SEAT No. :

P2158

[5804]-205
First Year 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)   Neat diagrams must be drawn wherever necessary.

3)   Figures to the right indicate full marks.

4)   Assume suitable data if necessary.

Q1) a)   Fill in the blanks :   **[5 × 2 = 10]**

i)   Data obtained by observing values of quantitative variables are referred to as _____.

(Discrete data, continuous data, Quantitative data)

ii) The process of arranging data into rows and columns is called _____.

(Classification of data, tabulation of data)

iii) The empirical relation between Mean, Median and Mode is _____.

(Mode = 3Median – 2 Mean), (Mode = 2 Median – 3Mean)

(Mode = Median + Mean)

iv) Standard deviation is always _____.

(Positive, Negative, Zero)

v)   The highest range of the correlation (*r*) is _____.

(0 and 1), (–1 and 0), (–1 and +1)

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b) State whether the following statement are true or false. (3 out of 5)

[3 × 2 = 6]

i) The frequency distribution indicates how many times each value in a data set occurs.

ii) The histogram is a measure of central tendency.

iii) The 'mean', the 'median' and the 'mode' are all measures of central tendency.

iv) The mean of a set of scores is the sum of all the scores in the set and divided by the numbers of scores.

v) The 'variance' and the 'standard deviation' are two different terms indicating same concept.

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

a) 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

b) Find the Median of the following distribution :

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

c) 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

d) What is coefficient of correlation?

e) Explain functions of statistics?

f) Distinguish between classification and tabulation?

Q3) Attempt any four of the following : (4 out of 6)   **[4 × 4 = 16]**

   a)   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

   b)   Calculate the Median when Mean and Mode of Distribution are 38.6 and 32.6 respectively.

   c)   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

   d)   What are the applications of Regression Analysis?

   e)   What is Primary and secondary data?

   f)   Define the term Range with example?

Q4) Attempt any four of the following : (4 out of 6)   **[4 × 4 = 16]**

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

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

   b)   The weekly wage of 5 workers is as given below :

   1350, 1400, 1450, 1370 and 1480 compute the arithmetic mean.

   c)   Find standard deviation of (₹) 8, 10, 15, 24, 28.

d) Calculate Range and its Coefficient from the following data.

53, 46, 18, 16, 75, 84, 28

e) What do you mean by regression lines and regression equations?

f) What is standard deviation? Write the properties of standard deviation?

Q5) Attempt any one out of two :   **[1 × 6 = 6]**

a) If the two lines of regression are :
$4x - 5y + 30 = 0$ 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 $\sigma_x = 3$.

OR

b) 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

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