Bio Research methd 2870_2012_2_S183.doc

Rajiv Gandhi University of Health Sciences, Karnataka
IV Year Pharma-D (Post Baccalaureate) Degree Examination – Sep 2012

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?

2. Define   a) incidence rate   b) prevalence rate, c) Relative risk, and   d) Attributable risk

3. Distinguish between the measures of central tendency and measures of spread(or variation)

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

4. What is linear regression? How is it useful in pharmaceutical sciences?

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

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

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

8. Write a note on statistical software

9. a) define Null hypothesis and alternative hypothesis
   b) relationship between sample size and power of the test

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 hypothesis (Critical value : 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 analyzing data? For what type of data chi-square test is applied?

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. ANOVA
20. Role of sample size in the calculation of confidence interval
21. Role of standard error in testing of hypothesis.