

Reg. No.

--	--	--	--	--	--	--	--	--	--

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



**UG DEGREE END SEMESTER EXAMINATIONS - NOVEMBER 2024.**

(For those admitted in June 2024 and later)

**PROGRAMME AND BRANCH: B.Sc., STATISTICS**

SEM	CATEGORY	COMPONENT	COURSE CODE	COURSE TITLE
I	PART - III	CORE-1	U24ST101	DESCRIPTIVE STATISTICS

**Date & Session: 09.11.2024 / FN**

**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 a key difference between primary and secondary data? a) Primary data is always qualitative, while secondary data is always quantitative. b) Primary data is collected first hand by the researcher, while secondary data is collected from existing sources. c) Primary data is always more reliable than secondary data. d) Primary data must be collected using sampling methods, whereas secondary data must be collected using census methods.
CO1	K2	2.	Which of the following is NOT a type of diagrammatic representation in statistics? a) Bar chart b) Pie chart c) Histogram d) Cumulative frequency polygon
CO2	K1	3.	Which of the following measures of central tendency is most affected by extreme values (outliers)? a) Mean b) Median c) Mode d) Geometric mean
CO2	K2	4.	The coefficient of variation (CV) is used to: a) Compare the dispersion of two datasets with different units. b) Measure the central tendency of a dataset. c) Calculate the range of a dataset. d) Determine the skewness of a distribution.
CO3	K1	5.	Which of the following methods is used to measure skewness in a dataset? a) Bowley's method b) Mean deviation c) Standard deviation d) Coefficient of variation
CO3	K2	6.	Kurtosis is primarily concerned with: a) The spread of data around the mean. b) The asymmetry of the data distribution. c) The peakedness of the distribution. d) The average of the data values.
CO4	K1	7.	Which of the following statements is true regarding rank correlation? a) It measures the strength and direction of a linear relationship between two variables. b) It can only be applied to grouped data.

			<p>c) It is less affected by outliers compared to Pearson's correlation coefficient.</p> <p>d) It requires both variables to have a normal distribution.</p>
CO4	K2	8.	<p>The principle of least squares in regression analysis aims to:</p> <p>a) Maximize the sum of squared residuals.</p> <p>b) Minimize the sum of squared differences between observed and predicted values.</p> <p>c) Calculate the mean of the dependent variable.</p> <p>d) Maximize the correlation coefficient.</p>
CO5	K1	9.	<p>Which of the following statements accurately defines the concept of "independence of attributes" in the Theory of Attributes?</p> <p>a) Attributes are independent if the occurrence of one attribute does not affect the occurrence of another attribute.</p> <p>b) Attributes are independent if they always occur together in the same class.</p> <p>c) Attributes are independent if they have the same frequency distribution.</p> <p>d) Attributes are independent if they can be measured using the same scale.</p>
CO5	K2	10.	<p>Yule's coefficient of colligation is used to measure:</p> <p>a) The degree of association between two qualitative attributes.</p> <p>b) The mean difference between two groups.</p> <p>c) The variance within a single attribute.</p> <p>d) The standard deviation of a dataset.</p>
<b>Course Outcome</b>	<b>Bloom's K-level</b>	<b>Q. No.</b>	<p><b>SECTION – B (5 X 5 = 25 Marks)</b>  <b>Answer <u>ALL</u> Questions choosing either (a) or (b)</b></p>
CO1	K3	11a.	<p>Define statistics and explain two major functions of statistics in data analysis.</p> <p style="text-align: center;"><b>(OR)</b></p>
CO1	K3	11b.	<p>Differentiate between census and sample methods in data collection.</p>
CO2	K3	12a.	<p>Define the arithmetic mean and list two of its merits and two of its demerits.</p> <p style="text-align: center;"><b>(OR)</b></p>
CO2	K3	12b.	<p>What is standard deviation? How is it different from mean deviation?</p>
CO3	K4	13a.	<p>Define skewness and explain the different types of skewness with examples.</p> <p style="text-align: center;"><b>(OR)</b></p>
CO3	K4	13b.	<p>What is kurtosis? Differentiate between mesokurtic, leptokurtic, and platykurtic distributions.</p>
CO4	K4	14a.	<p>Analyze the concept of correlation in statistics. Distinguish between positive and negative correlation with examples.</p> <p style="text-align: center;"><b>(OR)</b></p>
CO4	K4	14b.	<p>Analyze the properties of correlation coefficients. Distinguish between Pearson's and Spearman's correlation coefficients, and comment on their applicability in different scenarios.</p>
CO5	K5	15a.	<p>Define the Theory of Attributes and categorize the different classes of attributes. Comment on the importance of class frequencies in this theory.</p> <p style="text-align: center;"><b>(OR)</b></p>

CO5	K5	15b.	Examine the concept of independence of attributes. Distinguish between independent and dependent attributes, and illustrate with an example.
-----	----	------	--

Course Outcome	Bloom's K-level	Q. No.	<p style="text-align: center;"><b>SECTION – C (5 X 8 = 40 Marks)</b>  <b>Answer <u>ALL</u> Questions choosing either (a) or (b)</b></p>
CO1	K3	16a.	Describe the process of planning and executing a statistical survey. What are the key steps involved in collecting primary data? <b>(OR)</b>
CO1	K3	16b.	Explain the different types of classification of data and the steps involved in constructing a frequency distribution. Illustrate with an example.
CO2	K4	17a.	Explain the differences between the mean, median, and mode as measures of central tendency. In which situations is each one most appropriate? <b>(OR)</b>
CO2	K4	17b.	Discuss the different types of measures of dispersion. Explain the concept of the Lorenz curve and its application in measuring inequality.
CO3	K4	18a.	Explain Karl Pearson's method and Bowley's method for calculating skewness. Discuss their merits and demerits. <b>(OR)</b>
CO3	K4	18b.	Discuss the concept of moments in statistics. Explain the differences between raw moments and central moments, and provide the relations between them.
CO4	K5	19a.	Examine the principle of least squares in regression analysis. Illustrate how it functions in minimizing errors and devise an example to demonstrate this principle. <b>(OR)</b>
CO4	K5	19b.	Analyze the different types of correlation, distinguishing between Pearson's correlation coefficient and Spearman's rank correlation. Discuss how each method functions in handling ungrouped and grouped data, and comment on their applicability in various scenarios.
CO5	K5	20a.	Analyze the association of attributes and Yule's coefficient of colligation. Explain how this coefficient functions and its significance in measuring associations. <b>(OR)</b>
CO5	K5	20b.	a) Dissect the concept of consistency of data in the context of the Theory of Attributes. b) Explain yule's co efficient.