



SVS INSTITUTE OF DENTAL SCIENCES

Appannapally, Mahabubnagar – 509 001, T.S INDIA

☎ 08542 - 227 952, 231 212, Fax: 231 222 E-mail: svsidevsmbnr@yahoo.co.in

Graduate attributes

- Ability to solve oral problems with knowledge of basic dental sciences.
- Able to diagnose maxillofacial problems, analyse and arrive to a diagnosis with scientific knowledge.
- Ability to apply a holistic approach of treatment
- Ability to identify and solve various complex oral health care problems on the basis of proper investigations.
- Ability to apply appropriate techniques and understand resource utilization while applying them to oral health care activities.
- Ability to understand the effect of maxillofacial health care solutions on legal, cultural, social and public health and safety aspects.
- Ability to develop long lasting solutions and study their effects on society at large.
- Ability to develop ethical responsibility to healthcare as well as to the profession
- Ability to work as a team member while applying knowledge of various disciplines in healthcare and to give leadership in different multidisciplinary settings
- Ability to impart education at the community level by verbal and non verbal means.
- Ability to apply leadership and managerial skills in multidisciplinary teams.
- Ability to be involved in lifelong learning process while coping and adapting to the changes and advancement in technology.
- Ability to discuss on various oral health care needs at the community levels.

KNOWLEDGE & UNDERSTANDING

- Adequate knowledge of scientific foundation on which dentistry is based and good understanding of various relevant scientific methods, principals of biological functions, ability to evaluate and analyze scientifically various established facts and data.

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- Adequate knowledge of development, structure and function of the teeth, mouth and jaws and associated tissues both in health and disease and their relationship and effect on general state of health and also bearing on physical and social well-being of the patient
- Adequate knowledge of clinical discipline and methods which provide a coherent picture of anomalies, lesions and disease of the teeth, mouth and jaws and preventive diagnostic and therapeutic aspects of dentistry
- Adequate knowledge of the constitution, biological function, and behavior of persons in health and sickness as well as the influence of the natural and social environment on the state of health in so far as it affects dentistry.

SKILLS – COGNITIVE & PRACTICAL

- Skill to diagnosis and manage various common dental problems encountered in general dental practice keeping in mind the expectation and the rights of the society to receive the best possible treatment available.
- Skill to prevent and manage complications if encountered while carrying out various surgical and other procedures.
- Skill to carry out certain investigative procedures and ability to interpret laboratory finding
- Skill to control pain and anxiety amongst the patients during dental treatment.
- Skill to promote oral health and help prevent oral diseases.

ATTITUDE & CAPABILITY

- Willingness to apply the current knowledge of dentistry in the best interest of the patient and community.
- Maintain a high standard of professional ethics and conduct and apply this in all aspects of professional life.
- Attitude and Capability to seek to improve awareness and provide possible solutions for oral health problems.
- Willingness to participate in continuous dental education programs to update knowledge and professional skills
- Help and participate in the implementation of national oral health policy.


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GOALS AND OBJECTIVES

GOALS:

The dental graduates during training in the institutions should acquire adequate knowledge, necessary skills and reasonable attitudes which are required for carrying out all activities appropriate to general dental practice involving the prevention, diagnosis and treatment of anomalies and diseases of the teeth, mouth, jaws and associated tissues. The graduate also should understand the concept of community oral health education and be able to participate in the rural health care delivery programmes existing in the country.

OBJECTIVES:


The objectives are dealt under three headings (a) Knowledge and understanding (b) skills and (c)

Attitudes.

(A) KNOWLEDGE AND UNDERSTANDING:

The graduate should acquire the following during the period of training.

1. Adequate knowledge of the scientific foundations on which dentistry is based and good understanding of various relevant scientific methods, principles of biological functions and be able to evaluate and analyse scientifically various established facts and data.
2. Adequate knowledge of the development, structure and function of the teeth, mouth and jaws and associated tissues both in health and disease and their relationship and effect on general state of health and also bearing on physical and social well being of the patient.


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3. Adequate knowledge of clinical disciplines and methods which provide a coherent picture of anomalies, lesions and diseases of the teeth, mouth and jaws and preventive diagnostic and therapeutic aspects of dentistry.

4. Adequate clinical experience required for general dental practice.

5. Adequate knowledge of the constitution, biological function and behaviour of persons in health and sickness as well as the influence of the natural and social environment on the state of health in so far as it affects dentistry.

(B) SKILLS:

A graduate should be able to demonstrate the following skills necessary for practice of dentistry.

1. Able to 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.

2. Acquire the skill to prevent and manage complications if encountered while carrying out various surgical and other procedures.

3. Possess skill to carry out certain investigative procedures and ability to interpret laboratory findings.

4. Promote oral health and help prevent oral diseases where possible.

5. Competent in the control of pain and anxiety among the patients during dental treatment.

(C) ATTITUDES:

A graduate should develop during the training period the following attitudes.


1. Willing to apply the current knowledge of dentistry in the best interest of the patients and the community.

2. Maintain a high standard of professional ethics and conduct and apply these in all aspects of professional life.
3. Seek to improve awareness and provide possible solutions for oral health problems and needs throughout the community.
4. Willingness to participate in the CPED Programmes to update the knowledge and professional skill from time to time.
5. To help and participate in the implementation of the national oral health policy

RECOMMENDATIONS

GENERAL:

1. The undergraduate course involves organisation of teaching programmes year-wise. However, this course, as a whole, should demonstrate integration of the basic sciences, clinical dentistry and practical or the laboratory skills. The course should be designed and integrated in such a way to permit smooth progression from pre-clinical to clinical phase. Collaboration should be encouraged between teachers of basic sciences, dental sciences and clinical subjects.
2. The undergraduate dental course consists of three main components. The first component consists of subjects common to medicine and dentistry like anatomy, physiology, biochemistry and behavioural science, leading to pharmacology, pathology, microbiology and then on to general medicine and general surgery. The second component runs concurrently with the first and deals with special aspects of oral and dental tissues, oral biology and oral pathology. Finally, the third component based on the foundations of the first two, deals with the clinical and technical aspects of dentistry as is required for general dental practice.
3. The first component of the course is intended to provide initially, an appreciation of normal human structure, development, function and behaviour, leading to understanding of the diseases, its prevention and treatment. The main objective is to provide the student a broad knowledge of the normal structures and functions of the body, the alterations which


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take place in disease with particular reference to those conditions in which medical and dental co-operation is essential for proper management. At this stage, the student should also be made aware of the social and psychological aspects of patient care with special reference to the relationship between dentist and patient. The behavioural sciences including both sociology and psychology should be introduced at the initial stages of the training programme, much before the students actually deal with the patients.

4. The second component of dental undergraduate programme consists instruction in the subjects dealing with dental and oral aspects to ensure a detailed knowledge of the structure and function of the dental and oral tissues. This enables the student to diagnose, prevent and treat the dental and oral diseases and disorders which were not included in the first component. The subject of oral biology is to be introduced at this level to provide the students a comprehensive knowledge and application of oral physiology, microbiology, biochemistry and oral immunology. Students should be exposed to the basic aspects of forensic odontology at this stage of the course along with oral biology/oral pathology.

5. The third component of the course comprising the clinical and technical aspects of dentistry actually prepares the student to undertake total oral and dental health care of the patients of all ages. The emphasis at this stage should be on the prevention of the various dental diseases and how to preserve natural teeth with their supporting structures. The importance of the various preventive methods need to be stressed. The significance of diagnosis of various dental and oral problems needs to be emphasized along with treatment planning before actual treatment procedures are undertaken.

In addition to acquiring the knowledge, the students need to gain adequate clinical hands-on experience in extractions and other minor oral surgical procedures, all aspects of conservative dentistry, endodontics, crown and bridge, provision of partial and complete dentures, various periodontal therapeutic procedures and use of removable orthodontic appliances. Familiarity with various radiological techniques, particularly intra-oral methods and proper interpretation of the radiographs, is an essential part of this component of training and has application in clinical diagnosis, forensic identification and age estimation.

Towards the final stage of the clinical training, each student should be involved in comprehensive oral health care or holistic approach to enable them to plan and treat patients as a whole, instead of piece-meal treatment provided in each speciality. The Dental

Council of India strongly recommends that all the dental colleges should provide facilities and required infrastructure for this purpose.

The aim of the undergraduate programme should undoubtedly be to produce a graduate, competent in general dental practice.

6. The commitment towards the society as a whole, needs to be stressed along with the knowledge and treatment skills gained. Instruction in public health dentistry should emphasise the sociological aspects of health care particularly, oral health care, including the reasons for the variation in oral and dental needs of different sections of the society. It is important to know the influence of the social, behavioural, environmental and economic factors on oral and dental health. Students should be made aware of the National oral health Policy and the importance of being a member of the Health care team delivering medical and oral health care particularly among rural population.

7. Scientific advancement of any profession is based largely on continuous research activities. Dentistry is no exception. It is important that in every dental college proper facilities should be provided for research and the faculty members should involve themselves in such activities. Inter-disciplinary research should be encouraged to bring in integration among various specialities. The teaching and training methodology should be such that the students are motivated to think and indulge in self study rather than playing a passive role. Provision should be made in the daily schedules for adequate time for reading. Proper library facilities with adequate timings and seating capacity should be made available in all dental colleges. Adequate audio-visual aids, like video tapes, computer assisted learning aids, Medline and internet facilities should be provided in all dental colleges to encourage self-study. Students should be encouraged to participate in simple research project work and the system of electives, spending some stipulated amount of time in another dental college within the country or outside should be given a serious consideration by all the dental institutions.

8. The society has a right to expect high standards and quality of treatment. Hence, it is mandatory and a social obligation for each dental surgeon to upgrade his or her knowledge and professional skills from time to time. The Dental Council of India strongly recommends that facilities and proper infrastructure should be developed to conduct the continuous professional education programmes in dentistry to enable the practitioners to update their knowledge and skills. The Council is of the opinion that the dental colleges by virtue of their



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infrastructural facilities will be ideal to conduct such courses and recommends establishment of a Department of continuing dental education in each of the dental colleges. In addition, the practitioners should be encouraged to attend conferences of state and national level, workshops, seminars and any other such activity which the Council feels is suitable to upgrade the knowledge and skills.

9. The undergraduate curriculum should stress the significance of infection and cross-infection control in dental practice. Aspects like sources of infection, measures to be adopted both general and specific for control particularly the HIV and hepatitis should be properly incorporated into the curriculum so that the graduates are aware of its significance and follow it in their practice.

10. The information technology has touched every aspect of an individual's personal and professional life. The Council hence recommends that all undergraduates acquire minimum computer proficiency which will enable them to enhance their professional knowledge and skills.

RECOMMENDATIONS

SPECIFIC:

1. The undergraduate dental training programme leading to B.D.S. degree shall be a minimum of five years duration. During this period, the students shall be required to engage in full time study at a dental college recognized or approved by the Dental Council of India. During the five years undergraduate course, the instruction in clinical subjects should be at least for three years

2. Basic Medical & Dental Subjects:


The basic medical and dental sciences comprise anatomy gross and microscopic, physiology, biochemistry, pharmacology, oral biology and science of dental materials. Subjects like behavioural sciences, which is useful to develop communication skills, should also be introduced in the first year itself and spread over the undergraduate course. An introduction to Public Health Dentistry & Preventive Dentistry also will be useful to develop the concept of commitment to community. The laboratory skills to be developed by the students like pre-clinical Prosthodontics, Crown Bridge, Aesthetic Dentistry and Oral

Implantology exercises and studying dental morphology also is a part of initial training. The instruction in the above medical and dental sciences shall be for two years duration. At the end of this period the student should be in a position to understand and comprehend in general the development, structure and function of the human body in both health and disease.

3. The instruction in basic dental sciences should include theoretical and practical aspects of oral anatomy and physiology, to provide a detailed knowledge of the form and structure of teeth associated tissues and occlusal relationships. The study should also aim at development of a concept regarding physiological and biochemical processes relevant to oral cavity for better understanding of the changes which occur with the onset of disease in the oral cavity. The student should be made aware of the importance of various dental tissues in forensic investigation.

4. Clinical, Medical and Dental subjects: The students should be introduced to clinics in the initial stage, preferably in the first year, as an observer to familiarise with clinical set-up and working. The period of instruction in the clinical subjects shall be not less than three years full time. During this, the student shall attend a dental hospital, general hospital, community camps and satellite clinics, in order to obtain instruction and experience in the practice of dentistry. The main objective of training in clinical dental subjects is to produce a graduate able and competent to recognize or diagnose various dental and oral diseases, to undertake general dental treatment, advise on the provision of specialized treatment available and finally advise the patient on prevention. The student should also understand the relationship between oral and systemic diseases.

5. The general medicine and surgery training should provide sufficient knowledge on human disease to enable the student to understand its manifestations as relevant to the practice of dentistry. This requires clinical teaching on patients and shall be carried out in in-patient and outpatient medical departments and specialist clinics. This clinical instruction should enable the student to understand and perhaps diagnose common systemic diseases which have relevance to dental practice, by adopting a systematic approach of history taking and clinical examination. The student should also realize the significance of various general and special investigations in the diagnosis of diseases. The ability to recognize physical and mental illness, dealing with emergencies, effective communication with patients, interaction with various professional colleges also become important aspects of this training.


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6. The Dental Council of India considers it important for all dental students to receive instruction in first-aid and principles of cardio-pulmonary resuscitation. It is also desirable that the students spend time in an accident and emergency department of a general hospital.

7. The purpose of the clinical training is to provide sufficient practical skill in all aspects of clinical dentistry. The instruction should also include patient management skills, treatment of patients of all ages with special reference to children (paediatric), very elderly (geriatric), medically compromised and disabled patients.

8. During the three years clinical course, the students should receive thorough instruction which involves history taking, diagnosis and treatment planning in all aspects of dentistry and should be competent on graduation to carry out all routine general procedures.

In Oral & Maxillofacial Surgery and Oral Implantology, instruction should include the knowledge of various maxillofacial problems like injuries, infections and deformities of the jaws and associated structures. The clinical experience should include those procedures commonly undertaken in general practice like extraction of teeth, minor oral surgical procedure etc.

In Conservative, Endodontics & Aesthetic Dentistry, Prosthodontics, Crown Bridge, Aesthetic Dentistry and Oral Implantology and Periodontology and Oral Implantology students should be competent on graduation to carry out routine treatment like restorations of various kinds, endodontic procedures, removable and fixed prosthodontics, concept of osseointegration and finally various kinds of periodontal therapy. In addition, students should be aware of their limitations on graduation, need to refer patients for consultant opinion and/or treatment and also the need for postgraduate and continuous education programmes.

In Orthodontics & Dento Facial Orthopaedics, students should carry out simple appliance therapy for patients. Students should also be able to appreciate the role of dento facial growth in the development and treatment of malocclusion.

In Paediatric dentistry, the students should concentrate on clinical management, efficacy of preventive measures, treatment needs particularly for children with disabilities. In oral medicine and oral diagnosis, the student should receive instruction in various lesions, occurring in the oral cavity with particular reference to oral cancer.

9. The successful control and management of pain is an integral part of dental practice. Upon graduation the students should be competent to administer all forms of local anaesthesia. The value of behavioural methods of anxiety management should be emphasised. The students should also have the practical experience in the administration of intra-muscular and intravenous injections. Knowledge of pain mechanisms and strategies to control post-operative pain is essential for practice of dentistry.

10. All students should receive instructions and gain practical experience in taking processing and interpretation of various types of intra and extra oral radiographs. They should be aware of the hazards of radiation and proper protective measures from radiation for the patient, operator and other staff.

11. Instruction should be given in dental jurisprudence, legal and ethical obligations of dental practitioners and the constitution and functions of Dental Council of India.

12. Infection and cross infection control assume significance in dental practice. The students should be made aware of the potential risk of transmission in the dental surgery, various infectious diseases particularly HIV and hepatitis. The students should be aware of their professional responsibility for the protection of the patients, themselves and their staff and the requirements of the health and safety regulations.

13. In the recent times, the subjects of esthetic dentistry, oral implantology, behavioural sciences and forensic odontology have assumed great significance. Hence, the Council recommends that these four specialities should be incorporated into the undergraduate curriculum. The instruction and clinical training in aesthetic dentistry shall be carried out by the departments of Conservative, Endodontics & Aesthetic Dentistry and prosthodontics, Crown Bridge, Aesthetic Dentistry and Oral Implantology. Similarly, the instruction and clinical training in oral implantology shall be done by the departments of Oral & Maxillofacial Surgery, Prosthodontics, Crown Bridge, Aesthetic Dentistry and Oral Implantology and Periodontology and Oral Implantology. The instruction in behavioural sciences should ideally commence before the students come in contact with the patients and shall be carried out by the departments of Public Health Dentistry & Preventive Dentistry and Pedodontics & Preventive Dentistry. Forensic Odontology will be a part of Oral Pathology & Oral Microbiology and Oral Medicine and Radiology.

COMPETENCIES

At the completion of the undergraduate training programme the graduates shall be competent in the following.

General Skills

- Apply knowledge & skills in day to day practice
- Apply principles of ethics
- Analyze the outcome of treatment
- Evaluate the scientific literature and information to decide the treatment
- Participate and involve in professional bodies
- Self assessment & willingness to update the knowledge & skills from time to time
- Involvement in simple research projects
- Minimum computer proficiency to enhance knowledge and skills
- Refer patients for consultation and specialized treatment
- Basic study of forensic odontology and geriatric dental problems

Practice Management

- Evaluate practice location, population dynamics & reimbursement mechanism
- Co-ordinate & supervise the activities of allied dental health personnel
- Maintain all records
- Implement & monitor infection control and environmental safety programs
- Practice within the scope of one's competence
- Communication & Community Resources
- Assess patients goals, values and concerns to establish rapport and guide patient care
- Able to communicate freely, orally and in writing with all concerned
- Participate in improving the oral health of the individuals through community activities.

Patient Care – Diagnosis

- Obtaining patient's history in a methodical way
- Performing thorough clinical examination
- Selection and interpretation of clinical, radiological and other diagnostic information

- Obtaining appropriate consultation
- Arriving at provisional, differential and final diagnosis

Patient Care – Treatment Planning

- Integrate multiple disciplines into an individual comprehensive sequence treatment plan using
- diagnostic and prognostic information
- Able to order appropriate investigations

Patient Care – Treatment

- Recognition and initial management of medical emergencies that may occur during Dentaltreatment
- Perform basic cardiac life support
- Management of pain including post operative
- Administration of all forms of local anaesthesia
- Administration of intra muscular and venous injections
- Prescription of drugs, pre operative, prophylactic and therapeutic requirements
- Uncomplicated extraction of teeth
- Transalveolar extractions and removal of simple impacted teeth
- Minor oral surgical procedures
- Management of Oro-facial infections
- Simple orthodontic appliance therapy
- Taking, processing and interpretation of various types of intra oral radiographs
- Various kinds of restorative procedures using different materials available
- Simple endodontic procedures
- Removable and fixed prosthodontics
- Various kinds of periodontal therapy

ORAL MEDICINE & RADIOLOGY

- Able to identify precancerous and cancerous lesions of the oral cavity and refer to the concerned
- speciality for their management


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- 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
- medical specialist.
- 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.
- Be aware of the importance 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
- with respect to law

PAEDIATRIC & PREVENTIVE DENTISTRY

- Able to instil 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.

ORTHODONTICS & DENTOFACIAL ORTHOPAEDICS

- 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 space regainers)
- 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

PERIODONTOLOGY

- Diagnose the patient's periodontal problem, plan and perform appropriate periodontal treatment
- Competent to educate and motivate the patient
- 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
- **PROSTHODONTICS AND CROWN & BRIDGE**
- 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.

CONSERVATIVE DENTISTRY AND ENDODONTICS

- 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

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- Competent to carry out small composite restorations
- Understand the principles of aesthetic dental procedures

ORAL & MAXILLOFACIAL SURGERY

- Able to apply the knowledge gained in the basic medical and clinical subject **ORAL & MAXILLOFACIAL SURGERY**
- 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 pertaining to the patient care and communication skills
- Should have acquired the skill to examine any patient with an oral surgical problem in an orderly manner
- Understand and practice the basic principles of asepsis and sterilisation
- 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

PUBLIC HEALTH DENTISTRY

- Apply the principles of health promotion and disease prevention
- Have knowledge of the organization and provision of health care in community and in the hospital service
- Have knowledge of the prevalence of common dental conditions in India.
- Have knowledge of community based preventive measures
- Have knowledge of the social, cultural and env. Factors which contribute to health or illness.

- Administer and hygiene instructions, topical fluoride therapy and fissure sealing.
- Educate patients concerning the aetiology and prevention of oral disease and encourage them to assure responsibility for their oral health

SYLLABUS OF STUDY

1. HUMAN ANATOMY, EMBRYOLOGY, HISTOLOGY & MEDICAL GENETICS

A) GOAL

The students should gain the knowledge and insight into, the functional anatomy of the normal human head and neck, functional histology and an appreciation of the genetic basis of inheritance and disease, and the embryological development of clinically important structures. So that relevant anatomical & scientific foundations are laid down for the clinical years of the BDS course.

B) OBJECTIVES:

a) KNOWLEDGE & UNDERSTANDING:

At the end of the 1st year BDS course in Anatomical Sciences the undergraduate student is

Expected to:

1. Know the normal disposition of the structures in the body while clinically examining a patient and while conducting clinical procedures.
2. Know the anatomical basis of disease and injury.
3. Know the microscopic structure of the various tissues, a pre-requisite for understanding of the disease processes.
4. Know the nervous system to locate the site of lesions according to the sensory and or motor


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deficits encountered.

5. Have an idea about the basis of abnormal development, critical stages of development, effects

of teratogens, genetic mutations and environmental hazards.

6. Know the sectional anatomy of head neck and brain to read the features in radiographs and pictures taken by modern imaging techniques.

7. Know the anatomy of cardio-pulmonary resuscitation.

b) SKILLS

1. To locate various structures of the body and to mark the topography of the living anatomy.

2. To identify various tissues under microscope.

3. To identify the features in radiographs and modern imaging techniques.

4. To detect various congenital abnormalities.

C) INTEGRATION

By emphasising on the relevant information and avoiding unwanted details, the anatomy taught

integrally with other basic sciences & clinical subjects not only keeps the curiosity alive in the learner

but also lays down the scientific foundation for making a better doctor, a benefit to the society.

2. HUMAN PHYSIOLOGY

A) GOAL

The broad goal of the teaching undergraduate students in Human Physiology aims at providing the

student comprehensive knowledge of the normal functions of the organ systems of the body to facilitate

an understanding of the physiological basis of health and disease.

OBJECTIVES

a) KNOWLEDGE

At the end of the course, the student will be able to:

1. Explain the normal functioning of all the organ systems and their interactions for well-co-ordinated total body function.
2. Assess the relative contribution of each organ system towards the maintenance of the milieu interior.
3. List the physiological principles underlying the pathogenesis and treatment of disease.

b) SKILLS

At the end of the course, the student shall be able to:

1. Conduct experiments designed for the study of physiological phenomena.
2. Interpret experimental and investigative data
3. Distinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory.

c) INTEGRATION



At the end of the integrated teaching the student shall acquire an integrated knowledge of organ

structure and function and its regulatory mechanisms.

BIOCHEMISTRY

AIMS AND SCOPE OF THE COURSE IN BIOCHEMISTRY

The major aim is to provide a sound but crisp knowledge on the biochemical basis of the life processes relevant to the human system and to dental/medical practice. The contents should be organised to build on the already existing information available to the students in the pre-university stage and reorienting.

3. DENTAL ANATOMY, EMBRYOLOGY AND ORAL HISTOLOGY

SKILLS

The student should acquire basic skills in:

1. Carving of crowns of permanent teeth in wax.
2. Microscopic study of Oral tissues.
3. Identification of Deciduous & Permanent teeth.
4. Age estimation by patterns of teeth eruption from plaster casts of different age groups.

OBJECTIVES

After a course on Dental Anatomy including Embryology and Oral Histology,

1. The student is expected to appreciate the normal development, morphology, structure & functions of oral tissues & variations in different pathological/non-pathological states.
2. The student should understand the histological basis of various dental treatment procedures and

physiologic ageing process in the dental tissues.

3. The students must know the basic knowledge of various research methodologies.

I. Dental anatomy

II. ORAL EMBRYOLOGY

III. ORAL HISTOLOGY

IV. ORAL PHYSIOLOGY

GENERAL PATHOLOGY

AIM:

At the end of the course the student should be competent to: Apply the scientific study of disease processes, which result in morphological and functional alterations in cells, tissues and organs to the study of pathology and the practice of dentistry.

OBJECTIVES:

Enabling the student

1. To demonstrate and apply basic facts, concepts and theories in the field of Pathology.


2. To recognize and analyze pathological changes at macroscopically and microscopical levels and

explain their observations in terms of disease processes.

3. To Integrate knowledge from the basic sciences, clinical medicine and dentistry in the study of

Pathology.

4. To demonstrate understanding of the capabilities and limitations of morphological Pathology in its


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contribution to medicine, dentistry and biological research.

5. To demonstrate ability to consult resource materials outside lectures, laboratory and tutorial

classes.

MICROBIOLOGY

AIM:

To introduce the students to the exciting world of microbes. To make the students aware of various branches of microbiology, importance, significance and contribution of each branch to mankind and other fields of medicine.

OBJECTIVES:

A. KNOWLEDGE AND UNDERSTANDING

At the end of the Microbiology course the student is expected to :

1. Understand the basics of various branches of microbiology and able to apply the knowledge

relevantly.

2. Apply the knowledge gained in related medical subjects like General Medicine and

General Surgery and Dental subjects like Oral Pathology, Community Dentistry, Periodontics,

Oral Surgery, Pedodontics, Conservative Dentistry and Oral medicine in higher classes.

3. Understand and practice various methods of Sterilisation and disinfection in dental clinics.

4. Have a sound understanding of various infectious diseases and lesions in the oral cavity.

A. SKILLS

1. Student should have acquired the skill to diagnose, differentiate various oral lesions.
2. Should be able to select, collect and transport clinical specimens to the laboratory.
3. Should be able to carry out proper aseptic procedures in the dental clinic.

GENERAL AND DENTAL PHARMACOLOGY AND THERAPEUTICS

GOAL:

The broad goal of teaching under graduate students in pharmacology is to inculcate rational and scientific basis of therapeutics keeping in view of dental curriculum and Profession.

OBJECTIVES:

At the end of the course the student shall be able to:

- i) Describe the pharmacokinetics and pharmacodynamics of essential and commonly used drugs in general and in dentistry in particular.
- ii) List the indications, contraindications; interactions, and adverse reactions of commonly used drugs with reason.
- iii) Tailor the use of appropriate drugs in disease with consideration to its cost, efficacy, safety for individual and mass therapy needs.
- iv) Indicate special care in prescribing common and essential drugs in special medical situations such as pregnancy, lactation, old age, renal, hepatic damage and immunocompromised patients.
- v) Integrate the rational drug therapy in clinical pharmacology.
- vi) Indicate the principles underlying the concepts of "Essential drugs".

SKILLS:

At the end of the course the student shall be able to:

- 1) Prescribe drugs for common dental and medical ailments.
- 2) To appreciate adverse reactions and drug interactions of commonly used drugs.
- 3) Observe experiments designed for study of effects of drugs.
- 4) Critically evaluate drug formulations and be able to interpret the clinical pharmacology of marketed preparations commonly used in dentistry.
- 5) INTEGRATION: Practical knowledge of use of drugs in clinical practice will be acquired through integrated teaching with clinical departments.

DENTAL MATERIALS

The science of Dental Material has undergone tremendous changes over the years. Continued research has led to new material systems and changing concepts in the dental field. Interlinked with various specialised branches of chemistry, practically all engineering applied sciences and biological characteristics, the science of dental material emerged as a basic sciences in itself with its own values and principles.

AIMS:

Aim of the course is to present basic chemical and physical properties of Dental materials as they are related to its manipulation to give a sound educational background so that the practice of the dentistry emerged from art to empirical status of science as more information through further research becomes available. It is also the aim of the course of Dental materials to provide with certain criteria of selection and which will enable to discriminate between facts and propaganda with regards to claims of manufactures.

OBJECTIVES:

To understand the evolution and development of science of dental material.

To explain purpose of course in dental materials to personnels concerned with the profession of the dentistry. Knowledge of physical and chemical properties. Knowledge of biomechanical requirements of particular restorative procedure. An intelligent compromise of

the conflicting as well as co-ordinating factors into the desired result. Laying down standards or specifications of various materials to guide manufacturers as well as to help professionals. Search for newer and better materials which may answer our requirements with greater satisfaction. To understand and evaluate the claims made by manufacturers of dental materials

NEEDS FOR THE COURSE:

The profession has to rise from an art to a science, the need for the dentist to possess adequate knowledge of materials to exercise his best through knowledge of properties of different types of materials. The growing concern of health hazards due to mercury toxicity, inhalation of certain vapour or dust materials, irritations and allergic reaction to skin due to contact of materials. Materials causing irritation of oral tissues, pH of restorative materials causing inflammation and necrosis of pulp which is a cause for the dentist to possess wider knowledge of physical, chemical and biological properties of materials being used. For the protection for the patient and his own protection certain criteria of selection are provided that will enable the dentist to discriminate between facts and propaganda, which will make a material biologically acceptable.

SCOPE:

Dental materials are employed in mechanical procedures including restorative dentistry such as Prosthodontics, endodontics, periodontal, orthodontics and restorative materials. There is scarcely a dental procedure that does not make use of dental materials in one form or another and therefore the application of dental material is not limited to any one branch of dentistry. Branches such as minor surgery and periodontics require less use of materials but the physical and chemical characters of materials are important in these fields. The toxic and tissue reaction of dental materials and their durability in the oral cavity where the temperature is between 32 & 37 degree centigrade, and the ingestion of hot or cold food ranges from 0-70 degree centigrade. The acid and alkalinity of fluids shown pH varies from 4 to 8.5. The load on 1 sq. mm of tooth or restorative materials can reach to a level as high as many kilograms. Thus the biological properties of dental materials cannot be separated from their physical and chemical properties.

PRE CLINICAL CONSERVATIVE DENTISTRY LABORATORY EXERCISES

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1. Identification and study of handcutting instruments chisels, gingival margin trimmers, excavators and hatchet.
2. Identification and use of rotary cutting instruments in contra angle hand pieces burs
(Micromotor)
3. Preparation class I and extended class I and class II and MOD's and class V amounting to 10 exercises in plaster models.
4. 10 exercises in mounted extracted teeth of following class I, 4 in number class I extended cavities 2, class II 4 in number and Class V 2 in number. Cavity preparation base application matrix and wedge placement restoration with amalgam.
5. Exercises on phantom head models which includes cavity preparation base and varnish application matrix and wedge placement followed by amalgam restoration.

Class I 5; Class I with extension 2; Class II 10; Class II Mods 2; Class V and III for glass ionomers 4; Class V for amalgam 2
6. Polishing of above restorations.
7. Demonstration of Class III and Class V cavity preparation. For composites on extracted tooth completing the restoration.
8. Polishing and finishing of the restoration of composites.
9. Identification and manipulation of varnish bases like Zinc Phosphate, Poly carboxylate, Glass Ionomers, Zinc Oxide, Eugenol cements.
10. Identification and manipulation of various matrices, tooth separators and materials like composites and modified glass ionomer cements.
11. Cast Restoration
 - Preparation of Class II inlay cavity

- Fabrication of wax pattern
- Sprue for inner attachment investing
- Investing of wax pattern
- Finishing and cementing of class II inlay in extracted tooth.

12. Endodontics

- Identification of basic endodontic instruments
- Coronal access cavity preparation on extracted. Upper central incisors
- Determination of working length.
- Biomechanical preparation of root canal space of central incisor
- Obfuration of root canal spaces. Absens of coronal access cavity.
- Closure of access cavity

ORAL PATHOLOGY & ORAL MICROBIOLOGY

OBJECTIVES:

At the end of Oral Pathology & Oral Microbiology course, the student should be able to comprehend

1. The different types of pathological processes, that involve the oral cavity.
2. The manifestations of common diseases, their diagnosis & correlation with clinical pathological processes.
3. An understanding of the oral manifestations of systemic diseases should help in correlating with the systemic physical signs & laboratory findings.
4. The student should understand the underlying biological principles governing treatment of oral diseases.
5. The principles of certain basic aspects of Forensic Odontology.

SKILLS:

Leaf

1. Microscopic study of common lesions affecting oral tissues through microscopic slides & projection slides.
2. Study of the disease process by surgical specimens.
3. Study of teeth anomalies/polymorphisms through tooth specimens & plaster casts.
4. Microscopic study of plaque pathogens.
5. Study of haematological preparations (blood films) of anaemias & leukemias.
6. Basic exercises in Forensic Odontology such as histological methods of age estimation and appearance of teeth in injuries.

GENERAL MEDICINE

GUIDELINES:

Special emphasis should be given throughout on the importance of various diseases as applicable to dentistry.

1. Special precautions/ contraindication of anaesthesia and various dental procedures in different systemic diseases.
2. Oral manifestations of systemic diseases.
3. Medical emergencies in dental practice.

A dental student should be taught in such a manner he/she is able to record the arterial pulse, blood pressure and be capable of suspecting by sight and superficial examination of the body diseases of the heart, lungs, kidneys, blood etc. He should be capable of handling medical emergencies encountered in dental practice.

GENERAL SURGERY

AIMS:

To acquaint the student with various diseases, which may require surgical expertise and to train the student to analyze the history and be able to do a thorough physical examination of the patient. The diseases as related to head and neck region are to be given due importance, at the same time other relevant surgical problems are also to be addressed. At the end of one year of study the student should have a good theoretical knowledge of various ailments, and be practically trained to differentiate benign and malignant diseases and be able to decide which patient requires further evaluation.

CONSERVATIVE DENTISTRY AND ENDODONTICS

OBJECTIVES:

A. Knowledge and understanding

B. Skills and

C. Attitudes

A). Knowledge and understanding:

The graduate should acquire the following knowledge during the period of training.

- i. To diagnose and treat simple restorative work for teeth.
- ii. To gain knowledge about aesthetic restorative material and to translate the same to patients needs.
- iii. To gain the knowledge about endodontic treatment on the basis of scientific foundation.
- iv. To carry out simple endodontic treatment.
- v. To carry out simple restoration of tooth and its treatment and to provide emergency endodontic treatment.



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SKILLS:

He should attain following skills necessary for practice of dentistry

- i) To use medium and high speed hand pieces to carry out restorative work.
- ii) Posses the skills to use and familiarise endodontic instruments and materials needed for carrying out simple endodontic treatment.
- iii) To achieve the skills to translate patients aesthetic needs along with function.

ATTITUDES:

- i). Maintain a high standard of professional ethics and conduct and apply these in all aspects of professional life.
- ii). Willingness to participate in CDE programme to update the knowledge and professional skill from time to time.
- iii). To help and participate in the implementation of the national oral health policy.
- iv). He should be able to motivate the patient for proper dental treatment at the same time proper maintenance of oral hygiene should be emphasise which will help to maintain the restorative work and prevent future damage.

ORAL & MAXILLOFACIAL SURGERY

AIMS:

To produce a graduate who is competent in performing extraction of teeth under both local and general anaesthesia, prevent and manage related complications, acquire a reasonable knowledge and understanding of the various diseases, injuries, infections occurring in the Oral & Maxillofacial region and offer solutions to such of those common conditions and has an exposure in to the in-patient management of maxillofacial problems.

OBJECTIVES:

a) Knowledge & Understanding:

At the end of the course and the clinical training the graduate is expected to -

1. Able to apply the knowledge gained in the related medical subjects like pathology, microbiology and general medicine in the management of patients with oral surgical problem.
2. Able to diagnose, manage and treat (understand the principles of treatment of) patients with oral surgical problems.
3. Knowledge of range of surgical treatments.
4. Ability to decide the requirement of a patient to have oral surgical specialist opinion or treatment.
5. Understand the principles of in-patient management.
6. Understanding of the management of major oral surgical procedures and principles involved inpatient management.
7. Should know ethical issues and communication ability.

b) Skills:

1. A graduate should have acquired the skill to examine any patient with an oral surgical problem in an orderly manner. Be able to understand requisition of various clinical and laboratory investigations and is capable of formulating differential diagnosis.
2. Should be competent in the extraction of teeth under both local and general anaesthesia.
3. Should be able to carry out certain minor oral surgical procedures under L.A. like frenectomy, alveolar procedures & biopsy etc.
4. Ability to assess, prevent and manage various complications during and after surgery.
5. Able to provide primary care and manage medical emergencies in the dental office.


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6. Understanding of the management of major oral surgical problems and principles involved in inpatient management.

ORAL MEDICINE AND RADIOLOGY

AIMS:

- (1) To train the students to diagnose the common disorders of Orofacial region by clinical examination and with the help of such investigations as may be required and medical management of oro-facial disorders with drugs and physical agents.
- (2) To train the students about the importance, role, use and techniques of radiographs/digital radiograph and other imaging methods in diagnosis.
- (3) The principles of the clinical and radiographic aspects of Forensic Odontology.

The syllabus in ORAL MEDICINE & RADIOLOGY is divided into two main parts.

(I) Diagnosis, Diagnostic methods and Oral Medicine (II) Oral Radiology. Again the part ONE is subdivided into three sections. (A) Diagnostic methods (B) Diagnosis and differential diagnosis (C) Oral Medicine & Therapeutics.

COURSE CONTENT

- (1) Emphasis should be laid on oral manifestations of systemic diseases and ill-effects of oral sepsis on general health.
- (2) To avoid confusion regarding which lesion and to what extent the student should learn and know, this elaborate syllabus is prepared. As certain lesions come under more than one group, there is repetition.

ORTHODONTICS & DENTAL ORTHOPAEDICS

COURSE OBJECTIVE:

Undergraduate programme in Orthodontics is designed to enable the qualifying dental surgeon to diagnose, analyse and treat common orthodontic problems by preventive, interceptive and corrective orthodontic procedures. The following basic instructional procedures will be adapted to achieve the above objectives.

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 space regainers)

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

PUBLIC HEALTH DENTISTRY


GOAL:

To prevent and control oral diseases and promote oral health through organized community efforts

OBJECTIVES:

Knowledge: At the conclusion of the course the student shall have a knowledge of the basis of public health, preventive dentistry, public health problems in India, Nutrition, Environment and their role in health, basics of dental statistics, epidemiological methods, National oral health policy with emphasis on oral health policy.

Skill and Attitude:


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At the conclusion of the course the students shall have require at the skill of identifying healthproblems affecting the society, conducting health surveys, conducting health education classes anddeciding health strategies. Students should develop a positive attitude towards the problems of the society and must take responsibilities in providing health.

Communication abilities:

At the conclusions of the course the student should be able to communicate the needs of the community efficiently, inform the society of all the recent methodologies in preventing oral disease

PERIODONTOLOGY

OBJECTIVES:

The student shall acquire the skill to perform dental scaling,diagnostic tests of periodontal diseases; touse the instruments for periodontal therapy and maintenance of the same.The student shall develop attitude to impart the preventive measures namely, the prevention ofperiodontal diseases and prevention of the progress of the disease. The student shall also develop anattitude to perform the treatment with full aseptic precautions; shall develop an attitude to preventiatrogenic diseases; to conserve the tooth to the maximum possible time by maintaining periodontalhealth and to refer the patients who require specialist's care.

PROSTHODONTICS AND CROWN & BRIDGE

Able to understand and use various dental materials

Competent to carry out treatment of conventional complete and partial removable dentures andfabricate fixed partial dentures

Able to carry out treatment of routine prosthodontic procedures.

Familiar with the concept of osseointegration and the value of implant-supportedProsthodonticprocedures

PAEDIATRIC & PREVENTIVE DENTISTRY

Able to instil 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.

CURRICULUM OF DENTAL INTERNSHIP PROGRAMME.

1. The duration of Internship shall be one year.
2. All parts of internship shall be done in a Dental College duly recognized/approved by the Dental Council of India for the purpose of imparting education and training to Dental graduates in the country.
3. The Interns shall be paid stipendiary allowance during the period of an Internship not extending beyond a period of one year.
4. The internship shall be compulsory and rotating as per the regulations prescribed for the purpose.
5. The degree- BDS shall be granted after completion of internship.

Determinants of Curriculum for internship for Dental Graduates:

The curricular contents of internship training shall be based on.


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- i) Dental health needs of the society.
- ii) Financial, material and manpower resources available for the purpose.
- iii) National Dental Health Policy.
- iv) Socio-economic conditions of the people in general.
- v) Existing Dental as also the primary health care concept, for the delivery of health services.
- vi) Task analysis of what graduates in Dentistry in various practice settings, private and government service actually performs.
- vii) Epidemiological studies conducted to find out prevalence of different dental health problems, taking into consideration the magnitude of dental problems, severity of dental problems and social disruption caused by these problems.

Objectives:

A. To facilitate reinforcement of learning and acquisition of additional knowledge:-

- a) Reinforcement of knowledge.
- b) Techniques & resources available to the individual and the community; Social and cultural setting.
- c) Training in a phased manner, from a shared to a full responsibility.

B. To facilitate the achievement of basic skills: attaining competence Vs. maintaining competence in:

- i) History taking.

ii) Clinical Examination.

iii) Performance and interpretation of essential laboratory data.

iv) Data analysis and inference.

v) Communication skills aimed at imparting hope and optimism in the patient.

vi) Attributes for developing working relationship in the Clinical setting and

Community team work.

C To facilitate development of sound attitudes and habits:

i) Emphasis on individual and human beings, and not on disease/symptoms.

ii) Provision of comprehensive care, rather than fragmentary treatment.

iii) Continuing Dental Education and Learning of accepting the responsibility.

D. To facilitate understanding of professional and ethical principles:

- Right and dignity of patients.

- Consultation with other professionals and referral to seniors/institutions.

- Obligations to peers, colleagues, patients, families and Community.

- Provision of free professional services in an emergent situation.

E. To initiate individual and group action, leading to disease prevention and dental health

promotion, at the level of individuals families and the community.

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