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G. VENKATASWAMY NAIDU COLLEGE (AUTONOMOUS), KOVILPATTI – 628 502.



UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2025.

(For those admitted in June 2024 and later)

PROGRAMME AND BRANCH: B.Sc., COMPUTER SCIENCE

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
III	PART - III	ELECTIVE GENRIC - 3	U24CS3A3	STATISTICAL METHOD AND ITS APPLICATION

Date & Session: 12.11.2025/AN

Time : 3 hours

Maximum: 75 Marks

Course Outcome	Bloom's K-level	Q. No.	SECTION – A (10 X 1 = 10 Marks) Answer <u>ALL</u> Questions.
CO1	K1	1.	Which of the following is NOT a type of probability sampling? a) Simple random sampling b) Stratified sampling c) Convenience sampling d) Cluster sampling
CO1	K2	2.	Which of the following is a common error in tabular presentation? a) Accurate data entry b) Consistent labeling c) Missing data d) Appropriate use of tabulation types
CO2	K1	3.	What is the Harmonic Mean of the numbers 2, 4 and 8? a) 3.43 b) 14 c) 3 d) 4
CO2	K2	4.	The mean deviation is a measure of. a) Central tendency b) Dispersion c) Skewness d) Kurtosis
CO3	K1	5.	If the rank correlation coefficient is close to zero, it indicates. a) A strong positive correlation b) A strong negative correlation c) No correlation or weak correlation d) A perfect correlation
CO3	K2	6.	What does a scatter diagram with points scattered randomly suggest? a) A strong positive correlation b) A strong negative correlation c) No correlation between variables d) A non-linear relationship
CO4	K1	7.	Index numbers can be used for. a) Forecasting b) Fixed prices c) Different prices d) Constant prices
CO4	K2	8.	Which of the following is a common use of Consumer Price Index? a) Setting interest rates b) Adjusting wages and salaries for inflation c) Determining the profitability of business d) Predicting future stock market prices
CO5	K1	9.	The method of least squares is widely used in. a) Regression analysis b) Hypothesis testing c) Probability distributions d) Descriptive statistics
CO5	K2	10.	The Link Relative method is a type of. a) Moving Average method b) Decomposition method c) Ratio-to-Moving Average method d) Simple Average method

Course Outcome	Bloom's K-level	Q. No.	SECTION – B (5 X 5 = 25 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)																																												
CO1	K3	11a.	Classify the types of probability sampling methods? (OR)																																												
CO1	K3	11b.	Illustrate types of statistical errors.																																												
CO2	K3	12a.	Consider a small unit of a factory where there are 5 employees : a supervisor and four labourers. The workers earn a salary of Rs. 5,000 per month each while the supervisor gets Rs. 15,000 per month. Calculate the mean, median and mode of the salaries. (OR)																																												
CO2	K3	12b.	Demonstrate the Measures of dispersion.																																												
CO3	K4	13a.	Discuss about interpretation of scatter diagram. (OR)																																												
CO3	K4	13b.	Calculate the coefficient of Concurrent Deviations from the following data: <table><tr><th>Year</th><th>2003</th><th>2004</th><th>2005</th><th>2006</th><th>2007</th><th>2008</th><th>2009</th></tr><tr><td>Series X</td><td>150</td><td>154</td><td>160</td><td>172</td><td>160</td><td>165</td><td>180</td></tr><tr><td>Series Y</td><td>200</td><td>180</td><td>170</td><td>160</td><td>190</td><td>180</td><td>172</td></tr></table>										Year	2003	2004	2005	2006	2007	2008	2009	Series X	150	154	160	172	160	165	180	Series Y	200	180	170	160	190	180	172											
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Series Y	200	180	170	160	190	180	172																																								
CO4	K4	14a.	Discuss about tests of consistency of index number. (OR)																																												
CO4	K4	14b.	From the following data, construct index numbers for 2018-2019, taking 2010-2011 as the base year by using the Simple Average Method. <table><tr><th>Commodity</th><th colspan="3">Price in 2010-2011</th><th colspan="3">Price in 2018-2019</th></tr><tr><td>Milk</td><td colspan="3">50</td><td colspan="3">70</td></tr><tr><td>Juice</td><td colspan="3">30</td><td colspan="3">40</td></tr><tr><td>Shake</td><td colspan="3">70</td><td colspan="3">90</td></tr><tr><td>Smoothie</td><td colspan="3">100</td><td colspan="3">150</td></tr></table>										Commodity	Price in 2010-2011			Price in 2018-2019			Milk	50			70			Juice	30			40			Shake	70			90			Smoothie	100			150		
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CO5	K5	15a.	Consider the time series data given below <table><tr><td>Xi</td><td>8</td><td>3</td><td>2</td><td>10</td><td>11</td><td>3</td><td>6</td><td>5</td><td>6</td><td>8</td></tr><tr><td>Yi</td><td>4</td><td>12</td><td>1</td><td>12</td><td>9</td><td>4</td><td>9</td><td>6</td><td>1</td><td>14</td></tr></table> Use the least square method to determine the equation of line of best fit for the data. (OR)										Xi	8	3	2	10	11	3	6	5	6	8	Yi	4	12	1	12	9	4	9	6	1	14													
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Yi	4	12	1	12	9	4	9	6	1	14																																					
CO5	K5	15b.	Illustrate the steps to calculate ratio to trend method.																																												

Course Outcome	Bloom's K-level	Q. No.	SECTION – C (5 X 8 = 40 Marks) Answer <u>ALL</u> Questions choosing either (a) or (b)
CO1	K3	16a.	Discuss about data collection methods. (OR)
CO1	K3	16b.	analyse sampling design and its types.
CO2	K4	17a.	Illustrate the Measures of central tendency with example. (OR)

CO2	K4	17b.	Illustrate different series of Quartile deviation.
CO3	K4	18a.	Evaluate Rank correlation with example. (OR)
CO3	K4	18b.	What is Bi-variate frequency distribution. Prepare a bivariate frequency distribution for the following data, taking class intervals for X as 25-35, 35-45, 45-55, etc., and for Y as 105-120, 120-135, etc. where X denotes the age in years and Y denotes blood pressure for a group of 20 people. The required data is: (45, 141); (26, 130); (62, 150); (28, 114); (55, 138); (36, 120); (48, 142); (40, 139); (28, 105); (32, 135); (31, 153); (37, 151); (59, 149); (50, 151); (48, 121); (47, 126); (33, 131); (42, 154); (49, 151); (34, 118).
CO4	K5	19a.	Discuss the methods of construction of index number. (OR)
CO4	K5	19b.	Analyse the principles of fixed based index number.
CO5	K5	20a.	Describe the concept of simple average method. (OR)
CO5	K5	20b.	Examine Link Relative method with an example.