



MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956)

Grade 'A' Accredited by NAAC

Sector-01, Kamothe, Navi Mumbai -410 209

Tel 022-27432471, 022-27432994, Fax 022 -27431094

E-mail: registrar@mgmuhs.com; Website :www.mgmuhs.com

COMPETENCY BASED MEDICAL EDUCATION (CBME)

(with effect from 2019-2020 Batches)

Curriculum for Third M.B.B.S – Part I Ophthalmology

Approved as per AC-41/2021, Dated 27/08/2021

Amended History

1. Approved as per AC-41/2021, Resolution No. 5.2, Dated 27/08/2021.

Resolution No. 5.2 of AC-41/2021: Resolved to approve the “Curriculum, Assessment Pattern (Theory, Practical and Internal Assessment) and Logbook of Ophthalmology”, which is prepared as per CBME guidelines, to be implemented from UG admission batch of 2019 onwards

Annexure-58A of AC-41-2021

MGMIHS Ophthalmology Syllabus as per CBME Curriculum

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Visual Acuity Assessment		Number of Competences: (05)			Number of procedures that require certification : (NIL)				
OP1.1	Describe the physiology of vision	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Physiology	
OP1.2	Define, classify and describe the types and methods of correcting refractive errors	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP1.3	Demonstrate the steps in performing the visual acuity assessment for distance vision, near vision, colour vision, the pin hole test and the menace and blink reflexes	S	SH	Y	DOAP session, Lecture	Skill assessment/ Logbook			
OP1.4	Enumerate the indications and describe the principles of refractive surgery	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP1.5	Define, enumerate the types and the mechanism by which strabismus leads to amblyopia	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Lids and Adnexa, Orbit		Number of Competencies: (08)			Number of procedures that require certification: (NIL)				
OP2.1	Enumerate the causes, describe and discuss the aetiology, clinical presentations and diagnostic features of common conditions of the lid and adnexa including Hordeolum externum/ internum, blepharitis, preseptal cellulitis, dacryocystitis, hemangioma, dermoid, ptosis, entropion, lid lag, lagophthalmos	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
OP2.2	Demonstrate the symptoms & clinical signs of conditions enumerated in OP2.1	S	S	Y	DOAP session	Skill assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP2.3	Demonstrate under supervision clinical procedures performed in the lid including: bells phenomenon, assessment of entropion/ ectropion, perform the regurgitation test of lacrimal sac. massage technique in cong. dacryocystitis, and trichiatic cilia removal by epilation	S	SH	Y	DOAP session, Lecture	Skill assessment			
OP2.4	Describe the aetiology, clinical presentation. Discuss the complications and management of orbital cellulitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP2.5	Describe the clinical features on ocular examination and management of a patient with cavernous sinusthrombosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP2.6	Enumerate the causes and describe the differentiating features, and clinical features and management of proptosis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP2.7	Classify the various types of orbital tumours. Differentiate the symptoms and signs of the presentation of various types of ocular tumours	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP2.8	List the investigations helpful in diagnosis of orbital tumors. Enumerate the indications for appropriate referral	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Conjunctiva Number of Competencies (09) Number of procedures that require certification: (NIL)									
OP3.1	Elicit document and present an appropriate history in a patient presenting with a “red eye” including congestion, discharge, pain	S	SH	Y	DOAP session	Skill Assessment			
OP3.2	Demonstrate document and present the correct method of examination of a “red eye” including vision assessment, corneal luster, pupil abnormality, ciliary tenderness	S	SH	Y	DOAP session	Skill Assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP3.3	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications. and management of various causes of conjunctivitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.4	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of trachoma.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.5	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of vernal catarrh	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.6	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of pterygium	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.7	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of symblepharon	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP3.8	Demonstrate correct technique of removal of foreign body from the eye in a simulated environment	S	SH	Y	DOAP session	Skill assessment			
OP3.9	Demonstrate the correct technique of instillation of eye drops in a simulated environment	S	SH	Y	DOAP session	Skill assessment			
Topic: Corneas Number of Competencies: (10) Number of procedures that require certification: (NIL)									
OP4.1	Enumerate, describe and discuss the types and causes of corneal ulceration	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	
OP4.2	Enumerate and discuss the differential diagnosis of infective keratitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP4.3	Enumerate the causes of corneal edema	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.4	Enumerate the causes and discuss the management of dry eye	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.5	Enumerate the causes of corneal blindness	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.6	Enumerate the indications and the types of keratoplasty	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.7	Enumerate the indications and describe the methods of tarsorrhaphy	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.8	Demonstrate technique of removal of foreign body in the cornea in a simulated environment	S	SH	Y	DOAP session	Skill assessment			
OP4.9	Describe and discuss the importance and protocols involved in eye donation and eye banking	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP4.10	Counsel patients and family about eye donation in a simulated environment	A/C	SH	Y	DOAP session	Skill assessment			
Topic: Sclera Number of competencies: (02) Number of procedures that require certification : (NIL)									
OP5.1	Define, enumerate and describe the aetiology, associated systemic conditions, clinical features complications indications for referral and management of episcleritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP5.2	Define, enumerate and describe the aetiology, associated systemic conditions, clinical features, complications, indications for referral and management of scleritis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		General Medicine	
Topic: Iris and Anterior chamber									
Number of Competencies (10)				Number of procedures that require certification: (NIL)					
OP6.1	Describe clinical signs of intraocular inflammation and enumerate the features that distinguish granulomatous from non-granulomatous inflammation. Identify acute iridocyclitis from chronic condition	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.2	Identify and distinguish acute iridocyclitis from chronic iridocyclitis	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.3	Enumerate systemic conditions that can present as iridocyclitis and describe their ocular manifestations	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine
OP6.4	Describe and distinguish hyphema and hypopyon	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.5	Describe and discuss the angle of the anterior chamber and its clinical correlates	K	KH		Lecture, Small group discussion	Written/ Viva voce			
OP6.6	Identify and demonstrate the clinical features and distinguish and diagnose common clinical conditions affecting the anterior chamber	S	SH	Y	DOAP session, Bedside clinic	Skill assessment			
OP6.7	Enumerate and discuss the aetiology, the clinical distinguishing features of various glaucomas associated with shallow and deep anterior chamber. Choose appropriate investigations and treatment for patients with above conditions.	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP6.8	Enumerate and choose the appropriate investigation for patients with conditions affecting the Uvea	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.9	Choose the correct local and systemic therapy for conditions of the anterior chamber and enumerate their indications, adverse events and interactions	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP6.10	Counsel patients with conditions of the iris and anterior chamber about their diagnosis, therapy and prognosis in an empathetic manner in a simulated environment	A/C	SH	Y	DOAP session	Skill assessment			
Topic: Lens Number of Competencies: (06) Number of procedures that require certification: (NIL)									
OP7.1	Describe the surgical anatomy and the metabolism of the lens	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Biochemistry, Human Anatomy	
OP7.2	Describe and discuss the aetio-pathogenesis, stages of maturation and complications of cataract	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Pathology	
OP7.3	Demonstrate the correct technique of ocular examination in a patient with a cataract	S	SH	Y	DOAP session	Skill assessment			
OP7.4	Enumerate the types of cataract surgery and describe the steps, intra-operative and post-operative complications of extracapsular cataract extraction surgery.	S	KH	Y	DOAP session, Lecture, Small group discussion	Written/ Viva voce			
OP7.5	To participate in the team for cataract surgery	S	SH	Y	DOAP session	Skill assessment/ Logbook documentation			
OP7.6	Administer informed consent and counsel patients for cataract surgery in a simulated environment	S	SH	Y	DOAP session	Skill Assessment			

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
Topic: Retina & optic Nerve		Number of Competencies (05)			Number of procedures that require certification : (NIL)				
OP8.1	Discuss the aetiology, pathology, clinical features and management of vascular occlusions of the retina	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce		Human Anatomy, Pathology	
OP8.2	Enumerate the indications for laser therapy in the treatment of retinal diseases (including retinal detachment, retinal degenerations, diabetic retinopathy & hypertensive retinopathy)	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			
OP8.3	Demonstrate the correct technique of a fundus examination and describe and distinguish the funduscopic features in a normal condition and in conditions causing an abnormal retinal exam	S	SH	Y	Lecture, Small group discussion	Skill Assessment			
OP8.4	Enumerate and discuss treatment modalities in management of diseases of the retina	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
OP8.5	Describe and discuss the correlative anatomy, aetiology, clinical manifestations, diagnostic tests, imaging and management of diseases of the optic nerve and visual pathway	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			
Topic: Miscellaneous		Number of Competencies (05)			Number of procedures that require certification: (01)				
OP9.1	Demonstrate the correct technique to examine extra ocular movements (Unilateral & Binocular)	S	P	Y	DOAP session	Skill Assessment	5		
OP9.2	Classify, enumerate the types, methods of diagnosis and indications for referral in a patient with heterotropia/ strabismus	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce/ skill assessment			
OP9.3	Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral	K	K	Y	Lecture, Small group discussion	Written/ Viva voce			General Medicine

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
OP9.4	Enumerate, describe and discuss the causes of avoidable blindness and the National Programs for Control of Blindness (including vision 2020)	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Community Medicine
OP9.5	Describe the evaluation and enumerate the steps involved in the stabilisation, initial management and indication for referral in a patient with ocular injury	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			

Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D:

K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform.

Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation

Integration

Human Anatomy

AN30.5	Explain effect of pituitary tumours on visual pathway	K	KH	N	Lecture	Written		Ophthalmology	
AN31.3	Describe anatomical basis of Horner's syndrome	K	KH	N	Lecture	Written		Ophthalmology	
AN31.5	Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus	K	KH	Y	Lecture	Written		Ophthalmology	
AN41.1	Describe & demonstrate parts and layers of eyeball	K/S	SH	Y	Practical, Lecture, Small group discussion	Written/ Viva voce		Ophthalmology	
AN41.2	Describe the anatomical aspects of cataract, glaucoma & central retinal artery occlusion	K	KH	N	Lecture	Written		Ophthalmology	

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration	Horizontal Integration
AN41.3	Describe the position, nerve supply and actions of intraocular muscles	K	KH	N	Lecture	Written		Ophthalmology	

Physiology

PY10.17	Describe and discuss functional anatomy of eye, physiology of image formation, physiology of vision including colour vision, Refractive errors, colour blindness, Physiology of pupil and light reflex	K	KH	Y	Lecture, Small group discussion	Written/viva		Ophthalmology	
PY10.18	Describe and discuss the physiological basis of lesion in visual pathway	K	KH	Y	Lecture, Small group discussion	Written/Viva voce		Ophthalmology	
PY10.19	Describe and discuss auditory & visual evoke potentials	K	KH	Y	Lecture, Small group discussion	Written/ viva		Ophthalmology	
PY10.20	Demonstrate testing of visual acuity, colour and field of vision in volunteer/ simulated environment	S	P	Y	DOAP sessions	Skill assessment/ Viva voce	1	ENT, Ophthalmology	

Pathology

PA36.1	Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma	K	KH	N	Lecture, Small group discussion	Written/ Viva voce		Ophthalmology	
--------	--	---	----	---	---------------------------------	--------------------	--	---------------	--

Pharmacology

PH1.58	Describe drugs used in Ocular disorders	K	KH	Y	Lecture	Written/ Viva voce		Ophthalmology	
--------	---	---	----	---	---------	--------------------	--	---------------	--

General Medicine

IM24.15	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of vision and visual loss in the elderly	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce			Ophthalmology
---------	--	---	----	---	---------------------------------	--------------------	--	--	---------------

PATTERN FOR UNIVERSITY EXAMS 2019 ADMISSION BATCH**THEORY – 100 marks – total time – 3 hours**

SECTION A - MCQ 20 – 1 MARK EACH – 30 minutes (1×20=20)

SECTION B - 1. Long answer question (Any 2 out of 3 questions) structured clinical questions

(a) (b) (c) (15×2 = 30)

2. Short answer question – All 3 (including 1 on AETCOM) – (5 ×3 = 15)

(a) (b) (c)

SECTION C - 1. Long answer question – (a) (15 × 1=15)

2. Short answer question (any 4 out of 5) clinical reasoning – (5 × 4 = 20)

(a) (b) (c) (d) (e)

PRACTICAL EXAMS – Total - 100 marks

ROLL NO.	LONG CASE – 1 (30 min)	SHORT CASE - 1 (15 min)	OSCE 3 stations 5 marks each	VIVA / INSTRUMENTS	LOG BOOK	TOTAL
	30 marks	15 marks	15 marks	30 marks	10 marks	100

Internal Examination & Assessment Format as per CBME & GME 2019

Internal Examination Format – Ophthalmology			
Sr. No	Particular	Theory	Practical
Phase II			
1	Post ending Examination	10	50
Phase III			
1	Term Ending Examination	40	NA
2	Preliminary examination	100	100
3	Post ending Examination	10	50
	Total Internal Examination Marks	160	200
Internal Assessment Calculation			
Sr. No	Particular	Theory	Practical
1	All internal examinations including preliminary examination (Theory And Practical)	80	80
2	Logbook Assessment (SDL, AETCOM and Logbook, competencies Etc.)	20	20
	Total Internal Assessment Marks	100	100
160 Theory Internal Examination marks reduced to 80 marks		200 Practical Internal Examination marks reduced to 80 marks	

**PROPOSED INTERNAL ASSESSMENT PATTERN FOR
OPHTHALMOLOGY THEORY EXAM**

PHASE II - POSTING ENDING EXAM – 10 marks

MCQ TEST – 10 MCQ – 1 mark each

PHASE III – TERM END EXAM – 40 marks

SECTION A

10 MCQ –1 mark each (1×10=10)

SECTION B

1. Long answer question – 1 (15×1=15)
2. Short answer questions – any 3 out of 4 (5×3=15)

PRELIMINARY EXAM – 100 marks

SECTION A

MCQ 20 – 1 MARK EACH (1× 20=20)

SECTION B

1. Long answer question – Any 2 out of 3 questions - (15 ×2= 30)
(a) (b) (c)
2. Short answer question – All 3(including 1 on AETCOM) – (5 ×3=15)
(a) (b) (c)

SECTION C

1. Long answer question – (a) (15 × 1=15)
2. Short answer question (any 4 out of 5) clinical reasoning – (5 × 4=20)
(a) (b) (c) (d) (e)

PROPOSED FORMAT FOR PRACTICAL EXAMS FOR INTERNAL ASSESSMENT

PHASE II PRACTICAL EXAM – 50 marks

ROLL NO.	LONG CASE	OSCE 5 stations 2marks each	VIVA / INSTRUMENTS	LOG BOOK	TOTAL
	30 marks	10 marks	10 marks	10 marks	50 marks

PHASE III - 50 marks

ROLL NO.	LONG CASE	OSCE 5 stations 2 marks each	VIVA/INSTRUMENTS	LOG BOOK	TOTAL
	20 marks	10marks	10 marks	10 marks	50 marks

PRELIMINARY EXAM/UNIVERSITY EXAMS – 100 marks

ROLL NO.	LONG CASE -1	SHORT CASE - 1	OSCE 3 stations 5 marks each	VIVA/INSTRUMENS	LOG BOOK	TOTAL
	30 marks	15 marks	15 marks	30 marks	10 marks	100 marks



MGM INSTITUTE OF HEALTH SCIENCES

(Deemed to be University u/s 3 of UGC Act, 1956)

Grade 'A' Accredited by NAAC

Sector-01, Kamothe, Navi Mumbai - 410209

Tel 022-27432471, 022-27432994, Fax 022-27431094

E-mail- registrar@mgmuhs.com Website : www.mgmuhs.com

