

GANPAT UNIVERSITY									
FACULTY OF ENGINEERING & TECHNOLOGY									
Programme		Bachelor of Technology				Branch/Spec.		Biomedical Engineering	
Semester		III				Version		2.0.0.0	
Effective from Academic Year				2019-20		Effective for the batch Admitted in			July 2018
Subject code		2BM3105		Subject Name		Simulation Laboratory-I			
Teaching scheme						Examination scheme (Marks)			
(Per week)		Lecture(DT)		Practical(Lab.)		Total			
		L	TU	P	TW			CE	SEE
Credit		-	-	1	-	1		Theory	-
Hours		-	-	2	-	2		Practical	30
									20
									50
Pre-requisites: Basic knowledge about computer.									
<b>Learning Outcome:</b> The educational objectives of the course are to educate students to attain the following: <ul style="list-style-type: none"><li>To aware the students about SCILAB software environment.</li><li>Students will understand the basics of SCILAB software and its data class.</li><li>The course contents will enable the students to learn basic SCILAB programming for engineering application.</li><li>SCILAB Simulink for simulation, analysis and design of the system.</li></ul>									
<b>Theory syllabus</b>									
<b>Unit</b>		<b>Content</b>							<b>Hrs</b>
1		<b>INTRODUCTION TO SIMULATION SOFTWARE :</b> About SCILAB/MATLAB, SCILAB/MATLAB System, Starting and Quitting SCILAB/MATLAB							
2		<b>MATRICES AND ARRAYS:</b> Entering Matrices sum and transpose, subscripts, colon Operator, magic Function.							
3		<b>WORKING WITH MATRICES:</b> Generating Matrices, The load Function, M-Files, Concatenation, Deleting Rows and Columns, Linear Algebra, Arrays Multivariate Data, Scalar Expansion, Logical Subscripting, find Function.							
4		<b>EXPRESSIONS:</b> Variables Numbers, Operators Functions, Expressions.							
5		<b>COMMAND WINDOW:</b> The format Function, Suppressing Output, Entering Long Statements, Command Line Editing.							
6		<b>GRAPHICS:</b> Plotting Process, Editing Process, Preparing Graphs, Basic Plotting Functions, Mesh & Surface Plot, and Image Reading & Writing, Printing graphics.							
7		<b>FLOW CONTROL:</b> If, else, and else if, switch and case, for, while, continue, break try - catch, return.							
8		<b>OTHER DATA STRUCTURE:</b> Multidimensional Arrays, Cell Arrays, Characters and Text, Structures							
9		<b>SCRIPTS &amp; FUNCTIONS:</b> Scripts, Functions, Global Variables, Passing String Arguments to Functions,eval Function, Function Handles, Vectorization , Pre allocation.							
10		<b>SIMULINK:</b>							
<b>Practical content:</b> Term Work and Practical shall be based on the above syllabus.									
<b>Reference Books</b>									
1		Introduction to SCILAB by <u>Rachna Verma</u> and <u>Arvind Verma</u>							
2		SCILAB—A Beginner’s Approach by Anil Kumar Verma							
3		MATLAB & Its Applications in Engineering By: Raj Kumar Bansal, Ashok Kumar Goel, Manoj Kumar Sharma							
4		A Guide to MATLAB: For Beginners & Experienced Users By: Kevin R. Coombes, John E. Osborn, Garrett J. Stuck							

Version 1.0.0.0 (First Digit= New syllabus/Revision in Full Syllabus, Second Digit=Revision in Teaching Scheme,Third Digit=Revision in Exam Scheme, Forth Digit= Content Revision)

L=Lecture, TU=Tutorial, P= Practical/Lab., TW= Term work, DT= Direct Teaching, Lab.= Laboratory work

CE= Continuous Evaluation, SEE= Semester End Examination

