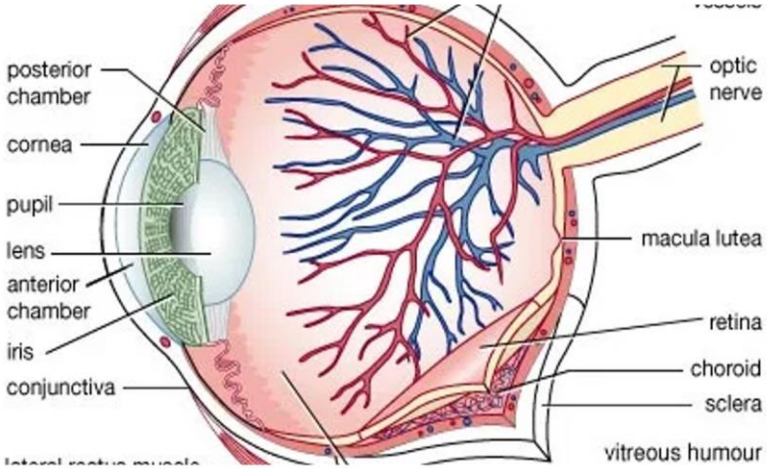
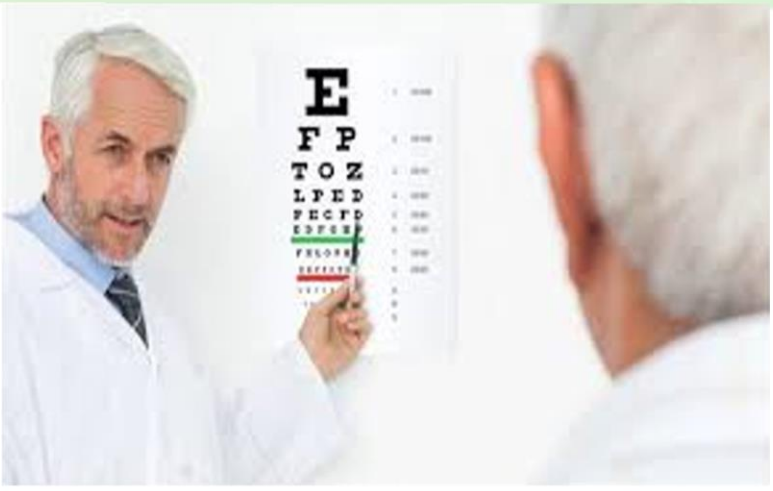
STUDY GUIDE- FOURTH YEAR MBBS

12th September – 27th September 2025

Duration: 2 Weeks

EYE MODULE





LIAQUAT NATIONAL HOSPITAL AND MEDICAL COLLEGE
Institute for Postgraduate Medical Studies & Health Science

STUDY GUIDE FOR EYE MODULE

Module name: **Ophthalmology (EYE)** *Year:* ***Four*** *Duration:* ***2 weeks (12th- 27th September. 2025)***

Timetable hours: **Interactive Lectures, Case-Based Learning (CBL), Clinical Rotations, Tutorials, Skills, Practicals, Self-Directed Learning**

MODULE INTEGRATED COMMITTEE

MODULE COORDINATOR:	• Dr. Ata-ur-Rehman **(EYE)**
CO-COORDINATOR:	• Dr. Afifa Tabassum **(DHPE)**

DEPARTMENTS & RESOURCE PERSONS FACILITATING LEARNING

BASIC HEALTH SCIENCES	CLINICAL DEPARTMENTS
COMMUNITY MEDICINE • Dr. Saima Zainab	***OPHTHALMOLOGY*** • Dr. Ata-Ur-Rehman
PATHOLOGY • *Professor Naveen Faridi*	***RESEARCH & SKILLS DEVELOPMENT CENTER*** • Dr. Kahkashan Tahir
MICROBIOLOGY • Professor Shaheen Sharafat	

DEPARTMENT of HEALTH PROFESSIONS EDUCATION

- Professor Nighat Huda
- Professor Sobia Ali
- Dr. Afifa Tabassum
- Dr. Yusra Nasir
- Dr. Syed Asad Sibtain
- Dr. Asra Zia

LNH&MC MANAGEMENT

- Professor K.U. Makki, Principal LNH&MC
- Dr. Shaheena Akbani, Director A.A & R.T LNH&MC

STUDY GUIDE COMPILED BY:

Department of Health Professions Education

INTRODUCTION

WHAT IS A STUDY GUIDE?

It is an aid to:

- Inform students how the student learning program of the module has been organized
- Help students organize and manage their studies throughout the module
- Guide students on assessment methods, rules, and regulations

THE STUDY GUIDE:

- Communicates information on the organization and management of the module. This will help the student to contact the right person in case of any difficulty.
- Define the objectives which are expected to be achieved at the end of the module.
- Identify the learning strategies such as lectures, small group teachings, clinical skills, demonstration, tutorial, and case-based learning that will be implemented to achieve the module objectives.
- Provide a list of learning resources such as books, computer-assisted learning programs, web- links, and journals, for students to consult to maximize their learning.
- Highlights information on the contribution of continuous on the student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's Achievement of objectives.
- Focus on information about examination policy, rules, and regulations.

INTEGRATED CURRICULUM:

Comprises system-based modules such as Neuroscience II Reproductive system II, Eye/ENT, Urinary II, Rehabilitation & Orthopedics, Dermatology, and Endocrinology II which links basic science knowledge to clinical problems. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to better understand basic sciences when they repeatedly learn about clinical examples.

LEARNING EXPERIENCES:

Case-based integrated discussions, Task-oriented learning followed by task presentation, skills acquisition in skills lab, computer-based assignments, and learning experiences in clinics, and wards.

LEARNING METHODOLOGIES

The following teaching/learning methods are used to promote better understanding:

- Interactive Lectures
- Small Group Discussion
- Case- Based Learning (CBL)
- Clinical Experiences
- Clinical Rotations
- Practicals
- Skills session
- Self-Directed Learning

INTERACTIVE LECTURES: In large groups, the lecturer introduces a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

SMALL GROUP SESSION: This format helps students to clarify concepts, acquire skills or desired attitudes. Sessions are structured with the help of specific exercises such as patient cases, interviews, or discussion topics. Students exchange opinions and apply knowledge gained from lectures, tutorials, and self-study. The facilitator asks probing questions, summarizes, or rephrases to help clarify concepts.

CASE-BASED LEARNING (CBL): A small group discussion format where learning is focused on a series of questions based on a clinical scenario. Students discuss and answer the questions by applying relevant knowledge gained previously in clinical and basic health sciences during the module and construct new knowledge. The CBD will be provided by the concerned department.

CLINICAL LEARNING EXPERIENCES: In small groups, students observe patients with signs and symptoms in hospital wards, clinics, and outreach centers. This helps students relate knowledge of the module's basic and clinical sciences and prepare for future practice.

- **CLINICAL ROTATIONS:** In small groups, students rotate in different wards like Neuroscience II Reproductive system II, Eye/ENT, Urinary II, Rehabilitation & Orthopedics, Dermatology, and Endocrinology II. Here students observe patients, take histories and perform supervised clinical examinations in outpatient and inpatient settings. They also get an opportunity to observe medical personnel working as a team. These rotations help students relate basic medical and clinical knowledge in diverse clinical areas.

PRACTICAL: Basic science practicals related to pharmacology, microbiology, forensic medicine, and community medicine have been scheduled for student learning.

SKILLS SESSION: Skills relevant to the respective module are observed and practiced where applicable in the simulated-learning environment such as a skills laboratory.

SELF-DIRECTED LEARNING: Students assume responsibilities for their learning through individual study, sharing and discussing with peers, and seeking information from Learning Resource Center, teachers, and resource persons within and outside the college. Students can utilize the time within the college's scheduled hours of self-study.

MODULE: Eye

INTRODUCTION

This section of the Head & Neck and Special Senses module is related to ophthalmological diseases.

Pakistan has faced challenges with vision impairment and blindness as key elements of the overall health status of the population. Visual acuity impairment severely degrades the quality of life and has more pronounced negative effects on people suffering from various other chronic health issues. Globally, it has transformed into a major health problem. The International Agency for the Prevention of Blindness (IABP) has reported that

7.6 million People in Pakistan are visually impaired and of those,

1.2 million Were blind. The Fred Hollows Foundation (FHF) estimated that about 10% (18 million) of the Pakistani population was living with some sort of visual impairment and around 2 million individuals were living with blindness.

Considering the serious nature of the situation in Pakistan, it becomes imperative that ophthalmic conditions receive a fair share of inclusion in the MBBS curriculum.

MODULE OBJECTIVES AND STRATEGIES

By the end of the EYE module students should be able to:

COMMUNITY MEDICINE

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Blindness and its prevention	Tutorial
· Describe blindness and visual impairment	
· Classify visual impairment	
· Discuss the epidemiology of blindness	
. Explain prevention and control of blindness	
· Discuss the national health vision program of Pakistan	
2. Trachoma	
· Describe Trachoma	
· Discuss the epidemiology of Trachoma	
· Classify the WHO trachoma grading System	
· Describe the control & prevention of Trachoma	

EYE

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. ORBIT	Interactive Lecture
• Diagnose Orbital cellulitis and Proptosis based on clinical features and investigation findings	
• Justify suitable treatment plans for the above-mentioned conditions.	
2. LIDS	Interactive Lecture
• Justify diagnosis, investigations, differential diagnosis, and treatment plans for Blepharitis, Stye, Chalazion, Trichiasis, Entropion, Ectropion, and Ptosis.	
• Develop diagnosis for Basal cell, squamous cell, sebaceous carcinoma and Melanoma.	
• Describe clinical features for diagnosis of Nevus, Capillary Hemangioma and Papilloma	
3. CORNEA	Interactive Lecture
• Define common corneal pathological conditions.	
• Justify the diagnosis, investigations (including corneal topography & keratometry), differential diagnosis, and treatment plans for keratitis, corneal ulcers, corneal trauma, infections, and Keratoconus	
4. CONJUNCTIVA	Interactive Lecture
• Justify diagnosis, investigations), differential diagnosis, and treatment plans for Dry Eye, infective and allergic conjunctivitis and Pterygium.	
5. SCLERA	Interactive Lecture
• Justify diagnosis, investigations, differential diagnosis, and treatment plans for Episcleritis and Scleritis.	
6. LACRIMAL APPARATUS	

• Justify diagnosis, investigations, differential diagnosis, and treatment plans for Epiphora, Acute and Chronic Dacryocystitis	Interactive Lecture
7. UVEAL TRACT	Interactive Lecture
• Discuss differential diagnoses for red eye along with their etiology, investigations, and treatment plans.	
• Justify diagnosis, investigations, differential diagnosis, and treatment plans for Uveitis.	
• Explain the main clinical features of Horner's Syndrome and Relative Afferent Pupillary Defect (RAPD)	
8. LENS	Interactive Lecture
• Define cataract	
• Classify cataract	
• Describe cataracts due to systemic diseases	
• Explain the symptoms, signs, investigations, and management of congenital cataracts.	
• Diagnose acquired cataract based on symptoms, signs, and investigation findings	
• Justify the selection of treatment options for acquired cataracts.	
9. GLAUCOMA	Interactive Lecture
• Define Glaucoma	
• Classify glaucoma	
• Discuss the etiology, differential diagnosis and investigations for Glaucoma.	
• Justify diagnosis and treatment plan for angle closure glaucoma.	
• Justify treatment plans for Glaucoma (other than angle closure).	
10. VITREO-RETINA	Interactive Lecture
• Explain the management (including clinical features, investigations, diagnosis and treatment) of retinal vascular occlusion	
• Discuss the clinical presentations, investigations (including FFA & OCT), and treatment options for Retinitis Pigmentosa, Retinoblastoma, Age-Related Macular Degeneration (ARMD) and Retinopathy of Prematurity	
• Explain the signs, symptoms investigations (including FFA & OCT) and principles of management for posterior vitreous hemorrhage and Rhegmatogenous Retinal Detachment (RRD)	
11. NEURO-OPHTHALMOLOGY	Interactive Lecture
• Justify differential diagnosis, investigations and treatment plans for Papilledema, Optic Neuritis and Optic Atrophy	
• Discuss diagnostic and management plans for 3rd, 4th and 6th cranial nerve palsies	
12. VISUAL PATHWAY	Interactive Lecture
• Predict the effects of lesions in the optic chiasma and visual pathway on the visual field.	
13. INJURIES	Interactive Lecture
• Classify injuries to the eye based on etiology.	
• Describe the management plan for extra-ocular foreign bodies (corneal, conjunctival) and burns and chemical injuries.	

• Develop management plans for all other types of injuries to the eye.	
14. SQUINT AND AMBLYOPIA	Interactive Lecture
• Define Squint and Amblyopia.	
• Classify Squint	
• Discuss the relationship between and principles of management of squint and amblyopia	
15. ERRORS OF REFRACTION	Interactive Lecture
• Define Emetropia, Myopia, Hypermetropia, Astigmatism, Presbyopia, Aphakia, Pseudoaphakia and Anisometropia.	
• Discuss the etiology and corrective measures for each type of error of refraction including the principles involved, use and procedure of pinhole test.	
16. OCULAR TRAUMA	Interactive Lecture
• Explain the principles of management of ocular trauma.	
17. SYSTEMIC DISEASES	
• Discuss the effects of diabetes mellitus and hypertension on eye and vision.	
• Diagnose diabetic and hypertensive retinopathy.	
• Discuss the pathophysiology of diabetic and hypertensive retinopathy.	
• Describe principles of management for the above mentioned conditions.	
• Justify diagnosis, investigations and treatment plan for ocular conditions due to vitamin A deficiency.	
• Discuss the effects of abnormal thyroid hormone levels on eye and vision.	
• Justify diagnosis, investigations and treatment plan for conditions due to abnormal thyroid hormone levels (e.g. Grave's disease, Thyroid Ophthalmopathy).	Interactive Lecture
18. BLINDNESS	
• List the six most common causes of blindness worldwide according to WHO criteria.	
• Discuss etiology, preventive measures, and principles of management for blindness.	
• Perform direct ophthalmoscopy according to standard protocol on a mannequin or simulated patient	Interactive Lecture
SKILLS (TO BE LEARNT DURING WARD ROTATIONS)	
• Take a detailed focused history from a patient with Ophthalmology related conditions (e.g. defects in vision, pain in and around the eye, discharge from eyes, abnormal appearance of eye and orbit, and blurred vision or disturbance in colored vision) • Examine the adnexa and anterior segment of the eye based on prescribed methods • Examine the eye for ocular movements (cranial nerve examination) • Perform visual acuity examination for distant and near vision • Perform gross examination of deviation of eye • Perform pupillary reflexes, Confrontation Test for visual field and Torchlight exam • Perform a pinhole test • Perform Ophthalmoscopy on real patients under direct supervision	

PATHOLOGY & MICROBIOLOGY

1. Pathology of Eye diseases 1	Interactive Lecture/ Tutorial
• Define proptosis, conjunctival scarring, pinguecula and pterygium	
• List the causes of Cataract, Proptosis & Blue Sclera	
• Discuss the neoplasms of the orbit and eyelid.	
• Discuss the squamous and melanocytic neoplasms of conjunctiva.	
• Define conjunctival scarring, pinguecula and pterygium.	
• Briefly discuss the pathogenesis of cataract, corneal inflammation, corneal ulcers, corneal degeneration and dystrophies.	
2. Pathology of Eye Diseases 2	
• Define glaucoma, Retinal Detachment & Uveitis	
• Define Retro-lental Fibroplasia, Sickle Retinopathy, Radiation Retinopathy, Retinitis Pigmentosa, Age- Related Macular Degeneration (ARMD), Papilledema and Optic Neuritis	
• Classify glaucoma according to its types.	
• Discuss the causes and pathogenesis of various types of glaucoma.	
• List the causes of uveitis.	
• Briefly discuss the uveal neoplasms	
• Discuss the causes and pathogenesis of retinal vascular diseases with reference to hypertension and diabetes mellitus.	
• Discuss the causes and effects of retinal artery and vein occlusion	
• Discuss the pathogenesis and morphology of retinoblastoma	
3. Pathogens causing Eye infections	
• List the pathogens causing eye infections.	
• Discuss the pathophysiology and clinical manifestations of eye infections.	

RESEARCH AND SKILLS DEVELOPMENT

1. Ophthalmoscopy	simulation based learning
• Perform direct ophthalmoscopy according to standard protocol on a mannequin or simulated patient	

Apart from attending daily scheduled sessions, students too should engage in self-study to ensure that all the objectives are covered

LEARNING RESOURCES

SUBJECT	*RESOURCES*
COMMUNITY MEDICINE	**TEXTBOOKS** 1. Community Medicine by Parikh 2. Community Medicine by M Ilyas 3. Basic Statistics for the Health Sciences by Jan W Kuzma
EYE	**TEXTBOOK** 1. General Ophtahlmology book by Vaughan Asbury 2. Clinical Ophthalmology book by Shafi M. Jatoi
PATHOLOGY/MICROBIOLOGY	**TEXTBOOKS** 1. Robbins & Cotran, Pathologic Basis of Disease,9th edition. 2. RapidReviewPathology,4th edition by Edward F. Goljan MD
	WEBSITES: 1. http://library.med.utah.edu/WebPath/webpath.html 2. http://www.pathologyatlas.ro/

ASSESSMENT METHODS:

- **Best Choice Questions(BCQs)** also known as MCQs (Multiple Choice Questions)
- **Objective Structured Practical/Clinical Examination (OSPE or OSCE)**

Internal Evaluation

- Students will be assessed comprehensively through multiple methods.
- 20% marks of internal evaluation will be added to JSMU final exam. That 20% may include class tests, assignments, practicals, and the internal exam which will all have specific marks allocation.

Formative Assessment

Individual departments may hold quizzes or short answer questions to help students assess their learning. The marks obtained are not included in the internal evaluation

For JSMU Examination Policy, please consult the JSMU website!

More than 75% attendance is needed to sit for the internal and final examinations

LNH&MC EXAMINATION RULES & REGULATIONS

- Student must report to examination hall/venue, 30 minutes before the exam.
- Exam will begin sharply at the given time.
- No student will be allowed to enter the examination hall after 15 minutes of scheduled examination time.
- Students must sit according to their roll numbers mentioned on the seats.
- Cell phones are strictly not allowed in the examination hall.
- If any student is found with a cell phone in any mode (silent, switched off, or on) he/she will not be allowed to continue their exam.
- No students will be allowed to sit in an exam without University Admit Card, LNMC College ID Card, and Lab Coat
- Students must bring the following stationary items for the exam: Pen, Pencil, Eraser, and Sharpener.
- Indiscipline in the exam hall/venue is not acceptable. Students must not possess any written material or communicate with their fellow students.

SCHEDULE:

2 WEEKS	OPHTHALMOLOGY (EYE)	12th September 2025
		27th September 2025
4 WEEKS	REHABILITATION & ORTHOPEDIC	29th September 2025
		October 2025