UNIT – IV

8. Write note on the following :

(a) Applications of Business Analytics

(b) Hypothesis Testing Procedure

9. Two hundred randomly selected adults were asked whether TV shows as a whole are primarily entertaining, educational, or a waste of time (only one answer could be chosen). The respondents were categorized by gender. Their responses are given in the following Table :

Gender	Opinion			
	Entertainment	Educational	Waste of Time	Total
Female	52	28	30	110
Male	28	12	50	90
Total	80	40	80	200

Is this evidence convincing that there is a relationship between gender and opinion made by the population ?

Roll No. .....

12604

MBA 2 Yr. 1st Semester (CBCS) 2019-20
New Scheme Examination – December, 2019

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*** Sections. Section **'A'** is ***compulsory*** and each part carries ***two*** marks. Attempt any ***four*** questions from Section **'B'** selecting ***one*** question from each Unit. All questions carry equal (sixteen) marks each.

SECTION – A

1. Conceptualize the following :

(a) Geometric Mean

(b) Quartile Deviation

(c) Multiple Regression

(d) Coefficient of Determination

(e) Trend Analysis

(f) Sampling Error

(g) Type 1 Error

(h) Non-Parametric Test

SECTION – B

UNIT – I

2. What is dispersion ? Discuss various measures of dispersion.

3. The following table gives the distribution of weekly wages of 500 workers in a factory :

Weekly Wages (Rs.)	No. of Workers
Below 200	10
200-250	25
250-300	145
300-350	220
350-400	70
400 and above	30

(a) Obtain the limits of income of the central 50 percent of the observed workers.

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

UNIT – II

4. Obtain the rank correlation coefficient between the variables x and y from the following pair of observed values.

x	50	55	65	50	55	60	50	65	70	75
y	110	110	115	125	140	115	130	120	115	160

5. (a) Discuss properties of regression coefficients.

(b) The two regression lines obtained in a regression analysis of 60 observations are :

$$5X = 6Y + 24 \text{ and } 1000Y = 768X - 3708$$

On the basis of the above information, find (i) correlation coefficient, (ii) probable error, (iii) coefficient of variability

UNIT – III

6. Below are given the figures of production (in thousand quintals) of a sugar factory :

Year	2011	2012	2013	2014	2015	2016	2017
Production	80	90	92	83	94	99	92

(a) Find trend line of best fit to the above figures.

(b) Plot these figures on a graph and show the trend line.

(c) Estimate the production in 2020.

7. Write note on the following :

(a) Discuss various advantages of Tndex numbers.

(b) Compute Fisher's ideal price index number from the following data :

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