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| **Subject Code** **20CSP-472** | **Robotics Process Automation LAB** | **L** | **T** | **P** | **S** | **C** | **CH** |
| **Total Contact Hours: 30 Hours** | **0** | **0** | **2** | **0** | **1** | **2** |
| **Course Coordinator: Er. Jyoti Chandel** | | | | | |  |
| **Pre-requisites:** | **Artificial Intelligence(20ECP-153), Machine Learning(20CST-316)** | | | | | | |
| **Co-requisites** | **Computer Vision(20CST-432), Data Structures and Algorithms (20CST-211/20 ITT-211)** | | | | | | |
| **Anti-Requisites** | **Software Engineering(20CST-254)** | | | | | | |

# Course Description:

This course provides the hands-on experience in Robotic Process Automation. Focused on tool comparison, project management, and advanced automation techniques, this course equips students with practical skills for deploying and managing RPA solutions.

# Course Objectives:

* Demonstrate advanced proficiency in configuring and leveraging RPA tools, mastering various RPA packages.
* Analyze and comprehend the interaction between key components in RPA architecture, applying this knowledge to solve automation challenges.
* Develop expertise in variable declaration processes, systematically evaluating and comparing functionalities across diverse RPA tools, and design efficient control flows within RPA scripts for automating predefined processes, integrating AI/ML techniques to enhance efficiency

# Course Outcomes:

# The students will be able to

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| CO1 | Apply advanced expertise in configuring and leveraging RPA tools and master RPA packages. |
| CO2 | Analyze the interaction between various key components in an RPA architecture to solve automation challenges. |
| CO3 | Assess control flow within an RPA script to efficiently automate the predefined processes. |
| CO4 | Evaluate diverse RPA tools to systematically examine and compare functionalities for optimal tool selection. |
| CO5 | Create effective scripts for automating repetitive tasks and decision-making processes by integrating AI/ML techniques and document the results. |
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1. **Syllabus:**

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| **Unit-1** |  | **Contact Hours: 10** | |
| **Experiment 1.1** | Familiarization and configuration of RPA tool for RPA package mastery &identify and analyze the interaction between the key components of an RPA architecture. | | CO1  Co2 |
| **Experiment 1.2** | Systematically evaluate and compare the variable declaration processes across different Robotic Process Automation (RPA) tools. | | CO4 |
| **Experiment 1.3** | Demonstration of control flow using workflow Activities in RPA. | | C03 |
| **Experiment 1.4** | Create a reliable and effective script that automates the sequential steps of a predefined automated process. | | CO3 |
| **Unit-2** |  | **Contact Hours:10** | |
| **Experiment 2.1** | Develop a robust and efficient script for automating a decision-making process, leveraging artificial intelligence and machine learning techniques to enhance accuracy, speed, and consistency in decision outcomes. | | CO5 |
| **Experiment 2.2** | Design and implement a script for automating a repetitive task, with the objective of enhancing operational efficiency, reducing manual workload, and minimizing the potential for human errors in task execution | | CO5 |
| **Experiment 2.3** | Evaluate the effectiveness and efficiency of screen scraping techniques by extracting structured data from unstructured sources | | CO5 |
| **Unit-3** |  | **Contact Hours:10** | |
| **Experiment 3.1** | Develop a script to incorporate error handling and exception management in an automated process. | | CO5 |
| **Experiment 3.2** | Implement a script that interacts with external data sources (e.g., Excel, databases) during the automation process. | | CO5 |
| **Experiment 3.3** | Implement an Orchestrating Seamless Funds Processing via Automated Email Integration. | | CO5 |