(Pages:3)   Name: ....

Reg.No.........................

FOURTH SEMESTER B.A DEGREE EXAMINATION, MAY 2017
(CUCBCSS-UG)
CC15U ECO4 B05 - QUANTITATIVE METHODS FOR ECONOMIC ANALYSIS II
Economics - Core Course

(2015 Admission)

Time: Three Hours   Maximum: 80 Marks

Section A
Objective Type Questions
Answer all twelve questions

1. A function f(x) is said to be continuous at x=a if :

   a) $\lim_{x\to a} f(x) = a$ b) $\lim_{x\to a} f(x) = f(a)$ c) $f(x) = f(a)$ d) None of these

2. A function f(x) is convex at x=a if:

   a) $f'(a) = 0$ b) $f''(a) = 0$ c) $f''(a) > 0$ d) $f''(a) < 0$

3. The slope of a curve $y = x^2$ at x=3 is ………

   a) 9   b) 6   c) 27   d) 0

4. Which of the following is using "base year quantity" as its weight?

   a) Laspeyer's formula   b) Paasche's formula

   c) Fisher's formula   d) Marshall-Edgeworth formula

5. An "ideal index number" satisfies:

   a) Time Reversal Test   b) Factor Reversal Test   c) Both   d) None of these

6. Which of the following index numbers is used for estimating real wages of workers?

   a) Simple index number   b) Fisher's index number

   c) Consumer Price Index number   d) None of these

7. The component of a time series showing long term changes:

   a) Secular trend   b) Seasonal trend   c) Cyclical Variations   d) All these

8. Net Reproduction Rate is the Gross Reproduction Rate adjusted for the effects of ………..

   a) Population Growth   b) Fertility   c) Mortality   d) All these

9. …….. is used for comparison of mortality of two population.

   a) Crude Death Rate   b) Specific Death Rate

   c) Standardized Death Rate   d) None of these

10. The principle of Least Squares is used to fit …………

    a) Linear trend   b) Nonlinear trend

    c) Both linear and Nonlinear trends   d) Time series data

(1)   **Turn Over**

11. If A and B are disjoint events then P(AUB) = ...

   a) P(A)   b) P(B)   c) P(A) + P(B)   d) P(A) + P(B) – P(A∩B)

12. What is the probability of occurring an even numbered face in a Die throwing Experiment?

   a) ½   b) 1/3   c) 1/6   d) 2/6

(12x½= 6 Marks)

Section B
Very Short Answer Type Questions.
Answer any Ten questions not exceeding one paragraph

13. State the Product and Quotient Rules of Differentiation.

14. Find AR and MR functions if the total revenue function is R= $3q^2+2q+5$ where q is the level of output.

15. Evaluate $\lim_{x \to 3} \frac{x^2-9}{x-3}$

16. Write a short note on BSE - SENSEX.

17. What is Deflating?

18. State the characteristics of an ideal index number.

19. State Least Square Principle.

20. Define Secular trend.

21. Define Sex Ratio.

22. Define Total Fertility Rate.

23. Define Conditional Probability.

24. What is meant by Mutually Exclusive Events?   **(10x2=20 Marks)**

Section C
Short Answer Type Questions.
Answer any Six questions not exceeding one page

25. Given the demand function q = 165 – 3p – $2p^2$. Find the price elasticity of demand at the price p = 3.

26. Find MP_L and MP_K at L = 2 units and K = 3 units if the production function is given by Q= $K^2 + 2KL + L^2$.

27. Prepare the Cost of Living Index number from the following .

Commodities :	A	B	C	D	E
Index :	300	180	200	120	220
Weight :	5	2	3	1	2

28. Discuss the problems in the construction of index numbers.

29. What is Moving Average method? Discuss its merits and demerits.

30. Discuss various Mortality Rates (Death Rates).

31. State the following theorems of probability.

 i) Addition theorem

 ii) Multiplication theorem

 iii) Bayes' theorem

32. A and B are two events. If $P(A) = 0.75$, $P(B) = 0.80$, $P(A \cap B) = 65$, find $P(A/B)$ and $P(B/A)$.

(6x5=30 Marks)

Section D

Essay Type Questions.

Answer any Two questions not exceeding threee pages

33. Total Revenue function of a firm is given by $R = x^3 - 12x - 5$ where x is the output. Find the output level at which the R is maximum. Also evaluate the Maximum Revenue.

34. Calculate Fisher's index number using the following data.

Items	Price (2005)	Price(2010)	Quantity(2005)	Quantity(2010)
A	10	12	4	5
B	8	10	3	4
C	5	5	8	7
D	6	7	9	8

35. The persons A and B appear in an interview for two vacancies in the same post. The probability of A's selection is 1/5 and that of B's selection is 1/3. What is the probability that
a) both of them will be selected   b) only one of them will be selected and
c) none of them will be selected..

36. Discuss the different methods of measuring trend.

(2x12=24 Marks)

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