Name: _____	**Subject:** Math	**Class:** 9th	**Time:** 60 minutes	Total Marks:	**30**
Unit Number:	**MJDexpert.com**			Obtained marks	

Q.No.1 Choose the correct Answer. $(6 \times 1 = 6)$

1. Order of the transpose of matrix $\begin{bmatrix} 2 & 1 \\ 0 & 1 \\ 3 & 2 \end{bmatrix}$ is:

a) $\mathbf{1-by-3}$	b) $\mathbf{3-by-1}$	c) $\mathbf{2-by-3}$	d) $\mathbf{3-by-2}$

2. Product of $[x \quad y]\begin{bmatrix} 2 \\ -1 \end{bmatrix}$ is:

a) $[x+2y]$	b) $[2x-y]$	c) $[2y+x]$	d) $[2y-x]$

3. Arthur Caley introduces the theory of matrices in:

a) **1858**	b) **1958**	c) **1758**	d) 1998

4. $\begin{bmatrix} K & 0 \\ 0 & K \end{bmatrix}$ is a scalar matrix if:

a) $K=1$	b) $K=0$	c) $K=3$	d) None

5. $\begin{bmatrix} \sqrt{2} & 0 \\ 0 & \sqrt{2} \end{bmatrix}$ is called -------- Matrix.

a) Zero	b) Scalar	c) Null	d) Identity

6. The order of row matrix is:

a) $1-by-n$	b) $m-by-1$	c) $n-by-n$	d) $m-by-n$

Q.No.2: Give the Short Answers. $(8 \times 2 = 16)$

i. If $\begin{bmatrix} a+3 & 4 \\ 6 & B-1 \end{bmatrix} = \begin{bmatrix} -3 & 4 \\ 6 & 2 \end{bmatrix}$, then find a and b

ii. Find the Multiplicative Inverse of Matrix $B=\begin{bmatrix} 1 & 2 \\ -3 & -5 \end{bmatrix}$

iii. Find Product $[1 \quad 2]\begin{bmatrix} 5 \\ -4 \end{bmatrix}$

iv. If $A = \begin{bmatrix} 1 & 2 \\ 0 & 1 \end{bmatrix}$ then show that $A - A^t$ is skew-symmetric Matrix.

v. Find the determinant of $\begin{bmatrix} 3 & 2 \\ 1 & 4 \end{bmatrix}$.

vi. Define Rectangular Matrix.

vii. Define Diagonal Matrix.

viii. If $B = \begin{bmatrix} 1 \\ -1 \end{bmatrix}$ then evaluate $(-1)B$.

Q.No.3: Give the long answers. $(4 + 4 = 08)$

a) Solve by Cramer's Rule .

$4x + 2y = 8 \qquad 3x - y = -1$

b) If $B = \begin{bmatrix} 1 & 1 \\ 2 & 0 \end{bmatrix}$ then show that $BB^{-1} = I$.

"Simplicity is the ultimate sophistication"