

**St .JOSEPH'S COLLEGE OF ARTS & SCIENCE, (AUTONOMOUS)  
CUDDALORE-1.**

**SUBJECT : STATISTICAL METHODS**  
**SUBJECT CODE : ASCA202T**  
**DEPARTMENT : STATISTICS**  
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**PART –A**

1. Write two merits of arithmetic mean?
2. Write the formula for geometric mean
3. Define Skewness.
4. Write formula for Bowley's co-efficient of skewness.
5. Define correlation.
6. Write the formula for Spearman's rank correlation co-efficient
7. Define sample.
8. Define Hypothesis.
9. Define parameter and Statistic.
10. State the type of errors.

**PART –B**

11. Calculate Mean deviation and its co-efficient from mean for the following data

C-I	10-20	20-30	30-40	40-50	50-60	60-70	70-80
F	5	9	13	21	20	15	3

12. Calculate Bowley's Coefficient of Skewness from the given data.

<b>Size:</b>	12	10	8	6	4	2
<b>Frequency:</b>	4	8	15	10	7	5

13. Explain Correlation with its types.

14. A random sample of size 16 has 53 means. The sum of the squares of the deviations taken from the mean is 150. Can this sample be regarded as taken from the population having 56 as mean( $t_{0.05}^{15}$ ) = 2.131

15. In a sample of 1000 people in Maharashtra 540 are rice eaters and the rest are wheat eaters. Can we assume that both rice and wheat eaters are equally popular in this state at 5% level of significance.

### PART –C

16. . Calculate Mean, Median and Mode from the following data.

C.I	2-4	4-6	6-8	8-10	10-12	12-14	14-16	16-18	18-20	20-22
F	3	7	13	17	12	10	8	8	6	6

17. Compute the Karl-Pearson's coefficient of Skewness from the following data.

X	5	10	15	20	25	30	35	40
F	2	3	4	6	8	7	3	2

18. Calculate the Rank correlation coefficient from the following data.

X	48	33	40	9	16	16	65	24	16	57
Y	13	13	24	6	15	4	20	9	6	19

19. Values of a varies in two samples are given below

Sample I : 5 6 8 1 12 4 3 9 6 10

Sample II : 2 3 6 8 1 10 2 8

Test the significance of the difference between the sample variances.

20. In a Survey of buying habits, 400 women shoppers are chosen at random in super market 'A' located in a certain section of the city. Their average weekly food expenditure is RS.250 With a standard deviation of Rs 40. For 400 women shoppers chosen at random in super market 'B' in another section of the city, the average weekly food expenditure is Rs.220 with a standard deviation of Rs.55. Test at 1% level of significance whether the average weekly food expenditure of the two populations of shoppers are equal.