

24U197

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Name :

Reg. No :

FIRST SEMESTER UG DEGREE EXAMINATION, NOVEMBER 2024

(FYUGP)

CC24U STA1 MN101 - DESCRIPTIVE STATISTICS FOR DATA SCIENCE

(Statistics - Minor Course)

(2024 Admission - Regular)

Time: 2.0 Hours

Maximum: 70 Marks

Credit: 4

Part A (Short answer questions)

Answer all questions. Each question carries 3 marks.

- 1. Explain primary data and secondary data with examples. [Level:2] [CO1]
- 2. Describe the sources of secondary data. [Level:2] [CO1]
- 3. Explain Band graph. [Level:2] [CO2]
- 4. Make a less than cumulative frequency table from the following frequency distributon. [Level:3] [CO2]

Class	30-35	35-40	40-45	45-50	50-55	55-60
Frequency	5	10	15	30	5	5

- 5. Explain skewness and kurtosis. [Level:2] [CO3]
- 6. Discuss the merits and demerits of an average. [Level:2] [CO3]
- 7. Describe Harmonic mean. [Level:2] [CO3]
- 8. Calculate the Range of 75, 62, 55, 82, 15, 12, 45, 65, 70. [Level:3] [CO3]
- 9. Explain Empirical definition of probability. [Level:2] [CO4]
- 10. In a bag, there are 5 red balls, 3 blue balls, and 2 green balls. A ball is drawn at random, and then it is replaced. After that, a second ball is drawn. [Level:3] [CO4]
 - (a) Calculate the probability that both balls drawn are red?
 - (b) Calculate the probability that one ball is red and the other is blue?

(Ceiling: 24 Marks)

Part B (Paragraph questions/Problem)

Answer all questions. Each question carries 6 marks.

- 11. Explain: a) Simple bar diagram b) Sub-divided bar diagram [Level:2] [CO2]

12. Calculate P_{25} , D_6 , P_{70} , D_5 [Level:3] [CO3]
 55, 60, 65, 70, 75, 80, 85, 90, 95, 100.

13. Describe median in three different cases. [Level:2] [CO3]

14. Calculate the Quartiles of 33, 37, 30, 47, 60, 87, 15, 30, 45, 43, 44. [Level:3] [CO3]

15. Calculate mode for the following data. [Level:3] [CO3]

Class	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40	40-45
Frequency	20	24	32	28	20	16	34	10	8

16. Explain and prove addition theorem for three events. [Level:2] [CO4]

17. Two urns I and II contain respectively 5 white and 4 black balls, 6 white and 5 black balls. One urn is chosen and one ball is drawn. If it is white. Calculate the probability that the urn selected is the first. [Level:3] [CO4]

18. 30% of all students in a university are graduates and 70% are undergraduates. The probability that graduate student is married is 0.40 and the probability that an undergraduate student is married is 0.20. One student is selected at random, calculate the probability that the student selected is married. [Level:3] [CO4]

(Ceiling: 36 Marks)

Part C (Essay questions)

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

19. Demonstrate frequency polygon. Draw frequency polygon for the following data. [Level:3] [CO2]

Marks	0-5	5-10	10-15	15-20	20-25	25-30	30-35	35-40
No. of students	7	10	20	13	17	10	14	9

20. Compute Coefficient of Quartile Deviation. [Level:3] [CO3]

Class	0-20	20-40	40-60	60-80	80-100
Frequency	5	11	16	21	12

(1 × 10 = 10 Marks)
