Registration No.:_____

PNR No:: 118191DCA497749

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) What are the problems in Simulation of an inventory?

(b) Find out the difference between Numerical Integration and Continuous System Simulation. Explain with examples.

(c) How the Digital Simulation is effective?

(d) Define fixed time stamp model.

(e) Explain why the polar technique is simple to execute, but not chiefly fast?

(f) Why we need Simulation of single-server queue?

(g) Activity Network and Project Evaluation and Review Technique, or PERT, charts are a way of documenting and examine the tasks in a project. Justify.

(h) Define Variance.

(i) Object Oriented techniques are the way in which the data and the program code are stored and manipulated. Elaborate.

(j) What is the use of event -to- event mode?

PART B

Q2 How parallel simulation languages differ from general purpose programming languages?
Q3 Design a case study for simulation of water reservoir system along with explanation.
Q4 Why queuing theory is a science to solve the problem?
Q5 Explain the interaction with groundwater in bank storage.
Q6 What is random number generator? What are the problems that take place in random number distributions?
Q7 What are the various application areas for Monte Carlo simulation methods? Explain how Monte Carlo simulation methods are used in identified applications areas?
Q8 "Continuous systems are highly software oriented" comment and elaborate.
Q9 What is Visual Interactive Simulation, how it is useful? What is Object Oriented Simulation, how it is useful?
Q10 What is Experimental Layout? What is Validations?
Q11 What are the different general-purpose simulation packages? Write a short note on any two of these?

-- End of Question Paper --