

# Rajiv Gandhi University of Health Sciences, Karnataka

## I Year B.Sc. Optometry Degree Examination - 09-May-2025

**Time: Three Hours**

**Max. Marks: 100**

### **OCULAR ANATOMY, OCULAR PHYSIOLOGY AND OCULAR BIOCHEMISTRY (RS-4)**

**Q.P. CODE: 3343**

Your answers should be specific to the questions asked

Draw neat, labeled diagrams wherever necessary

#### **LONG ESSAYS (Second Question Choice)**

**2 x 10 = 20 Marks**

1. What is accommodation? What are the changes observed during the act of accommodation within the eye? Write a note on factors responsible for maintaining the lens transparency
2. Write short note on transmission of special sensory information from retina of the eye to the primary visual cortex of the brain. Write a note on photochemical changes that occur on absorption of light in rods

**OR**

Explain briefly about vitreous zones. Enlist the vitreal attachments in an order from strongest to weakest

#### **SHORT ESSAYS (Question No 5 & 10 choice)**

**10 x 5 = 50 Marks**

3. Explain about the glucose metabolism in the cornea
4. Explain the physiology of eyelid opening and closure
5. Write short note on layers of eyelid

**OR**

Explain the histological layer of cornea

6. Describe about aqueous circulation in anterior segment. Write short note on aqueous drainage
7. Explain briefly the chemical compositions of tear film with its functions
8. With a neat diagram explain the visual pathway and the structures in detail
9. Explain the development of the cornea and sclera
10. Role of vitamin A in the synthesis of Rhodopsin and retinal function

**OR**

Explain in detail the histological layers of conjunctiva

11. Name coats of eyeball and their functions
12. Name extra ocular muscles, their nerve supply and action

#### **SHORT ANSWER (Question No 15 & 20 choice)**

**10 x 3 = 30 Marks**

13. List the ocular structures derived from surface ectoderm during embryonic development
  14. What is Tenon's capsule? Write about its anatomical position in the eye
  15. List the protective mechanisms in the eye
- OR**
- How do the iris forces control the pupil size in different illuminations?
  16. Define far point and near point of accommodation
  17. Where is the blood-retinal barrier present and what does it do?
  18. Which cranial nerve innervates the four of six extraocular muscles? Which other parts of the eye does it supply?
  19. Enlist the structures lining the anterior chamber
  20. What is the role of Hyaluronic acid in vitreous?

**OR**

What are the various lens fibres seen in an adult lens?

21. What are the impacts of free radicals on to retina?
22. Define visual acuity. What are the charts used to measure visual acuity in clinical practice?

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