



Reg. No. :

Name :

VI Semester B.A. Degree (CCSS – Reg./Supple./Improv.)
Examination, May 2016
CORE COURSE IN ECONOMICS/DEVELOPMENT ECONOMICS
6B12 ECO : Basic Tools for Economic Analysis – II
(2012 Admn. Onwards)

Time : 3 Hours

Max. Weightage : 30

PART – A

Choose the correct answer.

- I. 1) The dimension of the matrix showing its number of rows and columns is
 a) order b) trace c) determinant d) none of these
- 2) A matrix having only one row is called
 a) column matrix b) row matrix
 c) unit matrix d) zero matrix
- 3) Which of the following is an ideal index number ?
 a) Marshall-Edgeworth b) Laspeyers
 c) Paasches d) Fishers
- 4) $\lim_{x \rightarrow 2} (x^3 + 2x + 1)$ is
 a) 13 b) 11 c) 14 d) 12 **(Weightage 1)**
- II. 5) $\frac{d}{dx}(3\sqrt{x})$ is
 a) $\frac{3}{\sqrt{x}}$ b) $\frac{3}{2}x^{3/2}$ c) $\frac{3}{2\sqrt{x}}$ d) $6\sqrt{x}$



6) $\begin{vmatrix} 0 & 12 \\ 3 & 3 \end{vmatrix}$ is

- a) 18 b) 6 c) 26 d) -26

7) $\int_1^3 2x dx$ is

- a) 8 b) 6 c) 5 d) -8

8) When $r = 1$, the two lines are

- a) coincide b) mutually perpendicular
c) either a) or b) d) neither a) nor b)

(Weightage 1)

PART - B

Short answers. Answer **any ten** questions.

- 9) Define homogeneous function.
- 10) What do you mean by splicing ?
- 11) Define the term continuity.
- 12) Explain the concept of orthogonal matrix.
- 13) Find the regression coefficient of y on x . If $2x + 4y - 5 = 0$ is the equation of y on x .
- 14) Define triangular matrix.
- 15) What does coefficient of determination indicate ?
- 16) Explain the concept of base year.
- 17) Euler's theorem.
- 18) Define maximum value of a function.
- 19) Show that matrix multiplication is not commutative.
- 20) If cost function of a firm is $C = x(x^2 - 2)$, find marginal cost when production is 2 units. **(10x1=10)**



PART - C

Short Essay. Answer **any 5** questions.

- 21) Find the derivative of $x^{\log x}$.
- 22) Show that $u = 3x^2 + 2xy + y^2$ is a homogeneous function.

23) Evaluate $\lim_{x \rightarrow 4} \frac{x^2 - 4^2}{x - 4}$.

- 24) The supply and demand curves for a commodity are $q_s = p - 1$ and $q_d = \frac{12}{p}$, find the equilibrium price.

25) Find the value of $\begin{vmatrix} 5 & 7 & 2 \\ 2 & 3 & 1 \\ 4 & 6 & 2 \end{vmatrix}$.

26) If $A = \begin{bmatrix} 2 & 3 & 4 \\ 5 & 7 & 9 \\ -2 & 1 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 4 & 0 & 5 \\ 1 & 2 & 0 \\ 0 & 3 & 1 \end{bmatrix}$ verify that $(AB)^T = B^T A^T$.

- 27) Explain about different kinds of correlation.

(5x2=10)

PART - D

Long essay. Answer **any 2** questions.

- 28) Explain the components and importance of Time Series Analysis.
- 29) Maximise utility function $u = 4xy - y^2$ subject to the constraint $2x + y - 6 = 0$.
- 30) Solve the following equation using Cramer's rule.
 $4x - 9y + 7z = 11, 2x - y - z + 3 = 0, x + 3y + z = 20$.
- 31) Explain about the steps in the construction of consumer price index number. **(2x4=8)**