Note: Please attempt any 10 short questions from Question 2. Also, attempt both parts of Question 3. Cutting and removal of any content is strictly prohibited.

Question.No.01: - Choose the correct answer. (10x01=10)

1.	If all the entries in any row (column) are zero then value of determinant is	1	2	0	-2
2.	Two matrices are possible for multiplication if	Column of 1st matrix = Column of 2nd matrix	rows of 1st matrix = rows of 2nd matrix	Column of 1st matrix = rows of 2nd matrix	None of these
3.	If $A = \begin{bmatrix} 2 \\ -1 \end{bmatrix}$ and $B = [5 \quad 0]$ then AB is equals to :	$\begin{bmatrix} 10 & 0 \\ -5 & 0 \end{bmatrix}$	$\begin{bmatrix} 10 \\ 0 \end{bmatrix}$	$[10 \quad 0]$	$\begin{bmatrix} 10 \\ -5 \end{bmatrix}$
4.	Matrix multiplication is not containing	Associative law	Commutative	Both A and B	None of these
5.	The value of determinant is change if any two	Rows (column) is change	Rows to column is change	Rows are identical	None of these
6.	If A is 2x3 and B is 3x2 matrices then they are conformable for	addition	multiplication	subtraction	None of these
7.	The principal diagonal of a square matrix is also called is	Leading diagonal	Main diagonal	Square matrix	Both A and B
8.	$\begin{vmatrix} a & b \\ c & d \end{vmatrix} =$	(bc - ad)	(ad – bc)	(ac – bd)	(ab – cd)
9.	A square matrix is called skew symmetric if	$A^t = A$	$A^t \neq A$	$A^t = -A$	$A^t \neq -A$
10.	$\begin{vmatrix} 3 & -2 & -1 \\ 1 & -1 & -1 \\ -2 & 1 & 2 \end{vmatrix} =$	1	2	-1	3

Question.No.02: -Solve all parts. (02x10=20)

i.	Solve the system of Linear equations $3x - 5y = 1$, $-2x + y = -3$
ii.	Define diagonal matrix.
iii.	Without expansion Show that $\begin{vmatrix} bc & ca & ab \\ 1/a & 1/b & 1/c \\ a & b & c \end{vmatrix} = 0$
iv.	Find X if $X\begin{bmatrix} 5 & 2 \\ -2 & 1 \end{bmatrix} = \begin{bmatrix} -1 & 5 \\ 12 & 3 \end{bmatrix}$
v.	If $A = \begin{bmatrix} 1 & 2 \\ a & b \end{bmatrix}$ and $A^2 = \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$, find the value of a and b.
vi.	If A and B are square matrices of the same order, then explain why in general $(A + B)^2 \neq A^2 + 2AB + B^2$
vii.	3x – 2A = B if $A = \begin{bmatrix} 2 & 3 & -2 \\ -1 & 1 & 5 \end{bmatrix}$ $B = \begin{bmatrix} 2 & -3 & 1 \\ 5 & 4 & -1 \end{bmatrix}$ solve the following equation for X.
viii.	Find the inverse of the following matrix $\begin{bmatrix} 2i & i \\ i & -i \end{bmatrix}$
ix.	Find x and y if $\begin{bmatrix} 2 & 0 & x \\ 1 & y & 3 \end{bmatrix} + 2\begin{bmatrix} 1 & x & y \\ 0 & 2 & -1 \end{bmatrix} = \begin{bmatrix} 4 & -2 & 3 \\ 1 & 6 & 1 \end{bmatrix}$
x.	Find the value of λ if the matrix is singular $\begin{bmatrix} 4 & \lambda & 3 \\ 7 & 3 & 6 \\ 2 & 3 & 1 \end{bmatrix}$.

Question.No.03:-Attempt all parts: (02x05=10)

A.	Solve the system of linear equation by Cramer ' s rule $2x + 2y + z = 3$ $3x - 2y - 2z = 1$; $5x + y - 3z = 2$
B.	Find the Rank $\begin{bmatrix} 1 & -1 & 2 & 1 \\ 2 & -6 & 5 & 1 \\ 3 & 5 & 4 & -3 \end{bmatrix}$.