

# Rajiv Gandhi University of Health Sciences, Karnataka

## III Year B.Sc. Optometry Degree Examination – 14-Nov-2025

**Time: Three Hours**

**Max. Marks: 100**

### **RESEARCH METHODOLOGY AND STATISTICS (RS-4)**

**Q.P. CODE: 3353**

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. Describe following terms with diagram-  
a) Negatively skewed b) Positively skewed c) Kurtosis
2. What is Research? Explain the steps and methods involved in research process?

**OR**

Write on hypothesis testing in 10 steps

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

**10 x 5 = 50 Marks**

3. Difference between Cohort study and cross-sectional study
4. Properties of a normal distribution with diagram
5. The wages of workers at random from factory are given as wages (€): 578, 572, 570, 578, 560, 567, 588 and 589. Find the mean and SD

**OR**

What is data and explain types of data?

6. Explain the types of measurement scales. Illustrate an example for each scale
7. Find the mean, median, mode for the following list of values – 13, 18, 13, 14, 13, 16, 14, 21, 13
8. Write a short note on proportion, incidence and prevalence
9. Explain the validity and reliability with example
10. Explain the concept of health and disease. and give one examples with ocular condition

**OR**

Difference between Quantitative data and Qualitative data

11. Define correlation. List types of correlation
12. Define probability sampling. What are the types of sampling in statistics?

#### **SHORT ANSWER**

**10 x 3 = 30 Marks**

13. Merits and demerits of mode
14. What is an alternative hypothesis with example?
15. Define probability sampling
16. Recent study reveals that over usage of gadgets leads to 75.3% of headache, 42% of blurring of eye, 38% of redness of eye, 20% of nausea and 60% of sleepless. Draw a pie chart and bar diagram for this conditions
17. Define morbidity with example
18. Define epidemiology
19. Define kurtosis with graph
20. Importance research in optometry
21. Define notification of disease
22. Define mortality with examples

\*\*\*\*\*