



D.Y. PATIL EDUCATION SOCIETY
[Deemed to be University], Kolhapur
Re-accredited by NAAC with 'A' Grade

D. Y. PATIL

MEDICAL COLLEGE

KOLHAPUR

Syllabus For

NATIONAL MEDICAL COMMISSION

Postgraduate Medical Education Board

GUIDELINES FOR COMPETENCY BASED
POSTGRADUATE TRAINING PROGRAMME FOR

MS IN OTORHINOLARYGOLOGY

D. Y. PATIL EDUCATION SOCIETY, KOLHAPUR
(DEEMED TO BE UNIVERSITY)



D. Y. PATIL MEDICAL COLLEGE, KOLHAPUR

Syllabus For

NATIONAL MEDICAL COMMISSION

Post Graduate Medical Education Board

GUIDELINES FOR COMPETENCY BASED
POSTGRADUATE TRAINING PROGRAMME FOR

MS IN OTORHINOLARYGOLOGY

Year of Implementation : 2022-23

Year of Examination : 2025-26

MS-OTORHINOLARYGOLOGY

Vision

To provide excellent otolaryngologic & head and neck surgical patient care that can serve as a National model;

Mission

- To provide outstanding undergraduate and postgraduate education that disseminates otolaryngology & head and neck surgery knowledge and facilitates more contributions to the knowledge base;
- To carry out basic science, clinical, and health services research that advance the field of otolaryngology & head and neck surgery;

Preamble

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

Program Outcomes

1. Graduate Attributes: Medical and Scientific Knowledge.

PO 1 :

- Demonstrate knowledge of normal and abnormal human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective.
- Demonstrate knowledge about established and evolving biomedical and clinical sciences.
- Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety

2. Graduate Attributes: Planning Patient Care and problem solving abilities

PO 2:

- Demonstrate ability to apply this knowledge to the practice of medicine in routine, emergency and disaster situations.

- Demonstrate ability to appraise and assimilate scientific evidence into their own ongoing learning, research, and patient care.
- Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context
- Demonstrate ability to provide evidence-based care that is compassionate, respectful of patients' differences, values, and preferences.

3. Graduate Attributes: Professional excellence & Ethics

PO 3:

- Demonstrate commitment to the highest standards of professional responsibility towards patient, colleagues, society, growth of medical professional and adhere to universally accepted code of ethics.
- Demonstrate personal attributes of compassion, honesty, integrity, accountability, empathy in patient encounters.

4. Graduate Attributes: Communication Skills.

PO 4:

- Demonstrate ability to communicate effectively, respectfully, non-judgemental, empathetic manner with patients, their families and colleagues that will improve patient satisfaction ,health care and encourages participation and shared decision-making.
- Demonstrate the ability to listen clearly, inform, communicate and educate patients &/ caregivers for the promotion of health, diagnosis of disease and the treatment of illness; advocate for disease prevention, wellness and the promotion of healthy lifestyles including a focus on population health

5. Graduate attributes: Leader & Member of the health care team & System

PO 5:

- Demonstrate the ability to work effectively, efficiently & in rational way with his/ her colleagues and other team members, educate & motivate the team members in a manner to maximize the health delivery potential of the team, considering various roles, responsibilities and competencies of the other health professionals.
- Identify the self- potential, functioning ability as a team leader in primary and secondary health care settings, utilize various indicators of the health care system and to promote appropriate, low cost, ethical, fair and qualitative health delivery.

6. Graduate attributes: Life long learner

PO 6:

- Demonstrate ability to acquire new knowledge, skills and reflect upon their experience to enhance personal and professional growth and apply the information in the care of the patient.
- Demonstrate self-motivation and awareness to their own limitations.
- Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.

7. Graduate attributes: Research Aptitude

PO7:

- Demonstrate an attitude of inquiry/search/investigation ,scientific and objective effort to uncover facts.

8. Graduate attributes: Societal Responsibilities

PO8 :

- Demonstrate accountability in fulfilling their duty for the benefit of the entire society.

9. Graduate attributes: Awareness towards Environment and sustainability

PO9 :

- Demonstrates responsibility to conserve natural resources and protect global ecosystems to support health and wellbeing, now and in the future.

Course Outcome

CO1: To practice Otorhinolaryngology ailments in the given situation. Examine, investigate judiciously, diagnose and manage majority of conditions in Otorhinolaryngology Specialty.

CO2: To demonstrate sufficient understanding of basic sciences related to Otorhinolaryngology using models & mannequins in Simulation Skill Lab and by conducting dissections using Cadaveric Skill Lab. Able to integrate such knowledge in his Clinical practice.

CO3: To provide adequate preoperative, perioperative, postoperative and follow-up care of ENT patients.

CO4: To provide and coordinate emergency resuscitative measures in acute ENT situations including trauma.

CO5: To discharge effectively medico legal and ethical responsibilities and participate in implementation of National Program for prevention and control of deafness, plan & advise measures for the promotive, preventive, curative and rehabilitative aspects of health and diseases in the specialty of ENT.

CO6: To learn to obtain informed consent prior to performance of operative procedures.

CO7: To learn the basic steps in techniques of performing an operative procedure.

CO8: To demonstrate that he is fully conversant with the latest diagnostics & therapeutics available and update knowledge regarding recent advances and newer techniques in the management of patients.

CO9: To participate regularly in departmental academic activities by presenting seminars, case discussion, journal club and topic discussion on weekly basis and maintain logbook.

CO10: To know the basic concept of research methodology, plan a research project and know how to consult library.

CO11: To show integrity, accountability, respect, compassion and dedication in patient – care and demonstrate a commitment to excellence and continuous professional development.

Program specific outcomes for OTORHINOLARYNGOLOGY

1. Describe aetiology, pathophysiology, principles of diagnosis and management of common ear, nose, throat and neck problems including emergencies, in adults and children.
2. Demonstrate the theoretical knowledge to choose and interpret appropriate diagnostic and therapeutic imaging including X-Ray, ultrasound, CT scan, MRI, PET scan.
3. Arrive at a logical working diagnosis/ differential diagnosis after clinical examination.
4. Perform minor operative procedures and common general ENT operations independently and the major procedures under guidance.

SUBJECT SPECIFIC LEARNING OBJECTIVES

At the end of postgraduate training the student should be able to:

1. Practice his specialty ethically keeping in mind the requirement of the patient, community and people at large.
2. Demonstrate sufficient understanding of basic sciences related to his specialty and be able to integrate such knowledge in his Clinical practice.
3. Diagnose and manage majority of conditions in his specialty (clinically and with the help of relevant investigations)
4. Plan and advise measures for the promotive, preventive, curative and rehabilitative aspects of health and diseases in the specialty of ENT.
5. Should be able to demonstrate his cognitive skills in the field of ENT and its ancillary branches during the formative and summative evaluation processes.
6. Play the assigned role in the implementation of National Health Programs
7. Demonstrate competence in basic concepts of research methodology and writing thesis and research papers.
8. Develop good learning, communication and teaching skills.
9. Demonstrate sufficient understanding of basic sciences and the clinical applications related to the specialty to be able to integrate this knowledge into Clinical practice. Acquire in-depth knowledge in the subject including recent advances.
10. Demonstrate that he is fully conversant with the latest diagnostics & therapeutics available.

1. Theoretical Knowledge:

A student should have fair knowledge of basic sciences (Anatomy, Physiology, Biochemistry, Microbiology, Pathology and Pharmacology) as applied to ENT and be able to integrate such knowledge in his clinical practice. She/he should acquire in-depth knowledge of his subject including recent advances. She/he should be fully conversant with the bedside procedures (diagnostic and therapeutic) and having knowledge of latest diagnostics and therapeutics available.

2. Clinical / Practical skills:

A student should be adept at good history taking, physical examination, providing basic life support and advanced cardiac life support, common procedures like FNAC, Biopsy, aspiration from serous cavities, lumbar puncture etc. She/he should be able to choose the required investigations to enhance the attitude, communication skills, including dealing with patient's relatives with the required empathy, adapt to changing trends in education, learning methods and evolving new diagnostic and therapeutic techniques in the subject of ENT.

3. Research:

She/he should know the basic concepts of research methodology, plan a research project, plan and write a thesis and should know how to use library facilities. Basic knowledge of statistics is also required. Knowledge about use of internet resources is required.

4. Teaching:

The student should learn the basic methodology of teaching and assessment and develop competence in teaching medical/paramedical students and their assessment.

SUBJECT SPECIFIC COMPETENCIES

A. Cognitive Domain

At the end of training, the student should be able to demonstrate ability to practically apply knowledge gained during training period. This would include the following:

Basic Sciences related to Otolaryngology

- Physiology- Mechanism of perception of smell and taste, mechanism of breathing and voice production, lacrimation, deglutition and salivation. Functional tests of the nose and paranasal sinuses, mechanism of cough and sneezing.
- Physics of sound, theories of hearing, mechanism of perception of sound and speech production, physiology of equilibrium and cerebral function. Physiology of brain in connection with hearing, speech, smell and phonation. Audiologic tests like audiometry, impedance, evoked potentials, OAE, Speech audiometry.
- Physiology of larynx, tracheobronchial tree and oesophagus - Histology of mucous membranes, internal ear and other associated organs and structures, nose, PNS NPx, Larynx, Tracheo-Bronchial tree, Lymphoepithelial system. Mechanism of immune system/immunology and genetics.
- Anatomy-Embryogenesis of ear, nose and throat including palate and the larynx, Oesophagus, trachea and lungs, tongue, salivary gland Head and Neck and skull base etc.
- Parapharyngeal spaces in the neck including connective tissue barriers of larynx.
- Applied anatomy of the skull bones, accessory sinuses, external, middle and inner ears, nose, PNS, nasopharynx, meninges, brain, pharynx, larynx, trachea and bronchi, lungs, pleurae, oesophagus and the mediastinum.
- Anatomy of all cranial nerves with their functions.

Principles and Practices of Otolaryngology, Audiology and Speech Pathology

- Clinical Methodology as applied to ORL HN diseases in adult and children and the accessory sinuses, diagnosis and surgical treatment of diseases of nose, throat and ear in adult and children. Prevention and treatment, infectious diseases of Otolaryngology and Head Neck region. Circulatory and nervous disturbances of the nose, throat and ear and their effects on other organs of the body. Deformities, injuries sinus infections, polyps and the tumors of the nose, and paranasal sinuses.
- Examination of the ear, deafness and allied diseases, complications of diseases of the ear. Injuries, tumors, nervous and circulatory neurological disturbances of the ear. Diagnosis and treatment of tinnitus and vertigo. Diagnosis and rehabilitation of the Hearing handicapped including, dispensing of hearing aid other vibrotactile aids.
- Surgical pathology of Otolaryngology and Head Neck region.
- Basic knowledge of anaesthesia as related to ENT.
- Examination of diseases of children (Paediatric ORL) in connection with throat and larynx. Neurological and vascular disturbances. Congenital and neonatal stridor.
- Pathology of various diseases of the larynx and throat, tracheo-bronchial tree and their causative organisms.
- Indications and various techniques of direct laryngoscopy, nasal endoscopy. Bronchoscopy and oesophagoscopy, including microlaryngoscopic procedures.
- Reading of radiograms, scans, audiograms, nystagmograms and tympanograms in connection with ENT diseases/disorders.
- Special apparatus for the diagnosis and treatment of the diseases of ear, nose and throat including audiometer, BERA, Speech analyser etc.

Recent advances in Otolaryngology and Head Neck surgery

- Recent developments in the diagnosis, pathogenesis and treatment of the ENT diseases
- The knowledge of the frontiers of the oto-laryngology and lateral skull base surgery
- Rhinoplasty, endoscopic sinus surgery, and anterior cranial fossa surgery
- Knowledge of LASERS and fibre optics
- Other methods of managing Hearing loss
- Implantable hearing aids cochlear implants
- Phonosurgery
- Etiology and Managements of sleep apnoea/snoring
- Hypophysectomy and optic nerve decompressions
- Immunotherapy and modalities of the gene therapy.

- Newer techniques for Radiotherapy including, use of gamma knife for treatment of Intracranial tumors and other malignancy
- Chemotherapy of cancer

General Surgical Principles and Head-Neck Surgery

- General Surgery, Head and Neck oncology, and Medicine as applicable to the ENT disorders/diseases. Surgery of congenital deformities of nose, ear (Pinna) and trachea/oesophagus etc.
- Radiology, Imaging – computed tomography and magnetic resonance imaging, (MRI) and intervention radiology and angiography as related to ENT
- General Pathologic aspects such as wound healing and also pathology and Pathogenesis of ENT diseases, Pharmacology, molecular biology, genetics, cytology, haematology, and immunology as applicable to otolaryngology
- General Principles of faciomaxillary traumatology and neck injury
- Plastic Surgery as applicable to Otolaryngology.

B. Affective Domain

1. The student will show integrity, accountability, respect, compassion and dedicated patient care. The student will demonstrate a commitment to excellence and continuous professional development.
2. The student should demonstrate a commitment to ethical principles relating to providing patient care, confidentiality of patient information and informed consent.
3. The student should show sensitivity and responsiveness to patients' culture, age, gender and disabilities.
4. The student should be able to choose the required investigations to enhance the attitude, communicative skills, including dealing with patient's relatives with the required empathy, adapt to changing trends in education, learning methods and evolving new diagnostic and therapeutic techniques in the subject of ENT.

C. Psychomotor Domain

By the end of the training, a student should be able to demonstrate his skills in:

- Taking a good history and demonstrating good examination techniques.
- arrive at a logical working diagnosis, differential diagnosis after clinical examination and order appropriate investigations keeping in mind their relevance (need based) and thereby provide appropriate care that is ethical, compassionate, responsive and cost effective and in conformation with statutory rules.
- Should be able to perform and demonstrate the practical skills in the field of ENT including the following:

- Examination of the ear, nose and throat oral cavity examination
- Clinico-physiological examination and evaluation of the audio- vestibulo neurological system
- Examination of the larynx and the throat including flexible endoscopy, stroboscopy, voice analysis and the clinico-physiological examination of the speech
- Examination of the otological and audiological system including Tuning fork testing, audiological evaluation, micro and otoendoscopy
- Clinical and physiological evaluation of the nose and paranasal sinuses including nasal endoscopy and olfactory evaluation
- Examination of the neck and its structures
 - Should demonstrate and perform various therapeutic skills related to the specialty such as :
 - Tracheostomy
 - Anterior/ posterior nasal packing
 - Ear Packing and Syringing
 - Foreign body removal from air nose and throat
 - Airway management including basic life support skills, Cardiopulmonary resuscitation, intubation, homeostasis maintenance, IV alimentation and fluid, electrolyte maintenance and principles of blood transfusion alimentation including Nasogastric feeding, gastro stomy
 - Wound suturing, dressings and care of the wounds
 - Basic principles of rehabilitation
 - common procedures like FNAC, biopsy, aspiration from serous cavities, lumbar puncture etc.
 - Should understand principles of and interpret X-rays/CT/MRI, audiograms, ENG, BERA, OAE, ultrasonographic abnormalities and other diagnostic procedures in relation to the speciality
 - Should have observed/performed under supervision the various surgical procedures in relation to the speciality

Syllabus

Course contents

1. Anatomy and Physiology of Ear, Nose and Throat, Trachea and esophagus.
2. The generation and reception of speech
3. Radiographic anatomy of the ear, nose, throat and imaging.
4. Bacteriology in relation to Otorhinolaryngology
5. Allergy and rhinitis
6. Haematology in relation to Otolaryngology
7. Anaesthesia for Otolaryngology
8. Pharmacology of drugs used in ENT
9. Electrolyte, fluid balance/shock conditions
10. Use of teaching aids
11. Routine blood, urine testing
12. Preparation of slides
13. Facial nerve stimulation test
14. Audiometric tests like pure tone Audiometry, Impedance Audiometry, Free field Audiometry, Specialized tests of hearing including SISI, Tone decay, ABLB, Speech discrimination score etc.
15. Vestibular tests like caloric testing (Water and Air) stopping test, Fukuda's test,
16. Evoked response audiometry.

Ear

1. The physical and functional examination of the ear
2. The functional and physical examination of the vestibular system.
3. Tinnitus
4. Affections of external ear
5. Repair of deformities of the external ear.
6. Congenital conditions of the middle ear cleft
7. Traumatic conductive deafness.
8. Acute inflammation of the middle ear cleft.

9. Non-suppurative otitis media
10. Chronic suppurative otitis media
11. Management of chronic suppurative otitis media
12. Complications of infections of middle ear.
13. Tumors of the middle ear cleft and temporal bone
14. Diseases of the otic capsule-otosclerosis
15. Diseases of the otic capsule-other diseases
16. The deaf child
17. Acoustic neuroma
18. Ototoxicity
19. Presbycusis
20. Diagnosis and management of sudden and fluctuant sensorineural hearing loss
21. Meniere's disease
22. Neurologic aspects of vertigo
23. Facial paralysis
24. Rehabilitation of adults with acquired Hearing loss-Hearing aids.
25. The cochlear Implants
26. Nystagmus
27. Otoacoustic emissions

Nose

1. Examination of the nose
2. Conditions of the external nose
3. Injuries of the facial skeleton
4. Congenital diseases of the nose
5. The nasal septum
6. Foreign bodies in the nose, rhinolith
7. Epistaxis
8. Acute chronic inflammations of the nasal cavities.

9. Vasomotor rhinitis-allergic and non-allergic
10. Nasal polyposis
11. Abnormalities of smell
12. Acute sinusitis
13. Chronic sinusitis
14. Nasal Allergy/Fungal allergic sinusitis
15. Complications of acute and chronic sinusitis
16. Tumors of nose and sinuses
17. Facial pains
18. Trans-ethmoidal hypophysectomy
19. Functional endoscopic sinus surgery (FESS)

Throat

1. Methods of examination of the mouth and pharynx
2. Diseases of the mouth
3. Diseases of the salivary glands
4. Pharyngeal lesions associated with general diseases
5. Diseases of the tonsils and adenoids (excluding neoplasms)
6. Tumors of the pharynx
7. Hypopharyngeal diverticulum (Pharyngeal Pouch)
8. Methods of examining and larynx and tracheobronchial tree
9. Congenital diseases of the larynx
10. Laryngeal disorders in singers and other voice users
11. Neurological affections of larynx and pharynx
12. Intubation of the larynx, laryngotomy and tracheostomy
13. Cervical node dissection
14. Skin grafts in Otolaryngology and reconstructive methods including regional and distant flaps for repair of defects after excision of tumors or trauma.
15. Micro laryngeal surgery/thyroplasty

Miscellaneous and head and neck:

1. Cranial nerves
2. Raised intracranial tension-causes, diagnosis, management with particular reference to otitis hydrocephalus
3. Head injuries and I.C. Haemorrhage
4. Pituitary gland, anatomy, physiology hypo - and hyper - pituitarism, new growths.
5. Intracranial venous sinuses and their affections
6. Osteology: skull, mandible cervical and thoracic vertebral sternum
7. Cervical fascia, facial spaces in neck, retro-pharyngeal and parapharyngeal Abscesses
8. Anatomy and physiology of thyroid gland, goitre, diseases of the thyroid and carcinoma of thyroid
9. Large blood vessels in neck, thoracic duct development of major cervical and thoracic blood vessels.
10. Head and neck reconstructive surgery

Drugs used in ENT:

1. Antibiotics Antihistaminic
2. Nasal vasoconstrictors
3. Local anaesthetics
4. Corticosteroids
5. Cyto-toxic agents
6. Antibiotics
7. Radioactive isotopes
8. Antifungal agents
9. Vasopressive and other agents used in shock like states.

General:

1. Physiology of circulation, regulation of blood pressure, reactions of body to haemorrhage, patho-physiology of shock, fluid balance, blood transfusion and its hazards, fluid replacement therapy, burns
2. Agents used in shock like states

Desirable

1. The ears and nasal sinuses in the aerospace environment
2. Physiological consideration of pressure effects on the ear and sinuses in deepwater diving
3. The principles of cancer immunology with particular reference to head and neck cancer
4. Principles of chemotherapy in head and neck cancer
5. Recording of nystagmus by ENG and its interpretation

Ear

1. Traumatic lesions of the inner ear
2. Inflammatory lesions of the vestibular and auditory nerve
3. Vascular lesions of the inner ear
4. Electronystagmography
5. Skull base/Neurologic surgery

Nose

1. Cosmetic surgery of the nose
2. Non-healing granuloma of the nose
3. Surgery of the pterygopalatine fossa
4. LASER Surgery

Throat

1. Oesophageal conditions in the practice of ear, nose and throat surgery
2. Disorders of speech
3. Lower respiratory conditions in Otolaryngology

Miscellaneous and head and neck

1. Functional Anatomy of cerebellum and brainstem
2. Anatomy of mediastinum
3. Pleura, plural cavity, broncho-pulmonary segments and their clinical importance
4. Facial plastic surgery

TEACHING AND LEARNING METHODS

Teaching methodology

Didactic lectures are of least importance; small group discussion such as seminars, journal clubs, symposia, reviews and guest lecturers should get priority for theoretical knowledge. Bedside teaching, grand rounds, structured interactive group discussions and clinical demonstrations should be the hallmark of clinical/practical learning with appropriate emphasis on e-learning. Student should have hand-on training in performing various procedures and ability to interpret various tests/investigations. Exposure to newer specialized diagnostic/therapeutic procedures concerning her/his subject should be given. Self-learning tools like assignments and case-based learning may be promoted. Exposure to newer specialized diagnostic/therapeutic procedures concerning ENT should be given.

1. Rotations:

A major portion of posting shall be in ENT Department. It will include in-patients, out-patients, ICU, trauma, emergency room, specialty clinics including Vertigo Clinic, Rhinology Clinic, Otology Clinic, Cancer Clinic, Cadaveric dissection Lab, Audiology and speechtherapy. Inter-unit rotation in the department shall be done for a period of up to one year.

Rotation in appropriate related subspecialties for a total period not exceeding 06 months.

2. Clinical meetings:

There shall be intra- and inter- departmental meetings for discussing the uncommon /interesting cases involving multiple departments.

3. Log book:

Each student will be asked to present a specified number of cases for clinical discussion, perform procedures/tests/operations/present seminars/review articles from various journals in inter-unit/interdepartmental teaching sessions. They should be entered in a Log Book. The Log books shall be checked and assessed periodically by the faculty members imparting the training.

4. Thesis writing and research:

Thesis writing is compulsory.

5. The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
6. A postgraduate student of MS ENT degree course is required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

7. The student should know the basic concepts of research methodology plan a research project, be able to retrieve information from the library. The student should have a basic knowledge of statistics.

8. Department shall encourage e-learning activities.

During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently; for this purpose, provision of surgical skills laboratories in the medical colleges is mandatory.

ASSESSMENT

Assessment shall be comprehensive & objective. It shall address the stated competencies of the course. The assessment will be spread over the duration of the course.

FORMATIVE ASSESSMENT, (i.e., assessment during the training): Formative assessment shall be continual will assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.

General Principles

Internal Assessment should be frequent, cover all domains of learning and used to provide feedback to improve learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and clinical examination.

Quarterly assessment during the MS training should be based on following educational activities:

1. Journal based / recent advances learning
2. Patient based /Laboratory or Skill based learning
3. Self directed learning and teaching
4. Departmental and interdepartmental learning activity
5. External and Outreach Activities / CMEs
6. At the end of completion of 1st & 2nd year that will a theory assessment & prelim exam will be take one month before the university examination.

The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I).

SUMMATIVE ASSESSMENT i.e., at the end of the training

The summative examination would be carried out as per the Rules given in POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.

The examination will be in three parts:

1. Thesis

Every post graduate student shall carry out work on an assigned research project under the guidance of a recognised Post Graduate Teacher, the result of which shall be written up and submitted in the form of a Thesis. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the candidate to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature.

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A candidate shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. Theory

The examinations shall be organised on the basis of 'Grading' or 'Marking system' to evaluate and to certify candidate's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for MS shall be held at the end of 3rd year. academic year. An academic term shall mean six month's training period.

Theory shall consist of four papers of 3 hours each.

Paper I:	Basic Sciences related Otolaryngology
Paper II:	Principles and Practices of Otolaryngology
Paper III:	Recent advances in Otolaryngology and Head Neck surgery.
Paper IV:	General Surgical Principles and Head-Neck Surgery.

Paper	Marks
Paper I	Total 10 Questions of each 10 Marks
Paper II	Total 10 Questions of each 10 Marks
Paper III	Total 10 Questions of each 10 Marks
Paper IV	Total 10 Questions of each 10 Marks
	Total Theory = 400

Minimum passing marks in each paper 40% and aggregate: 50% in all papers.

3. Clinical / Practical and viva voce Examination

Clinical examination shall be conducted to test the knowledge, skills, attitude and competence of the post graduate students for undertaking independent work as a Specialist/teacher, for which post graduate students shall examine a minimum one long case and two short cases.

The Oral examination shall be thorough and shall aim at assessing the post graduate student's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the specialty, which form a part of the examination.

Assessment may include Objective Structured Clinical Examination (OSCE).

Oral/Viva-voce examination needs to assess knowledge on X-rays, instrumentation, operative procedures. Due weight age should be given to Log Book Records and day-to-day observation during the training.

Practical Examination

	Description	Marks	Preparation time	Assessmenttime
Long case	1 long case	100	45 min each	30 min
Short cases(Three)	2 short cases	75 each =150	20 min each	15 min
ObjectiveStructure Pract. Exam.	Objective Structure	50		25 min
Viva(Four Tables)	Surgical Instruments, Operative Procedure	25		10 min
	Radiology including CT Scans and MRI	25		10 min
	Audiology	25		10 min
	Specimen and Osteology	15		5 min
	Pedagogy	10		10 min
	Total Practical	400		

Recommended Reading: Books

(latest edition)

- Scott-Brown's Otorhinolaryngology and Head and Neck Surgery
- Cummings Otolaryngology - Head and Neck Surgery
- Otolaryngology, Otology & Neurotology by Paparella & Micheal
- Glasscock- Shambaugh's Surgery of the Ear
- Essentials of Functional Sinus Surgery by Heinz Stammberger MD
- Color Atlas of Head & Neck Surgery by Jatin P Shah
- Handbook of Clinical Audiology by Jack Katz
- Stell & Maran's Textbook of Head and Neck Surgery and Oncology

Journals

03-05 international Journals and 02 national (all indexed) journals

Postgraduate Students Appraisal

Name of the Department/Unit :
 Name of the PG Student :
 Period of Training : FROM.....TO.....

Sr. No.	PARTICULARS	Not Satisfactory	Satisfactory	More Than Satisfactory	Remarks
		1 2 3	5 6	7 8 9	
1.	Journal based / recent advances learning				
2.	Patient based /Laboratory or Skill based learning				
3.	Self directed learning and teaching				
4.	Departmental and interdepartmental learning activity				
5.	External and Outreach Activities / CMEs				
6.	Thesis / Research work				
7.	Log Book Maintenance				

Publications Yes/ No

Remarks* _____

***REMARKS:** Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.

SIGNATURE OF ASSESSEE

SIGNATURE OF CONSULTANT

SIGNATURE OF HOD



D.Y. PATIL EDUCATION SOCIETY
[Deemed to be University], Kolhapur
Re-accredited by NAAC with 'A' Grade