21100674

QP CODE: 21100674

Reg No : .....

Name : .....

B.A DEGREE (CBCS)EXAMINATION, MARCH 2021

Third Semester

B.A Economics Model I

COMPLEMENTARY COURSE - EC3CMT03 - MATHEMATICS FOR ECONOMIC ANALYSIS

2017 Admission Onwards

53017F98

Time: 3 Hours Max. Marks : 80

Part A

*Answer any **ten** questions.*

*Each question carries **2** marks.*

1. Form a matrix from the given data
   Purchase of Ashok 1 kg of onion ,3 kg of potato and 5 Kg of mangoes
   Also explain the peculiarity of th matrix derived
2. Explain rectangular matrix with appropriate example
3. Write down the formula for inverse of a Matrix
4. What are variables?
5. Investment Function
6. Solve 7(x-2)+8(x-3)-22=x+10
7. Find the second order derivatives of the following function. $y=x^4+3x^3-10x^2+3$
8. Define minima
9. What is Leontiefs table?
10. What are the major clauses of Hawkin -Simon Conditions ?
11. Mention Basic Assumptions of LPP
12. What are the basic assumption of LPP?

(10×2=20)

Part B

*Answer any **six** questions.*

*Each question carries **5** marks.*

13. Solve completely the following equations using matrices
    2x-3y=4
    4x-6y=11

14. What is the highest minor?

15. Solve the equation by using Quadratic Formula. Demand for goods of an industry is given by the equation pq=100 and supply function is 20+3p=q where p is the price and q is the quantity find p and q

16. Find derivatives of the followiong function. $z=3y^2+4y+2$

17. Find marginal cost of the total cost function. $C= 2x^3-10x^2+8x+500$, when x=30 find the value of x.

18. Compare closed model and open model in input-output analysis.

19. Explain the importance of input-output analysis.

20. What is infeasibility in LPP?

21. Write down the Dual of the Following problem

$$\text{Max } Z = 2x1+3x2$$
$$\text{S.t} \quad x1+x2 \leq 10$$
$$2x1+3x2 \leq 24$$
$$x1,x2 \geq 0$$

(6×5=30)

Part C

*Answer any **two** questions.*

*Each question carries **15** marks.*

22. Using Crammer's Rule. 2x-3y=3 and 4x-y=11

23. Integrate $x^3 \log x$

24. Explain input -output analysis .Also bring out its uses

25. Explain the formation of LPP

(2×15=30)