


ROBOTIC PROCESS AUTOMATION DESIGN & DEVELOPMENT (Effective from the academic year 2018 -2019) SEMESTER – VII			
Course Code	18CS745	CIE Marks	40
Number of Contact Hours/Week	3:0:0	SEE Marks	60
Total Number of Contact Hours	40	Exam Hours	03
CREDITS –3			
Course Learning Objectives: This course (18CS745) will enable students to:			
<ul style="list-style-type: none"> • To understand Basic Programming concepts and the underlying logic/structure • To Describe RPA , where it can be applied and how its implemented • To Describe the different types of variables, Control Flow and data manipulation techniques • To Understand Image, Text and Data Tables Automation • To Describe automation to Email and various types of Exceptions and strategies to handle 			
Module – 1			Contact Hours
Programming Concepts Basics - Understanding the application - Basic Web Concepts - Protocols - Email Clients - Data Structures - Data Tables - Algorithms - Software Processes - Software Design - Scripting - .Net Framework - .Net Fundamentals - XML - Control structures and functions - XML - HTML - CSS - Variables & Arguments. RBT: L1, L2, L3			08
Module – 2			
RPA Basics - History of Automation - What is RPA - RPA vs Automation - Processes & Flowcharts - Programming Constructs in RPA - What Processes can be Automated - Types of Bots - Workloads which can be automated - RPA Advanced Concepts - Standardization of processes - RPA Development methodologies - Difference from SDLC - Robotic control flow architecture - RPA business case - RPA Team - Process Design Document/Solution Design Document - Industries best suited for RPA - Risks & Challenges with RPA - RPA and emerging ecosystem. RBT: L1, L2, L3			08
Module – 3			
Introduction to RPA Tool - The User Interface - Variables - Managing Variables - Naming Best Practices - The Variables Panel - Generic Value Variables - Text Variables - True or False Variables - Number Variables - Array Variables - Date and Time Variables - Data Table Variables - Managing Arguments - Naming Best Practices - The Arguments Panel - Using Arguments - About Imported Namespaces - Importing New Namespaces- Control Flow - Control Flow Introduction - If Else Statements - Loops - Advanced Control Flow - Sequences - Flowcharts - About Control Flow - Control Flow Activities - The Assign Activity - The Delay Activity - The Do While Activity - The If Activity - The Switch Activity - The While Activity - The For Each Activity - The Break Activity - Data Manipulation - Data Manipulation Introduction - Scalar variables, collections and Tables - Text Manipulation - Data Manipulation - Gathering and Assembling Data RBT: L1, L2, L3			08
Module – 4			
Recording and Advanced UI Interaction - Recording Introduction - Basic and Desktop Recording - Web Recording - Input/Output Methods - Screen Scraping - Data Scraping - Scraping advanced techniques - Selectors - Selectors - Defining and Assessing Selectors - Customization - Debugging - Dynamic Selectors - Partial Selectors - RPA Challenge - Image, Text & Advanced Citrix Automation - Introduction to Image & Text Automation -			08

<p>Image based automation - Keyboard based automation - Information Retrieval - Advanced Citrix Automation challenges - Best Practices - Using tab for Images - Starting Apps - Excel Data Tables & PDF - Data Tables in RPA - Excel and Data Table basics - Data Manipulation in excel - Extracting Data from PDF - Extracting a single piece of data - Anchors - Using anchors in PDF.</p> <p>RBT: L1, L2, L3</p>	
Module – 5	
<p>Email Automation - Email Automation - Incoming Email automation - Sending Email automation - Debugging and Exception Handling - Debugging Tools - Strategies for solving issues - Catching errors.</p> <p>RBT: L1, L2, L3</p>	08
Course outcomes: The students should be able to:	
<ul style="list-style-type: none"> • To understand Basic Programming concepts and the underlying logic/structure • To Describe RPA , where it can be applied and how its implemented • To Describe the different types of variables, Control Flow and data manipulation techniques • To Understand Image, Text and Data Tables Automation • To Describe automation to Email and various types of Exceptions and strategies to handle 	
Question paper pattern:	
<ul style="list-style-type: none"> • The question paper will have ten questions. • There will be 2 questions from each module. • Each question will have questions covering all the topics under a module. • The students will have to answer 5 full questions, selecting one full question from each module. 	
Text Books:	
<p>1. Alok Mani Tripathi, Learning Robotic Process Automation, Publisher: Packt Publishing Release Date: March 2018 ISBN: 9781788470940</p>	
Reference Books:	
<ol style="list-style-type: none"> 1. Frank Casale, Rebecca Dilla, Heidi Jaynes, Lauren Livingston, "Introduction to Robotic Process Automation: a Primer", Institute of Robotic Process Automation. 2. Richard Murdoch, Robotic Process Automation: Guide To Building Software Robots, Automate Repetitive Tasks & Become An RPA Consultant 3. Srikanth Merianda, Robotic Process Automation Tools, Process Automation and their benefits: Understanding RPA and Intelligent Automation 4. https://www.uipath.com/rpa/robotic-process-automation 	


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