

Roll.No.

25UBBGT1001

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(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 - NOVEMBER 2025
SEMESTER - I
25UBBGT1001 - Business Statistics

Total Duration : 2 Hrs.30 Mins.

Total Marks : 60

Section B

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

- 1. Explain the methods of collecting the primary data.
- 2. Find the Standard Deviation for the following data

Age	20-25	25-30	30-35	35-40	40-45	45-50
No. of persons	170	110	80	45	40	35

- 3. Compute coefficient of correlation for the following data through Pearson's method

X	25	35	45	52	20	33	40	30
Y	20	15	10	14	23	18	22	30

- 4. Explain the components of time series analysis.
- 5. An intelligence test was administered to 5 persons before and after they were trained. The results are as follows:

Candidates	1	2	3	4	5
IQ(Before Training)	120	130	135	142	135
IQ (After Training)	130	128	135	146	131

Test whether there is any change in IQ after the training programme.

- 6. Assuming that trend is absent, determine if there is any seasonality in the data given below:

Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
1985	3.7	4.1	3.3	3.5
1986	3.7	3.9	3.6	3.6
1987	4.0	4.1	3.3	3.1
1988	3.3	4.4	4.0	4.0

What are the seasonal indices for various quarters?

- 7. Calculate the rank correlation coefficient from the following data:

X	52	63	45	36	72	65	47	25
Y	62	53	51	25	79	43	60	33

Contd...

8. 20 people were attacked by a disease and only 18 survived. Will you reject the hypothesis that the survival rate if attacked by the disease is more than 85%? Test at 5% level of significance.

Section C

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

9. Construct a histogram and frequency polygon for the following distribution:

Marks	21-27	28-34	35-41	42-48	49-55	56-62	63-69
No. of students	2	3	10	18	15	5	6

10. Calculate Mean, Median and Mode for the following data

Marks	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90
No. of Students	4	12	40	41	27	13	9	4

11. Calculate the regression equations of X on Y and Y on X from the following data and estimate X when Y=26

X	10	12	13	17	18	20	24	30
Y	5	6	7	9	13	15	20	21

Calculate the coefficient of correlation also.

12. Fit a straight line trend through the method of least squares for the following data.

Year	1982	1983	1984	1985	1986	1987	1988
Sales	110	115	130	140	145	160	180

13. Out of 8000 graduates in a town 800 are females, out of 1600 graduate employees, 120 are females. Use Chi –square to determine if any distinction is made in appointment on the basis of sex. Value of chi-square for 5% level for one degrees of freedom is 3.84.
