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SYLLABUS OF ENT

Graduate medical curriculum is oriented towards training students to undertake the responsibilities of a physician of first contact who is capable of looking after the preventive, promotive, curative & rehabilitative aspect of medicine.

1. GOAL

In Otorhinolaryngology, the students should have acquired adequate knowledge and skills for optimally dealing with common disorders (like CSOM, Tonsillitis, Nasal obstruction), emergencies in E.N.T (upper airway obstruction, Epistaxis, Foreign body) and basic principles of impaired hearing rehabilitation.

2. OBJECTIVES:

At the end of the otorhinolaryngology Posting- The student shall be able to

- i. to evaluate the symptoms, analyze the findings, examine and diagnose common ear, nose, and throat problems.
- ii. Suggest common investigative procedures and their interpretation to diagnose and manage the patient.
- iii. Treat the common ear, nose, throat and neck problem at primary care centre. While treating the patient, he/she should know the rational use of medicines with their adverse effects.
- iv. To perform various minor surgical procedures like ear syringing, nasal packing and biopsy procedure.
- v. To make the student aware of emergency life saving procedure commonly seen in ENT practice.
- vi. Have awareness of Preventive program of deafness and have knowledge of methods for screening for early detection of hearing loss and head & neck cancer.
- vii. To enhance the attitude, communication skills, adapt to changing trends in education, learning method and evolve new diagnostic and therapeutic technique in the subject of ENT.



COURSE CONTENT

1. KNOWLEDGE:

Must know:

1. Anatomy of External, Middle and Inner Ear.
2. Physiology of hearing and equilibrium.
3. Anatomy and Physiology of Nose and Para nasal Sinuses.
4. Anatomy of Oral Cavity Oropharynx.
5. Anatomy of Larynx and Physiology of Phonation.
6. Anatomy of Oesophagus.
7. Anatomy of Neck.

| TOPIC | MUST KNOW | DESIRABLE TO KNOW |
|--|-----------|-------------------|
| • History taking in relation to common complaints encountered in ENT | ✓ | |
| • Examination of Ear, Nose, Oral cavity, Oropharynx, Larynx, Neck | | |
| • Causes of pain in the Ear | ✓ | |
| • Causes of Ear discharge | ✓ | |
| • Congenital diseases of ear | | ✓ |
| • Wax | ✓ | |
| • Otomycosis | ✓ | |
| • Otitis externa | ✓ | |
| • ASOM | ✓ | |
| • Otitis Media with Effusion | ✓ | |
| • CSOM- Safe | ✓ | |
| • CSOM- Unsafe | ✓ | |
| • Complication of CSOM | ✓ | |
| • Causes of Hearing Loss | ✓ | |
| • Diagnosis of Hearing Loss | ✓ | |
| • Types of Hearing Loss | ✓ | |
| • Tests for Hearing | ✓ | |
| • Tests for Malingering | | ✓ |
| • Sudden SNHL | ✓ | |
| • Noise induced Hearing Loss | ✓ | |
| • Causes of Facial Nerve Palsy | ✓ | |
| • Bells Palsy | ✓ | |
| • Traumatic lesions of Facial Nerve | | ✓ |
| • Electro-diagnostic tests for Facial Nerve | | ✓ |



| | | |
|---|---|---|
| • Causes of Vertigo | ✓ | |
| • Difference between Central and Peripheral vertigo | | ✓ |
| • Otosclerosis | ✓ | |
| • Mennier's Disease | ✓ | |
| • Acoustic Neuromas | | ✓ |
| • Tumours of Middle Ear and Mastoid | | ✓ |
| • Tinnitus | ✓ | |
| • Basics of Hearing Aid & Cochlear Implant | | ✓ |
| • Detection of Congenital and Childhood deafness | | |
| • National Programme for Prevention of Deafness | | |
| • Hearing Rehabilitation | ✓ | |
| • Congenital diseases of nose | | ✓ |
| • DNS | ✓ | |
| • Nasal Polyps | ✓ | |
| • Causes of Nasal Discharge | ✓ | |
| • Allergic Rhinitis | ✓ | |
| • Vasomotor Rhinitis | ✓ | |
| • Acute & Chronic Rhinitis | ✓ | |
| • Epistaxis: Causes and Management | ✓ | |
| • Tauma to nose | ✓ | ✓ |
| • Nasopharyngeal Angiofibroma | ✓ | |
| • Fungal sinusitis | | ✓ |
| • FESS | ✓ | |
| • Acute & Chronic sinusitis | ✓ | |
| • Carcinoma of Maxilla | ✓ | |
| • Neoplasm of Sinuses (other than Maxilla) | | ✓ |
| • Carcinoma of Nasopharynx and Nose | | ✓ |
| • Granulomatous diseases of nose | | ✓ |
| • Diseases of the Salivary Gland | | ✓ |
| • Ludwigs Angina | ✓ | |
| • Causes of Dysphagia | ✓ | |
| • Oral Submucous Fibrosis | ✓ | |
| • Acute & Chronic Tonsillitis | ✓ | |
| • Adenoids | ✓ | |
| • Acute & Chronic Abscesses in relation to Pharynx | ✓ | |
| • Causes of Hoarseness | ✓ | |
| • Diagnosis of Voice Disorder | | ✓ |
| • Acute & Chronic Laryngitis | ✓ | |
| • Benign lesion of Vocal Cord | ✓ | |
| • Malignancy of the Larynx & Hypopharynx | ✓ | |
| • Causes of Stridor | ✓ | |
| • Stridor in Peadiatric | ✓ | |
| • Laryngeal Paralyses | ✓ | |



| | | |
|--|---|---|
| • Laryngeal framework Surgery | | ✓ |
| • Foreign bodies in the Air & Food passage | ✓ | |
| • Perforation of Oesophagus | | ✓ |
| • Corrosive burns of Oesophagus | | ✓ |
| • Motility disorder of Oesophagus | | ✓ |
| • Emergency Management of Airway | ✓ | |
| • HIV manifestations in ENT | ✓ | |
| • Common X-rays / CT scan in ENT | ✓ | |
| • Instruments used for routine ENT surgery | ✓ | |
| • Basic principles of surgeries of ENT | ✓ | |
| • Trauma to the Face and Neck | | ✓ |
| • LASERS in ENT | | ✓ |
| • Medical Ethics | ✓ | |
| • AT-COM | ✓ | |
| • Research Methodology | ✓ | |

2. SKILLS:

| PROCEDURE | PERF. INDEP. | UNDER GUID. | ASSIST. | OBS. |
|--|--------------|-------------|---------|------|
| • The student should be adept at the: | | | | |
| • Skill of using head mirror and know how to focus light | ✓ | | | |
| • Skill of using the different instruments in the ENT OPD as diagnostic tools eg. Tongue depressor, nasal speculum, ear probe, laryngeal mirror, posterior rhinoscopy mirror, ear speculum, tuning fork etc. | ✓ | | | |
| • Skill of holding and using the otoscope, to be able to visualize the ear drum and its mobility. The student should be able to distinguish a healthy and unhealthy eardrum, a safe and unsafe ear disease. | ✓ | | | |
| • Skill of doing the various tuning fork tests viz. Rinne's, Weber's and Absolute Bone Conduction Tests. | ✓ | | | |
| • Skill to identify and palpate the anatomical landmarks in ENT. | ✓ | | | |
| • Skill to examine the Ear, Nose, Throat and neck. | ✓ | | | |
| • Skill to clean the Ear | ✓ | | | |
| • Skill of doing ear syringing for wax removal | ✓ | | | |
| • Skill of performing routine OPD procedures used for diagnostic and therapeutic methods | ✓ | | | |



| | | | | |
|---|---|---|---|---|
| • Skill to distinguish the types of hearing loss by learning the analysis of the tuning fork tests, & Audiogram- Pure Tone and Impedence. | ✓ | | | |
| • Skill of performance of manoeuvre like Valsalva's etc. | ✓ | | | |
| • Skill of testing the functions of various cranial nerves. | ✓ | | | |
| • Skill to perform common vestibular function like spontaneous Nystagmus, Fistula test, positional nystagmus test, Rhomberg test, | ✓ | | | |
| • Skill for doing the tests for nasal patency | ✓ | | | |
| • Skill to be able to perform manoeuvres to maintain and establish airway in the case of emergency. | ✓ | | | |
| • Skill to suction a Tracheostomy | ✓ | | | |
| • Perform indirect Laryngoscopy and Posterior Rhinoscopy examination. | | ✓ | | |
| • Remove foreign bodies from ear and nose | | ✓ | | |
| • To perform mastoid dressing | | ✓ | | |
| • Perform anterior nasal packing | | | | |
| • Tracheostomy | | | ✓ | |
| • Septoplasty | | | | ✓ |
| • Tonsillectomy and adenoidectomy | | | | ✓ |
| • Myringoplasty | | | | ✓ |
| • Myringotomy | | | | ✓ |
| • Mastoidectomies- various types | | | | ✓ |
| • Oesophagoscopy | | | | ✓ |
| • Bronchoscopy | | | | ✓ |
| • Basics of Endoscopic Sinus Surgery | | | | ✓ |
| • Pure Tone Audiometry | | | | ✓ |
| • Impedence Audiometry | | | | ✓ |

3. GENERAL AREAS TO BE DEVELOPED:

- Communication skills
- Analytical and interpretational skills
- Access of information
- Management of sequelae, long term follow issues
- Supportive care
- Self help group leadership



- Future technology and advances update.
- Spoken language in vernacular

These general areas may be address to, in an integrated manner as a part of institutional development thrust areas.

Clinical Training: The students would be posted in the ENT department (OPD and Ward) for a total period of 8 weeks (4 weeks in 6th term & 4 weeks in 7th term) on rotation basis. Here they would learn the basic ENT examination, become familiarised with diagnosing the common ENT diseases and learning the elementary management, including communication skills.

The stress of the T-L method should be on developing a symptom based approach, in order to inculcate the habit of relevant history taking, thorough and proper examination as well as stimulation of analytical skills in the student, so that he is able to think of the causes of a particular problem in the patient and follow the correct approach toward the diagnosis, treatment and referral.

Schedule for 6th semester clinical posting

History Taking

Clinical Examination

Schedule for 7th Semester clinical posting

Diagnosis

Management

TEACHING LEARNING METHODS- SUGGESTIONS

Facilitation of teaching learning methods

- Teaching modules may be developed with an aim of involving the students in the learning process.
- It is suggestive to follow a Symptom- Diagnosis-Management protocol algorithm with adequate space for incorporating the advances in the field.
- For teaching purposes, algorithms may be developed. These could be different for



different levels i.e. primary, secondary and tertiary care.

- Once this aspect has been addressed, a diagnosis can be reached and this knowledge can be applied in routine clinical practice.
- Development of video films to demonstrate the art of history elicitation and examination methods. This will include the history taking as a proffered history and elucidated history.
- The student should be able to take a history in the correct method as demonstrated. This can be facilitated by simulating history taking practised on colleagues.
- The examination method could be demonstrated to the large batches by video films. The use of videoendoscopy, otoendoscopy and stroboscopy along with CCTV projection can be encouraged to facilitate teaching large batches which are posted in the departments like ENT since the need to have proper light and limited visual access to the findings presents a problem. The teaching models may be procured and used to demonstrate the findings.
- A skill lab may be developed in the institution. Laryngoscopy, intubations, method of approaching and removing the common foreign bodies in the ear and the nose, skill of performing tracheostomy, anterior and posterior nasal packing, technique of mastoid dressing should be demonstrated.
- The causes of these symptoms should be discussed with the students. A group of students may then be asked to discuss about the various diseases that can lead to the given problem, their specific etiologies, symptoms, signs and treatment.

Hence the classes can be a combination of didactic lectures taken by the teachers on the approach to a problem. The discussion on the various diseases can either be in the form of a lecture by the faculty or in the form of symposia presentation by the students, which will be moderated by the teachers.

The end result should be the ability on the part of the student to identify the organ involved, the probable aetiology and an idea of any impending complication and the knowledge of how to manage the problem.



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ASSESSMENT METHOD

Knowledge:

- Theory papers
- Essay type question
- Viva-voce

Skills:

Clinical Case presentation / Methods of Examination

- Practical demonstration of techniques

The formative evaluation should be done by using structured and objective methods while the summative evaluation should be done by a competency based evaluation which should evaluate the subject knowledge, professional competence, skill demonstration, communicational skills and his attitude to new learning skills using the conventional method of evaluation as well as objective structured clinical examination.

EVALUATION

Internal assessment: Theory 10 + Practical 10

Evaluation Methods-

Theory, Practical and Viva

THEORY

Pattern of theory examination including distribution of marks

1. There shall be one theory papers, carrying 40 marks
2. The paper will have two sections, A and B
3. The paper will be of 2.5 hours duration.
4. Section A will be MCQ in each paper. MCQ section A will be given to candidates at the beginning of the examination. After 30 minutes Section A will be collected. Section B of paper will then be handed over to candidates.

Section A; ½ hour duration

Twenty single MCQs-1/2 marks each:

TOTAL 10 Marks

MCQ will cover whole syllabus



Section B: 2 hours duration

Section B will have to be written in separate answer sheets.

- Two long questions (LAQ) of 7 marks each : 14 Marks
(Will contain some preclinical/paraclinical aspects)
- Four/five (SAQ) short notes-4marks each : 16 Marks
(Four out of five)

PRACTICAL: 40 Marks

1) Clinical: One long Case: 20 marks:

Time: 30 min. for taking case and 10 minutes for assessment

- History 5 marks
- Clinical Examination 5 marks
- Diagnosis 5 marks
- Investigation & Treatment 5 marks

TOTAL 20 marks

2) OSCE : 10 marks

- Demonstration of clinical examination method 5 marks
(Student will have to demonstrate one randomly selected clinical examination in front of the examiner)
- Clinical Diagnosis 5 marks
(Student have to give and prove clinical diagnosis of one randomly selected case)

3) Oral (viva voce):

10 marks: 10min. duration.

- Instruments 3 marks
- X Rays 3 marks
- Drugs 2 marks
- Audiogram 2 marks

- Marks of VIVA will be added to Theory marks
- It is compulsory to obtain 50% marks in theory.
- It is mandatory to obtain 50% marks in theory + viva/oral.



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Reference Books

1. Diseases of Ear, Nose and Throat: Head and Neck Surgery - P. L. Dhingra and Shruti Dhingra
2. Short Text Book of ENT Diseases – Dr. Bhargawa K. B.
3. Text Book of Ear, Nose and Throat Diseases – Mohammed Maqbool and Suhail Maqbool
4. Logan Turner’s Diseases of Nose, Throat and Ear, Head and Neck Surgery
5. Text Book of Ear, Nose and Throat and Head and Neck Surgery – P. Hazarika, D. R. Naik, R. Balkrishnan
6. Ear, Nose and Throat Simplified – Dr. Bachhi Hatiram and Dr. G. S. Grewal
7. Practical ENT – Dr. Divya Prabhat



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SYLLABUS OF Ophthalmology

These guidelines are based on MCI recommendations.

Teaching has to be done keeping in mind the goals and objectives to be achieved by medical student

I. GOAL

The broad goal of the teaching of students in ophthalmology is to provide such knowledge and skills to the student that shall enable him/her to practice as a clinical and as a primary eye care physician and also to function effectively as a community health leader to assist in the implementation of National Programme for the prevention of blindness and rehabilitation of the visually impaired.

II. OBJECTIVES

(a) KNOWLEDGE

1. At the end of the course, student shall have the knowledge of Common problems affecting the eye,
2. Principles of management of major ophthalmic emergencies,
3. Main systemic diseases affecting the eye;
4. Effects of local and systemic diseases on patient's vision and the necessary action required to minimize the sequelae of such diseases;
5. Adverse drug reactions with special reference to ophthalmic manifestations;
6. Magnitude of blindness in India and its main causes;
7. National programme for control of blindness and its implementation at various levels.
8. Eye care education for prevention of eye problems
9. Role of primary health center in organization of eye camps;
10. Organization of primary health care and the functioning of the ophthalmic assistant;
11. Integration of the national programme for control of blindness with the other national health Programmes.
12. Eye bank organization



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(c) SKILLS

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

1. Elicit a history pertinent to general health and ocular status;
2. Assist in diagnostic procedures such as visual acuity testing, examination of eye, Schiottz tonometry, Staining of Corneal pathology, conjunctival smear examination, confrontation perimetry, Subjective refraction including correction of presbyopia and aphakia ,cover test, direct ophthalmoscopy.
3. Diagnose and treat common problems affecting the eye;
4. Interpret ophthalmic signs in relation to common systemic disorders,
5. Assist/observe therapeutic procedures such as subconjunctival injection, conjunctival and corneal foreign body removal, Nasolacrimal duct syringing and tarsorrhaphy;
6. Provide first aid in major ophthalmic emergencies;
7. Assist to organize community surveys for visual check up;
8. Assist to organize primary eye care service through primary health centers.
9. Use effective means of communication with the public and individual to motivate for surgery in cataract cases and for eye donation.
10. Establish rapport with his seniors, colleagues and paramedical workers, so as to effectively function as a member of the eye care team.

(b) INTEGRATION

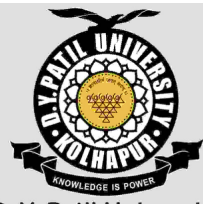
The undergraduate training in Ophthalmology will provide an integrated approach towards other disciplines especially Neuro-sciences, ENT, General Surgery and Medicine.

LEARNING METHODS

| | |
|-----------------------|---------------------|
| Total teaching hours: | 100 |
| Theory lectures: | 70 (6th, 7th term.) |
| Tutorials: | 30 (7th term) |

Clinical Postings Two clinical postings of 4weeks

First in 6th semester and second in 7th semester and 3rd posting of 2 weeks in 7th term. Bedside clinics 10



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weeks of three hours per day 180 hours syllabus of III MBBS in Ophthalmology



INTRODUCTION ANATOMY & PHYSIOLOGY OF THE EYE

COMMON DISEASE OF EYE

A) Conjunctiva.

Symptomatic conditions: - Hyperemia, Sub conjunctival Haemorrhage.

Diseases: - Classification of Conjunctivitis, Trachoma
 :- Mucopurulent Conjunctivitis, Ophthalmia Neonatorum
 :- Membranous Conjunctivitis, Spring Catarrh, Phlyctenular
 Conjunctivitis.

 :- Degenerations :- Pinguecula and Pterygium

B) Cornea:

- Corneal Ulcers: Bacterial, Fungal, Viral, Hypopyon.

:- Interstitial Keratitis.

:- Keratoconus.

:- Pannus

:- Corneal Opacities.

:- Keratoplasty.

C) Sclera:

:- Episcleritis.

:- Scleritis & Staphyloma.

D) Uvea

:- Classification of Uveitis

:- Gen. Etiology, Investigation and Principles Management of
Uveitis.

:- Acute & Chronic Iridocyclitis.

:- Panophthalmitis.

:- End Ophthalmitis.

:- Choroiditis & intermediate uveitis

E) Lens :

:- Lens metabolism

Cataract – Classification .

:- Congenital, Senile Cortical & Nuclear, Complicated & After Cataract

:- **Preoperative investigations & Surgical management of cataract**

:- Anaesthesia.

:- Aphakia.

:- IOL Implants

:- Complications related to Cataract Surgery (Pre, intra&
postoperative)

F) Glaucoma :

:- Aqueous Humor Dynamics.

:- Tonometry.

:- Factors controlling Normal I.O.P.

:- Provocative Tests.

:- Classifications of Glaucoma.



- N) Lacrimal System :
:- Wet Eye.
:- Dry Eye
:- **Congenital** Naso Lacrimal Duct Obstruction
:- Dacryocystitis- Acute and chronic
:- Dacryoadenitis
- O) Ocular Mobility :
:- Extrinsic Muscles.
:- Movements of Eye Ball.
:- Squint : Gen. Aetiology, Diagnosis and principles of Management.
:- Paralytic and Non Paralytic Squint.
:- Heterophoria.
:- Diplopia.
- P) Miscellaneous :
:- Colour Blindness
:- **Lasers** in ophthalmology-Principles
:- Cryo therapy in ophthalmology
:- Computer vision Syndrome
- Q) Ocular Trauma :
:- Blunt Trauma.
:- Perforating & **penetrating** Trauma
:- Chemical Burns
:- Sympathetic Ophthalmitis
- R) Principles of Management of Major Ophthalmic Emergencies:
:- Acute Congestive Glaucoma.
:- Corneal Ulcer.
:- Intraocular Trauma.
:- Chemical Burns.
:- Sudden Loss of vision
:- Acute Iridocyclitis.
:- Secondary Glaucomas
- S) Main Systemic Diseases Affecting the Eye :
:- Tuberculosis.
:- Syphilis.
:- Leprosy
:- Diabetes.
:- Hypertension
:- Aids



T) Drugs :

- :- Antibiotics
- :- Steroids.
- :- Antiglaucoma drugs.
- :- Mydriatics & Cycloplegics
- :- Visco elastics.
- :- Fluorescein Dye.

U) Community Ophthalmology :

- :- Blindness : Definition, Causes & Magnitude N.P.C.B. –
Integration of N.P.C.B. with other health Programs
- :- Vision 2020 programme
- :- Preventable Blindness.
- :- Eye care.
- :- Role of PHC's in Eye Camps.
- :- **Eye Banking.**

V) Nutritional

- :- Vit. A. Deficiency.

Clinical Ophthalmology cases To Be Covered

MBBS

- :- History taking & Eye examination
- :- Assessment of visual function.

Conjunctiva

- :- Pterygium.
- :- Pinguecula
- :- Conjunctivitis.
- :- Sub Conjunctival Haemorrhage.

Cornea

- :- Corneal Opacity .
- :- Corneal Ulcer.
- :- Corneal Abscess.
- :- Corneal Transplant

Sclera

- :- Scleritis, **Episcleritis.**
- :- Staphyloma.

Uvea

- :- Iridocyclitis.

Lens

- :- Cataract.
- :- Aphakia & Pseudophakia
- :- Subluxation & Dislocation
- :- Complications of Cataract surgery



Glaucoma – **Open and Narrow Angle Glaucoma.**

Primary and Secondary Glaucoma.

Squint :- Paralytic and **Non paralytic.**

Lids :- Entropion
:- Ectropion
:- Ptosis.
:- Chalazion
:- External Hordeoloum
:- Blepharitis

OPHTHALMOLOGY - MBBS

TUTORIALS TOPICS (Total 30 Hours)

SURGICAL TECHNIQUES

:-**Cataract ICCE, ECCE(Conventional, Manual SICS, Phacoemulsification)**
:- IOL Implantation
:- Pterygium
:-Chalazion
:- Glaucoma- **Trabeculectomy.**
:- Foreign Body Removal
:-Enucleation & Evisceration
:-Keratoplasty
:-**Recession and Resection of muscles for squint.**
:-**Dacryocystectomy and Dacryocystorhinostomy.**

Instruments

- OPD
- Operative
- Basic Examination and Diagnostic instruments, **various tonometers,**
Sac Syringing, Slit Lamp (Biomicroscope)
A-Scan, Keratometer, Field Analyser
B-Scan, Pachymeter, fundus camera
Operation Microscope , **Cryoprobes.**

Optics

- **Lenses – Spheres, Cylinders, Prisms,**
Pinhole, **Stenopic** Slit, Maddox Rod & Maddox wing, Red & Green
Glasses. **Trial Frame. Foldable Loupe.**



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- IOLs
- Ophthalmoscope
- Retinoscope
- Contact Lenses
- Colour Vision Charts

Drugs

Miotics

Antibiotics

Antiglaucoma

Mydriatics

Steroids

Anti virals

Mydriatics & Cycloplegics

NSAIDS

Anti Fungal

Viscoelastics

Anti-VEGFs

Lecture held each term for VII and VIII term : Under graduate Theory Lectures:

Topics

(No.of)

| | |
|-----------------------------------|---|
| 1. Anatomy & Physiology | 4 |
| 2. Optics | 6 |
| 3. Conjunctiva | 4 |
| 4. Cornea | 6 |
| 5. Sclera | 1 |
| 6. Uvea | 4 |
| 7. Cataract | 6 |
| 8. Glaucoma | 6 |
| 9. Optic Nerve | 4 |
| 10. Retina | 3 |
| 11. Vitreous | 4 |
| 12. Squint | 4 |
| 13. Community Ophthalmology | 2 |
| 14. Lids | 4 |
| 15. Orbit | 2 |
| 16. Lacrimal Appartus and Dry Eye | 4 |
| 17. Miscellaneous & Others | 6 |

Total Lectures 70

Tutorials 30

100



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FINAL MBBS EXAMINATION IN OPHTHALMOLOGY

Evaluation

Internal assessment: 20 (Theory 10 +Practical 10)

Plan of Internal assessment in Ophthalmology

- Marks of Internal Assessment should be sent to University before the commencement of Theory examination.
- Passing in internal assessment is essential for passing, as Internal assessment is separate head of passing. in examination.
- It will also be considered for grace marks as per existing rules
- Combined theory and practical of internal assessment will be considered for passing in internal assessment.
- Student will be allowed to appear for both theory and practical exam independent of marks obtained in internal assessment but he if fails in that head even after including the grace marks he will be declared **“Fail in that Subject”**

Evaluation **Methods - Theory, Practical and Viva** Pattern of theory examination including distribution of marks, questions and time

Pattern of theory examination including distribution of marks

1. There shall be one theory papers , carrying 40 marks
2. The paper will have two sections, A and B
3. The paper will be of 2.5 hours duration.
4. Section A will be MCQ in each paper. Section B will have to be written in separate answer sheets.

THEORY: 40 marks Duration Two and half hours (2.5) hours

MCQ section A will be given to candidates at the beginning of the examination.

After 30 minutes Section A will be collected. Section B of paper will then be handed over to candidates.

Section A: 30 min. duration

Twenty single MCQs- 1/2 mark each: 10 marks

- Separate paper



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- Single based response
- MCQ will cover whole syllabus

Section B : 2 hours duration

- Two long questions (LAQ) of 7 marks each : 14 marks
(will contain some preclinical/paraclinical aspects)
- 4 / 5 (SAQ)short notes -4 marks each : 16 marks

PRACTICAL : 40 marks

Clinical : One long case :20 marks :30 min. for taking case and 10 minutes for assessment

Oral (viva voce) :20 marks:10 min. duration

- | | |
|-------------------------|----------|
| 1. Dark Room | 5 marks |
| 2. Instruments & optics | 5 marks |
| 3. Viva | 10 marks |

Marks of VIVA will be added to Theory marks

It is compulsory to obtain 50% marks in practical.

It is mandatory to obtain 50% marks in theory + viva/oral.

List of Recommended Books

1. **Parson's** Diseases of the Eye, **22nd** Edition **2016** by - Ramanjit Sihota & Radhika Tandon
2. Comprehensive Ophthalmology, **5th** Edition 2012 by – A. K. Khurana
- 3 **Ophthalmology- Oral and Practical. 4th** Edition, By Dr Samar Basak.



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SYLLABUS OF COMMUNITY MEDICINE

- A. The teaching of Community Medicine shall place throughout the teaching period.
- B. Field experience in rural health is included in pre-clinical as well as during clinical period
- C. During the students attendance at various departments which is now required under medicine and surgery, such as infectious diseases. T.B. Leprosy, V.D. etc. emphasis shall be laid as much on the preventive as on the clinical and Therapeutic aspects of these diseases.
- D. In addition to the teaching undertaken by the department of Social & Preventive Medicine, a joint programme with other departments is essential in order to give the students a comprehensive picture of man, his health and illness.
- E. Stress shall be laid on national programmes, including those of control of communicable diseases and family planning and health education.
- F. An epidemiological units as an integrate part of every hospital in order to achieve a comprehensive study disease by the students should be established.
- G. The objective of the internship shall be clearly defined and that a proper training programme is oriented for this period. Objectives, and the methods by which the internship could be made into a satisfying and fruitful experience. Sharpening and for planning in this phase of education shall be done.
- H. As regards the qualifications of the teachers it is highly important that All teachers in Social and A preventive Medicine should have as far as possible had adequate administrative experience in addition to the teaching experience. They should also be encouraged to acquire skills in clinical subject specially related to community medicine.
- I. Practical Skills: Due stress shall be laid on the students acquiring practical skill in the following procedures.



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Community Medicine including Humanities

(Phase I,II and Part 1st of Phase III M.B.B.S.)

GOALS:

The broad goal of the teaching of undergraduate students in community medicine is to prepare them to function as community and first level physicians in accordance with the institutional goals.

OBJECTIVES: Knowledge:

At the end of the course the student shall be able

- Explain the principles of sociology including demographic population dynamics.
- Identify social factors related to health, disease and disability in the context of urban and rural societies.
- Appreciate the impact of urbanization on health and disease.
- Observe and interpret the dynamic of community behaviours.
- Describe the elements of normal psychology and social psychology.
- Observe the principles of practice of medicine in hospital and community settings.
- Describe the healthcare delivery systems including rehabilitation of the disabled in the country.
- Describe the National Health Programmes with particular emphasis on maternal and child health programmes, family welfare planning and population control.
- List the epidemiological methods and techniques.
- Outline the demographic pattern of the country and appreciate the roles of the individuals, family, community and socio-cultural milieu in health and disease.
- Describe the health information systems.
- Enunciate the principles and components of primary healthcare and the national health policies to achieve the goal of "Health for all".
- Identify the environmental and occupational hazards and their control.
- Describe the importance of water and sanitation in human health.
- To understand the principles of health economics, health administration, health education in relation to community.



Skills:-

At the end of the course, the student shall be able to make use of

- The principles and practice of medicine in hospital and community settings and familiarization with elementary practices.
- Use the Art of communication with patients including history taking and medico social work.
- Use epidemiology as a scientific tool to make rational decisions relevant to community and individual patient intervention.
- Collect, analyse, interpret and present simple community and hospital base data.
- Diagnose and manage common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources and in the context of the prevailing socio-culture beliefs.
- Diagnose and manage common nutritional problems at the individual and community level.
- Plan, implement and evaluate a health education programme with skill to use simple audio-visual aids.
- Interact with other members of the health care team and participate in the organization of health care services and implementation of national health programmes.

Integration:

Develop capabilities of synthesis between cause of illness in the environment or community and individual health and respond with leadership qualities to institute remedial measures for this.

Course Content:

Total hours of teaching in community medicine and Humanities are 376. The distribution of them shall be as follows.

| Phase | Semester | Theory | Practical Hours |
|--------------------------|----------|--------|-----------------|
| I | I & II | 30 | 30 |
| II | III & IV | 68 | 132 |
| III Part-1 st | VI & VII | 50 | 66 |



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Community Medicine (P.S.M.)

List of theory lectures

Phase I (1st and 2nd semester) 30 Hours

1. Introduction – Evolution of Community Medicine.
2. Health – Definition, spectrum of health and factors affecting – indicators of health.
3. Health Problem of World – Urban and Rural – Indian Health.
4. Health Care Delivery system in India – Urban and Rural.
5. Demography, Demographic cycle, Population trends – World and India.
6. Fertility and factors affecting it.
7. Family welfare and Population control.
8. Medical ethics and Doctor – patient relationship – Consumer Protection Act.
9. Sociology and Social factors effecting health.
10. Social Psychology – introduction, Group Behaviour, Motivation Personality.
11. Economics and health.
12. Health Education and Communication.
13. Hospital Management.

Phase II – (3rd and 4th Semester) 68 Hours

Nutrition and Health.

Constituents of food.

Food and food groups.

Diet planning and recommended dietary allowances. Nutritional diseases.

Iodine deficiency disorders. Diseases due to vitamin and mineral imbalance

Toxins in the food. Assessment of Nutritional status.

General Epidemiology

- The concepts of disease.
- Natural history of disease.
- Epidemiological triad.



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- Dynamics of diseases transmission.
- Concept of disease control.
- Disinfection, sterilization and control of Hospital acquired infections.
- Cold chain, Immunity.

Environmental health

- Introduction to environment health.
 - Waterinrelationtohealthanddisease.
 - Airpollutionandecologicalbalance.
 - Housingandhealth.
 - Effectsofradiationonhumanhealth
 - EffectsofNoiseonhumanhealth.
 - Meteorologicalenvironment.
 - Solidwastedisposal.
 - Disposalofhospitalwaste.
 - Liquidwastedisposal

Medical entomology

Arthropods of medical importance and their control.

- **Hospital waste Management**
- **Bioterrorism**
- **Traveller's Medicine**

Biostatistics (Theory and Practical)

Introduction and uses.

Data- Types, Collection and Presentation.

Centering constants.

Measures of Variation.

Normal distribution.

Sampling methods and Sampling variability.

Tests of significance.

- SE of difference between two means.
- SE of difference between two proportions
- X^2 test.(Chi-square)



- Students't'test - Paired &Unpaired.
- Statisticalfallacies.
- **Vital statistics** – sources and uses, Census, Fertility statistics.

Computers in Medicine

Maternal and Child Health care.

- ANC, PNC, Child health, Problems of adolescence including Drug dependence., School health
- Geriatrics
- Mental health.
- Genetics in public health.

International health and Voluntary Health Agencies.

Examinations at the end of 4th semester.

(Phase III (6th and 7th Semester)

50 hrs.

(Teaching in 7th semester includes tutorials also.)

General Epidemiology

- Definition, types, measurements in epidemiology,
- Epidemiological studies,and clinical trial,
- Research Methodology
- Investigation of an epidemic.
- Uses of epidemiology.
- Screening for disease.

Epidemiology of Communicable Diseases.

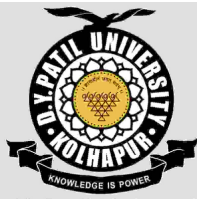
- Air borne infections.
- Exanthematous fevers.
- Chicken pox, Rubella, and Measles
- Factors responsible to eradicate small pox.
- Influenza and ARI.
- Diphtheria and Pertussis
- Tuberculosis.



- Faeco-oral infections.
 - · Poliomyelitis.
 - · Hepatitis.
 - · EntericFeverandCholera
 - · BacillaryandAmoebicdysentery.
- Soil transmitted Helminths.
- Tetanus
- Rabies and other Viral Zoonotic disease.
 - Leprosy.
 - Malaria
 - Filariasis.
 - Arthropod borne viral diseases.
 - Sexually transmitted diseases and their control.
 - A.I.D.S.

Epidemiology of Non-Communicable Diseases.

- Obesity, HTN, CHD
- Cancer, Accident, Blindness
- Health care of community and Primary health care.
- National Health Policy.
- Occupational health.
- Management information system.
- Health planning and management.
- National Health Programmes.
- Legislation in public Health



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Examination at the end of 6th and 7th semester.

Practicals

Phase I (1st And 2nd semester) - 30 hours.

Field visit-

Every Medical College should have adequate transport facilities to take medical undergraduate for field visits. In the phase I total 15 visits, each of 2 hours duration or total 10 visits – each of 3 hours duration (depending on distances) are to be planned by the departments of community medicine. The broad outline of place for educational field visits is given below.

Hospital visits (O.P.D., Casualty, Immunization clinic, different wards, Kitchen, FW Centre, PPP, Blood Bank, Sterilization section, Infectious disease ward, Minor operation theatre, etc.)

Rural Health Training Centre.

Primary Health Centre.

Urban Health Centre.

District Health Office (DHO).

District Training Team (DTT)/IEC Bureau.

District Tuberculosis Centre.

Public Health Laboratory.

District Malaria Office.

Remand Home.

Rehabilitation Centre.



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IVth Semester, Ist C linical Posting

-

66 hours.

Lecture – Cum – Demonstration, at appropriate places

| SN | Topic | Demonstration |
|----|---|---|
| 1 | Visit to Urban / Rural health Training Centre | Functions of UHC/ RHTC Mannpower & Duty arrangements |
| 2 | Immunization Programme | I (demonstration) |
| 3 | Immunization Programme | II (Cold Chain) |
| 4 | Care of ANC mother | Demonstration of Antenatal case |
| 5 | Care of Infant | Demonstration of case |
| 6 | Post-natal case of mother/child. | Demonstration of case |
| 7 | Contraceptive devices | Situation to be given and sex education. |
| 8 | Exclusive breast feeding | Visit to Baby Friendly Hospital |
| 9 | Weaning foods | Demonstration |
| 10 | Nutritional demonstration | Explain nutritive values of Indian foodstuff |
| 11 | Nutritional assessment | Demonstration |
| 12 | Anthropometric measurements | Demonstration |
| 13 | Nutritional deficiency disorders | With A/V aids or case, Road to Health Chart |
| 14 | Protein Energy Malnutrition | With A/V aids or case, ORS preparation |
| 15 | Diarrhoea as a community health problem | With A/V aids or case |
| 16 | ARI as a community health problem | With A/V aids or case |
| 17 | Elementary essential drugs | Visit to drug store, Inventory control |
| 18 | Examination | |



VIth Semester 2nd Clinical Posting

-

66 hours.

The board guidelines for planning programmes are as follows.

- 1) Posting for family care study - 6 days Principle of clinical epidemiology
Morbidity Survey.
Data analysis and presentation.
- 2) Posting for School Health - 6 days Health check-up of school
children.
Data analysis and presentation.
Health education activities in the school by the students.
- 3) Visit to anganwadi and ICDS scheme block - 2 days
- 4) Visit to Home for aged and discussion - 2 days on geriatric health
problems
- 5) Students' seminars on topics like - 5 days Disaster management
Road traffic accidents
Population explosion etc.
- 6) Examinations - 3 days.

Phase III (6th and 7th Semester)

3rd Clinical Posting -

66 hours.

Posting : Clinical case presentation by students

1. Introduction to infectious diseases – history taking
2. Exanthematous fever.
3. Diarrhoea/Cholera/Dysentery.
4. Tuberculosis
5. Leprosy.
6. Dog – bite case.
7. Tetanus.
8. PUO/Enteric fever/Malaria.
9. S.T.D./AIDS.
10. Hepatitis
11. Introduction to non- communicable diseases.
Rheumatic heart disease.
Cancer.
Obesity/diabetes.



Community Medicine Project.

Problem based short term Research project –

Purposes :-

- 1) Acquaint the undergraduate students with the basics of Research Methodology.
- 2) Provide Community exposure to the MBBS students.

Examinations

INTERNAL ASSESSMENT

Theory 2 papers of 60 marks each = 120 marks

Oral (Viva) = 10 marks

Practical = 30 marks

Internal assessment = 40 marks

Grand total = 200 marks

| Subject | Theory Paper /Oral/Practical/Internal assessment | | Maximum Marks in each of the head | Minimum marks required to pass in each head | | Minimum marks required to pass in each head Subject out of | |
|--------------------|--|-----------|-----------------------------------|---|-----|--|-----------|
| | | | | | | | |
| COMMUNITY MEDICINE | a) Theory | Paper -I | 60 | 60 | 65 | Theory | Practical |
| | | Paper-II | 60 | | | | |
| | b) Oral | | 10 | | | 65 130 | 15 30 |
| | c) Practical | | 30 | | 15 | | |
| | d) Internal | Theory | | 20 | | 20 | |
| | | Practical | | 20 | | | |
| TOTAL | | | 200 | | 100 | | |



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FINAL EXAMINATION :-

The distribution of marks at final examination

Theory: two papers of 60 marks each = 120 Marks

Oral (Viva) : = 10 Marks

Practical : = 30 marks

Internal assessment : = 40 Marks

Total: = 200 Marks

PATTERN:

THEORY: TWO PAPERS OF 60 MARKS EACH = 120 MARKS:

Paper I

Concepts in Health & Disease, Sociology/Humanities, Epidemiology, Biostatistics, Communicable and non-communicable diseases, Genetics and Environmental

Health, Travelers Medicine, Bioterrorism.

Paper II

Demography & Family Planning, Maternal and child health Nutrition, Occupational Health, Mental Health, Health Education, Health Planning & Management, Health Care Delivery System, National Health Programmes, International Health, Legislation in public health.

(These are broad divisions. There are some chances of overlapping)



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Final MBBS Examination

Theory

Paper – I

Section A Q. 1 – 15 MCQs - 15 Marks
(15 x 1 Mark each)

Section B

L.A.Q - 24 Marks
(3 x 8 Marks each)

Q. 2 - L.A.Q.

Q. 3 - L.A.Q.

Q. 4 - L.A.Q.

Section – C

S.A.Q - 21 Marks
(7 x 3 Marks each)

Q.5 – 7 S.A.Q out of - 9

Paper – II

Section A Q. 1 – 15 MCQs - 15 Marks
(15 x 1 Mark each)

Section B

L.A.Q - 24 Marks
(3 x 8 Marks each)

Q. 2 - L.A.Q.

Q. 3 - L.A.Q.

Q. 4 - L.A.Q.

Section C

S.A.Q - 21 Marks
(7 x 3 Marks each)

Q.5 – 7 S.A.Q out of 9

Practical

- 1) Spots - 10 Marks (10 Spots of 1 marks each)
- 2) Exercise - 10 Marks
(Biostatistics, vital statistics & Epidemiology (5 x 2 = 10))
- 3) Clinicosocial case study - 10 Marks

Total = 30 Marks

- 4) Orals (Viva)- 10 Marks

It is compulsory to obtain 50% marks in Practical.

It is mandatory to obtain 50% marks in theory + viva/oral.



Plan for internal Assessment –

THEORY -

| SN. | Assessment Exam. | Semester | Theory Marks | Practical Marks |
|-----|------------------------------------|----------|--------------|-----------------|
| a) | 1 st | IV | 60 | 25 |
| b) | 2 nd | VI | 60 | 25 |
| c) | Prelim (as per University Exam) | VII | (60+60=120) | 40 |

Theory paper –

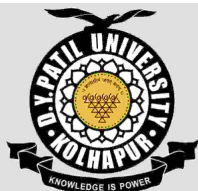
| Section | Nature of question | Total no. of question | Marks per question | Total marks |
|---------|--------------------|-----------------------|--------------------|-------------|
| A | MCQ | 15 | 1 | 15 |
| B | LAQ | 3 | 8 | 24 |
| C | SAQ | 7 | 3 | 21 |
| | | | | 60 |

Practical -

| Term | | Total no. of questions | Marks per question | Total Marks | Journal | Total |
|------|---|------------------------|--------------------|-------------|---------|-------|
| IV | Spots | 6 | 1 | 6 | 5 | 25 |
| | OSPE | - | - | 4 | | |
| | Exercices | 5 | 2 | 10 | | |
| VI | Problem based short term research project | | | 15 | 5 | 25 |
| | OSCE | - | - | 5 | | |

Prelims - As per University Exam

| | Total no. of questions | Marks per question | Total Marks | Total |
|---------------------------|------------------------|--------------------|-------------|-------|
| Spots | 10 | 1 | 10 | 30 |
| Exercices | 5 | 2 | 10 | |
| Clinico-social case study | 1 | 10 | 10 | |
| Oral Viva + Journal | | 10 | 10 | 10 |



INTERNAL ASSESSMENT EXAMINATION SCHEME

| 1 st Assessment Exam | | | 2 nd Assessment Exam | | | Prelim. Exam | | |
|---------------------------------|------------|---------------|---------------------------------|------------|---------------|--------------|-------------------|---------------|
| Semester | Theory (A) | Practical (B) | Semester | Theory (C) | Practical (D) | | Theory + Oral (E) | Practical (F) |
| 4th | 60 | 25 | 6th | 60 | 25 | 7th | 120 + 10 | 30 |

$$I) \text{ Theory} = \frac{(A)+(C)+(E)}{12.5} = \frac{60+60+120+10}{12.5} = 20$$

$$II) \text{ Practical} = \frac{(B)+(D)+(F)}{4} = \frac{25+25+30}{4} = 20$$

Introduction of New Topics

1. Electronic waste management
2. Emerging disease – Ebola virus, Zika disease

Introduction of Module syllabus for Environmental Studies by UGC

It contains 8 units covering 50 lecture hours (45 lectures, Field activities -5 hrs) as follows-

- Unit 1: Multidisciplinary nature of environmental studies- 2 lectures
- Unit 2: Natural resources 8 lectures
- Unit 3: ecosystem 6lectures
- Unit 4: biodiversity and its conservation 8lectures
- Unit 5: environmental pollution 8lectures
- Unit 6: social issues and environment 7lectures
- Unit 7: human population andenvironment 6lectures
- Unit 8: field work 5lectures

Credit system- The score will be awarded 4 credits



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Exam pattern- Question paper 100 marks

Part A- SAQ-25 marks (5 Q x 5 Marks)

Part B- Essay type with inbuilt choice -50 marks (2 Q x 25 Marks)

Part C- Field work-25 marks (Oral viva- 20 Marks, Record book- 5 Marks)

BOOKS RECOMMENDED.

1. Park's Textbook of Preventive and Social Medicine, Park
2. Community Medicine with Recent Advances 4th Edition by A.H.Suryakantha (Jaypee)
3. Text book of Community Medicine, Kulkarni A.P. and Baride J.P.
4. Principles of Preventive and Social Medicine, K. Mahajan
5. Textbook of Biostatistics, B. K. Mahajan
6. Textbook of Community Medicine, B. Shridhar Rao.
7. Reference Book for Community Medicine: "Principles and practice of Biostatistics" Author:
Dr. J.V. Dixit
8. Essential of Community Medicine Practicals -D.K.Mahabalaraju
9. Mastering Practicals – Community Medicine - Poornima Tiwari
10. Test Book of PSM revised by Rabindranath Roy, 4th edition IndraniSaha
11. Community Medicine – Practical guide and logbook – Kusumlata Gaur, Suresh Soni,
Rajeev Yadav
12. Textbook of Community Medicine – Bhaskara Rao (Paras public.)
13. Exam. Preparatory Manual for U.G. in Community Medicine – Vivek Jain

FURTHER READINGS

Epidemiology and Management for health care for all P.V. Sathe and A.P. Sathe.

Essentials of Preventive Medicine O.P.Ghai and Piyush Gupta.



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Record Book:

- Record book/Journal in Community Medicine should be Completed from 3rd term to 7th terms after every Posting and Practical sessions.
- It is mandatory to write Biostatistical exercises, Field visits (5–6) , Family study's/UHTC /RHTC activities Nutrition & environmental Practicals including spotters and epidemiological exercises. Clinico-Social cases (10) & Occupational health.
- Satisfactory completion record at 4th term 6th term end exam & 7th term Preliminary exam. With certification is compulsory.