

MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH

(Deemed To Be University U/S 3 OF UGC ACT, 1956)

12, Vembuliamman Koil Street, West K.K. Nagar, Chennai – 600 078

FACULTY OF DENTAL SCIENCES



**MASTER OF DENTAL SURGERY (MDS) IN
ORAL AND MAXILLOFACIAL SURGERY**

REGULATION AND SYLLABUS(REGULATION – 2007)

Effective from the Academic Year 2007 - 2008

Effective from the Academic Year 2007 Onwards

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MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH
MEENAKSHI AMMAL DENTAL COLLEGE AND HOSPITAL
(Affiliated to MAHER)
MASTER OF DENTAL SURGERY (MDS) IN
ORAL AND MAXILLOFACIAL SURGERY
REGULATION -2007

VISION AND MISSION OF
MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH

VISION

To be a world-class institution, transforming society through value-based diverse programs and healthcare advancements, leading to the all-around development of human resources, knowledge, innovation, entrepreneurship, and research.

MISSION

- To become an institute of eminence by developing world-class professionals in the field of healthcare, science, liberal arts, technology and research with a focus on the societal good.
- To create an enabling state-of-the-art infrastructure, intellectual capital and provide best-in-class learning experience with a freedom to innovate and invent.
- To foster values and ethics so as to develop students and learners into responsible citizens of the Nation and the world.

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VISION AND MISSION OF
MEENAKSHI AMMAL DENTAL COLLEGE AND HOSPITAL

VISION

To create a center of excellence in all dental specialties by imparting quality education to undergraduate and postgraduate students and to deliver a quality dental care to the public. To raise the standard of dental education on par with the global standards and to perform high quality dental research that will benefit the public.

MISSION

- To enhance the quality of dental education to world class standards
- To train the students in basic and advanced techniques used in delivering dental care
- To provide high quality dental treatment at affordable cost
- To motivate the students to do ethical clinical practice

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ORAL AND MAXILLOFACIAL SURGERY
REGULATION -2007

VISION AND MISSION OF
DEPARTMENT OF ORAL AND MAXILLOFACIAL SURGERY

VISION

To be recognized by the surgical and medical fraternity as a unique and best referral centre that catersto specialty treatment of congenital deformities , head and neck pathology, reconstructive, rehabilitative and trauma care in head and neck region.

MISSION

- To achieve reasonable level of perfection in providing quality dental care efficiently and effectively, backed by scientific knowledge and skill;
- To attain comprehensive knowledge on preventive, interceptive and therapeutic aspects.
- To provide affordable and superior quality oral surgical healthcare that would benefit the patient and inspire the patient to recommend our centre to family and friends.
- To provide effective treatment ground for budding dental specialists and maxillofacial surgeons to be highly competent in their field.
- To enable students confer correct and proper diagnosis.
- To train students with well equipped clinical skills in basic life support protocols.
- To achieve excellence to meet global standards

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REGULATION -2007

PROGRAMME EDUCATION OBJECTIVES (PEO's)

- PEO 1** To prepare graduates for a successful technical and professional career in Oral and Maxillofacial Surgery
- PEO 2** To inculcate professional and ethical attributes in the students and to promote lifelong learning of attributes related to Oral and Maxillofacial Surgery.
- PEO 3** To develop graduates with enhanced technical acumen, aptitude, communication and professional skills to deliver quality surgical care to the community which includes both minor and major surgery.
- PEO 4** To enable students to understand the principles of surgery and post operative patient care and peri-operative management of surgical patients

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MASTER OF DENTAL SURGERY (MDS)IN

ORAL AND MAXILLOFACIAL SURGERY

REGULATION -2007

PROGRAM OUTCOMES (PO's)

- PO 1** To have acquired adequate knowledge and understanding of the etiology, pathophysiology and diagnosis, treatment planning of various common oral and maxillofacial surgical problems both minor and major in nature.
- PO 2** To have understood the general surgical principles like pre and post surgical management, particularly evaluation, post surgical care, fluid and electrolyte management, blood transfusion and post surgical pain management.
- PO 3** Able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in the oral and maxillofacial region.
- PO 4** To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant laboratory tests and interpret them and to arrive at a reasonable diagnosis about the surgical condition.
- PO 5** To perform with competence minor oral surgical procedures and common maxillofacial surgery. To treat both surgically and medically the problems of the oral and Maxillofacial and the related area.
- PO 6** Develop attitude to adopt ethical principles in all aspect of surgical practice, professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- PO 7** Willing to share the knowledge and clinical experience with Professional colleagues.
- PO 8** Willing to adopt new techniques of surgical management developed from time to time based on scientific research which are in the best interest of the patient
- PO 9** Respect patient right and privileges, including patients right to information and right to seek a second opinion
- PO 10** Develop attitude to seek opinion from an allied medical and dental specialists as and when required.

**MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH
MEENAKSHI AMMAL DENTAL COLLEGE AND HOSPITAL**

(Affiliated to MAHER)

**MASTER OF DENTAL SURGERY (MDS) IN
ORAL & MAXILLOFACIAL SURGERY
REGULATION -2007**

PROGRAM SPECIFIC OUTCOMES (PSO's)

- PSO 1*** The Ability to analyze and implement the knowledge gained in the basic medical and clinical subjects in the management of patients with surgical problems clinically. Able to diagnose, manage and treat patients with basic oral surgical problems.
- PSO 2*** 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.
- PSO 3*** Graduates should be competent in the extraction of the teeth under both local and general anesthesia. Competent to carry out certain minor oral surgical procedures under LA like transalveolar extraction, frenectomy, dento alveolar procedures, simple impaction, biopsy, etc
- PSO4*** 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 in-patient management.

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MASTER OF DENTAL SURGERY (MDS) IN
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REGULATION -2007

In exercise of the powers conferred by the Board of Management, Meenakshi academy of higher education and research, deemed to be University, Chennai hereby makes the following Regulations:

1. SHORT TITLE

These Regulations shall be called “THE REGULATIONS FOR THE MASTER OF DENTAL SURGERY (MDS) DEGREE PROGRAMME IN ORAL AND MAXILLOFACIAL SURGERY of MEENAKSHI AMMAL DENTAL COLLEGE AND HOSPITAL” affiliated to MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH deemed to be University.

2. COMMENCEMENT

They shall come into force from the academic year 2007-2008 onwards.

The Regulations and the Syllabus are subject to modification by the Academic council and board of studies from time to time.

3. TITLE OF THE PROGRAM

The program shall be called Master of Dental Surgery (MDS) in Oral and Maxillofacial Surgery.

4. SYLLABUS

The syllabus for MDS programme includes Applied Basic Sciences, Allied specialties and subjects of pertaining to the Department of Oral and Maxillofacial Surgery

5. ELIGIBILITY FOR ADMISSION

A candidate for admission to the MDS course (Master of Dental Surgery) must have a recognized degree of BDS (Bachelor of Dental Surgery) awarded by an Indian University in respect of recognized Dental College under Section IO (2) of the Dentists Act, 1948 or an equivalent qualification recognized by the Dental Council of India and should have obtained permanent registration with the State Dental Council. Candidates not possessing a recognized Dental qualification for the above purpose should secure the prior approval of his qualifications by the Dental Council of India before he/she admitted to the MDS Course of any University in India.

Qualification for the above purpose should secure the prior approval of his qualifications by the Dental Council of India before he/she can be admitted to the MDS course of any University in India.

Candidates who possess PG Diploma' recognized by the DCI with the duration of 2years (proposed} in particular specialty is eligible for admission in MDS in the same specialty and the duration will be 2 years. The syllabus of two years programme will be as per the concerned university guidelines.

Provided that in the cane of a foreign national, the Dental Council of India may, on payment of the prescribed fee for registration, grant temporary registration for the duration of the postgraduate training restricted to the dental college/institution to which he is admitted for the time being exclusively for postgraduate studies.

Provided that further temporary registration to such foreign national shall be subject to the condition that such person is duly registered as dental practitioner in his own country from which he has obtained his basic dental qualification and that his degree is recognized by the corresponding dental council or concerned authority.

6. CRITERIA FOR SELECTION:

- (1) Students for postgraduate dental courses [MDS] shall be selected strictly on the basis of their academic merit.

(2) For determining the academic merit, the university/institution may adopt any one of the following procedures both for P.G. Diploma and MDS degree courses:

- (i) On the basis of merit as determined by a competitive test conducted by the State Government or by the competent authority appointed by the State Government or by the University/group of universities in the same state; or
- (ii) On the basis of merit as determined by a centralized competitive test held at the national level; or
- (iii) On the basis of the individual cumulative performance at the first, second, third & Final B.D.S. examinations, if such examinations have been passed from the same university; or
- (iv) Combination of (i) and (iii)

Provided that wherever entrance test for Postgraduate admissions is held by a state Government or a university or any other authorized examining body, the minimum percentage of marks for eligibility for admission to postgraduate Dental courses shall be 50% for general category candidates and 40% for the candidates belonging to Scheduled Castes and Scheduled Tribes.

Provided further that in non-governmental institutions fifty percent of the total seats shall be filled by the competent authority and the remaining fifty percent, by the management of the institution on the basis of merit.

7. ADMISSION PROCEDURE

Admission shall be made as per the Government and University norms.

8. CUT-OFF DATES FOR ADMISSION TO EXAMINATION

The cut-off date for admission, even for stray vacancies, in the Master of Dental Surgery Programme shall be 31st of May, every year.

9. COMMENCEMENT OF THE PROGRAM

The academic session shall be commenced from 1st of May

10. PERIOD OF TRAINING:

The Course shall be of three years duration.

All the candidates for the degree of MDS are required to pursue the prescribed course for at least three academic years course as full time candidates in a BDS recognised and MDS

Approved/recognized Institution under the direction of the Head of the Department, who has to be a recognized postgraduate teacher in that specialty

11. GENERAL:

1) The institutions recognized by the Dental Council of India for running Postgraduate courses prior to the commencement of the Dentists (Amendment) Act, 1993 and those dental colleges recognized for running Bachelor of Dental Surgery (BDS) course or institutions established by the Central Government for the purpose of imparting postgraduate dental education shall be eligible for starting any postgraduate degree or diploma and higher specialty course after a periodic inspection to ascertain the BDS requirement by DCI in all aspects.

2) The maximum number of students for a postgraduate dental course, who can be registered in any recognized department, for training for the award of postgraduate degree or diploma by the affiliating university, shall be determined by the facilities available in the department in terms of infrastructure, teaching staff and clinical teaching material. However, to start with a maximum of 3 P.G. Students will be permitted.

3) Every student, selected for admission to a postgraduate dental course in any of the dental institutions in the country, shall possess recognized BDS degree or equivalent qualification and should have obtained Registration with any of the State Dental Councils or should obtain the same within one month from the date of his admission, failing which the admission of the candidate shall be cancelled;

Provided that in the case of a foreign national, the Dental Council of India may, on payment of the prescribed fee for registration, allow temporary registration for the duration of the postgraduate training restricted to the dental college/institution to which he is admitted for the time being exclusively for postgraduate studies;

Provided further that temporary registration to such foreign national shall be subject to the condition that such person is duly registered as dental practitioner in his own country from which he has obtained his basic dental qualification and that his degree is recognized by the Dental Council of India and corresponding dental Council or concerned authority and concerned university and M's of External/Home Affairs have no objection for granting admission in India

4) The students undergoing postgraduate courses shall be exposed to the following:-

- (a) Basics of statistics to understand and critically evaluate published research papers.
- (b) Few lectures on other type of exposure to human behavior Studies.

- (c) Basic understanding of pharmaco-economics.
- (d) Introduction to the non-linear mathematics.

12. METHOD OF TRAINING

During the period of training, each student shall take part actively in learning and teaching activities design of training, by the institution or the university. The teaching and learning activities in each specialty shall be as under:-

- a) Journal Clubs: 5 in a year
- b) Seminars: 5 in a year
- c) Clinical Case Presentations: 4 in a year
- d) Lectures taken for undergraduates: 1 in a year
- e) Scientific Paper / Poster Presentations: 4 papers/posters during In State / National Level Conferences / three years of training workshop period
- f) Scientific Publications (optional) : one publication in any indexed scientific journal
- g) Submission of Synopsis: one synopsis within six months from the date of commencement of the course
- h) Submission of Dissertation: one dissertation within six months before appearing for the university examination
- i) Submission of Library Dissertation: one dissertation within eighteen months from the date of commencement of the course

13. MONITORING PROGRESS OF THE STUDIES:

- i. Every Post Graduate candidate shall maintain a record of skills [Log Book] he has acquired during the three years training period, certified by the various Heads of Departments he has undergone training.
- ii. The candidate should record of his / her participation in the training programme conducted by the department such as journal reviews, seminars, etc. in the Log book.
- iii. Special mention may be made of the presentations by the candidate as well as details of clinical or laboratory procedures, if any conducted by the candidate.
- iv. The Head of the Department shall scrutinize the Log Book every 3 months.
- v. At the end of the course, the candidate should summaries the contents and the Log Book certified by the Head of the Department and Head of the Institution.
- vi. The Log Book should be submitted at the time of University practical / Clinical Examination for the scrutiny of the board of Examine

14. MIGRATION:

- Under no circumstances, the migration or the transfer of students undergoing post-graduate degree/Diploma shall be permitted by the university or the authority.
- No inter-change of the specialty in the same institution or in any other institution shall be permitted after the date of the commencement of session.

15. REQUIREMENTS FOR ADMISSION TO EXAMINATIONS:

Eligibility:

The following requirements shall be fulfilled by every candidate to become eligible for the final examination.

A) Attendance; every candidate should have fulfilled the minimum attendance prescribed by Dental Council of India and respective University {80 % of the attendance during each academic year of the postgraduate course}.

B) Progress and conduct: Every candidate should have participated in seminars, journal review meetings, symposia, conferences, case presentations, clinics and didactic lectures during each year as designed by the concerned department.

C) Work diary and log book: Every candidate shall maintain a work diary and log book for recording his/her participation in the training programs conducted by the department. The work diary and log book shall be verified and certified by the Head of the Department and Head of the institution. The certification of satisfactory progress is based on the work diary and log book.

D) Dissertation: The dissertation work should have been accepted by the University who appointing the examiners.

E) University Examination : There shall be one examination at the end of 3 years

F) Dissertation: Every candidate appearing for the MDS degree examination for the first time shall submit with his application for the admission to the Examination, four type written copies of a dissertation of a research topic undertaken by the candidate and prepared under the direction and guidance and to the satisfaction of his University teacher. The dissertation should be submitted 3 months prior to the MDS Examination. The dissertation shall be referred to the Examiners for the MDS examination and acceptance of it by the examiners shall be a precondition to the admission of the candidate to the written part of the examination.

A candidate whose dissertation has been accepted by the examiners, but who is declared to have failed at the examination will be permitted to reappear at the subsequent MDS examination without having to prepare a new dissertation. If, however, the dissertation is rejected, the authorities shall give reasons thereof and suggestion for the improvement of the same and the dissertation thus improved will have to be resubmitted to the examiners and accepted before appearing in MDS Examinations.

16. WRITTEN EXAMINATION:

The written examination shall consist of four papers, out of which two shall be pertaining to the specialty; one in Applied Basic Science and one shall be on Essay. Each paper shall be of three hours duration.

17. CLINICAL/PRACTICAL EXAMINATION

It should aim at examining clinical skill, performance and competence of the candidate for undertaking independent works as a specialist. The actual format of clinical examination in various specialties could be worked out by various universities making sure that the candidate is given ample opportunity to perform various clinical procedures. The council desires that the actual format is made known to the students prior to the examination well in advance by the respective universities.

18. VIVA-VOCE EXAMINATION

Viva voce examination aims at assessing the depth of knowledge, logical reasoning, confidence and verbal communication skill of the students.

The Council desires that only two examiners shall conduct the viva voce at a time as two teams, each team for 20 minutes. When one examiner is conducting the viva, the

other examiner could make a note of the questions asked and the performance level to enable proper assessment and award of marks.

19. DISTRIBUTION OF MARKS AT THE UNIVERSITY EXAMINATION:

THEORY:

Paper I 75 Marks

Paper II 75 Marks

Paper III 75 Marks

Paper IV 75 Marks

Total 300 Marks

Practical & Clinical Examination: 200 Marks

Viva- voice : 100 Marks

A Candidate who wishes to study for MDS in a second specialty shall have to take the full course of 3 years in that specialty.

20. PATTERN OF EXAMINATION & COURSES OF STUDY:

S.No	Course Code	Course Name	Number of hours	Internal Assessment	External Assessment	Total marks
1	6115	Applied Anatomy, Physiology and Pathology	3	-	100	100
2	6116	Minor Oral Surgery and Trauma	3	-	100	100
3	6117	Maxillofacial Surgery and Oral Implantology	3	-	100	100
4	6118	Recent Advances - Essay	3	-	100	100

Course I: Applied Basic sciences - Code 6115

1. Applied Anatomy,

2. Physiology,
3. Biochemistry,
4. Pathology,
5. Applied Pharmacology and Therapeutics,

Course– II: Minor Oral Surgery and Trauma - Code 6116

1. Principles of Surgery
2. Medical Emergencies
3. Haemorrhage and Shock
4. Exodontia
5. Impaction
6. Transplantation of teeth
7. Surgical Endodontic
8. Preprosthetic Surgery
9. Procedures to Improve Alveolar Soft Tissues
10. Infections of Head and Neck
11. Chronic infections of the jaws
12. Maxillary Sinus
13. Cysts of the Orofacial Region
14. Neurological disorders of the Maxillofacial Region
15. Implantology
16. Anesthesia
17. Maxillofacial Trauma

Paper – III: Maxillofacial Surgery and Oral Implantology- Code- 6117

1. Salivary gland
2. Temporomandibular Joint
3. Oncology
4. Orthognathic surgery
5. Cysts and tumors of oro-facial region
6. Laser surgery
7. Cryosurgery
8. Cleft lip and palate surgery

9. Craniofacial surgery

Paper – IV: Essays- Code -6118

1. Recent advances

21. SCHEME OF EXAMINATION:

A. Theory: Part-I:Basic Sciences Paper - 75 Marks

Paper-II - 75 Marks,

Paper-III - 75 Marks &

Paper-IV - 75 Marks

Total -- 300 Marks

Written examination shall consist of Basic Sciences Paper (Paper-I) , Paper II, Paper III and Paper IV, each paper is of three hours duration and should be conducted at the end of Third year of MDS course. Paper-I & Paper-II shall consist of two long answer questions carrying 25 marks each and five questions carrying 10 marks each. Paper-III will be on Essays. In Paper-III three Questions will be given and student has to answer any two questions. Each question carries 50 marks. Questions on recent advances may be asked in any or all the papers. Distribution of topics for each paper will be as follows: *

Paper-I : Applied Basic Sciences. -6115

Paper – II : Minor Oral Surgery and Maxillofacial Trauma - 6116

Paper – III : Maxillofacial Surgery and Oral Implantology -6117

Paper – IV : Recent Advances- Essays -6118

**The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.*

B. Practical / Clinical Examination - 200 Marks

1. Minor Oral Surgery - 100 Marks

Each candidate is required to perform the minor oral surgical procedures under local anaesthesia. The minor surgical cases may include removal of impacted lower third molar, cyst enucleation, any similar procedure where students can exhibit their professional skills in raising the flap, removing the bone and suturing the wound.

2. Case presentation and discussion:

- (a) One long case - 60 Marks
- (b) Two short cases - 40 Marks (20 marks each)

C. Viva Voce - 100 Marks

i. Viva-Voce examination: 80 Marks

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, and expression, interpretation of data and communication skills. It includes all components of course contents. It includes presentation and discussion on dissertation also.

ii. Pedagogy: 20 Marks

A topic is given to each candidate in the beginning of clinical examination. He/she is asked to make a presentation on the topic for 8-10 minutes.

22. EXAMINERS:

There shall be at least four examiners in each subject. Out of them two shall be external examiners. The qualification and teaching experience for appointment of an examiner shall be as laid down by the Dental Council of India and the respective university.

23. EXAMINATION CENTER:

When the PG university exam is being conducted in the same city/town having more than one PG institution under the same university, one central examination centre shall be fixed by the concerned university and all the PG students from all the PG institutions of the city will take the examination in that centre only. Centers can be rotated as per the direction of the university.

24. VALUATION OF ANSWER BOOKS:

All the answer books shall be valued by four examiners, two internal and two external and the average marks will be computed.

The University examination for M.D.S. Programme will be held once at the end of the third

academic year. The university shall conduct two examinations in a year, a Regular and an Arrear Examinations in the month of April and October respectively. The Final year MDS year examination (Theory and Practical) should not be conducted before April of each academic year.

25. CRITERIA FOR DECLARING AS PASS

To pass in the University examination, a candidate shall secure in both theory examination and in practical/clinical including viva voce independently an aggregate of 50% of total marks (150 marks out of 300 allotted for theory and 150 out of 200 for clinical + 100 for viva voce together). A candidate securing fewer marks as described above shall be declared to have failed in the examination

26. AWARD OF DEGREE

A candidate who is declared successful in the examination shall be granted a Degree of Master of Dental Surgery in the respective specialty

COURSE DESCRIPTION

COURSE - I

Course code	Course name	Mark allocation	Number of hours
6115	Applied Basic Sciences - Paper I	75 marks	150 hours

Course objectives

1. A thorough knowledge both on theory and principles in general and particularly the basic medial subjects relevant to the practice of maxillofacial surgery.
2. It is desirable to have adequate knowledge in bio-statistics, Epidemiology, research methodology, nutrition and computers.
3. Essential knowledge of personal hygiene and infection control, prevention of cross infection and safe disposal of hospital waste keeping in view the high prevalence of hepatitis and HIV.

Syllabus

Applied Basic Sciences: Applied Anatomy, Physiology, & Biochemistry, Pathology, Microbiology, Pharmacology, Research Methodology and Biostatistics.

1.1 Applied Anatomy:

General Human Anatomy –Gross Anatomy, anatomy of Head and Neck in detail:Cranial and facial bones, TMJ and function, muscles of mastication and facial expression, muscles of neck and back including muscles of deglutition and tongue, arterial supply and venous drainage of the head and neck, anatomy of the Para nasal sinuses in relation to the Vth cranial nerve. General considerations of the structure and function of the brain, brief considerations of V, VII, XI, XII, cranial nerves and autonomic nervous system of the head and neck. The salivary glands, Pharynx, Larynx Trachea, Oesophagus, Functional Anatomy of masticatory muscles, Deglutition, speech, respiration, and circulation, teeth eruption, morphology, occlusion and function. Anatomy of TMJ, its movements and myofacial pain dysfunction syndrome.

Embryology –Development of the face, tongue, jaws, TMJ, Paranasal sinuses, pharynx, larynx, trachea, esophagus, Salivary glands, Development of oral and Para oral tissues including detailed aspects of tooth formation.

Growth & Development –Facial form and Facial growth and development overview of Dentofacial growth process and physiology from foetal period to maturity and old age,. General physical growth, functional and anatomical aspects of the head, changes in craniofacial skeletal development, relationship between development of the dentition and facial growth.

1.2 Applied Physiology:

Introduction, Mastication, deglutition, digestion and assimilation, Homeostasis, fluid and electrolyte balance, blood composition, volume, function, blood groups and hemorrhage, Blood transfusion, circulation, Heart, Pulse, Blood pressure, capillary and lymphatic circulation. Shock, respiration, control, anoxia, hypoxia, asphyxia, artificial respiration. Endocrine glands in particular reference to pituitary, parathyroid and thyroid glands and sex hormones. Role of calcium and Vit D in growth and development of teeth, bone and jaws. Role of Vit.A, C and B complex in oral mucosal and periodontal health. Physiology and function of the masticatory system. Speech mechanism, mastication, swallowing and deglutition mechanism, salivary glands and Saliva.

Endocrines – General principles of endocrine activity and disorders relating to pituitary, thyroid, pancreas, parathyroid, adrenals, gonads, including pregnancy and lactation. Physiology of saliva, urine formation, normal and abnormal constituents, Physiology of pain, Sympathetic and parasympathetic nervous system, neuromuscular co-ordination of the stomatognathic system.

Applied Nutrition – General principles, balanced diet, effect of dietary deficiencies and starvation, Diet, digestion, absorption, transportation and utilization & diet for elderly patients.

1.3 Biochemistry:

General principles governing the various biological activities of the body, such as osmotic pressure, electrolytes, dissociation, oxidation, reduction etc., General composition of the body, Intermediary metabolism, Carbohydrates, proteins, lipids, and their metabolism, Nucleoproteins, nucleic acid and nucleotides and their metabolism, Enzymes, vitamins and minerals, Hormones, Body and other fluids., Metabolism of inorganic elements, Detoxification in the body, Antimetabolites.

1.4 General Pathology:

Inflammation – Repair and regeneration, necrosis and gangrene. Role of component system in acute inflammation, role of arachidonic acid and its metabolites in acute inflammation, growth factors in acute inflammation, role of molecular events in cell growth and intercellular signaling cell surface receptors, role of NSAIDs in inflammation, cellular changes in radiation injury and its manifestation. **Haemostasis**- Role of endothelium in thrombogenesis, Arterial and venous thrombi, Disseminated Intravascular coagulation. **Shock**: Pathogenesis of hemorrhagic, neurogenic, septic, cardiogenic Shock, Circulatory disturbances, ischemia, hyperemia, venous congestion, edema, infarction. **Chromosomal abnormalities**: Marfans Syndrome, Ehler’s Danlos Syndrome, Fragile X-Syndrome. **Hypersensitivity**: Anaphylaxis, type II hypersensitivity, type III hypersensitivity and cell mediated reaction and its clinical importance, systemic lupus erythematosus, Infection and infective granulomas. **Neoplasia**: Classification of tumors, Carcinogenesis and carcinogens- chemical, viral and microbial, Grading and staging of cancers, tumor Angiogenesis, Paraneoplastic syndrome, spread of tumors, Characteristics of benign and malignant tumors. **Others**: Sex linked agammaglobulinemia, AIDS, Management of immunodeficiency patients requiring surgical procedures, De George Syndrome, Ghons complex, post primary pulmonary tuberculosis – pathology and pathogenesis.

1.5 General Microbiology:

Immunity, Knowledge of organisms commonly associated with diseases of oral cavity, Morphology cultural characteristics of strepto, staphylo, pneumo, gono, meningo, clostridium group of organisms, spirochetes, organisms of TB, leprosy, diphtheria, actinomycosis and moniliasis, Hepatitis B and its prophylaxis,, Culture and sensitivity test, Laboratory determinations, Blood groups, blood matching, RBC and WBC count, Bleeding and clotting time etc, smears and cultures, Urine analysis and cultures.

1.6 Oral pathology:

Developmental disturbances of oral and Para oral structures, Regressive changes of teeth, Bacterial, viral and mycotic infections of oral cavity, Dental caries, diseases of pulp and periapical tissues, Physical and chemical injuries of the oral cavity, Oral manifestations of metabolic and endocrinal

disturbances, Diseases of jawbones and TMJ, Diseases of blood and blood forming organs in relation to oral cavity, Cysts of the oral cavity, Salivary gland diseases, Role of laboratory investigations in oral surgery.

1.7 Applied Pharmacology and Therapeutics:

Definition of terminologies used, Dosage and mode of administration of drugs, Action and fate of drugs in the body, Drug addiction, tolerance and hypersensitivity reactions, Drugs acting on the CNS, General and local anesthetics, hypnotics, analeptics, and tranquilizers, Chemo therapeutics and antibiotics, Analgesics and antipyretics, Anti-tubercular and anti-syphilitic drugs, Antiseptics, Sialogogues and anti-sialogogues, haematinics, Anti-diabetics, Vitamins A, B-complex, C, D, E, K.

1.8 Computer Science:

Use of computers in surgery, components of computer and its use in practice, principles of word processing, spreadsheet function database and presentations; the internet and its use. The value of computer based system in biomedical equipment

Course Outcome (CO)

- CO 1** Be Capable of providing basic care for maxillofacial surgical patients.
- CO2** To have understood the general surgical principles like pre and post surgical management, particularly evaluation, post surgical care, fluid and electrolyte management, blood transfusion and post surgical pain management.
- CO3** Able to apply the knowledge gained in the basic medical and clinical subjects in the management of patients with surgical problems
Able to identify social, cultural, economic, genetic and environmental factors
- CO4** and their relevance to disease process management in the oral and maxillofacial region.

CO5 Essential knowledge of personal hygiene and infection control, prevention of cross infection and safe disposal of hospital waste keeping in view the high prevalence of hepatitis and HIV.

References

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1. Norton, Neil S Netter's head and neck anatomy for dentistry
2. Rajiv M Borle Text book of oral & maxillofacial surgery
3. Tripathi KD. Essentials of medical pharmacology
4. Chakravarthy PVK OSCE for clinical dental sciences
5. Krishna Garg BD Chaurasia's human anatomy for dental students
6. N A Faruqi Manual of practical anatomy, head, neck and brain, Vol.III,
7. Krishna Garg BD Chaurasia's dream human embryology, 2 nd edn.
8. Balaji, SM Textbook of oral & maxillofacial surgery, 2 nd edn.
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PROGRAM OUTCOME AND COURSE OUTCOME MAPPING: PAPER I

PAPER I	PO 1	PO2	PO 3	PO 4	PO5	PO6	PO7	PO8	PO 9	P0 10	PSO1	PSO2	PSO3	PSO 4
CO1	2	2	1	-	2	-	1	1	-	3	2	1	-	-
CO2	2	2	2	2	2	2	3	2	2	1	1	2	1	3
CO3	1	1	3	1	1	2	2	-	2	3	3	2	2	1
CO4	1	2	1	3	3	1	2	1	2	2	2	1	3	2
CO5	3	1	1	2	2	1	1	2	1	-	1	3	2	2
TOTAL	1.8	1.6	1.6	1.6	2	1.2	1.8	1.2	1.4	1.8	1.8	1.8	1.6	1.6

1- Low

2- Medium

3- High

COURSE II

Course code	Course name	Mark allocation	Number of hours
6116	Minor Oral Surgery and Maxillofacial Trauma - Paper II	75 Marks	150 hours

Course Objectives

1. To have acquired adequate knowledge and understanding of the etiology, pathophysiology and diagnosis, treatment planning of various common oral and Maxillofacial surgical problems both minor and major in nature
2. To have understood the general surgical principles like pre and post surgical management, particularly evaluation, post surgical care, fluid and electrolyte management, blood transfusion and post surgical pain management.
3. To perform with competence minor oral surgical procedures and common maxillofacial surgery. To treat both surgically and medically the problems of the oral and Maxillofacial and the related area.

Syllabus:

PART-II:

Paper– I: Minor Oral Surgery and Maxillofacial Trauma

1.1 Minor Oral Surgery:

Principles of Surgery: Developing A Surgical Diagnosis, Basic Necessities For Surgery, Aseptic

Technique, Incisions, Flap Design Tissue Handling, Haemostasis, Dead Space Management, Decontamination And Debridement, Suturing, Oedema Control, Patient General Health And Nutrition.

1.2 Medical Emergencies:

Prevention and management of altered consciousness (syncope, orthostatic hypotension, seizures, diabetes mellitus, adrenal insufficiency), hypersensitivity reactions, chest discomfort, and respiratory difficulty.

1.3 Examination and Diagnosis:

Clinical history, physical and radiographic, clinical and laboratory diagnosis, oral manifestations of systemic diseases, implications of systemic diseases in surgical patients.

1.4 Haemorrhage and Shock:

Applied physiology, clinical abnormalities of coagulation, extra vascular hemorrhage, and hemorrhagic lesions, management of secondary hemorrhage, shock.

1.5 Exodontia:

Principles of extraction, indications and contraindications, types of extraction, complications and their management, principles of elevators and elevators used in oral surgery.

1.6 Impaction:

Surgical anatomy, classification, indications and contraindications, diagnosis, procedures, complications and their management.

1.7 Surgical aids to eruption of teeth:

Surgical exposure of unerupted teeth, surgical repositioning of partially erupted teeth.

1.8 Transplantation of teeth

1.9 Surgical Endodontics:

Indications and contraindications, diagnosis, procedures of periradicular surgery

1.10 Preprosthetic Surgery:

Requirements, types (alvoloplasty, tuberosity reduction, mylohyoid ridge reduction, genial reduction, removal of exostosis, vestibuloplasty)

1.11 Procedures to Improve Alveolar Soft Tissues:

Hypermobile tissues- operative / sclerosing method, epulis fissuratum, frenectomy and frenotomy

1.12 Infections of Head and Neck:

Odontogenic and non Odontogenic infections, factors affecting spread of infection, diagnosis and differential diagnosis, management of facial space infections, Ludwig angina, cavernous sinus thrombosis.

1.13 Chronic infections of the jaws:

Osteomyelitis (types, etiology, pathogenesis, management) osteoradionecrosis

1.14 Maxillary Sinus:

Maxillary sinusitis – types, pathology, treatment, closure of Oro – antral fistula, Caldwell- luc operation

1.15 Cysts of the Orofacial Region:

Classification, diagnosis, management of OKC, dentigerous, radicular, non Odontogenic, ranula

1.16 Neurological disorders of the Maxillofacial Region:

Diagnosis and management of trigeminal neuralgia, MPDS, bell's palsy, Frey's syndrome, nerve injuries.

1.17 Implantology:

Definition, classification, indications and contraindications, advantages and disadvantages, surgical procedure.

1.18 Anesthesia

1.18a : Local Anesthesia:

Classification of local anesthetic drugs, mode of action, indications and contra indications, advantages and disadvantages, techniques, complications and their management.

1.18 b: General Anesthesia:

Classification, stages of GA, mechanism of action, indications, and contra indications, advantages and disadvantages, post anesthetic complications and emergencies, anesthetic for dental procedures in children, pre medication, conscious sedation, legal aspects for GA.

Course Outcome (CO)

- CO 1** To perform with competence minor oral surgical procedures and common maxillofacial surgery. To treat both surgically and medically the problems of the oral and Maxillofacial and the related area.
- CO2** To diagnose the common diseases of maxillo-facial region by clinical and radiographical examination with specific management of periapical abscess, dento-alveolar abscess, temporomandibular joint disorders and oro facial pain.
- CO3** To train the students about the importance, role, use and techniques of Intra and trans extractions.
- CO4** Train the students in various suturing techniques in various regions of skeleton other than oral cavity.
- CO5** To handle and manage the local and systemic complications associated with extraction or local anaesthesia in a private practice.
- CO6** Management of medical emergencies is foremost important. One must always trained to manage the medical emergencies like syncope, hemorrhage, allergy and anaphylaxis arise commonly in oral surgery
- CO7** Attain adequate clinical knowledge and skill through the preclinical exercises and ensure optimum utilization of the same in the Clinical practice.

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1. Bennet, C. Richard Monheim's local anaesthesia and pain control in dental practice
2. Malamed, S.F Handbook of local anaesthesia
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42. Gibilisco, Joseph A Orofacial pain: understanding temporomandibular (TMJ) disorders
43. Jean-Marie Clinical success in impacted third molar extraction
44. Georg Watzek Implants in qualitatively compromised bone
45. Dvaïd Schlossberg Antibiotic manual a guide to commonly used antimicrobials
46. Rahul Srivastava Temporomandibular joint imaging
47. Sanjay Singhal Handbook of hospital infection control

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6. International Journal of Head & Neck Surgery
7. International Journal of Oral and Maxillofacial Implants
8. International Journal of Clinical Implant Dentistry
9. Indian Journal of Dental Research
10. FAM Dent
11. Quintessence International
12. Journal of the Indian Dental Association
13. Contemporary Clinical Dentistry
14. Journal of Maxillofacial & Oral Surgery
15. Annals of Maxillofacial Surgery
16. Journal of dental implants

PROGRAM OUTCOME AND COURSE OUTCOME MAPPING: PAPER II

PA PE R II	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P S O 1	P S O 2	P S O 3	P S O 4
CO 1	-	3	-	1	2	1	2	3	2	1	1	2	3	1
CO 2	3	2	1	2	2	3	2	3	1	-	-	-	2	2
CO 3	2	1	2	2	1	2	3	2	1	2	3	2	2	2
CO 4	1	2	-	3	1	1	1	3	-	1	1	1	1	-
CO 5	2	1	3	2	3	1	2	-	2	3	3	3	3	3
CO 6	1	2	2	1	-	2	1	1	3	2	-	1	1	1
CO 7	2	3	1	1	2	2	1	2	2	2	2	2	2	1
TO TA L	1 . 5	2	1 . 2	1 . 7	1 . 7	1 . 7	1 . 7	2	1 . 6	1 . 6	1 . 4	1 . 6	2	1 . 4

1- Low

2- Medium

3- High

COURSE III

Course code	Course name	Mark allocation	Number of hours
6117	Maxillofacial Surgery - Paper III	75 Marks	150 hours

Course Objectives

1. To obtain proper clinical history, methodical examination of the patient, perform essential diagnostic procedures and order relevant laboratory tests and interpret them and to arrive at a reasonable diagnosis about the surgical condition.
2. To have understood the general surgical principles like pre and post surgical management, particularly evaluation, post surgical care, fluid and electrolyte management, blood transfusion and post surgical pain management.
3. Able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in the oral and Maxillofacial region
4. Respect patient right and privileges, including patients right to information and right to seek a second opinion

Syllabus

Paper – II : Maxillofacial Surgery

1.1 Salivary gland

Sialography, Salivary fistula and management, Diseases of salivary gland – developmental disturbances, cysts, inflammation and sialolithiasis, Mucocele and Ranula, Tumors of salivary gland and their management, Staging of salivary gland tumors, Parotidectomy

1.2 Temporomandibular Joint

Etiology, history signs, symptoms, examination and diagnosis of temporomandibular joint disorders, Ankylosis and management of the same with different treatment modalities, MPDS and management, Condylectomy – different procedures ,Various approaches to TMJ, Recurrent dislocations – Etiology and Management

1.3 Oncology

Biopsy, Management of pre-malignant tumors of head and neck region, Benign and Malignant tumors of Head and Neck region, Staging of oral cancer and tumor markers, Management of oral cancer, Radical Neck dissection, Modes of spread of tumors, Diagnosis and management of tumors of nasal, paranasal, neck, tongue, cheek, maxilla and mandible, Radiation therapy in maxillofacial regions, Lateral neck swellings.

1.4 Orthognathic surgery

Diagnosis and treatment planning, Cephalometric analysis, Model surgery, Maxillary and mandibular, repositioning procedures, Segmental osteotomies, Management of apertognathia, Genioplasty, Distraction osteogenesis.

1.5 Cysts and tumors of oro facial region

Odontogenic and non-Odontogenic tumors and their management, Giant Cell lesions of jawbone, Fibro osseous lesions of jawbone, Cysts of jaw.

1.6 Laser surgery

The application of laser technology in surgical treatment of lesions.

1.7 Cryosurgery

Principles, applications of cryosurgery in surgical management

1.8 Cleft lip and palate surgery

Detailed knowledge of the development of the face, head and neck, Diagnosis and treatment planning, Current concepts in the management of cleft lip and palate deformity, Knowledge of Naso endoscopy and other diagnostic techniques in the evaluation of speech and hearing, Concept of multidisciplinary team management

1.9 Aesthetic facial surgery

Detailed knowledge of the structures of the face and neck including skin and underlying soft tissue, Diagnosis and treatment planning of deformities and conditions affecting facial skin, Underlying facial muscles, bone, Eyelids, external ear, Surgical management of post acne scarring, facelift, blepharoplasty, otoplasty, facial bone recontouring, etc

1. 10 Craniofacial surgery

Basic knowledge of developmental anomalies of the face, head and neck, Basic concepts in the diagnosis and planning of various head and neck anomalies including facial clefts, craniosynostosis, syndromes, etc. , Current concept in the management of Craniofacial anomalies

Course Outcome (CO)

- CO 1** Develop attitude to adopt ethical principles in all aspect of surgical practice, professional honesty and integrity are to be fostered. Surgical care is to be delivered irrespective of the social status, caste, creed or religion of the patient.
- CO2** To properly diagnose the case and take complete medical, dental and personal history of the patient. To obtain relevant history from the patient.
- CO3** A minimum of three years of formal training through a graded system of education as specified will equip the trainee with skill and knowledge at its completion to be able to practice basic oral and Maxillofacial surgery competently and have the ability to intelligently pursue further apprenticeship towards advanced Maxillofacial surgery
- CO4** To perform the basic life support- CPR, Tracheostomy and intubation when the patient is in need is foremost important. One must always be trained to manage the medical emergencies like arise commonly in oral and maxillofacial

scenario.

CO5 Develop adequate communication skills particularly with the patients giving them the various options available to manage a particular surgical problem and obtain a true informed consent from them for the most appropriate treatment available at that point of time

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PROGRAM OUTCOME AND COURSE OUTCOME MAPPING: PAPER III

PAPER III	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	SO 1	SO 2	SO 3	SO 4
CO1	2	3	1	2	2	1	3	1	-	1	3	1	1	1
CO2	1	-	2	1	3	-	1	3	2	-	1	2	2	3
CO3	-	2	1	-	-	3	1	-	1	2	3	3	1	1
CO4	3	1	2	3	1	2	2	2	3	3	2	2	3	1
CO5	1	-	2	1	3	3	1	1	-	1	1	2	2	2
TOTAL	14	12	16	14	18	18	16	14	12	14	22	22	18	16

1- Low

2- Medium

3- High

COURSE IV

Course code	Course name	Mark allocation	Number of hours
6118	Essay - Paper IV	100 marks	150 hours

Course Objective

1. ThisCourse outline addresses the recent advances and innovative knowledge needed in Oral and Maxillofacial Surgery in its scope.
2. Willing to adopt new techniques of surgical management developed from time to time based on scientific research which is in the best interest of the patient .
3. To attain periodic updates on recent advances, equipments, novel techniques, Advanced practice on Oral and Maxillofacial surgery.

Syllabus

1. 1 Recent advances

Course Outcome: (CO)

- CO 1** ThisCourse outline addresses the recent advances and innovative knowledge needed in Oral and Maxillofacial Surgery in its scope
- CO2** Willing to adopt new techniques of surgical management developed from time to time based on scientific research which is in the best interest of the patient
- CO3** To attain periodic updates on recent advances, equipments, novel techniques, Advanced practice on Oral and Maxillofacial surgery.

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PROGRAM OUTCOME AND COURSE OUTCOME MAPPING: PAPER IV

PA PE R IV	P O 1	P O 2	P O 3	P O 4	P O 5	P O 6	P O 7	P O 8	P O 9	P O 10	P S 0 1	P S O 2	P S O 3	P S O 4
CO 1	1	-	2	2	1		2	2	1	-	2	3	1	-
CO 2	3	2	1	2	3	2	1	2	3	2	2	2	2	2
CO 3	-	2	3	1	-	2	3		2	1	3	-	2	1
TO TA L	1. 4	1 . 4	2	1 . 6	1 . 4	1 . 4	2	1 . 4	2	1	2 . 4	1 . 7	1 . 6	1

1- Low

2- Medium

3- High

**MAPPING COURSES WITH PROGRAMME OUTCOMES AND PROGRAMME SPECIFIC
OUTCOMES**

COURSE	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2	PSO3	PSO4
COURSE 1	1.8	1.6	1.6	1.6	2	1.2	1.8	1.2	1.4	1.8	1.8	1.8	1.6	1.6
COURSE 2	1.5	2	1.2	1.7	1.7	1.7	1.7	2	1.6	1.6	1.4	1.6	2	1.4
COURSE 3	1.4	1.2	1.6	1.4	1.8	1.8	1.6	1.4	1.2	1.4	2	2	1.8	1.6
COURSE 4	1.4	1.4	2	1.6	1.4	1.4	2	1.4	2	1	2.4	1.7	1.6	1
Avg	1.5	1.5	1.6	1.6	1.7	1.5	1.8	1.5	1.6	1.5	2	1.8	1.3	1.5