ASSIGNMENT : 3

UNIT : 2 Exercise and case problems on Simplex, Big M and Two phase LP Problems

1. Write the dual of the following linear programming problem.
   Minimize, $Z = 20\ X1 + 23\ X2$
   Subjected to,
   $-4X1 - X2 \leq -8$
   $5X1 - 3X2 = -4$
   $X1, X2 \geq 0$
   Solve the Dual problem using simplex method and predict the value of variables X1, X2 from the solution of dual linear programming problem.

2. Solve the following LPP by Big – M Method
   Maximize $Z = x_1 + 2x_2 + 3x_3 - x_4$
   Subjected to $x_1 + 2x_2 + 3x_3 = 15$
   $2x_1 + x_2 + 5x_3 = 20$
   $x_1 + 2x_2 + x_3 + x_4 = 10$; $x_i \geq 0$; $I = 1,2,3,4$