

Code No: 741AD

**R17**
**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**
**MBA I Semester Examinations, January - 2020**
**BUSINESS STATISTICS**
**Time: 3 hours**
**Max.Marks:75**
**Note:** This question paper contains two parts A and B.

Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART - A**
**5 × 5 Marks = 25**

- 1.a) State the functions of Statistics. [5]
- b) Explain briefly 'Kurtosis'. [5]
- c) Explain different types of graphs. [5]
- d) Explain the properties of regression coefficients. [5]
- e) Explain any one model of time series analysis. [5]

**PART - B**
**5 × 10 Marks = 50**

2. Calculate Mean, Median and Mode for the following distribution:

Monthly wages (Rs.)	No.of workers
Less than 2,000	78
2,000 – 4,000	165
4,000 – 6,000	93
6,000 – 8,000	42
8,000 – 10,000	12

[10]

**OR**

3. Find the Geometric Mean for the data given below:

Marks	Frequency
4-8	6
8-12	10
12-16	18
16-20	30
20-24	15
24-28	12
28-32	10
32-36	6
36-40	2

[10]

4. Calculate the quartile deviation and its coefficient of quartile deviation from the following data:

Wages in Rupees per week :	< 100	100-105	105-110	110-115	over 105
No.of wage earners	: 14	62	99	18	7

[10]

**OR**

5. Calculate Karl Pearson's coefficient skewness from the following data:

Profit (Rs.lakhs)	No.of Cos.
70-80	12
80-90	18
90-100	35
100-110	42
110-120	50
120-130	45
130-140	30
140-150	8

[10]

6. Explain different types of tabulations with suitable examples.

[10]

**OR**

7. Below are given the gains in weights (lbs.) of items on ten diets X and Y

Diet X: 25 32 30 32 24 14 32

Diet Y: 24 34 22 30 42 31 40 30 32 35

Test at 5% level, whether the two diets differ significantly with regard to increase in weight.

[10]

8. The following table gives the retail prices of a commodity in some shops selected at random in four cities:

	Price(Rs.)			
City				
A	22	24	27	23
B	20	19	23	-
C	19	17	21	18
D	24	26	29	26

Carry out the analysis of variance to test the significant of the difference between the price of commodity in four cities.

[10]

**OR**

9. Seven methods of imparting business education were ranked by the MBA students of two Universities as follows:

Methods of teaching	:	I	II	III	IV	V	VI	VII
Rank of students of University A	:	2	1	5	3	4	7	6
Rank of students of University B	:	1	3	2	4	7	5	6

Calculate rank correlation coefficient.

[10]

10. The sales of a company in lakhs of rupees for the years 2011 to 2017 are given below:

Year: 2011 2012 2013 2014 2015 2016 2017

Sales: 30 49 67 90 130 190 273

Find trend values by using exponential trend method and estimate the value for 2018.

[10]

**OR**

11. The following table gives the aptitude test scores and Productivity indices of 10 workers selected at random:

Aptitude Scores (X)	:	6	6	6	7	7	2	4	5	7	6	8
Productivity Index (Y)	:	6	6	6	8	8	4	5	6	6	6	8

Calculate the two regression equations.

[10]