

**SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN
(AUTONOMOUS)**

(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai — 600 044.

B.Com.(PA) END SEMESTER EXAMINATIONS APRIL-2022

SEMESTER - II

19UPAAT2BS2 - Business Statistics

Total Duration : 3 Hrs.

Total Marks : 60

Section A

Answer any **SIX** questions ($6 \times 5 = 30$ Marks)

1. Draw Histogram and find the value of mode:

CI	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80
F	5	15	30	10	18	20	10	8

2. Find the Arithmetic Mean and Median for the following data:

X	10	15	20	25	30	35	40
F	5	12	14	8	3	8	4

3. Find the rank correlation for the following data:

Marks in Maths	24	25	20	18	17	18	23	25	21
Marks in Statistics	25	17	15	17	18	21	23	17	20

4. Explain the types of correlation with examples.

5. Find the laspeyre and paasche's index number:

Commodity	Price		Quantity	
	2020	2021	2020	2021
A	12	14	5	6
B	5	6	8	10
C	10	10	8	12
D	7	11	6	10

6. In throwing two dice, the random variable is the sum of points on two dice. Find the expectation of the random variable.
7. Explain the simple random sampling procedure of collecting samples.
8. A sample of 100 iron bars is drawn from a large number of bars whose length are normally distributed with mean 4 feet and variance 0.36 feet. If the sample mean is 4.2, test the significance of the difference between the sample mean and population mean.

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Section B

Answer any **THREE** questions ($3 \times 10 = 30$ Marks)

9. Find the Karl Pearson coefficient of skewness:

CI	4-8	8-12	12-16	16-20	20-24	24-28	28-32	32-36
F	2	4	8	10	6	4	8	5

10. Find the Karl Pearson coefficient of correlation between the marks obtained by the students in maths and statistics.

Maths	65	45	40	55	60	50	80	30	70	65
Statistics	60	60	55	70	80	40	85	50	70	80

$$R = 0.69$$

11. Find the Fisher Ideal Index and prove that it satisfies time reversal test and factor reversal test.

Commodity	Price		Quantity	
	2018	2020	2018	2020
A	24	26	14	10
B	22	22	10	15
C	10	14	8	10
D	8	10	10	8
E	15	17	7	10

12. Out of 1000 balls 60 are red and rest are white. If 50 balls are drawn at random, What is the probability of getting (i) 3 red balls (ii) more than 3 red balls in the sample.

$$0.2240, .3528$$

13. The following are the gain in weights(kg) of pigs fed on two diets A and B. Test whether the two populations have the same variance.

Diet A :	10	6	16	17	13	12	8	14	15		
Diet B :	7	13	22	15	12	14	18	8	21	23	10
