



Kot Bhalwal, Jammu



Model Institute of Engineering  
& Technology (Autonomous)  
**Lab Handout**

## LABORATORY HANDOUT

Business Process Automation with RPA (COM-212)

CSE-2<sup>nd</sup> SEMESTER

ACADEMIC YEAR (2023-24)

**Ms. Vani Malagar/Ms. Vishalika/Mr. Anil Gupta/Mr. Arsalan**

Assistant Professor

Department of Computer Science & Engineering



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Dr. Arun K. Gupta Teaching-Learning Centre

Version 1.1



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Course Code	Course Name	Course Type	Cd	L	T	P	Marks		
							Sessional	Final Exam	Total
COM-212	Business Process Automation with RPA Lab	ESC	2	0	0	4	50	0	50

**Course Outcomes**

At the end of the course the student will be able to

CO1	Develop RPA bots for performing simple business processes using UiPath Studio.
CO2	Design RPA bots to automate data collection from multiple web sources.
CO3	Develop competencies in designing RPA bots for manipulating data across documents.
CO4	Manage the developed UiPath RPA robots using UiPath Orchestrator.
CO5	Troubleshoot problems in existing RPA bots.

**List of Activities for Business Process Automation Lab**

S. No.	Activity Name
1	Familiarity with UiPath Studio Academic Alliance Edition: <ul style="list-style-type: none"> <li>• Configure UiPath Academic Alliance Edition.</li> <li>• Design a bot that prints "Hello World" on the screen.</li> <li>• Design a bot to generate mathematical tables.</li> </ul>
2	Designing basic RPA bots: <ul style="list-style-type: none"> <li>• Design a bot to display messages using Sequence and Flowchart activities.</li> <li>• Design a bot to display the sum of two variables by taking two variables as input and produce the output.</li> </ul>
3	Working with Microsoft Excel: <ul style="list-style-type: none"> <li>• Design a bot to open a Microsoft Excel sheet and read data into a datatable.</li> <li>• Design a bot to compare two columns in an excel sheet. The output should display 'Match/NotMatch' against the corresponding cell in the sheet.</li> </ul>
4	Working with Desktop Automation: <ul style="list-style-type: none"> <li>• Design a bot to create a text file, write "Hello World" into it and save it at the desired location using the 'Recorder' feature.</li> <li>• Design a bot for automating disk clean-up processes.</li> </ul>
5	Working with Websites: <ul style="list-style-type: none"> <li>• Design a bot to scrape data from a website and store it in a Microsoft Excel sheet.</li> <li>• Design a bot to fill a webform from the data stored in a Microsoft Excel sheet.</li> </ul>
6	Working with Documents: <ul style="list-style-type: none"> <li>• Design a bot to read a true PDF file and fill the webform.</li> <li>• Design a bot to read a word file and then create a list of unique words in an excel sheet.</li> </ul>
7	Working with Images: <ul style="list-style-type: none"> <li>• Design a bot to read a scanned image of an invoice and store the extracted data in a .CSV file.</li> <li>• Design a bot to perform Optical Character Recognition (OCR) on a saved image using OCR activities.</li> </ul>
8	Working with Emails: <ul style="list-style-type: none"> <li>• Design a bot to read unread emails from inbox.</li> <li>• Design a bot to send email with attachments to multiple receivers.</li> </ul>
9	Handling Exceptions: <ul style="list-style-type: none"> <li>• Apply exception handling to previously developed automations.</li> </ul>
10	Working with Orchestrator: <ul style="list-style-type: none"> <li>• Configure UiPath Orchestrator and setup tenant, machine, environment and robots.</li> <li>• Design a bot to create a Queue in Orchestrator and store the subject of the email in .CSV.</li> <li>• Configure Orchestrator to run a process as per a given schedule.</li> </ul>
11	Mini Project (choose one): <ul style="list-style-type: none"> <li>• RPA bot to send notifications to students when their attendance falls below 75%.</li> <li>• RPA bot to extract and collate job openings from multiple job portals.</li> <li>• RPA bot to extract and display news from Google News.</li> </ul>
12	Deploy Mini Project using Orchestrator.



#### ADDITIONAL WEB RESOURCES

1	<p>Course offered in Coursera: Basic Introduction to RPA : <a href="https://in.coursera.org/programs/b-e-faculty-learning-path-julcd/browse?query=UIPath+Courses&amp;source=search">https://in.coursera.org/programs/b-e-faculty-learning-path-julcd/browse?query=UIPath+Courses&amp;source=search</a></p> <p>Course Offered By UI-Path: Basic RPA Foundation Course: <a href="https://www.uipath.com/rpa/academy">https://www.uipath.com/rpa/academy</a> <a href="https://academy.uipath.com/">https://academy.uipath.com/</a></p>
2	<p>Installation Guide Link : <a href="https://docs.uipath.com/installation-and-upgrade/docs/studio-install-studio">https://docs.uipath.com/installation-and-upgrade/docs/studio-install-studio</a></p> <p>You can perform the installation for the current user in a default configuration by selecting the Quick option in the installation wizard (no administrator privileges required) or configure the installation by selecting the Custom option (requires administrator privileges for per-machine installations).</p>
3	<p>Case Studies on UiPath Automation: <a href="https://www.uipath.com/resources/automation-case-studies">https://www.uipath.com/resources/automation-case-studies</a> : Gather insight, read success stories, and more to jumpstart your digital transformation.</p>
4	<p>Video content for Developers : <a href="https://www.uipath.com/learning/video-tutorials/topic/web-automation">https://www.uipath.com/learning/video-tutorials/topic/web-automation</a></p>



### LAB REPORT INSTRUCTIONS

- Provide specific title of the lab experiment.
- Theory: Provide a concise abstract (typically 100-200 words) that summarizes the purpose, methods, key findings, and significance of the experiment.
- Materials/ Equipment: List all materials, components, and equipment used in the experiment. Include specifications when applicable.
- Software/Simulation Tools:
- Experimental Procedure: Describe the step-by-step procedure for conducting the experiment. Be detailed and clear in your instructions. Include diagrams or schematics to illustrate the setup, connections, and component placement. Explain any variations or adjustments made to the standard procedure.
- Observation & Calculations/Analysis: Detail the data you collected during the experiment. Include descriptions of measurements and any calculations made. Use tables, charts, or graphs to present data clearly. Discuss any trends, patterns, or significant observations. Interpret the data in the context of the experiment's objectives. Ensure that all figures, tables, and equations are correctly labeled.
- Results: Summarize the key findings of the experiment. Present results in a clear and organized manner using tables and graphs. Include units of measurement and labels for data points.
- Conclusion: Provide a concise summary of the experiment's key points and outcomes.

### GRADING AND ASSESSMENT

- **Continuous Evaluation:** 30 marks
- **Final Demo & Viva:** 10 marks
- **Attendance:** 10 marks
- **Lab Overall Marks:** 50 marks

### COURSE POLICIES

- **Attendance:** Minimum 75% attendance is mandatory to appear in the final examination of the course.
- **Late Submissions:** Manuals and projects must be submitted by the specified timelines.

### FACULTY INFORMATION

- **Office Hours**  
Monday (12:05 PM - 12:55 PM)  
Friday (12:05 PM - 12:55 PM)
- **Contact Information**  
[vani@mietjammu.in](mailto:vani@mietjammu.in)



**RUBRICS FOR LAB CONTINUOUS EVALUATION**

Parameters	Performance			Marks
	Low	Medium	High	
<b>Execution of the Experiment</b>	Student was not able to setup and conduct the Experiment completely	Student was able to setup and conduct the experiment but measurement/results/observations were not correct	Students was able to set and conduct the experiment and the measurement/results/observations were not correct	10
	0-2 Marks	3-6 Marks	7-10 Marks	
<b>Record</b>	Student was not able to describe the detailed procedure and could not record the measurement.	Student was able to describe the detailed procedure partially or with some inaccuracy.	Student was able to describe the detailed procedure accurately and record all measurements correctly.	10
	0-2 Marks	3-6 Marks	7-10 Marks	
<b>Viva Voice</b>	Students could not demonstrate sufficient knowledge of foundation, functional or applied aspects related to the experiment during viva.	Students demonstrated sufficient knowledge of foundation, functional or applied aspects related to the experiment during viva.	Students demonstrate strong knowledge of foundation, functional or applied aspects related to the experiment during viva	10
	<b>0-2 Marks</b>	<b>3-6 Marks</b>	<b>7-10 Marks</b>	
<b>Total Marks</b>				<b>30</b>