

**THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY,  
CHENNAI - 600 032.**



**M.D.S. BRANCH - I  
ORAL AND MAXILLOFACIAL SURGERY**

**Objectives:**

The training programme in Oral and Maxillofacial Surgery is structured to achieve the following four objectives –

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

**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.
- Ability 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 H.I.V.

**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 (or by other means the Oral and Maxillofacial region).
- 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, cost, creed or religion of the patient.

- Willing to share the knowledge and clinical experience with professional colleagues.
- Willing to adopt new and techniques of surgical management developed from time to time based on scientific research which are in the best interests 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 undergraduate.

**Course Content:**

The programme outlines addresses both the knowledge needed in Oral and Maxillofacial Surgery and allied medical specialities in its scope. 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 advances in Maxillofacial Surgery.

**The topics are considered as under:-**

- Basic Sciences.
- Oral and Maxillofacial Surgery.
- Allied Specialities.

**Applied Basic Sciences:**

A thorough knowledge both on theory and principles in general and in particular the basic medical subjects as relevant to the practice of maxillofacial surgery. It is desirable to have adequate knowledge in Bio-statistics, Epidemiology, Research Methodology, Nutrition and Computers.

• **Anatomy :**

Development of face, paranasal sinuses and associated structures and their anomalies; surgical anatomy of scalp, temple and face, anatomy and its applied

aspects of triangles of neck, deep structures of neck, cranial facial bones and surrounding soft tissues, cranial nerves, tongue, sub-temporal and infratemporal region, orbits and its contents, muscles of face and neck, paranasal sinuses, eyelids and nasal septum, teeth, gums and palate, salivary glands, pharynx, thyroid and parathyroid glands, larynx, trachea and esophagus, congenital abnormalities of orofacial regions, osteology of scapulae, rib, sternum, radius, ulna, tibia, fibula & illeum – muscle attached, vascular & nerve supply, General consideration of the structure and function and applied anatomy of intracranial venous sinuses; cavernous sinus and superior sagittal sinus, Brief consideration of autonomous nervous system of head and neck, Functional anatomy of mastication, deglutition, speech, respiration and circulation, Histology of skin, oral mucosa, connective tissue, bone, cartilage cellular elements of blood vessels, lymphatics, nerves, muscles, tongue, tooth and its surrounding structures.

- **Physiology :**

Nervous system – physiology of nerve conduction, pain pathway, sympathetic and parasympathetic nervous system, hypothalamus and mechanism of controlling body temperature; Blood – its composition, haemostasis, blood dyscrasias and management, haemorrhage and its control, blood grouping, cross matching, blood component therapy, complications of blood transfusion, blood substitutes, auto transfusion, cell savers; digestive system : composition and functions of saliva, mastication, deglutition, digestion, assimilation, urine formation, normal and abnormal constituents; Respiration : control of ventilation - anoxia, asphyxia, artificial respiration, hypoxia – types and management; CVS : cardiac cycle, shock, heart sounds, blood pressure, hypertension; Endocrinology : metabolism of calcium; endocrinal activity and disorders relating to thyroid gland, parathyroid gland, adrenal gland, pancreas and gonads; Nutrition – general principles, balanced diet. Effect of dietary deficiency, protein energy malnutrition, Kwashiorkor, Marasmus, Nutritional assessment, metabolic responses to stress, need for nutritional support, roots of access to GI tract, Parenteral nutrition, Access to central veins, Nutritional support; Fluid and Electrolytic balance / Acid Base metabolism – the body fluid compartment, metabolism of water and electrolytes, factors maintaining homeostasis, causes for treatment of acidosis and alkalosis.

- **Biochemistry :**

General principles governing the various biological principles of the body, such as Osmotic pressure, electrolytes, dissociation, oxidation, reduction, etc; general Composition of body, intermediary metabolism, carbohydrate, proteins, lipids, enzymes, vitamins, minerals and antimetabolites.

- **General Pathology :**

Inflammation – Acute and chronic inflammation, repair and regeneration, necrosis and gangrene, role of component system in acute inflammation, role of arachidonic acid & its metabolites in acute inflammation, growth factors in acute inflammation, role of NSAIDS in inflammation, cellular changes in radiation injury and its manifestation; wound management – wound healing, factors influencing healing; haemostasis – role of endothelium in thrombogenesis; arterial and venous thrombi, disseminated intravascular coagulation; Hypersensitivity; Shock and pulmonary failure; types of shock, diagnosis, resuscitation, pharmacological support, ARDS and its causes and prevention, ventilation and support, Neoplasm – classification of tumours, Carcinogens and Carcinogenesis, grading and staging of tumours, various laboratory investigations.

- **General Microbiology :**

Immunity, Hepatitis - B and its prophylaxis, Knowledge of organism commonly associated with disease of oral cavity, culture and sensitivity tests, various staining techniques – Smears and cultures, urine analysis and culture.

- **Oral Pathology and Microbiology :**

Developmental disturbance of oral and para oral structures, regressive changes of teeth, bacterial, viral, mycotic infection of oral cavity, dental caries, diseases of pulp and Periapical tissues, physical and chemical injuries of oral cavity, wide range of pathological lesions of hard and soft tissues of the orofacial regions like cysts, odontogenic infection, benign and malignant neoplasms, salivary gland and diseases, maxillary sinus diseases, mucosal diseases, oral aspects of various systemic diseases, role of laboratory investigation in Oral Surgery.

- **Pharmacology and Therapeutics :**

Definition of terminology used, pharmacokinetics and pharmacodynamics, dosage and mode of administration of drugs, action and fate in the body, drug addiction, tolerance and hypersensitive reactions, drugs acting on C.N.S., general and local anaesthetics, antibiotics and analgesics, antiseptics, antitubercular drugs, sialogogues, hematinics, anti diabetics, Vitamins – A, B-complex, C, D, E, K, chemotherapeutic agents.

- **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 systems in biomedical equipment.

## **ORAL AND MAXILLOFACIAL SURGERY:**

- Evolution of Maxillofacial surgery.
- Diagnosis, history taking, clinical examination, investigations.
- Informed consent / medico-legal issues.
- Concept of essential drugs and rational use of drugs.
- Communication skill with patients – understanding, clarity in communication, compassionate explanations and giving emotional support at the time of suffering and bereavement.
- Principles of surgical audit – understanding the audit of process and outcome. Methods adopted for the same. Basic statistics.
- Principles of evidence based surgery – understanding journal based literature study; the value of textbook, reference book articles, value of review articles; original articles and their critical assessment, understanding the value of retrospective, prospective, randomized control and blinded studies, understanding the principles and the meaning of various Bio-statistical tests applied in these studies.
- Principles of surgery – developing a surgical diagnosis, basic necessities for surgery, aseptic techniques, incisions, flap designs, tissue handling, haemostasis, dead space management, decontamination and debridement, suturing, edema control, patients general health and nutrition.
- Medical emergencies – Prevention and management of altered consciousness, hyper sensitivity reaction, chest discomfort, respiratory difficulty.
- Pre operative workup – Concept of fitness for surgery; basic medical work up; work up in special situation like diabetes, renal failure, cardiac and respiratory illness; risk stratification.
- Surgical sutures, drains.
- Post operative care – concept of recovery room care, Airway management, Assessment of Wakefulness, Management of cardio vascular instability in this period, Criteria for shifting to the ward, Pain management.
- Wound management – Wound healing, factors influencing healing, basic surgical techniques, properties of suture materials, appropriate use of sutures.
- Surgical Infections – Asepsis and antisepsis, Microbiological principles, Rational use of antibiotics, Special infections like Synergistic Gangrene and Diabetic foot infection, Hepatitis and H.I.V. infection and cross infection, Space infection of maxillofacial region ( soft and hard tissue ).
- Airway obstruction / management – Anatomy of the airway, principles of keeping the airway patent, mouth to mouth resuscitation, oropharyngeal airway, endotracheal intubation, cricothyroidectomy, tracheostomy.
- Anaesthesia – stages of Anaesthesia, pharmacology of inhalation, intravenous and regional anaesthetics, muscle relaxants.
- Facial pain; Facial palsy and Nerve injuries.

- Pain control – acute and chronic pain, cancer and non-cancer pain, patient controlled analgesia.
- General patient management – competence in physical assessment of patients, competence in evaluation of patients presenting with acute injury, particularly to maxillofacial region. Competence in the evaluation of management of patients for Anaesthesia.
- Clinical oral surgery – all aspects of dento alveolar surgery – impactions.
- Pre – prosthetic surgery – A wide range of surgical reconstructive procedures involving the hard and soft tissues of the edentulous jaws.
- Temporomandibular joint disorders – TMJ disorders and their sequelae need expert evaluation, assessment and management. It is preferable to be familiar with diagnostic and therapeutic arthroscopic surgery procedures.
- Tissue grafting – understanding of the biological mechanisms involved in autogenous and heterogeneous tissue grafting. Alloplastic materials.
- Reconstructive oral and maxillofacial surgery – hard tissue and soft tissue reconstruction.
- Maxillary sinus – related dental implications and their management.
- Salivary glands – disorders & tumours, management.
- Cyst and tumours of head and neck region and their management – including principles of tumour surgery, giant cell lesion of jaw bones, fibro osseous lesion of jaw, vascular malformation.
- Neurological disorders of maxillofacial region – diagnosis and management of Trigeminal Neuralgia, MPDS, Bells Palsy, Frey’s Syndrome, Nerve injuries.
- Maxillofacial trauma – basic principles of treatment, primary care, diagnosis and management of hard and soft tissue injuries, comprehensive management including polytrauma patients.
- Assessment of trauma – multiple injuries patients / closed abdominal and chest injuries / penetrating injuries, pelvic fractures, urological injuries, vascular injuries.
- Orthognathic surgery – The trainee must be familiar with the assessment and correction of jaw deformities.
- Laser surgery – The application of laser technology in the surgical treatment of lesions amenable to such therapy.
- Distraction osteogenesis in maxillofacial region.
- Cryosurgeries – Principles, the application of cryosurgery in the surgical \*management of lesions amenable to such surgery.
- 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 nasal endoscopy and other diagnostic techniques in the evaluation of speech and hearing, concept of multi disciplinary team management.
- Aesthetic facial surgery – detailed knowledge of structures of face and neck including skin and underlying soft tissues, diagnosis and treatment planning of deformities and conditions affecting facial skin, underlying

facial muscles, bone, eyelids, external ear, etc. surgical management of post acne scarring, face lift, blepharoplasty, otoplasty, facial bone recontouring, etc.

- Craniofacial surgery – basic knowledge of developmental anomalies of face, head and neck, basics concept in the diagnosis and planning of various head and neck anomalies including facial cleft, craniosynostosis, syndromes, etc. Current concepts in the management of craniofacial anomalies.
- Head and neck oncology – understanding of the principles of management of head and neck oncology including various pre cancerous lesions, Experience in the surgical techniques of reconstruction following ablative surgery, Cancer biology.
- Micro vascular surgery.
- Implantology – principles, surgical procedures for insertion of various types of implants.
- Maxillofacial radiology / radio diagnosis.
- Other diagnostic methods and imaging techniques.

#### **Allied Specialities :**

- General Medicine: General assessment of the patient including children with special emphasis on cardiovascular diseases endocrinal and metabolic, respiratory and renal disease, Blood dyscrasias.
- General Surgery: Principles of General Surgery, exposure to common general surgical procedures.
- Neuro – surgery: Evaluation of a patient with head injury, examination of various Neuro – surgical procedures.
- E.N.T. / Ophthalmology: Examination of ear, nose, throat, exposure to E.N.T. surgical procedures, ophthalmic examination and evaluation, exposure to ophthalmic surgical procedures.
- Orthopaedic: Basic principles of orthopaedic surgery, bone diseases and trauma as relevant to maxillofacial surgery, interpretation of radiographs, C.T., M.R.I., and ultrasound.
- Anaesthesia : Evaluation of patients for GA techniques and management of emergencies, various IV sedation techniques.

#### **Academic Clinical Programme (applicable for all three years) :**

- Seminars to be attended once in a week.
- Journals clubs ( departmental and interdepartmental ) to be conducted once in fifteen days.
- Departmental and interdepartmental discussions to be held once in a month.
- Minimum 2 scientific papers should be presented.



## **Year by Year Programme:**

### **First Year :**

#### **First Term:-**

Dissection, basic sciences, basic computer sciences, exodontias, seminars on basic topics, selection of dissertation topic, library assignment topic, attending O.T. and ward rounds, preparation of synopses 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	-	1 ½ months.
Emergency	-	1 month.
General Medicine	-	15 days.
General Surgery / Anaesthesia	-	15 days.
Ophthalmology	-	15 days.
Neurology	-	15 days.
E.N.T.	-	15 days.
Orthopaedic	-	15 days.
Plastic Surgery	-	15 days.

### **Second Year:**

Minor Oral Surgery and Higher Surgical Training.

Submission of library assignment by the end of first term.

Examination on minor oral surgical procedures – one paper of three hours duration to be conducted by the College.

### Third Year :

Maxillofacial surgery, submission of dissertation in the first term, i.e., six months before the final examination to the University.

Examination of three hours duration three months before the final examination to be conducted by the College. It is desirable to enter general surgical skills and operative procedure that are observed, assisted or performed in the log book.

#### Final Examination at the end of the Third Year :-

Sl. No.	Procedure	Category	Year	Number
1.	Injection 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 tumours.	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.	Tracheostomy.	PA, A	II, III	2, 2
18.	Skin Grafts.	PA	III	3, 5
19.	Orthognathic Surgery.	PA, A	II, III	3
20.	Harvesting Bone & Cartilage Grafts :			
	a) Iliac Crest.	PA	III	
	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

## Paper – II : Minor Oral Surgery and Trauma –

### 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.
  - **Medical Emergencies:** Prevention and management of altered consciousness (syncope, orthostatic hypotension, seizures, diabetes mellitus, adrenal insufficiency), hypersensitivity reactions, chest discomfort, and respiratory difficulty.
- 1) **Examination and Diagnosis:** Clinical history, physical and radiographic, clinical and laboratory diagnosis, oral manifestations of systemic diseases, implications of systemic diseases in surgical patients.
  - 2) **Haemorrhage and Shock:** Applied Physiology, clinical abnormalities of coagulation, extra vascular haemorrhage, and haemorrhagic lesions, management of secondary haemorrhage, shock.
  - 3) **Exodontia :** Principles of extraction, indications and contraindications, types of extraction, complications and their management, principles of elevators and elevators used in oral surgery.
  - 4) **Impaction:** Surgical Anatomy, classification, indications and contraindications, diagnosis, procedures, complications and their management.
  - 5) **Surgical Aids to Eruption of Teeth:** Surgical exposure of unerupted teeth, surgical repositioning of partially erupted teeth.
  - 6) **Transplantation of Teeth.**
  - 7) **Surgical Endodontics :** Indications and contraindications, diagnosis, procedures of periradicular surgery.
  - 8) **Procedures to improve Alveolar Soft Tissues:** Requirements, types (alveoplasty, tuberosity reduction, mylohyoid ridge reduction, genial reduction, removal of exostosis, vestibuloplasty).
  - 9) **Procedures to improve Alveolar Soft Tissues :** Hypermobility tissues-operative / sclerosing methods, epulis fissuratum, frenectomy and frenotomy.

- 10) **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's angina, cavernous sinus thrombosis.
- 11) **Chronic Infection of the Jaws:** Osteomyelitis (types, etiology, pathogenesis, management) osteoradionecrosis.
- 12) **Maxillary Sinus:** Maxillary sinusitis – types, pathology, treatment, closure of Oro-antral fistula, Caldwell-Luc operation.
- 13) **Cysts of the Orofacial region:** Classification, diagnosis, management of OKC, dentigerous, radicular non Odontogenic, ranula.
- 14) **Neurological Disorders of the Maxillofacial Region:** Diagnosis and management of trigeminal neuralgia, Bell's palsy, Frey's syndrome, nerve injuries.
- 15) **Implantology :** Definition, classification, indications and contraindications advantages and disadvantages, surgical procedure.
- 16) **Anaesthesia :-**  
**Local Anaesthesia :** Classification of local anaesthetic drugs, modes of action indications, and contra indications, advantages and disadvantages, techniques, complications and their management.  
**General Anaesthesia :** Classification, stages of GA, mechanism of action, indications, and contra indications, advantages and disadvantages, post anaesthetic complications and emergencies, anaesthesia for dental procedures in children, pre medication, conscious sedation, legal aspects for GA.
- 17) **Trauma.**
- 18) **Surgical Anatomy of Head and Neck.**
- 19) **Etiology of Injury.**
- 20) **Basic Principles of Treatment.**
- 21) **Primary Care:** Resuscitation, establishment of airway, management of haemorrhage, management of head injuries and admission to hospital.
- 22) **Diagnosis:** Clinical, radiological.

- 23) **Soft Tissues Injury of Face and Scalp** : Classification and management of soft tissue wounds, injuries to structures requiring special treatment.
- 24) **Dental Alveolar Fractures:** Examination and diagnosis, classification, treatment, prevention.
- 25) **Mandibular Fractures:** Classification, examination and diagnosis, general principles of treatment, complications and their management.
- 26) **Fracture of Zygomatic Complex:** Classification, examination and diagnosis, general principles of treatment, complications and their management.
- 27) **Orbital Fractures:** Blow out fractures.
- 28) **Nasal Fractures.**
- 29) **Fractures of Middle Third of the Facial Skeleton:** Emergency care, fracture of maxilla, and treatment of Le Fort I, II, III, fracture of Naso-orbito-ethmoidal region.
- 30) **Ophthalmic Injuries** : Minor injuries, non-perforating injuries, perforating injuries, retro-bulbar haemorrhage, traumatic optic neuropathy.
- 31) **Traumatic Injuries to Frontal Sinus** : Diagnosis, classification, treatment.
- 32) **Maxillofacial Injuries in Geriatric and Paediatric Patients.**
- 33) **Gun shot wounds and War injuries.**
- 34) **Osseointegration in Maxillofacial Reconstruction.**
- 35) **Metabolic Response to Trauma:** Neuro endocrine responses, inflammatory mediators, clinical implications.
- 36) **Healing of Traumatic Injuries:** Soft tissues, bone, cartilage, response of peripheral nerve to injury.
- 37) **Nutritional Considerations following Trauma.**
- 38) **Tracheostomy:** Indications and contraindications, procedure, complications and their management.

## **PAPER - III - MAXILLOFACIAL SURGERY :**

### **Salivary Gland :-**

- Sialography.
- Salivary fistula and management.
- Diseases of salivary gland – developmental disturbances, cysts, inflammation and sialolithiasis.
- Mucocele and Ranula.
- Tumours of salivary gland and their management.
- Staging of salivary gland tumours.
- Parotidectomy.

### **Temporomandibular Joint:-**

- Etiology, signs, symptoms, examination and diagnosis of temporomandibular joint disorders.
  - Ankylosis and management of the same with different treatment modalities.
  - M.P.D.S. and management.
  - Condylectomy – different procedures.
  - Various approaches to T.M.J.
  - Recurrent dislocations
  - Hypermobility.
- } - Etiology and Management

### **Oncology :-**

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

### **Orthognathic Surgery:-**

- Diagnosis and treatment planning.
- Cephalometric analysis.
- Model surgery.

- Maxillary and mandibular repositioning procedures.
- Segmental osteotomies.
- Management of apertognathia.
- Genioplasty.
- Distraction osteogenesis.
- Cysts and tumour of oro facial region.
- Odontogenic and non-Odontogenic tumours and their management.
- Giant cell lesions of jawbone.
- Fibro osseous lesions of jawbone.
- Cysts of jaw.

### **Laser Surgery:-**

- The application of laser technology in surgical treatment of lesions
- Cryosurgery.
- Principles, applications of cryosurgery in surgical management – 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.

### **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.

### **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.



**Scheme of Examination:**

**A. Theory : 100 Marks.**

**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. (a) One Long Case : 60 Marks.**  
**(b) Two Short Cases : 20 Marks each.**

**C. Viva Voice : 100 Marks.**

*i) Viva-Voice Examination : 100 Marks.*

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

## **OPTIONAL SUBJECT**

### **RESEARCH METHODOLOGY AND BIOSTATISTICS**

- 1) Principles of epidemiology and epidemiology methods.
- 2) Aims of epidemiology.
- 3) Rates and ratios.
- 4) Uses of epidemiology.
- 5) Screening.
- 6) Survey.
- 7) Association and causation.
- 8) Protocol developments.
- 9) Research design.
- 10) Case control design.
- 11) Cohort design.
- 12) Randomized clinical trials.
- 13) Bias.
- 14) Introduction to Biostatistics.
- 15) Sampling techniques.
- 16) Test of significance.
- 17) Confidence interval.
- 18) Sample size.
- 19) Graphical display and data.
- 20) Diagnostic tests.
- 21) Determination of sample size.
- 22) Guide to write or start research – protocol.
- 23) Data analysis.
- 24) Lab animal model in periodontology.
- 25) How to read clinical journals.
- 26) Health science information systems (computerized information system).