# AYUB MEDICAL COLLEGE ABBOTTABAD

#### **DEPARTMENT OF MEDICAL EDUCATION**



# **EYE MODULE**

## 4<sup>TH</sup> YEAR MBBS

**BLOCK: M** 

**DURATION: 1 YEAR** 

FROM: 2022-2023

**STUDENT NAME** 

#### **DISCLAIMER**

- Developing a study guide is a dynamic process and undergoes iteration according to the needs and priorities.
  - This study guide is subjected to the change and modification over the whole academic year.
  - However, students are advised to use it as a guide for respective modules.
- It is to declare that the learning objectives (general and specific) and the distribution
  of assessment tools (both theory and practical) are obtained from Khyber Medical
  University, Peshawar. These can be obtained from:

http://kmu.edu.pk/sites/default/files/curriculum/1st%262nd-Year.zip

• The time tables are for guiding purpose. It is to advise that final timetables are always displayed over the notice boards of each lecture hall.

Students are encouraged to provide feedback via coordinator (see "For inquiry and troubleshooting") or use the link given below. https://forms.gle/ZfugPgAia9VvMeJ29

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# 1 Module Committee:

| S. | Name                       | Departm | Role               |  |
|----|----------------------------|---------|--------------------|--|
| no |                            | ent     |                    |  |
| 1. | Prof. Dr. Umar Farooq      |         | CEO & Dean         |  |
| 2. | Prof. Dr. Irfan U. Khattak |         | Director DME       |  |
|    | Module Team                |         |                    |  |
| 3. | Dr. Danish Zafar           | EYE     | Block Coordinator  |  |
| 4. | Prof Hasan Sajid Kazmi     | EYE     | Module Coordinator |  |
| 5. | Prof. Dr Zulfiqar Ali      | EYE     | Member             |  |
| 6. | Dr. Amir Zeb               | EYE     | Member             |  |
| 7. | Dr. Bushra Aaqil           | EYE     | Member             |  |

#### 2 What Is A Study Guide?

It is an aid to Inform students how student learning program of the module has been organized, to help students organize and manage their studies throughout the module and guide students on assessment methods, rules and regulations.

#### 2.1 The study guide:

- Communicates information on organization and management of the module.
- This will help the student to contact the right person in case of any difficulty.
- Defines the objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as lectures, small group teachings.

#### 2.2 Module objectives.

- Provides a list of learning resources such as books, computer-assisted learning programs, weblinks, and journals, for students to consult in order 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 performance.

#### 2.3 Achievement of objectives.

Focuses on information pertaining to examination policy, rules and regulations.



### 3 Recommended List Of Icons



**Introduction To Case** 



For Objectives



**Critical Questions** 



**Assessment** 



**Resource Material** 

#### 4 Organization of Module

#### 4.1 Introduction:

Welcome to the vision module. As we know that vision is one of the special senses and very important in the sense that a large percentage of new information gathered by a person is by visual means. A person who is blind can be a big burden on the society. We should try to decrease the incidence of preventable blindness by taking appropriate measures to limit the disease and educate the masses by running awareness campaigns for the general public. In case of non preventable blindness we should come up with ways to make a blind person more useful to the society.

In this module you will learn about the structure and functions of the eye, visual pathways and the visual cortex as well as common diseases of the eye and their treatment.

#### 4.2 Rationale

The end organ responsible for vision is the eye. It is a part of the central nervous system and as there is limited regeneration in the CNS, most of the parts of the eye also have no or very limited regeneration power.

The eye has got a complex structure and to understand its function it is necessary to know the different parts of the eye, their organization and functioning of the individual parts and their integration with each other. In this way we would be able to treat the diseases of the eyes in timely manner and more efficiently.

The main function of the eye is to transmit light into the eye, refract and focus it onto the retina, from where the photoreceptors would be stimulated and send an impulse to the brain through visual pathway. The brain processes the received signals and an image is formed.

The eye is affected by various internal and external factors. Moreover, many systemic diseases such as diabetes, hypertension etc. may show signs in the eye and can disturb its function.

The student needs to have this knowledge of structure, function and common diseases of the eye and their treatment so that he / she understands it properly and is in a better position to deal with the problems of the eye.



#### 5 Learning Objectives

#### 5.1 General Learning Outcomes

By the end of this module the students would be able to;

#### 5.1.1 Knowledge

- 1. Describe the visual standards.
- 2. Define and classify blindness.
- 3. Describe the anatomy and physiology of visual pathway and different visual field defects.
- 4. Describe the basics and usage of optical coherence tomography (OCT), visual fields and ultrasonography in common eye disorders.
- 5. Differentiate different types of lid bumps and propose a management plan for it.
- 6. Discuss ptosis, ectropion and entropion and describe the treatment options.
- 7. Examine bulgy eyes and investigate different causes of it.
- 8. Describe the differential diagnosis of red eye.
- 9. Explain the pathophysiology, and management of different conjunctival inflammations.
- 10. Explain the pathophysiology, and management of different corneal inflammations.
- 11. Discuss the pathophysiology, and management of uveal inflammations.
- 12. Describe the aqueous humor dynamics and its role in glaucoma.
- 13. Enumerate different causes of gradual visual loss and propose their management plan.
- 14. Enumerate different causes of sudden visual loss (painful/painless) and propose their management plan.
- 15. Describe squint, its presentation and principles of management.
- 16. Enumerate different causes of double vision and propose their management plan.
- 17. Enumerate different causes of childhood blindness and propose their management plan.
- 18. Discuss the clinical importance of white pupil in children.
- 19. Define amblyopia, describe its causes and management.
- 20. Differentiate between different terms used in ocular trauma.
- 21. Propose the management plan of ocular injuries.

#### 5.1.2 Skills

- 1. Take detailed history in ocular conditions
- 2. Check visual acuity.
- 3. Perform pupillary examination.
- 4. Perform visual fields examination by confrontation methods.
- 5. Identify parts of slit-lamp
- 6. Examine anterior segment on slit lamp
- 7. Perform direct ophthalmoscopy
- 8. Identify trial lenses used in refraction.

- 9. Perform indirect ophthalmoscopy
- 10. Describe/interpret the results of OCT, Visual fields, Biometry, B-scan, FFA, Corneal topography
- 11. Observe Eversion of upper lids
- 12. Perform ptosis examination.
- 13. Observe ptosis surgery
- 14. Examine common lid abnormalities (Ectropion, Entropion, Chalazion, Stye)
- 15. Identify instruments used in lids surgery
- 16. Observe lid reconstruction procedures
- 17. Observe proptosis
- 18. Perform topical anesthesia and staining.
- 19. Observe corneal foreign body removal.
- 20. Observe corneal scrapping.
- 21. Observe keratoplasty.
- 22. Perform lacrimal regurgitation test.
- 23. Observe DCR surgery and identify instruments used
- 24. Observe first aid to Ocular trauma
- 25. Perform eye wash in chemical injury.
- 26. Observe OGI surgery.
- 27. Examine normal, glaucomatous and swollen disc
- 28. Detect common retinal conditions
- 29. Differentitate different retinal vascular conditions.
- 30. Identify RD in pictures
- 31. Observe Retinal detachment surgery
- 32. Use of lasers in eye
- 33. Intravitreal injections
- 34. Observe goldman tonometery
- 35. Observe Glaucoma filtration surgery
- 36. Observe congenital glaucoma examination (EUA) and surgery
- 37. Detect cataract on ocular examination
- 38. Observe types of Adult and Congenital cataract surgery
- 39. Perform extraocular movements and squint examination
- 40. Perform cover / uncover / alternate cover tests
- 41. Identify the pattern of squint (Esotropia vs. Exotropia)
- 42. Observe squint surgery

# 5.2 Specific learning objectives

| Theme 1: Foundation of Ophthalmology                            |   |                  |  |
|---|---|------------------|--|
| Topic   | Learning objectives   | Lecture<br>Hours |  |
| Standards Of Vision and Blindness                               | Discuss visual standards and blindness according to WHO classification.   | 01               |  |
| Pupil Reflexes and Drugs Used In Common Eye Conditions          | <ol> <li>Describe the normal and abnormal pupil reflexes.</li> <li>Discuss drugs used in common eye diseases.</li> </ol>                                | 01               |  |
| Visual Pathway and Visual Field Defects                         | <ul><li>3. Describe the visual pathway.</li><li>4. Describe the common visual field defects.</li></ul>  | 01               |  |
| Optical Coherence<br>Tomography (OCT) and<br>Visual fields (VF) | 5. Discuss the uses of OCT and VF in ophthalmology.   | 01               |  |
| Fundus Fluorescein Angiography (FFA) and Ultrasonography        | <ol><li>Discuss the uses of FFA and Ultrasonography in ophthalmology.</li></ol>   | 01               |  |
| Optics & Eye  | 7. Discuss visual functions (visual acuity, color vision, contrast sensitivity, light brightness), Refraction, Pseudophakia, Aphakia, and Anisometropia | 01               |  |
| Refractive Errors   | 8. Discuss pathophysiology and clinical presentation of myopia, hypermetropia, astigmatism and presbyopia   | 01               |  |
| Correction Of Refractive Errors                                 | <ol><li>Describe management of myopia,<br/>hypermetropia, astigmatism and presbyopia</li></ol>  | 01               |  |
| Tł  | neme 2: Lid abnormalities & Bulging Eyes  |                  |  |
| Differential Diagnosis Of Lid<br>Bumps                          | 10. Discuss overview of different causes of lid bumps.  | 01               |  |
| Chalazion, Stye   | 11. Describe pathophysiology and management of chalazion and stye.  | 01               |  |
| Tumors of Eyelids   | <ol><li>Discuss different eyelid tumors and its pathogenesis.</li></ol>   | 01               |  |
| Management of Lid Bumps   | 13. Describe management plan of lid bumps.  | 02               |  |
| Ptosis  | 14. Discuss causes of ptosis, assessment and their management.  | 01               |  |
| Trichiasis, Entropion and Ectropion                             | 15. Discuss Trichiasis, Entropion and Ectropion, assessment and their management.   | 01               |  |
| Proptosis – Basics  | 16. Discuss the etiology, clinical features, investigation and management of proptosis in children and adults   | 01               |  |
| Preseptal and Orbital<br>Cellulitis                             | 17. Discuss the etiology, clinical features, investigation and management of proptosis in children and adults.  | 01               |  |

|                           | <ol> <li>Enumerate Differential diagnosis / causes of proptosis in children and adults.</li> </ol> |    |
|---------------------------|--|----|
| Thyroid Eye disease (TED) | 19. Discuss the etiology, clinical features,   | 01 |
| Thyroid Lye disease (TLD) | investigation and management of TED.   | 01 |
| Myasthenia Gravis &       | 20. Discuss the etiology, clinical features,   | 01 |
| Migraine                  |  |    |
|                           | Gravis.  |    |
|                           | 21. Discuss the etiology, clinical features,   |    |
|                           | investigation and management of Migraine.  |    |
|                           | Theme 3: Red Eye   |    |
| red eye                   | 22. Enumerate causes of red eye.   | 02 |
|                           | 23. Describe pathophysiology and management of   |    |
|                           | different conjunctival   |    |
|                           | (Bacterial/Viral/Fungal/Allergic) inflammations.   |    |
| Corneal                   | 24. Discuss the etiology, clinical features,   | 01 |
| Inflammations/Infections  | investigation and management of non-infectious   |    |
|                           | corneal inflammations.   |    |
|                           | 25. Discuss investigations for corneal ulcers.   |    |
| Bacterial Keratitis       | 26. Discuss the etiology, clinical features,   | 01 |
|                           | investigation and management of different  |    |
|                           | bacterial corneal ulcers.  |    |
| Fungal, Viral &           | 27. Discuss the etiology, clinical features,   | 02 |
| Acanthamoeba Keratitis    | investigation and management of different  |    |
|                           | fungal, viral & acanthamoeba corneal ulcers.   |    |
| Dacryocystitis            | 28. Discuss the etiology, clinical features,   | 01 |
|                           | investigation and management of congenital   |    |
|                           | nasolacrimal duct obstruction.   |    |
|                           | 29. Assess the time of probing in children.  |    |
|                           | 30. Differentiate between acute, acute on chronic  |    |
|                           | and chronic Dacryocystitis.  |    |
|                           | 31. Discuss the etiology, clinical features,   |    |
|                           | investigation and management of Dacryocystitis.  |    |
| Dry Eyes                  | 32. Discuss the etiology, clinical features,   | 01 |
|                           | investigation and management of Dry Eyes with  |    |
|                           | special emphasis on Vit. A deficiency and  |    |
|                           | Sjogren's syndrome.  |    |
| Blepharitis               | 33. Discuss the etiology, clinical features,   | 01 |
|                           | investigation and management of blepharitis.   |    |
| Pterygium, Pseudo-        | 34. Describe differences between Pterygium,  | 01 |
| Pterygium, Episcleritis & | Pseudo-pterygium, Episcleritis & Scleritis and   |    |
| Scleritis                 | their management.  |    |
| Basic Concepts In Ocular  | 35. Discuss definitions, classification & clinical   | 01 |
| Trauma                    | evaluation of ocular injuries and principles of  |    |
|                           | management.  |    |

|                              | 36. Discuss corneal and conjunctival foreign bodies     |    |
|------------------------------|---|----|
|                              | and their treatment.                                    |    |
| Open Globe Injury (OGI) /    | 37. Classify OGI.                                       | 01 |
| IOFB / Sympathetic           | 38. Discuss the etiology, clinical features,            |    |
| Ophthalmia (SO)              | investigation and management of OGI and IOFB.           |    |
| oprima (oo)                  | 39. Discuss the etiology, clinical features,            |    |
|                              | investigation and management of SO.                     |    |
| Closed Globe Injury          | 40. Discuss the etiology, clinical features,            | 01 |
| (CGI)                        | investigation and management of CGI.                    |    |
| Orbital Floor Injury         | 41. Classify CGI.                                       |    |
| Radiation, Thermal,          | 42. Discuss the etiology, clinical features,            | 01 |
| Chemical Injuries            | investigation and management of radiation               |    |
|                              | injury.   |    |
|                              | 43. Discuss the etiology, clinical features,            |    |
|                              | investigation and management of thermal injury          |    |
|                              | 44. Discuss the etiology, clinical features,            |    |
|                              | investigation and management of chemical                |    |
|                              | injury.   |    |
| Visual Rehabilitation        | 45. Discuss various options of visual rehabilitation    | 01 |
|                              | after ocular trauma.                                    |    |
|                              | 46. Discuss rehabilitation services for blind people in |    |
|                              | our setup.  |    |
| Uveitis – Basics             | 47. Discuss Definitions, classifications, history &     | 01 |
|                              | workup of uveitis.                                      |    |
| Anterior & Posterior Uveitis | 48. Discuss the etiology, clinical features,            | 01 |
|                              | investigation and management of Anterior                |    |
|                              | uveitis.  |    |
|                              | 49. Discuss the etiology, clinical features,            |    |
|                              | investigation and management of Posterior               |    |
|                              | Uveitis.  |    |
|                              | Theme 4: Visual loss                                    |    |
| Visual Loss & Intraocular    | 50. Classify causes of visual loss in following order:  | 01 |
| Pressure (IOP)               | 51. Visual Loss associated with Anterior segment.       |    |
|                              | 52. Visual Loss associated with Posterior segment.      |    |
|                              | 53. Discuss Aqueous humor dynamics and its role in      |    |
|                              | IOP.  |    |
|                              | 54. Enumerate causes of gradual & sudden visual         |    |
|                              | loss.   |    |
|                              | 55. Define and Classify Glaucoma.                       | 1  |
| Open angle glaucoma          | 56. Discuss the differences between POAG, NTG and       | 01 |
|                              | OHT.  |    |
|                              | 57. Discuss the etiology, clinical features,            |    |
|                              | investigation and management of POAG.                   |    |
|                              | 58. Discuss the etiology, clinical features,            |    |
|                              | investigation and management of NTG.                    |    |

|                            | 59. Discuss the etiology, clinical features,          |    |
|----------------------------|---|----|
|                            | investigation and management of OHT.                  |    |
| Primary Angle Closure      | 60. Discuss briefly the stages of PACG.               | 01 |
| Glaucoma (PACG)            | 61. Discuss the etiology, clinical features,          |    |
|                            | investigation and management of Acute angle           |    |
|                            | closure.  |    |
| Neovascular Glaucoma &     | 62. Discuss the etiology, clinical features,          | 01 |
| Lens Induced Glaucoma      | investigation and management of Neovascular           |    |
|                            | glaucoma.   |    |
|                            | 63. Discuss the etiology, clinical features,          |    |
|                            | investigation and management of lens induced          |    |
|                            | glaucoma.   |    |
| Treatment Options In       | 64. Enumerate different treatment options in          | 01 |
| Glaucoma                   | glaucoma.   |    |
|                            | 65. Discuss the indications of each treatment option. |    |
| Cataract                   | 66. Define cataract.                                  | 01 |
|                            | 67. Describe the types of Age related cataract.       |    |
|                            | 68. Describe the pathogenesis and complications of    |    |
|                            | cataract.   |    |
|                            | 69. Describe the management of cataract.              |    |
| Cataract Surgery           | 70. Discuss the etiology, clinical features,          | 01 |
| Complications              | investigation and management of                       |    |
|                            | Endophthalmitis.                                      |    |
|                            | 71. Discuss the etiology, clinical features,          |    |
|                            | investigation and management of                       |    |
|                            | Panophthalmitis.                                      |    |
| Corneal Ectasia, Dystrophy | 72. Discuss the etiology, clinical features,          | 01 |
| & Degeneration             | investigation and management of keratoconus.          |    |
|                            | 73. Give overview of corneal dystrophies and          |    |
|                            | degenerations.  |    |
| Diabetic Eye Disease       | 74. Discuss the effects of diabetes on eye.           | 01 |
|                            | 75. Discuss the etiology, clinical features,          |    |
|                            | investigation and management of Diabetic Eye          |    |
|                            | Disease (Diabetic Retinopathy and maculopathy).       |    |
| Hypertensive Retinopathy   | 76. Discuss the effects of hypertension on eye.       | 01 |
|                            | 77. Discuss the etiology, clinical features,          |    |
|                            | investigation and management of Hypertensive          |    |
|                            | Retinopathy.  |    |
| Central Retinal Vein       | 78. Discuss the etiology, clinical features,          | 01 |
| Occlusion (CRVO) And       | investigation and management of CRVO.                 |    |
| Central Retinal Artery     | 79. Discuss the etiology, clinical features,          | 01 |
| Occlusion (CRAO)           | investigation and management of CRAO.                 |    |
| Retinal Detachment (RD)    | 80. Discuss the etiology, clinical features,          | 01 |
|                            | investigation and management of RD.                   |    |

| Choroidal Melanoma  | <ul><li>81. Discuss the etiology, clinical features, investigation and management of choroidal melanoma.</li><li>82. Describe the importance of this condition on mortality.</li></ul>  | 01 |
|---|---|----|
| Night Blindness – Retinitis<br>Pigmentosa, Vit. A<br>Deficiency | <ul> <li>83. Discuss the etiology, clinical features, investigation and management of Retinitis pigmentosa.</li> <li>84. Discuss the etiology, clinical features, investigation and management of Vit. A deficiency.</li> </ul> | 01 |
| Optic neuritis  | <ul><li>85. Classify optic neuritis.</li><li>86. Discuss the etiology, clinical features, investigation and management of optic neuritis.</li></ul>   | 01 |
| Hereditary, Nutritional & Toxic Optic Neuropathies              | 87. Discuss the etiology, clinical features, investigation and management of these optic neuropathies.  | 01 |
| Papilledema   | <ul><li>88. Describe the difference between papilledema and disc swelling.</li><li>89. Discuss the etiology, clinical features, investigation and management of papilledema.</li></ul>  | 01 |

#### 5.3 Clinicals Schedule

|          | Theme 1: Foundation of Ophthalmology |   |                   |            |
|----------|--------------------------------------|---|-------------------|------------|
| Topic    |                                      | Learning objectives   | Assessment method | Hours      |
| 1.<br>2. | History Taking<br>Visual Acuity      | <ul><li>Take detailed history in ocular conditions</li><li>Check visual acuity.</li></ul> | OSCE              | 03 +<br>02 |
| 3.       | Pupil Examination                    | Perform pupillary examination.  | OSCE              | 03         |
| 4.       | Visual Fields<br>(Confrontation)     | <ul> <li>Perform visual fields<br/>examination by confrontation<br/>methods.</li> </ul>   | OSCE              | 03         |
| 5.       | Slit-Lamp<br>Examination             | Identify parts of slit-lamp   | OSCE              | 01         |
| 6.       | Anterior Segment Examination         | Examine anterior segment on<br>slit lamp  | OSCE              | 01         |
| 7.       | Direct<br>Ophthalmoscopy             | Perform direct ophthalmoscopy   | OSCE              | 02         |
| 8.       | Retinoscopy                          | <ul> <li>Identify trial lenses used in refraction.</li> </ul>                             | OSCE              | 03         |
| 9.       | Indirect<br>Ophthalmoscopy           | Perform indirect     ophthalmoscopy   | OSCE              | 02         |

| Investigations         | Describe/interpret the results of: | OSCE | 03 + |
|------------------------|------------------------------------|------|------|
| 10. OCT                | • OCT                              |      | 02   |
| 11. Visual Fields      | <ul> <li>Visual fields</li> </ul>  |      |      |
| 12. Biometry           | Biometry                           |      |      |
| 13. B-Scan             | B-scan                             |      |      |
| 14. FFA                | • FFA                              |      |      |
| 15. Corneal Topography | Corneal topography                 |      |      |

| Theme   | 2: Lid Abnormalities & Bulging Eyes  |                   |       |
|---|--|-------------------|-------|
| Topic   | Learning objectives  | Assessment method | Hours |
| 16. Eversion Of Upper Lids                                      | Observe Eversion of upper lids   | OSCE              | 01    |
| 17. Ptosis Examination  | Perform ptosis examination.  | OSCE              | 03    |
| 18. Ptosis And Its Surgeries                                    | Observe ptosis surgery   | OSCE              | 03    |
| 19. Lids Abnormalities  | <ul> <li>Examine common lid         abnormalities (Ectropion,         Entropion, Chalazion, Stye)</li> </ul> | OSCE              | 03    |
| 20. Lids Surgery Related<br>Instruments                         | <ul> <li>Identify instruments used in<br/>lids surgery</li> </ul>  | OSCE              | 03    |
| 21. Lid Reconstruction Procedures                               | Observe lid reconstruction procedures  | OSCE              | 05    |
| 22. Proptosis   | <ul> <li>Observe proptosis</li> </ul>  | OSCE              | 03    |
|   | Theme 3: Red Eye   |                   |       |
| Topic   | Learning objectives  | Assessment method | Hours |
| 23. Use Of Topical Anesthesia And Staining                      | Perform topical anesthesia and staining.   | OSCE              | 01    |
| 24. Removal Of Superficial<br>Foreign Bodies                    | Observe corneal foreign body removal.  | OSCE              | 01    |
| 25. Corneal Scrapping   | Observe corneal scrapping.   | OSCE              | 02    |
| 26. Keratoplasty Surgery  | Observe keratoplasty.  | OSCE              | 03    |
| 27. Lacrimal Regurgitation Test                                 | <ul> <li>Perform lacrimal regurgitation test.</li> </ul>   | OSCE              | 01    |
| 28. Dacryocystorhinostomy<br>(DCR) Surgery & Its<br>Instruments | Observe DCR surgery and identify instruments used  | OSCE              | 03    |
| 29. Ocular Trauma   | <ul> <li>Observe first aid to Ocular<br/>trauma</li> <li>Perform eye wash in chemical<br/>injury.</li> </ul> | OSCE              | 03    |
| 30. Globe Repair Surgery  | <ul> <li>Observe OGI surgery.</li> </ul>   | OSCE              | 03    |

| Theme 4: Visual Loss   |   |                   |       |  |
|--|---|-------------------|-------|--|
| Topic  | Learning objectives   | Assessment method | Hours |  |
| 31. Normal Disc 32. Disc Abnormalities 33. Swollen Disc(S)           | <ul> <li>Examine normal disc</li> <li>Examine glaucomatous disc.</li> <li>Examine swollen disc</li> </ul>                   | OSCE              | 03    |  |
| 34. Detection Of Retinal<br>Lesions<br>35. Retinal Vascular Diseases | <ul> <li>Detect common retinal<br/>conditions</li> <li>Differentitate different retinal<br/>vascular conditions.</li> </ul> | OSCE              | 03    |  |
| 36. Retinal Detachment   | <ul><li>Identify RD in pictures</li><li>Observe Retinal detachment<br/>surgery</li></ul>                                    | OSCE              | 03    |  |
| 37. Use Of Lasers In Eye<br>38. Intravitreal Injections              | Discuss  Use of lasers in eye Intravitreal injections   | OSCE              | 02    |  |
| 39. Tonometry  | Observe goldman tonometery  | OSCE              | 01    |  |
| 40. Glaucoma Filtration Surgery                                      | Observe Glaucoma filtration surgery   | OSCE              | 03    |  |

| Theme 5: Childhood Blindness & Crossed Eyes           |   |                   |            |
|---|---|-------------------|------------|
| Topic   | Learning objectives   | Assessment method | Hours      |
| 41. Congenital Glaucoma                               | Observe congenital     glaucoma examination     (EUA) and surgery   | OSCE              | 03         |
| <ol><li>42. Cataract (Adult and Congenital)</li></ol> | <ul> <li>Detect cataract on ocular<br/>examination</li> </ul>   | OSCE              | 03         |
| 43. Cataract surgery                                  | <ul> <li>Observe types of Adult and<br/>Congenital cataract surgery</li> </ul>  | OSCE              | 03 +<br>03 |
| 44. Extraocular Movements                             | <ul> <li>Perform extraocular<br/>movements and squint<br/>examination</li> </ul>  | OSCE              | 03         |
| 45. Squint Examination                                | <ul> <li>Perform cover / uncover /<br/>alternate cover tests</li> <li>Identify the pattern of<br/>squint (Esotropia vs.<br/>Exotropia)</li> </ul> | OSCE              | 03         |
| 46. Squint Surgery                                    | Observe squint surgery  | OSCE              | 03         |
| Theme 5: Childhood Blindness & Crossed Eyes           |   |                   |            |
| Topic   | Learning objectives   |                   | Hours      |
| White pupil (leukocoria) and Retinoblastoma (RB)      | 90. Describe the importance of w children.  | hite pupil in     | 01         |

|                              | 91. Differentiate different causes of white pupil in children. 92. Discuss investigations in white pupil. 93. Discuss the etiology, clinical features, |    |
|------------------------------|--|----|
|                              | investigation and management of RB.  |    |
| Congenital Cataract          | 94. Define congenital cataract.  | 01 |
|                              | 95. Describe the types of congenital cataracts.  |    |
|                              | 96. Describe the pathogenesis and  |    |
|                              | complications of congenital cataracts.   |    |
|                              | 97. Describe the management of congenital  |    |
|                              | cataracts.   |    |
| Congenital Glaucoma          | 98. Discuss the etiology, clinical features,   | 01 |
|                              | investigation and management of  |    |
|                              | Congenital Glaucoma.   |    |
| Amblyopia                    | 99. Define Amblyopia.  | 01 |
|                              | 100. Discuss the etiology, clinical features,  |    |
|                              | investigation and management of  |    |
|                              | amblyopia.   |    |
| Squint – Basics              | 101. Discuss definitions, clinical evaluation of   | 01 |
|                              | squint and principles of management  |    |
| Concomitant Squint           | 102. Define concomitant squint.  | 01 |
| Esotropia                    | 103. Discuss the etiology, clinical features,  |    |
|                              | investigation and management of  |    |
|                              | esotropia.   |    |
| Exotropia                    | 104. Discuss the etiology, clinical features,  | 01 |
|                              | investigation and management of  |    |
|                              | exotropia.   |    |
| Diplopia & Incomitant Squint | 105. Discuss differential diagnosis/causes of  | 01 |
|                              | diplopia.  |    |
|                              | 106. Define incomitant squint.   |    |
|                              | 107. Discuss the etiology, clinical features,  |    |
|                              | investigation and management of 3 <sup>rd</sup> nerve  |    |
|                              | palsy.   |    |
|                              | 108. Discuss the etiology, clinical features,  |    |
|                              | investigation and management of 4 <sup>th</sup> nerve  |    |
|                              | palsy.   |    |
|                              | 109. Discuss the etiology, clinical features,  |    |
|                              | investigation and management of 6 <sup>th</sup> nerve  |    |
|                              | palsy.   |    |



#### 6 Examination and Methods of Assessment:

#### **6.1 Instruction:**

- 1) This Block comprises ENT and EYE modules and will be assessed in paper-M
- 2) Paper-M consists of 120 MCQs
- 3) Internal assessment will be added to final marks in KMU.
- 4) In OSPE, each station will be allotted 6 marks, and a total of 120 (+10% marks of internal assessment) marks are allocated for the OSPE/OSCE examination

#### Paper-M (ENT and EYE module)

Table-7: MCQs

| Subject | Total MCQs |
|---------|------------|
| ENT     | 60         |
| EYE     | 60         |
| Total   | 120        |

Table-8: OSCE

| Subject | Total OSCE stations |
|---------|---------------------|
| ENT     | 10                  |
| EYE     | 10                  |
| Total   | 20                  |

A minimum of 20 stations will be used in final exams. Total marks will be 120 (6 marks for each station).

Table-10: total marks distribution for all papers of year-4 (MBBS)

|                 | 4   | th<br>Year M    | IBBS Modules A                        | Assessment Pla | an                                  |                |
|-----------------|---|-----------------|---------------------------------------|----------------|-------------------------------------|----------------|
| Theory<br>paper | Modules                                       | Theory<br>marks | Internal<br>assessment<br>theory(10%) | OSPE/OSPE      | Internal assessment OSPE/OSPE (10%) | Total<br>Marks |
| Paper J         | Neurosciences-2                               | 120             | 13                                    | 120            | 13                                  | 266            |
| Paper K         | GIT &<br>Hepatobiliary-2                      | 120             | 13                                    | 120            | 13                                  | 266            |
| Paper L         | Renal-2,<br>Endocrine &<br>Reproduction<br>-2 | 120             | 14                                    | 120            | 13                                  | 267            |
| Paper M         | ENT and EYE                                   | 120             | 13                                    | 120            | 13                                  | 266            |
| Research<br>*   |   |                 |                                       | 20             | 15                                  | 35             |
| Total<br>Marks  |   | 480             | 53                                    | 500            | 67                                  | 1100           |

<sup>1. \*</sup>Research viva of 20 marks will be conducted in paper-L. However, the rest of 15 marks will be decided by the concerned department internally for the contribution of the students in research project/thesis.



# 7 Learning Opportunities and Resources

#### **7.1 Books:**

Ophthalmology Shafi Jatoi
 Clinical Ophthalmology Jack J Kanski

3. Parsons Diseases of the Eye

# 8 For inquiry and troubleshooting



#### Please contact

Dr Danish Zafar Chairperson EYE Department Ayub Medical Institution Abbottabad

#### 9 Course Feedback Form Course Title: Semester/Module \_\_\_\_\_ Dates: \_\_\_\_\_ Please fill the short questionnaire to make the course better. Please respond below with 1, 2, 3, 4 or 5, where 1 and 5 are explained. THE DESIGN OF THE MODLUE Υ A. Were objectives of the course clear to you? B. The course contents met with your expectations I. Strongly disagree 5. Strongly agree C. The lecture sequence was well-planned I. Strongly disagree 5. Strongly agree D. The contents were illustrated with I. Too few examples 5. Adequate examples E. The level of the course was I. Too low 5. Too high F. The course contents compared with your expectations I. Too theoretical 5. Too empirical G. The course exposed you to new knowledge and practices I. Strongly disagree 5. Strongly agree H. Will you recommend this course to your colleagues? I. Not at all 5. Very strongly THE CONDUCT OF THE MODLUE A. The lectures were clear and easy to understand 5. Strongly agree I. Strongly disagree B. The teaching aids were effectively used I. Strongly disagree 5. Strongly agree C. The course material handed out was adequate 5. Strongly agree I. Strongly disagree D. The instructors encouraged interaction and were helpful I. Strongly disagree 5. Strongly agree Ν E. Were objectives of the course realized?

| 90% - 100%                         | . (         | )          | 60% - 70%            | 1       | )            |
|------------------------------------|-------------|------------|----------------------|---------|--------------|
| 80% - 90%                          | •           | )          | 50% - 60%            | (       | )            |
| 70% - 80%                          |             | )          | below 50%            |         | )            |
|                                    | •           | ,          |                      | `       | ,            |
| Please comment on the strengths    | of the o    | course and | the way it was cond  | lucted. |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
| Please comment on the weakness     | ses of th   | e course a | nd the way it was co | nducte  | 2 <b>d</b> . |
| icase comment on the weakings.     | , 23 01 111 | 2 234136 4 | the way it was co    |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
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|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
| Please give suggestions for the im | provem      | ent of the | course.              |         |              |
|                                    |             |            |                      |         |              |
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|                                    |             |            |                      |         |              |
| Optional – Your name and contac    | t addres    | SS:        |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         | Thank you!   |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |
|                                    |             |            |                      |         |              |