

**C.U.SHAH UNIVERSITY**

WADHWAN CITY

University (Winter) Examination -2013

Subject Name: -Biostatics

Marks :35

Course Name : M.Pharm Sem-I

Duration :- 2:00 Hours

Date : 8/1/2014

**Instructions:-**

- (1) Attempt all Questions of both sections in same answer book / Supplementary.
- (2) Use of Programmable calculator & any other electronic instrument is prohibited.
- (3) Instructions written on main answer Book are strictly to be obeyed.
- (4) Draw neat diagrams & figures (If necessary) at right places.
- (5) Assume suitable & Perfect data if needed.

- Q1.** Define statistics. Write about functions , applications and limitations of statistics. (4)
- Q2.** (a) Differentiate between Parallel and crossover designs. (5)
- (b) What are different Statistical tests for bioequivalence? Explain in brief. (5)
- (c) Give the principles of design for clinical experiment. (4)

**OR**

- (a) In an experiment on immunization of patients from tuberculosis the following result were obtained. Calculate  $\chi^2$  and discuss the effect of vaccine in controlling susceptibility to tuberculosis ( $\chi^2_{5\%}=3.84$ ) (5)

	Affected	Not Affected
Inoculated	12	26
Non Inoculated	16	6

- (b) Differentiate between spearman rank correlation coefficients and persons product coefficients. (5)
- (c) Write the significance and methods for studying the Correlation. (4)
- Q3.** Write a shot notes on student t test (3)
- Q4.** (a) What do you mean by hypothesis? Explain the procedure of testing the hypothesis. (5)
- (b) Write a short note on Multiple regression analysis. (4)
- (c) For a random sample of 12 persons fed on drug A, the increased weight, in pounds in a certain period were: 7,13,22,15,12,14,18,8,21,23,10,17 For another sample of 10 persons, fed on drug B, the increase in the same period were: 10,6,16,17,13,12,8,14,15,9 Test whether the drug A and B differ significantly as regards their effect on increase in weigh. ( $t_{5\%}=2.09, v=20$ ) (5)

**OR**

- (a) Differentiate between 'Descriptive' and 'Inferential' Statistics. (5)
- (b) The below mentioned three samples have been obtained from normal populations with equal variances. Test the hypothesis that the sample means are equal. ( $F_{5\%}=3.88, v_1=2, v_2=12$ ) (5)

8	7	12
10	5	9
7	10	13
14	9	12
11	9	14

- (c) The following table gives the ages in years of 10 husbands and their wives at marriage. Compute the correlation coefficient and test for its significance. ( $t_{5\%}=2.31, v=8$ ) (4 Marks)

Husband's age	23	27	28	29	30	31	33	35	36	39
Wife's age	18	22	23	24	25	26	28	29	30	32

\*\*\*\*\*8\*\*\*14\*\*\*\*\*



