



# EYE MODULE 4TH YEAR STUDY GUIDE

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## Vision and Mission of KGMC

### Khyber Medical University: Vision



Khyber Medical University will be the global leader in health sciences academics and research for efficient and compassionate health care.

### Khyber Girls Medical College: Vision



“Excellence in health care, research, teaching and training in the service of Humanity”

### Khyber Girls Medical College: Mission

The mission of KGMC is to promote compassionate and professional health care leaders Who are knowledgeable, skillful, and community oriented lifelong learners serving humanity through evidence based practices.

# Curriculum Committee KGMC

Chair:

Professor Dr.Zahid Aman , Dean KGMC.

Co-Chair:

Dr. Ameer Mohammad, Associate Dean KGMC.

Clinical Sciences:

Behavioral Sciences:

- Dr. Ameer Abbas Department of Psychiatry KGMC/HMC.

Medical Education

- Dr. Naheed Mahsood, Department of Medical Education, KGMC.
- Dr. Naveed Afzal Khan, Department of Medical Education, KGMC.
- Dr. Khurram Naushad, Department of Medical Education, KGMC

Chairman Eye Department:

- Dr. Muhammad Naeem

Focal Person:

Dr. Yosaf Jamal

## **Outcomes of the curriculum:**

The Curricular Outcomes of the MBBS Program for a Graduating Doctor according to the PMDC are as follows:

### **1. Knowledgeable**

Knowledgeable about the diseases and health conditions prevalent in the population of Pakistan and use Evidence-based medicine to provide best possible cost-effective care.

### **2. Skillful**

Skillful in History taking and Physical examination to compassionately deal with a patient.

### **3. Community health promoter**

Take appropriate decisions and actions for protecting and promoting the health of their community.

### **4. Critical Thinker**

Evaluate critically the patient data to effectively deal with complexity of medical decisions for the best possible outcomes using evidence-based practices in service of humanity.

## **5. Professional**

Display professional values (honesty, accountability, cultural and religious sensitivity), attitudes and behaviors (empathy, ethics, good communication skills and lifelong learner) that embody good medical practice.

## **6. Researcher**

Exhibit a spirit of inquisitiveness, inventiveness, and ethical conduct while carrying out research in accordance with the prescribed guidelines.

## **7. Leader and role Model**

Demonstrate exemplary conduct and leadership in Advancing healthcare, enhancing medical education, and Enhancing the trust of the public in the medical profession by being exceptional role models.

## KNOWLEDGE

By the end of five year MBBS program the KGMC student should be able to;

1. Acquire a high level of clinical proficiency in history taking, physical examination, differential diagnosis, and the effective use of medicine's evolving diagnostic and procedural capabilities including therapeutic and palliative modalities
2. Manage the common prevalent diseases in community
3. Identify the common medical emergencies
4. Develop plan for prevention of common community diseases
5. Formulate a referral plan
6. Compose a prescription plan

## PSYCHOMOTOR

By the end of five year MBBS program the KGMC student should be able to;

1. Demonstrate the ability to perform the disease specific relevant examination
2. Respond to common medical emergencies
3. Master the skill of first aid
4. Perform BLS
5. Apply the best evidenced practices for local health problems

## AFFECTIVE

By the end of five year MBBS program the KGMC student should be able to

1. Relate to patient and caregivers vulnerability
2. Demonstrate ethical self-management
3. Counsel and educate patients and their families to empower them to participate in their care and enable shared decision-making.
4. Display compassion with patient and colleagues
5. Demonstrate in clinical care an understanding of the impact of psychological, social, and economic factors on human health and disease



# Teaching Hours Allocation

Table 1: Teaching Hours Allocation

Theme	In class teaching (Hours)	Clinicals (Hours)	Total (Hours)
Theme 1: Foundation of Ophthalmology	08	25	33
Theme 2: Lid Abnormalities & Bulging Eyes	10	21	31
Theme 3: Red Eye	17	14	31
Theme 4: Visual loss	18	15	33
Theme 5: Childhood Blindness & Crossed Eyes	09	21	30
Total	62	96	158

# Learning Objectives

**By the end of Eye Module, 4th year MBBS students will be able to:**

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.

# Specific Learning Objectives

Table 2: Theme I

Theme 1: Foundation of Ophthalmology		
Topic	Learning objectives	Hours
Standards Of Vision and Blindness	1. Discuss visual standards and blindness according to WHO classification.	01
Pupil Reflexes and Drugs Used In Common Eye Conditions	2. Describe the normal and abnormal pupil reflexes. 3. Discuss drugs used in common eye diseases.	01
Visual Pathway and Visual Field Defects	4. Describe the visual pathway. 5. Describe the common visual field defects.	01
Optical Coherence Tomography (OCT) and Visual fields (VF)	6. Discuss the uses of OCT and VF in ophthalmology.	01
Fundus Fluorescein Angiography (FFA) and Ultrasonography	7. Discuss the uses of FFA and Ultrasonography in ophthalmology.	01
Optics & Eye	8. Discuss visual functions (visual acuity, color vision, contrast sensitivity, light brightness), Refraction, Pseudophakia, Aphakia, and Anisometropia	01
Refractive Errors	9. Discuss pathophysiology and clinical presentation of myopia, hypermetropia, astigmatism and presbyopia	01
Correction of Refractive Errors	10. Describe management of myopia, hypermetropia, astigmatism and presbyopia.	01

Theme 2: Lid abnormalities & Bulging Eyes		
Topic	Learning objectives	Hours
Differential Diagnosis Of Lid Bumps	1. Discuss overview of different causes of lid bumps.	01
Chalazion, Styel	2. Describe pathophysiology and management of chalazion and styel.	01
Tumors of Eyelids	3. Discuss different eyelid tumors and its pathogenesis.	01
Management of Lid Bumps	4. Describe management plan of lid bumps.	02
Ptosis	5. Discuss causes of ptosis, assessment and their management.	01
Trichiasis, Entropion and Ectropion	6. Discuss Trichiasis, Entropion and Ectropion, assessment and their management.	01
Proptosis - Basics	7. Discuss the etiology, clinical features, investigation and management of proptosis in children and adults	01
Preseptal and Orbital Cellulitis	8. Discuss the etiology, clinical features, investigation and management of proptosis in children and adults. 9. Enumerate Differential diagnosis / causes of proptosis in children and adults.	01
Thyroid Eye disease (TED)	10. Discuss the etiology, clinical features, investigation and management of TED.	01
Myasthenia Gravis & Migraine	11. Discuss the etiology, clinical features, investigation, and management of Myasthenia Gravis. 12. Discuss the etiology, clinical features, investigation, and management of Migraine.	01

Theme 3: Red Eye		
Topic	Learning objectives	Hours

Red eye	1. Enumerate causes of red eye. 2. Describe pathophysiology and management of different conjunctival (Bacterial/Viral/Fungal/Allergic) inflammations.	02
Corneal Inflammations/Infections	3. Discuss the etiology, clinical features, investigation, and management of non-infectious corneal inflammations. 4. Discuss investigations for corneal ulcers.	01
Bacterial Keratitis	5. Discuss the etiology, clinical features, investigation, and management of different bacterial corneal ulcers.	01
Fungal, Viral & Acanthamoeba Keratitis	6. Discuss the etiology, clinical features, investigation, and management of different fungal, viral & acanthamoeba corneal ulcers.	02
Dacryocystitis	7. Discuss the etiology, clinical features, investigation, and management of congenital nasolacrimal duct obstruction. 8. Assess the time of probing in children. 9. Differentiate between acute, acute on chronic and chronic Dacryocystitis. 10. Discuss the etiology, clinical features, investigation, and management of Dacryocystitis.	01
Dry Eyes	11. Discuss the etiology, clinical features, investigation, and management of Dry Eyes with special emphasis on Vit. A deficiency and Sjogren's syndrome.	01
Blepharitis	12. Discuss the etiology, clinical features, investigation, and management of blepharitis.	01
Pterygium, Pseudo-Pterygium, Episcleritis & Scleritis	13. Describe differences between Pterygium, Pseudo-ptyerygium, Episcleritis & Scleritis and their management.	01
Basic Concepts In Ocular Trauma	14. Discuss definitions, classification & clinical evaluation of ocular injuries and principles of management. 15. Discuss corneal and conjunctival foreign bodies and their treatment.	01
Open Globe Injury (OGI) / IOFB / Sympathetic Ophthalmia (SO)	16. Classify OGI. 17. Discuss the etiology, clinical features, investigation, and management of OGI and IOFB. 18. Discuss the etiology, clinical features, investigation, and management of SO.	01

Closed Globe Injury (CGI) Orbital Floor Injury	19. Discuss the etiology, clinical features, investigation, and management of CGI. 20. Classify CGI.	01
Radiation, Thermal, Chemical Injuries	21. Discuss the etiology, clinical features, investigation, and management of radiation injury. 22. Discuss the etiology, clinical features, investigation, and management of thermal injury 23. Discuss the etiology, clinical features, investigation, and management of chemical injury.	01
Visual Rehabilitation	24. Discuss various options of visual rehabilitation after ocular trauma. 25. Discuss rehabilitation services for blind people in our setup.	01
Uveitis - Basics	26. Discuss Definitions, classifications, history & workup of uveitis.	01
Anterior & Posterior Uveitis	27. Discuss the etiology, clinical features, investigation, and management of Anterior uveitis. 28. Discuss the etiology, clinical features, investigation, and management of Posterior Uveitis.	01

Theme 4: Visual loss		
Topic	Learning objectives	Hours
Visual Loss & Intraocular Pressure (IOP)	1. Classify causes of visual loss in following order: 2. Visual Loss associated with Anterior segment. 3. Visual Loss associated with Posterior segment. 4. Discuss Aqueous humor dynamics and its role in IOP. 5. Enumerate causes of gradual & sudden visual loss. 6. Define and Classify Glaucoma.	01
Open angle glaucoma	7. Discuss the differences between POAG, NTG and OHT. 8. Discuss the etiology, clinical features, investigation, and management of POAG. 9. Discuss the etiology, clinical features, investigation, and management of NTG. 10. Discuss the etiology, clinical features, investigation, and management of OHT.	01
Primary Angle Closure Glaucoma (PACG)	11. Discuss the stages of PACG. 12. Discuss the etiology, clinical features, investigation, and management of Acute angle closure.	01
Neovascular Glaucoma & Lens Induced Glaucoma	13. Discuss the etiology, clinical features, investigation, and management of Neovascular glaucoma.	01
	14. Discuss the etiology, clinical features, investigation, and management of lens induced glaucoma.	
Treatment Options In Glaucoma	15. Enumerate different treatment options in glaucoma. 16. Discuss the indications of each treatment option.	01



Cataract	17. Define cataract. 18. Describe the types of Age-related cataract. 19. Describe the pathogenesis and complications of cataract. 20. Describe the management of cataract.	01
Cataract Surgery Complications	21. Discuss the etiology, clinical features, investigation, and management of Endophthalmitis. 22. Discuss the etiology, clinical features, investigation, and management of Panophthalmitis.	01
Corneal Ectasia, Dystrophy & Degeneration	23. Discuss the etiology, clinical features, investigation, and management of keratoconus. 24. Give overview of corneal dystrophies and degenerations.	01
Diabetic Eye Disease	25. Discuss the effects of diabetes on eye. 26. Discuss the etiology, clinical features, investigation, and management of Diabetic Eye Disease (Diabetic Retinopathy and maculopathy).	01
Hypertensive Retinopathy	27. Discuss the effects of hypertension on eye. 28. Discuss the etiology, clinical features, investigation, and management of Hypertensive Retinopathy.	01
Central Retinal Vein Occlusion (CRVO) And	29. Discuss the etiology, clinical features, investigation, and management of CRVO.	01
Central Retinal Artery Occlusion (CRAO)	30. Discuss the etiology, clinical features, investigation, and management of CRAO.	01
Retinal Detachment (RD)	31. Discuss the etiology, clinical features, investigation, and management of RD.	01

Choroidal Melanoma	<p>32. Discuss the etiology, clinical features, investigation, and management of choroidal melanoma.</p> <p>33. Describe the importance of this condition on mortality.</p>	01
Night Blindness - Retinitis Pigmentosa, Vit. A Deficiency	<p>34. Discuss the etiology, clinical features, investigation, and management of Retinitis pigmentosa.</p> <p>35. Discuss the etiology, clinical features, investigation, and management of Vit. A deficiency.</p>	01
Optic neuritis	<p>36. Classify optic neuritis.</p> <p>37. Discuss the etiology, clinical features, investigation, and management of optic neuritis.</p>	01
Hereditary, Nutritional & Toxic Optic Neuropathies	<p>38. Discuss the etiology, clinical features, investigation, and management of these optic neuropathies.</p>	01
Papilledema	<p>39. Describe the difference between papilledema and disc swelling.</p> <p>40. Discuss the etiology, clinical features, investigation, and management of papilledema.</p>	01

**Table 6: Theme 5**

<b>Theme 5: Childhood Blindness &amp; Crossed Eyes</b>		
<b>Topic</b>	<b>Learning objectives</b>	<b>Hours</b>
White pupil (leukocoria) and Retinoblastoma (RB)	<ol style="list-style-type: none"><li>1. Describe the importance of white pupil in children.</li><li>2. Differentiate different causes of white pupil in children.</li><li>3. Discuss investigations in white pupil.</li><li>4. Discuss the etiology, clinical features, investigation and management of RB.</li></ol>	01
Congenital Cataract	<ol style="list-style-type: none"><li>5. Define congenital cataract.</li><li>6. Describe the types of congenital cataracts.</li><li>7. Describe the pathogenesis and complications of congenital cataracts.</li><li>8. Describe the management of congenital cataracts.</li></ol>	01
Congenital Glaucoma	<ol style="list-style-type: none"><li>9. Discuss the etiology, clinical features, investigation and management of Congenital Glaucoma.</li></ol>	01
Amblyopia	<ol style="list-style-type: none"><li>10. Define Amblyopia.</li><li>11. Discuss the etiology, clinical features, investigation, and management of amblyopia.</li></ol>	01
Squint - Basics	<ol style="list-style-type: none"><li>12. Discuss definitions, clinical evaluation of squint and principles of management</li></ol>	01
Concomitant Squint Esotropia	<ol style="list-style-type: none"><li>13. Define concomitant squint.</li></ol>	01
	<ol style="list-style-type: none"><li>14. Discuss the etiology, clinical features, investigation, and management of esotropia.</li></ol>	
Exotropia	<ol style="list-style-type: none"><li>15. Discuss the etiology, clinical features, investigation, and management of exotropia.</li></ol>	01

Diplopia & Incomitant Squint	<p>16. Discuss differential diagnosis/causes of diplopia.</p> <p>17. Define incomitant squint.</p> <p>18. Discuss the etiology, clinical features, investigation, and management of 3<sup>rd</sup> nerve palsy.</p> <p>19. Discuss the etiology, clinical features, investigation, and management of 4<sup>th</sup> nerve palsy.</p> <p>20. Discuss the etiology, clinical features, investigation, and management of 6<sup>th</sup> nerve palsy.</p>	01
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## Clinical Schedule

**Table 7: Foundation of Eye**

Theme 1: Foundation of Ophthalmology			
Topic	Learning objectives	Assessment method	Hours
1. History Taking 2. Visual Acuity	<ul style="list-style-type: none"> <li>Take detailed history in ocular conditions</li> <li>Check visual acuity.</li> </ul>	OSCE	03 + 02
3. Pupil Examination	<ul style="list-style-type: none"> <li>Perform pupillary examination.</li> </ul>	OSCE	03
4. Visual Fields (Confrontation)	<ul style="list-style-type: none"> <li>Perform visual fields examination by confrontation methods.</li> </ul>	OSCE	03
5. Slit-Lamp Examination	<ul style="list-style-type: none"> <li>Identify parts of slit-lamp</li> </ul>	OSCE	01
6. Anterior Segment Examination	<ul style="list-style-type: none"> <li>Examine anterior segment on slit lamp</li> </ul>	OSCE	01
7. Direct Ophthalmoscopy	<ul style="list-style-type: none"> <li>Perform direct ophthalmoscopy</li> </ul>	OSCE	02
8. Retinoscopy	<ul style="list-style-type: none"> <li>Identify trial lenses used in refraction.</li> </ul>	OSCE	03
9. Indirect Ophthalmoscopy	<ul style="list-style-type: none"> <li>Perform indirect ophthalmoscopy</li> </ul>	OSCE	02
Investigations 10. OCT 11. Visual Fields 12. Biometry 13. B-Scan 14. FFA 15. Corneal Topography	Describe/interpret the results of: <ul style="list-style-type: none"> <li>OCT</li> <li>Visual fields</li> <li>Biometry</li> <li>B-scan</li> <li>FFA &amp; Corneal topography</li> </ul>	OSCE	03 + 02

**Table 8: Abnormalities of Lid & Bulging of Eyes**

Theme 2: Lid Abnormalities & Bulging Eyes			
Topic	Learning objectives	Assessment method	Hours
16. Eversion Of Upper Lids	<ul style="list-style-type: none"><li>Observe Eversion of upper lids</li></ul>	OSCE	01
17. Ptosis Examination	<ul style="list-style-type: none"><li>Perform ptosis examination.</li></ul>	OSCE	03
18. Ptosis And Its Surgeries	<ul style="list-style-type: none"><li>Observe ptosis surgery</li></ul>	OSCE	03
19. Lids Abnormalities	<ul style="list-style-type: none"><li>Examine common lid abnormalities (Ectropion, Entropion, Chalazion, Styte)</li></ul>	OSCE	03
20. Lids Surgery Related Instruments	<ul style="list-style-type: none"><li>Identify instruments used in lids surgery</li></ul>	OSCE	03
21. Lid Reconstruction Procedures	<ul style="list-style-type: none"><li>Observe lid reconstruction procedures</li></ul>	OSCE	05
22. Proptosis	<ul style="list-style-type: none"><li>Observe proptosis</li></ul>	OSCE	03

**Table 9: Red  
Eye**

Theme 3: Red Eye			
Topic	Learning objectives	Assessment method	Hours
23. Use Of Topical Anesthesia and Staining	<ul style="list-style-type: none"> <li>Perform topical anesthesia and staining.</li> </ul>	OSCE	01
24. Removal Of Superficial Foreign Bodies	<ul style="list-style-type: none"> <li>Observe corneal foreign body removal.</li> </ul>	OSCE	01
25. Corneal Scrapping	<ul style="list-style-type: none"> <li>Observe corneal scrapping.</li> </ul>	OSCE	02
26. Keratoplasty Surgery	<ul style="list-style-type: none"> <li>Observe keratoplasty.</li> </ul>	OSCE	03
27. Lacrimal Regurgitation Test	<ul style="list-style-type: none"> <li>Perform lacrimal regurgitation test.</li> </ul>	OSCE	01
28. Dacryocystorhinostomy (DCR) Surgery & Its Instruments	<ul style="list-style-type: none"> <li>Observe DCR surgery and identify instruments used</li> </ul>	OSCE	03
29. Ocular Trauma	<ul style="list-style-type: none"> <li>Observe first aid to Ocular trauma</li> <li>Perform eye wash in chemical injury.</li> </ul>	OSCE	03
30. Globe Repair Surgery	<ul style="list-style-type: none"> <li>Observe OGI surgery.</li> </ul>	OSCE	03

**Table 10: Visual Loss**

<b>Theme 4: Visual Loss</b>			
<b>Topic</b>	<b>Learning objectives</b>	<b>Assessment method</b>	<b>Hours</b>
31. Normal Disc 32. Disc Abnormalities 33. Swollen Disc(S)	<ul style="list-style-type: none"><li>• Examine normal disc</li><li>• Examine glaucomatous disc.</li><li>• Examine swollen disc</li></ul>	OSCE	03
34. Detection Of Retinal Lesions 35. Retinal Vascular Diseases	<ul style="list-style-type: none"><li>• Detect common retinal conditions</li><li>• Differentiate different retinal vascular conditions.</li></ul>	OSCE	03
36. Retinal Detachment	<ul style="list-style-type: none"><li>• Identify RD in pictures</li><li>• Observe Retinal detachment surgery</li></ul>	OSCE	03
37. Use Of Lasers In Eye 38. Intravitreal Injections	Discuss <ul style="list-style-type: none"><li>• Use of lasers in eye</li><li>• Intravitreal injections</li></ul>	OSCE	02
39. Tonometry	Observe goldman tonometry	OSCE	01
40. Glaucoma Filtration Surgery	Observe Glaucoma filtration surgery	OSCE	03



**Table 11: Childhood Blindness**

<b>Theme 5: Childhood Blindness &amp; Crossed Eyes</b>			
<b>Topic</b>	<b>Learning objectives</b>	<b>Assessment method</b>	<b>Hours</b>
41. Congenital Glaucoma	<ul style="list-style-type: none"> <li>Observe congenital glaucoma examination (EUA) and surgery</li> </ul>	OSCE	03
42. Cataract (Adult and Congenital)	<ul style="list-style-type: none"> <li>Detect cataract on ocular examination</li> </ul>	OSCE	03
43. Cataract surgery	<ul style="list-style-type: none"> <li>Observe types of Adult and Congenital cataract surgery</li> </ul>	OSCE	03 + 03
44. Extraocular Movements	<ul style="list-style-type: none"> <li>Perform extraocular movements and squint examination</li> </ul>	OSCE	03
45. Squint Examination	<ul style="list-style-type: none"> <li>Perform cover / uncover / alternate cover tests</li> <li>Identify the pattern of squint (Esotropia vs. Exotropia)</li> </ul>	OSCE	03
46. Squint Surgery	<ul style="list-style-type: none"> <li>Observe squint surgery</li> </ul>	OSCE	03

# Learning Resources

S#	Subjects	Resources
1.	Anatomy	<b>A. GROSS ANATOMY</b> 1. K.L. Moore, Clinically Oriented Anatomy <b>B. EMBRYOLOGY</b> 1. Keith L. Moore. The Developing Human 2. Langman's Medical Embryology
2.	Community medicine	1. Preventive and Social Medicine by K Park 2. Community Medicine by M. Ilyas 3. Basic Statistics for the Health Sciences by Jan W Kuzma 4. Textbook of Community Medicine and Public Health, 2018. Saira Afzal, Sabeena Jala
3.	Ophthalmology	Vaughan & Asbury's General Ophthalmology, 18th Edition
4.	Pathology	1. Robbins & Cotran, Pathologic Basis of Disease, 9 th edition. 2. Rapid Review Pathology, 4 th edition by Edward F. Goljan MD
5.	Pediatrics	1. Nelson Textbook of Pediatrics, 19th Edition 2. Textbook of Pediatrics by PPA, preface written by S. M. Haneef 3. Clinical Pediatrics by Lakshmanaswamy Aruchamy, 3rd Edition
6.	Pharmacology	1. Lippincot Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung

7.	Physiology	<ol style="list-style-type: none"><li>1. Textbook Of Medical Physiology by Guyton And Hall</li><li>2. Ganong ' S Review of Medical Physiology</li><li>3. Human Physiology by Lauralee Sherwood</li><li>4. Berne &amp; Levy Physiology</li><li>5. Best &amp; Taylor Physiological Basis of Medical Practice</li></ol>
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## Assessment Plan - 4<sup>th</sup> Year MBBS

The year-4 will be assessed in 4 blocks

- 1) Block-1 (Neurosciences-2 module) will be assessed in **paper-J**
- 2) Block-2 (GIT and hepatobiliary module) will be assessed in **paper-K**
- 3) Block-3 (Renal-2, Endocrine & Reproduction-2 module) will be assessed in **paper-L**
- 4) Block-4 (ENT and EYE modules) will be assessed in **paper-M**
- 5) Each written paper consists of 120 MCQs.
- 6) Internal assessment will be added to final marks in KMU as shown in below table.
- 7) In OSPE, each station will be allotted 6 marks, and a total of 120 (+10% marks of internal assessment) marks are allocated for each OSPE/OSCE examination.

## 4<sup>th</sup> Year MBBS Modules Assessment Plan

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

\*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.

# Assessment Blueprints

Table 12: Paper M (Eye & ENT)

Subject	Total MCQs
ENT	60
EYE	60
<b>Total</b>	<b>120</b>

Table13: OSCE distribution

Subject	Total OSCE stations
ENT	10
EYE	10
<b>Total</b>	<b>20</b>

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

## **Teaching and learning strategies:**

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

- Interactive Lectures
- Hospital Clinic visits
- Small Group Discussion
- Skills session
- Self-Directed Study

### **Interactive lectures:**

An interactive lecture is an easy way for instructors to intellectually engage and involve students as active participants in a lecture-based class of any size. Interactive lectures are classes in which the instructor breaks the lecture at least once per class to have students participate in an activity that lets them work directly with the material.

- The instructor might begin the interactive segment with an engagement trigger that captures and maintains student attention.
- Then the instructor incorporates an activity that allows students to apply what they have learned or give them a context for upcoming lecture material.

- As the instructor feels more comfortable using interactive techniques he or she might begin to call upon a blend of various interactive techniques all in one class period.

#### Hospital / Clinic visits:

In small groups, students observe patients with signs and symptoms in hospital or clinical settings. This helps students to relate knowledge of basic and clinical sciences of the relevant module.

#### Small group discussion (SGD):

The shy and less articulate are more able to contribute. Students learn from each other. Everyone gets more practice at expressing their ideas. A two way discussion is almost always more creative than individual thoughts. Social skills are practiced in a 'safe' environment e.g. tolerance, cooperation. This format helps students to clarify concepts acquire skills or attitudes. Students exchange opinions and apply knowledge gained from lectures, tutorials and self-study. The facilitator role is to ask probing questions, summarize, or rephrase to help clarify concepts.

#### Skills/Practical session:

Skills relevant to respective module are observed and practiced where applicable in skills laboratory or Laboratories of various departments.

#### Self-Directed learning (SDL):



Self-directed learning, which involves studying without direct supervision in a classroom/Library, is a valuable way to learn and is quickly growing in popularity among parents and students. Students' assume responsibilities of their own learning through individual study, sharing and discussing with peers, seeking information from Learning Resource Centre, teachers and resource persons within and outside the college. Students can utilize the time within the college scheduled hours of self-study.

## Time tables:

The timetables for the module will be shared via Edmodo and the notice boards in advance.

### 1. Assessment tools:

Theoretical knowledge is tested by a written examination system constituted by multiple choice questions (MCQs). The assessment of practical knowledge involves oral, spot, or objective structured practical examinations (OSPE).

#### Multiple Choice Questions (MCQs):

- Multiple choice questions (MCQs) are a form of assessment for which students are asked to select the best choice from a list of answers.
- MCQ consists of a stem and a set of options. The stem is usually the first part of the assessment that presents the question as a problem to be solved; the question can be an incomplete statement which requires to be completed and can include a graph, a picture or any other relevant information. The options are the possible answers that the student can choose from, with the correct answer called the key and the incorrect answers called distractors.
- Correct answer carries one mark, and incorrect 'zero mark'. There is NO negative marking.
- Students mark their responses on specified computer-based sheet designed for the college.
- The block exam will comprise of 120 MCQs and will be compiled according to the shared blueprint.

## Short Essay Questions (SEQ)

Short answer questions generally ask for brief, text-based responses and may also be referred to as *fill-in-the-blank*; or *completion* questions.

Variations of the short answer question may request a list of terms or rules in which the order is not important, or may require a numerical or formula response.

Here is some general information about short answer questions:

- Does not measure interpretation.
- Can be used to check for preciseness such as correct spelling (good when using computer grading), proper or specific names of things, especially factual knowledge, and proper creation of formulas.
- Requires specific, definite, exact information.
- Can be used to discriminate whether errors can be detected in a diagram, for example.

### **1.      *Advantages of Short Answer Questions***

- Easy to write.
- Reduces possibility of guessing.
- Can have a lengthy stem such as a paragraph. (Caution: You generally should not expect an exact answer character-by-character.)
- May be easy to score if the required answer is short.

### **2.      *Disadvantages of Short Answer Questions***

- It can take time to create items with complex formulas.
- Can be turned into a measure of memorization ability.
- Grading can be subjective.
- Correct responses may appear incorrect due to minor errors such as misspellings, order of words, etc.
- Difficult to machine score. Much work is being conducted in this area, but it is still in early stages of development.

## Objective Structured Practical Examination (OSPE)

- The content may assess application of knowledge, or practical skills.
- Student will complete task in define time at one given station.
- All the students are assessed on the same content by the same examiner in the same allocated time.
- A structured examination will have observed, unobserved, interactive and rest stations.
- Observed and interactive stations will be assessed by internal or external examiners.
- Unobserved will be static stations in which students will have to answer the questions related to the given pictures, models or specimens the provided response sheet.
- Rest station is a station where there is no task given, and in this time student can organize his/her thoughts.
- The Block OSPE will be comprise of total 20 stations ,8 viva stations and rest mix of static and observed stations. The stations will be assigned according to the blueprint.

## Attendance Requirement:

More than 75% attendance is mandatory to sit for the examinations.