

DEPARTMENT : MECHANICAL SEMESTER : 5 SUBJECT NAME : OPERATION RESEARCH SUBJECT CODE : 3151910 FACULTY NAME: Assist. Prof. Kedar H Badheka

<u>ASSIGNMENT : 3</u>

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 X2Subjected to, $-4X1 - X2 \le -8$ 5X1 - 3X2 = -4 $X1, X2 \ge 0$

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 $Z = x_1+2 x_2+3x_3-x_4$ Subjected to $x_1+2 x_2+3x_3=15$ $2x_1+x_2+5x_3=20$

$$x_1 + 2 x_2 + x_3 + x_4 = 10$$
; $x_i \ge 0$; $I = 1,2,3,4$

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