Jinnah Sindh Medical University

STUDY GUIDE	
PROGRAM	**MBBS**
MODULE TITLE	**Head and Neck & Special Senses-2 (Ophthalmology)**
ACADEMIC YEAR	**Fourth year -2024**
INTRODUCTION	This section of the Head & Neck and Special Senses-II 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.
RATIONALE	This module, along with the ophthalmology rotations, aims to produce graduates capable of dealing with common eye related conditions in tertiary and primary health care settings. The

	long-term goal is to contribute to the national provision of healthcare providers who can take part in the reduction of blindness and visual impairment.
OUTCOMES	By the end of the Head and Neck & Special Senses-2 (EYE) module and ophthalmology Rotation, students will be able to justify management plans for common, uncomplicated, emergency, and non-emergency conditions related to Ophthalmology.
DEPARTMENTS INVOLVED	1. Community Medicine 2. Ophthalmology 3. Pathology
COURSE OBJECTIVES	By the end of the module, the students should be able to:
LECTURES **COMMUNITY MEDICINE**	**1. Blindness and its prevention** • 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
OPHTHALMOLOGY	**1. ORBIT** • Diagnose Orbital cellulitis and Proptosis based on clinical features and investigation findings • Justify suitable treatment plans for the above-mentioned conditions

	2. LIDS • 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 and Papilloma **3. CORNEA** • Define common corneal pathological conditions • Justify the diagnosis, investigations, differential diagnosis, and treatment plans for corneal trauma, infections, and Keratoconus **4. CONJUNCTIVA** • Justify diagnosis, investigations, differential diagnosis, and treatment plans for infective and allergic conjunctivitis and Pterygium **5. SCLERA** • 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

	7. UVEAL TRACT • Discuss differential diagnoses for red eye along with their etiology, investigations, and treatment plans • Justify diagnosis, investigations, differential diagnosis, and treatment plans for Uveitis **8. LENS** • 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 • Explain congenital cataract secondary to rubella **9. GLAUCOMA** • 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** • Explain the signs, symptoms investigations, and principles of

	management for posterior vitreous hemorrhage and Rhegmatogenous Retinal Detachment (RRD) • Discuss the clinical presentations, investigations, and treatment options for Retinitis Pigmentosa and Retinoblastoma and Age-Related Macular Degeneration (ARMD) **11. OPTIC NERVE** • Justify differential diagnosis, provisional diagnosis, and investigations for Papilledema, Optic Neuritis and Optic Atrophy • Develop treatment plans for Papilledema, Optic Neuritis and Optic Atrophy **12. VISUAL PATHWAY** • Predict the effects of lesions in the optic chiasma and visual pathway on the visual field **13. INJURIES** • 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** • Define Squint and Amblyopia • Discuss the relationship between squint and amblyopia

	• Discuss principles of management for these two conditions **15. ERRORS OF REFRACTION** • 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. 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) **17. BLINDNESS** • List the six most common causes of blindness worldwide according to WHO criteria • Discuss etiology, preventive measures, and principles of management for blindness

PATHOLOGY	**1. Pathology of Eye diseases 1** • Define proptosis • List the causes of proptosis • Discuss the neoplasms of the orbit and eyelid • Define conjunctival scarring, pinguecula and pterygium • Discuss the squamous and melanocytic neoplasms of conjunctiva. • List the causes of blue sclera. • Briefly discuss the pathogenesis of corneal inflammation, corneal ulcers, corneal degeneration and dystrophies • List the causes of cataract • Briefly discuss the pathogenesis of cataract **2. Pathology of Eye Diseases 2** • Define glaucoma • Classify glaucoma according to its types • Discuss the causes and pathogenesis of various types of glaucoma. • Define uveitis • List the causes of uveitis • Briefly discuss the uveal neoplasms • Define retinal detachment • Discuss the causes and pathogenesis of retinal vascular diseases with reference to hypertension and diabetes mellitus. • Define retrolental fibroplasia, sickle retinopathy, radiation retinopathy, retinitis pigmentosa and age related

	macular degeneration • Discuss the causes and effects of retinal artery and vein occlusion • Discuss the pathogenesis and morphology of retinoblastoma • Define papilledema and optic neuritis. **3. Pathogens causing Eye infections** • List the pathogens causing eye infections • Discuss the pathophysiology and clinical manifestations of eye infections
SKILLS LAB	**1. Ophthalmoscopy** • Perform ophthalmoscopy according to standard protocol on a mannequin or simulated patient
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
INTERNAL ASSESSMENT	• Internal assessment will be according to JSMU policy. The details of the internal assessment will be determined by the respective institutions. • Internal assessment carries 20% weightage in the final, end-of-year examination
ANNUAL EXAMINATION	• MCQs and OSCE/OSPE (observed + unobserved)
MODULE EVALUATION	• The course will be evaluated through a feedback form which will be posted on the JSMU website
SUGGESTED READING SOURCES	1. Parks textbook of prevention and social medicine Edition 23rd 2. Public health and community medicine Shah-Ilyas-Ansari-Irfan Edition 8th