Project - I

1) Use Simplex method to Solve the following system of linear equations

$x_1 - x_3 + 4x_4 = 3$, $2x_1 - x_2 = 3$, $3x_1 - 2x_2 - x_4 = 1$

$x_1, x_2, x_3, x_4 \geq 0$

(5, 7, 2, 0)

2) Use Simplex method to obtain the inverse of the matrix $A = \begin{pmatrix} 3 & 2 \\ 4 & -1 \end{pmatrix}$

3) Solve

Max $Z = 8x_2$

S.t $x_1 - x_2 \geq 0$

$2x_1 + 3x_2 \leq -6$

x_1, x_2 unrestricted

4) Solve by Simplex method

Max $Z = x_1 - x_2 + x_3 + x_4 + x_5 - x_6$

S.t $x_1 + x_4 + 6x_6 = 9$

$3x_4 + x_2 - 4x_3 + 2x_6 = 2$

$x_4 + 2x_2 + x_5 + 2x_6 = 6$

$x_1, x_2 - - x_6 \geq 0$

$\left(\frac{2}{3}, 0, 0, \frac{25}{3}, \frac{16}{3}, 0\right)$ Ans