M.Sc. (CS) (Sem-IV) July-2023

Computer Science: Paper I - Simulation & Modeling.(Rev)

Time : 2 Hours **Total marks : 60**

N.B.

(1) All questions are compulsory.

(2) Figures to the right indicate full marks.

(3) Assume additional data if necessary but state the same clearly.

(4) Symbols have their usual meanings and tables have their usual standard design unless stated otherwise.

(5) Use of calculators and statistical tables are allowed.

Q1	Attempt Any two of the following.	**12**
a	Explain simulation in details and discuss the advantages and disadvantages.	**6**
b	Explain simulation as a perspective of management.	**6**
c	Explain and define the discrete event simulation approach for telephone call center simulation.	**6**
d	Explain the neat block diagram the framework of the construction model.	**6**
Q2	Attempt Any two of the following.	**12**
a	Explain the difficulties of validation and verification in simulation.	**6**
b	Define and explain the three method of white box validation and verification.	**6**
c	How is simulation project success achieved explain with an example in details?	**6**
d	Explain 2K factorial design and discuss its limitation.	**6**

Q3	Attempt Any two of the following.	**12**
a	Differentiate between the analytical and simulation modeling.	**6**
b	Explain the types of standard and custom networks used in any logic draw neat diagram of each.	**6**
c	Explain how system dynamics methods are different than discrete event modeling.	**6**
d	Explain and discuss in detail multi method model architectures.	**6**
Q4	Attempt Any two of the following.	**12**
a	What is state chart draw and explain the state chart of laptop running on battery.	**6**
b	Explain virtual time execution mode with respect to any logic.	**6**
c	Explain discrete event approximation of real world continuous process.	**6**
d	What are the different types of triggers used in state chart explain the function of each in detail.	**6**
Q5	Attempt Any two of the following.	**12**
a	Explain the use of camera in 3D multiple window.	**6**
b	Write a short note on grouping shapes.	**6**
c	Explain welch model for plotting moving average.	**6**
d	Explain three phase simulation approach in detail.	**6**

****