Rajiv Gandhi University of Health Sciences, Karnataka
IV Year Pharma-D (Post Baccalaureate) Degree Examination – Jan 2014

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. What are case studies? Explain.

2. Define (a) Incidence rate, (b) Prevalence rate, (c) Relative risk, and (d) Attributable risk.

3   Explain the role of computers in maintaining patient medication profiles.

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

4. Define correlation and regression. Interpret the correlation coefficient for its different values.

5. Define relative measures of variation. Explain its importance over standard deviation with an illustration.

6. Describe analysis of variance by stating related assumptions. Explain why Student's t-test cannot be applied where analysis of variances has to be applied.

7. Describe the different types of graphical methods used for presenting qualitative data.

8. Write a note on statistical software.

9. Write a note on computerizing the prescription dispensing process.

10. The following data on pulse rate are obtained in a study to assess the effectiveness of two drugs.
    Drug A: 90, 89, 94, 103, 96, 107, 112, 95, 112, 101
    Drug B: 98, 82, 89, 85, 78, 81, 80, 73, 71, 70
    Test which drug is more effective in reducing the pulse rate by stating suitable hypotheses. (Critical value is 1.734)

11. What are the assumptions under which Chi-square test can be applied to analyze data? If these assumptions fail which alternative statistical test do you suggest in analyzing data?

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

12. Student's paired t-test

13. Quantitative and qualitative variables

14. Scattered plot

15. Type – I and Type – II errors

16. Sign test

17. Semi logarithmic plots

18. Percentiles

19. Pearson's correlation

20. Role of sample size in the calculation of confidence interval

21. Report writing

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