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Name.....

Reg. No.....

**FIRST SEMESTER M.Com. (CBCSS) [REGULAR/SUPPLEMENTARY] DEGREE
EXAMINATION, NOVEMBER 2023**

Master of Commerce

MCM 1C 03—QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS
(2019 Admisson onwards)

Time : Three Hours

Maximum Weightage : 30

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

1. Explain the role of quantitative techniques in decision making.
2. State the concept of (a) Point estimation (b) Interval estimation.
3. What is F Test ? List out some of its applications.
4. Distinguish between Regression and Correlation.
5. Bring out the important properties of Poisson distribution.
6. Define hypothesis. Briefly explain different types of hypotheses.
7. Discuss the use of Excel in data analysis.

(4 × 2 = 8 weightage)

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

8. Briefly explain the limitations of quantitative techniques.
9. Write note on (a) One sample test and (b) Two sample tests.
10. The weekly wages of 1000 workmen are normally distributed around a mean of Rs. 70 and Standard deviation of Rs. 5. Estimate the number of workers whose weekly wages will be (a) between Rs. 69 and Rs. 72 ; (b) More than Rs. 75 ; (c) Less than Rs. 63.
11. A survey was conducted to study the relationship between expenditure on accommodation (x) and expenditure on food (y) and the following results were obtained :

| | Mean | Standard Deviation |
|--|-------|--------------------|
| Expenditure on Accommodation (Rs.) ... | 173 | 63.15 |
| Expenditure on Food (Rs.) ... | 47.86 | 22.98 |

Co-efficient of correlation = + 0.57

Write down the regression equation and estimate the expenditure on food when the expenditure on accommodation is Rs. 200.

Turn over

12. Following table use the yield of 15 sample plots and 3 varieties of seeds :

| | A | B | C |
|----|----|----|---|
| 20 | 18 | 25 | |
| 21 | 20 | 28 | |
| 23 | 17 | 22 | |
| 16 | 15 | 28 | |
| 20 | 25 | 32 | |

- Test whether the average yield of land and the varieties of seeds differ significantly.
13. In a referendum submitted to the 'student body' at a university, 850 men and 550 women voted. 530 of the men and 310 of the women voted 'yes'. Does this indicate a significant difference of the opinion on the matter between men and women students ?
14. A factory is producing 50000 pairs of shoes daily. From a sample of 500 pairs, 2 % are found to be of substandard quality. Estimate the number of pairs that can be reasonably expected to be spoiled in the daily production and assign limits at 95 % level of confidence.

(4 × 3 = 12 weightage)

Section C

Answer any two questions.
Each question carries 5 weightage.

15. The recruits were subjected to selection test to ascertain their suitability for a course of training. At the end of the training, they were given proficiency test. The scores secured by the recruits are recorded below :

| | | | | | | | | |
|------------------------------|----|----|----|----|----|----|----|----|
| Selection Test Score (X) : | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 67 |
| Proficiency Test Score (Y) : | 67 | 68 | 64 | 72 | 70 | 67 | 70 | 68 |

Calculate co-efficient of correlation and comment on the result.

16. Based on information on 1000 randomly selected fields, about the tendency status of cultivation of these fields and use of fertilizers, collected in Agro economic survey, following classification was noted :

| | Owned | Rented | Total |
|-----------------------|-------|--------|-------|
| Using fertilizers | 416 | 184 | 600 |
| Not using fertilizers | 64 | 336 | 400 |
| Total | 480 | 520 | 1000 |

Would you conclude that owner cultivators are more inclined towards the use of fertilizers at 5 % level. Use Chi square.

17. Two samples are drawn from two normal population. From the following data test whether the two samples have the same variance at 5 % level :

| | | | | | | | | |
|------------|----|----|----|----|----|----|----|----|
| Sample 1 : | 60 | 65 | 71 | 74 | 76 | 82 | 85 | 87 |
| Sample 2 : | 61 | 66 | 67 | 85 | 78 | 63 | 85 | 86 |
| | | | | | | | 88 | 91 |

18. Explain the different tools for analysis, available in SPSS.