Q.P. Code: 404326   **Reg. no.: …………………**

Fourth Year Pharm D Degree Examinations, August 2014

Biostatistics & Research Methodology

Time: 3 Hours   **Total Marks: 70**
- Answer all questions
- Draw diagrams wherever necessary

Essay: **(3x10=30)**

1. Classify the various types of clinical study designs. Explain case and observational studies with suitable examples.

2. Explain the advantages and disadvantages of non - parametric tests. Enumerate the various non-parametric tests. Add a note on Wilcoxan's signed rank test.

3. Define testing hypothesis. Outline the different stages involved in testing of a hypothesis.

Short notes: **(8x5=40)**

4. Estimate mean, standard deviation for the hemoglobin values (gm/dl) of 10 children receiving therapy for haemolytic anemia.

   8.3   9.1   10.0   9.9   11.3   12.3   9.13   9.8   7.5 and   6.6

5. Explain different statistical softwares.

6. Semi-logarthimic plots.

7. Computerized literature retrieval.

8. Type-I and type-II errors.

9. Paired and unpaired t-tests.

10. One way Anova

11. Relative and attributable risks.

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