P.K. COLLEGE, CONTAI
BCA 4th semester examination
OPERATION RESEARCH
PAPER-2203

Answer any two questions.

1. Solve the following L.P.P by Simplex method:

   Maximize $Z = 3x_1 + 2x_2$

   Subject to, $4x_1 + 3x_2 \leq 12$

   $4x_1 + x_2 \leq 8$

   $4x_1 - x_2 \leq 8$

   $x_1, x_2 \geq 0$

2. Use penalty (Big-M) method, Solve the following L.P.P:

   Maximize $Z = 3x_1 + 2x_2$

   Subject to, $2x_1 + x_2 \leq 2$

   $3x_1 + 4x_2 \geq 12$

   $x_1, x_2 \geq 0$

3. Solve graphically :

   Maximize $Z = 3x_1 + 2x_2$

   Subject to, $x_1 + 2x_2 \leq 40$

   $3x_1 + x_2 \geq 30$

   $4x_1 + 3x_2 \geq 60$

   $x_1, x_2 \geq 0$

4. Using VAM solve the transportation problem:

		P	Q	R	S	Supply
			Destination			
	A	21	16	25	13	11
Source	**B**	17	18	14	23	13
	C	32	17	18	48	19
	Demand	6	10	12	15	43

5. Prove that dual of the dual of a given primal is the primal.