C 32290 (Pages : 2) Name.....

Reg. No.....

FIRST SEMESTER M.B.A. DEGREE EXAMINATION, DECEMBER 2017

(CUCSS)

BUS IC 08 – QUANTITATIVE TECHNIQUES

(2013 Admissions)

Time : Three Hours Maximum : 36 Weightage

Part A

Answer **all** *the questions.*

Each question carries 1 *weightage.*

1. Give the classical definition of Probability.
2. Explain the term "Mutually Exclusive Events" with suitable illustration.
3. Define Poisson Distribution.
4. Define Population and Sample.
5. Distinguish between Positive and Negative correlation.
6. Explain the term 'Level of Significance'.

(6 × 1 = 6 weightage)

Part B

Answer any **six** *questions.*

Each question carries 3 *weightage.*

7. What is Chi-square test? Explain its uses.
8. Explain the method of calculating mean using SPSS.
9. Define Binomial Distribution and state the conditions under which the distribution holds.
10. The average life of 26 electric bulbs were found to be 1200 hours with a standard deviation of 150 hours. Test whether these bulbs could be considered as a random sample from a normal population with mean 1300 hours.
11. One bag contains 4 white and 2 black balls. Another contains 3 white and 5 black balls. One ball is drawn from each bag. Find the probability that :
    (i) Both are of the same colour.
    (ii) Both are of different colours.
12. Define Regression Analysis. Explain its utility.

Turn over

13. Write notes on :

    (i) Sign Test.

    (ii) Kruskal-Wallis Test.

14. Point out the difference between the one-tail and two tail tests.

(6 × 3 = 18 weightage)

Part C

Answer any **two** *questions.*

Each question carries 6 *weightage.*

15. Out of a sample of 120 persons in a village, 76 persons were administered a new drug for preventing influenza and out of them, 24 persons were attacked by influenza. Out of those who were not administered the new drug, 12 persons were not affected by influenza.

    Prepare : (a) 2 × 2 table showing the actual and expected frequencies ; (b) Use Chi-square Test for finding out whether the new drug is effective or not.

    At 5% level for one degree of freedom the value of Chi-square = 3.84.

16. The following table gives the sample psychological health ratings of executives in the Government department, Public Sector and Private Sector :

		Psychological Health Rating
Government	...	64, 74, 76, 75, 81, 67
Public Sector	...	75, 81, 78, 68, 73, 69
Private Sector	...	71, 83, 84, 85, 73, 70

    Using the analysis of variance technique, conclude whether or not psychological health of the executives in the sectors is equal.

17. The following table gives the supply and price figures for a commodity for 6 days. Calculate the correlation coefficient between price and supply :

Days :	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Price :	22	30	25	20	15	8
Supply :	10	12	15	20	23	28

    What conclusion do you draw from the result?

(2 × 6 = 12 weightage)