QP CODE: 18103650

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Reg No : .....

Name : .....

B.Sc.DEGREE(CBCS)EXAMINATION, DECEMBER 2018

First Semester

Core Course - ST1CMT61 - STATISTICS - DESCRIPTIVE STATISTICS

(Common to B.Sc Computer Applications Model III Triple Main, B.Sc Mathematics Model I, B.Sc Mathematics Model II Computer Science, B.Sc Physics Model I)

2018 Admission only

16185F1E

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

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. What are the limitations of sampling method?
2. Distinguish between simple random sampling and stratified sampling.
3. What are the advantages of primary data?
4. Discuss the objects and basis of classification.
5. Distinguish between class limit and class interval.
6. Define frequency curve
7. If the first two raw moments of a data about 2 is 1 and 16, find the variance of the data.
8. Define skewness.
9. What is the measure of Kurtosis?
10. If a number is selected from the integers from 1 to 100, what is the probabilty that the selected number is a multiple of 2 and 5?
11. For an unbiased dice, event A is said to happen if an even number turns up and event B is said to happen of the number is a multiple of 3. Find $P(B/A)$.
12. Distinguish between priory and posteriory probabilities.

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. What are the importance of Statistics?
14. Difference between systematic and stratified sampling?
15. Why there are different types of bar diagrams?
16. Explain the method of finding median using ogives.

17. Define a percentile. Find the 45th and 57th percentiles for the following data.

Marks	20-25	25-30	30-35	35-40	40-45	45-50
No. of students	10	20	20	15	15	20

18. Find the first four raw moment about 5 of the numbers 2,4,7,8,9.

19. Derive the relationship between the r^{th} central moment and the raw moments.

20. If two events A and B are independent, show that $\overline{A}$ and $\overline{B}$ are independent.

21. An urn contains four tickets marked with numbers 112, 121, 211, 222 and one ticket is drawn at random. Let $A_i, \quad i = 1, 2, 3$ be the event that the i^{th} digit of the number of the ticket drawn is 1. Examine whether the events A, A_2 and A_3 are indenpendent.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Distinguish between random sampling and non random sampling. Explain differerft methods used in both types of sampling with suitable examples.

23. Explain various measures of central tendency. Discuss the merits and demerits of different measures.

24. (a) Explain various measures of skewness and interpreting the nature of skewness from these measures.
(b) Calculate Bowle's coefficient of skewness and comment on the nature of skewness of the following data.

Class	1 - 5	6 - 10	11 - 15	16 - 20	21 - 25	26 - 30
Frequency	12	31	67	72	29	15

25. (a) State and prove Baye's theorem.
(b) The probability that a doctor will correctly diagnose a disease is 0.6. The probability that a patient will die by his treatment after correct diagnose is 0.4 and that of his death by wrong diagnosis is 0.7. A patient of the doctor who had this disease died. What is the probability that his disease was not correctly diagnosed?

(2×15=30)