

15

# Rajiv Gandhi University of Health Sciences, Karnataka

Year Pharm-D (I Year Pharm D Post Baccalaureate) / IV Year Pharm-D Degree Examination - MAY 2017  
Time: Three Hours

## BIostatistics AND RESEARCH METHODOLOGY

Q.P. CODE: 2870 / 2886

Max. Marks: 70 Marks

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

### LONG ESSAYS (Answer any two)

1. What are case studies? Why are they conducted, explain them in detail.

2 x 10 = 20 Marks

2. List the applications of computing systems in hospital pharmacy.

3. Discuss the hypothesis testing of parametric data.

### SHORT ESSAYS (Answer any six)

1. How do you design a parallel group study?

6 x 5 = 30 Marks

2. Explain different methods of describing data using the measures of central tendency.

3. Define (a)  $\alpha$  error and  $\beta$  error (b) Define confidence level and (c) power of the test

4. A tablet is produced with a labeled potency of 100mg. the standard deviation is known to be 10. What size sample should be assayed if we want to have 90% power to detect a difference of 3mg from the target. The test is done at 5% level.

5. Define Epidemiology. Explain types of epidemiological markers.

6. Explain accounting and general ledger systems.

7. Explain Wilcoxon's signed rank test and sign test.

8. Uses of computers in pharmaceutical care

### SHORT ANSWERS

10 x 2 = 20 Marks

1. Importance of sample size determination in research.

2. Advantages and disadvantages Pie charts.

3. Explain: Range, Interquartile range and Variance

4. Define Regression. Explain types of regression.

5. Define bias in clinical study.

6. Define quantitative and qualitative variables.

7. Applications of Semi logarithmic plots

8. R values of Correlation.

9. Sign test.

10. Define Variance.

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