

Course Code	Course Title	H	C	I	E	T
17U4DAC5	RESOURCE MANAGEMENT TECHNIQUE	4	2	25	75	100

Objectives:

- To impart the knowledge of resource management technique.
- Learning the various problems and methods of operations research.

Unit-I: Linear Programming Problem – I (12 hours)

Mathematical Formulation of the problem – Graphical Solution – Introduction- Graphical Solution Method – Some exceptional cases- General L.P.P. – Canonical and Standard forms of L.P.P.

Unit-II: Linear Programming Problem – II (12 hours)

Simplex Method – Introduction – Fundamental Properties of Solutions – The computational procedure – Use of Artificial Variable.

Unit-III: Transportation and Assignment problem (12 hours)

Transportation Problem – Introduction – General Transportation Problem – The transportation table – Solution of a Transportation problem – Finding an initial basic feasible solution – Test for optimality – Transportation Algorithm (MODI method). Assignment Problem – Introduction – Mathematical formulation of the problem – The assignment method – Special cases in assignment problems – A typical assignment problem – The traveling salesman problem.

Unit-IV: Game Theory (12 hours)

Introduction – Two-person zero-sum games – Some basic terms – The Maxmin-Minimax principle – Games without Saddle points-mixed strategies – Graphic solution of $2 \times n$ and $m \times 2$ games – Dominance property.

Unit-V Network Scheduling (12 hours)

Introduction – Network and basic components – Logical sequencing – Rules of network Construction – Critical path analysis – Distinction between PERT and CPM.

Chapters:

Unit – I : 2.1 – 2.3, 3.1-3.5

Unit – II : 4.1-4.4

Unit – III: 10.1, 10.2, 10.5, 10.8-10.10, 10.13, 11.1-11.5, 11.7.

Unit – IV : 7.1-7.7.

Unit – V : 25.1-25.4, 25.6, 25.8.

Text Book:

Kanti Swarup, P.K. Gupta, Man Mohan – “Operations Research” – 18th edition, Sultan Chand & Sons Educational Publishers, New Delhi.

Reference Books:

1. Hamdy A. Taha – “Operations Research an Introduction” – PHI, 8th edition.
2. S.D. Sharma – “Operations Research” – 12th edition, Kedar Nath Ram Nath & Co Publishers, Meerut.