STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI – 600 086
(For candidates admitted from the academic year 2025 – 2026)

B.A. DEGREE EXAMINATION, APRIL 2026
BRANCH IV - ECONOMICS
SECOND SEMESTER

COURSE : CORE
PAPER : STATISTICS FOR ECONOMICS
SUBJECT CODE : 25EC/MC/SE25
TIME : 3 HOURS **MAX. MARKS: 100**

Q. No.	SECTION - A (4x5=20) **Answer any 4 out of 6 questions in 100 words each**	CO	KL
1.	With examples describe the standard scales of measurement of data.	1	1
2.	Explain the addition and multiplication theorem of probability.	1	1
3.	List three differences between correlation and regression.	1	1
4.	Define random variables. Explain with examples different types of random variables.	1	1
5.	A random variable X takes values 0,1,2 with P(X=0) =0.2; P(X=1) = 0.5 and P(X=2)=0.3. What is E(X)?	1	1
6.	List the properties of a normal distribution.	1	1
	SECTION - B (4x5=20) **Answer any 4 out of 6 questions in 100 words each**	**CO**	**KL**
7.	Diagrammatically represent the relationship if the estimated correlation coefficients are as follows: r = +1, r = -1, r = 0	2	2
8.	What is the average marks of students? Marks: 0-10 10-20 20-30 30-40 40-50 50-60 No. of Students: 5 15 25 35 45 55	2	2
9.	Compute a frequency table for the data on income (Rs) 550 623 310 420 600 225 310 640 512 690 680 300 425 555 325 202 255 492 587 643 689 523 317 384 400	2	2
10.	Calculate and draw the trend line by the method of Semi-averages: Months: Jan. Feb. March Apr. May June July Aug. Sept. Oct. Nov. Dec. Sales: 280 300 280 280 270 240 230 230 220 200 210 200	2	2
11.	A basket contains 5 white and 3 black balls. Two balls are drawn at random one after the other without replacement. Find the probability that both balls drawn are black.	2	2
12.	Explain the different types of correlation with the help of economic illustration	2	2

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Q. No.	SECTION - C (2x10=20) **Answer any 2 out of 4 questions in 500 words each**	CO	KL
13.	Estimate the degree of relationship between Q and P. Interpret. Q: 100 75 80 70 50 65 90 100 110 60 P: 5 7 6 6 8 7 5 4 3 9	3	3
14.	What is time series data? Explain the different components of time series data.	3	3
15.	A manufacturing firm produces steel pipes in three plants with daily production volumes of 500, 1000 and 2000 respectively. It is known that the fractions of defective output produced by the three plants are .005, .008 and .010 respectively. (a) Calculate 'A Priori' probabilities. (b) Calculate the Joint probabilities (c) Calculate the 'A Posteriori' probabilities.	3	3
16.	Consumption (Rs.): 70 65 90 95 110 115 120 140 155 150 Income (Rs) : 80 100 120 140 160 180 200 220 240 260 (a) Estimate the regression of consumption on income. Interpret. (b) Estimate r^2	3	3
	SECTION - D (2x10=20) **Answer any 2 out of 4 questions in 500 words each**	CO	KL
17.	Explain the following Concepts: (a) Principle of Least Squares (b) Sample Space (c) Probability (d) Mutually exclusive events (e) Skewness	4	4
18.	From the data given below, how many workers earned wages between Rs.4360 and Rs.5430? Also calculate the median wages. Wages (Rs.): 3000-3500 3500-4000 4000-4500 4500-5000 5000-5500 5500-6000 6000-6500 No. of Workers: 6 10 22 30 16 14 12	4	4
19.	Discuss the properties of correlation and regression coefficients.	4	4
20.	A bag contains10 white and 6 black balls. 4 balls are successively drawn out and not replaced. What is the probability that they are alternatively of different colours?	4	4

Q. No.	SECTION - E (2x10=20) **Answer any 2 out of 4 questions in 500 words each**	CO	KL
21.	Year: 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 Prod: 21 22 23 25 24 22 25 26 27 26 (in '000 tonnes) Compute the trend values for production using a three yearly moving average method.	5	5
22.	Calculate the Standard deviation for the data below: 240 260 290 245 255 288 272 263 277 251	5	5
23.	Write short notes on (a) Measures of central tendency (b) Measures of dispersion (c) Measures of deviation from normality (d) Grouping of data	5	5
24.	Explain the importance of correlation and regression models in economic analysis.	5	5

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