QUESTION BANK

BA Economics

(CBCSS – 2019 Admission onwards)

Semester III

Core Course of BA Economics

Quantitative Methods for Economic Analysis – I

SCHOOL OF DISTANCE EDUCATION

UNIVERSITY OF CALICUT

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Quantitative Methods for Economic Analysis – I

1. The ordered pair (3,0) is found:
   a) on the y-axis b) in the first quadrant c) in the four quadrant d) on the x-axis.

2. Which of the following is NOT exponential function
   a) $f(x)=e^x$ b) $f(x)=1^x$ c) $f(x)=2^x$ d) $f(x)=(0.5)^x$

3. A logarithm of base '10' is called
   a) Natural exponential function b) Natural logarithm
   c) The common logarithm d) Natural Base

4. The y-intercept of the function $y = b^x$ is
   a) 0 b) It has no y-intercept c) 1 d) −1

5. Write the function in standard form: $y = (x + 5)(x - 7)$
   a) $x^2 - 2x - 35$ b) $x^2 + 2x + 35$ c) $x + 2x - 35$ d) $x - 2x - 35$

6. Factor: $x^2 + 2x - 15$
   a) (x−3)(x−5) b) (x+5)(x+3) c) (x-5)(x−3) d) (x+5)(x−3)

7. Solve by factoring: $x^2 + 5x - 14 = 0$
   a) −7, 2 b) 7, 2 c) 7, −2 d) −7, − 2

8. Factor $36x^2 - 84x + 49$
   a) (6x − 7)(6x+7) b) (6x−7)(6x−7) c) (6x+7)(6x+7) d) (6x+7)(6x−7)

9. Find the x-intercepts: $y = 3 (x+5)(x-9)$
   a) at 3 b) at 5 and −9 c) at −5 and 9 d) at −4

10. Solve the quadratic equation $6x^2 + 7x - 3 = 0$
    a) x = 1/3 or −1.5 b) −1/6 or 3 c) x = 1/6 or −3 d) x = −1/3 or 1.5

11. 2^{-1} equals :
    (a) 2 (b) $\frac{1}{2}$ (c) −2 (d) None of these.

12. The solution for the equation $3^{x-1} + 3^{x+1} = 90$ is:
    (a) 3 (b)1 (c) −3 (d) None of these.

13. The solution for the equation $4^{2x+1} = 8^{x+3}$ is:
    (a) 4 (b)8 (c) 2 (d) 7

14. $x^{a-b} \times x^{b-c} \times x^{c-a}$ is equal to :
    (a) 1 (b)0 (c x^{a+b+c} (d)x^{abc}

15. $8^{-2/3}$ equals:

(a) 4 (b)8 (c)$\frac{1}{4}$ (d) $\frac{2}{3}$

16. If $16=2^4$, then $log_{2^{16}}$ is :

(a) 4 (b)2 (c) 1 (d) 16

17. If $log_{a^{64}} = 3$,then a is equal to

(a) 3 (b)4 (c) 2 (d) None of these.

18. 343 to the base 7 is :

(a) 3 (b)4 (c) 5 (d) 7

19. 216 to the base $\sqrt{6}$ is :

(a) 6 (b) $\frac{2}{6}$ (c) $\sqrt{-3}$ (d) None of these.

20. Number of digits in 2^{35} is :

(a) 11 (b)10 (c) 8 (d) 7

21. In the logarithm of a number the mantissa part is always:

(a) Positive (b)Negative (c) Neither positive nor negative (d) None of these.

22. The logarithm of a negative number is:

(a) Positive (b)Negative (c) Cannot determined (d) None of these.

23. The logarithm of a number to the base 'e' is called :

(a) Common logarithm (b)Natural logarithm (c) Anti logarithm (d) None of these

24. Common logarithms are logarithms with base

(a) e (b)1 (c) 10 (d) 0

25. If (2x +1) (4x-1)=0 , the roots are:

(a) 1,-1 (b) $\frac{1}{2}\frac{1}{4}$, (c) $\frac{-1}{2}\frac{1}{4}$ (d) 2,2.

26. The determinent of $\begin{bmatrix}1 & -5\\0 & -4\end{bmatrix}$ is:

(a) 4 (b)-4 (c) 0 (d) 1

27. Matrix A is said to be idempotent matrix when:

(a) $A^{-}A^{-1}$ (b) $A^{-}A^{2}$ (c) $A = A^{I}$ (d) $A = IA$

28. The slope of the equation $-2y = -3x$ is:

(a) 1.5 (b)-3 (c) -2 (d) 2

29. The sample correlation coefficient ranges between_____

(a) −1 and +1 (b) +1 and infinity (c) −1 and infinity (d) can have any value

30. The square of the correlation coefficient or r2 is called the

(a) Covariance (b) variance (c) Coefficient of determination (d) cross-product

31. The most commonly used measure of dispersion is:

(a) range (b)standard deviation
(c) coefficient of variation (d) quartile deviation

32. Logarithm of 25 to the base 5 is:

(a) 5 (b) 125 (c) 2 (d)$\frac{1}{3}$

33.Logarithm of unity to any base is :

(a) Unity (b) ∞ (c) *zero* (d) None of these

34. $4log_{16^2}$ = ----------

(a) 1 (b) log 1 (c) log_{16^8} (d)4

35. If $log_{a^{\sqrt{3}}} = \frac{1}{4}$, then the value of a= ----------

(a) 3 (b)$\frac{3}{4}$ (c) 9 (d) $3^{1/4}$

36. If $log_{a^{64}} = 3$ then a = ----------

(a) 2 (b) 4 (c) 3 (d) 12

37. The equation $X^2 + 4 = 0$ is a :

(a) Cubic equation (b) Simple equation
(c)Quadratic equation (d)Nome of these.

38. The solution of the equation $\frac{2}{3}x = 4$ is :

(a) 6 (b) 12 (c) 8 (d) 16

39. The value of the determinant $\begin{bmatrix} 5 & 6 \\ 3 & 4 \end{bmatrix}$ is ----------

(a) 2 (b) 38 (c) -2 (d) -38

40. If the rows and columns of a determinant are interchanged , then the determinant value ----------.

(a) remains the same (b) the sign of the value change
(c) becomes zero (d) none of these.

41. The equation of a line having slope 'b' and y-intercept 'a' is given by:

(a) $y = b + ax$ (b) $y = x + ab$ (c) $y = a + bx$ (d) $y = \frac{a}{bx}$

42. $y = mx + c$ is ---------- of a straight line.

(a) general form (b) slope form (c) Intercept form (d) equation

43. A demand function is ----------

(a) continuous function (b) constant function

(c) decreasing function (d) increasing function

44. A straight line and a parabola intersect at :

(a)2 points (b)1 point (c)no point (d)at origin

45. The common root of $x^2 - 5x + 6 = 0$ and $3x^2 - 5x - 2 = 0$ is :

(a)1 (b)2 (c)3 (d)4.

46. The value of the determinant $\begin{bmatrix} a & 0 & b \\ 0 & b & 0 \\ b & 0 & c \end{bmatrix}$ is equal to :

(a)abc (b)$abc - b$ (c)$abc - b^2$ (d)$abc - b^3$

47. In a determinant if two rows or columns are identical its value is :

(a)0 b)1 (c)-1 (d)none of these

48. The solutions of the equations by determinants method is called:

(a) *inverse method* (b)*rank method*

(c)*cramer's rule* (d)*none of these*

49. When two rows (or columns) are interchanged the value of the determinant:

(a) remain unchanged (b) changed

(c)changed by sign (d)none of these

50 . Which of the following is a singular matrix :

(a) $\begin{bmatrix} 1 & 3 \\ 2 & 4 \end{bmatrix}$ (b) $\begin{bmatrix} 3 & 6 \\ 1 & 2 \end{bmatrix}$ (c) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ (d) $\begin{bmatrix} 1 & 3 \\ 2 & 5 \end{bmatrix}$

51. Let B be the inverse of a matrix A having determinant 3, then the determinant of B is :

(a) 9 (b) 3 (c) 1/3 (d) 0.

52. The matrix A = $\begin{bmatrix} 0 & 0 & 1 \\ 0 & 0 & 0 \\ -1 & 0 & 0 \end{bmatrix}$ is :

(a) Symmetric (b) Diagonal (c) Skew Symmetric (d) Triangular.

53. A square matrix A is said to be skew symmetric, if:

(a) $A = A^T$ (b) $A = A^{-1}$ (c) $A = -A^T$ (d) $A = -A^{-1}$

54. The rank of a matrix is defined as the maximum number of :

(a) linearly independent rows of a matrix (b) linearly independent columns of a matrix

(c) both a & b (d) neither a nor b

55. A diagonal matrix in which all the diagonal elements are equal is called:

(a) unit matrix (b) null matrix (c) scalar matrix (d) triangular matrix

56. If A is an mxn matrix, and B is an nxk matrix ,then product AB is of order :

(a) mxn (b) nxk (c) nxn (d) mxk

57. A square matrix A is said to be orthogonal if :

(a) $AA^T = A^2$ (b) $AA^T = I = A^T A$ (c) $A + A^T = A^T + A$ (d) none of these

58. Let A and B be skew symmetric matrix, then AB is symmetric if and only if :

(a) $AB = BA$ (b) AB=0 (c) $A = B^T$ (d) $A = -B^T$

59. A square matrix B is orthogonal if :

(a) $B = -B^T$ (b) $B = B^T$ (c) $B^T = B^{-1}$ (d) $B^T = -B^{-1}$

60. If A and B are square matrices such that AB=BA , then A and B are called :

(a) anti commutative (b) commutative (c)associative (d) periodic

61. Two matrices A and B are said to be conformable for multiplication only if :

(a) The number of rows of A is equal to the number of rows of B

(b) The number of columns of A is equal to the number of columns of B

(c) The number of rows of A is equal to the number of columns of B

(d) The number of columns of A is equal to the number of rows of B

62. Matrix addition is:

(a) Commutative (b) Associative (c) Have additive identity (d) all the above.

63. Transpose of a matrix A of order mxn is of order:

(a) mxm (b) nxn (c) nxm (d) none of these.

64. Determinants are possible only when :

(a) number of rows > number of columns. (b) number of rows < number of columns

(c) number of rows = number of columns (d) none of these.

65. Trace of a matrix is defined as:

(a) sum of principal diagonal elements (b) sum of off diagonal elements

(c) sum of row elements (d) sum of column elements

66. In the function Y = f(X), X is the :

(a) dependent variable (b) independent variable (c)constant (d) none of these

67. The function g(x)= $2x^2 - x + 7$ is :

(a) linear (b) biquadratic (c) quadratic (d) constant function.

68. The function log y = a+ bx is called:

(a) linear function (b) double log function

(c)exponential function (d) semi log function .

69. The function$y = x^3 + 3x$, is:

(a) an odd function (b) an even function (c) quadratic function (d) linear function.

70. The graph of a quadratic function is a:

(a) line (b) hyperbola (c) parabola (d) none of these

71. In a rectangular hyperbola, the relationship between X and Y is:

(a) direct (b) indirect (c) linear (d) no relationship.

72. The parabola $X^2 = -4py$ lies completely:

(a) above the X axis (b) right side of the Y axis

(c) below the X axis (d) left side of Y axis.

73. For equilibrium price and quantity demanded , the condition is :

(a) demand > supply (b) demand < supply

(c) demand = supply (d) none of these.

74. The indifference curve analysis is developed by:

(a) Edgeworth (b) R A fisher (c) Cobb-Douglas (d) Wilfredo pareto

75. An indifference map is a:

(a) Collection of demand curves (b) Collection of supply curves

(c) Collection of indifference curves (d) none of these.

76. An important tool of indifference curve analysis is:

(a) Marginal propensity to consume (b) Marginal rate of substitution

(c) Marginal propensity to save (d) Marginal utility.

77. Average revenueis given by:

(a) total revenue /output (b)marginal revenue/output

(c) total revenue/price (d)none of these.

78. Breakeven point is a point at which :

(a) TR=TC (b)TR=AR (c) TC=AC (d) none of these.

79. In the consumption function C = a+by, the constant b denotes:

(a) elasticity (b) MPS (c) MPC (d) none of these.

80. Total cost is equal to:

(a) TVC+TFC (b) AFC+AVC (c) AVC (d)AFC

81. Statistics deals with :

(a) qualitative information (b)quantitative information

(c) both (d) none.

82. Statistical results are:

(a) absolutely correct (b) not true

(c) true on an average (d) universally true.

83. Statistics are:

(a) aggregate of facts (b) numerically expressed

(c) systematically collected (d) all of these

84. Statistical methods are:

(a) collection of data (b) classification

(c) analysis and interpretation of data (d) all of these.

85. An attribute is:

(a) a qualitative characteristic (b) a quantitative characteristic

(c) a measurable characteristic (d) all these.

86. Tally marks determine:

(a) class width (b) class boundary (c) class limit (d) class frequency

87. When the upper limit of a class is the lower limit of the next class, the series is known as :

(a) Exclusive (b) inclusive (c) individual (d) discrete

88. Pie diagram is used for :

(a) comparing different components and their relations to total

(b) representing qualitative data in a circle

(c) representing quantitative data in a circle

(d) either b or c

89. Diagrams are tools of:

(a) collection of data (b) analysis of data

(c) Summarization of data (d) Presentation of data

90. Ogives are useful to locate:

(a) mean (b) median (c) mode (d) weighted mean.

91. Histogram is useful to determine:

(a) mean (b) median (c) mode (d) all these.

92. For open-end classification, the best measure of central tendency is:

(a) AM (b) GM (c) Median (d) Mode

93. The most commonly used measure of central tendency is:

(a) AM (b) Median (c) Mode (d) HM.

94. Quartiles can be determined graphically using:

(a) Histogram (b) Frequency Polygon (c) Ogive (d) Pie chart.

95. The value of the middle most item when they are arranged in order of magnitude is called:

(a) Quartile (b) mean (c) mode (d) median

96. The value which occurs with the maximum frequency is called:

(a) median (b) mode (c) mean (d) none

97. For calculation of ---------- we have to construct cumulative frequency distribution.

(a) mode (b) median (c) mean (d) none

98. The measure of central tendency which is based on all the observations of a series is:

(a) mean (b) median (c) mode (d) deciles

99. Average is a measure of :

(a) central tendency (b) dispersion (c) symmetry (d) concentration

100. To find median, arrange the data in :

(a)ascending order (b) descending order

(c) ascending order or descending order (d) no order

1 D	21 A	41 C	61 D	81 A
2 B	22 C	42 B	62 D	82 C
3 C	23 B	43 C	63 C	83 D
4 A	24 C	44 A	64 C	84 D
5 A	25 C	45 B	65 A	85 D
6 D	26 B	46 D	66 B	86 D
7 C	27 B	47 A	67 C	87 B
8 B	28 A	48 C	68 D	88 D
9 C	29 A	49 C	69 A	89 D
10 A	30 C	50 B	70 C	90 B
11 B	31 B	51 B	71 B	91 C
12 A	32 C	52 C	72 C	92 D
13 D	33 C	53 C	73	93 A
14 A	34 A	54 C	74 A	94 C
15 C	35 C	55 C	75 C	95 D
16 A	36 B	56 D	76 B	96 B
17 B	37 C	57 B	77 A	97 B
18 A	38 A	58 A	78 A	98 A
19 A	39 A	59 C	79 C	99 A
20 A	40 A	60 B	80 A	100 C

Verified by:

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