



## Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD (now MoE)

Re-accredited with 'A++' Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

### Bachelor's Degree Examination – May 2025 II Semester

**Class : I UG**  
**Major : Optometry**

**Time: 3 Hours**  
**Max. Marks: 100**

#### 22BOPC07 Ocular Anatomy

##### Course outcomes:

On the successful completion of the course, students will be able to

CO1: To investigate the growth of human eye.

CO2: To apprehend the anatomy of orbit.

CO3: To analyze the anatomy of cornea and the anterior segment of eye.

CO4: To look into the anatomy of posterior segment of the eye.

CO5: To observe the anatomy of conjunctiva and lacrimal apparatus.

#### Part A

10 x 1 = 10

##### Choose the Correct Answer

1. The optic vesicle, crucial to ocular embryology, is derived from which embryonic tissue? CO1 K1  
a. Neural ectoderm      b. Surface ectoderm      c. Mesoderm      d. Endoderm
2. During lens development, the lens vesicle separates from the: CO1 K1  
a. Neural crest      b. Surface ectoderm      c. Mesoderm      d. Optic cup
3. The orbital floor is primarily formed by which bone? CO2 K1  
a. Maxilla      b. Zygomatic      c. Frontal      d. Sphenoid
4. This cranial nerve innervates the superior oblique muscle? CO2 K1  
a. Oculomotor      b. Trochlear      c. Abducent      d. Trigeminal
5. The lacrimal gland is anatomically divided into: CO3 K1  
a. Orbital and palpebral parts      b. Superior and inferior parts  
c. Medial and lateral parts      d. Anterior and posterior parts
6. The cornea is composed of how many distinct layers (including epithelium and endothelium)? CO4 K1  
a. Three      b. Four      c. Five      d. Six
7. The zonules of Zinn are associated with which structure? CO4 K1  
a. Retina      b. Iris      c. Lens      d. Cornea
8. The inner retina receives its blood supply primarily from the: CO5 K1  
a. Central retinal artery      b. Short posterior ciliary arteries  
c. Anterior ciliary arteries      d. Choroidal vessels
9. The optic nerve is a direct extension of the: CO5 K1  
a. Diencephalon      b. Mesencephalon  
c. Metencephalon      d. Myelencephalon
10. The primary pathway for aqueous humor drainage from the anterior chamber is through the: CO4 K1  
a. Canal of Schlemm      b. Vitreous cavity  
c. Choroidal fissure      d. Subconjunctival space

**Part B**                      **5 x 6 = 30**  
**Answer ALL questions**  
**Each answer should not exceed 400 words or two pages**

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|---|--------|
| 11.a. Describe and draw the lens formation from lens vesicle.<br>(or)               | CO1 K2 |
| 11.b. Discuss the key milestones in ocular embryology and their clinical relevance. | CO1 K2 |
| 12.a. Outline the anatomy of the medial orbital wall.<br>(or)                       | CO2 K2 |
| 12.b. Describe the anatomy of eye lids related to the proximal structures.          | CO2 K2 |
| 13.a. Explain the structure and function of the lacrimal apparatus.<br>(or)         | CO3 K2 |
| 13.b. Discuss the anatomical basis of tear production and drainage.                 | CO3 K2 |
| 14.a. Describe the layered structure of the cornea.<br>(or)                         | CO4 K2 |
| 14.b. Discuss the anatomy of the iris with neat diagram.                            | CO4 K2 |
| 15.a. List out the layers of retina.<br>(or)  | CO5 K2 |
| 15.b. Discuss the anatomy of Optic nerve.   | CO5 K2 |

**Part C**    **5 x 12 = 60**  
**Answer ALL questions**  
**Each answer should not exceed 800 words or four pages**

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|---|--------|
| 16.a. Describe ocular embryology till optic cup formation with neat diagrams.<br>(or)                     | CO1 K2 |
| 16.b. Discuss in detail the anatomy of extra ocular muscles.  | CO2 K2 |
| 17.a. Describe the anatomy of conjunctiva in detail.<br>(or)  | CO3 K2 |
| 17.b. Discuss the anatomy of the orbit.   | CO2 K2 |
| 18.a. Describe the structure and function of lacrimal apparatus including blood and nerve supply.<br>(or) | CO3 K2 |
| 18.b. Discuss in detail the corneal Transparency.   | CO4 K2 |
| 19.a. Discuss the detailed anatomy and functions of Aqueous humour.<br>(or)                               | CO4 K2 |
| 19.b. Detailed notes on anatomy of Uveal Tract.   | CO4 K2 |
| 20.a. Detailed notes on Crystalline lens, fibre and zonules arrangements.<br>(or)                         | CO4 K2 |
| 20.b. Discuss the gross anatomy of retina.  | CO5 K2 |

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