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| **SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE** | | | | | **DEPARTMENT OF COMPUTER SCIENCE ENGINEERING** | | | | |
| **Program Name:** B. Tech | | | | **Assignment Type: Lab** | | | **Academic Year:**2025-2026 | | |
| **Course Coordinator Name** | | | | Dr. Rishabh Mittal | | | | | |
| **Instructor(s) Name** | | | | |  | | --- | | Mr. S Naresh Kumar | | Ms. B. Swathi | | Dr. Sasanko Shekhar Gantayat | | Mr. Md Sallauddin | | Dr. Mathivanan | | Mr. Y Srikanth | | Ms. N Shilpa | | Dr. Rishabh Mittal (Coordinator) | | Dr. R. Prashant Kumar | | Mr. Ankushavali MD | | Mr. B Viswanath | | Ms. Sujitha Reddy | | Ms. A. Anitha | | Ms. M.Madhuri | | Ms. Katherashala Swetha | | Ms. Velpula sumalatha | | Mr. Bingi Raju | | | | | | |
| **CourseCode** | | | 23CS002PC304 | **Course Title** | | AI Assisted Coding | | | |
| **Year/Sem** | | | III/II | **Regulation** | | R23 | | | |
| **Date and Day**  **of Assignment** | | | **Week5 – Friday** | **Time(s)** | | 23CSBTB01 To 23CSBTB52 | | | |
| **Duration** | | | 2 Hours | **Applicable to**  **Batches** | | All batches | | | |
| **Assignment Number: 9.5**(Present assignment number)/**24**(Total number of assignments) | | | | | | | | | |
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|  | **Q.No.** | **Question** | | | | | | ***Expected Time***  ***to complete*** |  |
|  | 1 | **Lab Experiment: Documentation Generation -Automatic documentation and code comments**  **Lab Objectives**   1. To understand automatic documentation generation. 2. To generate code comments and docstrings using AI tools. 3. To learn the importance of documentation in software development.   **Lab Outcomes**   1. Students will be able to generate documentation automatically for code. 2. Students will be able to add clear comments and docstrings to programs. 3. Students will be able to improve code readability and maintainability using documentation.   **Problem 1: String Utilities Function**  Consider the following Python function:  def reverse\_string(text):  return text[::-1]  **Task:**   1. Write documentation in:    * (a) Docstring    * (b) Inline comments    * (c) Google-style documentation 2. Compare the three documentation styles. 3. Recommend the most suitable style for a utility-based string library.   **Problem 2: Password Strength Checker**  Consider the function:  def check\_strength(password):  return len(password) >= 8  **Task:**   1. Document the function using docstring, inline comments, and Google style. 2. Compare documentation styles for security-related code. 3. Recommend the most appropriate style.   **Problem 3: Math Utilities Module**  **Task:**   1. Create a module math\_utils.py with functions:    * square(n)    * cube(n)    * factorial(n) 2. Generate docstrings automatically using AI tools. 3. Export documentation as an HTML file.   **Problem 4: Attendance Management Module**  **Task:**   1. Create a module attendance.py with functions:    * mark\_present(student)    * mark\_absent(student)    * get\_attendance(student) 2. Add proper docstrings. 3. Generate and view documentation in terminal and browse   **Problem 5: File Handling Function**  Consider the function:  def read\_file(filename):  with open(filename, 'r') as f:  return f.read()  **Task:**   1. Write documentation using all three formats. 2. Identify which style best explains exception handling. 3. Justify your recommendation. | | | | | | Week5 - Friday |  |