BRAINWARE UNIVERSITY

Term End Examination 2025-2026
Programme – B.Com.(AFB)-Hons]-2023/B.Com.(AFB)-Hons]-2024/B.Com.(AFB)-Hons]-2025
Course Name – Business Statistics
Course Code - BBF20001
(Semester II)

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) Show the correct one indicating moderately asymmetrical distribution-
a) A.M.>G.M.>H.M. b) G.M>A.M>H.M.
c) H.M.>G.M.>A.M. d) A.M.=G.M.=H.M.

(ii) Show the formula of calculating quartile deviation
a) (Q2+Q1)/4 b) (Q3+Q1)/2
c) (Q3-Q1)/(Q3+Q1) d) (Q2+Q1)/(Q3-Q1)

(iii) Identify the following that is the characteristics of a data
a) Aggregate of facts b) Affected by various causes
c) Numerical expressed d) all of these

(iv) Identify the correct option. A frequency distribution is a tabular summary of data showing
a) fraction of items in several classes b) relative percentage of items in several classes
c) percentage of items in several classes d) number of items in several classes

(v) Select what the variable "Gender" can be regarded as being, in general
a) qualitative and ratio level b) quantitative
c) qualitive and nominal level d) qualitative at ordinal level

(vi) Relate the test that is used to assess the relationship between two ordinal variables
a) Spearmans b) Allergy
c) Cramer's V d) Chi square

(vii) Identify the correct answer from understated options, value of the sum of deviations from arithmetic mean
a) 2 b) -1
c) 1 d) 0

(viii) Identify the correct option showing quartile deviations when quartile range is 24

a) 48 b) 12
c) 24 d) 72

(ix) In two units of company, employees in unit one are 650 and monthly salary is Rs.2750, employees in unit two are 700 and monthly salary is Rs.$2500 then identify the combined arithmetic mean

a) Rs.2620 b) Rs.2420
c) Rs.2520 d) Rs.2320

(x) Arithmetic mean is 12 and number of observations are 20 then identify sum of all values is

a) 8 b) 32
c) 240 d) 1667

(xi) Service time (in minutes) at airport ticket counter is as 4.5, 5.5, 6, 7, 8, 8.5, 4, 3, 3.5, 2.5, 3.8 then compute median of data

a) 3.8 b) 4.5
c) 4 d) 4.75

(xii) Formula of coefficient of range is; choose the correct option

a) (L+L)/(H+L) b) (H+H)/(L+L)
c) (H-L)/(H+L) d) (H+L)/(L-H)

(xiii) If value of first quartile is 49 and value of third quartile is 60 then value of inter quartile range is; choose the correct option

a) 21 b) 31
c) 11 d) 41

(xiv) The correlation coefficient and covariance between variables x and y are 0.28 and 7.6 respectively. Given variance of x is 9. Calculate variance of y

a) 16 b) 25
c) 49 d) 81

(xv) Choose the correct option: The degree of peakedness is called

a) Dispersion b) Skewness
c) Symmetry d) Kurtosis

Group-B

(Short Answer Type Questions) 3 x 5=15

2. Define bar diagram. (3)

3. Estimate the arithmetic mean for the values (3)

Wages in Rs.	10-20	20-30	30-40	40-50	50-60	60-70
No. of person	5	10	30	20	15	10

4. The word-length for each of 30 words in a poem is shown below: (3)

5,3,4,2,7,4,3,3,4,2,4,4,5,9,2,4,5,3,5,3,3,4,6,2,4,9,2,6,8,5

Estimate the median of the above data.

5. Determine the standard deviation for the distribution 2,4,6,8. (3)

6. A bag contains 5 red balls and 3 blue balls. Estimate the probability of randomly selecting a red ball from the bag. (3)

OR

Explain independent events. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. Age at death of 40 persons of a town are as follows: (5)

36, 48, 50, 45, 49, 31, 50, 39, 43, 47, 38, 39, 37, 40, 32, 52, 56, 31, 54, 36, 51, 46, 41, 55, 58, 31, 42, 53, 32, 44, 53, 36, 60, 59, 41, 53, 58, 36, 38, 60.

(a) Tabulate the data in a frequency distribution in 10 number of class intervals, and

(b) Observe the percentage frequency in each class interval.

8. Marks obtained by 25 students are given below. Illustrate the mode. (5)

Marks obtained	0-10	10-20	20-30	30-40	40-50	Total
No of student	2	4	9	7	3	25

9. Describe the requisites of a good average. (5)

10. Explain that the standard deviation from the following table. (5)

x	10	15	20	25	30	35	Total
f	9	17	25	29	12	8	100

11. Calculate Karl Pearson's coefficient of correlation between per capita national income and per capita consumer expenditure from the data: (5)

Year	Per capita national income	Per capita consumer expenditure
1980	249	237
1981	251	238
1982	248	236
1983	252	240
1984	258	245

1985	269	255
1986	271	254
1987	272	252
1988	280	258
1989	275	251

12. You toss a fair coin three times: (5)

i) Estimate the probability of three heads, HHH.

ii) Estimate the probability that you observe exactly one heads.

iii) Given that you have observed at least one heads, calculate the probability that you observe at least two heads.

OR

A card is drawn from a well-shuffled deck of 52 cards. Estimate the probability of getting a king or an ace. (5)

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