

PRASAD V. POTLURI SIDDHARTHA INSTITUTE OF TECHNOLOGY
(Autonomous) Kanuru, Vijayawada-520007
Department of Computer Science & Engineering (AI&ML)
IV B. Tech – I Semester
ROBOTIC PROCESS AUTOMATION

Course Code	23AM4701D	Year	IV	Semester	I
Course Category	PEC	Branch	CSE(AI&ML)	Course Type	Theory
Credits	3	L-T-P	3-0-0	Prerequisites	AI and ML
Continuous Internal Evaluation	30	Semester End Examination	70	Total Marks	100

Course Outcomes		
Upon successful completion of the course, the student will be able to		
CO1	Describe the concepts, components, tools, and workflows of Robotic Process Automation to understand automation processes across various domains.	L2
CO2	Apply Robotic Process Automation techniques using sequences, control flow, data manipulation, and UI automation to develop efficient automation workflows.	L3
CO3	Use deployment, execution, and maintenance of Robotic Process Automation bots using orchestration tools to manage real-time automation environments.	L3
CO4	Analyze user events, exceptions, and errors in Robotic Process Automation workflows using debugging and logging techniques to ensure reliable automation systems.	L4

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Syllabus		
Unit No.	Contents	Mapped CO
I	Introduction to Robotic Process Automation: Scope and techniques of automation, Robotic process automation, Benefits of RPA, Components of RPA, RPA platforms, the future of automation.	CO1
II	Record And Play: UiPath Stack, UiPath studio, UiPath Robot, UiPath orchestrator, Types of Robots, the user interface, Quick Access Toolbar, Different panels, Task recorder, Step by step examples using recorder. Sequence, Activities, Control flow: Sequencing the workflow ,various types of loops, decision making, step by step example using sequence and flow chart, step by step example using sequence and control flow.	CO1, CO2, CO4
III	Data Manipulation and Controls: Variables and Scope, Collections, Arguments, Data table usage with examples, clipboard management, File operations with step-by-step example, CSV/Excel to data table and vice versa. Taking Control of the Controls: Finding and attaching windows, Finding the control, find element, Techniques for a waiting for a control, act on controls, mouse and keyboard activities, working with UiExplorer, Handling events, Screen scraping, OCR.	CO1, CO2, CO4
IV	Handling User Events & Assistant Bots, Exception Handling: Assistant bots, Monitoring system event triggers, Hotkey trigger, Mouse trigger, System trigger Monitoring image and element triggers, Example of monitoring email, Example of monitoring a copying event and blocking it , Launching an assistant bot on a keyboard event. Exception Handling, Debugging, and Logging: Exception handling, common exceptions, logging and taking screenshots, debugging techniques, collecting crash dumps, error reporting.	CO1, CO3, CO4
V	Deploying and Maintaining the Bot: Publishing using publish utility, publish a workflow in Uipath, Overview of Orchestration Server, using orchestration server to control bots, using orchestration server to deploy bots, license management, publishing and managing updates.	CO1, CO2, CO3, CO4
Learning Resources		
Text Books		
1. Learning Robotic Process Automation, Alok Mani Tripathi, 1st Edition ,2018, Packt Publishing.		
Reference Books		
1. Introduction to Robotic Process Automation: A Primer Frank Casale, Rebecca Dilla, Heidi Jaynes, Lauren Livingston, 1st Edition ,2015, Institute of Robotic Process Automation. 2. Robotic Process Automation: Guide to Building Software Robots, Automate Repetitive Tasks & Become an RPA Consultant, Richard Murdoch, 1st Edition ,2018, Independently Published. 3. Robotic Process Automation Tools, Process Automation and Their Benefits: Understanding RPA and Intelligent Automation, Srikanth Merianda , 1st Edition, 2018, Consulting Opportunity Holdings LLC. 4. Robotic Process Automation with Blue Prism Quick Start Guide: Create Software Robots and Automate Business Processes, Lim Mei Ying, 1st Edition ,2018, Packt Publishing.		
e-Resources & other digital material		
1. https://www.uipath.com/rpa/robotic-process-automation . 2. https://www.academy.uipath.com . 3. https://www.youtube.com/watch?v=MBI-3Yb30FA&list=PL9ooVrP1hQOEeFvW5KaSea6mrlEU6TZ9s .		