21102506

QP CODE: 21102506

Reg No : .....

Name : .....

B.Sc DEGREE (CBCS) EXAMINATIONS, OCTOBER 2021

First Semester

Complementary Course - ST1CMT01 - STATISTICS - DESCRIPTIVE STATISTICS

(Common for B.Sc Mathematics Model I , B.Sc Physics Model I and B.Sc Computer Applications Model III Triple Main)

2017 Admission Onwards

2706D7FF

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

Each question carries 2 marks.

1. Distinguish between time series data and cross-sectional data.
2. Distinguish between exclusive class and inclusive class.
3. Define population and sample.
4. Distinguish between probability sampling and non probability sampling.
5. Find the arithmetic mean of the data 5, 7, 24, 20, 15, 11, 2.
6. Find the median of the data 500, 480, 320, 70, 600, 540.
7. Define harmonic mean and give the formula for obtaining harmonic mean from a grouped frequency table.
8. Mention any two desirable properties of a good measure of dispersion.
9. Given the central moments $m_2 = 2$ and $m_3 = -1$, then comment on the skewness .
10. Define kurtosis.
11. Define index number.
12. Define Paasche's Index number.

(10×2=20)

Part B

*Answer any **six** questions.*

Each question carries 5 marks.

13. What are the limitations of Statistics?

14. What is meant by classification? Distinguish between qualitative classification and quantitative classification.

15. Using the data 46, 33, 31, 36, 35, 42, 30, 38, 41, 36, 40, 40, 41, 30, 38, 45, 43, 39, 44, 43, 47, construct a frequency table with class interval 2.

16. Define median. Mention its merits and demerits.

17. Calculate standard deviation for the following data.

X	9	11	13	15	10
Frequency	2	4	10	6	3

18. Draw less than ogive for the data given below and hence find the median.

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Freq.	5	10	18	26	22	15	4

19. Find the first four moments about the mean of the numbers 2, 3, 7, 8 and 10.

20. Define time reversal test. Examine whether Laspeyre's and Paasche's index numbers satisfy this test.

21. Explain the cost of living index numbers.

(6×5=30)

Part C

Answer any two questions.

Each question carries 15 marks.

22. Explain various methods for collecting primary data.

23. Calculate the range and quartile deviation for the following data.

Class	10-30	30-50	50-70	70-90	90-110	110-130	130-150
Freq.	4	16	28	30	24	6	2

24. Calculate the moment measure of kurtosis for the following data.

Class	0-10	10-20	20-30	30-40	40-50
Frequency	1	3	4	2	2

25. Construct Laspeyer's, Paasche's and Fisher's index numbers for the data

Items	Price (p_0)	Quantity (q_0)	Price (p_k)	Quantity (q_k)
A	23	7	32	10
B	57	26	75	30
C	40	14	45	17
D	20	18	25	20

(2×15=30)