

Syllabus for the post of

(1) Associate Professor, Ophthalmology, Class-I (Advt. No.: 67/2019-20)

(2) Assistant Professor, Ophthalmology, Class-I (Advt. No.: 89/2019-20)

Marks – 200

Questions – 200

Medium - English

1. BASIC SCIENCES RELATED TO OPHTHALMOLOGY:

- Anatomy including Embryology and Histology of the eyeball with all structures, surface anatomy of eye, Ocular adnexa, orbit, cranial nerves and visual pathway.
- Physiology of vision and physiology in relation to Ocular structures.
- Neurology of vision including Sympathetic supply to the eye.
- Ocular Biochemistry including Biochemistry of lens and other ocular structures.
- Microbiology applicable to eye and principles of general microbiology.
- Pathology applicable to eye and adnexa including tumors.
- Complete Ocular Pharmacology and general principles of Pharmacology also including various dyes used in Ophthalmology, various routes for administration of drugs in Ophthalmology.
- Ocular Immunology.
- Anatomy of Extraocular muscles including its origin-insertion, actions, nerve supply, blood supply.
- Genetics in relation to Ophthalmology.
- Importance of stem cells in Ophthalmology.

2. OPTICS AND REFRACTION:

- Basic physics of Optics.
- Optics of the eye including concept of Reduced eye and Schematic eye
- Principles of retinoscopy.
- Uses of trial set and trial frame.
- Testing of visual acuity and subjective corrections including visual acuity testing in children.
- Instruments and equipments and techniques used in assessment of all visual functions.
- Refractive errors including Presbyopia and its management in detail.
- Optics in Aphakia and Pseudophakia.

- Orthoptics and use of prisms in Ophthalmology.
- Malingering.
- Low visual aids.
- Basics of spectacle prescription and contact lenses.

3. OCULAR EMERGENCIES AND ITS MANAGEMENT:

4. NATIONAL PROGRAMME FOR CONTROL OF BLINDNESS AND VISUAL IMPAIRMENT:

- Blindness and its causes and quantum.
- Eye banking and Eye donation.
- Eye camps- organization, its role in present day.
- School eye screening programme.
- Various Incentives provided to NGO and Private sector under the Programme.
- Important days and events like Eye donation fortnight, World sight day, World glaucoma week, World keratoconus day etc.
- Trachoma elimination programme.
- Visual disability : according to visual acuity and field of vision.

5. DISORDERS OF ORBIT AND ADNEXA

Including conditions like Fracture of orbital bones, inflammatory conditions, benign and malignant tumors etc.

6. DISORDERS OF EYELIDS

Including disorders of eyelashes, entropion, ectropion, blepharitis, sty, chalazion, ptosis and lid retraction, lid malposition, dermatochalasis etc.

7. DISORDERS OF LACRIMAL GLAND

Including disorders of lacrimal gland, lacrimal outflow passages, dacryocystitis and various tests and clinical procedures used to test its functional status.

8. CONJUNCTIVA

Including all forms of conjunctivitis, Pterygium, Pinguecula, OSSN, Symblepharon, Impression cytology, Conjunctival grafting and limbal stem cells.

9. CORNEA

Precorneal tear film, Computer vision syndrome, Dry eye, Corneal infections, Ectasias, Degenerations and Dystrophies, Corneal

transparency, various techniques of examination and assessment of corneal functions, various depositions on cornea, abnormality in shape and size, various surgical and laser procedures on cornea.

10. SCLERA

Importance of sclera and its disorders like- Episcleritis and Scleritis.

11. GLAUCOMA

Prevalence, Clinical features, diagnosis and management of various types of Glaucomas like Open angle and Angle closure, Primary and Secondary glaucomas, Pediatric and adult glaucomas, Special glaucomas like Ciliary block glaucoma etc. Details about tonometry and Intra ocular pressure and its variations, visual field and its assessment, advanced equipments for glaucoma diagnosis and monitoring, various drugs, lasers and surgical procedures used in glaucoma treatment, newer advances in treatment of glaucoma. Role of provocative tests.

12. ANTERIOR CHAMBER

- Abnormalities in content, shape and depth and its clinical importance etc.
 - Angle of anterior chamber- its clinical importance & measurement, classification, gonioscopy, goniotomy and uses of modern equipments to study the angle of anterior chamber.

13. UVEA

Including all types of Uveitis with its clinical manifestations, examination, investigations and treatment with Endophthalmitis and Sympathetic Ophthalmitis, tumors of Uvea, involvement of Uvea in other systemic diseases etc, various types of iridectomies with its importance, conditions like essential iris atrophy, Iridocorneo endothelial syndromes etc. Congenital abnormalities of Uvea like aniridia etc.

14. PUPIL

Clinical importance of pupillary reactions, abnormal type of pupils and pupillary reactions, mydriasis, miosis, anatomy and neurology of pupillary fibres etc.

15. LENS

Anatomy and Biochemistry of lens, congenital abnormalities including anomalies in shape, subluxation and dislocation, zonules and its disorders, all types of cataracts with its clinical features and management in detail including surgeries, its complications and recent advances.

16. VITREOUS

Anatomy, Biochemistry and development of vitreous, its clinical significance and its substitutes, disorders like vitreous degeneration and haemorrhage, detachment of vitreous surgical procedures on vitreous, role of intravitreal drugs etc.

17. RETINA

Anatomy, Development, Physiology and Neurology of retina, importance of examination of retina and various methods used to do so, anatomy of macula, its disorders and its management, macular function tests, degenerations and dystrophies, detachment and schisis, tumors of retina including retinoblastoma and its management, Retinopathy of prematurity and its management, pigmentary disorders of retina, importance of investigations like Electroretinogram and EOG etc, affection of retina in various metabolic disorders, conditions causing Bull's eye maculopathy and cherry red spot etc.

18. STRABISMUS AND OCULAR MOTILITY DISORDERS

Including development of Binocular single vision, Concepts of Yoke muscles, Synergists and Antagonists, Sherrington's and Hering's law, Horopter, Panum's area etc, Examination and assessment of squint, various types of squint and its management, Amblyopia its types and management, Convergence, accommodation and its disorders, Nystagmus its types, clinical features and management, surgical procedures on extra ocular muscles etc, use of Synoptophore, Prism bars, RAF rule, Bagolini's striated glasses, Red Green glasses,

CAM stimulator and other treatment of Amblyopia etc, Diplopia charting, use of Hess and similar screens etc.

19. MISCELLANEOUS

- All recent advances in field of Ophthalmology including Iris scan and retina scan biometrics.
- All imaging techniques used for Ophthalmology.
- All surgical and Laser procedures with its indications, contraindications, steps of procedure, pre procedure preparation, post procedure complications etc.
- Nutritional disorders affecting eye and its prevention and treatment.
- Neuro Ophthalmology including anatomy of visual and pupillary pathways and different lesions affecting it and resulting defects with its management.
- Assessment of vision including visual acuity for distance and near and various methods of its assessment -their merits and demerits, colour vision testing -various methods used with their merits and demerits, Perimetry -various methods used with their merits and demerits, Contrast sensitivity tests, Glare tests, Tests for stereopsis,
- Occupational hazards and Life Style disease related to eyes.

20. VISION 2020 PROGRAMME- A GLOBAL INITIATIVE

21. Biostatistics, Research Methodology and Clinical Epidemiology.

22. MEDICO LEGAL ASPECTS RELEVANT TO THE DISCIPLINE

23. Health Policy issues as may be applicable to the discipline

24. INDIAN MEDICAL COUNCIL (PROFESSIONAL CONDUCT, ETIQUETTE AND ETHICS) REGULATIONS, 2002.

25. CURRENT TRENDS AND ADVANCEMENTS IN THE FIELD OF OPHTHALMOLOGY.