BRAINWARE UNIVERSITY

Programme –BBA / B.COM.

Course Name -- Business Statistics

Course Code – BBA204 / BBAC204 / BCM203 / BCMC203

(Semester – 2)

Time allotted: 3 Hours   **Full Marks: 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Question)   10 x 1 = 10

1. *Choose the correct alternative from the following*

(i)   In a week the prices of a bag of rice were 350,280, 340, 290, 320, 310, and 300. The range is

    a. 70   b. 90

    c. 100   d. 60

(ii) Find the median of the following data: 160, 180, 200, 280, 300, 320, 400

    a. 140   b. 180

    c. 280   d. 300

(iii) The mean of a distribution is 14 and the standard deviation is 5. What is the value of the coefficient of variation?

    a. 60.4 %   b. 48.3 %

    c. 35.7 %   d. 27.8 %

(iv) The height of a student is 60 inches. This is an example of --------------

    a. Qualitative Data   b. Discrete Data

    c. Continuous Data   d. Categorical Data

(v)   Which one is the not measure of dispersion?

    a. Range   b. Variance

    c. Mean   d. Inter-quartile Range

(vi)   Which of the following indicates the strongest relationship?

     a. r = 0.5   b. r = .09

     c. r = -0.6   d. r = 0.2

(vii) A fire in a factory delaying production for some weeks is

     a. Secular Trend   b. Irregular Trend

     c. Seasonal Trend   d. Cyclical Trend

(viii) Index numbers can be used for:

     a. Forecasting   b. Fixed Prices

     c. Different Prices   d. Constant Prices

(ix)   The measure of Dispersion can never be

     a. Positive   b. Negative

     c. 0   d. 1

(x)   If you flipped 2 coins, what is the probability that both will land on tails?

     a. 2/4   b. ¾

     c. ¼   d. 0/4

Group – B

(Short Answer Type Questions)   3 x 5 = 15

Answer any *three* from the following

2. Goals scored by two teams - A and B - in a football season in 5 matches were as follows. State which team has better average in scoring?   5

No of Goals Scored by A	No. of Goals Scored by B
5	6
4	5
3	4
2	3
1	2

3. Estimate *the median* from the following data: 5

Height	60-62	63-65	66-68	69-71	72-74
No. of Students	8	27	42	18	5

4. Differentiate between Primary and Secondary data.   5

5. The two regression lines involving the two variables x and y are Y = 5.6 + 1.2x and X = 12.5 + 0.6y. Find their *Correlation Coefficient.*   5

6. What do you mean by a time series? Explain the different components of such a series.   2+3

Group – C

(Long Answer Type Questions)   3 x 15 = 45

Answer any *three* from the following

7. (a) The A.M. of the following distribution is 28.8. Find the *missing frequency*   8

Marks	0-10	10-20	20-30	30-40	40-50	50-60
No. of Students	4	6	20	?	7	3

(b) The mean and S.D. of a sample of size 10 were found to be 9.5 and 2.5 respectively. Later on an additional observation became available. It was 15 and was included with the original sample. Find the mean and S.D. of the 11 observations.   7

8. (a) Given the following data, calculate price index number by the help of *Fisher's formula:*   8

Year	Rice		Wheat		Jowar	
	Price	Qty	Price	Qty	Price	Qty
1978	9.3	100	6.4	11	5.1	5
1992	4.5	90	3.7	10	2.7	3

(b) Assuming a *three-yearly cycle*, calculate the trend with the method of moving average from the following data: 7

Year	2001	2002	2003	2004	2005	2006	2007
Sales (Rs '000)	125	128	133	135	140	141	143

9. (a) The following data give the hardness (x) and tensile strength (y) for some specimens of a material in certain units. Find the *correlation coefficient* and analyze the result: **8**

x	23.3	17.5	17.8	20.7	18.1	20.9	22.9	20.8
y	4.2	3.8	4.6	3.2	5.2	4.7	4.4	5.6

(b) State whether the *correlation will be positive or negative or zero* in the following cases: **7**
i) Age and income
ii) Speed of an automobile and the distance required to stop the car after applying break
iii) Sale of woolen garments and day-temperature
iv) Production and price per unit
v) Size of dress and advertisement
vi) Sale of Cold drinks and Day-temperature
vii) Shoe size and level of intelligence

10. (a) What is the probability of getting a sum 9 from two throws of a dice? **5**

(b) A committee of 5 persons is formed from 8 men and 3 women. What is the probability that the committee contains atleast 2 women? **10**

11. (a) What is Scatter Diagram? Explain. **5**

(b) What is Sampling? Write the different types of it. **2+8**