

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.
BCOM.(CS) END SEMESTER EXAMINATION APRIL/NOV - 2021
SEMESTER - IV
17UBCCT4A12 - Statistics - II

Total Duration : 3 Hrs	Total Marks : 75
MCQ : 30 Mins	MCQ : 15
Descriptive : 2 Hrs.30 Mins	Descriptive : 60

Section B

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

- Fit a straight line for the following data

X	1	2	3	4	5	6	7	8
Y	12	10	15	14	18	20	18	20
- Explain the scatter diagram method of finding the relationship between two variables.
- 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
- What do you mean by time series and state its uses.
- Find the trend values using (4 year) moving average method.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019
Value	12	14	18	15	20	24	22	23	25
- Find the laspeyre and paasche's index number.

Commodity	Price	Quantity		
	2011	2013	2011	2013
A	12	14	5	6
B	5	6	8	10
C	10	10	8	12
D	7	11	6	10
- Find the index number using simple average of price relative method –Geometric Mean.

Commodity	A	B	C	D	E
Price 2018	12	15	18	21	20
Price 2020	12	17	21	20	28
- The following data are the oxygen uptakes (mm) during incubation of a random sample of 10 cell observations.
14.0 14.3 14.5 13.2 11.2 14.0 14.1 12.2 11.1 13.7
Do these data provide sufficient evidence at the .05 level of significance that the population mean is 12 ml.

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Section C

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

9. Fit a second degree parabola for the following data.

X	1	2	3	4	5	6	7
Y	6	7	10	9	12	10	8

10. Find the karl pearson coefficient correlation for the following data.

X	12	24	56	28	45	27	20	22	25
Y	10	14	15	24	28	51	45	48	47

11. Find the trend values using the method of least squares.

Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Value	10	15	18	15	21	29	25	26	31	32

12. 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

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