National University of Computer and Emerging Sciences, Lahore Campus

	Course Name:	**Operations Research**	**Course Code:**	**MT4031**
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	Section:	**ALL**	**Page(s):**	**1**
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Student : Name:_____ **Roll No.**_____ **Section:**_____

Instruction/Notes: The best option is according to the given statement. (CUTTING IS NOT ALLOWED)

1. **The graphical method can only be used when there are _____ decision variables.**
   a. Multiple
   b. Less than two
   c. Two
   d. Greater than two
2. **In a model with two decision variables, the restriction 3X1 + 2X2 ≤ 6 represents:**
   a. a nonlinear line.
   b. the region of infeasibility.
   c. an extreme point.
   d. a linear constraint.
3. **The feasible region does not include:**
   a. interior points.
   b. boundary points.
   c. points at which at least one of the decision variables is zero.
   d. points which violate at least one of the functional or non-negativity constraints.
4. **A "non-binding" constraint is:**
   a. redundant.
   b. not satisfied with an equality at the optimal solution.
   c. one having zero slack or surplus
   d. never a non-negativity variable constraint.
5. **The effect of deleting a linear constraint from a linear programming model depends on whether or not that constraint:**
   a. is a "≤" or a "≥" constraint.
   b. had negative coefficients.
   c. is redundant.
   d. is binding.
6. **An over-constrained linear programming problem results in what type of solution?**
   a. Unbounded
   b. Degenerate
   c. Infeasible
   d. Sub-optimal
7. **Which statement is not true if a maximization problem has an unbounded solution?**
   a. A data entry error has been made or a limiting constraint has been omitted.
   b. The objective function value goes to +∞.
   c. The values of all decision variables go to +∞.
   d. The feasible region is unbounded.
8. **What is the initial step in the process of building linear models?**
   a. Define the constraints.
   b. Graph the problem.
   c. Determine decision variables.
   d. Make sure a feasible solution exists.