



# Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India  
(Autonomous Institute Affiliated to University of Mumbai)

[3] Ellis Horowitz , Sartaj Sahni , S. Rajsekaran. "Fundamentals of computer algorithms"

University press.

Course Code	Course Name	Teaching Scheme (Hrs/week)			Credits Assigned			
		L	T	P	L	T	P	Total
CPEL7022	Elective-II Computer Simulation and Modeling Lab	--	--	2	--	--	1	1
		Examination Scheme						
		ISE		ESE		Total		
				Practical	Oral			
		40	-	20	60			

<b>Pre-requisite Course Codes</b>	CPE7022 (Computer Simulation and Modeling)	
At end of successful completion of this course, student will be able to		
<b>Course Outcomes</b>	<b>CO1</b>	Design and Perform Queue- single server, multi-server, classic case-dump truck
	<b>CO2</b>	Design and Perform Inventory – Lead time=0, lead time fixed, lead time probabilistic
	<b>CO3</b>	Design and Perform Reliability problem
	<b>CO4</b>	Design and Perform statistical models
	<b>CO5</b>	Design and Perform Random number generate and test
	<b>CO6</b>	Design and Perform Goodness of fit test and Output analysis



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Exp. No.	Experiment Details	Ref.	Marks
1	Design and Perform Queue- single server, multi-server, classic case- dump truck using spreadsheets and/or simulation language/package	1,2,3	5
2	Design and Perform Inventory – Lead time=0, lead time fixed, lead time probabilistic using spreadsheets and/or simulation language/package	1,2,3	5
3	Design and Perform Reliability problem using spreadsheets and/or simulation language/package	1,2,3	5
4	Design and Perform statistical models using spreadsheets and/or simulation language/package	1,2,3	5
5	Design and Perform Random number generate and test using spreadsheets and/or simulation language/package	1,2,3	5
6	Design and Perform Goodness of fit test using spreadsheets and/or simulation language/package.	1,2,3	5
7	Design and Perform Output analysis – Point estimate and Confidence Interval using spreadsheets and/or simulation language/package.	1,2,3	10
<b>Total Marks</b>			<b>40</b>

## References:

- [1] Jerry Banks, John Carson, Barry Nelson, and David M. Nicol, "Discrete Event System Simulation; Third Edition", Prentice-Hall
- [2] Jerry Banks, John Carson, Barry Nelson, and David M. Nicol, "Discrete Event System Simulation; Fifth Edition", Prentice-Hall
- [3] Averill M Law, "System Modeling & Analysis: 4<sup>th</sup> Edition" TMH.