22U426 (Pages: 2) Name: .....

Reg.No: .....

FOURTH SEMESTER B.A. DEGREE EXAMINATION, APRIL 2024

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U ECO4 B05 - QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS - II

(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. Find $\lim_{x \to a} k =$, where k is a constant?
2. If $y = a - x$, a is a constant, find $\frac{dy}{dx}$
3. Define the minimum of a function.
4. Give the condition for maximum profit.
5. Define Marginal Utility.
6. What is Current Year?
7. Define Kelley's Index number.
8. Write any two benefits of Time series.
9. Explain the demerits of free hand curve method.
10. Explain the concept of moving average.
11. Define Net Reproduction Rate.
12. What is sex ratio?
13. Define a mutually exclusive event with an example.
14. Define a dependent events with an example.
15. What is the proability of selecting a boy from a class containing 4 boys and 3 girls?

(Ceiling: 25 Marks)

Part B (Paragraph questions)

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

16. Differentiate $(x^2 + 1)(x + 2)$.

17. If $y = 3x^2 - 2x^2 + 6x$, find $\frac{d^4y}{dx^4}$.

18. How the price index number can be constructed?

19. Explain the weighted aggregative method.

20. Explain the importance of time reversal test.

21. Write a note on deflating.

22. Write a note on vital statistics.

23. A card is drawn at random from an ordinary pack of 52 cards. Find the proability that the card drawn is either spade or hearts?

(Ceiling: 35 Marks)

Part C (Essay questions)

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

24. Find (a) $\lim_{x \to 1} \frac{x^4 + 2x^3 - x^2 - 4}{x - 2}$. (b) $\lim_{x \to 2} \frac{x^2 - 4}{3x^2 + x - 2}$. (c) $\lim_{x \to 1} \frac{x^2 - 1}{x + 1}$.

25. Calculate Laspeyer's and Paasche's index numbers, and explain the relative merits and demerits.

Commodity	P_0	Q_0	P_1	Q_1
A	0.80	10	0.70	11
B	0.85	8	0.90	9
C	1.30	5	0.80	5.5

26. Fisher's index number satisfies both time reversal and factor reversal test, justify.

27. There are three urns. Urn one contains 5 white and 4 black balls, Urn two contains 6 white and 3 black balls and Urn three contains 2 white and 7 black balls. One urn is chosen and one ball is drawn. If it is white, what is the proability that the urn selected is the first.

(2 × 10 = 20 Marks)

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