

**STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 86**  
**(For Candidates admitted during the academic year 2019 – 2020 and thereafter)**

**SUBJECT CODE: 19EC/AC/SE15**

**B.A. DEGREE EXAMINATION NOVEMBER 2022**  
**BRANCH IV – ECONOMICS**  
**FIRST SEMESTER**

**COURSE : ALLIED - CORE**  
**PAPER : STATISTICS FOR ECONOMICS**  
**TIME : 3 HOURS**

**MAX. MARKS: 100**

**SECTION – A**

**ANSWER ANY TEN QUESTIONS. EACH ANSWER NOT TO EXCEED 50 WORDS**  
**(10x2=20)**

1. What are the measures of central tendency?
2. From the following data find the median weight  
Weight in lbs: 150 100 140 130 120 160  
No. of persons: 2 3 16 14 10 1
3. What is skewness and what are the types of skewness?
4. Define – Correlation.
5. What is a regression line?
6. One card is drawn from a standard pack of 52. What is the probability that it is either a king or a Queen?
7. If from a pack of cards a single card is drawn what is the probability that it is either a spade or a king?
8. What is conditional probability?
9. What are the properties of Normal Distribution?
10. What is 't'- test?
11. What are the uses of time series analysis?
12. From the following table find the semi average  
Year – 2005 2006 2007 2008 2009 2010 2011 2012 2013  
Sales- 10 11 13 8 14 12 9 4 12.

**SECTION – B**

**ANSWER ANY FIVE QUESTIONS IN 400 WORDS.** **(5x8=40)**

13. What are the requisites of a good average?
14. From the following data find mean, median and mode

Wages (Rs)	No of Receivers
0-10	15
10-20	20
20-30	25
30-40	24
40-50	12
50-60	31
60-70	71
70-80	52

15. Differentiate between correlation and regression.

16. From the following data obtain the regression equation of X on Y, and also that of Y on X

X: 6 2 10 4 8

Y: 9 11 5 8 7

17. Two persons A and B appear in an interview for two vacancies for the same post. The probability of A's selection  $1/7$  and that of B's selection is  $1/5$ . What is the probability that –

- (i) Both of them will be selected
- (ii) None of them will be selected

18. In a bolt factory machines A, B, C manufacture respectively 25%, 35% and 40% of the total. Of their output 5%, 4% and 2% are defective bolts. A bolt is drawn at random from the produce and is found to be defective. What are the probabilities that it was manufactured by machines A, B and C.

19. An IQ test was administered to 5 students before and after they were trained. The results are given below:

Students	A	B	C	D	E
I.Q before training	110	120	123	132	125
I.Q after training	120	118	125	136	121

Test whether there is any change in I.Q. after the training programme (for  $v=4, t_{0.01}=4.6$ ).

20. Prices of shares (in Rs) of a company on the different days in a month were found to be: 66, 65, 69, 70, 69, 71, 70, 63, 64, 68 Test whether the mean price of the shares in the month is 65.

### SECTION – C

ANSWER ANY TWO QUESTIONS.

(2x20=40)

21. From the following data find the standard deviation.

Weekly Consumption	0-10	10-20	20-30	30-40	40-50
No. of Families	16	12	18	3	1

22. Find the coefficient of correlation between x and y from the following data

X	3	6	5	4	4	6	7	5
Y	3	2	3	5	3	6	6	4

Also find the line of regression of Y on X and predict the average values of Y when X is given to be 9.

23. What are components of time series analysis?

24. The following data give the total expenditure incurred by a certain college. Find the trend value.

Year	2006	2007	2008	2009	2010	2011	2012
Expenditure (Rs.in Lakhs)	1.5	1.8	2.0	2.3	2.4	2.6	3.0

Estimate the expenditure likely to be incurred by the college during 2013.

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