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.
M.A.(Eco) END SEMESTER EXAMINATIONS APRIL - 2023
SEMESTER - II
22PECCT2006 - Mathematical Methods for Economics

Total Duration : 2 Hrs. 30 Mins. Total Marks : 60

Section B

Answer any **SIX** questions $(6 \times 5 = 30$ Marks)

1. Illustration: Let A $\begin{bmatrix} x+y & y \\ 2x & x-y \end{bmatrix}$,B=$\begin{bmatrix} 2 \\ -1 \end{bmatrix}$ C=$\begin{bmatrix} 3 \\ 2 \end{bmatrix}$
   AB=C then find the matrix A^2.
2. Solve the following system of equations 2x-y=5,x+y=4 using Cramer's rule:
3. Find dy/dx if y=$(x^3 + x^2)\ (2x^2 + 6x)$ in differential calculus.
4. Solve if u=$4x^3 + 6x^2y - 3y^2 + 5xy^3$. Find all the partial differentiation in two variables.
5. Explain the Conditions for Profit Maximisation.
6. Solve the total differential coefficient of the function x^2y with respect to x where $x^2 + xy + y^2 = 1$.
7. Solve the function if f(x,y)=$x^3 + 2x^2y - 3xy^2 + y^3$ is a Homogeneous function.
8. Differentiate with respect to x:if y=(2x+1)(2x+3).

Section C

I - Answer any **TWO** questions $(2 \times 10 = 20$ Marks)

9. Solve the following system of equations
   x + y + z = 6
   y + 3z = 11
   x – 2y + z =0 using Cremer's rule.
10. Find the points of maximam and minimam value of a function y=$2x^3 - 3x^2 + 6$.
11. Examine the application of partial derivatives in economics.
12. Explain the Cost Curve and Revenue Curves.

II - Compulsory question $(1 \times 10 = 10$ Marks)

13. Examine the Linear homogeneous function and its properties.

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