M.Sc. Information Technology
3rd Semester (Batch 2020-22)
SYSTEM SIMULATION
Paper—MIT-304

Time Allowed—3 Hours]   [Maximum Marks—100

Note :— Attempt **FIVE** questions in all, selecting at least **ONE** question from each section. The **FIFTH** question may be attempted from any section. All questions carry equal marks.

SECTION—A

1. Define the term system. Discuss various components of a system. Differentiate between continuous and discrete systems.

2. Write short notes on :—

   (a) Mathematical modeling

   (b) Generation of non-uniformly distributed numbers.

SECTION—B

3. Discuss the simulation of two-server queuing system with the help of suitable example.

4. Write short notes on :—

   (a) Generation of Poisson and Erlang variants

   (b) Forecasting and regression analysis.

SECTION—C

5. Briefly discuss the following :—

   (a) SIMULA

   (b) GASP.

6. Briefly explain the following :—

   (a) Expression based languages

   (b) Continuous and discrete simulation languages.

SECTION—D

7. Discuss the application of system simulation in Computer network architectures.

8. Differentiate between analytical and simulation models.