

# Rajiv Gandhi University of Health Sciences, Karnataka

II Year B.Sc. Optometry Degree Examination - 21-Nov-2024

Time: Three Hours

Max. Marks: 100 Marks

## VISUAL OPTICS (RS-4)

Q.P. CODE: 3347

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 the optical principles of subjective refraction? Write in detail about the procedure involved in the monocular subjective refraction.
2. Define hypermetropia. Explain the causes, clinical types along with features in detail.

**OR**

What is accommodation? Write the mechanism of accommodation with diagram

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

10 x 5 = 50 Marks

3. During a routine dilated fundus examination, what fundus changes would indicate the presence of pathological myopia?
4. Classify regular astigmatism and explain each type with an example.
5. Describe various methods of measuring accommodation in clinical practice.

**OR**

Write a short note on relative spectacle magnification.

6. Explain the optics of retinoscopy for emmetropia with the help of ray diagram.
7. Write short note on cycloplegic refraction.
8. Various types of charts available to measure contrast sensitivity and its clinical procedure.
9. Explain the properties of Gullstrand's schematic eye with the help of a diagram.
10. Write a note on various contributing factors in the process of development of refractive error.

**OR**

What is phoropter? Write the advantages of phoropter.

11. Short note on clinical features and management strategies for presbyopia.
12. What is clock dial chart? How is this chart used in the clinical practice?

### SHORT ANSWER

10 x 3 = 30 Marks

13. A person having refraction OD: +3.00DSph/-1.00DCylx90. Draw Sturm's Conoid for this eye condition and state which type of astigmatism is present in this patient?
14. Write a note on illumination of consultation room and how does it play a role in the practice.
15. List down the various methods of binocular balancing and its purpose.
16. What is rowing ring scotoma? How do we overcome this condition in clinical practice?
17. Write any three procedures in clinical practice which involves light and dark adaptation.
18. How does ocular refraction vary from spectacle refraction?
19. What are the clinical scenarios where concave mirror effect is used in retinoscopy?
20. Write about the relation between accommodation and convergence.
21. Define the following terms: a) Catoptric power b) Visual acuity c) Spatial resolution
22. Enlist the accessories of trial set and write one use of each.

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