

Total No. of Questions : 5]

SEAT No. :

PA-1998

[Total No. of Pages : 4

[5955]-205
F.Y. B.B.A. (IB)
205 : BUSINESS STATISTICS
(2019 Pattern) (Semester - II)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer all questions.*
- 2) *Figures to the right indicates full marks.*

Q1) a) Fill in the blanks.

[5×2=10]

- i) The highest range of the correlation (r) is _____.
(0 and 1), (-1 and 0), (-1 and +1)
- ii) Standard deviation is always _____.
(Positive, Negative, zero)
- iii) The empirical relation between Mean, Median, and Mode is _____.
(Mode = 3 Median - 2 Mean), (Mode = 2 Median - 3 Mean),
(Mode = Median + Mean)
- iv) The process of arranging data into rows and columns is called _____.
(Classification of data, tabulation of data)
- v) Data obtained by observing value of quantitative variable are referred to as _____.
(Discrete data, continuous data, Quantitative data)

P.T.O.

- b) State whether the following statements are true or false (3 out of 5). [3×2=6]
- i) The 'Variance' and the 'standard deviation' are two different terms indicating the same concept.
 - ii) The mean of a set of scores is the sum of all the scores in the set and divided by the number of scores.
 - iii) The 'mean', the 'median' and the 'mode' are all measures of central tendency.
 - iv) The histogram is a measure of central tendency.
 - v) The frequency distribution indicates how many times each value in a data set occurs.

Q2) Attempt any four of the following. (4 out of 6): [4×4=16]

- i) Draw a multiple bar diagram for the following data:

Year	Profit before tax (in Rs)	Profit after tax (in Rs)
	(in Lac)	(in Lac)
2010	195	80
2011	200	87
2012	165	45
2013	140	32

- ii) The weekly wage of 5 workers is as given below:
1350, 1400, 1450, 1370 and 1480 Complete the arithmetic mean.
- iii) Find standard deviation of (₹) 8, 10, 15, 24, 28.
- iv) Calculate Range and its coefficient from the following data.
53, 46, 18, 16, 75, 84, 28.
- v) What do you mean by regression lines and regression equations?
- vi) What is standard deviation? Write the properties of standard deviation?

Q3) Attempt any four of the following (4 out of 6):

[4×4=16]

- i) Draw a pie diagram for the following data of production of Sugar in quintals of various countries.

Country	Production of Sugar (quintals)
Cuba	62
Australia	47
India	35
Japan	16
Egypt	6

- ii) Calculate the Median when mean and mode of Distribution are 38.6 and 32.6 respectively.
- iii) Draw a scatter diagram for the following and indicate whether the correlation is positive or negative.

X	10	20	30	40	50
Y	20	40	60	80	100

- iv) What are the applications of Regression Analysis.
- v) What is primary and secondary data?
- vi) Define the term Range with example?

Q4) Attempt any four of the following (4 out of 6):

[4×4=16]

- i) Represent the data given below by histogram:

Income (in Rs)	Frequency
0-50	10
50-100	30
100-150	80
150-200	90
200-250	40
250-300	20

ii) Find the Median of the following distribution:

X	1	2	3	4	5	6
f	8	12	16	19	20	25

iii) Calculate Range and the coefficient of range from the following data:

X	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100
f	6	4	15	24	11	3	10	16	20

iv) What is coefficient of correlation?

v) Explain functions of Statistics?

vi) Distinguish between classification and tabulation?

Q5) Attempt any one out of two:

[1×6=6]

Calculate coefficient of variations of the following data.

S. No.	1	2	3	4	5	6	7	8	9	10
Weight (in kg)	52	56	44	32	51	48	39	58	46	54

OR

In the two lines of regression are:

$$4x - 5y + 30 = 0 \text{ and}$$

$$20x - 9y - 107 = 0$$

Which of these is the line of regression of X on Y and Y on X? Find r_{xy}

and σ_y when $\sigma_x = 3$.

