



D. Y. Patil University

SYLLABUS OF MS OPHTHALMOLOGY

- 1) Every candidate for the postgraduate courses in ophthalmology must have obtained the Bachelor of Medicine and Bachelor of Surgery Degree of this University.
- 2) He or She should complete three years academic terms for Post- graduate Degree course in Ophthalmology as per MCI norms.
- 3) Job Responsibilities
 - During first year the resident will work under direct supervision of the 2nd/3rd year resident/senior resident and consultant on call. She/he will be responsible for taking detailed history, examination of patients as per the file record and send appropriate investigations as advised by seniors, Initially all procedures are to be observed and then done under supervision of seniors and during 2nd /3rd year, can do procedures independently.
 - In 2nd year, resident is posted in special clinics like Cornea clinic, Uveitis Clinic and Glaucoma Clinic also and making of discharge cards including referrals.
 - In 3rd year, resident is also encouraged to make independent decisions in management of cases. She/he is also involved in teaching of undergraduate students.
 - Residents on emergency duty attend bed-side calls in various wards, ICU's and emergency.
 - Residents are encouraged to perform minor procedures in emergency.
 - In 2nd/ 3rd year Junior Residents should be performing surgeries stepwise and then independently under the guidance of Senior Residents/Consultants.

Theory

Section I: Basic Sciences

- Embryology and Anatomy
- Physiology and Biochemistry of the Eye
- The Physiology of Vision
- The Neurology of Vision
- Ocular Pharmacology



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- Ocular Microbiology
- Ocular Pathology

Section II: Ophthalmic Optics

- Elementary Optics
- Elementary Physiological Optics
- Refraction
- Refractive Errors of the Eye

Section III: Ocular Examination Techniques and Ocular Therapeutics

- Ocular Symptomatology
- Assessment of Visual Function
- Examination of the Anterior Segment
- Examination of the Posterior Segment and Orbit
- Ophthalmic special investigations

Section IV: Diseases of the Eye

- Diseases of the Conjunctiva
- Diseases of the Cornea
- Diseases of the Sclera
- Diseases of the Uveal Tract
- The Lens
- The Glaucomas
- Diseases of the Retina
- Diseases of the Vitreous
- Diseases of the Optic Nerve
- Intraocular Tumours
- Injuries of the Eye

Section V: Disorders of Motility

- Anatomy and Physiology of the Motor Mechanism
- Comitant Strabismus
- Incomitant Strabismus
- Anomalies of Binocular vision



Section VI: Diseases of the Adnexa

- Diseases of the Lids
- Diseases of the Lacrimal Apparatus
- Diseases of the Orbit
- Diseases of Paranasal sinuses

Section VII: Systemic Ophthalmology

- Diseases of the Nervous System with Ocular Manifestations
- Ocular Manifestations of Systemic Disorders
- Systemic drugs – Effects on eye

Section VIII: Preventive Ophthalmology

- The causes and prevention of blindness and projects related to ophthalmology
- Eye Banking
- Eye Camps
- Rehabilitation of Blind

Section IX: Instruments in Ophthalmology

- Surgical Instruments in Ophthalmology
- Anesthesia in Ophthalmology
- Newer Instruments

Section X: Genetics in Ophthalmology

Section XI: Recent Advances in Ophthalmology

Practical

During the training period, PG students learn various clinical and skilled work.

PG's are encouraged to perform the procedures and surgeries both minor and major given below:



Minor Procedures

- Thorough ocular examination
- Pediatric ocular examination
- Removal of Corneal/forniceal foreign body.
- Syringing and probing
- Posterior/Anterior sub tenon injection
- Epilation
- Corneal Scrapping
- Conjunctival swab
- Subconjunctival injection
- Intravitreal injection

Minor Surgeries:

- Vitreous tap
- Tarsorrhaphy
- Pterygium excision and Autografting
- Chalazion incision and curettage
- I and D of Adnexal infections (stye)
- Anterior Chamber tap

Major Surgeries:

- Cataract Surgery with IOL implantation
- Glaucoma surgery
- Lid surgeries including entropion, ectropion and ptosis
- Ocular trauma management
- Enucleation, Evisceration and Exenteration
- Corneal transplant
- Squint Surgery
- Lacrimal sac surgeries
- Vitreoretinal surgeries

Surgical Training

All PG students are given basic surgical training in wet lab.



Teaching Programme/Teaching Sessions

- Seminars
- Journal clubs
- Case discussions
- Symposium
- Workshop
- Attending and presenting paper/poster at conference
- 1 week training at multi specialty Eye Institution during 2nd or 3rd year
- Publication in an indexed journal

Teaching Schedule

In addition to bedside teaching rounds, hourly sessions of formal teaching per week is as follows:

- Seminar Presentation Once a week
- Journal Club Once a week
- PG Case Discussion Once a week
- Inviting Faculty from outside for teaching

Note:

- All sessions are attended by all the faculty members except for those on emergency duties. It is compulsory for all residents to attend all teaching programmes unless on emergency.
- All teaching sessions are assessed by all faculty members at the end of session and log books signed.
- Attendance of the Residents at various sessions has to be at least 75%.

Posting:

All PG students are posted in Eye OPD, OT and ward on rotation. PG students are posted in emergency to deal with any ocular emergency in casualty.



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Thesis:

- Every candidate carries out work on an assigned research project under the guidance of a recognized Postgraduate Teacher, the project is written and submitted in the form of Thesis.
- Every candidate submits thesis plan to the University within six months from the date of admission.
- Thesis is submitted to the University six months before the commencement of theory examination.
- Identify a relevant research question; (II) conduct a critical review of literature; (III) formulate a hypothesis; (IV) determine the most suitable study design; (V) state the objectives of the study; (VI) prepare a study protocol; (VII) analyze and interpret research data, and draw conclusions; (VIII) write a research paper.

Assessment

All the PG residents are assessed daily for their academic activities and also periodically.

General Principles

- The assessment is valid, objective and reliable.
- It covers cognitive, psychomotor and affective domains.
- Formative, continuing and summative (final) assessment is also conducted in theory as well as practical/clinical. In addition, thesis is also assessed separately.

Formative Assessment

The formative assessment is continuous as well as end-of-term. The former is to be based on the feedback from the senior residents and the consultants concerned. End-of-term assessment is held at the end of each semester (upto the 5th semester). Formative assessment will not count towards pass/fail at the end of the programme, but will provide feedback to the candidate.

Evaluation:

- 1st year students – 1 exam in a year – Theory 100 Marks on Basic Sciences
- 2nd year students – 1 exam in a year – Theory 100 Marks on Clinical Ophthalmology
- 3rd year students – 1 exam in a year – i.e. Preliminary – 400 marks Theory and 400 marks Practical



Personal attributes

- *Availability:* Punctual, available continuously on duty, responds promptly to calls, takes proper permission for leave.
- *Sincerity and motivation:* Dependable, honest, admits mistakes, does not falsify information, exhibits good moral values, loyal to institution, has initiative, takes on responsibilities, goes beyond routine work, exhibits keen desire to learn.
- *Diligence and performance:* Dedicated, hardworking, does not shirk duties, leaves no work pending, does not sit idle, competent in clinical case work up and management (where applicable), skilled in procedures, proficient in record keeping and file work.
- *Academic ability:* Intelligence, shows sound knowledge and skills, participates adequately in academic activities and performs well in oral presentation and departmental tests.
- *Inter-personal skills:* Has compassionate attitude towards patients, gets on well with colleagues and paramedical staff, respectful to seniors.

Summative Assessment

- Ratio of marks in theory and practical will be equal.
- The pass percentage will be 50%
- Candidate will have to pass theory and practical examinations separately.

A. Theory

Title Marks

Paper 1	Basic Sciences and Optics	100 marks
Paper 2	Ophthalmic, Medicine and Surgery	100 marks
Paper 3	Systemic diseases related to Eye	100 marks
Paper 4	Recent Advances in Ophthalmology	100 marks

Each paper will have 2 questions in each Section 'A' for 13 marks and 'B' for 12 marks.



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Suggested Books-

- Parson's Diseases of the Eye Sihota and Tandon Clinical
- Ophthalmology Kanski J. J.
- Principle and Practice of Ophthalmology Volume 1 to 4 by Albert and Jakobiec's

Reference Books:

- Ophthalmology Yanoff Duker
- Retina Stephen J. Ryan
- Diagnosis and therapy of Glaucoma Becker Shaffer
- Refraction Duke Elder
- Anatomy and Physiology of the eye A. K. Khurana
- Stallara's Eye Surgery Stallards
- Cataract Surgery and its complications Jaffe
- Cornea – Smolin

Journals:

- Indian Journal of Ophthalmology
- American Journal of Ophthalmology
- British Journal of Ophthalmology
- Highlights of Ophthalmology



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UNIVERSITY EXAMINATIONS

- After successful completion 3 Years' residency
Theory Examination: Each paper 100 marks – 3 hrs duration

	Sections with marks
Paper I	Basic Sciences and optics. 4 Sections, each having two questions: 'A' (13 marks), and 'B' (12 marks) Total = 100 marks
Paper II	Ophthalmic Medicine and Surgery. 4 Sections, each having two questions: 'A' (13 marks), and 'B' (12 marks) Total = 100 marks
Paper III	Systemic diseases related to Eye. 4 Sections, each having two questions: 'A' (13 marks), and 'B' (12 marks) Total = 100 marks
Paper IV	Recent Advances in Ophthalmology. 5 Questions of 25 marks each, out of which 4 questions have to be attempted Total = 100 marks
TOTAL THEORY = 400	

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

Practical Examination:

	Description	Marks	Preparation time	Assessment time
Long Case	1 long case 80 marks	200	1 Hr	20 min
Short Cases (Four)	4 short cases 120 marks (2 short cases & 2 fundus cases) Total-04 (30 marks each cases)		20 min. each	10 min. each
OSCE/OSPE (Spotting)	FFA, Fundus Photographs, A & B Scan, X-rays, CT/MRI Scan, OCT, Corneal Topography, HRT/GDx.	50	10 min	10 min
Demonstration	Various demonstrations for clinical examination of the patient like indirect Ophthalmoscopy, slit lamp, A & B Scan, Pachymeter, retinoscopy and 1 Refraction.	50 (10 marks each Demo)	10 min each	20 min
Viva	various instruments drugs, optics dissertation etc.	100	10 min	10 min
TOTAL PRACTICAL		400		

Minimum passing marks: 50% separate in clinical and viva-voce.