STUDY GUIDE OF OPHTHALMOLOGY

MBBS COURSE

Contents

INTRODUCTION

EDUCATIONAL HOURS

Year	Theory	Practical	Total
3rd year	25 hours	25 hours (4 weeks clinical rotation)	50
4th year	50 hours	50 hours (6 weeks clinical rotation)	100
Total	75 hours in 36 weeks/year	75 hours	150 hours
Strategy	Lectures Problem based learning Small group discussion Case based discussion	Clinical Rotation & ward visit Seminars & CPC Audio video sessions Tutorial / PBL Skills Lab Practice	

LEARNING OUTCOMES

AT THE END OF CURRICULUM STUDENT WILL BE ABLE TO

To equip doctors with essential knowledge, skill and attitude in order to enablethem to:

- Identify ophthalmic diseases including emergencies, provide primary eye
- care, refer to the appropriate center and provide follow up to the patients.
- Perform essential minor surgical procedures
- Communicate effectively with the patient, the family and the community regarding eye diseases and its related issues
- Understand medical ethics and its application pertaining to ophthalmology and maintaining confidentiality of the patient.
- To understand the prevalence and prevention of the common public health problems related to ophthalmology.
- Understand the principles of Medical Research including fundamentals of information technology.

EDUCATION STRATEGIES

The educational strategies in this curriculum are multiple and aligned with domain of learning and according to the desired outcome

Interactive lectures
One-third of the curriculum will be delivered in a traditional didactic format including PowerPoint presentations and case discussions. Didactic education is considered to be a one-way transmission of material from teacher to learner, we cannot overlook the possibility of meaningful interaction between experts and learners during live lectures. This type of interaction, which allows for immediate clarification of concepts and extension of knowledge, may be particularly important for novice learners who have relatively little exposure to the subject matter, such as our study population.

Problem based learning
A lot of emphasis is on case based discussion. Problem-based learning (PBL) is complex and heterogeneous. A wide variety of educational methods are referred as PBL. These include Lecture-based case, Case based lecture, Case based discussions, Problem or inquiry based and Closed loop or reiterative. Incorporation of case based discussion in teaching enhances the critical thinking and problem-solving skills. It also helps in developing a broader prospective of clinical case scenarios.

Small Group Discussion
Small group discussion provides a unique environment to achieve high standards in medical education. Activation of prior knowledge, exchange of ideas, and engagement at a higher cognitive level are assumed to result in deeper learning and better academic achievements by students.

Video sessions
Pathology is a subject which involves visual learning and formulating concepts. Video assisted learning sessions also provides opportunities to learn gross anatomy.

Laboratory Sessions
Laboratory sessions are important as they provide opportunity for experiential learning in terms of study of slides and identification of tissues

ASSESSMENT

MCQ's and SEQ's

Multiple choice question and short essay question test will be used at the end of part of curriculum to assess the learning of knowledge. These all assessment exercises will be formative. The written tests like Multiple-Choice Questions (MCQs) and Short-Essay Questions (SEQs) test formats are used for the assessment of cognitive domain. The MCQs are more objective and essentially select type of item response format. MCQs have a cueing effect, which promotes guessing and leads to higher scores. In addition, writing MCQs of higher cognitive level of problem solving is challenging. On the contrary, the SEQs are more subjective and have a supply or construct type item response format, which does not have any cueing effect and can effectively assess problem solving skills.

Clinical exam and OSCE

Short case and OSCE will be used to evaluate clinical skills and procedural skills at the ward end of placement. The OSCE is a method of clinical skill assessment, and it has been reported to be appropriate for assessing learning achievement levels in the psychomotor and emotional domains, which are difficult to evaluate with written examinations.

Viva Voce

Viva voce is used for assessment of knowledge and problem solving ability of students. This method is useful evaluating cognitive domain.

Assignments

Students of different year will be given assignment of different nature such as research and literature search and surveys

INTERNAL ASSESSMENT

i. The weightage of internal assessment shall be 10% of totals marks.
ii. Continuous internal assessment shall consist of evaluation at the end of each assignments, e.g. stages/sub-stage, class tests etc., attitudinal assessment from educational supervisors.
iii. Assessment of knowledge, Skills and Attitude shall contribute toward internal assessment. Methods used to assess these domains shall include Multiple Choice Questions of one-best type, Short essay questions, Oral/Viva, and Practical/Clinical axaminations.
iv. The score of internal assessment shall contribute to the score in the final examination, Final university examination of each subject shall contribute 90 to total score, and the candidate shall pass in aggregate.
v. Proper record of continuous internal assessment shall be maintained.

LEARNING RESOURCES

The department of ohpthalmology will require following resources for implementation resources:

- Human resource
- Instructors (faculty members)
- Curriculum coordinator curriculum secretary
- Infrastructure
- Lecture hall with AV aids
- Tutorial room with AV aids
- Museum with Patholgy Specimens
- Pathology Lab with Pool of slides
- Simulated patients and simulated manikins
- Computers

LISTS OF CONTENT RESOURCES

- Parson's Diseases of the Eye by Ramanjit Sihala and Radhika Tandor. 3rd Ed
- Ophthalmology by Renu Jogi
- Clinical Textbook of Ophthalmology by Dr. Saleem Akhter
- Kanski's Ophthalmology
- Ophthalmology Principles and Concepts Newill F. W.
- Online Journals and Reading Materials through HEC Digital LibraryFacility.

CONTENTS MODULES

IMPLEMENTATION

The curriculum will be spread over 2 year with 36 working weeks each year. During this period student will be exposed to various education strategies to achieve the learning objectives.

3rd Year.

In this year student will be exposed to do clinical rotation, ward visit and skills lab to develop understanding of ophtholmology and its applied aspects.

Theory (Lecture, SGD and PBL)	Practical (Clinical rotation, CPC, Skill Lab)
25 Hours (36 Weeks)	25 Hours

4th Year.

In this year student will be exposed to do clinical rotation, ward visit and skills lab to develop understanding of ophtholmology and its applied aspects.

Theory (Lecture, SGD and PBL)	Practical (Clinical rotation, CPC, Skill Lab)
50 Hours (36 Weeks)	50 Hours

Third Year			
	First term	**Second term**	**Third term**
1st Term			
2nd Term			
3rd Term			
Assessment			

Fourth Year			
	First term	Second term	Third term
1st Term			
2nd Term			
3rd Term			
Assessment			

THIRD YEAR WARD ROTATION IN OPHTALMOLOGY
Duration: 4 weeks (25 hours)
Location: ward, OPD, Tutorial room
Tutors: Assistant professor, associate Professor, Professor

	Ward	C	P	A	% age	Assessment
Week 1						
Week 2						
Week 3						
Week 4						
Week 5						
Week 6						

Evaluation:

- Attendance of 75% is mandatory
- 15 clinical histories must be completed on history register
- Every Saturday will be formative assessment for course work of that week
- End of course work will be ward test
- Ward test will be OSPE and 2 short cases

FOURTH YEAR WARD ROTATION IN OPHTALMOLOGY
Duration: 6 weeks (50 hours)
Location: Ward, OPD, Tutorial room
Tutors: Assistant Professor, Associate Professor, Professor

	Ward	C	P	A	% age	Assessment
Week 1						
Week 2						
Week 3						
Week 4						
Week 5						
Week 6						

Evaluation:

- Attendance of 75% is mandatory
- 15 clinical histories must be completed on history register
- Every Saturday will be formative assessment for course work of that week
- End of course work will be ward test
- Ward test will be OSPE and 2 short cases

PROGRAMME EVALUATION

Purpose of Evaluation

The major goals of the evaluation are to provide information that the students can use to achieve curricular objectives and that the faculty can use to monitor quality of and improve curriculum.

Design of Evaluation

The evaluation design as only posttest.

Users of evaluation: students, curriculum faculty, Principal Office

Resources: Curriculum faculty and departmental secretaries. No additional funding

Evaluation question:

- What percentage of students achieved 75% mandatory attendance?
- What percentage of students achieved pass marks in university exam?
- What are the strengths of the curriculum? What are the weaknesses? How can the curriculum can be improved?

Because of limited resources, the evaluation was kept simple. Data Collection was integrated into the curriculum schedule. The major goals of the evaluation are to provide information that the students can use to achieve curricular objectives and that the faculty can use to monitor quality of and improve curriculum. The evaluation design as only posttest.

End of curriculum evaluation form:

This will be filled by students and faculty members for evaluation of adequacy with each content was covered, whether they would recommend the curriculum to others and written comments on curriculum strengths, weaknesses and suggestions for improvements.

Annual Report:

Based on evaluation of the educational programe report will be generated annually and submitted to Medical Educational Department.

OPHTHALMOLOGY

TABLE OF SPECIFICATION (ToS)		
Sr. No.	**Topic Specification**	**SEQ's**
1	Conjunctive	01
2	Cornea	01
3	Retina / Vessels	01
4	Retina / Hereditary	01
5	Orbit	01
6	Lids & Adnexa	01
7	Squint	01
8	Cataract	01
9	Neuro-ophthalmology	01
	TOTAL	09

OPHTHALMOLOGY

TABLE OF SPECIFICATION (ToS)		
Sr. No.	**Topic Specification**	**MCQ's**
1	Anatomy of eye	03
2	Physiology of eye	03
3	Retina	07
4	Lids and Adenexa	02
5	Glaucoma	03
6	Cornea	04
7	Lens	04
8	Neuro ophthal	02
9	Conjunctiva	02
10	Lacrimal system	02
11	Squint	03
12	Refraction	01
13	Uvea	03
14	Orbit	02
15	Hereditary disease	01
16	Ocular therapeutivs	02
17	Visual Pathways	01
	Total	45

OPHTHALMOLOGY

Interactive Station 4 Stations
Non observed station 10 Stations

TABLE OF SPECIFICATION (ToS for OSPE)		
Sr. No.	**Topic**	**No. of Staion**
1	Lid/Adnexa	01
2	COnjunctive/Sclera	01
3	Cornea/Refractive Errors	01
4	Orbit/Lacrimal apparatus	01
5	Lens	02
6	Glaucoma	01
7	Retina/Optic Nerve/Vitreous Humor	01
8	Medical Ophthalmology / Uveitis	01
9	Neurophthalmology/Injuries/Strabismus	01
	Total	10

OPHTHALMOLOGY

FORMAT		
Sr. No.	**COMMENTS**	**MARKS**
1	**OSPE** 16 Stations (16 non-observed stations related to practicals (each of 04 marks)	**90**
2	**THEORY**	**90**
3	**INTERNAL ASSESSMENT**	**20**
	Total	**200**

Contents	Objectives	Do-main	Strategy	Assess-ment
Module 1: Anatomy				
	• Basic Anatomy of the Eyeball and Orbit • Functions of the Eyeball and Orbit	C3 C3	LEC/SGD LEC/SGD	MCQ/SEQ MCQ/SEQ
Module 2: Orbit				
	• Orbital Cellulitis • Proptosis	C3 C3	WARD/SGD WARD/SGD	MCQ/SEQ MCQ/SEQ
Module 3: Lids				
	• Blepharitis • Stye • Chalazion • Trichiasis • Entropion • Ectropion • Ptosis • Common Tumors	C3 C3 C3 C3 C3 C3 C3 C3	LEC/SGD LEC/SGD LEC/SGD LEC/SGD LEC/SGD LEC/SGD LEC/SGD LEC/SGD	MCQ/SEQ MCQ/SEQ MCQ/SEQ MCQ/SEQ MCQ/SEQ MCQ/SEQ MCQ/SEQ MCQ/SEQ
Module 4: Conjunctiva				
	• Infective and Allergic Conjunctivitis • Pterygium.	C3 C3	LEC/SGD LEC/SGD	MCQ/SEQ MCQ/SEQ
Module 5: Cornea				
	• Corneal Ulcers • Risk factors • Complications and its management	C3 C3 C3	LEC/SGD LEC/SGD LEC/SGD	MCQ/SEQ MCQ/SEQ MCQ/SEQ
Module 6: Sclera				
	• Episcleritis and Scleritis	C3	LEC/SGD	MCQ/SEQ
Module 7: Pupil				
	• Pupillary reflexes and their common abnormalities	C3	LEC/SGD	MCQ/SEQ
Module 8: Lacrimal Apparatus				
	• Composition and function of Tear film, Dry Eye, • Excessive watering (Epiphora), Dacryocystitis (Acute & chronic).	C3 C3	LEC/SGD LEC/SGD	MCQ/SEQ MCQ/SEQ

Contents	Objectives	Do-main	Strategy	Assess-ment
Module 9: Therapeutics				
	• Drugs used in common ophthalmic conditions	C3	LEC/SGD	MCQ/SEQ
Module 10: Vitamin "A"				
	• Ocular manifestation of vitamin A deficiency and its management.	C3	LEC/SGD	MCQ/SEQ
Module 11: Uveal Tract				
	• Uveitis, and its differential diagnosis from other causes of the Red Eye.	C3	LEC/SGD	MCQ/SEQ
Module 12: Lens				
	• Classification of cataract, • Congenital Cataract (lamellar, signs and symptoms and management), Rubella syndrome, Acquired Cataract (senile, traumatic, drug induced), cataract due to systemic diseases (clinical picture and management including visual rehabilitation).	C3 C3	LEC/SGD LEC/SGD	MCQ/SEQ MCQ/SEQ
Module 13: Glaucoma				
	• Physiology of Aqueous humor formation and its circulation. • Measurement of IOP • Definition & classification of glaucoma • Primary open angle and closed angle glaucoma • Secondary glaucoma due to hyper-mature cataract and uveitis. Principles of medical and surgical management of glaucoma.	C3 C3 C3 C3 C3	LEC/SGD LEC/SGD LEC/SGD LEC/SGD LEC/SGD	MCQ/SEQ MCQ/SEQ MCQ/SEQ MCQ/SEQ MCQ/SEQ
Module 14: Vitro-Retina				
	• Posterior vitreous detachment, primary retinal detachment (common presentation and principle of management) • Diabetic Retinopathy, Hypertensive Retinopathy, • Retinitis Pigmentonsa, Retinoblastoma.	C3 C3 C3	LEC/SGD LEC/SGD LEC/SGD	MCQ/SEQ MCQ/SEQ MCQ/SEQ
Module 15: Optic Nerve				
	• Papilloedema • Optic Neuritis (Papillitis and Retrobulbar Neuritis) • Optic Atrophy	C3 C3 C3	LEC/SGD LEC/SGD LEC/SGD	MCQ/SEQ MCQ/SEQ MCQ/SEQ

Contents	Objectives	Do-main	Strategy	Assessment
Module 16: Visual Pathway				
	• Introduction to Visual Field defects in the lesions of Chiasma and visual Pathway.	C3	LEC/SGD	MCQ/SEQ
Module 17: Injuries				
	• Extraocular Foreign Bodies, Closed globe injuries,Open globe injuries with or without retained Intra ocular foreign bodies	C3	LEC/SGD	MCQ/SEQ
	• Burns and Chemical Injuries	C3	LEC/SGD	MCQ/SEQ
	• Sympathetic Ophthalmitis.	C3	LEC/SGD	MCQ/SEQ
Module 18: Squint and Amblyopia				
	• Definition, Classification and Principle of Management.	C3	LEC/SGD	MCQ/SEQ
Module 19: Errors of Refraction				
	• Introduction to Optical System of Normal Eye	C3	LEC/SGD	MCQ/SEQ
	• Emetropia, Myopia, Hypermetropia, Astigmatism, Presbyopia, Aphakia,	C3	LEC/SGD	MCQ/SEQ
	• Pseudophakia, Anisometropia and Amblyopia.	C3	LEC/SGD	MCQ/SEQ
Module 20: Clinical Skills				
	• History Taking	C3P2A2	WARD/SGD	OSPE
	• Examination	C3P2A2	WARD/SGD	OSPE
	• Visual Acuity, for distance and near, Use of a pinhole	C3P2A2	WARD/SGD	OSPE
	• Examination of Adnexa and anterior segment of the eye.	C3P2A2	WARD/SGD	OSPE
	• Eversion of the upper Eye Lid and Lacrimal regurgitation Test	C3P2A2	WARD/SGD	OSPE
	• Detection of the Deviated Eye, Ocular Movement, Pupillary Reflexes (Afferant Pupillary defects),	C3P2A2	WARD/SGD	OSPE
	• Measurement of Intra ocular pressure, Palpation Assessment, Schiotz Tonometer,	C3P2A2	WARD/SGD	OSPE
	• Distant Direct Ophthalmascopy for Identification of defects in Ocular Media	C3P2A2	WARD/SGD	OSPE
	• Direct Ophthalmascopy with emphasis on disc and its abnormalities, Swollen disc, cup disc and pale disc.	C3P2A2	WARD/SGD	OSPE
	• Confrontation test for field of vision, Familiarization with Retinoscopy, Indirect Ophthalmascopy, Slit Lamp and its Uses, Visual Fields and Use of Laser in Ophthalmology	C3P2A2	WARD/SGD	OSPE
	• Procedures	C3P2A2	WARD/SGD	OSPE
	• Irrigation of eye, Instillation of eye drops, Staining for corneal ulcer, Removal of superficial foreign bodies, Rational use of topical anaesthesia, Preparation for operation and post operative management	C3P2A2	WARD/SGD	OSPE

Domain	Level
Knowledge	**C1** Knowledge **C2** Comprehension **C3** Application **C4** Analysis **C5** Synthesis **C6** Evaluation
Psychomotor	**P1** Observe **P2** Practice **P3** Adjust **P4** Master **P5** Develop **P6** Construct
Affect	**A1** Receiving **A2** Responding **A3** Valuing **A4** Organization **A5** Characterization