2017/EVEN/08/24/MCS–803 (C)/
MS–203 (C)/571

PG Even Semester (CBCS) Exam., May—2017

COMPUTER SCIENCE

(8th Semester/2nd Semester)

Course No. : MCS–803 (C)/MS–203 (C)

(Modeling and Simulation)

Full Marks : 75
Pass Marks : 30

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **five** questions, taking **one** from each Unit

UNIT—I

1. Explain the terms *(a)* entity, *(b)* attribute, *(c)* event and *(d)* state in the system simulation context. 15

2. Explain and give example each of continuous and discrete system. 15

UNIT—II

3. Explain with suitable examples *(a)* inter-arrival time, *(b)* service time, *(c)* utility time and *(d)* idle time of a queuing system. 15

4. With a suitable flowchart, describe two-server queue system. 15

UNIT—III

5. *(a)* What do you mean by VHDL? Explain. 5

(b) Describe an 'entity' in the context of VHDL. 10

6. Write short notes on the following : 5×3=15

(a) Data flow modeling

(b) Behavioural modeling

(c) Structural modeling

UNIT—IV

7. Describe in detail simulation of a water reservoir system. 15

8. *(a)* What is that makes one study of a dynamic system a computation and another study, a simulation? Explain. 7

(b) Describe simulation languages briefly. 8

UNIT—V

9. Describe the following : 15

(a) Verification

(b) Validation

10. *(a)* Can a simulation model be verified but not validate and vice versa? Investigate your answer with an example for each. 10

(b) Write a short note on input and output data analysis. 5

★ ★ ★