BE Sem VII (IT) Old. May 2016.
Simulation & Modeling

QP Code : 29926

(3 Hours) **[Total Marks :100**

N.B.: (1) Question No.1 is Compulsory.
(2) Attempt four questions out of remaining.
(3) Figures to right indicate full marks.

1. a) State when simulation is appropriate. 5
b) What are the characteristics of queuing system? 5
c) Define system state, event notice,activity, delay and clock. 10

2. a) Explain Inverse transform technique to generate random variate. 10
b) What is world view? Discuss different types of world views. 10

3. a) The sequence of numbers {0.12,0.01 ,0.23,0.28,0.89,0.31,0.64,0.28,0.33,0.93} has been generated.Test the random numbers for independece by runs up and down test. Take $\alpha = 0.05$ and critical value $z_{0.025} = 1.96$ 10
b) Explain Poisson Process along with its properties. 10

4. a) State the properties of random numbers. What are the methods used to generate random numbers? 10
b) What is Time Series input model .Explain AR(l) and EAR(l) model. 10

5. a) What do you understand by "Goodness of Fit Test"? Write the procedure for the same. 10
b) Derive steady state parameters for M/G/1 and M/M/1 queue. 10

6. a) A Medical examination is given in three stages by physician. Each stage is exponentially distributed with a mean service time of 20 minutes. Find the probability that exam will take 50 minutes or less. Also determine the expected length of the exam. 10
b) What is the purpose of model verification? What are the different ways available to verify a model. 10

7. Write short notes on **any Two** of the following. 20
(a) Acceptance-rejection Technique
(b) Cobweb Model
(c) Issues in Manufacturing Syatem and Material handling system

---

/ Sem-VII (old) / INFT / Software Testing & quality Assurance

QP Code : 29880 May-16.

(3 Hours) [Max marks 100]

1. Question No. 7 is compulsory
2. Answer any four out of remaining six questions.
3. Assume suitable data if necessary.

1	a)	Give different views of Software quality.	[10]
	b)	Explain how efficient test cases can be designed.	[10]
2	a)	Explain McCall's Quality factors and Criteria.	[10]
	b)	Draw and explain state transition diagram for a test case.	[10]
3	a)	Discuss advantages and disadvantages of random testing.	[10]
	b)	Discuss importance of DOS attack in acceptance testing.	[10]
4	a)	Discuss objectives and issues related with software testing.	[10]
	b)	Explain boundary value testing with a suitable example.	[10]
5	a)	Explain ISO 9126 Quality Characteristics.	[10]
	b)	Explain test execution strategy in detail.	[10]
6	a)	Discuss difference between verification and validation and their importance in maintaining software quality.	[10]
	b)	Draw and explain flow graph of binary search function.	[10]
7	Write short notes on any two		[20]
	a)	Difference between failure, error, fault.	
	b)	Difference between UAT and BAT.	
	c)	Relative merits of Decision table and category partition based testing methodology.	

****