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MCA (Sem. - 5th)

SYSTEM SIMULATION AND MODELING

SUBJECT CODE : MCA - 504 (A) (Elective -III)

Paper ID : [B0126]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Attempt one question each from Section A, B, C, D
- 2) Section E is compulsory.

Section - A

(1 × 10 = 10)

Q1) Discuss briefly continuous and discrete systems.

Q2) Explain different types of models in detail.

Section - B

(1 × 10 = 10)

Q3) Describe monte carlo method of simulation.

Q4) What is discrete system simulation and describe fixed time step v/s event to event model?

Section - C

(1 × 10 = 10)

Q5) Elaborate simulation of queuing system.

Q6) Explain the simulation of single and two server queue.

Section - D

(1 × 10 = 10)

Q7) Describe case study of inventory system.

Q8) Form a model for dynamic system and simulate it on telephone system.

Q9)

- a) Write a short note of stochastic activities.
- b) Differentiate simulation and analytical solution.
- c) Differentiate deterministic and stochastic simulation model.
- d) Define predictive model. Discuss its various types.
- e) Explain system analysis and sub-system.
- f) Explain system simulation techniques.
- g) What do you mean by event to event model? Explain it.
- h) Elaborate system design and describe its structure.
- i) Name any five blocks in GPSS.
- j) Monte carlo simulation is a special case of stochastic simulation? Comment.

