20U240 (Pages: 2) Name: .....

Reg.No: .....

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2021

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19U MEC2 C02 - MATHEMATICAL ECONOMICS

(Mathematics - Complementary Course)

(2019 Admission onwards)

Time : 2.00 Hours Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

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

1. Calculate Gini index given the income of 10 persons as 72, 100, 30, 45, 150, 86, 110, 60, 94, 35.
2. What is Young's theorem?
3. How we can define directional derivatives?
4. What are the causes of income inequality?
5. What are global maxima and global minima?
6. What is Jacobian matrics?
7. What is Nondegenerate constraint qualification?
8. What is mixed constraints.
9. Give an example of constrained minimization problem.
10. Mention the Khun-Tucker Lagrangian for the Utility Maximization problem.
11. Explain closed model input output analysis.
12. What are the limtations of input-output analyis?

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

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

13. What are the measures to reduce income inequality?

14. Write a short note on Lorenz curve.

15. Define sufficient and necessary conditions of second order derivatives.

16. Explain the method of least squares analysis in several variables.

17. Explain the several inequality Constarints in optimization problem.

18. Explain coefficient matrix of a closed model input-output analysis.

19. Explain the leontief production function.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any ***one*** question. Each question carries 10 marks.

20. Explain:

    i) Input-output analysis.

    ii)The Hawkins-simon conditions.

21. Explain about the solution of open model and closed model input output analysis.

(1 × 10 = 10 Marks)

****