THIRD SEMESTER B.A. DEGREE EXAMINATION, NOVEMBER 2022

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U ECO3 B03 - QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS - I

(Economics - Core Course)

(2019 Admission onwards)

Time : 2.5 Hours   Maximum : 80 Marks

Credit : 4

Part A (Short answer questions)

Answer *all* questions. Each question carries 2 marks.

1. Which is the principal square root of 9?

2. Solve $log_3 x = 4$?

3. Solve $2x = 6$

4. What is a variable?

5. Define a singular matrix.

6. Give the formula to find out the inverse of a matrix.

7. What will be the minimum rank of a non zero matrix?

8. What is range?

9. Explain the absolute measures of dispersion.

10. What is standard deviation?

11. What do you mean by diamensional diagrams?

12. What is probable error?

13. Briefly explain regression.

14. What is least square?

15. Explain regression line.

(Ceiling: 25 Marks)

Part B (Paragraph questions)

Answer *all* questions. Each question carries 5 marks.

16. A straight line passes through two points $(2, 3)\ and\ (4, 1)$, find its equation.

17. Draw the graph of the equation $2x + 3y - 6 = 0$

18. Show that $\begin{bmatrix} 2 & -1 & 3 \\ -1 & 2 & 1 \\ 3 & 1 & 4 \end{bmatrix}$ is symmetric

19. Solve using Crammers Rule $2x + 3y = 1; \quad 3x + y = 5$

20. Explain the components of frequency distribution.

21. Explain various types of Kurtosis.

22. Differentiate correlation and causation.

23. Explain the concept of Scatter diagram.

(Ceiling: 35 Marks)

Part C (Essay questions)

Answer any *two* questions. Each question carries 10 marks.

24. A company sells x tins of chocolate powder each day at $Rs. 15$ per tin. sthe cost of manufacturing and selling these tins is $Rs. 10$ per tin plus a fixed daily overhead cost of $Rs. 1000$. Determine the cost function, revenue function and profit function. What are the total cost, total revenue and total profit when 500 tins are manufactured and sold a day? What is the average cost when 10 units are produced?

25. Name the factors which will decide whether primary data or secondary data are to be collected? Describe the various methods of collecting data indicating the merits and demerits of each of them.

26. Draw Lorenz curve for 2 groups of individuals (A & B) based on the following data and compare the inequality of the groups A & B Income : 1000-1500 1500-2000 2000-2500 2500-3000 3000-3500 Frequency A : 60 120 300 80 40 Frequency B : 150 250 100 70 30

27. Calculate Spearmans Rank correlation coefficient Individuals A B C D E F G H I J Rank before 1 6 3 9 5 2 7 10 8 4 Rank after 6 8 3 2 7 10 5 9 4 1

(2 × 10 = 20 Marks)

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