



22100731

QP CODE: 22100731

Reg No :

Name :

**B.Sc DEGREE (CBCS) REGULAR / REAPPEARANCE EXAMINATIONS,
APRIL 2022**

Third Semester

B.Sc Computer Science Model III

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

2017 Admission Onwards

011011D1

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. What do you mean by sampling unit?
2. Distinguish between additive model and multiplicative model.
3. Define a frequency table.
4. Explain ratio scale with example.
5. Give a situation in which we cannot use census.
6. Distinguish between simple and weighted arithmetic mean.
7. Define simple geometric mean.
8. Define partition values.
9. Define Coefficient of variation.
10. What is sample space? Write the sample space when two coins are tossed.
11. Find the probability of drawing
 - 1) an ace 2) a card of clubs from a well shuffled deck of cards.
12. What are the mean and variance of Binomial distribution?





(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Explain the various method of collecting primary data.
14. What is meant by classification? What are the different types of classification?
15. Distinguish between systematic and stratified random sampling.
16. What is meant by a measure of central tendency? What are the desirable properties of a good average?
17. Calculate median from the following data

Marks:	0-10	10-30	30-60	60-80	80-90
No. of students:	5	15	30	8	2
18. Explain with suitable example
 (1) mutually exclusive (2) independent (3) exhaustive and (4) equally likely events.
19. State and prove addition theorem for two events.
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 census and sampling. (b) Briefly explain various random sampling techniques.
23. (a) State the empirical relationship between mean median and mode.
 (b) The mean and median of the score of 100 students in an examination is 18.95 and 20 respectively. Find the missing frequencies.

Score :	5	10	15	20	25	30	35	40
frequency:	9	?	23	?	14	9	5	1





24. (a) Calculate the standard deviation and mean deviation about mean of the following data.

Variate :	6	12	18	24	30	36	42	48
Frequency :	3	9	11	21	29	18	13	4

- b) What are the merits of standard deviation?

25. Define expectation of a random variable. What are its properties? A coin is tossed until a head appears. What is the expectation of the number of tosses required?

(2×15=30)

