

24U1103

(Pages: 2)

Name : .....

Reg. No : .....

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2024

(FYUGP)

CC24U STA1 FM105(2) - FUNDAMENTALS OF STATISTICS

(Statistics - MDC Course)

(2024 Admission - Regular)

Time: 1.5 Hours

Maximum : 50 Marks

Credit: 3

**Part A** (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Define data set and what are primary data and secondary data. [Level:1] [CO1]
2. Define inferential statistics. [Level:1] [CO1]
3. Distinguish between frequency curve and frequency polygon. [Level:2] [CO2]
4. Explain grouped frequency table with an example. [Level:2] [CO2]
5. Identify to which scale of measurement the following data belong. [Level:2] [CO2]  
Eye Color – Blue, Brown, Green.  
Types of Pets – Dog, Cat, Bird, Fish  
Hotel Star Ratings – 1-star, 2-star, 3-star, 4-star, 5-star.  
Job Satisfaction – Very Dissatisfied, Dissatisfied, Neutral, Satisfied, Very Satisfied
6. What is meant by compound arithmetic mean? [Level:1] [CO3]
7. Calculate median of the following set of observations 23, 9, 21, 13, 24, 20, 12, 13, 17, 19, 19, 20, 14, 20. [Level:3] [CO3]
8. If the geometric mean of three values 4, 8, k is 8, then determine k. [Level:3] [CO3]
9. Define Kurtosis. [Level:1] [CO4]
10. Using measures of central tendency, how do you check skewness. [Level:3] [CO4]

**(Ceiling: 16 Marks)**

**Part B** (Paragraph questions/Problem)

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

11. Briefly explain the difference between a census and a sample survey. Why is conducting a sample survey preferable to conducting a census? [Level:2] [CO1]

12. Define frequency distribution and Explain grouped and ungrouped frequency distribution with examples [Level:2] [CO2]

13. Following is the frequency distribution of scores of 100 students in a math test. [Level:3] [CO2]

Draw a simple bar chart

Scores	40-50	50-60	60-70	70-80	80-90	90-100
No. of students	8	23	31	22	10	6

14. Explain measure of dispersion and Quartile deviation. [Level:2] [CO3]

15. If AM, GM and HM are the arithmetic mean, geometric mean and harmonic mean of two observations  $a$  and  $b$ , then show that  $AM \geq GM \geq HM$ . [Level:3] [CO3]

**(Ceiling: 24 Marks)**

**Part C (Essay questions)**

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

16. Compute arithmetic mean and mean deviation from mean using following data [Level:3] [CO3]

Values	1	3	5	7	9	11	13
Frequency	3	7	13	18	9	6	4

17. Compute first, second and third quartiles from the following data [Level:3] [CO4]

Class Interval	0-4	4-8	8-12	12-16	16-20	20-24	24-28
Frequency	3	7	13	18	9	6	4

**(1 × 10 = 10 Marks)**

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