Study Guide
4th year MBBS
Ophthalmology
2021-22

Study Guide 4th year MBBS Ophthalmology

Department Information: -

Head of Department (CMH LMC): Brig (Retd) Manzoor Awan

Head of Department (CMH): Brig Waqar Muzaffar

Faculty: Brig Zaheer ud din Babar
Brig Junaid Afsar khan
Col. Kamran
Lt Col Shagufta
Maj Qurat ul Ain
Dr. Sobia Usman Shah

Residents:

Dr. Sana Ashraf
Dr Hafsa
Dr Minahil
Maj Aaiza

AIM

Our aim is to equip the students with the minimum essential knowledge, skill and attitude to make them able to: -

- Identify common ophthalmological diseases and emergencies,
- Provide primary health care, referral to an appropriate center when required and conduct follow-ups.
- Perform minor procedures safely,
- Enable the students to communicate effectively with the patient and his/her family about the disease and other relevant issues.
- Understanding ethics, being empathetic to the patient's plight and maintaining patient confidentiality.

Academic activities

The following activities will be planned to achieve the goal.

1. Interactive lectures
2. Small group discussion
3. Problem based learning
4. Clinical rotations and ward visits
5. Tutorials
6. CPCs and Seminars

Outcome:

By the end of the rotation in the Department of Ophthalmology, the student should be able to:

I. Obtain an appropriate History
II. Perform routine examinations
III. Identify common eye problems
IV. Outline appropriate management plans

Curriculum

The curriculum meets the standards of Pakistan Medical Commission and Higher Education Commission of Pakistan so that our students, on completion of program have required competencies as defined worldwide for a graduate doctor. NUMS curriculum, revised 2018, is based on SPICES model of educational strategies. It is student centered, problem based, integrated, community oriented and systematic. The curriculum framework, for MBBS year IV has been developed by the faculty of constituent/affiliated colleges in collaboration with Academic Directorate of NUMS

1. Curricular Structure

a. Total duration of academic year IV is 36 weeks. There are three blocks in an academic year. The duration of each block is 12 weeks

b. In year IV, students will be introduced to the systemic pathologies, prevention of disease and disability, and will be encouraged to apply their knowledge of basic medical sciences in clinics.

c. This year will focus on prevention and diagnosis of disease through maximum clinical exposure through rotations in pathology labs, community services, wards, OPD and emergencies as healthcare team memb

2. Learning Outcomes

By the end of fourth year, students should be able to:

- **a.** Recognize the etiology, pathophysiology and morphological changes of human diseases in relation with its clinical significance
- **b.** Interpret measurement of all health problems/issues affecting people at individual and community levels right from birth to death by adopting statistic, research and ethical approaches
- **c.** Design and recommend measures for prevention, protection and education about the identified problems.
- **d.** Evaluate the existing service for its suitability to cater for needs of the people and recommend modifications need fully.
- **e.** Analyze and present collected data regarding the health issues and health services.
- **f.** Describe composition, functions and programs of various international health agencies for national and international health care.
- **g.** Develop a research proposal for a given topic

h. Take a focused history and perform clinical examination of organ systems to determine provisional diagnosis and plan management

3. Identify common eye and ear diseases specially emergencies, provide primary health

4. Clinical Rotation Plan (3 Hrs. per 4 Day)

Clinical rotation in Eye will be 6 weeks for each student amounting to total 75 hours.

During the clinical rotation in 4th year, students will be exposed to both inpatients and outpatient clinical practice. Focus is on medical history taking and physical examination with little expectation on diagnosis and management. Students also create lists and develop plans to direct the investigation of patients' medical disorders

a. Learning Outcomes

1) Evaluate common symptoms

2) Identify common clinical signs

3) Communicate effectively with the patients, seniors and colleagues

4) Follow the steps of history taking

5) Take a focused history and perform clinical examination of organ systems to determine provisional diagnosis

6) Formulate differential diagnosis of common clinical conditions of relevant department

7) Interpret common investigations and comment whether these are normal or abnormal
8) Develop the plans of initial management in clinics
9) Discuss common drug interactions
10) Enumerate common side effects of drugs
11) Make long-term plan for prevention of disease
12) Perform minor procedures safely and be capable to communicate effectively with patient and family regarding disease and its relevant issues.
13) Understand ethics specially to maintain patient confidentiality

b. Logbooks will be maintained to keep the record of student performance during the rotation. Logbook will be countersigned by the faculty supervising the sessions.

c. At the end of each clinical rotation, the whole group will have a clinical exam which will contributes towards the internal assessment in the final year (10 %). Assessment at the end of clinical rotations will focus on application of knowledge, competence in specific clinical skills, and appropriate professional attitude. Satisfactory performance will be required in each of these areas for progress and promotion. Failure in assessment requires the student to repeat the end rotation exam. Passing marks are 50%

d. Attendance of 75% and satisfactory performance in the rotation/clerkship in each year is mandatory.

5. Resources

a. Faculty
b. Facilities
c. Administration for Course
d. Administrative structure
e. Communication with students

6. Educational Strategies

a. Lectures
b. Small group discussion

c. Lab practical

d. Skill lab

e. Problem based learning/ Case based learning

f. Tutorials

g. Community oriented visits

h. Integrated sessions using any of the above strategies

i. For clinical subject's contact hours may be covered by following teaching strategies:

j. LGIS

k. SGD

7. Internal Assessment

Students will be assessed at the end of each block. The weighting of internal assessment is 10% in 4th professional MBBS Examination. There will be three end of blocks and one pre - annual examination. The scores of tests of each end block assessment and pre-annual examination will be used for calculation of the internal assessment.

8. Annual Professional Examination.

The University will take the professional Examination as per PMC guidelines at the end of the academic year. Annual Theory & Practical Examination will be of 200 Marks for Eye. The passing score is 50% in theory and practical separately.

11. Evaluation of the Course.

a. Student portfolio shall be maintained in the departments in which students will give their feedback either by name or anonymously. Feedback may be taken at the end of module, online and informal student feedback during the running module

b. Faculty suggestions if any, for improvement of training may be incorporated in the next rotation

12. Implementation of curriculum

The university will give details of all content including learning outcomes, assessment blueprints, and table of specifications, distribution of which across the whole years and rotations is upon the discretion of the medical college/institute

Overview

1. Introduction

a. Minimum 150 hours are allocated to the Ophthalmology in the year IV. About 42 hours are for theory content which is covered in lectures and CBLs in three blocks throughout the academic year. End block examination is taken at the end of each block by the respective institute which is counted in internal assessment at the end of fourth year
b. Almost 108 hours are for clinical training in outpatient and indoor patients departments, which is covered in 09 weeks of clinical rotation. TOACS / Mock exam is held at the end of clinical rotation which is counted in internal assessment at the end of fourth year. Log book is maintained during the rotation
c. Each group will spend four days a week - Mon to Thurs in Ophthalmology for 3 hours daily.
d. Pre annual examination of theory and clinical is taken on the pattern of fourth professional

2. General Outcome

General outcome of this teaching is to equip the average student with minimum essential knowledge, skill and attitude to make him enable to **-:**

a. Identify common ophthalmological diseases specially emergencies, provide primary health care, refer to an appropriate center and do the follow-up of patients of his area.
b. Perform minor procedures safely and be capable to communicate effectively with patient and family regarding disease and its relevant issues.
c. Understand ethics specially to maintain patient confidentiality

3. Instructional Strategy

a. Instructional strategy to achieve above-mentioned goals will be
b. Interactive lectures
c. Small group discussions
d. Problem based teaching
e. Clinical rotations, ward visits
f. Tutorials
g. CPCs and seminars

4. Skills

By the end of the rotation in the Department of Ophthalmology, the student should be able to:

a. Obtain an appropriate history
b. Perform routine examination
c. Identify common eye problems for a given patient and
d. Outline appropriate management plans.

OPHTHALMOLOGY - BLOCK I

CODE- Y4B1

Written Internal Assessment

Duration: 12 Weeks

By the end of Block-1, the Student will be able to:

S.NO	Theme	Learning Outcomes	Contents	Weightage %
1.	**Eye Lid & adnexa**	Identify conditions like ptosis, lid Tumors and benign lesions, Entropion, Ectropion , dry eyes etc based on their clinical assessment and make a referral to ophthalmologist.	Ptosis, Blephritis, lid tumors & benign lesions, Entropion, Ectropion, diseases of lacrimal system, evaluation of dry eye , KCS, Bitot's spots and Vit A deficiency.	30
2.	**Conjunctiva, Episclera & sclera**	• Recognize conditions like Pterygium, Pingecula, conjunctivitis episcleritis and scleritis and their systemic association when presents. • Identify red eye causing common conditions for their initial management.	Bacterial, Viral Allergic, and other types of conjunctivitis, Pterygium, Pingecula, Ophthalmia neonatorum, Episcleritis, Scleritis. Misc systemic diseases affecting sclera, episclera	30
3.	**Orbit**	• Recognize proptosis and its common causes like thyroid eye disease, orbital inflammatory disease and orbital tumors. • Advise common investigations required for its evaluation. • Summarize various medical and surgical management options.	Proptosis and its common causes, Thyroid eye disease. Orbital tumors, Cellulitis	20

4.	**Uveitis**	• Identify uveitis as a cause of decreased vision. • Recognize signs and symptoms of acute and chronic uveitis for giving its initial treatment	Anterior and Posterior uveitis and their major causes. Various systemic associations and broad outline of	20

			immunosuppressi ve treatments.	
	End Block Assessme nt	**End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs**		

OPHTHALMOLOGY - BLOCK II

CODE- Y4B2

Written Internal Assessment

Duration: 12 Weeks

By the end of Block-2 , the Student will be able to :

S.No	Theme	Learning Outcomes	Contents	Weightage / %
1.	**Corneal Diseases**	• Identify corneal ulcers for giving initial treatment. • Summarize principles of corneal disease management.	Bacterial, Fungal, Viral, Corneal Ulcers and use of antibiotics/ cycloplegics Keratoconus, dysplasias and degenerations.	20
2.	**Lens**	• Identify different types of cataract and recognise type of visual deterioration in each type of cataract. • Justify different types of surgical options of cataract including phacoemulsification • Indicate possible complications of cataract surgery	Types of cataracts & their evaluation, Congenital, Age related, ICCE/ECCE/ Phaco emulsification, Complications of cataract surgery. Ectopia lentis	30
3	**Refractive errors& Refractive Surgery**	• Identify common refractive conditions of the eye like myopia, hypermetropia and astigmatism • Summarize various treatment options.	Glasses, Contact lens, excimer, LASIK, DAELEK, PKP & other refractive surgical options	**20**
1.	**Glaucoma and ocular therapeutics**	• Differentiate between various types of Glaucoma, its clinical signs, investigations, common VF defects and various anti Glaucoma medications. • Enlist other options of Glaucoma management	Types of glaucoma & Evaluation, Classification, POAG, PACG, Surgery, Drugs, Lasers to treat glaucoma	30

		including laser filtration		

		surgery, cyclo-destructive procedures and implants. • Identify shallow anterior chamber for avoiding mydriatic eye drops to prevent acute congestive glaucoma. • Suggest emergency treatment of acute angle closure glaucoma.		
	End Block Assessment	**End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs**		

OPHTHALMOLOGY – BLOCK- III

CODE- Y4B3

Written Internal Assessment

Duration: 12 Weeks

By the end of Block-3 , the Students will be able to :

S.No	Topics	Learning Outcomes	Contents	Weightage / %
1.	**Retinal vascular diseases, Retinal Detachment,** **Common Fundus Pathologies,**	• Correlate symptoms with signs of retinal vascular diseases, ocular tumors and fundus pathologies • Identify retinal disorder as a cause of reduce vision. • Suggest common treatment option of retinal diseases. • Discuss broad outline of management of RD, diabetic retinopathy & AMD and use of lasers in ophthalmology	Conditions affecting retinal vasculature and their Evaluation, Hypertensive Retinopathy, Diabetic Retinopathy, CRVO, BRVO, CRAO, BRAO, AMD,RP,ARMD , Diabetic retinopathy. ROP, Types of retinal detachment, clinical exam, investigations and surgical options Vitreotomy and its indications .use of lasers	40

2.	**Strabismus &** **Neuro Ophthalmology**	• Differentiate between comitant and non-comitant strabismus • Perform cover & uncover test. • Enlist surgical and non-surgical treatment of strabismus. • Reproduce Cranial nerve pathway and nerve supply of extra ocular muscles • Enlist relevant laboratory investigations and imaging & surgical and non-surgical treatment options.	Types of squint and its Management, Cranial nerves palsies, tumors, papilledema, visual field in various optic pathway lesions	30

3.	**Ocular trauma**	• Differentiate between penetrating and non- penetrating ocular injuries. • Discuss different types of chemicals damaging eye (Acid/alkali/Alcohol/elfy) and its symptoms and signs. • Mange chemical injuries of the eye and to removes conjunctival foreign body.	Types of ocular injuries and their Evaluation and initial Management, Ophthalmic emergency and their primary eye care.	30
Tota l				**100**
	End Block Assessme nt	**End Block Assessment to be taken by concerned institute itself Assessment tools: MCQs & SAQs/SEQs**		

Clinical Trg / List of Competencies

	Learning Outcomes	List of Competencies
	By the end of 08 weeks clinical rotation , the Students will be able to:	
1.	Establish rapport with the patient	How to greet and counsel Patients?
2.	Assess level of vision	Visual Acuity (Children, Adults),color vision, Amsler Grid
3.	Examine visual field by confrontation	Visual Fields
4.	Identify the type of refractive error	Refractive Errors
5.	Diagnose vision loss due to cataract	Cataract Examination
6.	See and differentiate normal optic disc and macula from abnormal.	Ophthalmoscopy (Fundoscopy)
7.	Examine interior segments	Torch/Slit lamp examination
8.	Prescribe common eye drops keeping in mind contraindications of dilating drops	Ocular Pharmacology
9.	Enlist common ophthalmic instruments Like cataract surgery instruments, DCR surgery instruments etc	Ophthalmic Instruments
10.	Enumerate laser use in ophthalmology	Introduction to Lasers
11.	Enlist helpful investigation	Ocular Investigations an overview
12.	Classify various squint	Ocular movements and squint assessment
13.	Perform retinoscopy	Retinoscopy and Prescription writing
14.	Examine the pupils	Pupillary Reactions
15.	Examine the lid	Lid examination
16.	Identify retinal disease as a cause of loss of vision	Common retinal diseases
17.	Examine proptosis	Examination of Proptosis
18.	Measure IOP	Tonometery
19.	Observe common Ophthalmic surgical procedures/ Instruments including cataract, glaucoma, oculoplastics, retinal detachment and other common procedures and instruments.	common Ophthalmic surgical procedures/ Instruments
Ward Test		

Proposed Academic Calendar - 4th Year MBBS (2021-22)

Weeks	Details	Dates	
		From	To
1 – 5	Start of New Class	22 Nov 2021	
	1st Module (5/11 weeks)	22 Nov 2021	23 Dec 2021
6	**Winter Vacation (1 week)**	**24 Dec 2021 (Fri)**	**02 Jan 2022 (Fri)**
7-11	1st Module (5/11 week)	03 Jan 2022	06 Feb 2022
12	**1st Module Exam (1/11 week)**	07 Feb 2022	14 Feb 2022
	Special Pathology	07 Feb 2022 (Mon)	
	Eye	09 Feb 2022 (Wed)	
	ENT	11 Feb 2022 (Fri)	
	Community Medicine	14 Feb 2022 (Mon)	
13-15	2nd Module (3/12 Weeks)	15 Feb 2022	06 Mar 2022
16	**Sports Week (Tentative)**	**07 Mar 2022**	**13 Mar 2022**
17-24	2nd Module (8/12 Weeks)	14 Mar 2022	05 May 2022
	Pakistan Day (Holiday)	**23 Mar 2022 (Wed)**	
	Eid ul Fitr (Tentatively)	**03-05 May 2022 (Tue-Thu)**	
25	**2nd Module Exam (1/12 week)**	06 May 2022	15 May 2022
	Special Pathology	06 May 2022 (Fri)	
	Eye	09 May 2022 (Mon)	
	ENT	11 May 2022 (Wed)	
	Community Medicine	13 May 2022 (Fri)	
26-30	3rd Module (5/11 Weeks)	16 May 2022	17 June 2022
31-34	**Summer Vacations (4x Weeks)**	**18 June 2022**	**17 July 2022**
35-39	3rd Module (5/11 weeks)	18 July 2022	21 Aug 2022
	Ashura (Tentatively)	**08-09 Aug 2022 (Mon-Tue)**	
40	**3rd Module Exam (1/11 week)**	22 Aug 2022	29 Aug 2022
	Special Pathology	22 Aug 2022 (Mon)	
	Eye	24 Aug 2022 (Wed)	
	ENT	26 Aug 2022 (Fri)	
	Community Medicine	29 Aug 2022 (Mon)	
41	Prep Leave for Pre Annual / Send Up Exam	30 Aug 2022	04 Sep 2022
42-43	**Pre Annual / Send Up Exam**	**05 Sep 2022**	**16 Sep 2022**
	Special Pathology	05 Sep 2022 (Mon)	
	Community Medicine	07 Sep 2022 (Wed)	
	Eye	09 Sep 2022 (Fri)	
	ENT	12 Sep 2022 (Mon)	
	OSPE	13 (Tue), 14 (Wed), 15 (Thu), 16 (Fri) Sep 2022	
44-46	Prep Leave for Annual Exam (23 days)	17 Sep 2022	09 Oct 2022
	NUMS Annual Exam	**10 Oct 2022 onwards**	

Dated: **14 Dec 2021**

TABLE OF SPECIFICATIONS

Fourth Professional MBBS Examination

EYE

Time Allowed =03 hrs. *(Including MCQs)*

Marks of theory paper =90

Internal assessment =10

Total marks =100

Pass Marks =50

45 x MCQs (45 Marks) Time =50 min

Q. No. 1,2,3,4,5,6,7,8,9

2x SAQs/SEQs (Recall) = 05 marks

each 7x SAQs/SEQs (Application)

=05marks each

Total Marks = 45 Marks Time = 2 hours & 10 min

TOPIC	**NUMBER OF MCQs (45)** **Recall: 09** **Application: 36** **(1 mark each)**	**NUMBER OF SAQs/SEQs (09)** **(05 marks each)**
Eye Lid & adnexa	7	01
Conjunctiva, Episclera & sclera	5	01
Orbit / Uveitis/ocular therapeutics	6	01
Corneal Diseases & Refractive Surgery/Refractive errors	5	01
Lens	5	01
Glaucoma	5	01
Retinal Vascular Diseases, RD Ocular Tumors, Macular diseases, Common Fundus Pathologies	4	01
Strabismus & Neuro Ophthalmology	4	01
Ocular trauma	4	01
Total	**45 (45 Marks)**	**09 (45 Marks)**

Practical

Table of Specification for 2020

Ophthalmology

Max Marks = 90
Internal Assessment = 10 Grand Total = 100
Pass Marks = 45

OSCE Ophthalmology													
5 x Observed					**8 x Non-Observed**								**Total Marks**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	
Comm skills	**Exam skills**			**Comm skills**	**Procedural skills/Diagnostic skills**								
HT	**CE**	**CE**	**CE**	**OC**	**IATF**	**IATF**	**TP**	**TP**	**TP**	**DP**	**IATF**	**IATF**	
Focused History	Short case -1	Short case -2	Short case-3	Counselling/ Comm Skills	2 x Data Interpretatio	2 x Picture	2 x Instrument	2 x X rays	Drugs	Picture / Visual acuity Charts	Picture	Picture	
10	**10**	**10**	**10**	**10**	**05**	**05**	**05**	**05**	**05**	**05**	**05**	**05**	**90 Marks**
5 minutes for each station 12 x 5 = 60 Minutes **For 25 students = 125 Minutes= 2hrs 5 minutes**													
***Number of rest stations depends upon the number of students**													

- **Communication**: **HT**=Focused History Taking, **OC**=other communication
- **Examination: CE** = Clinical examination**, SI**= Sign Identification
- **Procedural skills: DP**=Diagnostic Procedure**, TP=**Therapeutic Procedure**, IATF**=Identification of Abnormal Test Finding

Theory: Internal Assessment (IA) Calculation

A	B	C	D
Roll No.	Name	All end blocks/ Pre annual Exams or any other exam	Total Marks of internal assessment Out of 10
Total Marks		Sum of Marks obtained x15/ sum of total marks in all internal exams	

Practical: Internal Assessment Calculation

A	B	C	D
Roll No.	Name	OSCE /TOACS throughout the year /Pre annual practical Exams or any other exam	Total Marks of internal assessment Out of 10
Total Marks		Sum of Marks obtained x15/ sum of total marks in all internal exams	