Roll No. .....

12604

MBA 2 Yr. 1st Semester CBCS 2019-20
New Scheme
Examination – April, 2021

BUSINESS STATISTICS AND ANALYTICS

Paper : 19IMG21C4

Time : Three hours] *[Maximum Marks : 80*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : The question paper comprises of ***two*** Section. Section-**A** is ***compulsory*** and each part carries ***two*** marks. Attempt any ***four*** questions from Section-**B** selecting ***one*** question from each Unit. All question carry equal marks.

SECTION – A

1. Conceptualize the following :

(a) Median

(b) Kurtosis

(c) Partial Correlation

(d) Regression Lines

(e) Time Series Analysis

(f) Non-Sampling Error

(g) Business Analytics

(h) Type II Error

SECTION – B

UNIT – I

2. Write note on the following :

(a) Importance of Dispersion Analysis

(b) Kurtosis Analysis

3. The data on the profits (in Rs. Lakh) earned by 60 companies is as follows :

Profits	Below 10	10-20	20-30	30-40	40-50	50 and above
No. of Companies	5	12	20	16	5	2

Area	Number of Units			
	A	B	C	D
1	80	100	95	70
2	82	110	90	75
3	88	105	100	82
4	85	115	105	88
5	75	90	80	65

Is there a significant difference in the efficiency of these salesmen ?

Item	2008		2009	
	Price	Quantity	Price	Quantity
A	5	25	6	30
B	3	8	4	10
C	2	10	3	8
D	10	4	3	5

UNIT – IV

8. (a) What do you mean by Sampling ? Discuss different types of sampling techniques with suitable examples.

(b) Discuss Chi-square test.

9. The following figures related to the number of units of a product sold in five different areas by four salesmen (A, B, C and D) :

(a) Obtain the limits of profits of the central 50 percent companies.

(b) Calculate Bowley's coefficient of Skewness and interpret its value.

UNIT – II

4. Calculate Spearman's coefficient of correlation between marks assigned to ten students by Judge X and Y in a certain competitive test as shown below :

Student	marks by Judge X	Marks by Judge Y
1	52	65
2	53	68
3	42	44
4	60	58
5	45	52
6	45	48

7	37	39
8	38	39
9	26	27
10	26	36

5. The following data relates to the scores obtained by a salesmen of a company in an intelligence test and their weekly sales (in Rs. 1000's) :

Salesman Intelligence	A	B	C	D	E	F	G	H	I
Test Score	50	60	50	60	80	50	80	40	70
Weekly Sales	30	60	40	50	60	30	70	50	60

(a) Obtain the regression equation of sales on intelligence test scores of the salesmen.

(b) If the intelligence test score of a salesman is 65, what would be his expected weekly sales ?

UNIT – III

6. (i) Discuss various components of Time Series.

(ii) The following Table relates to the tourist arrivals (in millions) during 1994 to 2000 in India :

Year	1994	1995	1996	1997	1998	1999	2000
Tourists Arrivals	18	20	23	25	24	28	30

Fit a straight line trend by the method of least squares and estimate the number of tourists that would arrive in the year 2005 ?

7. Write note on the following :

(a) What is index number ? What are the problems in the construction of index numbers ?

(b) Compute Marshall-Edgeworth's Price Index number from the following data :