**R.Prajwal**

**2303A51830**

**Batch :26**

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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** | | | **Week2** | **Time(s)** | | 23CSBTB01 To 23CSBTB52 | | | |
| **Duration** | | | 2 Hours | **Applicable to**  **Batches** | | All batches | | | |
| **Assignment Number: 4.4**(Present assignment number)/**24**(Total number of assignments) | | | | | | | | | |
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|  | **Q.No.** | **Question** | | | | | | ***Expected Time***  ***to complete*** |  |
|  | 1 | 1. Sentiment Classification for Customer Reviews  Scenario: An e-commerce platform wants to analyze customer reviews and classify them into Positive, Negative, or Neutral sentiments using prompt engineering.  Tasks:   1. Prepare 6 short customer reviews mapped to sentiment labels. 2. Design a Zero-shot prompt to classify sentiment. 3. Design a One-shot prompt with one labeled example. 4. Design a Few-shot prompt with 3–5 labeled examples. 5. Compare the outputs and discuss accuracy differences.     **2. Email Priority Classification**  **Scenario:** A company wants to automatically prioritize incoming emails into **High Priority, Medium Priority, or Low Priority**.  **Tasks:**   1. Create 6 sample email messages with priority labels. 2. Perform intent classification using **Zero-shot prompting**. 3. Perform classification using **One-shot prompting**. 4. Perform classification using **Few-shot prompting**. 5. Evaluate which technique produces the most reliable results and why.     **3. Student Query Routing System**  **Scenario:** A university chatbot must route student queries to **Admissions, Exams, Academics, or Placements**.  **Tasks:**   1. Create 6 sample student queries mapped to departments. 2. Implement **Zero-shot intent classification** using an LLM. 3. Improve results using **One-shot prompting**. 4. Further refine results using **Few-shot prompting**. 5. Analyze how contextual examples affect classification accuracy.       **4. Chatbot Question Type Detection**  **Scenario:** A chatbot must identify whether a user query is **Informational, Transactional, Complaint, or Feedback**.  **Tasks:**   1. Prepare 6 chatbot queries mapped to question types. 2. Design prompts for Zero-shot, One-shot, and Few-shot learning. 3. Test all prompts on the same unseen queries. 4. Compare response correctness and ambiguity handling. 5. Document observations.     **5. Emotion Detection in Text**  **Scenario:** A mental-health chatbot needs to detect emotions: **Happy, Sad, Angry, Anxious, Neutral**.  **Tasks:**   1. Create labeled emotion samples. 2. Use Zero-shot prompting to identify emotions. 3. Use One-shot prompting with an example. 4. Use Few-shot prompting with multiple emotions. 5. Discuss ambiguity handling across techniques. | | | | | | Week2 |  |