

OPHTHALMOLOGY

Undergraduate Curriculum based on CBME by NMC dated 09.11.2022						
LHMC, UCMS & MAMC						
Department of Ophthalmology						
Assessment Log book to be maintained by the student						
S. No	Competency	Core skill	Type of Teaching	Level	Assessment	Integration
Visual Acuity Assessment						
OP1.1	Describe the physiology of vision	Y	L (1)	KH	W/V	Physiology (V)
OP1.2	Define, classify and describe the types and methods of correcting refractive errors	Y	L (2), SGD (1)	KH	W/V	
OP1.4	Enumerate the indications and describe the principles of refractive surgery	Y	L (1)	KH	W/V	
OP1.5	Define, enumerate the types and the mechanism by which strabismus leads to amblyopia	Y	L (1)	KH	W/V	
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	Y	DOAP (1)	S/SH	logbook	Visual acuity assessment to be certified
Lid and adnexa, orbit						
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	Y	L (3), SGD (1)	KH	W/V	Anatomy (V)
OP2.4	Describe the aetiology, clinical presentation. Discuss the complications and management of orbital cellulitis	Y	L (1)	KH	W/V	
OP2.5	Describe the clinical features on ocular examination and management of a patient with cavernous sinus thrombosis	Y		KH	W/V	
OP2.6	Enumerate the causes and describe the differentiating features, and clinical features and management of proptosis	Y	L (1), SGD (1)	KH	W/V	
OP2.7	Classify the various types of orbital tumours. Differentiate the symptoms and signs of the presentation of various types of ocular tumours	Y	L (1), SGD (1)	KH	W/V	
OP2.8	List the investigations helpful in diagnosis of orbital tumors. Enumerate the indications for appropriate referral	Y	L (1)	KH	W/V	
OP2.2	Demonstrate the symptoms & clinical signs of conditions enumerated in OP2.1	Y	DOAP (1)	S	Skill assessment	
OP2.3	Demonstrate under supervision clinical procedures performed in the lid including: Beils phenomenon, assessment of entropion/ ectropion, perform the regurgitation test of lacrimal sac, massage technique in cong. dacryocystitis, and trichiatric cilia removal by epilation	Y	DOAP (1)	SH	Skill Assessment	
Conjunctiva						
OP3.3	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications, and management of various causes of conjunctivitis	Y	L (1), SGD(1)	KH	W/V	
OP3.4	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of trachoma.	Y	L (1)	KH	W/V	
OP3.5	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of vernal catarrh	Y	L (1)	KH	W/V	
OP3.6	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of pterygium	Y	L(1)	KH	W/V	
OP3.7	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of symblepharon	Y		KH	W/V	
OP3.1	Elicit document and present an appropriate history in a patient presenting with a "red eye" including congestion, discharge, pain	Y	DOAP (1)	SH	Skill Assessment	
OP3.2	Demonstrate document and present the correct method of examination of a "red eye" including vision assessment, corneal lustre, pupil abnormality, ciliary tenderness	Y	DOAP (1)	SH	Skill Assessment	

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OP3.8 OP3.9 OP4.8	Demonstrate correct technique of removal of foreign body from the eye in a simulated environment and Demonstrate the correct technique of instillation of eye drops in a simulated environment and Demonstrate technique of removal of foreign body in the cornea in a simulated environment (can be combined)	Y	DOAP (1)	SH	Skill Assessment	
Cornea						
OP4.1	Enumerate, describe and discuss the types and causes of corneal ulceration	Y	L (1), SGD (1)	KH	W/V	Anatomy (V)
OP4.7	Enumerate the indications and describe the methods of tarsorrhaphy	Y		KH	W/V	OP4.7
OP4.2	Enumerate and discuss the differential diagnosis of infective keratitis	Y	L (1), SGD(1)	KH	W/V	
OP4.3	Enumerate the causes of corneal edema	Y	L (1),	KH	W/V	
OP4.6	Enumerate the indications and the types of keratoplasty	Y		KH	W/V	
OP4.4	Enumerate the causes and discuss the management of dry eye	Y	L (1)	KH	W/V	
OP4.5	Enumerate the causes of corneal blindness	Y	L (1), SGD (1)	KH	W/V	
OP4.9	Describe and discuss the importance and protocols involved in eye donation and eye banking	Y		KH	W/V	
OP4.10	Counsel patients and family about eye donation in a simulated environment	Y	DOAP (1) including role play	SH	Skill Assessment	
Sclera						
OP5.1	Define, enumerate and describe the aetiology, associated systemic conditions, clinical features complications Indications for referral and management of episcleritis	Y	L (1)	KH	W/V	Medicine (V)
OP5.2	Define, enumerate and describe the aetiology, associated systemic conditions, clinical features, complications, indications for referral and management of scleritis	Y		KH	W/V	
Iris and Anterior Chamber						
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	Y	L(2), SGD (1)	KH	W/V	
OP6.2	Identify and distinguish acute iridocyclitis from chronic iridocyclitis	Y		KH	W/V	
OP6.8	Enumerate and choose the appropriate investigation for patients with conditions affecting the Uvea	Y		KH	W/V	
OP6.3	Enumerate systemic conditions that can present as iridocyclitis and describe their ocular manifestations	Y	L (1)	KH	W/V	Medicine (H)
OP6.4	Describe and distinguish hyphema and hypopyon	Y	SGD(1)	KH	W/V	
OP6.5	Describe and discuss the angle of the anterior chamber and its clinical correlates	Y	L(3), SGD(1)	KH	W/V	
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.	Y		KH	W/V	Anatomy (V)
OP6.9	Choose the correct local and systemic therapy for conditions of the anterior chamber and enumerate their indications, adverse events and interactions	Y	L (3)	KH	W/V	
OP6.6	Identify and demonstrate the clinical features and distinguish and diagnose common clinical conditions affecting the anterior chamber	Y	DOAP (1)	SH	Skill Assessment	
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	Y	DOAP (1)	SH	Skill Assessment	
Lens						
OP7.1	Describe the surgical anatomy and the metabolism of the lens	Y	L (1)	KH	W/V	Anatomy, (V) Biochemistry
OP7.2	Describe and discuss the aetio-pathogenesis, stages of	Y	L (2)	KH	W/V	Pathology (V)

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	maturation and complications of cataract		SGD(1)			
OP7.4	Enumerate the types of cataract surgery and describe the steps, intra-operative and post-operative complications of extracapsular cataract extraction surgery.	Y	L (1)	KH	W/V	
OP7.3	Demonstrate the correct technique of ocular examination in a patient with a cataract	Y	DOAP (1)	SH	Skill Assessment	
OP7.5	To participate in the team for cataract surgery	Y	DOAP (1)	SH	Skill Assessment / Logbook	
OP7.6	Administer informed consent and counsel patients for cataract surgery in a simulated environment	Y	DOAP(1)	SH	Skill Assessment	
Retina and Optic Nerve						
OP8.1	Discuss the aetiology, pathology, clinical features and management of vascular occlusions of the retina	Y	L (1)	KH	W/V	Anatomy, (V) Pathology
OP8.2	Enumerate the indications for laser therapy in the treatment of retinal diseases (including retinal detachment, retinal degenerations, diabetic retinopathy & hypertensive retinopathy)	Y	L (1)	K	W/V	
OP8.4	Enumerate and discuss treatment modalities in management of diseases of the retina	Y	L (2)	KH	W/V	
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	Y	L (2), SGD	KH	W/V	Pupil assessment to be certified
OP8.3	Demonstrate the correct technique of a fundus examination and describe and distinguish the fundoscopic features in a normal condition and in conditions causing an abnormal retinal exam	Y	SGD (1)	SH	Skill Assessment	
Miscellaneous						
OP9.2	Classify, enumerate the types, methods of diagnosis and indications for referral in a patient with heterotropia/ strabismus	Y	L (2)	KH	W/V	
OP9.3	Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral	Y	L (1)	K	W/V	Medicine (H)
OP9.4	Enumerate, describe and discuss the causes of avoidable blindness and the National Programs for Control of Blindness (including vision 2020)	Y	L (1)	KH	W/V	
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	Y	L(2)	KH	W/V	
OP9.1	Demonstrate the correct technique to examine extra ocular movements (Unioocular & Binocular)	Y	DOAP (1)	P	Skill Assessment	Performance certification required
Integrated Classes						
With Anatomy modules (when they take these classes)						
AN30.5	Explain effect of pituitary tumours on visual pathway	N	L, SGD	KH	W/V	
AN31.3	Describe anatomical basis of Horner's syndrome	N	L, SGD	KH	W/V	
AN31.5	Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus	Y	L, SGD	KH	W/V	
AN41.1	Describe & demonstrate parts and layers of eyeball	Y	L/LD, DOAP	SH	W/V	
AN41.2	Describe the anatomical aspects of cataract, glaucoma & central retinal artery occlusion	N	L, SGD	KH	W/V	
AN41.3	Describe the position, nerve supply and actions of intraocular muscles and extraocular muscles	N	L, SGD	KH	W/V	
With Physiology modules (when they take these classes)						
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	Y	L, SGD	KH	W/V	
PY10.18	Describe and discuss the physiological basis of lesion in visual pathway	Y	L, SGD	KH	W/V	

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PY10.19	Describe and discuss auditory & visual evoke potentials	Y	L, SGD	KH	W/V	
PY10.20	Demonstrate testing of visual acuity, colour and field of vision in volunteer/ simulated environment	Y	L, DOAP	P	SKILL Assessment	
With Pathology modules (when they take these classes)						
PA36.1	Describe the aetiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma	N	L, SGD	KH	W/V	
With Pharmacology modules (when they take these classes)						
PH1.58	Describe drugs used in Ocular disorders	Y	L, SGD	KH	W/V	
With General Medicine modules (when they take these classes)						
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	Y	L, SGD	KH	W/V	

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III PROF. M.B.B.S. PART I

OPHTHALMOLOGY

TEMPLATE OF THEORY EXAMINATION PAPER

Background

In exercise of the powers conferred by Section 33 of the Indian Medical Council Act, 1956 (102 of 1956), the Board of Governors in super-session of Medical Council of India with the previous sanction of the Central Government, have amended the "Regulations on Graduate Medical Education, 1997", by the Regulations which may be called the "Regulations on Graduate Medical Education (Amendment), 2019". Competency based curriculum of the Indian Medical Graduate programme has been implemented for MBBS course starting from academic year 2019-20 onwards. The Regulations have come into force since their publication in the Official Gazette on 4th November 2019.

Salient features of the sub-section on University Examinations of the Regulations on Graduate Medical Education (Amendment), 2019 regarding Theory examination

(Reference: Gazette of India. BOARD OF GOVERNORS IN SUPER-SESSION OF MEDICAL COUNCIL OF INDIA AMENDMENT NOTIFICATION dated the 4th November, 2019. Chapter VI, sub-section 11.2)

Chapter VI of the Regulations on Graduate Medical Education (Amendment), 2019 deals with the Assessment under the Competency based curriculum, and the sub-section 11.2 deals with the University Examinations. It is mentioned that University examinations are to be designed with a view to ascertain whether the candidate has acquired the necessary knowledge, minimal level of skills, ethical and professional values with clear concepts of the fundamentals which are necessary for him/her to function effectively and appropriately as a physician of first contact. Assessment shall be carried out on an objective basis to the extent possible.

Nature of questions will include different types such as structured essays (Long Answer Questions - LAQ), Short Answers Questions (SAQ) and objective type questions (e.g. Multiple Choice Questions - MCQ). Marks for each part should be indicated separately. MCQs shall be accorded a weightage of not more than 20% of the total theory marks

There shall be one main examination in an academic year and a supplementary to be held not later than 90 days after the declaration of the results of the main exam. In Ophthalmology, there will be theory paper of 100 marks. At least one question in the paper of the clinical specialties should test knowledge - competencies acquired during the professional development programme (AETCOM module).

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Template for Theory examination paper

One theory paper with topic-wise distribution as per the syllabus approved by FMS, University of Delhi. Paper of 100 marks to be as per the following template:

Table: Template of theory paper of 100 marks

Part	Type of question	Number of questions	Marks per question	Total marks
A	MCQ	20	1	20
B	LAQ	1	16	16
	SAQ*	2	8	16
C	LAQ	1	16	16
	SAQ	1	8	8
D	LAQ	1	16	16
	SAQ	1	8	8
			Total marks	100

* The second SAQ of the Part B will be from AETCOM module

The marks distribution across the four parts of the each theory paper will be as per the following template:

Table: Marks distribution by parts in the theory paper

Marks distribution by Part	Allotted marks
PART A	20
PART B	32
PART C	24
PART D	24
Total marks	100

Notes regarding the template for Theory examination paper

- The theory papers will be of 100 marks.
- Duration of paper will be 3 hours (including maximum 20 minutes for the MCQs paper)
- Part A (MCQs) is to be attempted on the provided question paper itself.
- Part B, C and D are to be answered in separate answer-sheets.
- Part A question paper is to be detached and returned back after 20 minutes of the start of the examination.
- Learner is to write his/her roll number on the top on both the MCQ question paper and the LAQ, SAQ question paper immediately on receipt.

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- Only blue/black ink is to be used for attempting the paper including the MCQ section. Use of pencil is only allowed for diagram/graphs.

MCQs:

- Each of the 20 questions will be of single best answer type, where the learner is to indicate the single correct or best answer among the four given options.
- The MCQs can include questions on 'match-the-correct-options', 'correct sequence', clinical scenarios etc. but options to be worded as choosing single correct/best answer.
- Each question will have a stem of the question followed by four choices labelled as A, B, C and D.
- At the end of each MCQ, a square box will be provided where the learner is to indicate his/her answer by writing a single option (among A, B, C or D) within the square box.
- An option choice once indicated within the box is not allowed to be changed. Any scratching, scribbling, overwriting or change of the indicated choice within the box, will be considered as a wrong response.
- There shall be no negative marking for the MCQs, and one mark will be awarded for each correctly answered question.

Long Answer Questions (LAQ)

- Each LAQ is to be framed with objective smaller sub-parts, indicating clearly marks for each sub-part.
- Each LAQ to preferably be divided into 2-4 sub-parts.
- All the sub-parts within one LAQ to preferably be linked by theme or topic, they should not be unrelated to each other.

Short Answer Questions (SAQ)

- The SAQ can comprise of questions on writing short notes on specific topics, differences between two terms, drawing a schematic diagram etc.
- The second SAQ within part B of each of the two theory papers will be specifically from AETCOM topic.

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Annexure: Sample template of a theory paper

III PROF. M.B.B.S. PART I(ANNUAL / SUPPLE)

OPHTHALMOLOGY

PAPER

Maximum marks: 100

Duration: 3 hours (including MCQs paper – maximum 20 minutes)

Instructions for candidates:

1. Write your roll number on the top on both the MCQ question paper and the LAQ, SAQ question paper immediately on receipt.
2. All questions are to be attempted.
3. Part A is to be attempted on the provided question paper itself.
4. Part B, C and D are to be answered in separate answer-sheets.
5. Part A question paper is to be detached and returned back after 20 minutes of the start of the examination.
6. Only blue/black ink is to be used for attempting the paper including the MCQ section. Use of pencil is only allowed for diagram/graphs.

PART A 20 marks

Instructions for candidates:

There are 20 questions, each having one mark.

There is no negative marking for a wrong answer.

For each question, indicate your answer by writing the option choice (A, B, C or D) within the square box next to the question.

An option choice once indicated within the box is not allowed to be changed. Any scratching, scribbling, overwriting or change of the indicated choice within the box, will be considered as a wrong response.

MCQs 1 to 20.

Each question having:

Question stem

Four labelled option choices – A,B,C,D

Square box (for learner to indicate his/her choice of answer)

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III PROF. M.B.B.S. PART I (ANNUAL / SUPPLE)

OPHTHALMOLOGY

PAPER

Duration: 3 hours (including MCQs paper – maximum 20 minutes)

Instructions for candidates:

1. Write your roll number on the top on both the MCQ question paper and the LAQ, SAQ question paper immediately on receipt.
2. All questions are to be attempted.
3. Part A is to be attempted on the provided question paper itself.
4. Part B, C and D are to be answered in separate answer-sheets.
5. Part A question paper is to be detached and returned back after 20 minutes of the start of the examination.
6. Only blue/black ink is to be used for attempting the paper including the MCQ section. Use of pencil is only allowed for diagram/graphs.

PART B 32 marks

1. LAQ – 16 marks (marks allocation for sub-parts to be indicated)
2. SAQ – 8 marks
3. SAQ – 8 marks (AETCOM module)

PART C 24 marks

1. LAQ – 16 marks (marks allocation for sub-parts to be indicated)
2. SAQ – 8 marks

PART D 24 marks

1. LAQ – 16 marks (marks allocation for sub-parts to be indicated)
2. SAQ – 8 marks

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