COURSE CODE : DCAP601
COURSE NAME : SIMULATION AND MODELING

Time Allowed: 03:00 hrs   **Max.Marks: 80**

1. This question paper is divided into two parts A and B.
2. Answer all the questions in serial order.
3. Part A contains 10 questions of 2 marks each. All questions are compulsory.
4. Part B contains 10 questions (Questions 2 to 11) of 10 marks each, attempt any 06 questions out of 10.
Attempt all parts of the selected question. Only first 06 attempted questions would be evaluated.
5. The student is required to attempt the question paper in English medium only.
6. Simple non programmable calculator is allowed.

PART A

Q1(a) Define Simulation
(b) Discuss the selection of Integration Formulas.
(c) Find out the difference between quantitative and qualitative predictions.
(d) Analyze the distinctive points between Fixed Time Step vs. Event-to-Event Model.
(e) Analyze completely randomized design falls within the category of true random number generation. If yes then why?
(f) Do you think Queuing Theory provides all the tools needed for this analysis?
(g) Do you think the critical path method considered only logical dependencies between terminal elements?
(h) Examine the impact of validation phase and experimentation phase on modelling and simulation process.
(i) What is continuous system simulation?
(j) Explain the features of Simpsim.

PART B

Q2 Differentiate between the Monte Carlo vs. stochastic simulation with examples.
Q3 Explain how Systems accepting data from external sources must be very careful in significant what they are receiving?
Q4 Describe four specific models as valuable POM applications.
Q5 Differentaite between the continuous and discrete simulation languages.
Q6 What are the various components of the discrete event simulation? What are the different application areas for discrete event simulation?
Q7 What is continuous system? How to simulate continuous system?
Q8 What is servo system controllers? What are the different uses of servo system controllers?
Q9 Differentiate between Monte Carlo Simulation and "What If" Scenarios? Which is more useful to solve problems too complicated to solve analytically?
Q10 What are the different general-purpose simulation packages? Write a short note on any two of these?
Q11 What is the use of quantitative and qualitative computational models? How these are useful?

-- End of Question Paper --