Comprehensive Test Series-01

Matrices

TIME: 1hr **MM: 48**

General Instructions:

- All Questions are compulsory.
- Use of calculator is not permitted.
- Question 1 to 12 carry 3 marks each.
- Question 13 to 15 carry 4 marks each.

Find the inverse of the following matrices, if they exist, by using elementary row operations:

(i) $\begin{bmatrix} 2 & 3 \\ 1 & 2 \end{bmatrix}$

(ii) $\begin{pmatrix} 1 & 3 \\ 2 & 7 \end{pmatrix}$

(iii) $\begin{pmatrix} 3 & 1 \\ 5 & 2 \end{pmatrix}$

(iv) $\begin{pmatrix} 4 & 5 \\ 3 & 4 \end{pmatrix}$

(v) $\begin{pmatrix} 2 & 5 \\ 1 & 3 \end{pmatrix}$

(vi) $\begin{pmatrix} 2 & 1 \\ 7 & 4 \end{pmatrix}$

(vii) $\begin{pmatrix} 1 & 2 \\ 2 & -1 \end{pmatrix}$

(viii) $\begin{pmatrix} 1 & -1 \\ 2 & 3 \end{pmatrix}$

(ix) $\begin{pmatrix} 3 & -1 \\ -4 & 2 \end{pmatrix}$

(x) $\begin{pmatrix} 10 & -2 \\ -5 & 1 \end{pmatrix}$

(xi) $\begin{pmatrix} 5 & -10 \\ 3 & -6 \end{pmatrix}$

(xii) $\begin{pmatrix} 2 & -2 \\ 4 & 3 \end{pmatrix}$

(xiii) $\begin{bmatrix} 2 & -1 & 3 \\ -5 & 3 & 1 \\ -3 & 2 & 3 \end{bmatrix}$

(xiv) $\begin{pmatrix} 2 & 1 & 3 \\ 4 & -1 & 0 \\ -7 & 2 & 1 \end{pmatrix}$

(xv) $\begin{pmatrix} 2 & 0 & -1 \\ 5 & 1 & 0 \\ 0 & 1 & 3 \end{pmatrix}$