D1ACM2203 **(2 Pages)** **Name.....**
Reg.No.....

FIRST SEMESTER M.Com DEGREE EXAMINATION, NOVEMBER 2022
(Regular/Improvement/Supplementary)

COMMERCE
FMCM1C03- QUANTITATIVE TECHNIQUES FOR BUSINESS DECISIONS

Time: 3 Hours **Maximum Weightage: 30**

Part A: Answer any *four* questions. Each carries *two* weightage.

1. Define Quantitative Techniques.
2. What is a contingency table?
3. How does standard error differ from standard deviation?
4. What do you mean by probable error?
5. Write a short note on inferential analysis.
6. What do you mean by (i) Critical region (ii) Level of significance?
7. How does Poisson distribution differ from Binomial distribution?

(4 × 2= 8 weightage)

Part B: Answer any *four* questions. Each carries *three* weightage.

8. How do you test the significance of difference between two population means?
9. Five dice are thrown 150 times. The occurrence of an odd face is considered a success. In how many throws, do you expect: (i) Less than 4 successes (ii) At least 3 successes and (iii) exactly one success.
10. Out of 8000 graduates in a town 800 are female, out of 1600 graduate employees 120 are female. Use Chi-square test to determine if any distribution is made in appointment on the basis of sex. Value of chi-square at 5% level for one degree of freedom is 3.84.
11. What are the major benefits of SPSS compared with other packages?
12. A manufacturer claimed that at least 95% of the equipments which he supplied to a factory conformed to specifications. An examination of a sample of 200 pieces of equipments revealed that 18 were faulty. Test his claim at a significance level of: (i) .05 (ii) .01.

(P.T.O.)

13. Find the coefficient of correlation from the following:

X: 12 20 15 22 18 24 20 12 15 22

Y: 30 35 28 36 29 39 30 25 30 38

14. Explain important statistical tools that are applied in statistical analysis.

(4 × 3 = 12 weightage)

Part C: Answer any *two* questions. Each carries *five* weightage.

15. Explain the role of Quantitative techniques in business management. Discuss the scope and limitations of Quantitative techniques.

16. a) Define Regression analysis.

b) The following data shows the Maximum and Minimum temperature on a certain day at 10 important cities throughout India.

Maximum temperature: 29 23 25 15 27 29 24 31 32 35

Minimum temperature: 8 3 7 5 8 19 10 7 5 8

i) Fit regression lines of x on y and y on x.

ii) Estimate the maximum temperature when the minimum temperature is 12.

iii) Estimate the minimum temperature when the maximum temperature is 40.

17. A certain company had four salesmen A, B, C, D each of them were sent for a month to three types of areas K, O and S. The sales in hundreds of rupees per month are shown below:

	Salesmen			
	A	**B**	**C**	**D**
K	30	70	30	30
O	80	50	40	70
S	100	60	80	80

Carry out an analysis of variance and interpret the results.

18. The weekly wages of 1000 workmen are normally distributed around a mean of rupees 70 and with a standard deviation of rupees 5. Estimate the number of workers whose weekly wages will be: i) between 70 and 72; ii) between 69 and 72; iii) more than 75; iv) less than 63.

(2 × 5 = 10 weightage)