

**STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 86**  
**(For candidates admitted from the academic year 2011 – 2012 & thereafter)**

**SUBJECT CODE: 11EC/AC/SE24**

**B. A. DEGREE EXAMINATION, APRIL 2013**  
**BRANCH IV - ECONOMICS**  
**SECOND SEMESTER**

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

**SECTION – A**

**ANSWER ALL QUESTIONS IN 50 WORDS EACH. (10x2=20)**

1. Define Multiple Correlation.
2. Write down the formulae for Spearman's Rank correlation Coefficient
3. What are Mutually Exclusive Events?
4. Explain Complementary Events?
5. What do you mean by Regression?
6. Write two normal equations for the Regression equation of Y on X
7. What is Time Series?
8. What are the methods used for measuring Trend?
9. What is Null Hypothesis?
10. Explain Test of Significance.

**SECTION – B**

**ANSWER ANY FIVE QUESTIONS IN 300 WORDS EACH. (5x8=40)**

11. Calculate Spearman's Rank Correlation Coefficient from the following data

X	88	80	90	95	88	92	100
Y	100	100	109	105	128	110	120

12. What do you mean by Probability? Prove that
  - (i)  $P(A \cup B) = P(A) + P(B) - P(A \cap B)$
  - (ii)  $P(A \cup B) = P(A) + P(B)$
13. What are the Uses of Normal distribution? On a mathematics examination the mean was 78 and the standard deviation was 10. Determine the standard scores of students receiving marks :(i) 70 (ii) 83 and (iii) 92 .
14. Distinguish between Correlation and Regression.

15. Fit a straight line trend for the following data by using the method of least squares.

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
Production (in million tonnes)	21	23	25	24	25	26	26	27	28

16. Write a note on Type I Error and Type II Error.

17. Discuss the various steps for testing the Hypothesis.

### SECTION – C

**ANSWER ANY TWO QUESTIONS 1200 WORDS EACH. (2x20=40)**

18. Discuss the Types of Correlation. Calculate Karl Pearson's Coefficient of correlation between X and Y Series - using their respective Arithmetic Means.

X Series	12	9	8	10	11	13	7
Y Series	14	8	6	9	11	12	13

19. Given the following data:

X	61	68	68	64	65	70	63	60	64	67
Y	112	123	130	115	110	125	100	113	116	126

Find two regression equations X on Y and Y on X

- i) Estimate the value of Y if X =69
- ii) Estimate the value of X if Y = 114

20. Discuss the usefulness of Time Series Analysis and Explain Components of Time Series .

21. Out of 146 children examined for hearing disability, 21 were found to have some type of hearing abnormality. Does this confirm with the statement that 20% of these School children have logical abnormality?

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