

Class XII: Maths
Chapter 3: Matrices

Top Formulae

1. An $m \times n$ matrix is a square matrix if $m = n$.
2. $A = [a_{ij}] = [b_{ij}] = B$ if (i) A and B are of same order, (ii) $a_{ij} = b_{ij}$ for all possible values of i and j .
3. $kA = k[a_{ij}]_{m \times n} = [k(a_{ij})]_{m \times n}$.
4. $-A = (-1)A$
5. $A - B = A + (-1)B$
6. If $A = [a_{ij}]_{m \times n}$ and $B = [b_{ik}]_{n \times p}$, then $AB = C = [c_{ik}]_{m \times p}$, where $c_{ik} =$

$$\sum_{j=1}^n a_{ij} b_{ij}$$

7. Elementary operations of a matrix are as follow:
 - i. $R_i \leftrightarrow R_j$ or $C_i \leftrightarrow C_j$
 - ii. $R_i \rightarrow kR_i$ or $C_i \rightarrow kC_i$
 - iii. $R_i \rightarrow R_i + kR_j$ or $C_i \rightarrow C_i + kC_j$