BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – BBA-Hons-2023
Course Name – Business Statistics
Course Code - BBA10001
(Semester I)

Full Marks : 60   **Time : 2:30 Hours**

[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)   1 x 15=15

1. Choose the correct alternative from the following :

(i) Identify a Type 1 error in hypothesis testing.
    a) Rejecting a true null hypothesis
    b) Accepting a true null hypothesis
    c) Rejecting a false null hypothesis
    d) Accepting a false null hypothesis

(ii) Select the correct option. The coefficient of Correlation values lies between
    a) 0 and 1
    b) -1 and +1
    c) -1 and 0
    d) None of these

(iii) Select the correct option. In Correlation both variables are always
    a) Random
    b) Non-Random
    c) Same
    d) None of these

(iv) Select the correct option. If two variables oppose each other then the correlation will be
    a) Positive Correlation
    b) Negative correlation
    c) Perfect correlation
    d) None of these

(v) Select the correct option. A perfect negative correlation is signified by
    a) 0
    b) +1
    c) -1
    d) None of these

(vi) Select the correct option from the following ,the Coefficient of Correlation between X and X is
    a) -1 to +1
    b) +1
    c) -1
    d) None of these

(vii) Select the correct option. The Coefficient of Correlation r is independent of
    a) Origin only
    b) Scale of Measurement only
    c) Both change of origin and scale of measurement
    d) None of these

(viii) Choose the correct option. Three unbiased coins are tossed. Evaluate the probability of getting at most two heads.

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a) 3/4
b) 3/8
c) 7/4
d) 7/8

(ix) Line diagram is used to represent _____ type of data. Select the correct option.

a) Time Series Data
b) Spatial Series data
c) Frequency Type data
d) None of these

(x) Choose the correct option. When two coins are tossed simultaneously, evaluate the chances of getting at least one tail.

a) 3/4
b) 1/4
c) 1/2
d) 1

(xi) Identify which one is the cumulative frequency curve

a) Ogive
b) Histogram
c) Bar Graph
d) Median

(xii) Identify from the following options which is the difference between the maximum and minimum values of a given observation.

a) Class Interval
b) Range
c) Class
d) Class-mark

(xiii) Grades obtained in an examination is. Select the correct option.

a) Nominal data
b) Discrete variable
c) Continuous variable
d) Ordinal data

(xiv) Select the correct option. The weights of students in a college/ school is a

a) Discrete Variable
b) Continuous variable
c) Qualitative variable
d) None of these

(xv) Select the correct option. The grouped data is also called

a) Raw Data
b) Primary Data
c) Secondary Data
d) Qualitative Data

Group-B
(Short Answer Type Questions)   3 x 5=15

2. From the following values show that the median is 150.   (3)

Income	100	150	80	200	250	180	Total
No. of person	24	26	16	20	6	30	122

3. The following table shows the sales and advertisement expenditure of a form   (3)

	Sales	Advertisement Expenditure
Mean	40	6
SD	10	1.5

Coefficient of correlation r= 0.9. Estimate the likely sales for a proposed advertisement expenditure of Rs. 10 crores.

4. Two dice are rolled, if it is known that atleast one of the dice always shows 4,   (3)
estimate the probability that the numbers appeared on the dice have a sum 8

5. Estimate the correlation coefficient: (3)

x	10	12	13	16	17	20	25
y	19	22	24	27	29	33	37

6. Explain one tailed and two tailed tests. (3)

OR

A government association claims that 44% of adults in the United States do volunteer (3)
work. You work for a volunteer organization and are asked to test this claim. You find
that in a random sample of 1165 adults, 556 do volunteer work. At alpha = 0.05, test that
you have enough evidence to reject the association's claim?

Group-C
(Long Answer Type Questions)   5 x 6=30

7. Discuss about different forms of graphical representation of frequency distribution. (5)

8. Predict the correlation coefficient: (5)

x	10	12	13	16	17	20	25
y	19	22	24	27	29	33	37

9. Three urns are there containing white and black balls; first urn has 3 white and 2 black balls, (5)
second urn has 2 white and 3 black balls and third urn has 4 white and 1 black balls. Without
any biasing one urn is chosen from that one ball is chosen randomly which was white.
Calculate the probability that it came from the third urn.

10. Describe about ogives in details with diagrams and examples (5)

11. Given two variables X and Y, calculate the correlation coefficient between them using the (5)
Pearson correlation formula.

12. Predict the value of the correlation coefficient from the data given in the following table: (5)

x	43	21	25	42	57	59
y	99	65	79	75	87	81

OR

Predict whether the correlation coefficient is 0.775: (5)

x	1	2	3	4	5
y	6	8	11	9	12

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