Seat No.:	Enrolment No.

GUJARAT TECHNOLOGICAL UNIVERSITY M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2014

Su Tii	bject ne: 0 struc 1. 2.	code: 712106N Name: Modelling Simulation and Computer Application 2:30 pm - 05:00 pm Total Marks: 70 etions: Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks.	
Q.1	(a) (b)	Explain purpose and classification of model. Write short note on õMAT LABö for various simulation tools.	07 07
Q.2	(a) (b)	Discus computer techniques for simulation Write short note on various simulation software used in the field of mechanical engineering.	07 07
	(b)	Write short note on various simulation software used in the field of civil engineering	07
Q.3	(a) (b)	Discus analog & hybrid simulation system. Explain computer technique for simulation application for small hydro project. OR	07 07
Q.3	(a) (b)	Draw and explain logic structure of thermodynamic base simulation of I. C. Engine operation cycle. The number of accidents in a year involving taxi drivers in a city follow a Poisson distribution with mean equal to 3. Out of 1000 taxi drivers find approximately the number of drivers with (i) no accident in a year (ii) more than 3 accident in a year [e $3 = 0.0498$].	07 07
Q.4	(a) (b)	Explain Monte carlo method and state the points which make it different from other simulation. Explain optimization tool box of MAT LAB.	07 07
Q.4	(a) (b)	What do you understand linear & nonlinear systems of modelling? Find the Probability that no defective fuse will be found in a box of 200 fuses if experience show that 2% such fuses are defective.	07 07
Q.5	(a)	What do you understand stochastic variables system? Also discus rejection method.	07
	(b)	Explain image processing tool box of MAT LAB. OR	07
Q.5	(a) (b)	How computer techniques is applicable for renewable energy projects? What is the need of combustion modelling for I C Engine?	07 07
