



23124757

QP CODE: 23124757

Reg No :

Name :

**B.Sc DEGREE (CBCS) REGULAR / IMPROVEMENT / REAPPEARANCE
EXAMINATIONS, MAY 2023**

Second Semester

B.Sc Psychology Model I

Complementary Course - ST2CMT22 - STATISTICAL TOOLS

2017 ADMISSION ONWARDS

40F82E55

Time: 3 Hours

Max. Marks : 80

Part A

*Answer any **ten** questions.*

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

1. Give the merits and demerits of Range.
2. Explain Quartile deviation.
3. Variance of a data set is zero, What is its interpretation?
4. Find the variance of the data 101,101,101,101,101
5. If the first three raw moments about 5 are 2, 20, 40 then find the first 3 central moments.
6. Explain different types of skewness.
7. Compute the Person's measure of skewness for the data 1,2,3,4,5,6
8. Define kurtosis. What is its significance?
9. Define the term correlation.
10. Define Pearson's correlation coefficient and give its limits.
11. What is the limits of rank correlation?
12. What is the relation between regression and correlation?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*





13. Explain the term Dispersion. What are the various measures of dispersion and compare them?
14. Compute the mean deviation about the median from the frequency distribution given below.

Size:	5	8	13	20	25	30	40
Freq:	2	10	20	35	18	7	5

15. Calculate the SD for the following data.

Marks obtained	0-10	10-20	20-30	30-40	40-50	50-60	60-70
Number of students	16	20	25	30	18	10	8

16. Explain the effect of change of origin and scale on central moments.
17. Explain the different types of skewness by drawing the sketch of skewed distribution and indicating the positions of different averages.
18. Calculate the moment measure of skewness and kurtosis of the following data
- | | | | | |
|-------------|------|-------|-------|-------|
| Class : | 0-10 | 10-20 | 20-30 | 30-40 |
| Frequency : | 1 | 3 | 4 | 2 |
19. Explain the use of scatter diagram in correlation analysis.
20. How can you use scatter diagram to obtain an idea of the extend and nature of the correlation coefficient?
21. How will you identify the two regression lines?

(6×5=30)

Part C

Answer any **two** questions.

Each question carries **15** marks.

22. Calculate the coefficient of variation of the following data;

Class	0-10	10-20	20-30	30-40	40-50
Frequency	10	12	18	14	6

23. a) Differentiate between raw moments and central moments
 b) Calculate the first four moments about the mean for the following data.

X	1	2	3	4	5	6	7	8	9
F	1	6	12	25	30	20	9	5	2





24. Identify the type of skewness exhibited by the following data, relate to the annual sale of a product in 10 various years using
(a) Bowley's measure and
(b) Karl Pearson's measure.

98,135,162,178,221,232,283,300,374,395.

25. Price of wheat (x) and cereals(y) at twelve successive seasons are given below.

x	87	84	88	102	101	84	72	84	83	98	97	100
y	88	79	83	97	96	90	82	84	88	100	80	102

1. Fit a line of regression of Y on X.
2. Suggest what value of Y will be when X is expected to be 110?

(2×15=30)

