

D 112046

(Pages : 2)

Name.....

Reg. No.....

THIRD SEMESTER (CBCSS-UG) DEGREE EXAMINATION, NOVEMBER 2024

Economics

ECO 3B 03—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—I

(2019—2023 Admissions)

Time : Two Hours and a Half

Maximum : 80 Marks

Section A (Short Answer Questions)*All questions can be attended.**Each questions carries 2 marks.*

- | | |
|----------------------------------|--|
| 1. Gini coefficient. | 2. Skewness. |
| 3. Minor and cofactors. | 4. Pie diagram. |
| 5. Diagonal and scalar matrix. | 6. Standard deviation. |
| 7. Regression. | 8. Geometric mean. |
| 9. Quartile deviation. | 10. Spearman's rank correlation coefficient. |
| 11. Simultaneous equations. | 12. Exponents and logarithms. |
| 13. Intercepts. | 14. Transpose of a matrix. |
| 15. Leptokurtic and Platykurtic. | |

Max. Ceiling : 25 marks

Section B (Short Essay/Paragraph Questions)*All questions can be attended.**Each questions carries 5 marks.*

16. Explain the meaning and use of scatter diagram. Represent differ rent types of correlation using scatter diagrams.
17. Define rank of matrix.

Find the rank of $\begin{bmatrix} 1 & 2 & 0 & 5 \\ 3 & 1 & 2 & 2 \\ 2 & 4 & 0 & 0 \end{bmatrix}$.

18. Explain the meaning and properties of determinants.
19. What do you mean by Ordinary Least Squares ? Discuss various assumptions of OLS.
20. Explain Spearman's rank correlation.
21. Find the median mode of the following data set of $n = 20$:

90, 94, 53, 68, 79, 94, 53, 65, 87, 90, 70, 69, 65, 89, 85, 53, 47, 61, 27, 80.

Turn over

22. What do you mean by coefficient of variation ? Calculate the value of mean if SD is 1.2 and coefficient of variation is 25.6.
23. Explain representation of data using frequency polygon, ogives, line, bar, graph and pie diagram.

Max. Ceiling : 35 marks

Section C (Long Essay Questions)

Answer any **two** questions.

Each questions carries 10 marks.

24. What do you mean by Cramer's rule ? Solve the following simultaneous equations using Cramer's rule :

$$5x - 6y + 4z = 15$$

$$7x + 4y - 3z = 19$$

$$2x + y + 6z = 46.$$

25. Distinguish between absolute and relative measures of dispersion. Prepare notes on various measures of dispersion.
26. Explain Karl Pearson's coefficient of correlation. Calculate Pearson's coefficient of correlation of the following set of data :

X :	78	89	96	69	59	79	68	61
Y :	125	137	156	112	107	136	123	108

27. Explain meaning and types of measures of central tendency. Calculate Arithmetic mean for the following data :

Items	...	0—10	10—20	20—30	30—40
Frequency	...	2	5	1	3

(2 × 10 = 20 marks)

D 112046-A**(Pages : 4)****Name.....****Reg. No.....****THIRD SEMESTER (CBCSS-UG) DEGREE EXAMINATION, NOVEMBER 2024****Economics****ECO 3B 03—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—I****(2019—2023 Admissions)****(Multiple Choice Questions for SDE Candidates)****Time : 15 Minutes****Total No. of Questions : 20****Maximum : 20 Marks****INSTRUCTIONS TO THE CANDIDATE**

1. This Question Paper carries Multiple Choice Questions from 1 to 20.
2. The candidate should check that the question paper supplied to him/her contains all the 20 questions in serial order.
3. Each question is provided with choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and enter it in the main answer-book.
4. The MCQ question paper will be supplied after the completion of the descriptive examination.

ECO 3B 03—QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS—I

(Multiple Choice Questions for SDE Candidates)

1. 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) $x - 2x - 35$.
2. 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 .
3. The logarithm of a number to the base 'e' is called :
(A) Common logarithm. (B) Natural logarithm.
(C) Anti logarithm. (D) None of these.
4. The most commonly used measure of dispersion is :
(A) Range. (B) Standard deviation.
(C) Coefficient of variation. (D) Quartile deviation.
5. The value of the determinant $\begin{bmatrix} 5 & 6 \\ 3 & 4 \end{bmatrix}$ is _____.
(A) 2. (B) 38.
(C) -2. (D) -38.
6. 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.
7. A demand function is _____.
(A) Continuous function. (B) Constant function.
(C) Decreasing function. (D) Increasing function.
8. 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.

9. Transpose of a matrix A of order $m \times n$ is of order :
- (A) $m \times m$. (B) $n \times n$.
(C) $n \times m$. (D) None of these.
10. 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.
11. The function $\log y = a + bx$ is called :
- (A) Linear function. (B) Double log function.
(C) Exponential function. (D) Semi log function.
12. 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.
13. An indifference map is a :
- (A) Collection of demand curves.
(B) Collection of supply curves.
(C) Collection of indifference curves.
(D) None of these.
14. 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.
15. An attribute is :
- (A) A qualitative characteristic. (B) A quantitative characteristic.
(C) A measurable characteristic. (D) All these.

Turn over

16. 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.
17. Histogram is useful to determine :
- (A) Mean. (B) Median.
(C) Mode. (D) All these.
18. Quartiles can be determined graphically using :
- (A) Histogram. (B) Frequency polygon.
(C) Ogive. (D) Pie chart.
19. The value which occurs with the maximum frequency is called :
- (A) Median. (B) Mode.
(C) Mean. (D) None.
20. Average is a measure of :
- (A) Central tendency. (B) Dispersion.
(C) Symmetry. (D) Concentration.