(i) Printed Pages: 4   Roll No. ....

(ii) Questions   : 9   **Sub. Code :** | 0 | 8 | 6 | 8 |

Exam. Code : | 0 | 0 | 2 | 2 |

Bachelor of Business Administration 2nd Semester

(2054)

BUSINESS STATISTICS

Paper : BBA122

Time Allowed : Three Hours]   [Maximum Marks : 80

Note :—(1) Attempt any **FOUR** questions from Section A. Each question carries **5** marks.

(2) Attempt **TWO** questions each from Section B and Section C respectively. Each question carries 15 marks.

SECTION—A

1. (a) Discuss the importance of statistics.

(b) Define geometric mean. What are its merits and demerits ?

(c) Calculate the mode from the following data :

Wages (in Rs.)	0 – 5	5 – 10	10 – 15	15 – 20	20 – 25	25 – 30	30 – 35
No. of Workers	3	7	15	30	20	10	5

(d) Ten competitors in a beauty contest are ranked by two judges in the following order :

First Judge	1	6	5	10	3	2	4	9	7	8
Second Judge	3	5	8	4	7	10	2	1	6	9

Calculate rank correlation coefficient.

(e) The sum of 50 observation is 500 and the sum of their square 6000 and median is 12. Compute the coefficient of variation and coefficient of skewness.

(f) From the following data, calculate trend values using 3 yearly moving average :

Years	2017	2018	2019	2020	2021	2022	2023
Production	412	438	446	454	470	483	490

SECTION—B

2. "Statistics are numerical statements of facts in any department of enquiry and placed in relation to each other". Comment and discuss the characteristics of statistics.

3. From the data given below find the Mean, Median and Mode :

Variable	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50
Frequency	8	12	36	35	28	18	9	3

4. The scores of two batsmen A and B in 10 innings during a certain match are :

A	32	28	47	63	71	39	10	60	96	14
B	19	31	48	53	67	90	10	62	40	80

Find out who is the better scorer and who is more consistent batsman.

5. Obtain the two regression equations for the following data :

X	43	44	46	40	44	42	45	42	38	40	52	57
Y	29	31	19	18	19	27	27	29	41	30	26	10

Also find the value of X when Y is equal to 49.

SECTION—C

6. (a) State and explain the uses of index numbers.

(b) Explain the problems in analysis of time series. 7,8

7. Fit a straight-line trend by the method of least square from the following data :

Years	2014	2015	2016	2017	2018	2019	2020
Production (in '000 units)	125	128	133	135	140	141	143

Estimate the values for the years 2021 and 2023 using the trend equation.

8. Calculate Fisher's Ideal index from the following data and show that it satisfies both the time reversal and factor reversal tests :

Commodity	2022		2023	
	Price	Expenditure	Price	Expenditure
A	5	50	6	72
B	7	84	10	80
C	10	80	12	96
D	4	20	5	30
E	8	56	8	64

9. (a) What is skewness ? Explain different measures of skewness.

(b) Compute seasonal indices by using simple average method for the following data :

Years	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
2021	37	41	33	35
2022	37	39	36	36
2023	40	43	33	31

7,8