Q. No.	DAY - 4
16	**EXERCISE 1.2** 1. Find the rank of the following matrices by minor method: (iv) $\begin{bmatrix} 1 & -2 & 3 \\ 2 & 4 & -6 \\ 5 & 1 & -1 \end{bmatrix}$ (v) $\begin{bmatrix} 0 & 1 & 2 & 1 \\ 0 & 2 & 4 & 3 \\ 8 & 1 & 0 & 2 \end{bmatrix}$
17	2. Find the rank of the following matrices by row reduction method: (ii) $\begin{bmatrix} 1 & 2 & -1 \\ 3 & -1 & 2 \\ 1 & -2 & 3 \\ 1 & -1 & 1 \end{bmatrix}$ (iii) $\begin{bmatrix} 3 & -8 & 5 & 2 \\ 2 & -5 & 1 & 4 \\ -1 & 2 & 3 & -2 \end{bmatrix}$
18	**Example 1.24** If $A = \begin{bmatrix} -4 & 4 & 4 \\ -7 & 1 & 3 \\ 5 & -3 & -1 \end{bmatrix}$ and $B = \begin{bmatrix} 1 & -1 & 1 \\ 1 & -2 & -2 \\ 2 & 1 & 3 \end{bmatrix}$, find the products AB and BA and hence solve the
19	system of equations $x - y + z = 4, x - 2y - 2z = 9, 2x + y + 3z = 1.$ **Example 1.23** Solve the following system of equations, using matrix inversion method: $2x_1 + 3x_2 + 3x_3 = 5, \quad x_1 - 2x_2 + x_3 = -4, \quad 3x_1 - x_2 - 2x_3 = 3.$

20	**EXERCISE 1.3** 3. A man is appointed in a job with a monthly salary of certain amount and a fixed amount of annual increment. If his salary was ₹ 19,800 per month at the end of the first month after 3 years of service and ₹ 23,400 per month at the end of the first month after 9 years of service, find his starting salary and his annual increment (Use matrix inversion method to solve the problem.)