Subject: Operation Research

Max. Marks: 25   **Time allowed: 1hr**

Note: Attempt all questions

(1) Solve graphically the following L.P.P.

$$\text{Minimize } Z = 2x_1 - 10x_2$$

Subject to the constraint $x_1 - x_2 \geq 0$

$$x_1 - 5x_2 \geq -5$$

and $x_1, x_2 \geq 0$ (5)

(2) Four jobs are to be done on four different machines. Assign the jobs so as to maximize the total profit.

		Machine			
		M1	M2	M3	M4
	1	15	11	13	15
	2	17	12	12	13
Job	3	14	15	10	14
	4	16	13	11	17

(5)

(3) Find the initial basic feasible solution to the following transportation problem by Least-Cost method

		To		Supply
	2	7	4	5
	3	3	1	8
From	5	4	7	7
	1	6	2	14
Demand	9	7	18	

(5)

(4) Solve by simplex method the following L.P.P.

$$\text{Max } Z = 7x_1 + 5x_2$$

Subject to the constraints, $-x_1 - 2x_2 \geq -6$

$$4x_1 + 3x_2 \leq 12$$

and $x_1, x_2 \geq 0$ (10)