Q1)

$$\left[\begin{array}{ccc|c} 2 & -3 & 5 & -1 \\ -1 & 4 & -3 & 2 \\ 3 & -7 & 8 & -4 \end{array}\right]$$

$2R_2 + R_1$, $2R_3 - 3R_1$

$$\left[\begin{array}{ccc|c} 2 & -3 & 5 & -1 \\ 0 & 5 & -1 & 3 \\ 0 & -5 & 1 & -5 \end{array}\right]$$

$R_3 + R_2$, $5R_1 + 3R_2$

$$\left[\begin{array}{ccc|c} 10 & 0 & 22 & 4 \\ 0 & 5 & -1 & 3 \\ 0 & 0 & 0 & -2 \end{array}\right]$$

No solution Ans

Q2 at the next page →

(Q2) (i) $\left[\begin{array}{cc|c} 1 & h & 2 \\ 3 & 2 & 5 \end{array}\right]$

$R_2 - 3R_1$

$\left[\begin{array}{cc|c} 1 & h & 2 \\ 0 & 2-3h & -1 \end{array}\right]$

$2 - 3h = 0$

$2 = 3h$

$h = 2/3$

For all values of h <u>except $h = 2/3$</u>, system will be consistent.

(ii) $\left[\begin{array}{cc|c} -1 & 2 & 3 \\ 2 & -4 & k \end{array}\right]$

$R_2 + 2R_1$

$\left[\begin{array}{cc|c} -1 & 2 & 3 \\ 0 & 0 & k+6 \end{array}\right]$

$k + 6 = 0$

$k = -6$

For <u>$k = -6$</u>, system will be consistent.