

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.(BIM) END SEMESTER EXAMINATIONS APRIL-2023

SEMESTER - I

21UBBAT1001 - Business Statistics

Total Duration : 2 Hrs 30 Mins.

Total Marks : 60

Section B

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

- What are the source of secondary data? What are the precautions to be taken while using secondary data?
- A random sample of 5 college students is selected and their grade in Mathematics and statistics are found to be:

	1	2	3	4	5
Mathematics	85	60	73	40	90
Statistics	93	75	65	50	80

Calculate spearman's rank correlation.

- Find the 4 yearly moving averages from the following data.

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Sales	464	515	518	467	502	540	557	571	586	612

- An enquiry into the budgets of middle class families in a certain city gave the following information:

Expenses	Food 35%	Fuel 10%	Clothing 20%	Rent 15%	Miscellaneous 20%
Price (2019)	Rs.150	Rs.25	Rs.75	Rs.30	Rs.40
Price (2021)	Rs.145	Rs.23	Rs.65	Rs.30	Rs.45

What is the cost of living index number of 2021 as compared with that of 2019?

- Calculate the Median age:

Age (Less than)	10	20	30	40	50	60	70	80
No.of Person	4	16	40	76	96	112	120	125

- From the following data, Calculate the value of Y for X=40,

	X	Y
Average	35	50
Standard Deviation	5	8
Correlation co-efficient r	0.8	

Contd...

7. The sales of a commodity in tonnes varied from January 2018 to December 2018 as under.

280	300	280	280	270	240
230	230	220	200	210	200

Fit a trend line by the method of semi average.

8. Calculate quantity index from the following data through,
i) Laspeyre's method ii) Paasche's method iii) Fisher's method

	Commodity I		Commodity II		Commodity III	
Year	Price (Rs.)	Quantity	Price (Rs.)	Quantity	Price (Rs.)	Quantity
2020	5	10	8	6	6	3
2021	4	12	7	7	5	4

Section C

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

9. Explain the different types of Graphs and Diagrams.
10. Calculate Bowley's coefficient of skewness from the following data:

Sales	Below 50	Below 60	Below 70	Below 80	Below 90
No.of Companies	8	20	40	65	80

11. Calculate Karl- Pearson Co-efficient of Correlation from the following data:

X	12	9	8	10	11	13	7
Y	14	8	6	9	11	12	3

12. Find the trend values by the method of Least Squares.

Year	2012	2013	2014	2015	2016	2017	2018
Values	12	10	14	11	13	15	16

13. Compute Index Number using Fisher's Ideal Formula show that it satisfies time Reversal Test and Factor Reversal Test.

	Base Year		Current Year	
Commodity	Quantity	Price	Quantity	Price
A	12	10	15	12
B	15	7	20	5
C	24	5	20	9
D	5	16	5	14
