Reg. No. : ....

Name : ....

VI Semester B.A. Degree (CBCSS – Reg./Supple./Improve.)
Examination, April 2021
(2014 – 2018 Admissions)
CORE COURSE IN ECONOMICS/DEVELOPMENT ECONOMICS
6B12 ECO : Basic Tools For Economic Analysis – II

Time : 3 Hours

Max. Marks : 40

PART – A

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

1. Define a square matrix.

2. Define cost function.

3. Define linear correlation.

4. Define time series.

PART – B

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

5. $A = \begin{bmatrix} 1 & 3 & 5 \\ 2 & 7 & 8 \\ 3 & 4 & 2 \end{bmatrix}$. Find the transpose of A.

6. $A = \begin{bmatrix} 2 & 3 & 2 \\ 2 & 1 & -3 \\ 1 & 0 & 4 \end{bmatrix}$ $B = \begin{bmatrix} 3 & 2 & 3 \\ 3 & 0 & 5 \\ 6 & 9 & -1 \end{bmatrix}$. Find 7A – 2B.

7. Write down a matrix of order (a) 3×2 (b) 2×3.

8. Find derivatives of (a) $y = 4x^3 + 3x^2$ (b) $y = 5e^x + 2x$.

9. Write down the condition for maxima and minima.

10. Explain marginal cost and marginal revenue.

11. Explain positive and negative correlation.

12. What are the characteristics of an ideal index number ?

13. What do you mean by simple and multiple regression ?

14. State principle of least squares.

15. Describe cyclic variation.

16. Define whole sale price index numbers.

17. Define Laspeyer's and Paasche's index numbers.

18. Index numbers serves as economic barometers, why ?

PART – C

Answer **any four**, **each** question carries **3** marks.

19. Find the inverse of $\begin{bmatrix} 4 & 2 \\ -3 & 1 \end{bmatrix}$.

20. Given $\begin{bmatrix} p & q \\ r & s \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} m \\ n \end{bmatrix}$, write down the simultaneous equations.

21. 1) Define partial derivatives.

    2) If $w = xy + yz + zx$, find $\frac{\partial w}{\partial x}$, $\frac{\partial w}{\partial y}$ and $\frac{\partial w}{\partial z}$.

22. Describe free hand curve method.

23. Distinguish between correlation and regression.

24. Write down uses of index numbers.

25. Apply the method of semi averages for determining the trend.

Year	1992	1993	1994	1995	1996	1997
Value	10	12	15	20	18	25

26. Explain importance of time series.

PART – D

Answer **any two** questions. **Each** carries **5** marks.

27. Explain components of time series.

28. Compute Karl Pearson's coefficient of correlation.

Price	11	12	13	14	15	16
Demand	30	29	29	25	24	24

Comment on the result.

29. Write down :

    1) Properties of correlation coefficient.

    2) Probable error.

    3) Interpret coefficient of correlation on the basis of probable error.

    4) Perfect correlation.

    5) When Coefficient of correlation is .92, what will be your comment on that value ?

30. Discuss the various steps in the construction of index numbers.

31. Describe different types of matrices with example.

32. Find rank correlation from the ranking of 10 students in two subjects.

Statistics	3	5	8	4	7	10	2	1	6	9
English	1	6	5	10	3	2	4	9	7	8

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