Printed Pages-1 Roll No. AS402

B.TECH.

THEORY EXAMINATION (SEM–IV) 2016-17

BASICS OF SYSTEM MODELING AND SIMULATION

Time : 3 Hours *Max. Marks : 100*

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1. Attempt the following: **(10 x 2 = 20)**

a) Define modelling.
b) What are discrete variables?
c) What do you mean by data model?
d) What is distributed lag?
e) What is CDF?
f) Define simulators.
g) What is service delay?
h) What is parameter data?
i) Define error.
j) Define quenching systems.

SECTION – B

2. Attempt any five parts of the following: **(5 x 10 = 50)**

a) What are the properties of CDF? Explain.
b) Write down various steps for creating the system modelling with a suitable flow chart.
c) What is simulation? What are the needs, advantages and disadvantages of a simulation modelling? Also write any three names of process simulators.
d) What is system? Explain the components of a system with examples.
e) Explain the simulation of multiple server quenching system.
f) Explain the Monte Carlo method with example.
g) What is the criterion of selecting appropriate modelling techniques?
h) Explain the characteristics of quenching system.

SECTION – C

Attempt any two of the following questions: **(2 x 15 = 30)**

3. Discuss the Poisson and exponential distribution. Derive an expression for Poisson distribution.

4. What are GOOD-OF-FIT tests? Explain all methods with the examples.

5. Write short notes on:

(i) Computer network model
(ii) Optimization
(iii) Capital recovery model
(iv) Job shop model
(v) Pi value estimation.