QP CODE: 19101107

19101107

Reg No : .....

Name : .....

B A DEGREE (CBCS)EXAMINATION, DECEMBER 2018

First Semester

Complementary Course - ST1CMT01 - STATISTICS - DESCRIPTIVE STATISTICS

(Common for B.Sc. Mathematics ,B.Sc. Physics, and B.Sc. Computer Applications)

2017 Admission (Reappearance)

838C96DC

Maximum Marks: 80 **Time: 3 Hours**

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. Write down any two uses of Statistics.
2. Distinguish between time series data and cross-sectional data.
3. Define a frequency data.
4. What is the need of scaling techniques in the statistical investigation?
5. Show that the algebraic sum of deviations of all observations from their mean is zero.
6. Give any two advantages of median.
7. A man travels 20 km at a speed of 40 km per hour, 10 km at 30 km per hour and 30 km at 60 km per hour. Determine the average speed.
8. Define harmonic mean and give the formula for obtaining harmonic mean from a grouped frequency table.
9. If $m'_1(4) = 2$, $m'_2(4) = 16$, then find the mean and variance of the data.
10. Define kurtosis.
11. Why Fisher's index number is called an ideal index number?
12. Define factor reversal test.

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Explain the method of direct personal investigation. Mention its advantages and disadvantages.
14. What is meant by classification? Distinguish between qualitative classification and quantitative classification.

15. Define cumulative frequency table. Distinguish between less than and greater than cumulative frequency tables with an example each.

16. Define dispersion. What are the desirable properties of a good measure of dispersion?

17. Find the variance of first n natural numbers.

18. Draw the two ogives for the data given below.

Class	0-5	5-10	10-15	15-20	20-25	25-30	30-35
Freq.	2	5	9	15	4	3	2

19. Obtain moment measure of skewness for the following data:

X	5	10	15	20
Frequency	4	8	5	3

20. Define index number. Mention its uses.

21. Explain the cost of living index numbers.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Explain the different types of probability sampling.

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 Bowley's measure of skewness for the following data.

Class	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
Freq.	8	9	15	18	22	11	5	1

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	2O

(2×15=30)