

QP Code : U24A057

Reg. No :

Name :

ST MARY'S COLLEGE (AUTONOMOUS), THRISSUR-20
I SEMESTER B.A./B.Sc./B.Com/BSW (FYUGP) DEGREE EXAMINATION,
November 2024

STA1MN101 : Descriptive Statistics for Data Science
2024 Admission Onwards
(Credits: 4)

Time : 2 Hours

Maximum Marks : 70

Section A

[Answer all. Each question carries 3 Marks] (Ceiling: 24 Marks)

1. What are the differences between quantitative and qualitative data? [BTL2]
2. What is primary data? [BTL1]
3. Define discrete frequency distribution [BTL1]
4. Draw less than ogive for the following data [BTL3]

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	12	16	24	30	22	14	8
5. Define kurtosis. [BTL1]
6. What are the desirable properties of an average? [BTL2]
7. Calculate the average speed of a car running at the rate of 15 km/h during the first 30 km, at 20 km/h during the second 30 km, and at 25 km/h during the third 30 km. [BTL3]
8. Let A and B are any two independent events in the sample space S . Show that A^c and B are independent. [BTL4]
9. Prove the addition theorem for any two events [BTL4]
10. Prove the multiplication theorem for any two events A and B . [BTL3]

Section B

[Answer all. Each question carries 6 Marks] (Ceiling: 36 Marks)

11. How do you make the choice between primary data and secondary data and what are the methods of collecting primary data? [BTL3]
12. Prepare a frequency distribution. [BTL4]

10	17	15	22	11	16	19	24	29	18
25	26	32	14	17	20	23	27	30	12
15	18	24	36	18	15	21	28	33	38
34	13	10	16	20	22	29	19	23	31

Turn Over

13. Write a short note on [BTL2]
 (i) Frequency polygon
 (ii) Frequency curve

14. Calculate the mean deviation about mean for the following [BTL4]

x	5	15	25	35	45
f	5	15	17	11	2

15. Obtain the median graphically for the following data. [BTL4]

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency	12	16	24	30	22	14	8

16. A student told that his chance of winning test 1 is 0.4 and that for test 2 is 0.6. The probability that he will lose both the tests is 0.3. Find the probability that he will win test 2 given that he has already won test 1 [BTL3]

17. The probability that A will solve in a particular problem is $\frac{1}{4}$. The probability that B will solve that problem is $\frac{1}{6}$. The probability that A or B will solve the problem is $\frac{1}{12}$. What is the probability that the problem will be solved by A and B together? [BTL5]

18. If $P(A)=0.3$, $P(B)=0.2$, $P(A \cup B)$, examine whether A and B are independent [BTL4]

Section C

[Answer any one. Each question carries 10 Marks] (1x10=10 Marks)

19. Price of a commodity for six months in two cities are as follows [BTL5]

City A	48	40	53	44	57	49
City B	47	41	50	46	58	47

Compare the consistency of the prices in these two cities

20. State multiplication theorem for any two events. A Purse contains 2 silver coins and 4 copper coins and a second purse contains 4 silver coins and 3 copper coins. If a coin is selected at random from one of the purse, what is the probability that it is a silver coin? [BTL2]

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