25U186 (Pages: 3) Name : .....

Reg. No : .....

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2025

(FYUGP)

(Regular/Supplementary/Improvement)

CC24USTA1MN105 - DESCRIPTIVE STATISTICS

(Statistics - Minor Course)

(2024 Admission onwards)

Time: 2.0 Hours Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 3 marks.

1. Classify between quantitative and qualitative data. [Level:2] [CO1]

2. Distinguish between discrete and continuous variables. [Level:2] [CO1]

3. A fitness instructor recorded the number of minutes 30 clients spent exercising in a week: 20, 45, 60, 75, 90, 30, 40, 55, 65, 80, 70, 25, 35, 50, 85, 60, 45, 30, 75, 90, 100, 110, 20, 55, 40, 80, 65, 70, 50, 45, 30. Construct a continuous frequency table using suitable class intervals. [Level:3] [CO2]

4. Explain the role of frequency distributions in data analysis. [Level:2] [CO2]

5. Compute Median: 5, 19, 42, 11, 50, 30, 21, 0, 52, 36, 27. [Level:3] [CO3]

6. Compute the harmonic mean of 23, 33, 21, 25, 36, 26. [Level:3] [CO3]

7. In a distribution, the mean is 55, the mode is 45. Using the empirical relation between mean, median, and mode, calculate the median. [Level:3] [CO3]

8. Compute mode: 7, 8, 11, 8, 16, 17, 24, 10, 9. [Level:3] [CO3]

9. A student recorded the heights (in cm) of five plants: 30, 45, 25, 50, 40. What is the range of these heights? [Level:3] [CO4]

10. Given the data set: 12, 15, 20, 22, 25, 30, 35, calculate the first quartile (Q1) and the third quartile (Q3). [Level:3] [CO4]

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

Answer ***all*** questions. Each question carries 6 marks.

11. Describe the difference between a population and a sample in research, providing relevant examples for both. [Level:2] [CO1]

12. Explain briefly the qualities of a good questionnaire. [Level:2] [CO1]

13. What is meant by classification? Briefly explain the different types of classification of data. [Level:3] [CO2]

14. For the following data draw a pie diagram. [Level:3] [CO2]

Item	**Expenditure**
Food	3000
Clothing	1200
Fuel	830
Maintenance	750
Health	670
Others	600

15. Calculate GM. [Level:3] [CO3]

x	3	8	5	6	1
Frequency	2	2	3	2	1

16. Calculate the arithmetic mean. [Level:3] [CO3]

Marks	No.of students
20	8
30	12
40	20
50	10
60	6
70	4

17. **Given** the frequency distribution below, **determine** the quartile deviation: [Level:3] [CO4]

Class Interval	**Frequency**
0 - 5	3
6 - 10	7
11 - 15	5
16 - 20	5

18. Calculate the standard deviation for the age distribution of participants in a survey, represented as follows: [Level:3] [CO4]

Age Range	Frequency
18-24	5
25-34	10
35-44	15
45-54	8
55-64	2

(Ceiling: 36 Marks)

Part C (Essay questions)

Answer any ***one*** question. The question carries 10 marks.

19. Explain how would you construct bar daigrams with examples. [Level:3] [CO2]

20. Determine the coefficient of variation for the following grouped data representing annual salaries (in thousands): [Level:3] [CO4]

Salary Range	Frequency
30-50	6
51-70	12
71-90	10
91-110	4

(1 × 10 = 10 Marks)

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