STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 86
(For candidates admitted from the academic year 2004– 05 & thereafter)

SUBJECT CODE : **EC/PC/RM24**

M. A. DEGREE EXAMINATION, APRIL 2007
BRANCH III – ECONOMICS
SECOND SEMESTER

COURSE : **MAJOR - CORE**
PAPER : **RESEARCH METHODOLOGY – COMPUTER APPLICATIONS - I**
TIME : **3 HOURS** MAX. MARKS : 100

SECTION – A

ANSWER ANY FIVE QUESTIONS. EACH ANSWER NOT TO EXCEED 300 WORDS. (5 X 8 = 40)

1. Collection of data is a primary requirement for policy making by states. How should the data collection be planned and executed to support meaningful policy formulation?

2. List the objectives of presentation of data. Explain the steps involved in converting data into a] vertical bar diagram b] pie diagram.

3. Distinguish between partial and multiple correlation. How is coefficient of determination interpreted?

4. What are theoretical frequency distributions? Discuss the features of a] binomial and b] Poisson distribution.

5. Explain the components of time series. Demonstrate how the analysis of them can support business decisions.

6. a] State the Baye's theorem b] What are mathematical expectations?

7. What are the properties of 't' distribution? How would you conduct 't' test to test a hypothesis about the difference between the mean of two samples?

SECTION – B

ANSWER ANY THREE QUESTIONS (3 x 20 = 60)

8. a] What is a double-log model of regression?
b] Given the following simple correlation coefficients between temperature, corn yield and rainfall, calculate partial correlation coefficient $r_{12.3}$ and multiple correlation coefficient $R_{1.23,}$ $r_{12} = 0.59$, $r_{13} = 0.46$ and $r_{23} = 0.77$.

9. A typist kept a record of mistakes made per day during 300 working days of a year. Fit Poisson distribution for the data. [$e^{-0.89} = 0.410565$]

Mistake / day :	0	1	2	3	4	5	6
Number of days :	143	90	42	12	9	3	1

10. Two sets of ten students selected at random from a college were taken; one was given memory test as they were Set A and the other set was given a memory test after two week's training Set B and the scores are given below. Do you think there is any significant effect due to training. [Table value of 't' = 2.10]

Set A : 10	8	7	9	8	10	9	6	7	8
Set B : 12	8	8	10	8	11	9	8	9	9

11. The following data represent the number of units of production per day turned out by 5 different workers using 4 different machines. Test whether the mean productivities are the same for a] for all the workers and b] for all the machines.
[F at 0.5 level for v1 = 3, v2 = 12 = 3.49, for v1 = 4, v2 = 12 = 3.26]

	Machine type			
Workers	A	B	C	D
1.	44	38	47	36
2.	46	40	52	43
3.	34	36	44	32
4.	43	38	46	33
5.	38	42	49	39

12. Fit a straight line trend and forecast the production of commodity A during Quarter 2 of Year 1984.

	Quarters			
Year	I	II	III	IV
1981	20	30	60	30
1982	20	42	75	32
1983	25	40	80	50

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