FIRST SEMESTER M.Com. DEGREE EXAMINATION, NOVEMBER 2022

(CBCSS - PG)

(Regular/Supplementary/Improvement)

CC19P MCM1 C03 - QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

(Commerce)

(2019 Admission onwards)

Time : 3 Hours   Maximum : 30 Weightage

Part-A

Answer any *four* questions. Each question carries 2 weightage.

1. Explain the significance of quantitative decisions.

2. What are the situations under which Poisson distribution can be applied?

3. Define normal distribution.

4. Explain the uses of Analysis of Variance.

5. What are the chacteristics of non parametric tests?

6. What do you mean by linear and non-linear correlation?

7. What is Microsoft Excel?

(4 × 2 = 8 Weightage)

Part-B

Answer any *four* questions. Each question carries 3 weightage.

8. The probability that a batsman scores a century in a cricket match is 1/3. What is the probability that out of 5 matches, he may score century in (1) exactly 2 matches (2) no match.

9. A random sample of 25 people from a population showed incomes with a mean = Rs.4800 and SD=Rs.500. Estimate the population mean 95% confidence interval. What assumption did you make about the population and how would you justify it?

10. A soap manufacturing company was distributing a particular brand of soap through a number of retail shops. Before a heavy advertisement campaign, the mean sales per week per shop was 140 dozens. After the campaign, a sample of 20 shops was taken and mean sales was found to be 147 dozen with standard deviation 16. Can you consider the advertisement effective?

11. 1000 ladies were chosen at random from the inhabitants of Bombay city and 550 were found to have dark eyes. Does this finding contradict the hypothesis that the event of a lady having dark eyes has probability ½?

12. Compare and explain critical region and acceptance region in hypothesis testing.

13. If r12 = 0.98, r13 = 0.44 and r23 = 0.54, find (1) r12.3, 2) r13.2 and (3) r23.1

14. If r12 = 0.7, r31 = r23 = 0.5, σ1 = 2, σ2 = 3 and σ3 =3, find the equation of plane of regression x1 on x2 and x3.

(4 × 3 = 12 Weightage)

Part-C

Answer any *two* questions. Each question carries 5 weightage.

15. The mean yield of wheat from District I was 210Kg per acre from a sample of 100 plots. In another District II, the mean yield was 200 Kg per acre from a sample of 150 plots. Assuming that the S.D of yield of the entire State was 11 Kg, test whether there is any significant difference between the mean yields of the crop in the two districts.

16. The percentage of defective parts turned out by the same machine on two consecutive days are 8 and 6. If 500 parts are turned out on each of the two days, would it be justified to claim that the quantity has improved? (∞=.01)

17. A systematic sample of 100 pages was taken from the concise oxford dictionary and the observed frequency distribution of foreign words per page was found to be as follows.

No.of foreign words per page	0	1	2	3	4	5	6
Frequency	48	27	12	7	4	1	1

18. From the following results, estimate the yield of crops when the rainfall is 22 cms and the rainfall when the yield is 600 Kgs.

	Yield in Kgs(Y)	Rainfall in cms(X)
Arithmetic Mean	508.4	26.7
Standard Deviation	36.8	4.6

Correlation coefficient between X and Y is 0.52

(2 × 5 = 10 Weightage)

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