Con. 2950–11.   (REVISED COURSE)   RK–3502

(3 Hours)   [Total Marks : 100

N.B. :   (1)   Question No. **1** is **compulsory**.
      (2)   Answer any **four** out of the remaining **six** questions.
      (3)   Use **suitable** data wherever **necessary**.

1. (a) Explain steps in simulation study along with the flowchart.   10
   (b) Define the following terms—   10
      (i) System (ii) System state (iii) Event notice (iv) Activity (v) Clock
      give examples for each.

2. (a) Explain event-scheduling algorithm along with an example.   10
   (b) Explain poisson process along with its properties.   10

3. (a) List down and explain characteristics of queuing systems.   10
   (b) Explain linear congruential method also list down tests for Random numbers.   10

4. (a) Explain Random-Variate generation using Inverse Transform technique.   10
   (b) Explain Input modeling in detail.   10

5. (a) Explain Naylor and Finger validation approach.   10
   (b) Explain Initialization Bias in steady state simulations.   10

6. (a) Explain long-run measures of performance of Queuing Systems.   10
   (b) Explain Multivariate Input Models.   10

7. Write short notes on (any **two**) :—   20
      (a) Advantages and disadvantages of simulation
      (b) Iterative process of calibrating a model
      (c) Types of simulations with respect to output analysis.