

**Rajiv Gandhi University of Health Sciences, Karnataka**  
IV Year Pharm-D / I Year Pharm-D (Post Baccalaureate) Degree Examination –  
NOVEMBER 2015

**Time: Three Hours****Max. Marks: 70 Marks****BIOSTATISTICS AND RESEARCH METHODOLOGY****Q.P. CODE: 2870**

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. Classify clinical study designs. Discuss different types of observational clinical studies in detail with suitable examples.
2. Describe the construction of different types of graphical representation of statistical data with suitable examples.
3. Define epidemiology. Discuss with suitable examples about incidence, prevalence, relative and attributable risk.

**SHORT ESSAYS (Answer any six)****6 x 5 = 30 Marks**

4. Define linear regression and correlation? How are they useful in pharmaceutical research?
5. Write a note on statistical software applications in clinical studies.
6. Write a note on computer applications of inventory control in hospital pharmacy.
7. Explain with the help of a suitable example different measures of central tendency.
8. Discuss the relationship between sample size and power of the test.
9. What is ANOVA? Explain the steps involved in ANOVA. Which alternative non-parametric test do you suggest instead of ANOVA?
10. Short note on Student's t-test.
11. For the following blood pressure measurements: 100, 98, 101, 94, 104, 102, 108, 106, calculate the (a) Mean (b) Standard deviation and (c) Coefficient of variation.

**SHORT ANSWERS****10 x 2 = 20 Marks**

12. Difference between ordinal and ratio scale of quantitative variables.
13. Define null and alternate hypothesis.
14. What is level of significance?
15. What are the benefits of computer based patient record.
16. Define blinding in clinical studies.
17. Comparison of two quantitative measurements taken from the same individual which parametric and non parametric test can be used in inferential statistics?
18. Computerized medication order entry.
19. Standard error of mean.
20. Difference between parametric and non-parametric tests.
21. Confidence intervals.

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