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| **SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE** | | | | | **DEPARTMENT OF COMPUTER SCIENCE ENGINEERING** | | | | | |
| **ProgramName:**B. Tech | | | | **Assignment Type: Lab** | | | **AcademicYear:**2025-2026 | | | |
| **CourseCoordinatorName** | | | | Venkataramana Veeramsetty | | | | | | |
| **Instructor(s)Name** | | | |  | | | | | | |
| Dr. V. Venkataramana (Co-ordinator) | | | |  | | |
| Dr. T. Sampath Kumar | | | |
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| Dr. Anirodh Kumar | | | |
| Mr. S.Naresh Kumar | | | |
| Dr. RAJESH VELPULA | | | |
| Mr. Kundhan Kumar | | | |
| Ms. Ch.Rajitha | | | |
| Mr. M Prakash | | | |
| Mr. B.Raju | | | |
| Intern 1 (Dharma teja) | | | |
| Intern 2 (Sai Prasad) | | | |
| Intern 3 (Sowmya) | | | |
| NS\_2 ( Mounika) | | | |
|  | | | | | | |
| **CourseCode** | | | 24CS002PC215 | **CourseTitle** | | AI Assisted Coding | | | | |
| **Year/Sem** | | | II/I | **Regulation** | | R24 | | | | |
| **Date and Day**  **of Assignment** | | | Week2 - Wednesday | **Time(s)** | |  | | | | |
| **Duration** | | | 2 Hours | **Applicableto Batches** | |  | | | | |
| **AssignmentNumber:2.3**(Present assignment number)/**24**(Total number of assignments) | | | | | | | | | | |
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|  | **Q.No.** | **Question** | | | | | | | ***ExpectedTi me***  ***to***  ***complete*** |  |
|  | 1 | Lab 4: Advanced Prompt Engineering – Zero-shot, One-shot, and Few-shot Techniques  **Lab Objectives:** | | | | | | | Week2 - Wednesday |  |

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|  | * To explore and apply different levels of prompt examples in AI-assisted code generation. * To understand how zero-shot, one-shot, and few-shot prompting affect AI output quality. * To evaluate the impact of context richness and example quantity on AI performance. * To build awareness of prompt strategy effectiveness for different problem types.   **Lab Outcomes (LOs):**  After completing this lab, students will be able to:   * Use zero-shot prompting to instruct AI with minimal context. * Use one-shot prompting with a single example to guide AI code generation. * Apply few-shot prompting using multiple examples to improve AI responses. * Compare AI outputs across the three prompting strategies.   **Task Description#1**   * + Zero-shot: Prompt AI to write a function that checks whether a given year is a leap year.   **Prompt:**    **Code:**    **Output:**    **Expected Output#1**   * + AI-generated function with no examples provided   **Task Description#2**   * + One-shot: Give one input-output example to guide AI in writing a function that converts centimeters to inches.   **Prompt:** |  |

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|  | **Code:**    **Output:**    **Expected Output#2**   * Function with correct conversion logic   **Task Description#3**   * Few-shot: Provide 2–3 examples to generate a function that formats full names as “Last, First”.   **Expected Output#3**   * Well-structured function respecting the examples   **Prompt:**    **Code:** |  |

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|  | **Output:**    **Task Description#4**   * Compare zero-shot and few-shot prompts for writing a function that counts the number of vowels in a string.   **Expected Output#4**   * Functional output and comparative reflection   **Prompt:**    **Code:** |  |

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|  | **Output:**    **Task Description#5**   * Use few-shot prompting to generate a function that reads a .txt file and returns the number of lines.   **Expected Output#5**   * Working file-processing function with AI-guided logic   **Prompt:**    **Code:** |  |

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|  | **Output:**    **Note: Report should be submitted a word document for all tasks in a single document with prompts, comments & code explanation, and output and if required, screenshots**  **Evaluation Criteria:** | | |  |
| **Criteria** | **Max Marks** |  |
| Zero Shot (Task #1) | 0.5 |
| One Shot (Task#2) | 0.5 |
| Few Shot (Task#3 & Task #5) | 1.0 |
| Comparison (Task#4) | 0.5 |
| **Total** | **2.5 Marks** |
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