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Reg. No. : .....

Name : .....

Second Semester M.Com. Degree Examination, May 2020

Paper III : CO 223 : QUANTITATIVE TECHNIQUES AND FINANCIAL ECONOMETRICS

(2018 Admission onwards)

Time : 3 Hours Max. Marks : 75

SECTION A

Answer **all** questions. Each question carries **2** marks.

1. What do you mean by Bayes Theorem?
2. Explain probability.
3. What is normal distribution?
4. Write short notes on mean.
5. Give the meaning of Panel.
6. What is mean by spherical errors?
7. Define ‘‘Simple Regression’’.
8. What is Multivariate Analysis?
9. Explain SPSS.
10. What you mean by factor analysis?

(10 × 2 = 20 Marks)

P.T.O.

SECTION B

Answer any **five** questions. Each question carries **5** marks.

11. State addition theorem of probability.

12. What are mutually exclusive events? Explain.

13. Enumerate non-parametric tests.

14. Explain the types of economic data.

15. In one state, 52% of the voters are Republicans, and 48% are Democrats. In a second state, 47% of the voters are Republicans, and 53% are Democrats. Suppose simple random samples of 100 voters are surveyed from each state. What is the probability that the survey will show a greater percentage of Republican voters in the second state than in the first state?

16. Explain the characteristics of binomial distribution.

17. 80% of students do maths, 30% of students do English. Initially there were 60 students do maths work and 40 students do English work.

    (a) Transition probability matrix.

    (b) The number of student who do maths work.

        English work of the next subsequent 2 study periods.

18. In a particular pain clinic, 10% of patients are prescribed narcotic pain killers. Overall, five percent of the clinic's patients are addicted to narcotics (including pain killers and illegal substances). Out of all the people prescribed pain pills, 8% are addicts. If a patient is an addict, what is the probability that they will be prescribed pain pills?

(5 × 5 = 25 Marks)

SECTION C

Answer any **two** questions. Each question carries **15** marks.

19. Bring out the relative merits and demerits of stratified random sampling and cluster sampling method.

20. Explain in details of measures of central tendency.

21. Using the following summary data perform a one way analysis of variance using $\alpha = .01$:

No.	Mean	Standard Deviation
30	50.26	10.45
30	45.32	12.76
30	53.67	11.47

22. The sales of a company (in million dollars) for each year are shown in the table below :

x (Year)	2005	2006	2007	2008	2009
y (Sales)	12	19	29	37	45

(a) Find the least square regression line $y = ax + b$.

(b) Use the least squares regression line as a model to estimate the sales of the company in 2012.

(2 × 15 = 30 Marks)

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