B.Com. Semester-IV Examination, 2022-23

COMMERCE [Programme]

Course ID : 41219 **Course Code : p**

Course Title : Business Statistics

Time : 2 Hours Full Marks : 40

The figures in the right-hand margin indicate marks.

Candidates are required to give their answers in their own words as far as practicable.

1. Answer any **five** questions: 2×5=10

a) If the frequencies of 3 numbers 8, 1, 6 are 3, 2, 5 respectively then find the AM of these numbers.

b) Find the standard deviation of 3x–4 when the standard deviation of x is 4.

c) Write down the relationship between Mean, Median, Mode.

d) Find the correlation coefficient if $\sigma_x^2 = 6.25, \sigma_y^2 = 4$ and COV(x, y)=0.9

e) Write one advantage and one disadvantage of Median.

f) Find the class interval of the following class 1-5, 6-10, 11-15, 16-20.

g) Find the mean deviation about mean for the following distribution: 4, 6, 8, 10.

h) If $b_{xy}=0.2$, $b_{yx}=0.8$ then find r.

2. Answer any **four** of the following questions: 5×4=20

a) Find the Mode of the following data:

Class	0-10	10-20	20-30	30-40	40-50
Frequency	8	5	10	4	7

b) Find the standard deviation from the following data: 46, 69, 32, 60, 52, 41.

c) The height of the students in cm grade 9 is listed below:

127, 120, 112, 123, 124, 127, 117, 123, 126, 127, 117, 128, 130, 116, 133, 118, 129, 121, 116, 123, 115, 121, 135, 122, 116, 124, 134, 123, 118, 122.

Draw a frequency table using tally marks and the given classes: 111-115, 116-120, 121-125, 126-130, 131-135.

d) Find the second and third central moment of the following data: 2, 3, 5, 6.

e) Find the regression equation of Y on X from the following data:

X	1	2	3	4	5
Y	7	6	5	4	3

f) Find the average weight of the following frequency distribution:

Weight(Ib)	100	110	120	125	140
No of Men	3	7	6	5	4

3. Answer any **one** question: 10×1=10

a) i) Draw the frequency polygon from the frequency table:

Class	50-60	60-70	70-80	80-90	90-100
Frequency	5	10	30	40	15

ii) Find the Mean from the following table:

Class Interval	0-5	5-10	l0-15	15-20	20-25	25-30
Frequency	7	6	5	8	4	3

5+5

b) i) Find the correlation coefficient between X and Y from the following data:

X	6	2	10	4	8
Y	9	11	5	8	7

ii) prove that $Var(ax+b)= a^2Var(x)$ 5+5

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