MA9128 OPERATIONS RESEARCH 3 1 0 4

UNIT I QUEUEING MODELS 9

Poisson Process – Markovian Queues – Single and Multi-server Models – Little's formula – Machine Interference Model – Steady State analysis – Self Service Queue.

UNIT II ADVANCED QUEUEING MODELS 9

Non- Markovian Queues – Pollaczek Khintchine Formula – Queues in Series – Open Queueing Networks –Closed Queueing networks.

UNIT III SIMULATION 9

Discrete Even Simulation – Monte – Carlo Simulation – Stochastic Simulation – Applications to Queueing systems.

UNIT IV LINEAR PROGRAMMING 9

Formulation – Graphical solution – Simplex method – Two phase method - Transportation and Assignment Problems.

UNIT V NON-LINEAR PROGRAMMING 9

Lagrange multipliers – Equality constraints – Inequality constraints – Kuhn – Tucker conditions – Quadratic Programming.

L + T: 45+15 =60

TEXT BOOKS

1. Winston.W.L. "Operations Research", Fourth Edition, Thomson – Brooks/Cole, 2003.
2. Taha, H.A. "Operations Research: An Introduction", Ninth Edition, Pearson Education Edition, Asia, New Delhi, 2002.

REFERENCES

1. Robertazzi. T.G. "Computer Networks and Systems – Queuing Theory and Performance Evaluation", Third Edition, Springer, 2002 Reprint.
2. Ross. S.M., "Probability Models for Computer Science", Academic Press, 2002.