

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 86
(For candidates admitted from the academic year 2008 – 2009 & thereafter)

SUBJECT CODE: **EC/AC/SE24**

B. A. DEGREE EXAMINATION, APRIL 2009
BRANCH IV - ECONOMICS
SECOND SEMESTER

COURSE : ALLIED – CORE
PAPER : STATISTICS FOR ECONOMICS -II
TIME : 3 HOURS. MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS. (10x3=30)

1. Explain the meaning and significance of the concept of correlation.
2. State the merits and limitations of scatter diagram.
3. What are the features of Spearman's correlation co-efficient?
4. What is meant by co-efficient of determination?
5. Mention the uses of regression analysis.
6. Explain the utility of time series analysis.
7. Give the meaning of Ratio-to-moving average method.
8. Distinguish between Experiment and Events.
9. State the Baye's theorem of probability.
10. Define 'a priori' and 'a posteriori' probability.

SECTION – B

ANSWER ANY FIVE QUESTIONS. (5x6=30)

11. Ten competitors in a beauty contest are ranked by three judges in the following order.
1st judge : 1 6 5 10 3 2 4 9 7 8
2nd judge : 3 5 8 4 7 10 2 1 6 9
3rd judge : 6 4 9 8 1 2 3 10 5 7
Which pair of judges has the nearest approach to common tasters in beauty?
12. Explain the difference between correlation and regression analysis.
13. Briefly explain the components of time series analysis.
14. Find Seasonal variation by the method of ratio-to-trend from the data given below:

YEAR	1 st Quarter	2 nd Quarter	3 rd Quarter	4 th Quarter
1999	30	40	36	34
2000	34	52	50	44
2001	40	58	54	48
2002	54	76	68	62
2003	80	92	86	82

15. Fit a straight line trend for the following series. Estimate the value of 2004
YEAR 1997 1998 1999 2000 2001 2002 2003
PRODUCTION 60 72 75 65 80 85 95
OF STEEL (m/t)

16. State and prove the addition and multiplication theory of probability.
 17. The following table gives the number of days in a 50 day period during which automobile accidents occurred in a part of a city. Fit a Poisson distribution to the data :

No.of accidents :	0	1	2	3	4
No.of Days	: 19	18	8	4	1

SECTION – C

ANSWER ANY TWO QUESTIONS.

(2x20=40)

18. Calculate Pearson's co-efficient of correlation from the following data using 44 and 26 as the origin of X and Y respectively.
 X: 43 44 46 40 44 42 45 42 38 40 42 57
 Y: 29 31 19 18 19 27 27 29 41 30 26 10
19. The following table shows the ages (X) and blood pressure (Y) of 8 persons.
 X: 52 63 45 36 72 65 47 25
 Y: 62 53 51 25 79 43 60 33
 Obtain the regression equation of Y on X and find the expected blood pressure of a person who is 49 years old.

20. Apply the method of link relatives to the following data and calculate seasonal indices:

Quarterly figures

Quarter	1999	2000	2001	2002	2003
I	6.0	5.4	6.8	7.2	6.6
II	6.5	7.9	6.5	5.8	7.3
III	7.8	8.4	9.3	7.5	8.0
IV	8.7	7.3	6.4	8.5	7.1

21. Eight coins are tossed at a time 256 times. Number of heads observed at each throw is recorded and the results are given below. Find the expected frequencies. What are the theoretical values of mean and standard deviation? Also calculate the mean and standard deviation of the observed frequencies.

No of heads at a throw:	0	1	2	3	4	5	6	7	8
Frequency	: 2	6	30	52	67	56	32	10	1
