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| **SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE** | | | | | **DEPARTMENT OF COMPUTER SCIENCE ENGINEERING** | | | | |
| **Program Name: M**. Tech/MCA/MSC | | | | **Assignment Type: Lab** | | | **AcademicYear:**2025-2026 | | |
| **Course Coordinator Name** | | | | Venkataramana Veeramsetty | | | | | |
| **Course Code** | | |  | **Course Title** | | AI Assisted Problem Solving Using Python | | | |
| **Year/Sem** | | | II/I | **Regulation** | | R25 | | | |
| **Date and Day**  **of Assignment** | | | Week5 - Tuesday | **Time(s)** | |  | | | |
| **Duration** | | | 2 Hours | **Applicable to**  **Batches** | | **M**. Tech/MCA/MSC | | | |
| **AssignmentNumber:14.3**(Presentassignmentnumber)/**24**(Totalnumberofassignments) | | | | | | | | | |
|  | **Q.No.** | **Question** | | | | | | ***ExpectedTime***  ***to complete*** |  |
|  | 1 | Lab 14 – Web Frontend Development: AI-assisted HTML/CSS/JS with Python  **Lab Objectives**   * To understand how AI can generate HTML/CSS/JS templates. * To practice integrating frontend and backend (Python) for small apps. * To evaluate AI-generated code for readability, reusability, and responsiveness.   **Learning Outcomes**  After completing this lab, students will be able to:   * Generate HTML/CSS layouts using AI tools. * Add JavaScript interactivity with AI suggestions. * Integrate basic Python (Flask/Streamlit) backend to serve frontend. * Evaluate AI-generated web code for responsiveness and usability. * Debug and refine AI-generated frontend code.   **Task Description #1 – AI-generated HTML Page**  Task: Ask AI to generate a simple **HTML homepage** for a "Student Info Portal" with a header, navigation menu, and footer.  **Expected Output:**   * HTML code with <header>, <nav>, <footer>. * Clean indentation, proper tags, and comments.   **Prompt:**   * Create a simple HTML homepage by using only html for "Student Info Portal" with header, navigation menu, and footer. Use proper indentation and include comments.   **Code:**        **Output:**    **Task Description #2 – CSS Styling**  **Task:** Use AI to add **CSS styling** to Task #1 homepage for:   * Responsive navigation bar. * Centered content section. * Footer with light gray background.   **Expected Output:**   * HTML + CSS combined. * AI explains how CSS classes apply.   **Expected Output:** AI refactors with with open() and try-except:  **Prompt:**   * Create CSS for my Student Info Portal homepage with: * 1. Responsive navigation bar * 2. Centered content section * 3. Light gray footer * Keep the design clean and simple.   **Generated Code:**        **Output:**   * **HTML page linked with external CSS file:**        * **Output after adding CSS file to html code:**     **Task Description #3 – JavaScript Interactivity**  **Task:** Prompt AI to generate a JS script that validates a simple login form (non-empty username/password).  **Expected Output:**  Working on submit JS validation.  Clear error messages if inputs are empty.  **Prompt:**   * Make JavaScript that validates the login form in TASK-14.1.html (check for non-empty username and password).   **Code:**    **Output:**   * **HTML page linked with external JavaScript file:**      * **Output after adding JavaScript file to html code (**without giving details**):**      * **Output after adding JavaScript file to html code (**with giving details**):**     **Task Description #4 – Python Backend Integration**  Task: Ask AI to generate a Flask app that serves the HTML form (Task #3) and prints the username on successful login.  **Prompt:**   * Generate a Flask app that serves the HTML login form from Task-14.1.html * (Task #3) and prints the username on successful login. * Do not use a templates folder. Use send\_file to load the HTML file. * Change the login response so that instead of returning JSON, it returns a simple text message: * "Login Successful! Welcome <username>". * Generate routes in Flask to serve TASK-14.2.css (CSS) and TASK-14.3.js (JavaScript) with send\_file.   **Code:**      **Output:**   * **Added form in TASK-14.1.html:**      * **Link given in terminal:**      * **Printed output after giving details:** | | | | | | Week5 - Tuesday |  |