providing pre- and post-operative care.
- As part of a multidisciplinary approach to the clinical condition, perform all levels of restorative work, endodontics (both surgical and non-surgical), and endodontic-periodontal surgical procedures.
- In emergency situations, provide basic lifesaving assistance.
- Take care of immediate pulpal and pulp- periodontal issues.
- Know everything there is to know about infection control in dental clinics, laboratories, and the environment.
- Honesty and integrity in one's work should come first.
- Regardless of the patient's social status, caste, creed, or religion, dental care must be provided. • Improve your communication skills, particularly to explain the various management options available to the patient and obtain the patient's true informed consent.
- When conducting research on humans or animals, maintain high moral and ethical standards.
- He or she must be aware of his or her limitations when it comes to performing all aspects of restorative dentistry, including endodontics. When you need help, don't be afraid to ask your co-workers or superiors for assistance.
- Respect the privileges and rights of patients, including their right to information

## DENTOFACIAL AND ORTHODONTIC ORTHOPEDICS •

### OBJECTIVE:

- The objectives of the orthodontic training program are to structure and accomplish the following: • Knowledge:
- The etymology, pathophysiology, diagnosis, and treatment planning of various common orthodontic problems
- The dynamic interaction of biological processes and mechanical forces acting on the stomatognathic system during orthodontic treatment
- Preventive, interceptive, and corrective orthodontic treatment options

### Talents:

- To compile an accurate clinical history, conduct a careful physical examination of the patient, carry out essential diagnostic procedures, interpret the results, and make an accurate diagnosis of the patient's dento-facial deformities.
- To be capable of fabricating and managing the optimal appliance for the treatment of any orthodontic problem, whether it is intraoral or extraoral, removable or fixed, mechanical or functional, and active or passive, whether it is used alone or as part of a multidisciplinary approach to the treatment of orofacial deformities.

### INTENTION:

- Adopt an ethical mindset in all aspects of orthodontic practice.
- Promote professional honesty and integrity.
- Be willing to share knowledge and clinical experience with colleagues in the profession. Ability to critically evaluate new orthodontic management strategies that are in the patient's best interest and are based on scientific research.
- Respect patients' rights and privileges, including the right to information and to obtain a second opinion.
- Develop an attitude to seek advice from allied medical and dental specialists as
- **COMMUNICATION SKILLS:**

1. Develop adequate communication skills, particularly with patients, so that you can inform them of the various options available to manage a particular dento-facial problem and get their true and informed consent for the treatment that is most appropriate at the time.

2. Develop the ability to communicate with colleagues in Orthodontics or other specialties via a variety of channels, such as email, the Internet, videoconferencing, and so on.

## • ORAL & MAXILLOFACIAL PATHOLOGY AND ORAL MICROBIOLOGY

- Objectives
- To train a post-dental surgeon to be more competent in both general and special pathology, which deals with the nature, causes, and effects of oral diseases.
- In order to carry out routine diagnostic procedures such as haematological, cytological, microbiological, immunological, and ultrastructural examinations, an oral

pathologist is expected to perform routine histopathological evaluation of specimens pertaining to oral and perioral tissues.

- He or she is expected to have a working knowledge of the current database, an automated data retrieval system, reference skills, and the ability to write scientific papers
- . • He or she is also expected to be able to carry out research projects on a clinical or epidemiological aspect.
- At the conference, he or she was expected to participate in group discussions and present scientific data relevant to the field via poster or oral presentation

## **PUBLIC HEALTH DENTISTRY**

### **OBJECTIVES**

At the conclusion of the candidate's three years of training, they should be able to:

#### **EXPERIENCE:**

- Knowledge of applied basic sciences regarding the aetiology, diagnosis, and treatment of all oral conditions at the individual and community levels for prevention, promotion, and treatment.
- Determine the social, economic, environmental, and emotional factors that influence a particular patient or a community in order to plan and carry out a community oral health program.
- The capacity to conduct surveys on oral health in order to identify all oral health issues affecting the community and devise multidisciplinary solutions

#### **SKILLS:**

- Take a history, conduct a clinical examination that includes all diagnostic procedures to determine an individual's diagnosis, and survey the community at the state and national levels to determine a community diagnosis for all oral health conditions.
- At the individual and community levels, plan and carry out all necessary oral health treatment, prevention, and promotion activities.
- At the community level, plan, implement, and evaluate an appropriate Community Oral Health Program.
- The capacity to identify causes and plan appropriate preventative and control measures by utilizing knowledge of epidemiology
- Establish appropriate individual power at various levels and make efficient use of it.
- Conduct a survey and provide oral health education in an appropriate manner.
- Create a simple payment plan for the community, followed by an evaluation of their oral health care requirements.
- Acquire the administrative, planning, and implementation skills necessary to run successful oral health programs in the community.
- **Morals:**
- Adhere to ethical principles in all aspects of oral health activities in the community.
- To conduct epidemiological studies in accordance with moral and ethical standards.
- Improve your communication skills, especially in order to explain to the patient the causes of oral diseases and how to prevent them.

- Accept his limitations in terms of knowledge and skill, be humble, and encourage teamwork. • Ask colleagues for assistance when necessary.
- Adhere to the rights and privileges of the patient, including their right to say

## **PREVENTIVE AND PEDIATRIC DENTISTRY**

### **OBJECTIVES**

- At the end of three years of training, the candidate should be able to: • Instil in the child not only good oral health but also good citizenship in the future.
- Instil a positive attitude and behaviour in children
- Acquire an understanding of the principles of prevention and preventive dentistry from birth through adolescence
- Advise and guide parents regarding various treatment modalities, including various aspects of preventive dentistry
- Prevent and intercept the development of malocclusion

### **SKILLS**

- Collect a correct clinical history, conduct a methodical examination of the child patient, perform essential diagnostic procedures, and interpret the results and arrive at a reasonable diagnosis, as well as the necessary treatment Be capable of treating dental conditions that affect children.
- Ensure that the oral cavity's hard and soft tissues remain in harmony by repairing and restoring the tooth structure that has been lost.
- Manage disabled children in an effective and efficient manner that is tailored to each child's individual requirements and circumstances.
- To learn how to effectively manage life-threatening conditions, with an emphasis on basic life support procedures.
- Mentalities:
- Acknowledge the importance of adhering to moral standards in all aspects of pedodontics practice.
- Professional honesty and integrity must be fostered.
- Treatment services must be provided to patients regardless of their social status, caste, religion, or creed.
- •willingness to implement new pedodontics management strategies that have been developed from time to time and are based on scientific research, if they are in the child patient's best interest.
- Adhere to the rights and privileges of children's patients, such as their right to information and to a second opinion.
- Adopt the mindset of seeking advice from dental and other allied medical specialties whenever possible.

## **ORAL MEDICINE AND RADIOLOGY**

### **OBJECTIVES:**

- The candidate should be able to acquire sufficient knowledge of the field after three years of training.

#### EXPERIENCE:

- Knowledge of all oral mucosal lesions, including those that affect the maxillo-facial region and involve the skeletal system, as well as the most recent information regarding imaging modules.
- Talents:
- In maxillofacial diseases, there are three essential skills that must be taught
- Diagnostic skill in recognizing oral diseases using radiographic diagnosis and managing them;
- Research skills in dealing with scientific problems pertaining to oral treatment;
- Clinical and didactic skills in encouraging younger doctors to achieve their learning objective;
- Attitudes:
- It is necessary to instil a positive mental attitude and the determination to continue learning.

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