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D1BST2501

Name: .....

Reg. No.: .....

FIRST SEMESTER FYUGP EXAMINATION NOVEMBER 2025

(Regular/Improvement/Supplementary)

MINOR

STA1MN101: DESCRIPTIVE STATISTICS FOR DATA SCIENCE

Time: 2 Hrs. **Maximum Marks: 70**

M – Mark BL - Bloom's Taxonomy Level (1 to 6) CO - Course Outcome

Section A: Answer all questions. Each carries 3 marks.

Ceiling: 24 Marks

No.	Question	M	BL	CO
1.	Define primary data. Write down any two methods for collecting primary data.	3	2	CO1 CO2
2.	What is the difference between discrete data and continuous data? Give an example for each.	3	2	CO1 CO2
3.	Distinguish between pictogram and cartogram.	3	2	CO3
4.	For a moderately asymmetrical distribution, mean and mode are respectively 12 and 15.1. Find median.	3	4	CO4
5.	For a group of 50 candidates, the mean was found to be 60. Later on it was discovered that a value 23 was misread as 32. Find the correct mean.	3	5	CO4
6.	What is meant by kurtosis? How do you measure kurtosis?	3	2	CO4
7.	If Q3 + Q1 = 80, Q3 - Q1 = 40, median = 40. Find the coefficient of skewness.	3	3	CO4
8.	Suppose a student is selected at random from 80 students where 30 are taking Mathematics, 20 are taking Statistics, and 10 are taking Mathematics and Statistics. Find probability that the student is taking Mathematics or Statistics.	3	4	CO5
9.	State Bayes theorem.	3	2	CO5
10.	The chance that a female worker in a chemical factory will contract an occupational disease is 0.04 and the chance for a male worker is 0.06. Out of 1000 workers in the factory, 200 are females. One worker is selected at random and is found to have contracted the disease. What is the probability that the worker is a female? **(PTO)**	3	4	CO5

Section B: Answer all questions. Each carries 6 marks.

Ceiling: 36 Marks

No.	Question	M	BL	CO
11.	Describe various methods of collecting primary data.	6	5	CO 1 CO2
12.	Calculate median for the data given below:	6	6	CO 4

Class	0 - 6	7 - 13	14 - 20	21 - 27	28 - 34	35 - 41
Frequency	18	11	8	15	6	2

13.	Define measures of dispersion. Distinguish between absolute and relative measures of dispersion.	6	4	CO 4
14.	Mean and SD of 100 items are calculated to be 80 and 20 respectively. Subsequently it is found that an item 70 has been wrongly included as 85. Find the correct values of mean and SD.	6	6	CO 4
15.	Find the coefficient of kurtosis from the following data.	6	4	CO 4
16.	State and prove multiplication theorem of probability.	6	4	CO 5
17.	Let A be the event that a man will live 10 more years, and B be the event that his wife lives 10 years. Suppose P(A) = 1/4 and P(B) = 1/3. What is the probability that: (a) Both will be alive. (b) At least one will be alive. (c) Only wife will be alive.	6	5	CO 5
18.	Two urns of each containing balls of different colours are stated below. Urn I: 4 black 3 red 3 green Urn II: 3 black 6 red 1 green An urn is chosen at random and two balls are drawn from it. What is the probability that one is green and the other is red?	6	6	CO 5

Section C: Answer any one question. Each carries 10 marks. (1 x 10 = 10 Marks)

No.	Question	M	BL	CO
19.	Discuss the graphical methods of presenting frequency distributions.	10	4	CO3
20.	(i) State and prove addition theorem of probability for three events. (ii) Show that $P(A \cap B^c = P(A) - P(A \cap B)$.	10	5	CO5