Semester: 5th   **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:
    $3x_1 + x_2 \geq 8, x_1 + 3x_2 \geq 11; x_1, x_2 \geq 0$ [5]

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