



PRAVARA INSTITUTE OF MEDICAL SCIENCES (DEEMED TO BE UNIVERSITY)

Loni, Tal. Rahata, Dist. Ahmednagar 413736
NAAC Re-accredited with 'A' Grade

SYLLABUS

UG Programme- Ophthalmology

(Competency Based Undergraduate Curriculum will be implemented from MBBS
batch 2024-25)

OPHTHALMOLOGY

COMPETENCY BASED MEDICAL EDUCATION (CBME) UG CURRICULUM 2024

1. **PREAMBLE**

The new Graduate Medical Education Regulations (GMER) attempt to stand on the shoulders of the contributions and the efforts of resource persons, teachers and students (past and present). It intends to prepare the learner to provide health care to the evolving needs of the nation and the world.

Following the Regulations on Graduate Medical Education (GMER) 1997, a new crisp 'avatar' in the form of GMER 2023 was placed last year. Since five years are completed after implementation of CBME it was time to have a relook at all aspects of the various components in the existing regulations and guidelines, and adapt them to the changing demography, socio-economic context, perceptions, values, advancements in medical education and expectations of stakeholders. Emerging health care issues particularly in the context of emerging diseases, impact of advances in science and technology and shorter distances on diseases and their management also need consideration.

The thrust in the new guidelines is put on continuation and evolution of medical education based on feedback and experience of CBME in the last 5 years since its inception in 2019, making it more learner-centric, patient-centric, gender- sensitive, outcome-oriented and environment appropriate. The result is an outcome driven curriculum which conforms to global trends. Emphasis is made on alignment and integration of subjects both horizontally and vertically while respecting the strengths and necessity of subject-based instruction and assessment. This has necessitated a deviation from using "broad competencies"; instead, the reports have written end of phase subject competencies. These "competencies" can be mapped to the global competencies in the Graduate Medical Education Regulations.

The importance of ethical values, responsiveness to the needs of the patient and acquisition of communication skills is underscored by providing dedicated time in curriculum in the form of a longitudinal program titled 'AETCOM' based on Attitude, Ethics and Communication (AETCOM) competencies. Great emphasis has been placed on collaborative and inter disciplinary teamwork, professionalism, altruism and respect in professional relationships with due sensitivity to differences in thought, socioeconomic position and gender.

2) SUBJECT GOALS

The student after teaching/learning in Ophthalmology should be able to:

- i. Demonstrate knowledge of common eye disease in the community and the ability to diagnose and manage the common eye disease in primary care set up.
- ii. Recognize diagnose and manage (primary management) of ocular emergencies in primary care setting and have knowledge of the indication for their referral.
- iii. Demonstrate knowledge about various causes of blindness and visual impairment in the community.
- iv. Demonstrate knowledge about various national programs for the control of blindness in the community and their implementation in the primary care setting.
- v. Demonstrate knowledge about common Ocular drugs, their mechanism of action, their pharmaceutical, indications dosage schedule, side effects and complications.
- vi. Demonstrate knowledge about common ocular surgeries, their indication and counseling regarding various ocular procedures and indications for referral from primary care setting.
- vii. Demonstrate knowledge about eye donations, eye transplantation and eye bank.
- viii. Perform simple ocular procedures as applicable in primary care setting.
- ix. Be a team member of national program for control of blindness.
- x. Have good rapport with public, colleagues, superiors and subordinates.
- xi. Counsel patients and their families regarding various ocular conditions, management, and indication for referral.
- xii. Counsel the blind and visually impaired patients regarding their Rehabilitation.

3) COMPETENCIES

The student must demonstrate:

1. Knowledge of common eye problems in the community
2. Recognize, diagnose and manage common eye problems and identify indications for referral,
3. Ability to recognize visual impairment and blindness in the community and implement National programs as applicable in the primary care setting.

Integration: The teaching should be aligned and integrated horizontally and vertically in order to allow the student to understand the structural basis of ophthalmologic problems, their management and correlation with function, rehabilitation and quality of life.

Topic1:VisualAcuity Assessment (05)		Hours	LGT	SGT	DOAP
OP1.1	Describe the physiology of vision, optics of eye and anatomy of visual pathway.	01	LGT		
OP1.2	Define, classify and describe the types and methods of correcting refractive errors.	02	LGT		
OP1.3	Demonstrate the steps in performing the visual acuity assessment for distance vision, near vision, color vision, the pin hole test and the menace and blink reflexes	03			DOAP
OP1.4	Enumerate the indications and describe the principles of refractive surgery	01	LGT		
OP1.5	Define Amblyopia, enumerate the types of Amblyopia and describe the prevention and treatment of refractive Amblyopia.	02		SGT	
Topic 2:LidsandAdnexa,Orbit (08)					
OP2.1	Describe and discuss the aetiology and clinical features, investigations and treatment of Hordeolum externum Hordeolum internum, Ectropion, Entropion, Lagophthalmos, Blepharitis, Preseptal cellulitis.	02	LGT		

OP2.2	Demonstrate under supervision, the clinical procedure performed- Bell's phenomenon, Ptosis evaluation, Massage technique in Congenital Dacryocystitis, Epilation.	03			DOAP
OP2.3	Describe the aetiology, clinical presentation, complications and management of Thyroid eye disease	03			DOAP
OP2.4	Describe the aetiology, clinical presentation. Discuss the Complications and management of orbital cellulitis	02		SGT	
OP2.5	Describe the clinical features on ocular examination and management of a patient with cavernous sinus thrombosis	02		SGT	
OP2.6	Enumerate the causes and describe the differentiating features, and clinical features and management of proptosis	02		SGT	
OP2.7	Classification and clinical presentation of various types of orbital tumours	02		SGT	
OP2.8	Describe the investigations, management, indications for referral of Orbital tumours.	02		SGT	
Topic3:Conjunctiva (07)					
OP3.1	Demonstrate history taking in a patient with 'Redeye'; Enumerate the causes for red eye.	03			DOAP
OP3.2	Describe the etiopathogenesis, clinical features and treatment of acute bacterial and viral conjunctivitis.	02		SGT	
OP3.3	Enumerate the causes for chronic conjunctivitis. Describe the aetiology, patho-physiology, ocular features, differential diagnosis, complications and management of trachoma.	02	LGT		
OP3.4	Enumerate the causes for allergic conjunctivitis. Describe the etiology path physiology, ocular features, complications and management of vernal catarrh.	02		SGT	
OP3.5	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of pterygium	02		SGT	

OP3.6	Demonstrate correct technique of removal of foreign body from the eye in a simulated environment	03			DOAP
OP3.7	Demonstrate under supervision the technique of instillation of eye drops and counseling of patients you put on topical ocular medications				
Topic4:Corneas (10)					
OP4.1	Describe the applied anatomy and physiology of cornea and the Factors maintaining corneal transparency	02	LGT		
OP4.2	Enumerate various congenital anomalies and inflammations of cornea.	01	LGT		
OP4.3	Enumerate the differential diagnosis of corneal ulcer (infective Keratitis) and describe the aetiopathogenesis, clinical features and management of each type of infective keratitis.	04		SGT	
OP4.4	Identify corneal opacity and different grades of corneal opacity. Enumerate various management modalities of corneal opacity.	01	LGT		
OP4.5	Describe tear film. Enumerate the causes of dry eyes and describe the clinical features and management of dry eyes	02	LGT		
OP4.6	Define blindness. Enumerate the causes of corneal blindness	01	LGT		
OP4.7	Enumerate the types and the indications of Keratoplasty.	02		SGT	
OP4.8	Describe the importance of eye donation and eye banking and enumerate the various protocols involved in eye donation and eye banking.	03			DOAP
OP4.9	Identify corneal foreign body and demonstrate techniques of removal of corneal foreign body in simulated environment.	01	LGT		
OP4.10	Counsel patients and family in a simulated environment about eye donation and teach them how to preserve the eye in the deceased till Enucleation is done.	03			DOAP

Topic5:Sclera (02)					
OP5.1	Describe the aetiopathogenesis, classification, clinical features, Complications and management of episcleritis.	02		SGT	
OP5.2	Enumerate the systemic conditions associated with episcleritis and scleritis, indications for their referral.	02		SGT	
Topic6:Iris and Anterior chamber (04)					
OP6.1	Define Uveitis. Describe the anatomical classification of Uveitis. Describe the clinical features of Iridocyclitis. Distinguish granulomatous Iridocyclitis from non-granulomatous Iridocyclitis.	02	LGT		
OP6.2	Describe the complication of Iridocyclitis, investigations and treatment of Iridocyclitis.	01	LGT		
OP6.3	Distinguish Hyphema from Hypopyon clinically and enumerate their Causes.	02		SGT	
OP6.4	Enumerate systemic conditions associated with Uveitis. Counsel the patients with uveitis in a simulated environment	02		SGT	
Topic7:Glaucoma (05)					
OP7.1	Describe the aetiopathogenesis, clinical features and management of congenital glaucoma.	01	LGT		
OP7.2	Describe the aetiopathogenesis, clinical features and management of primary open angle glaucoma.	01	LGT		
OP7.3	Describe the aetiopathogenesis , clinical features and management of Primary angle closure glaucoma.	03			DOAP
OP7.4	Enumerate the causes of secondary glaucoma.	01	LGT		
OP7.5	Counsel the patient with glaucoma regarding the treatment modalities complications with treatment and prognosis in a simulated environment.	03			DOAP
Topic8:Lens (06)					

OP8.1	Describe the surgical anatomy of lens	01	LGT		
OP8.2	Describe the aetiopathogenesis, etiological classification, stages of Maturation and complications of cataract.	02	LGT		
OP8.3	Demonstrate the preoperative evaluation and counseling of a patient Posted for cataract surgery.	03			DOAP
OP8.4	Enumerate the different types of cataract surgery. Enumerate the different ocular anaesthesia techniques. Describe the steps of extracapsular cataract surgery, enumerate the intra operative and postoperative complications of ECCE, and discuss the post operative treatment.	06		SGT	
OP8.5	Elicit history and clinical signs in a case of aphakia. Discuss the management of aphakia	03			DOAP
OP8.6	Participation of IMG in the team for cataract surgery	03			DOAP
Topic 9:Retina & optic Nerve (05)					
OP 9.1	Demonstrate the technique of direct and indirect ophthalmoscopy. Describe the fundoscopic features of normal retina.	03			DOAP
OP 9.2	Describe the aetiopathogenesis, clinical features, management and screening protocol for Diabetic Retinopathy.	02	LGT		
OP 9.3	Discuss the aetiopathogenesis, clinical features and management of Vascular occlusions of retina.	02	LGT		
OP 9.4	Discuss the aetiopathogenesis, clinical features and management of Hypertensive retinopathy, retinopathy of prematurity, Eales disease, retinal detachment, central serous retinopathy, cystoid macular edema, age related macular degeneration, retinitis pigmentosa and Retinoblastoma.	04		SGT	
OP 9.5	Describe and discuss the correlative anatomy, aetiology, clinical manifestations, diagnostic tests, imaging and treatment of diseases of the optic nerve and visual pathway	04		SGT	

Topic 10:Miscellaneous (07)					
OP 10.1	Demonstrate the correct technique to examine extra ocular movements (Unocular & Binocular)	03			DOAP
OP10.2	Classify, enumerate the types, methods of diagnosis and indications for referral in a patient with heterotropia /strabismus	01	LGT		
OP10.3	Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral	01	LGT		
OP10.4	Describe the classifications, causes, ocular manifestations and management of vitamin A deficiency. Indications for referral.	02		SGT	
OP10.5	Enumerate the indications for enucleation, evisceration and exenteration.	01	LGT		
OP10.6	Classify ocular injuries, describe their primary management. Indications for referral.	02		SGT	
OP10.7	Enumerate the causes of Blindness and Vision impairment. Discuss National Program for Control of Blindness (NPCB, including vision 2020)	02		SGT	

TOPICS FOR INTEGRATED TEACHING

Sr. No.	Code	Topics for Integrated Teaching	Subject
01	AN30.5	Explain effect of pituitary tumours on visual pathway	Human Anatomy
02	AN31.3	Describe anatomical basis of Horner's syndrome	Human Anatomy
03	AN31.5	Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus	Human Anatomy
04	AN41.1	Describe & demonstrate parts and layers of eyeball	Human Anatomy
05	AN41.2	Describe the anatomical aspects of cataract, glaucoma & central retinal artery occlusion	Human Anatomy
06	AN41.3	Describe the position, nerve supply and actions of intraocular muscles	Human Anatomy
07	PY11.05	Describe and discuss the physiological basis of lesion in visual pathway	Physiology
08	PY11.6	Discuss physiology of image formation, refractive errors	Physiology
09	PY11.7	Discuss physiology of vision including colour vision and colour blindness	Physiology
09	PY10.19	Describe and discuss auditory & visual evoke potentials	Physiology
10	PY10.20	Demonstrate testing of visual acuity, colour and field of vision in volunteer/ simulated environment	Physiology
11	PA36.1	Describe the etiology, genetics, pathogenesis, pathology, presentation, sequelae and complications of retinoblastoma	Pathology
12	PH1.58	Describe drugs used in Ocular disorders	Pharmacology
13	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	General Medicine

SELF DIRECTED LEARNING:

Sr. No	Code No.	System &Topic	Hours - 20
1	OP 1.1	Anatomy of Eye and Physiology	02
2	OP 2.2	Ocular Adnexa - Lacrimal Apparatus	02
3	OP 4.3	Corneal Ulcer and its Management	02
4	OP 4.5	Dry Eye and its Investigations	02
5	OP 4.6	Blindness and NPCB	02
6	OP 7.1 OP 7.2 OP 7.3	Glaucoma- Glaucoma Classification and Anti Glaucoma Drugs	02
7	OP 8.2 OP 8.3	Anterior Segment - Cataract	02
8	OP 8.6	Cataract – Participation in Eye Camp	02
9	OP 10.1	Squint - To test different ocular movements	02
10	OP 10.6	Ocular Trauma – Classification of Ocular Injuries	02

4) COURSE OUTCOMES

At the end of the course, the basic Medical Undergraduate should be able to

1. Know everything about cataract [evaluation, surgical management], National programme for control of Blindness, Vision 2020, School Health (Ophthalmic) services – Refractive errors, squint and congenital anomalies.
2. Diagnose ocular emergencies.
3. Diabetes awareness programme.
4. Rehabilitation of the blind (Low vision aids, Eye Banking and Keratoplasty).
5. Early and effective referral for ophthalmic services.

5) TRAINING PERIOD AND TIME DISTRIBUTION

A) Phase III Part I (12 months, including University exams)

Forensic Medicine and Toxicology, Community Medicine, Medicine & allied subjects, Ophthalmology, Otorhinolaryngology (ENT), Surgery & allied subjects, Pediatrics, Obstetrics & Gynecology, Radiodiagnosis, Anesthesiology, AETCOM, Pandemic module integration, alignment & integration and Clinical postings. Family Adoption Programme through village outreach and simulation- based learning to be continued with increasing complexity. **Electives** (1 month) shall be in 2 blocks of 15 days each in Phase III part II. First 15 days block starts after annual exam of Phase III MBBS part 1 and 2nd block after the end of 1st elective.

B) Distribution of teaching hours phase wise:

Phase III-part 1 teaching hours:

Time allotted 12 months (approximately 52 weeks) out of which time available for teaching- learning: approximately 39 weeks. (Excluded- 13 weeks: Preliminary/ University examinations and results: 9 weeks, vacations: 2 weeks, public holidays: 2 weeks) Time distribution in weeks: 39 weeks x 39 hours = 1521 hours for Teaching- Learning.

C) Attitude, Ethics and Communication Module (AETCOM)

Objectives of the programme: At the end of the programme, the learner must demonstrate ability to: Understand and apply principles of bioethics and law as they apply to medical practice and research, understand and apply the principles of clinical reasoning as they apply to the care of the patients,

- Understand and apply the principles of system-based care as they relate to the care of the patient,

- Understand and apply empathy and other human values to the care of the patient,
- Communicate effectively with patients, families, colleagues and other health care professionals,
- Understand the strengths and limitations of alternative systems of medicine,
- Respond to events and issues in a professional, considerate and humane fashion,
- Translate learning from the humanities in order to further his professional and personal growth.

Learning experiences:

- This will be a longitudinal programme spread across the continuum of the MBBS programme including internship.
- Learning experiences shall include small group discussions, patient care scenarios, self-directed learning, workshops, seminars, role plays, large/small group teaching etc.
- Application based subject oriented cases may be used as additional resources for this training and real-life case studies are the best examples for this AETCOM training. Community based case studies must be used in communication aspects of health education, informed consent and counseling in addition to clinical case studies.
- Attitude, Ethics & Communication Module (AETCOM module) developed by the erstwhile Medical Council of India should be used longitudinally for purposes of instruction. 75% attendance in AETCOM Module is mandatory for eligibility to appear for all University examinations of all subjects in each Phase.

Total number of teaching hours allotted to Ophthalmology

T/L Method	Hours	Total
LGT	30	100 Hours
SGT / Practical / Tutorial	50	
SDL	20	
Clinical posting in Phase-II	4 Week	8 Week
Clinical posting in Phase-III Part - I	4 Week	

6) ASSESSMENT

- A designated faculty member in each unit will coordinate and facilitate the activities of the learner, monitor progress, provide feedback and review the log book/ case record.
- The log book/ case record must include the written case record prepared by the learner including relevant investigations, treatment and its rationale, hospital course, family and patient discussions, discharge summary etc.
- The log book shall also include records of outpatients assigned. Submission of the log book/ case record to the department is required for eligibility to appear for the final examination of the subject.

- Eligibility to appear for Professional examinations

The performance in essential components of training are to be assessed, based on following three components:

A) Attendance

- There shall be a minimum of 75% attendance in theory and 80% attendance in practical /clinical for eligibility to appear for the examinations in that subject. In subjects that are taught in more than one phase-the learner must have 75% attendance in theory and 80% attendance in practical in each phase of instruction in that subject. There shall be a minimum of 75% attendance in AETCOM.

B) Internal Assessment (IA)

Internal assessment shall be based on day-to-day assessment. For subjects taught in more than one phase, there shall be IA in every phase in which the subject is taught.

It shall relate to different ways in which learners participate in the learning process including assignments, preparation for seminar, clinical case presentation, preparation of clinical case for discussion, clinical case study/ problem solving exercise,

participation in project for healthcare in the community, Quiz, Certification of competencies, museum study, log books, SDL skills etc.

Internal assessment should have both subjective and objective assessment. Internal assessment shall not be added to summative assessment. However, internal assessment marks in absolute marks should be displayed under a separate column in a detailed marks card.

The internal assessment marks for subject will be out of 100 for theory and out of 100 for practical /clinical. For subjects that teach in more than one phase, cumulative IA to be used as eligibility criteria. The final cumulative marks are to be used for eligibility. The details are: IA in ophthalmology is divided as 25 marks in phase II and 75 marks in Phase III part 1. The final cumulative IA is out of 100 for theory and practical each for the ophthalmology subject.

C) Certifiable Competencies Achieved

Learners must have completed the required certifiable competencies for that phase of training and completed the log book appropriate for that phase of training to be eligible for appearing at the final university Examination of that subject.

1. Regular periodic examinations shall be conducted throughout the course.
There shall be no less than two theory and clinical examinations in subject of Phase III part 1 and this mandatorily includes an end of posting assessment. Log book (including required skill certifications) to be assessed and marks given from 10-20% in internal assessment.
2. Learners must secure at least 50% of the total marks (combined in theory and practical / clinical; and minimum 40% in theory and practical separately) for internal assessment in a particular subject in order to be eligible for appearing at the final University examination of that subject.
3. The results of internal assessment should be intimated to students at least once in 3 months and as and when a student wants to see the results.

D) Remedial measures:

A student whose has deficiency(s) in any of the 3 criteria that are required to be eligible to appear in university examination, should be put into remedial process as below:

- **During the course:** If Internal assessment (IA) or attendance is less or/and certifiable competencies not achieved and marked in log book in quarterly/ six monthly monitoring, the students/parents must be intimated about the possibility of being detained much before the final university examination, so that there is sufficient time for remedial measures. These students should be provided remedial measures as and when needed to improve IA. Any certifiable competency/ IA marks deficiency should be attended with planned teaching/tests for them. Student should complete their medial measures and it should be documented. In spite of all above measures, if student is still not meeting the criteria to be eligible for regular exam he shall be offered remedial for the same batch supplementary exam. For attendance, he will be allowed remedial measures ONLY IF attendance is more than 60% for each component.

7. UNIVERSITY EXAMINATIONS

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 to function effectively and appropriately as a physician of the first contact.

Nature of questions in theory examinations shall include different types such as structured essays like Long-Answer Questions (LAQ), Short-Answer Questions (SAQ) and Multiple-Choice Questions (MCQ) shall be accorded minimum 20% weight age of the total marks of each theory paper, Scenario based MCQs shall be accorded more weight age in view of NEXT. Blueprint may be used for theory question papers.

Practical/clinical examinations shall be conducted in the laboratories and /or hospital wards and a blue print must be used. The objective will be to assess proficiency and skills to conduct experiments, interpret data and form logical conclusion. Clinical cases kept in the examination must be common conditions that the learner may encounter as a physician of first contact in the community. Selection of rare syndromes and disorders as examination cases is to be discouraged. Emphasis should be on candidate's capability to elicit history, demonstrate physical signs, write a case record, analyze the case and develop a management plan. All internal and University exams must have one question/application based question on AETCOM in each theory paper (5%) and it should be assessed in various components of practical/clinical exams.

AETCOM Phase 3, part I		
Subject	Paper	Module number
Ophthalmology	Single paper	3.1

University Examinations shall be held as under:

Phase III Part 1 examination shall be held at the end of Phase III part 1 of training (12th month of that training) in the subjects of Ophthalmology.

A) Criteria for passing in a subject: A candidate shall obtain a cumulative 50% marks in University conducted examination including theory and practical and not less than 40% separately in Theory and in Practical in order to be declared as passed in that subject.

B) Appointment of Examiners:

(1) Person appointed as an examiner in the particular subject must have at least three years of total teaching experience as Assistant Professor after obtaining postgraduate degree following MBBS, in the concerned subject in a college affiliated to a recognized medical college (by UGMEB of NMC).

(2) For Practical/Clinical examinations, there shall be at least four examiners for every learner, out of whom not less than 50% must be external examiners. Of the four examiners, the senior-most internal examiner shall act as the Chairman and coordinator of the whole examination programme so that uniformity in the matter of assessment of candidates is maintained.

(3) There shall be a Chairman of the Board of paper-setters who shall be an internal examiner and shall mandatorily moderate the theory question paper(s).

(4) All theory paper assessment should be done as a central assessment program (CAP) of the concerned university.

(5) Ophthalmology examinations to be held as separate examinations and not combined with other subjects. There shall be NO grace marks to be considered for passing in an examination.

At the end of phase: If Internal assessment (IA) or attendance is less or/and certifiable competencies not achieved and marked in log book at the end of regular classes in a phase, the student is detained to appear in regular university examination of that batch.

- Remedial classes can be planned for students missing regular classes on genuine grounds, thus ensuring that all certifiable competencies are achieved.
- Students who have less than 75% attendance in theory and 80% attendance in practical cannot appear for University examination, however; they may appear for Supplementary examination provided they attend the remedial classes organized between University Sit and Supplementary exam. Students who have attendance 60% or above shall be eligible for such remedial classes.

8) EXAM PATTERN

(Formative Assessment) Theory paper Format – Internal Exam (1st PCT – In Phase- II) (2nd PCT – IN Phase – III Part -I)		
Duration-2 hours		50 marks
	Type of question/ Number of questions	Marks
Q No 1	Scenario based MCQ - 10	10
Q No 2	Long essay question / ONE	10
Q No 3	Short notes (applied aspects)/ Five	25 (5 Marks each)
Q No 4	Short notes on AETCOM	05

1st and 2nd Continuous Internal Assessment Theory : 75 Marks							
Roll No.	Name of Student	Home Assignment	Continuous Class Test (LMS)	Seminar	Museum Study	Library Assignment	Attendance Theory
		10	25	10	10	10	10

(Formative Assessment) Clinical Posting Format- Internal Practical Exam (1st and 2nd PCT)- 50 marks					
Roll No.	Name of Student	Long Case Including communication Skills	Viva including Dark room instruments, Operative Instruments	Viva including Drugs, Specimens, charts	Practical Total
		30 Marks	(10 Marks)	(10 Marks)	(50 Marks)

1st Continuous Internal Assessment (Practical) Phase – II – 75 Marks						
Roll No.	Name of Student	Certifiable skill based competencies (Through OSPE OSCE/ Sports/Exercise/ Other)	AETCOM Competencies	SVL Lab Activity	Research	Attendance Practical
		25	15	15	10	10

2nd Continuous Internal Assessment (Practical) Phase –III Part – I – 75 Marks							
Roll No.	Name of Student	Certifiable skill based competencies (Through OSPE OSCE/ Sports/Exercise/ Other)	AETCOM Competencies	SVL Lab Activity	Research	Journal (Record Book portfolio)	Attendance Practical
		20	15	10	10	10	10

Note:

Theory IA in Phase II : 1st PCT : (50Mark) + 1st Continuous Assessment : (75 Marks) = Out of 25 Marks

5

Practical IA in Phase II : 1st PCT : (50Mark) + 1st Continuous Assessment : (75 Marks) = Out of 25 Marks

5

Theory IA in Phase III : 1st PCT : (50M.) + 1st Continuous Assessment : (75 M.) + Prelim (100 M) = Out of 75 Marks

3

Practical IA in Phase III : 1st PCT : (50M.) + 1st Continuous Assessment : (75 M.) + Prelim (100 M) = Out of 75 Marks

3

Theory paper Format – Preliminary and University Exam		
Duration-3 hours		100 marks
	Type of question/ Number of questions	Marks
Q No 1	Scenario based MCQ - 20	20
Q No 2	Long essay question / ONE	10
Q No3	Reasoning Questions / FIVE	15 (3 Marks each)
Q No 4	Short notes (applied aspects)/ FOUR	20 (5 Marks each)
Q No 5	Short notes / THREE	15 (5 Marks each)
Q No 6	Short notes / FOUR (one subpart of 5 marks from AETCOM)	20 (5 Marks each)

Practical Format – Preliminary and University Exam - 100 marks							
Roll No	Name of Student	Long Case including communication skills (50 Mark)	OSCE - 4 Stations (20 Mark)	Log book and Journal Viva (10 Mark)	Dark room Instruments (10 Mark)	Operative Instruments (10 Mark)	Practical & Oral (Total 100 Marks)

9) REFERENCE BOOKS: (LATEST EDITIONS)

- 1.** Comprehensive ophthalmology by A.K.Khurana
- 2.** Parson's diseases of the eye
- 3.** Ophthalmic Surgery: Principles and Techniques. Blackwell Science. Albert DM.
- 4.** Duke Elder's Practice of refraction. Abrams D.Churchill Livingstone.
- 5.** Ophthalmology. Yanoff N, Duker JS, Mosby Elsevier
- 6.** Clinical Ophthalmology. Kanski JJ, Butterworth
- 7.** Text book of Ophthalmology, S. K. Mittal (Thieme)

10) MODEL QUESTION PAPER

Internal Assessment Theory Examination 1st and 2nd PCT: 50 Marks

Instructions:	1) Put X in the appropriate box below the question number once only 2) Use blue ball point pen only. 3) Each question carries One mark 4) Students will not be allotted mark if he / she overwrites strikes or put white ink on the cross once marked									
1.	SECTION "A" MCQ (10 Marks) Multiple Choice Questions (Total 10 MCQ of One mark each) (1 X 10 = 10 Marks)									
	A)	B)	C)	D)	E)	F)	G)	H)	I)	J)
Instructions:	1) Use blue/black ball point pen only. 2) Do not write anything on the blank portion of the question paper. If written anything. Such type of act will be considered as an attempt to resort to unfair means. 3) All questions are compulsory 4) The number to the right indicates full marks. 5) Draw diagrams wherever necessary. 6) Use a common answer book for all sections.									
	SECTION "B" (40 Marks)									
2.	Long Answer Questions structured clinical questions (10 x 1 = 10 Marks) A)									
3.	Short Answer Questions (Reasoning Questions) (Any 3 Out of 4) (3 x 5 = 15 Marks) A) B) C) D)									
4.	Short notes – (one subpart of 5 marks from AETCOM) (3 x 5 = 15 Marks) A) B) C)									

Theory Examination - Preliminary and University : (100 Marks)**Ophthalmology**

Pravara Institute of Medical Sciences (Deemed to be University)

FORMAT / SKELETON OF QUESTION PAPER

Instructions:	1) Put X in the appropriate box below the question number once only 2) Use blue ball point pen only. 3) Each question carries One mark 4) Students will not be allotted mark if he / she overwrites strikes or put white ink on the cross once marked									
1.	SECTION "A" MCQ (20 Marks)									
	Multiple Choice Questions (Total 20 MCQ of One mark each) (1 X 20 = 20 Marks)									
	A)	B)	C)	D)	E)	F)	G)	H)	I)	J)
	K)	L)	M)	N)	O)	P)	Q)	R)	S)	T)
Instructions:	1) Use blue/black ball point pen only. 2) Do not write anything on the blank portion of the question paper. If written anything. Such type of act will be considered as an attempt to resort to unfair means. 3) All questions are compulsory 4) The number to the right indicates full marks. 5) Draw diagrams wherever necessary. 6) Use a common answer book for all sections.									
	SECTION "B" (40 Marks)									
2.	Long Essay Questions (1 x 10 = 10 Marks) A)									
3.	Reasoning Questions (5 out of 6) (5 x 3 = 15 Marks) A) B) C) D) E) F)									
4.	Short notes (3 out of 4) (3 x 5 = 15 Marks) A) B) C) D)									
	SECTION "C" (40 Marks)									
5.	Short notes (applied aspects) (4 out of 5) (4 x 5 = 20 Marks) A) B) C) D) E)									
6.	Short notes – (one subpart of 5 marks from AETCOM) (4 x 5 = 20 Marks) A) B) C) D)									

MODEL QUESTION PAPER
University examination- III MBBS Part-I
Dept. of Ophthalmology
Total: 100 Marks

Section A MCQ***(20 marks)****1. Discovery of IOL goes with the name**

- | | |
|---------------|-----------|
| a. Von Graffe | b. Young |
| c. Riddley | d. Devics |

2. Normal axial length of emmetropic eye is

- | | |
|----------|----------|
| a. 20 mm | b. 22 mm |
| c. 24 mm | d. 26 mm |

3. Retina is examined with

- | | |
|-------------------|----------------------|
| a. Retinoscope | b. Gonioscope |
| c. Ophthalmoscope | d. None of the above |

4. Visual centre is situated in

- | | |
|------------------|-------------------|
| a. Parietal lobe | b. Frontal lobe |
| c. Midbrain | d. Occipital lobe |

5. which of the following is the shortest acting mydriatic

- | | |
|-------------------|----------------|
| a. Tropicamide | b. Homatropine |
| c. Cyclopentolate | d. Atropine |

6. Optic disc diameter is :

- | | |
|---------|-----------|
| a. 1mm | b. 1.5 mm |
| c. 2 mm | d. 3mm |

7. Jack in the box phenomenon occurs in

- | | |
|-----------------------|---------------------|
| a. Aphakic spectacles | b. Stenopic slit |
| c. Contact lenses | d. Intraocular lens |

8. Vossius ring is seen in

- | | |
|-----------|---------------------|
| a. Cornea | b. Retina |
| c. Lens | d. Anterior Chamber |

9. Aqueous humor is formed by

- | | |
|-------------------------------|------------------------------|
| a. Epithelium of ciliary body | b. Posterior surface of iris |
| c. Lens | d. Pars Plana |

10. Hypermetropia corrected by ciliary muscle tone is

- a. latent
- b. Facultative
- c. Absolute
- d. Total

11. Gonioscopy is used to examine

- a. lens
- b. Retina
- c. Angle of anterior chamber
- d. Vitreous

12. Chronic use of steroids may lead to

- a. Iris atrophy
- b. glaucoma
- c. Corneal Opacity
- d. Retinopathy

13. Which laser is used for capsulotomy?

- a. Diode Laser
- b. Carbondioxide Laser
- c. Excimer Laser
- d. Yag Laser

14. Main muscle responsible for lid elevation:

- a. Muller's muscle
- b. Occipitofrontalis muscle
- c. Superior Muscle
- d. levator palpebrae superioris muscle

15. hordeolum externum is inflammation of

- a. Zeis gland
- b. Meibomian gland
- c. Tarsus
- d. Lacrimal gland

16. Prisms can be used to:

- a. Diagnose squint
- b. Treat squint
- c. measure squint
- d. All of the above

17. Mydriatic drugs are the following except:

- a. Tropicamide
- b. Homatropine
- c. Cyclopentolate
- d. Pilocarpine

18. All are found in 3rd nerve palsy except:

- a. Ptosis
- b. Diplopia
- c. Miosis
- d. Outward eye deviation

19. Neovascular glaucoma is seen in

- a. Diabetes
- b. CRVO
- c. BRVO
- d. all of above

20. Sensory Nerve supply of eyeball is from

- a. Abducent
- b. Trigeminal
- c. Optic
- d. Oculomotor

Section B (40 Marks)**Que. No. 2) Long Essay Questions****(1 x 10 = 10 Marks)**

Write etiology, clinical features & management of bacterial corneal ulcer. Enumerate complications of bacterial corneal ulcer.

Que. No. 3) Reasoning Questions (5 out of 6)**(5 x 3 = 15 Marks)**

1. Write management of myopia.
2. Describe types, clinical features & management of entropion.
3. Write optic nerve head changes & field defects of primary open angle glaucoma.
4. Describe clinical features & management of ocular chemical injuries.
5. Describe etiology, clinical features of scleritis.
6. Enumerate complications of acute iridocyclitis.

Que. No. 4) Short notes (3 out of 4)**(3 x 5 = 15 Marks)**

1. Write clinical features and treatment of acute dacryocystitis
2. Preseptal orbital cellulites
3. Write about counseling of person of high myopia
4. How you will promote for eye Donation?

Section C (40 Marks)**Que. No. 5) Short notes (applied aspects) (4 out of 5)****(4 x 5 = 20 Marks)**

1. Enumerate types of ophthalmic lasers with one clinical application of each.
2. Enumerate types of astigmatism.
3. Enumerate structures developed from neuroectoderm.
4. Enumerate etiology of complicated cataract.
5. Enumerate diseases causing leucocoria.
- 6.

Que. No. 6) Short notes – (one subpart of 5 marks from AETCOM) (4 x 5=20 Marks)

1. Describe clinical features & management of retinoblastoma.
2. Write etiology of proptosis.
3. Write in detail vision 2020.
4. Discuss differential diagnosis of acute red eye.



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