BIRLA INSTITUTE OF TECHNOLOGY MESRA, OFF-CAMPUS DEOGHAR

	Semester	:: 5 th Branch: CSE	Session: MO/25
	Subject: CS341 Optimization Techniques (FIRST QUIZ)		Duration: 01 Hour
1. Find the minimum value of $z = 7x_1 + 8x_2$ subject to the constraints:		e constraints:	
		$3x_1 + x_2 \ge 8$, $x_1 + 3x_2 \ge 11$; $x_1, x_2 \ge 0$	[5]
	2.	2. Use the penalty method to maximize $z = 3x_1 - x_2$ subject to the constraints:	
		$2x + x_2 > 2x + 3x_2 < 3x_2 < 4 \cdot x_1 x_2 > 0$	[5]

$$3x_1 + x_2 \ge 8$$
, $x_1 + 3x_2 \ge 11$; $x_1, x_2 \ge 0$
2. Use the penalty method to maximize $z = 3x_1 - x_2$ subject to the constraints: $2x_1 + x_2 \ge 2$, $x_1 + 3x_2 \le 3$, $x_2 \le 4$; $x_1, x_2 \ge 0$ [5]