Reg. No. : ....

Name : ....

VI Semester B.A. Degree (CCSS – Reg./Supple./Improv.) Examination, May 2014
CORE COURSE IN ECONOMICS/DEVELOPMENT ECONOMICS
6B12-ECO : Basic Tools for Economic Analysis – II

Time: 3 Hours   Max. Weightage : 30

Instruction : *Answers may be written either in **English** or in Malayalam.*

PART – A

Objective type questions (in bunches of **two**). Choose the correct answer :

I

1. Singular matrices possess which of the following ?

   a) Submatrices

   b) $|A| \neq 0$

   c) Having inverse

   d) Square matrices

2. Error sum of squares are minimised in the method of

   a) Moving averages

   b) Semi moving averages

   c) OLS

   d) Graphs and diagrams

3. Regression coefficient are not

   a) Absolute values

   b) Relative values

   c) Average values

   d) Cause-effect values

4. $\underset{x \to 2}{Lt} (x^2 + 1)(x^3 + 1) = $ _____

   a) 45

   b) 5

   c) 9

   d) 0

(Weightage : 1)

P.T.O.

II

5. Data relating to different regular period of time is
   a) Cross-section data
   b) Time-series data
   c) Pooled data
   d) Panel data

6. Two regression lines intersect at
   a) $(\overline{X}, \overline{Y})$
   b) (X, Y)
   c) $(0, 0)$
   d) Any point

7. $A \cdot A^T = I$ for which type of matrices ?
   a) Diagonal matrix
   b) Orthogonal matrix
   c) Symmetric
   d) Skew symmetric

8. Fisher's Index number is _____ index number.
   a) Harmonic mean
   b) Arithmetic mean
   c) Geometric mean
   d) Simple

(Weightage : 1)

PART – B

Short answer questions. Answer **any ten**.

9. $A = \begin{bmatrix} 1 & 2 & 3 \\ 3 & 6 & 9 \\ 2 & 4 & 6 \end{bmatrix}$. Test whether A is singular or nonsingular.

10. If $X + Y = a$ is the total product function of a firm find its marginal product, which is $\dfrac{dy}{dx}$?

11. Write the relationship among AR, MR and elasticity.

12. Define the term 'relative'.

13. Define reversal law of transposes.

14. Explain adjoint of a matrix.

15. What is spurious correlation ?

16. Define regression.

17. What are the methods to identify the relationship existing between tow variables ?

18. Define price index number.

19. Define secular trend.

20. Find MP_L and MP_K of $Q = aL^{\alpha}K^{\beta}$.

(Weightage : 10×1=10)

PART – C

Short essay. Answer **any five** :

21. Explain the Cost of Living Index Number.

22. Show that $A^3 + 4A^2 - A - 12I = 0$ when $A = \begin{bmatrix} 0 & 1 & 2 \\ 2 & -3 & 0 \\ 1 & 1 & -1 \end{bmatrix}$.

23. Explain Inverse of a Matrix.

24. Find the elasticity of supply when price = 5 units, supply function is $q = 25 - 4p + p^2$. where q is the supply at price p.

25. A company has a total revenue R = 3x and total cost $C = 100 + 0.015x^2$ where x = the no. of units produced. Find the production rate 'x' that will maximise profits of the company ? Find that profit.

26. Explain the principle of Ordinary Least Squares and how it is useful in line of best fitting.

27. Explain Fisher's index number and its importance.

(Weightage : 5×2=10)