COURSE HANDOUT

Business Process Automation with RPA Lab

(BCAMI-208)

B.E. (CSE) - IV Semester

ACADEMIC YEAR: 2023-2024

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(Accredited by NBA)

Model Institute of Engineering & Technology (Autonomous)
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COURSE OVERVIEW: The Robotic Process Automation (RPA) Design & Development course offers comprehensive knowledge and professional-level skills focused on developing and deploying software robots. The course assumes no prior knowledge of RPA. It begins by refreshing basic programming skills and introducing basic RPA concepts. The course then introduces the UiPath RPA platform and teaches a student how to use free UiPath software (Academic Alliance edition) to automate business processes.

COURSE INFORMATION SHEET

PROGRAMME: Computer Science Engineering	**DEGREE:** BCA (Hons.)
COURSE: Business Process Automation with RPA Lab	SEMESTER: **II SEM** CREDITS:
COURSE CODE: BCAMI-208	**COURSE TYPE:** CORE
	CONTACT HOURS: 2(Labs) hours/Week.

Faculty	Ms. Veena Tripathi, Assistant Professor, CSE Department
Textbooks (to be acquired by students)	
Book 1	Robotic Process Automation: Guide to Building Software Robots, Automate Repetitive Tasks- Richard Murdoch
Book 2	Create Software robots and automate business processes with the leading RPA tool - UiPath: Alok Mani Tripathi
Book 3	The Care and Feeding of Bots: An Owner's Manual for Robotic Process Automation - Christopher Surdak JD

COURSE OUTCOMES: LAB COURSE

S. No.	DESCRIPTION	PO MAPPING
1	Understand the basics of Robotic Process Automation	1,2,5,6,7,8
2	Identify processes that can be automated and design the workflow for it.	1,2,3,4,5
3	Use of various functionalities and features of Ui-Path Studio and Orchestrator	1,3,5,7,9,11
4	Develop and deploy attended and unattended robots independently	1,2,3,5,6,9

5	Know and apply the business best practices in RPA projects	1,2,3,4,5,6,7,10

TEACHING PLAN

S.No	Name of the Topic	No. of Classes required
1.	**Installation**	1
	a. Installing UiPath Studio Academic Alliance edition	
2.	**Basic RPA Concepts**	2
	a. What is RPA b. RPA vs Automation c. Processes & Flowcharts d. Programming Constructs in RPA e. What Processes can be Automated f. Types of Bots g. Workloads which can be automated	
3.	**UiPath Introduction & Basics**	3
	a. The User Interface b. Keyboard Shortcuts c. About Updating d. About Automation Projects e. Managing Activities Packages f. Installing the Chrome Extension g. Installing the Firefox Extension	
4.	**Variables**	5
	a. Managing Variables b. Naming Best Practices c. The Variables Panel d. Generic Value Variables e. Text Variables f. True or False Variables g. Number Variables h. Array Variables i. Date and Time Variables j. Data Table Variables k. Managing Arguments	
5.	**Control Flow**	3
	a. Control Flow Introduction b. If Else Statements c. Loops d. Advanced Control Flow e. Sequences f. Flowcharts g. About Control Flow h. Control Flow Activities i. The Assign Activity	
6.	**Recording and Advanced UI Interaction**	6

	a. Recording Introduction b. Basic and Desktop Recording c. Web Recording d. Input/Output Methods e. Screen Scraping f. Data Scraping g. Scraping advanced techniques	
7.	**Selectors**	2
	a. Selectors b. Types of selector c. Dynamic Selectors d. Partial Selectors	
8.	**Excel Data Tables & PDF**	5
	a. Data Tables in RPA b. Excel and Data Table basics c. Data Manipulation in excel d. Extracting Data from PDF e. Extracting a single piece of data f. Anchors g. Using anchors in PDF	
9.	**Email Automation**	3
	a. Email Automation b. Incoming Email automation c. Sending Email automation	
10.	**Introduction to Orchestrator**	3
	a. Users b. Roles c. Robots d. Environments e. Queues & Transactions f. Schedules	
11.	**Mini-Project Allocation**	2

RUBRICS FOR LAB EVALUATION

Parameters	Maximum Marks (50)	Marks (0)	Low Marks	Medium Marks	High Marks

Attendance Marks	**10**	< 75% (0marks)	75-85 % (6 marks)	>85.-90 % (8 marks)	> 90 % (10 marks)
Performances	**15** **1.5 marks/ Practical** **10 Practical's** 1.5 X 10	Not attending &performing practical's (0 marks)	Results not accurate & and average performance (0.5 marks)	Result accurate and good performance (1 marks)	Results are accurate and excellent performance (1.5 marks)
Lab Report	**10** **1 mark /Practical** **10 Practical's** **1 X 10**	Lab record is not submitted (0 marks)	Lab record is not submitted on time & incomplete (0.25 marks)	Lab record is submitted on time & incomplete (0.5 marks)	Lab record is complete & submitted on time (1 marks)
Practical Test	**10** **Theory 2.5** **Procedure 2.5** **Calculations 3** **Experimental Performance 2**	Not able to write & conduct the Experiment (0 marks)	Student is able to write the Theory, Procedure & but not able to show calculations and do not conduct the experiment properly (5-6 marks)	Student is able to write the Theory, Procedure & all Calculations but not able to conduct the experiment (7-8 marks)	Student is able to write the Theory Procedure, all Calculations & Conduct the experiment admirably. (9-10 marks)
Viva Voice	**5 Five Questions to be asked and 1 Mark / Question** **1 X 5**	Student not able to answer any Question (0Marks)	Student able to answer only 1-2 Question (1-2 Marks)	Student able to answer 2-3 Question (2-3 marks)	Student able to answer4-5 Questions (4-5 marks)

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Meeting Hours: Tuesday (12:05 pm to 12:55 pm)
Thursday (12:05 pm to 12:55 pm)