M 3005

Reg. No. : .....

Name : .....

VI Semester B.A./B.Sc./B.Com./B.B.A./B.B.A.T.T.M./B.B.M./B.C.A./B.S.W./ B.A. Afsal-Ul-Ulama Degree (CCSS-Reg./Supple./Improv.) Examination, May 2013

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. A row matrix of order 2 multiplied by a column matrix of order 2 will give a matrix of order

   a) 1×1 b) 2×1

   c) 1×2 d) 2×2

2. The matrix having elements $a_{ij} = 0 \; \forall \; i > j$ and $a_{ij} \neq 0 \; \forall \; i \leq j$ is called

   a) Lower triangular matrix b) Upper triangular matrix

   c) Diagonal matrix d) Scalar matrix

3. Partial derivative of 2xy with respect to x is $\frac{\partial}{\partial x}(2xy) =$ _____

   a) y + x b) 2y

   c) 2x d) xy

4. If total revenue, R = P × Q where P = Price, Q = Quantity, then A. R. = _____

   a) $p + q\frac{dp}{dq}$ b) $1 - \frac{1}{2}$

   c) Q d) P

(Weightage 1)

P.T.O.

II

5. Purchase power of one rupee = _____

   a) 100 ÷ Price Index

   b) Price index × 100

   c) Money wage ÷ Real wage

   d) Current Value × Deflator

6. In a regression line of Y on X, variable X is known as

   a) Independent variable b) Regressor

   c) Explanatory variable d) All the above

7. If the regression coefficient $\beta_{yx} > 1$, then β_{xy} is

   a) equal to one b) equal to 0

   c) less than 1 d) greater than 1

8. Link relative method is useful to find out

   a) Trend b) Seasonal variations

   c) Cyclical variations d) Irregular variations **(Weightage 1)**

PART – B

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

9. Find x and y if [4 5] + [x y] = [7 3].

10. Define symmetric matrix.

11. Write the reversal law of inverses.

12. If $y = 100 - x - x^2$. Find elasticity of demand for the function when y = 70.

13. Find the marginal cost and average cost from the total cost function

    $C = 60 + 10x + 15x^2$.

14. If the two regression coefficients are – 0.4 and – 0.9, the correlation coefficient ?

15. What is economic splicing ?

16. Define 'deflator'.

17. Define secular trend.

18. What is the main principle underlying OLS estimation.

19. What is the mathematical relationship among average revenue, marginal revenue and elasticity ?

20. Define cofactor matrix. **(10×1=10)**

PART – C

Short essay. Answer **any five**.

21.

Commodities	**Base Year**		**Current Year**	
	Price	**Quantity**	**Price**	**Quantity**
A	10	12	12	15
B	7	15	5	20
C	5	24	9	20
D	16	5	14	5

Work out Laspeyre's index number. Also calculate Paascshe's weighted index number.

22. Explain correlation between two variables.

23. Explain moving average method.

24. What are the components of time series ?

25. What are the methods to construct cost of living index number ?

26. Explain determinants and their uses in economic analysis.

27. What is meant by matrix inversion ? **(5×2=10)**

PART – D

Long essay. Answer **any two.**

28. Solve the system using Cramer's rule :

    $5x - 6y + 4z = 15$,

    $7x + 4y - 3z = 19$,

    $2x + y + 6z = 46$

29. Minimise $U = x^2 + y^2 + w^2$ subject to $x + y + w = 1$.

30. Explain the measurement of trend in time series analysis.

31. From the following data fit regression line of X on Y.

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

(2×4=8)