MAG521 - SIMULATION AND MODELLING

Elective which may be offered in MCA V Semester

Prerequisite: MAG502 - PROBABILITY & STATISTICS

Module I: Introduction to system simulation
(10L+3T)


Module II: Evaluation of Simulation Experiments and Simulation Languages
(10L+4T)

Evaluation of simulation experiments – verification and validation of simulation experiments, Statistical reliability in evaluating simulation experiments – Confidence intervals for terminating simulation runs. Simulation Languages: programming Considerations – General features of GPSS, SIMSCRIPT and SIMULA.

Module III: Simulation of Queuing Systems (9L+3T)

Introduction – Parameters of queue, formulation of queuing problems, generation of arrival pattern, generation of service pattern, simulation of single server queues, simulation of multi-server queues, simulation of tandem queues.

Module IV: Simulation of Stochastic Network (10L+3T)

Introduction: Simulation of PERT Network – Definition of network diagrams, forward pass computation, simulation of forward pass, backward pass computations, simulation
of backward pass, determination of float and slack times determination of critical path, simulation of complete network, merits of simulation of stochastic networks.

Text Books:

Reference: