Short Syllabus

BCSE426L Robotic Process Automation (2-0-0-2)

Introduction to Robotic Process Automation - Bot development - Data Manipulation - Data table usage, Clipboard management, File operation, Data transfer between CSV/Excel and data table; Taking Control of the Controls - Handling User Events and Assistant Bots - Monitoring system event triggers, Monitoring image and element triggers, Launching an assistant bot on a keyboard event; Exception Handling and Logging - Managing and Maintaining the Code.

Course Code	Course Title	L	T	P	C
BCSE426L	Robotic Process Automation	2	0	0	2
Pre-requisite	NIL	Syllabus Version			
		1.0			

Course Objectives:

1. To provide insights on robotic process automation (RPA) technology and its value proposition
2. To introduce different platforms for RPA
3. To illustrate basic programming concepts and the underlying logic/structure related to RPA
4. To describe the different types of variables, Control Flow and data manipulation techniques in a RPA platform
5. To describe automation to Email and various types of Exceptions and strategies to handle

Course Outcomes:

After the completion of the course, student will be able to:

1. Gain insights into Robotic Process Automation Technology
2. Demonstrate the underlying logic/structure related to RPA using UiPath platform
3. Classify several types of data inside a workflow and, gain skills in building workflows in UiPath
4. Comprehend different types of variables, Control Flow and data manipulation techniques
5. Identify and understand Image, Text and Data Tables Automation
6. Design automation to Email and various types of Exceptions and strategies to handle
7. Realize the trends in RPA technology and industrial process automation using RPA

Module:1	Introduction to Robotic Process Automation	2 hours
Emergence of Robotic Process Automation (RPA), Defining Robotic Process Automation & its benefits, Types of Bots, Application areas of RPA, RPA development methodology and key considerations, List of Robotic Process Automation Tools.		
Module:2	**Bot development**	**5 hours**
Activities, Flowcharts and Sequences, Sequencing the workflow, Activities, Log Message, Variables, Control flow, various types of loops, and decision making, Best Practices for Bot Development, Step-by-step example using Sequence and Flowchart, Step-by-step example using Sequence and Control flow		
Module:3	**Data Manipulation**	**5 hours**
Data table usage, Clipboard management, File operation, Data transfer between CSV/Excel and data table		
Module:4	**Taking Control of the Controls**	**6 hours**
Finding the control, Techniques for waiting for a control, Act on controls – mouse and keyboard activities, Handling events, Recording and scraping		
Module:5	**Handling User Events and Assistant Bots**	**6 hours**
Assistant bots, Monitoring system event triggers, Monitoring image and element triggers, Launching an assistant bot on a keyboard event,		
Module:6	**Exception Handling and Logging**	**2 hours**
Exception Handling: Common exceptions and ways to handle them, Logging and taking screenshots: Client logging, Server logging		
Module:7	**Managing and Maintaining the Code**	**2 hours**
Project organization, When to use Flowcharts, State Machines, or Sequences		
Module:8	**Contemporary issues**	**2 hours**

	Total Lecture hours:	**30 hours**
Text Book(s)		
1.	Learning Robotic Process Automation: Create Software robots and automate business processes with the leading RPA tool - UiPath by Alok Mani Tripathi, Packt Publishing, Mumbai, 2018.	
2.	Tom Taulli , "The Robotic Process Automation Handbook: A Guide to Implementing RPA Systems", Apress publications, 2020.	
Reference Books		
1.	Richard Murdoch, "Robotic Process Automation: Guide to Building Software Robots, Automate Repetitive Tasks & Become an RPA Consultant" (1st Edition), Independently published, 2018. ISBN 978-1983036835	
2.	Gerardus Blokdyk, "Robotic Process Automation Rpa A Complete Guide ", 2020	
3.	Frank Casale, Rebecca Dilla, Heidi Jaynes and Lauren Livingston, "Introduction to Robotic Process Automation: A Primer (Kindle Edition)", Institute of Robotic Process Automation,	
Mode of Evaluation: Continuous Assessment Test –I (CAT-I), Continuous Assessment Test –II (CAT-II), Digital Assignments/ Quiz / Completion of MOOC, Final Assessment Test (FAT).		
Recommended by Board of Studies	13-05-2022	
Approved by Academic Council	No. 66	Date 16-06-2022