SYLLABUS

MDS - ORAL & MAXILLOFACIAL SURGERY (9520)

Notice

1. Amendment made by the Statutory Regulating Council i.e. Dental Council of India in Rules/Regulations of Post Graduate Dental Courses shall automatically apply to the Rules/Regulations of the Mahatma Gandhi University of Medical Sciences & Technology (MGUMST), Jaipur.

2. The University reserves the right to make changes in the syllabus/books/guidelines, fees-structure or any other information at any time without prior notice. The decision of the University shall be binding on all.

3. The Jurisdiction of all court cases shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

RULES & REGULATIONS
MASTER OF DENTAL SURGERY
(3 Years Post Graduate Degree Course)

TITLE OF THE COURSE:
It shall be called Master of Dental Surgery

ELIGIBILITY:

- A candidate for admission to the Master in Dental Surgery course, must possess a degree of Bachelor in Dental Surgery awarded by a University of Institute in India recognized by the Dental Council of India and registered with the State Dental Council and has obtained provisional or permanent registration and has undergone compulsory rotator internship of a year in an approval / recognized dental college.
- In the case of a foreign national, the following procedure shall be followed :
  The Council may, on payment of the prescribed fee for registration, grant temporary registration for the duration of the post-graduate training restricted to the dental college / institution to which he or she is admitted for the time being exclusively for post-graduate studies: The temporary registration to such foreign national shall be subject to the condition that such person is duly registered as medical practitioner in his/ her own country from which he/she has obtained his/her basics dental qualification and that his/her degree is recognized by the corresponding state dental council or concerned authority.
- **NRI Seats:**
  (a) Students from other countries should possess passport, visa and exchange permits valid for the period of their course of study in this institution and should observe the regulations of both central and state governments regarding residential permits and obtain no-objection certificate from the same.
  (b) The candidate should have a provisional "Student Visa". If he comes on any other visa and is selected for admission, he will have to first obtain a student visa from his country and then only he will be allowed to join the course. Therefore it is imperative to obtain provisional student visa before coming for counselling.
  (c) This clause is applicable to NRI/ Foreign students only.

CRITERIA FOR SELECTION FOR ADMISSION:
There shall be uniform NEET for admission to the post-graduate dental courses in each academic year conducted in the manner, as prescribed by the National Board of Examination or any other authority appointed by the Central Government in this behalf.

- **NRI Quota**
  15% of total seats are earmarked for foreign national/PIO/OCI/NRI/Ward of NRI/NRI sponsored candidates who would be admitted on the basis of merit obtained in NEET MDS or any other criteria laid down by Central Government/DCI.
- **Remaining seats (Other than NRI Quota seats)**
  (a) Admissions to the remaining 85% of the seats shall be made on the basis of the merit obtained at the NEET conducted by the National Board of Examinations or any other authority appointed by Government of India for the purpose.
  (b) The admission policy may be changed according to the law prevailing at the time of admission.
- **Qualifying Criteria for Admission**:
  (a) The candidate has to secure the following category-wise minimum percentile in NEET-MDS Examination for admission to post-graduate courses held in a particular academic year.

General	50th Percentile
Person with locomotory disability lower limbs	45th Percentile
Scheduled Caste, Scheduled Tribes, Other Backward Classes	40th Percentile

The percentile shall be determined on the basis of highest marks secured in the All-India common merit list in NEET-MDS for post-graduate courses: Further, when sufficient number of candidates in the respective categories fail to secure minimum marks as prescribed in NEET-MDS held for any academic year for admission to post-graduate courses, the Central Government in consultation with the Council may, at its discretion lower the minimum marks required for admission to post-graduate courses for candidates belonging to respective categories and marks so lowered by the Central Government shall be applicable for the said academic year only.

(b) The reservation of seats in dental college/institutions for respective categories shall be as per applicable laws prevailing in States / Union territories. An all India merit list as well as State wise merit list of the eligible candidates shall be prepared on the basis of the marks obtained in NEET-MDS Test and candidates shall be admitted to post-graduate course from the said merit list only. In determining the merit of candidates who are in service of Government / public authority, weightage in the marks may be given by the Government / competent authority as an incentive upto 10% of the marks obtained for each year of service in remote and/or difficult areas upto the maximum of 30% of the marks obtained in NEET-MDS. The remote and difficult areas shall be as defined by State Government / competent authority from time to time.

(c) A candidate who has failed to secure the minimum percentile as prescribed in these regulations, shall not be admitted to any post-graduate courses in any academic year.

(d) Minimum 5% seats of the annual sanctioned intake capacity shall be filled up by candidates with locomotory disability of lower limbs between 50% to 70%: In case any seat in this quota remains unfilled on account of unavailability of candidates with locomotory disability of lower limbs between 50% TO 70% then any such unfiled seat shall be filled up by persons with locomotory disability of lower limbs between 40% to 50 – before they are included in the annual sanctioned seats for general category candidates: This entire exercise shall be completed by each dental college / institution as per the statutory time schedule for admission.

ENROLMENT AND ELIGIBILITY:

Every candidate who is admitted to MDS course in Mahatma Gandhi Dental College & Hospital shall be required to get himself/herself enrolled with the Mahatma Gandhi University of Medical Sciences & Technology after paying the prescribed eligibility and enrolment fees. The candidate shall have to submit an application to the MGUMST for the enrolment/eligibility along with the following original documents with the prescribed fees (upto November 30 of the year of admission without late fees and upto December 31 of the year of admission with late fees) –

(a) BDS pass degree certificate issued by the University.
(b) Marks cards of all the university examinations passed (I to Final BDS).
(c) Attempt Certificate issued by the Principal.
(d) Certificate regarding the recognition of the Dental College by the Dental Council of India.
(e) Completion of paid Rotatory Internship certificate from a recognized dental college.
(f) Registration by any State Dental Council.
(g) Migration certificate issued by the concerned university.
(h) Proof of SC/ST or other reserve category, as the case may be.

REGISTRATION:

Every candidate who is admitted to MDS course in Mahatma Gandhi Medical College & Hospital shall be required to get himself/herself registered with the Mahatma Gandhi University of Medical Sciences & Technology after paying the prescribed registration fees.

The candidate shall have to submit an application to the MGUMST for registration with the prescribed fees (upto November 30 of the year of admission without late fees upto December 31 of the year of admission with late fees).

DURATION OF THE COURSE:
The Course will commence on 1st May of each academic year and shall be of three years duration. All the candidates for the degree of MDS are required to pursue the recommended course for at least three academic years as full time candidates in an institution affiliated to and approved for Postgraduate studies by Mahatma Gandhi University of Medical Sciences & Technology, Jaipur and recognized by the Dental Council India.

METHOD OF TRAINING:

- The period of training for the award of MDS course shall be of three years duration for three academic years as full time candidates in an institution including the period of examination:

  Provided that the time period required for passing out of the MDS course shall be a maximum of six years from the date of admission in said course:

  Provided further that the duration of the post graduate course for the post graduate Diploma holders shall be the same as MDS Course in the concerned speciality except that they are not required to (i) to undergo study and training in Basic Sciences (ii) pass the PART-I examination of MDS course. However, they have to submit the dissertation work, as part of the post graduate programme.
- During the period, 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 speciality, shall be as under-
  (a) Lectures
  (b) Journal review
  (c) Seminars
  (d) Symposium
  (e) Clinical postings
  (f) Clinico-Pathological conference
  (g) Interdepartmental meetings
  (h) Teaching skills
  (i) Dental education programmes
  (j) Conferences/ Workshops/ Advanced Courses
  (k) Rotation and posting in other Departments
  (l) Dissertation/ Thesis
- All the students of the specialty departments shall complete the minimum quota for the teaching and learning activities, as follows:-
  (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 in state/ national level conferences: 4 papers/ posters during three years of training workshop period
  (f) Clinic-pathological conferences: 2 presentations during three years of training period.

(g) Scientific publications (optional) : one publication in any indexed scientific journal
(h) Submission of synopsis: one synopsis within six months from date of commencement of the course.
(i) Submission of Dissertation months: one dissertation six months before appearing for the university examination
(j) Submission of library dissertation: one dissertation within eighteen months from the date of commencement of the course

ATTENDANCE, PROGRESS AND CONDUCT:

- A candidate pursuing MDS course should work in the department of the institution for the full period as a full time student. Every candidate shall secure (80 % attendance during each academic year). No candidate is permitted to run a clinic/work in clinic/laboratory/nursing home/hospital/any similar establishment while studying postgraduate course. No candidate shall join any other course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of registration. Each year shall be taken as a unit for the purpose of calculating attendance.
- Every candidate shall attend symposia, seminars, conferences, journal review meetings, grand rounds, CPC, case presentation, clinics and lectures during each year as prescribed by the department and not absent himself / herself from work without valid reasons. Every candidate shall have not less than 80 percent of attendance in each year of the course. However, candidates should not be absent continuously as the course is a full time one.

MIGRATION:

Under no circumstances, the migration or the transfer of students undergoing post-graduate Degree/ Diploma shall not be permitted by the university or the authority. No interchange of the specialty in the same institution or in any other institution shall be permitted after the date of commencement of session.

MONITORING PROGRESS OF STUDIES- WORK DIARY / LOG BOOK:

Every candidate shall maintain a work diary in which his/her participation in the entire training programme conducted by the department such as reviews, seminars, etc. has to be chronologically entered. The work scrutinized and certified by the Head of the Department and Head of the Institution is to be presented in the University practical/clinical examination.

(a) Periodic tests: There shall be three tests; two of them shall be annual tests, one each at the end of first year and the second year. The third test shall be held three months before the final examination; tests shall include written papers, practical/clinical and viva voce.
(b) Records: Records and marks obtained in tests will be maintained by the Head of the Department and will be made available to the University when called for.

DISSERTATION:

- Every candidate pursuing MDS degree course is required to carry out work on research project under the guidance of a recognized post graduate teacher . Then such a work shall be submitted in the form of a dissertation. The dissertation is aimed to train a postgraduate student in research methods & techniques. It includes identification of a problem, formulation of a hypothesis, review of literature, getting acquainted with recent advances, designing of a study, collection of data, critical analysis, comparison of results and drawing conclusions.
- Every candidate shall submit to the Registrar of the University in the prescribed format a synopsis containing particulars of proposed dissertation work on or before the dates notified by the University. The synopsis shall be sent through the proper channel. Such synopsis

will be reviewed and the dissertation topic will be registered by the University. No change in the dissertation topic or guide shall be made without prior notice and permission from the University.

- The dissertation should be written under the following headings:
  (a) Introduction
  (b) Aims and Objectives of study
  (c) Review of Literature
  (d) Material and Methods
  (e) Results
  (f) Discussion
  (g) Conclusion
  (h) Summary
  (i) References
  (j) Tables
  (k) Annexure
- The written text of dissertation shall be not less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") and bound properly. Spiral binding should be avoided. The guide, head of the department and head of the Institution shall certify the dissertation. Four copies of dissertation thus prepared shall be submitted to the Registrar for evaluation, six months before final examination on or before the dates notified by the University. Examiners appointed by the University shall value the dissertation. Approval of dissertation work is an essential precondition for a candidate to appear in the University examination.
- Guide: The academic qualification and teaching experience required for recognition by this University as a guide for dissertation work is as laid down by Dental Council of India / Mahatma Gandhi University of Medical Sciences & Technology, Jaipur.
- Co-guide: A co-guide may be included provided the work requires substantial contribution from a sister department or from another institution recognized for teaching/training by Mahatma Gandhi University of Medical Sciences & Technology, Jaipur / Dental Council of India. The co-guide shall be a recognized postgraduate teacher of Mahatma Gandhi University of Medical Sciences & Technology, Jaipur.
- Change of guide: In the event of a registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the University.

ELIGIBILITY TO APPEAR FOR UNIVERSITY EXAMINATION:

- Eligibility: The following requirements shall be fulfilled by every candidate to become eligible to appear for the final examination.
  (a) **Attendance**: Every candidate shall have fulfilled the attendance prescribed by DCI during each academic year of the postgraduate course. Every candidate shall secure (80 % attendance during each academic year).
  (b) **Progress and Conduct**: Every candidate shall have participated in seminars, journal review meetings, symposia, conferences, case presentations, clinics and didactic lectures during each year as designed by the department. The candidate should have exemplified good conduct throughout.
  (c) **Work diary and Logbook**: Every candidate shall maintain a work diary for recording his/her participation in the training programme conducted in the department. The work diary and logbook shall be verified and certified by the Department Head and Head of the Institution.

(d) Internal assessments shall be held every 6 months.

- The certification of satisfactory progress by the Head of the Department/ Institution shall be based on (a), (b) and (c) mentioned above.

SCHEME OF MDS EXAMINATIONS:

- The scheme of examination in respect of all the subjects of MDS shall be as under :
- The examinations shall be organised on the basis of marking system.
- Every student during the period of his post graduate studies would be required to submit evidence of the following so as to make him eligible to appear at the final examination of the University :-
  (a) Scientific Publication in indexed journal - 1
  (b) Scientific Presentations - 3
  (c) Specialty Conferences/ PG Conventions attended - 3
- Every student would be required to appear in and qualify the Pre-University examination conducted at the college level .Post graduate students who fail to appear in or do not qualify the Pre-University examination shall not be permitted to appear in the final examination of the University.
- The University shall conduct not more than two examinations in a year for any subject with an interval of not less than 4 months and not more than 6 months between the two examinations.
- The examinations shall consist of Thesis, Theory papers and Clinical/ Practical and Oral examinations.
  (a) **Thesis** : Thesis shall be submitted at least six months before the Theory and Clinical/ Practical and Oral examinations.
  (1) The thesis shall be examined by a minimum of three examiners- one Internal and two External examiners.
  (2) Only on the acceptance of the thesis by two examiners, the candidate shall be eligible to appear for the final examination.
  (b) **Theory** :
  (1) Theory exams will be conducted in 2 parts.
  Part - I – Shall consist of one paper; Applied basic sciences paper at the end of the first year of MDS.The Paper I of Part I shall carry 100 marks. The question paper shall be set and evaluated by the paper setter (external examiner of the recognized university by DCI from out of the state). There shall be 10 questions of 10 marks each. The candidates shall have to secure a minimum of 50% in the basic Sciences and shall have to pass the Part I examination at least 6 months prior to the final (Part II) examination. There shall be one internal and one external examiner for three students appointed by the affiliating university for evaluating the answer scripts of the same speciality. However, the number of examiner/s may be increased with the corresponding increase in the number of students. Answer books shall be evaluated by the internal and external examiner/s and average marks shall be computed.
  Part-II - Consisting of 3 papers, out of which 2 will be pertaining to the specialty and one shall be of Essays. Paper I and Paper II shall consist of 2 long answer questions carrying 25 marks each and five questions carrying 10 marks each. In paper III, three questions will be given and student has to answer any two questions. Each question carries 50 marks. There shall be four examiners in each subject. Out of them, two (50%) shall be external examiners and two (50%) shall be internal examiners. Both external examiners shall be from a university other than the affiliating university and one examiner shall be from a university of different state.

Answer books shall be evaluated by four examiners, two internal and two external and average marks shall be computed.

(2) Each theory paper examination shall be of three hours duration.

(3) Each theory paper shall carry maximum 100 marks.

(c) **Clinical / Practical and Oral Examination**

(1) Clinical / Practical (of 200 marks) and Oral Examination (of 100 marks) will be conducted by at least four examiners, out of which two (50%) shall be External examiners who shall be invited from other recognized Universities from outside the State. The practical/ clinical examination in all the specialties shall be conducted for 6 candidates in two days: provided that practical/ clinical examination may be extended for one day, if it is not complete in two days.

(2) A candidate will be required to secure at least 50% (viz. 150/300) marks in the Practical including clinical and viva voce examinations.

- A candidate shall be required to secure at least 50% marks in theory papers and 50% marks in practical (including clinical & viva voce) separately to pass MDS Examination.

GRACE MARKS:

- No grace marks will be provided in MDS examinations.

REVEALUATION/SCRUTINY:

- No Revaluation shall be permitted in the MDS examinations. However, the student can apply for scrutiny of the answer books.
- If a candidate fails in MDS Part-II examination in one or more theory paper(s) or practical, he/she shall have to reappear in all theory papers as well as practical.

APPOINTMENT OF EXAMINERS:

- Qualification and experience of Examiners
  The qualification and experience for the appointment of an examiner shall be as under:-
  (1) shall possess qualification and experience of Professor in a post graduate degree programme.
  (2) A person who is not a regular post graduate teacher in the subject shall not be appointed as an examiner.
  (3) The internal examiner in a subject shall not accept external examinership in a college for the same academic year.
  (4) No person shall be appointed as an external examiner for the same institution for more than 2 consecutive years. However, if there is a break of one year, the person can be reappointed.
- Criteria for pass certificate
  To pass the university examination, a candidate shall secure in both theory examination and in practical/ clinical including viva voce independently with an aggregate of 50% of total marks Allotted (50 out of 100 marks in part I examination and 150 marks out of 300 in part II examination in theory and 150 out of 300, clinical plus viva voce together). A candidate securing marks below 50% as mentioned above shall be declared to have failed in the examination. A candidate who is declared successful in the examination shall be granted a Degree of Master of Dental Surgery in respective speciality.

ORAL & MAXILLOFACIAL SURGERY (9520)

The training program in Oral and Maxillofacial Surgery is structured to achieve the following five objectives-

- Knowledge
- Skills
- Attitude
- Communicative skills and ability
- Research

Knowledge:

- 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
- 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.
- Understanding of basic sciences relevant to practice of oral and maxillofacial surgery
- Able to identify social, cultural, economic, genetic and environmental factors and their relevance to disease process management in the oral and Maxillofacial region.
- 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.

Skills:

- 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.
- 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.
- Capable of providing care for maxillofacial surgery patients.

Attitude:

- 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.
- Willing to share the knowledge and clinical experience with professional colleagues.
- 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
- Respect patient right and privileges, including patients right to information and right to seek a second opinion.
- Develop attitude to seek opinion from an allied medical and dental specialists as and when required.

Communication Skills:

- 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
- Develop the ability to communicate with professional colleagues.
- Develop ability to teach undergraduates.

3. SYLLABUS:

3.1 Theory

Part-I (9521) - Applied Basic Science
(Applied basic science, Applied Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology, Biostatistics and Research Methodology)

Applied Anatomy

(1) Surgical Anatomy of scalp, temple, and face
(2) Anatomy of the triangle of neck, deep structure of neck
(3) Cranial and facial bone and its surrounding soft tissue with its application
(4) Muscle of head and neck
(5) Arterial supply, venous drainage and lymphatic of head and neck
(6) Surgical anatomy of cranial nerves
(7) Congenital anomalies of head and neck
(8) Anatomy of tongue and applied aspect
(9) Surgical anatomy of temporal and infra temporal region
(10) Anatomy and its applied aspect of salivary gland, pharynx, thyroid, parathyroid gland, larnyx, Trachea, oesophagus
(11) Tooth eruption, morphology and occlusion
(12) Surgical anatomy of nose
(13) The structure and function of the brain including surgical anatomy of intracranial venous sinuses
(14) Autonomous nervous system of head and neck
(15) Mastication, deglutition, speech, respiration, circulation
(16) Development of the face, paranasal sinuses, associated structure and anomalies
(17) TMJ : Surgical anatomy and function.

Physiology

(1) Nervous System
  (a) Physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling body temperature.
(2) Blood
  (a) Composition
  (b) Haemostasis, various blood dyscrasias and management of the patient with the same
  (c) Haemorrhage and its control
  (d) Capillary and its lymphatic circulation
  (e) Blood grouping, transfusing procedure
(3) Digestive System
  (a) Saliva-composition and function of the saliva
  (b) Mastication, deglutition, digestion, assimilation
  (c) Urine formation and abnormal constitutes
(4) Respiration
  (a) Control of ventilation, anoxia, asphyxia, artificial respiration
  (b) Hypoxia – type of management
(5) Cardiovascular system
  (a) Cardiac cycle
  (b) Shock
  (c) Heart sound
  (d) Blood pressure
  (e) Hypertension
(6) Endocrinology
  (a) General endocrinal activity and disorder relating to thyroid gland
  (b) Parathyroid gland, adrenal gland, pituitary gland, pancreas, gonads

(c) Metabolism of Calcitonin

(7) Nutrition

(a) General principles of balanced diet, effect of dietary deficiency, protein energy malnutrition, kwashiorkor, marasmus

(b) Fluid and electrolyte balance in maintaining haemostasis and significance in minor and major oral surgical procedures

Biochemistry

(1) General principles of various biological activities in the body, such as osmotic pressure, electrolytes, dissociation, oxidation, reduction etc.

(2) General composition of the body

(3) Intermediary metabolism

(4) Carbohydrates, protein, lipid, and their metabolism

(5) Nucleoproteins, nucleic acid and nucleotides and their metabolism

(6) Enzymes, Vitamins and Minerals

(7) Hormones

(8) Body and other fluids

(9) Metabolism of inorganic elements

(10) Detoxification in body

(11) Antimetabolites

Pathology

(1) Inflammation

(a) Repair, regeneration, necrosis and gangrene

(b) Role of component system and acute inflammation

(c) Role of arachidonic acid and its metabolites in acute inflammation

(d) Growth factor in acute inflammation

(e) Role of molecular events in cell growth, and intercellular signalling cell surface receptors

(f) Role of NSAIDs in inflammation

(g) Cellular changes in radiation injury and its manifestation

(2) Haemostasis

(a) Role of endothelium in thrombogenesis

(b) Arterial and venous thrombi

(c) Disseminated intravascular coagulation

(3) Shock

(a) Pathogenesis of hemorrhagic, neurogenic, septic, cardiogenic shock

(b) Circulatory disturbances, ischemia, hyperemia, venous congestion, edema, infarction

(4) Chromosomal abnormalities

(a) Marfans syndrome, Ehler's Danlos Syndrome, FragileX-syndrome

(5) Hypersensitivity

(a) Anaphylaxis, type 2 hypersensitivity, type 3 hypersensitivity and cell mediated reaction and its clinical importance, systemic lupus erythematosus

(b) Infection and infective granuloma

(6) Neoplasia

(a) Classification of tumors

(b) Carcinogenesis and carcinogen-chemical, viral and microbial

(c) Grading and staging of cancers, tumor angiogenesis, paraneoplastic syndrome, spread of tumors

(d) Characteristics of benign and malignant tumors

(7) Others

(a) Sex linked agammaglobulinemia
(b) AIDS
(c) Management of immune deficiency patients requiring surgical procedure
(d) Di George syndrome
(e) Ghons complex, post primary pulmonary tuberculosis-pathology and pathogenesis

(8) Oral Pathology
(a) Developmental disturbances of oral and para oral structure
(b) Regressive change of the teeth
(c) Bacterial, viral and mycotic infection of oral cavity
(d) Dental caries, diseases of pulp and periapical tissues
(e) Physical and chemical injuries of the oral cavity
(f) Oral manifestation of metabolic and endocrinal disturbance
(g) Disease of jawbones and TMJ
(h) Diseases of blood and blood forming organs in relation to oral cavity
(i) Cysts of the oral cavity
(j) Salivary gland diseases
(k) Role of laboratory investigations in oral surgery

Microbiology

(1) Immunity
(2) Knowledge of organisms commonly associated with disease of oral cavity
(3) Morphology and cultural characteristics of streptococci, pneumococci, gonococci, staphylococci, meningococci, clostridium group of organism, spirochetes, organism of T.B. leprosy, diphtheria, actinomycosis, moniliasis
(4) Hepatitis B and prophylaxis
(5) Culture and sensitivity test
(6) Blood group, blood matching, RBC and WBC count
(7) Bleeding and clotting time etc., smears and cultures
(8) Urine analysis and cultures

Applied Pharmacology and Therapeutics

(1) Definition of terminologies used
(2) Dosage and mode of administration of drugs
(3) Action and fate of drugs in the body
(4) Drug addiction, tolerance and hypersensitivity reactions
(5) Drugs acting on CNS
(6) General and local anesthetics, hypnotics, analeptics, and tranquilizers
(7) Chemo therapeutics and antibiotics
(8) Analgesics and antipyretics
(9) Antituberculer and antisyphilitic drugs
(10) Antiseptics sialogogues and antisialogogues
(11) Haematinics
(12) Antidiabetics
(13) Vitamins A, B-Complex, C, D, E, K

Part-II Paper-I (9522) - Minor oral Surgery and trauma

Minor Oral Surgery

(1) Principles of Surgery: Developing a surgical diagnosis, basic necessities for surgery, aseptic technique, incisions, flap design tissue handling, haemostasis, dead space

management, decontamination and debridment, suturing, oedema control, patient general health and nutrition.

(2 Medical Emergencies: Prevention and management of altered consciousness (syncope, orthostatic hypertension, seizures, diabetes mellitus, adrenal insufficiency), hypersensitivity reactions, chest discomfort, and respiratory difficulty.

(3) Examination and Diagnosis: Clinical history, physical, radiographic, clinical and laboratory diagnosis, oral manifestations of systemic diseases, implications of systemic diseases in surgical patients.

(4) Haemorrhage and Shock: Applies physiology, clinical abnormalities of coagulation, extra vascular hemorrhage and hemorrhagic lesions, management of secondary hemorrhage, shock.

(5) Exodontia: Principles of extraction, indications and contraindications, types of extraction, complications and their management, principles of elevators and elevators used in oral surgery.

(6) Impaction: Surgical anatomy, classification, indications and contraindications, diagnosis, procedures, complications and their management.

(7) Surgical aids to eruption of teeth: Surgical exposure of unerupted teeth, surgical repositioning of partially erupted teeth.

Transplantation of Teeth

(1) Surgical Endodontics: Indications and contraindications, diagnosis, procedures of periradicular surgery.

(2) Preprosthetic Surgery: Requirements, types (Alveoloplasty, tuberosity reduction, mylohyoid ridge reduction, genial reduction, removal of exostosis, vestibuloplasty).

(3) Procedures to Improve Alveolar Soft Tissue: Hypermobile tissues – operative / sclerosing method, epulis fissuratum, frenectomy and frenotomy

(4) Infection 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.

(5) Chronic Infections of the Jaws: Osteomyelitis (types, etiology, pathogenesis management) osteoradionecrosis

(6) Maxillary Sinus: Maxillary sinusitis – types, pathology, treatment, closure of Oro-antral fistula, Caldwell-luc Operation

(7) Cysts of the Orofacial Region: Classification, diagnosis, management of OKC, dentigerous, radicular, non Odontogenic, ranula

(8) Neurological Disorders of the Maxillofacial Region: Diagnosis and management of trigeminal neuralgia, MPDS, Bell's plasty, Frey's syndrome, nerve injuries

(9) Implantology : Definition, classification, indications and contraindications, advantages and disadvantages, surgical procedure.

Anesthesia

(1) Local Anesthesia : Classification of Local anesthetic drugs, mode of action, indications and contraindications, advantages and disadvantages, techniques, complications, and their management.

(2) General Anesthesia : Classification, stages of GA, mechanism of action, indications, and contraindications, advantages and disadvantages, post anesthetic complications and emergencies, anesthetic for dental procedures in children, pre medication, conscious sedation, legal aspects for GA.

Trauma

(1) Surgical Anatomy of Head and Neck

(2) Etiology of Injury
(3) Basic Principles of Treatment
(4) Primary Care : Resuscitation, establishment of airway, management of hemorrhage management of head injuries and admission to hospital
(5) Diagnosis : Clinical, radiological
(6) Soft Tissue Injury of Face and Scalp : Classification and management of soft tissue wounds, injuries to structure requiring special treatment
(7) Dento Alveolar Fractures : Examination and diagnosis, classification, treatment
(8) Mandibular Fractures : Classification, examination and diagnosis, general principles of treatment, complications and their management
(9) Fractures of Zygomatic Complex : Classification, examination and diagnosis, general principles of treatment, complications and their management.
(10) Orbital Fractures : Blow out fractures
(11) Nasal Fractures
(12) Fractures of Middle Third of the Facial Skeleton : Emergency care, fracture of maxilla, and treatment of Lefort I, II, III, fractures of naso orbito ethmoidal region
(13) Ophthalmic Injuries : Minor injuries, non perforating injuries, perforating injuries, retro bulbar hemorrhage and traumatic optic neuropathy
(14) Traumatic Injuries to Frontal Sinus : Diagnosis, classification, treatment
(15) Maxillofacial Injuries in Geriatric and Pediatric Patients
(16) Gunshot wound and War Injuries
(17) Osseointegration in Maxillofacial Reconstruction
(18) Metabolic Response to Trauma: Neuro endocrine responses, inflammatory mediators, clinical implications
(19) Healing of Traumatic Injuries: Soft tissue, bone, cartilage, response of peripheral nerve to injury
(20) Nutritional consideration following Trauma
(21) Tracheostomy: Indications and contraindications, procedure, complications and their management.

Part-II Paper II (9523) - Maxillofacial Surgery

Salivary Gland
(1) Sialography
(2) Salivary fistula and management
(3) Diseases of salivary gland – developmental disturbances, cysts, inflammation and sialolithiasis
(4) Mucocele and ranula
(5) Tumors of salivary gland and their management
(6) Staging of salivary gland tumors
(7) Parotidectomy

Temporomandibular Joint
(1) Etiology, history, signs, symptoms, examination and diagnosis of temporomandibular joint disorders
(2) Ankylosis and management of the same with different treatment modalities
(3) MPDS and management
(4) Condylectomy – different procedures
(5) Various approaches to TMJ
(6) Recurrent dislocations – Etiology and management

Oncology
(1) Biopsy
(2) Management of pre-malignant tumors of head and neck region
(3) Benign and malignant tumors of head and neck region
(4) Staging of oral cancer and tumor markers
(5) Management of oral cancer
(6) Radical neck dissection
(7) Modes of spread of tumors
(8) Diagnosis and management of tumors of nasal, paranasal, neck, tongue, cheek, maxilla and mandible
(9) Radiation therapy in maxillofacial region
(10) Lateral neck swellings

Orthognathic Surgery
(1) Diagnosis and treatment planning
(2) Cephalometric analysis
(3) Model surgery
(4) Maxillary and mandibular repositioning procedures
(5) Segmental osteotomies
(6) Management of apertognathia
(7) Genioplasty
(8) Distraction osteogenesis

Cysts and Tumor of Oro Facial Region
(1) Odontogenic and non-odontogenic tumors and their management
(2) Giant cell lesions of jawbone
(3) Fibro osseous lesions of jawbone
(4) Cysts of jaw

Laser Surgery
(1) The application of laser technology in surgical treatment of lesions

Cryosurgery
(1) Principles, applications of cryosurgery in surgical management

Cleft lip and Palate Surgery
(1) Detailed knowledge of development of face, head and neck
(2) Diagnosis and treatment planning
(3) Current concepts in the management of cleft lip and palate deformity
(4) Knowledge of nasal endoscopy and other diagnostic technique in the evaluation of speech and hearing
(5) Concept of multidisciplinary team management

Aesthetic Facial Surgery
(1) Detailed knowledge of the structures of the face and neck including skin and underlying soft tissue
(2) Diagnosis and treatment planning of deformities and condition affecting facial skin
(3) Underlying facial muscles, bone, eyelids, external ear
(4) Surgical management of post acne scarring, facelift, blepharoplasty, otoplasty, facial bone recontouring etc.

Craniofacial Surgery
(1) Basic knowledge of developmental anomalies of the face, head and neck

(2) Basic concepts in the diagnosis and planning of various head and neck anomalies including facial clefts, craniosynostosis, syndromes etc.
(3) Current concept in the management of craniofacial anomalies.

Part-II Paper-III (9524) - Descriptive and Analyzing type question

3.2 Practical

Clinical Requirements

The following is the minimum required quota to be completed before the candidate can be considered eligible to appear in the final M.D.S. Examinations:

No.	Procedure	Category	Year	Number
1.	Injections I.M. and I.V.	PI	I, II	50, 20
2.	Minor suturing and removal of sutures	PI	I	N.A.
3.	Incision & drainage of an abscess	PI	I	10
4.	Surgical extraction	PI	I	15
5.	Impacted teeth	PI, PA	I, II	20, 10
6.	Pre-Prosthetic Surgery :	PI		
	a. Corrective Procedures	PI	I	15
	b. Ridge Extension	PA	I, II	3
	c. Ridge Reconstruction	A	II, III	3
7.	OAF Closure	PI, PA	I, II	3, 2
8	Cyst Enucleation	PI, PA	I, II	5, 5
9.	Mandibular Fractures	PI, PA	I, II	10, 10
10.	Peri apical Surgery	PI, PA	I	5
11.	Infection Management	PI, PA	I, II	N.A.
12.	Biopsy Procedures	PI	I, II	N.A.
13	Removal of Salivary Calculi	PA	I, II	3, 5
14.	Benign Tumors	PA, A	II, III	3, 3
15.	Mid Face Fractures	PA, A	II, III	3, 5
16.	Implants	PA, A	II, III	5, 5
17.	Tracheotomy	PA, A	II, III	2, 2
18.	Skin Grafts	PA	III	3, 5
19.	Orthognatic Surgery	PA, A	II, III	3
20.	Harvesting Bone & Cartilage Graft :			
	a. Iliac Crest	PA	III	3, 5
	b. Rib	A	III	3
	c. Calvarial	A	III	2
	d. Fibula	A, O	III	2
21.	T.M. Joint Surgery	PA, A	II, I	1
22.	Jaw Resections	PA, A	III, II	3, 3
23.	Onco Surgery	A, O	III, III	3, 3
24.	Micro vascular Anastomosis	A, O	III	5, 10
25.	Cleft Lip & Palate	PA, A	II, III	10, 15
26.	Distraction Osteogenesis	A, O	II, III	2, 3
27.	Rhinoplasty	A, O	III	3, 5
28.	Access osteotomies and base of skull surgeries	A, O	III	1, 3
29.	Emergency management for OMFS patients in casualty/ accident or emergency	PI, O	III	5,5

Key :
O – Washed up and observed – initial 6 months of admission
A – Assisted a surgeon – 1 year MDS
PA– Performed under the direct supervision of a senior surgeon II year MDS
PI – Performed independently – III year MDS

4. TEACHING PROGRAMME

4.1 Schedule for 3 Years

1st Year M.D.S.

First Term

(1) Dissection, basic sciences, basic computer sciences, exodontia, seminars on basic topics, selection of dissertation topic, library assignment topic, attending O.T. and Ward rounds, preparations of synopsis and its submission within the six months after admission to the University as per Calendar of events.

Second Term (Rotation and postings in other department)

Oncology	-	2 months
Emergency	-	1 month
General medicine	-	15 days
General Surgery/Anesthesia	-	15 days
Ophthalmology	-	15 days
Neurology	-	15 days
ENT	-	15 days
Orthopedic	-	15 days

Examination of basic sciences – One paper of three hours duration to be conducted by the College.

2nd Year M.D.S.

(1) Minor oral surgery and higher surgical training
(2) Submission of Library Dissertation by the middle of second year
(3) Commencement of University Dissertation
(4) Examination on minor oral surgical procedures – One paper of three hours duration to be conducted by the College.

3rd Year M.D.S.

(1) Maxillofacial surgery, submission of Dissertation in the first term, i.e. six months before the final examination to the University.
(2) Examination of three hours duration three months before the final examination to be conducted by the college.
(3) It is desirable to enter general surgical skills and operative procedure that are observed, assisted or performed in the log book
(4) Final examination at the end of the third year.

Before the University Examination, submission of all clinical records of work done during the entire 3 years period with the approval of the Post-graduate teacher, Head of the Department and Head of the Institution. Submission of Clinical Photographs, Clinical Records, Library Dissertation and University Dissertation and any other relevant documents.

Syllabus :

(1) Preclinical Exercises : To be completed by Six months

(2) Record of the pre-clinical exercises to be approved by the guide and duly signed by the H.O.D. The Preclinical exercises should be displayed during the Final M.D.S. Examination.

Clinical Requirements :

The list is the minimum required quota to be completed before the candidate appears for the Final M.D.S. Examination. Clinical records should be maintained and approved by the guide and duly certified by the H.O.D.

5. JOB RESPONSIBILITIES:

(1) Library Dissertation

(2) Dissertation : Subject and plan of the dissertation to be submitted within 6 months of admission to MDS course. He/she should complete the work and submit the dissertation 6 months before MDS final theory paper examination.

(3) Academic Assignment

(a) Lectures and Seminars on Basic Sciences
(b) Seminars and Journal Club on specialty subject
(c) Case presentations and discussion
(d) Lecture classes and Clinical discussions for under-graduate students
(e) Attending Workshops / continuing dental education programs
(f) At least three scientific presentations
(g) At least one scientific paper and a case report should be published in an indexed journal.

(4) Clinical Postings in Other Specialties

Candidates will be posted on rotation to the various departments like:

(a)	Oncology	-	2 months
(b)	Emergency	-	1 month
(c)	General medicine	-	15 days
(d)	General Surgery/Anesthesia	-	15 days
(e)	Ophthalmology	-	15 days
(f)	Neurology	-	15 days
(g)	ENT	-	15 days
(h)	Orthopedic	-	15 days

6. SCHEME OF EXAMINATION:

6.1 **Theory Examination** - 400 Marks

Part-I : Basic Sciences Paper – 100 Marks
Part – II : Paper-I, Paper-II & Paper-III- 300 Marks (100 Marks for each Paper)

(1) Part-I : examination shall consist of Basic sciences paper of three hours duration and shall be conducted at the end of First year of MDS courses. Paper shall be of 100 marks and there shall be 10 questions of 10 marks each. The candidates shall have to secure a minimum of 50% in the Basic Sciences and shall have to pass the Part-I examination at least six months prior to the final (Part-II) examination.

(2) Part – II Examination shall be conducted at the end of Third year of MDS course and shall consist of Paper-I, Paper-II and Paper –III, each of three hours duration. 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 which 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* :

Nomenclature of Papers

Part - I (9521) Applied Basic Science
(Applied basic science, Applied Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology, Biostatistics and Research Methodology)

Part - II

Paper I (9522) : Minor oral Surgery and trauma
Paper II (9523) : Maxillofacial Surgery
Paper III (9524) : Descriptive and Analyzing type question

*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.

6.2 **Practical / Clinical Examination** - 200 Marks

Minor Oral Surgery	:	100 Marks
One Long Case	:	60 Marks
Two Short Cases	:	40 marks

6.3 Viva Voce - 100 marks

Viva-Voce Examination	:	60 Marks
Pedagogy exercise	:	20 Marks
Theses presentation	:	20 marks

7. BOOKS:

Core Books

(1) Rowe, Williams – Textbook of Trauma – Oral and maxillofacial surgery
(2) Fonseca –Trauma
(3) Keith – TMJ Disorders
(4) Jatin P Shah – Oral Cancer
(5) Malamed – Text book of Local Anaesthesia

Journals

(1) British Journal of Oral and Maxillofacial Surgery
(2) Journal of oral and Maxillofacial Surgery
(3) Journal of Maxillofacial and Oral Surgery
(4) Clinics of North America
(5) Annals of Oral and Maxillofacial Surgery
(6) International Journal of Oral and Maxillofacial Surgery
(7) Atlas of Oral and Maxillofacial Surgery

MODEL PAPER

M.D.S. Part-I **Bas.Sci.-I**
9521

Master of Dental Surgery Part-I Examination Month Year
ORAL & MAXILLOFACIAL SURGERY

Applied Basic Sciences
(Applied basic science, Applied Anatomy, Physiology, Biochemistry, Pathology, Microbiology, Pharmacology, Biostatistics and Research Methodology)

Time: Three Hours
Maximum Marks: 100

Attempt all Questions.
All the parts of one question should be answered at one place in sequential order.
Illustrate your answers with suitable diagrams, wherever necessary.

Q.1	Discuss clinical manifestation, physiology & management of hypovolemic shock.	10
Q.2	Discuss arterial supply of head & neck & ligation of its major branches.	10
Q.3	Discuss bones healing & histology.	10
Q.4	Hepatitis & its Prophylaxis. Discuss in detail.	10
Q.5	Discuss in detail blood transfusion & complications.	10
Q.6	Discuss in detail about ABCD of trauma management.	10
Q.7	Discuss general anesthesia & its complications.	10
Q.8	Discuss external carotid artery & its applied anatomy.	10
Q.9	Classify hemorrhage & discuss in detail about its management.	10
Q.10	Lymphatic drainage of head & neck.	10

MODEL PAPER

M.D.S. Part-II **Min.Oral.Surg.Trau.-I**
9522

Master of Dental Surgery Part-II Examination Month Year
ORAL & MAXILLOFACIAL SURGERY

Paper I
Minor oral Surgery and trauma

Time: Three Hours
Maximum Marks: 100

Attempt all Questions.
All the parts of one question should be answered at one place in sequential order.
Illustrate your answers with suitable diagrams, wherever necessary.

Q.1 Discuss the clinical features, treatment of mal united bilateral fracture of the condyle (25)

Q.2 Discuss biochemistry of Trauma. How will you assess the patient presenting with hypotension after trauma (25)

Q.3 Short Notes (5) 5x10= 50

(a) Diagnosis of head injury

(b) Tubercular Osteomyelitis of mandible

(c) Trigeminal neuralgia

(d) Tori

(e) Odontogenic keratocyst

MODEL PAPER

M.D.S. Part-II **Max.Fac.Surg.Oral.Impl.-II**
9523

Master of Dental Surgery Part-II Examination Month Year

ORAL & MAXILLOFACIAL SURGERY

Paper II

Maxillofacial Surgery

Time: Three Hours
Maximum Marks: 100

Attempt all Questions.
All the parts of one question should be answered at one place in sequential order.
Illustrate your answers with suitable diagrams, wherever necessary.

Q.1 Write a detailed account of surgical aspects of Oral Implantology with emphasis on classification, indications, contra-indications, case selection, placement and complications. (25)

Q.2 What are the types of TMJ ankylosis? How will you manage TMJ ankylosis in an 8 year old child? (25)

Q.3 Short Notes (5) 5x10= 50

(a) Distraction osteogenesis

(b) Genioplasty

(c) Staging of oral cancer

(d) Mandibular reconstruction

(e) Sialoliths

MODEL PAPER

M.D.S. Part-II **Essay.-III**
9524

Master of Dental Surgery Part-II Examination Month Year
ORAL & MAXILLOFACIAL SURGERY

Paper III
Descriptive and Analyzing type question

Time: Three Hours
Maximum Marks: 100

Answer any two questions.
All the parts of one question should be answered at one place in sequential order.
Illustrate your answers with suitable diagrams, wherever necessary.

Q.1	Pre-prosthetic surgery.	50
Q.2	Diagnosis and management of mandibular prognathism.	50
Q.3	Application of Laser technology in surgical treatment of lesions.	50