BRAINWARE UNIVERSITY

Term End Examination 2021 - 22
Programme – Bachelor of Commerce (Honours) in Banking & Finance
Course Name – Business Mathematics and Statistics
Course Code - BCMC202
(Semester II)

Time allotted : 1 Hrs.15 Min. **Full Marks : 60**

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question) 1 x 60=60

Choose the correct alternative from the following :

(1) A diagonal matrix in which all the diagonal elements are equal is a _____.

a) scalar matrix b) column matrix

c) unit matrix d) None of these

(2) The Lender's are also known as _____

a) Creditor's b) Debtor's

c) Buyer's d) None of these

(3) If A, B are two matrices and K is a scalar then _____.

a) K(A+B) ≠KA+KB b) K(A+B)=KA+KB

c) K(A+B) d) K(A+B)>KA+KB

(4) If any two rows and columns of a determinant are identical, the value of the determinant is _____.

a) 1 b) 0

c) -1 d) unaltered

(5) I stands for _____

a) Simple Interest b) Compound Interest

c) Rate of interest d) No.of.years

(6) Zero matrix is otherwise known as _____.

a) null matrix b) square matrix

c) unit matrix d) triangular matrix

(7) The compound interest for Rs 20000 for 3 years at 10 & is _____.

a) 2500 b) 2200

c) 6000 d) 2500

(8) 3x- 4+7 = 0, then x = ?

a) -1 b) 1

c) 0 d) 2

(9) The simple interest on Rs 5,000 at 10& for 3 years is _____.

a) 500 b) 1000

c) 1500 d) 2000

(10) C.I. stands for _____.

a) Compound Interest b) Simple Interest

c) Rate Of Interest d) No.of.years.

(11) In a recent survey conducted by cable T.V., among the people who watch DD, ZEE and STAR TV., it is found that 80 % of the people watched DD, 22% watched Star TV, and 15 % o watched Zee. What is the maximum percentage of people, who can watch all the three channels?

a) 0.125 b) 0.08500000000000001

c) 0.15 d) Data insufficient

(12) Insert A.M.'s (Arithmetic Mean) between 7 and 71 in such a way that the 5th A.M. is 27. The number of A.M.s are

a) 12 b) 17

c) 15 d) 51

(13) If n arithmetic means are inserted between 1 and 31, such that the ratio of the first mean and the nth mean is 3 : 29, then the value of n is

a) 10 b) 12

c) 13 d) 14

(14) Find the compound interest for Rs 10000 for 2 years at 5% per annum the interest being compounded annually.

a) Rs 1000 b) Rs 1025

c) Rs 1050 d) Rs 1100

(15) Find the sum of 17 terms of the A.P. 5, 9, 13, 17, …

a) 623 b) 580

c) 629 d) 650

(16) The two geometric means between the numbers 1 and 64 are

a) 1 and 64 b) 2 and 16

c) 4 and 16 d) 3 and 16

(17) The measures of dispersion can never be:

a) Positive b) Zero

c) Negative d) Equal to 2

(18) If the observations of a variable X are, -4, -20, -30, -44 and -36, then the value of the range will be:

a) -48 b) 40

c) -40 d) 48

(19) Mean deviation computed from a set of data is always:

a) Negative b) Equal to standard deviation

c) More than standard deviation d) Less than standard deviation

(20) The positive square root of the mean of the squares of the cleviations of observations from their mean is called:

a) Variance
b) Range
c) Standard deviation
d) Coefficient of variation

(21) To compare the variation of two or more than two series, we use

a) Combined standard deviation
b) Corrected standard deviation
c) Coefficient of variation
d) Coefficient of skewness

(22) If mean=25, median=30 and standard deviation=15, the distribution will be:

a) Symmetrical
b) Positively skewed
c) Negatively skewed
d) Normal

(23) The degree of peaked ness or flatness of a unimodel distribution is called:

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

(24) The range of the scores 29, 3, 143, 27, 99 is:

a) 140
b) 143
c) 146
d) 70

(25) Which of the following measures of dispersion is expressed in the same units as the units of observation?

a) Variance
b) Standard deviation
c) Coefficient of variation
d) Coefficient of standard deviation

(26) Which of the following statements is correct?

a) The standard deviation of a constant is equal to unity
b) The sum of absolute deviations is minimum if these deviations are taken from the mean.
c) The second moment about origin equals variance
d) The variance is positive quantity and is expressed in square of the units of the observations

(27) For a positively skewed distribution, mean is always:

a) Less than the median
b) Less than the mode
c) Greater than the mode
d) Difficult to tell

(28) Half of the difference between upper and lower quartiles is called:

a) Interquartile range
b) Quartile deviation
c) Mean deviation
d) Standard deviation

(29) The variance is zero only if all observations are the:

a) Different
b) Square
c) Square root
d) Same

(30) Which measure of dispersion can be computed in case of open-end classes?

a) Standard deviation
b) Range
c) Quartile deviation
d) Coefficient of variation

(31) Which one is known as Scalar Matrix from the following?

a) Identity Matrix
b) Square Matrix
c) Row Matrix
d) Column Matrix

(32) If determinant of a matrix A is Zero than:

a) A is a Singular matrix
b) A is a non-Singular matrix
c) Can't say
d) None of the mentioned

(33) Which one of the following is a measure of dispersion

a) Median
b) Skewness
c) Mean
d) Standard Deviation

(34) Transpose of a rectangular matrix is a

a) rectangular matrix
b) diagonal matrix
c) square matrix
d) scalar matrix

(35) A column matrix is of order

a) 1 X n
b) n X1
c) n X n
d) m X n

(36) The order of matrix A is 4 x 5 and order of matrix B is 5 x 3, then order of (AB)T is:

a) 4 x 3
b) 4 x 5
c) 5 x 4
d) 3 x 4

(37) If the number of rows and columns are equal, then matrix is called:

a) Singular Matrix
b) Square Matrix
c) Rectangular Matrix
d) Null Matrix

(38) X0 =?

a) 0
b) 1
c) 2
d) 3

(39) A matrix having one row and many columns is known as?

a) Row matrix
b) Column matrix
c) Diagonal matrix
d) None of the mentioned

(40) Two matrix can be added if:

a) rows of both the matrices are same
b) columns of both the matrices are same
c) both rows and columns of both the matrices are same
d) number of rows of first matrix should be equal to number of column of second

(41) In a set of observations, amount of variation can be shown in form of figures with help of

a) absolute measures
b) uniform measures
c) non-uniform measures
d) exploratory measures

(42) If the standard deviation of a population is 9, the population variance is:

a) 18
b) 3
c) 81
d) 9

(43) Arithmetic Mean is ———- affected by extreme values

a) highly
b) less
c) not
d) none of these

(44) One of the classifications of time series is that they can be either

a) Categorical or ordinal
b) Stationary or non-stationary
c) inflationary or non-inflationary
d) None of these

(45) If arithmetic mean is 20 and harmonic mean is 30 then geometric mean is

a) 24.94
b) 24.49
c) 44.94
d) 25.34

(46) If arithmetic mean is multiplied to coefficient of variation then resulting value is classified as

a) coefficient of mean
b) standard deviation
c) variance
d) mean

(47) A certain sum of money in simple interest scheme amount to Rs. 8,880 in 6 years and Rs. 7,920 in 4 years respectively. Find the principal and rate percent.

a) Principal = 6,000, rate = 8%
b) Principal = 6,300, rate = 8%
c) Principal = 6,000, rate = 7.5%
d) Principal = 6,300, rate = 7.5%

(48) Mean absolute deviation is 5 and arithmetic mean is 110 then coefficient of mean absolute deviation is

a) 1.054
b) 0.045
c) 0.054
d) 0.064

(49) Around central value of observations, extent to which values depart from normal distribution is classified as

a) negative variation
b) positive variation
c) skewness
d) positive trailing

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

a) 8
b) 32
c) 240
d) 1.667

(51) In arithmetic mean, sum of deviations of all recorded observations must always be

a) two
b) minus one
c) one
d) zero

(52) Variables whose measurement is done in terms such as weight, height and length are classified as

a) continuous variables
b) measuring variables
c) flowchart variables
d) discrete variables

(53) An orderly set of data arranged in accordance with their time of occurrence is called

a) Arithmetic series
b) Harmonic series
c) Geometric series
d) Time series

(54) Wheat crops badly damaged on account of rains is:

a) Cyclical movement
b) Random movement
c) Secular trend
d) Seasonal movement

(55) Price of gasoline for three days are as 98, 96, 97, 100 then the value of standard deviation with the assumed mean method is

a) 15
b) 10
c) 1
d) 11

(56) What will be difference in population 3 years ago and 2 years ago of Devon village, whose current population is 100000 and which is increasing at a rate of 25% every year?

a) 15250
b) 13900
c) 16400
d) 12800

(57) If f(x) = g(u) and u = u(x) then

a) f '(x) = g '(u)
b) f '(x) = g '(u) . u '(x)
c) f '(x) = u '(x)
d) None of these

(58) Raju invested Rs. 77500 in ICICI bank. In two years how much compound interest will he get, if the first year rate of interest was 10% and second year had 2% more than first year?

a) Rs. 17850
b) Rs. 17980
c) Rs. 18963
d) Rs. 16880

(59) A sum of money becomes 1.331 times in 3 years as compound interest. The rate of interest is

a) 0.07000000000000001
b) 0.08500000000000001
c) 0.1
d) 0.125

(60) A sum invested under compound interest doubles itself in 10 years. In how many years will it become 8 times of the initial amount?

a) 15 Years
b) 20 Years
c) 25 Years
d) 30 Years