ASSIGNMENT

M.Sc. Sem-IV (O.R.)

Paper — ECMATH402(C)

1) Solve $\max. Z = x_1 + x_2$

S.t.

$2x_1 + 5x_2 \leq 16$

$6x_1 + 5x_2 \leq 30$

and $x_1, x_2 \geq 0$ and are integers

2) Solve $\max. Z = 7x_1 + 9x_2$

S.t.

$-x_1 + 3x_2 \leq 6$

$7x_1 + x_2 \leq 35$

and $x_1, x_2 \geq 0$ and x_1 is an integer.

3) Describe Branch and Bound Technique to solve an IPP.

4) Use Branch and Bound Technique to solve the following IPP

$\max. Z = x_1 + x_2$

S.t.

$3x_1 + 2x_2 \leq 12$

$x_2 \leq 2$

and $x_1, x_2 \geq 0$.

5) Solve the NLPP by Lagrangian Multiplier method

$\min. Z = 2x_1^2 + x_2^2 + 3x_3^2 + 10x_1 + 8x_2 + 6x_3 - 100$

S.t.

$x_1 + x_2 + x_3 = 20$

and $x_1, x_2, x_3 \geq 0$.