



21102129

QP CODE: 21102129

Reg No :

Name :

B.Sc DEGREE (CBCS) EXAMINATION, AUGUST 2021

Third Semester

B.Sc Computer Science Model III

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

2017 Admission Onwards

B60A0540

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. What is meant by population in Statistics?
2. What is economic time series?
3. Distinguish between exclusive class and inclusive class.
4. Explain Ordinal scale with example.
5. Define Stratified sampling.
6. What are the commonly used measures of central tendency?
7. Find combined mean of the two groups 2, 7, 9, 12 and 4, 7, 9, 10, 11, 3, 15.
8. Define mode.
9. Define the deciles.
10. What do you mean by statistical regularity?
11. If $E(X)=3.5$, find $E(2X+7)$.
12. Write down the pdf of continuous uniform distribution. Why it is called rectangular distribution?





(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Distinguish between qualitative classification and quantitative classification.
14. What are the advantages of sampling over census?
15. Explain Random sampling Techniques.
16. Find the harmonic mean of the following observations:

Class: 100-150	150-200	200-250	250-300	300-350	350-400	400-550	450-500
frequency : 6	9	21	30	37	24	15	8
17. Define standard deviation.
18. Define (1) Random experiment (2) Sample point (3) Sample space (4) Event
19. (a) State addition theory of probability for three events. (b) Suppose A, B, C are events such that $P(A) = P(B) = P(C) = 1/4$ and $P(A \cap B) = P(C \cap B) = 0$ and $P(A \cap C) = 1/8$. Evaluate $P(A \cap B \cap C)$.
20. Find the mean and variance of the following distribution

X:	0	1	2	3
P(x):	1/12	1/4	1/3	1/3
21. If a random variable X follows a Poisson distribution such that $P(X=1)=P(X=2)$. Find $P(X=0)$

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. a) Distinguish between primary data and secondary data b) Briefly explain various methods for collecting primary data.
23. Find the missing frequencies , arithmetic mean and mode of the following data if it is given that median is 85.5 and total frequency is 60

Class :	50-60	60-70	70-80	80-90	90-100	100-110	110-120	120-130
frequency:	1	7	11	-----	10	6	-----	2





24. In a test given to two groups of students the scores obtained are as follows:

Group 1:	23	11	19	26	35	46	53
	18	36					
Group 2:	31	18	21	31	48	40	18
	23	30					

Which group is more consistent?

25. (a) Explain Baye's theorem stating its applications. (b) Two classes A and B consist of 25 boys, 15 girls and 20 boys, 30 girls respectively. One student is selected at random and found to be girl. (c) Find the probability that the selection was from class B.

(2×15=30)

