	Spiral II
COURSE TITLE	**Head and Neck & Special Senses-I module 2022**
INTRODUCTION	Pakistan has faced challenges with vision impairment and blindness as key elements of the overall health status of population. Visual acuity impairment severely degrades the quality of life and have 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 course, along with the ophthalmology rotations, aims to produce graduate 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 health care providers who can take part in the reduction of blindness and visual impairment among the population. This study guide is meant to be used for 4th year students of Jinnah Sindh Medical University.
TARGET STUDENTS	Fourth year MBBS, 2022
DURATION	4 weeks

MODULE OUTCOMES	**BY the end of the Head and Neck & Special Senses-I module and opthalmology rotation, students must be able to:** • justify the diagnoses and management plan of common, uncomplicated ophthalmologic conditions based on basic and clinical sciences knowledge, in emergency and non-emergency situations • demonstrate common clinical skills related to Ophthalmology in simulated and / or real environment • demonstrate professional behavior consistently
DEPARTMENTS	1. Anatomy 2. Physiology 3. Community Medicine 4. Pathology 5. Pharmacology 6. Skill lab 7. CLINICAL SCIENCES
OBJECTIVES	By the end of the Head and Neck and special senses-I module and OPHTHALMOLOGY rotation, students must be able to:

ANATOMY

- Describe the functional anatomy of the orbit and the three layers of the eyeball along with relevant nerve and blood supplies

PHYSIOLOGY

- Describe the process of vision, optics and the reflexes seen in normal eye.

PATHOLOGY

- Explain the pathology of the diseases involving the EYE and ORBIT

COMMUNITY MEDICINE

1. **Trachoma**

- Describe Trachoma
- Identify risk factors of Trachoma
- Classify WHO trachoma grading System

- Explain the control & prevention of Trachoma

CLINICAL SCIENCES

The topics/objectives have been divided into three main areas: **must know, should know** and **may know**.

Topics classified under **'must'** are essential for an MBBS graduate; without their knowledge, students will not be able to pass the module and rotation. Topics and objectives under this category are frequently encountered in the clinical life of a general practitioner and hence warrant maximum importance. Topics included in this category are:

i. Cornea
ii. Conjunctiva
iii. Lacrimal apparatus
iv. Uveal tract
v. Lens
vi. Glaucoma
vii. Injuries
viii. Squint and Amblyopia
ix. Errors of refraction
x. Systemic diseases
xi. Blindness

Topics and objectives under **'should'** are important but not essential for a graduate to know. These issues are seen in clinical practice of a general practitioner but are not a matter of daily routine. Knowing these objectives well will gain extra marks for students and place him/ her above the average student. Topics included in this category are:

i. Orbit
ii. Lids
iii. Sclera
iv. Vitreo-retina
v. Optic nerve

vi. Visual pathway

Topics and objectives under **'may'** are optional for a graduate to know well. These are topics which may be learned only by those who are targeting a distinction in the discipline. These topics and objectives are relevant for postgraduate residents. (see the section of Psychomotor skills)

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

- Based on data provided, 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
- Based on data provided, justify the diagnosis, investigations, differential diagnosis and treatment plans for corneal trauma, infection, vitamin A deficiency and Keratoconus

4. CONJUNCTIVA

- Based on data provided, justify diagnosis, investigations, differential diagnosis and treatment plans for infective and allergic conjunctivitis and Pterygium

5. SCLERA

- Based on data provided, justify diagnosis, investigations, differential diagnosis and treatment plans for Episcleritis and Scleritis

6. LACRIMAL APPARATUS

- Based on data provided justify diagnosis, investigations, differential diagnosis and treatment plans for Epiphora, Acute and Chronic Dacryocystitis

7. UVEAL TRACT

- Based on data provided, discuss differential diagnosis 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 cataract due to systemic diseases
- Explain the symptoms, signs, investigations and management for congenital cataract
- Diagnose acquired cataract based on symptoms, signs and investigation findings
- Justify selection of treatment options for acquired cataract
- 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

- Based on data provided, justify differential diagnosis, provisional diagnosis, and

investigations for Papilloedema, Optic Neuritis and Optic Atrophy

- Develop treatment plans for Papilloedema, Optic Neuritis and Optic Atrophy

12. VISUAL PATHWAY

- Predict the effects of lesions in the optic chiasma and visual pathway on visual field

13. INJURIES

- Classify injuries to the eye based on etiology
- Describe management plan for extra-ocular foreign bodies (corneal, conjunctival) and for 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 pin hole test

16. SYSTEMIC DISEASES

- Discuss the effects of diabetes mellitus and hypertension on eye and vision
- Based on data provided, diagnose diabetic and hypertensive retinopathy
- Discuss the pathophysiology of diabetic and hypertensiveretinopathy
- Describe principles of management for the above mentioned conditions
- Based on data provided, 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
- Based on data provided, 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

PSYCHOMOTOR SKILLS

By the end of the Ophthalmology rotation, students must be able to:

- Take detailed focused history from a patient with an Ophthalmology related conditions (e.g. defects in vision, pain in and around 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 Torch light exam
- Perform pin hole test

By the end of the Ophthalmology rotation, students should be able to:

- Perform lacrimal regurgitation test
- Perform irrigation of eye

- Perform instillation of eye drops

By the end of the Ophthalmology rotation, students <u>may</u> be able to (under close supervision of a qualified expert):

- Perform eversion of upper eyelid
- Measure intra-ocular pressure (by palpation method)
- Perform Direct Ophthalmoscopy
- Remove superficial foreign bodies from eye
- Use topical anesthesia on eye

<u>AFFECTIVE SKILLS</u>

By the end of the Ophthalmology rotations, students <u>must</u> be able to:

- Demonstrate punctuality and regularity in all teaching sessions
- Maintain personal hygiene at all times, especially after being in contact with patients
- Deal with colleagues (peers, seniors and juniors), other members of the health care team and patients and their attendants with respect
- Demonstrate compassion and ethical behavior while dealing with patients (i.e. during

history taking, examinations and discussions)

- Demonstrate empathy towards the health care team members and patients (along with their attendants) through verbal and non-verbal communication
- Demonstrate clear verbal communication skills at all times
- Write histories by taking care of clarity and focus in order to make them legible for others.

INTERNAL ASSESSMENT	• Internal assessment will be according to JSMU policy. The details of internal assessment will be determined by the respective institutions. • Internal assessment carries 20% weightage in the final, end-of-year examination
FINAL EXAMINATION	MCQs and OSCE/OSPE (observed + un observed)
COURSE EVALUATION	Course will be evaluated through a feedback form which will be posted on the JSMU website

Reference Books

Following books can be referred for further reading:

- Shorter Oxford Textbook of Psychiatry
- Davidson's Principles and Practices of Medicine
- Kaplan Series, Behavioural Sciences, Psychiatry
- Handbook of Behavioural Sciences, by Mowadat H. Rana
- Drugs used in Psychiatry, by Prof. Muhammad Iqbal Afridi