



24027344

QP CODE: 24027344

Reg No :

Name :

**B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE
EXAMINATIONS, OCTOBER 2024**

Third Semester

B.Sc Electronics Model III

**COMPLEMENTARY COURSE - ST3CMT01 - STATISTICS-PROBABILITY AND
STATISTICS**

2017 Admission Onwards

69418ADC

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. What is a Frequency polygon?
2. Define combined mean.
3. Explain the uses of moments.
4. Define Simple random sampling.
5. What are the properties of probability density functions?
6. Define Normal distribution.
7. Define sufficiency.
8. Define type I errors and type II error.
9. Define degree of freedom.
10. What are the uses of correlation?
11. What is coefficient of determination?
12. What are the formulas for finding for regression coefficient?



(10×2=20)

Part B

Answer any **six** questions.

Each question carries **5** marks.

13. Explain different methods of collecting primary data.
14. What are the uses and limitation of Graphs and Diagrams?
15. Draw a Histogram for the frequency distribution.

variable	10-20	20-30	30-40	40-50	50-60	60-70	70-80
frequency	1	2	30	65	45	25	18

16. Probabilities that a husband and wife will be alive 20 years from now is given by 0.8 and 0.9 respectively. Find the probability that in 20 years (1) both will alive (2) neither will alive and (3) at least one will alive.
17. Derive mean and variance of binomial distribution.
18. Explain the use of sampling distribution in statistical inference and give examples.
19. Find out the coefficient of correlation between price and sales from the following data. Also find P.E.
- Price Rs.: 100 90 85 92 90 84 88 90 93 95
- Sales (units): 600 610 700 630 670 800 800 750 700 680
20. What is the difference between linear and curvilinear regression?
21. Comment on the following results. For a bivariate distribution, 1) Coefficient of regression of y on x is 4.2 and coefficient of regression of x on y is 0.50 2) $b_{xy} = -.82$ and $b_{yx} = 25$.

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Define statistics. What are the functions & limitation and scope of statistics?
23. Find the coefficient of variation for the following data and mention its uses

X	700-900	900-1100	1100-1300	1300-1500	1500-1700	1700-1900
f	10	16	26	18	8	3



24. Three judges gave the following ranks to eight contestants. Use the method of rank correlation mention which of the judges 1. Coincide most 2. Differ most

Judge A	1	2	3	4	5	6	7	8	9
Judge B	7	4	3	9	1	2	5	6	8
Judge C	3	9	5	8	7	4	1	2	6

25. In a partially destroyed record of an analysis of correlation data the following results only are eligible Variance of $x=9$ Regression equations: $8x-10y+66=0$, $40x-18y=214$ Find (i) The mean values of x and y (ii) the coefficient of correlation (iii) Standard deviation of y

(2×15=30)

