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

Third Semester

B.Sc Computer Science Model III

COMPLEMENTARY COURSE - ST3CMT41 - STATISTICS - STATISTICAL METHODS AND PROBABILITY THEORY

2017 Admission Onwards

85BEB6CE

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

Part A

Answer any **ten** questions.

Each question carries **2** marks.

1. What is secondary data?

2. Define sampling.

3. Explain geographical classification.

4. Explain interval scale with example.

5. Define Cluster sampling.

6. What are measurers of dispersion?

7. Distinguish between simple and weighted arithmetic mean.

8. What are the uses of mode?

9. Define the quartiles.

10. An integer is chosen at random from the first 100 integers. Find the probability that the integer chosen is divisible by 3 or 5.

11. State addition theorem on probability for 1) two events 2) three events.

12. Give two examples which will conform to Poisson distribution.

(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Discuss the mathematical models for a time series analysis.

14. Distinguish between discrete frequency table and continuous frequency table.

15. What are the advantages of sampling over census?

16. Find the mean and median of the following data:

Class mark :	4.5	14.5	24.5	34.5	44.5	54.5	64.5	74.5	84.5
frequency :	3	9	18	24	41	33	22	14	6

17. Compute quartile deviation from the following data

Marks:	10	20	30	40	60	70
No of students:	5	6	15	7	8	2

18. What is sample space? Write down the sample space when a coin is tossed until head appears

19. State and prove multiplication for two events and deduce it for three events.

20. State Baye's theorem and state its importance.

21. Find the mgf of normal distribution.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. (a) Distinguish between census and sampling. (b) Briefly explain various random sampling techniques.

23. Find the arithmetic mean, geometric mean and harmonic mean for the following data.

Class:	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Frequency:	6	13	20	31	18	15	7

24. Calculate C.V for the dat

Class	2-7	7-12	12-17	17-22	22-27	27-32	32-37
Fre:	7	14	20	26	18	16	9

25. (a) 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? (b) State the axioms of probability.

(2×15=30)