

**DEPARTMENT : MECHANICAL** 

SEMESTER : 5

**SUBJECT NAME: OPERATION RESEARCH** 

**SUBJECT CODE: 3151910** 

**FACULTY NAME: Assist. Prof. Kedar H Badheka** 

## **ASSIGNMENT: 4**

## <u>UNIT: 2 Exercise and case problems on Dual and Primal LP Problems</u>

1. Find the dual of the following LPP.

Maximize 
$$Z = 4x_1 + 5x_2 + 12x_3$$

Subjected to 
$$2x_1 + x_2 + 3x_3 \le 4$$

$$3x_1 - 2x_2 + x_3 = 3$$
 and  $x_1, x_2, x_3 \ge 0$ 

2. Find the dual of the following LPP.

Maximize 
$$Z = -x_1 + 2x_2$$

Subjected to 
$$-x_1 + 3x_2 \le 10$$

$$x_1 + x_2 \le 6$$
 and  $x_1, x_2, \ge 0$ 

