SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN (AUTONOMOUS)
(Affiliated to the University of Madras and Re-accredited with 'A+' Grade by NAAC)
Chromepet, Chennai – 600 044.

B.A. END SEMESTER EXAMINATION APRIL / NOV - 2021

SEMESTER - V

17UECCE5A01 & UEC/CE/5A01 - Mathematics for Economists

Total Duration : 3 hrs	**Total Mark : 75**
MCQ : 30 min	**MCQ : 15**
Descriptive : 2 Hrs. 30 Mins.	**Descriptive : 60**

Section B

Answer any SIX questions (6 x 5 =30)

1. Show that $(A+B)' = (A'+B')$. If, $A=\begin{pmatrix}2 & 4\\3 & 2\end{pmatrix}$ and $B=\begin{pmatrix}1 & 0\\3 & 2\end{pmatrix}$

2 . State the limitations of Input- Output analysis.

3. Differentiate $(3\sqrt{x})^4$

4. Calculate the maximum and minimum values of the following function $y=3x^4-10x^3+6x^2+5$

5. Find the Partial Derivative of $Z=4x^2+4xy+y^2$

6. Explain the different types of matrices with a suitable example.

7. Calculate the third, fourth and fifth derivatives of $y=8x^4$

8. Examine the relationship between Average Cost and Marginal Cost.

Section C

Answer any THREE questions (3 x 10 =30)

9. Solve the following equation by Cramer's rule: x-2y+3z=1, 3x-y+4z=3 and 2y+y-2z= -1

10. Examine the rules of differentiation in detail.

Contd…

11. Determine the conditions for profit maximisation.

12. Examine the following function for Maximum and Minimum values:
    $Z=4/3x^3+y^2-4x+8y$.

13. If $w = f(x, y, z)=\frac{y}{(X + Y + Z)^2}$, then derive the partial derivatives.