



विश्वजीवनामृतं ज्ञानम्

Atal Bihari Vajpayee Indian Institute of Information Technology & Management, Gwalior

IT305: Optimization Techniques

Minor Examination (Session 2023–24)

Maximum Time: 1.5 Hours

Max Marks: 25

Note: Attempt all questions. Use appropriate examples and show necessary steps.

1. Define optimization. Differentiate between constrained and unconstrained optimization problems. (5 Marks)
2. Solve the following LPP using graphical method: Maximize $Z = 3x_1 + 2x_2$ subject to $x_1 + x_2 \leq 4$, $x_1, x_2 \geq 0$. (5 Marks)
3. Explain the concept of duality in linear programming. (5 Marks)
4. What are the limitations of the simplex method? Suggest alternatives. (5 Marks)
5. Write short notes on: (a) Integer programming (b) Transportation problem (5 Marks)