



Reg. No. : .....

Name : .....

**VI Semester B.A. Degree (CCSS – Supple.) Examination, May 2018  
(2012-13 Admn.)  
CORE COURSE IN ECONOMICS/DEVELOPMENT ECONOMICS  
6B12 ECO : Basic Tools for Economic Analysis – II**

Time : 3 Hours

Max. Weightage : 30

**PART – A**

I. Choose the correct answer :

1. A square matrix A is said to be \_\_\_\_\_ if  $A = A^2$ .
 

a) Diagonal	b) Nilpotent
c) Idempotent	d) Equal
2. When we express the value of money giving allowances to the changes in the price level, the process is known as \_\_\_\_\_.
 

a) Splicing	b) Deflating
c) Base shifting	d) Shifting
3. \_\_\_\_\_ is defined as the tendency of two or more groups or series of items to vary together directly or inversely.
 

a) Correlation	b) Regression
c) Residual	d) None of these
4. \_\_\_\_\_ is a process of finding derivative of a function.
 

a) Differentiation	b) Integration
c) Matrix	d) Probability
- I. 5. Derivative of x is \_\_\_\_\_
 

a) X	b) 0	c) $x^2$	d) 1
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**(Weightage : 1)**









23. The following three series of Index numbers are given :

Year	Index A	Index B	Index C
	1964 = 100	1979 = 100	1985 = 100
1964	100	-	-
1970	120	-	-
1979	200	100	-
1985	-	-	100
1995	-	200	120

Prepare spliced series of Index number with base 1985 = 100.

24. Differentiate  $\frac{x+2}{x-1}$  with respect to  $\frac{3x+1}{x-1}$ .

25. Given the data :

	X	Y
Arithmetic Mean	36	85
Standard Deviation	11	8

Correlation coefficient between x and y = 0.66.

- 1) Find the two Regression Equations.
- 2) Estimate the value of x when y = 75.

26. A function (x) is defined as follows :

$$f(x) = \frac{9x}{x+2} \text{ for } x < 1$$

$$= 3 \text{ at } x = 1$$

$$= \frac{x+3}{x} \text{ for } x > 1$$

Examine whether the function is continuous in the interval (-3, 3).

27. Verify that Eulers theorem holds good in the case of

$$U = 8x^3 + 2x^2y + 3x^2y + y^3.$$

(Weightage : 2x5)



PART - D

Long Essay. Answer **any two** questions. **Each** question carries **4** weightage.

28. In a partially destroyed record of an analysis of correlation data the following results only are legible

$$\text{Variance of } x = 9$$

Regression equations :

$$8x - 10y + 66 = 0$$

$$40x - 18y = 214$$

Find :

- 1) The mean values of X and Y
- 2) The coefficient of correlation
- 3) The standard deviation of Y.

29. Explain the applications of derivatives in Economics.

30. Solve the simultaneous equation using Cramer's rule

$$2x - 3y + 5z = 11$$

$$5x + 2y - 7z = -12$$

$$-4x + 3y + z = 5$$

31. From the following data find Laspeyer's, Paasche's and Fisher's Index number and show that the Time and Factor Reversal Tests are satisfied by it.

Commodity	Base year		Current year	
	Price	Expenditure	Price	Expenditure
A	8	80	10	120
B	10	120	12	96
C	5	40	5	50
D	4	56	3	60
E	20	100	25	150

(Weightage : 4x2)