PARSHWANATH CHARITABLE TRUST'S
A.P. SHAH INSTITUTE OF TECHNOLOGY
Department of Computer Science and Engineering
Data Science

CSE DATA SCIENCE

Semester : VI   **Subject :Machine Learning**   **Academic Year: 2023 - 2024**

✳ Determinant ✳

Question :-

2	5	3
1	0	6
8	-1	2

find determinant of matrix

Answer :-

$$\begin{vmatrix} + & - & + \\ - & + & - \\ + & - & + \end{vmatrix} \quad 3 \times 3 \text{ Determinant}$$

$$= \begin{vmatrix} 2 & 5 & 3 \\ 1 & 0 & 6 \\ 8 & -1 & 2 \end{vmatrix}$$

$$= 2\begin{vmatrix} 0 & 6 \\ -1 & 2 \end{vmatrix} - 5\begin{vmatrix} 6 \\ 8 & 2 \end{vmatrix} + 3\begin{vmatrix} 1 & 0 \\ 8 & -1 \end{vmatrix}$$

$$= 2[0 - (-6)] - 5[2 - 48] + 3[-1 - (0)]$$

$$= 2|6| - 5|-46| + 3|-1|$$

$$= 12 + 230 + 3$$

$$= 239$$