



Reg. No. : .....

Name : .....

**VI Semester B.A. Degree (CBCSS-Reg./Supple./Improv.)  
Examination, April 2019  
(2014 Admission Onwards)  
CORE COURSE IN ECONOMICS/DEVELOPMENT ECONOMICS  
6B12ECO-Basic Tools for Economic Analysis – II**

Time : 3 Hours

Max. Marks : 40

**PART – A**

Answer **all** questions. **Each** question carries **1** mark.

1. Partial Derivative.
2. Splicing.
3. Multiple Correlation.
4. Square Matrix.

(4x1=4)

**PART – B**

Answer **any 7** questions. **Each** question carries **2** marks.

5. Find  $A + B - C$  of the following matrix

$$A = \begin{bmatrix} 2 & 2 & 2 \\ 1 & 1 & -3 \\ 1 & 0 & 4 \end{bmatrix} \quad B = \begin{bmatrix} 3 & 3 & 3 \\ 3 & 0 & 5 \\ 6 & 9 & -1 \end{bmatrix} \quad C = \begin{bmatrix} 4 & 4 & 4 \\ 5 & -1 & 0 \\ 2 & 3 & 1 \end{bmatrix}$$

6. Find the derivative of  $e^x \log x$ .
7. What is a Cobb Douglas Production function ?
8. If the total cost function is given by  $TC = 60 - 12x + 2x^2$ , find the Marginal Cost.

P.T.O.



9. Distinguish between Positive and Negative Correlation.
10. Define continuity of a function at a point.
11. Explain Scatter Diagram and the line of best fit.
12. What are the different uses of index numbers ?

13. Show that the Matrix  $\begin{bmatrix} 2 & 3 & -4 \\ 0 & -4 & 2 \\ 1 & -1 & 5 \end{bmatrix}$  is non singular.

14. How do you interpret if the rank correlation co efficient is  $r = 1$  and  $r = 0$  ?

(7×2=14)

## PART – C

Answer **any 4** questions. **Each** question carries **3** marks.

15. Explain the components of time series.

16. If  $Y = A^2 + A$ , find  $y$  if  $A = \begin{bmatrix} 3 & 2 \\ 5 & 4 \end{bmatrix}$ .

17. Find the first order and second order partial derivatives of  $Z = 12 - x^2 - y^2 + xy$ .

18. From the data given below, find the regression equation of  $x$  on  $y$ .

$x$	5	6	7	3	2
$y$	4	5	8	2	1

19. If the demand function of the monopolist is  $p = 15 - 2x$  and cost function is  $C = x^2 + 2x$ , find :

- 1) Marginal Cost
- 2) Marginal Revenue
- 3) Equilibrium price and output.

20. Explain the construction of Consumer Price Index.

(4×3=12)



## PART – D

Answer **any 2** question. **Each** question carries **5** marks.

21. Solve the following equations using Crammers Rule.

$$2x + 3y + 4z = 20$$

$$3x + 5y + 7z = 34$$

$$x + 2y + 4z = 17$$

22. Find the rank correlation co efficient between poverty and overcrowding from the table and interpret the result.

Town	A	B	C	D	E	F	G	H	I	J
Poverty	17	13	15	16	6	11	14	9	7	12
Overcrowding	36	46	35	24	12	18	27	22	2	8

23. Explain the rules of Differentiation.

24. Discuss the various steps in the construction of Index numbers.

(2×5=10)