

Paper Code: DSE52BT	Operations Research (Theory)	Marks: 60
Sl. No.	Group A	No. of Periods
1	<b>Introduction:</b> Definition, role of operations research in decision-making, applications in industry. Concept on O.R. model building –Types & methods. Examples	4
2	<b>Linear Programming:</b> Definition, formulation, solution- graphical, simplex methods, Objective function, Slack & surplus variables, Artificial Variable, Big-M method.	14
4	<b>Advanced Topic Of LP:</b> Duality, PRIMAL-DUAL relations-its solution, dual-simplex, post-optimality & sensitivity analysis, problems.	10
	<b>Total</b>	<b>26</b>
Sl. No.	Group B	No. of Periods
	<b>Deterministic Model:</b> Transportation model-balanced & unbalanced, North West Corner method, Matrix Minima Method, Vogel’s Method, Maximization and Minimization of total cost, Optimal solution using Stepping stone method, MODI methods, removal of degeneracy, Assignment problems.	15
5.	<b>Introduction to Dynamic Programming:</b> Decision Tree and Bell Man’s Principle of Optimality, Characteristics of Dynamic programming problem, Solution of Linear programming Problem by Dynamic Programming.	6
6.	<b>Game Theory:</b> Definition, Payoff, Types of Games, The Maxmin-Minimax principle, Games without Saddle Point(mixed Strategies), 2x2 Games without saddle point, Graphical method for 2xn or mx2 Games, Introduction to Discrete Dynamical System	5
	<b>Total</b>	<b>26</b>
<b>Books and References:</b>		
<ol style="list-style-type: none"> <li>1. Operations Research: An Introduction (9th Edition), 2010, Hamdy A. Taha, Prentice Hall</li> <li>2. Numerical Methods : Dr. S.A. Mollah</li> <li>3. Operations Research : Harvey M. Warner, PHI.</li> <li>4. Operation Research – Sharma, Gupta, Wiley Eastern, New Delhi.</li> <li>5. Operations Research : Kanti Swarup, P.K.Gupta, Man Mohan, Sultan Chand and Sons</li> </ol>		

Paper Code: DSE52BP	Operations Research (Practical)	Marks: 40
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