

Rajiv Gandhi University of Health Sciences, Karnataka

VIII Semester Bachelor of Occupational Therapy Degree Examination – 07-Nov-2025

Time: Three Hours
100

Max. Marks:

BIostatistics AND RESEARCH METHODOLOGY – RS

Q.P. CODE: 3442

(QP Contains two papers)

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Explain about case studies and observational studies with examples
2. Define range. Mention the applications of normal distribution curve in the field of physiotherapy
3. Calculate :

a. Coefficient of variation from following data:

x	6	9	3	9	7	8	3	7
y	7	8	6	2	5	4	5	8

SHORT ESSAYS (Answer any Ten)

10 x 5 = 50 Marks

4. Differences between descriptive and inferential statistics
5. Write the steps for determination of sample size for simple experiments
6. Calculate quartile deviation from the following ungrouped data 5,12,13,15,10,20,16,25,19,27,8
7. What are measures used for central tendency? And write its equations and terms
8. Discuss about pie charts and scatter plots
9. Enumerate the conditions in which
 - a. Paired and unpaired sample t test
 - b. Parametric tests and non-parametric tests
10. Calculate the mean deviation from the following ungrouped data: 15,18,14,15,12,10,7
11. Write a note on Wilcoxon's signed rank test with examples
12. Explain the different statistical parameters used in epidemiology
13. Discuss the limitations of statistics used in biomedical research
14. What is standard deviation and its importance in research?
15. Explain the confidence interval in detail

SHORT ANSWERS (Answer any Ten)

10 x 3 = 30 Marks

16. Explain the different types of scales of measurement with examples
17. When frequency distribution is said to be a symmetrical distribution? Explain skewness and its different measures
18. Explain histogram, frequency polygon and ogives with examples and diagrams
19. Nine patients held their breath, once after breathing normally and relaxing for one minute and once after hyperventilating for one minute. The table shows how long in (sec) they were able to hold their breath

Patient	A	B	C	D	E	F	G	H	I
normal	37	38	62	42	35	44	65	48	24
Hypervent	85	55	66	74	87	45	90	76	58

20. What do you mean by central tendency of the data? Define mean, median and mode as measures of central tendency

Rajiv Gandhi University of Health Sciences, Karnataka

21. Calculate the mean for the following distribution of scores

Scores	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Frequency	2	4	6	3	9	5	3

22. Explain spearman rank correlation coefficient. Calculate spearman rank correlation coefficient from the following data :

Rank of x	15	17	19	28	17	37	37	18
Rank of y	18	18	26	13	25	24	36	28

23. What do you mean by regression? Discuss the expression of two regression coefficients. Also write their properties
24. Write a short note on any three of the following
- Normal Distribution
 - Standard Deviation
 - Variance
 - Dispersion
25. The number of college students in hostel, speaking different languages is given below. Draw a epigram of this data

Language	Number of students
Kannada	10
Tamil	30
Telegu	15
Malayalam	25
Coorgi	20

26. Mention the uses of review of literature and its importance in research
27. Explain the concept of measures of variability and standard error of mean
