AI Agent Development Assignment

SECTION 1: BASIC DETAILS

Name: Achintya Tiwari

AI Agent Title / Use Case: AI Agent to Help Students Revise for Exams

SECTION 2: PROBLEM FRAMING

2.1. What problem does your AI Agent solve?

Students often feel overwhelmed before exams. They don't know where to start or how to revise quickly. This AI Agent gives focused revision help on demand.

2.2. Why is this agent useful?

It saves students time and boosts confidence by offering fast-topic explanations, short quizzes, and helpful summaries.

2.3. Who is the target user?

College students preparing for exams like CDAC C-CAT or technical semester exams.

2.4. What not to include?

The AI won't teach long lessons or cover textbooks. It focuses only on short, interactive revision.

SECTION 3: 4-LAYER PROMPT DESIGN

3.1 INPUT UNDERSTANDING

Prompt: You are a friendly AI study assistant. Understand the subject and type of help requested. Confirm the request.

Example: Input: 'Quiz on Ohms Law' Output: 'Sure! Let's do a quiz on Ohms Law.'

3.2 STATE TRACKER

Prompt: Remember the last 3 topics revised. Use a list like: [Ohms Law, Kirchhoff's Law] to suggest the next one.

3.3 TASK PLANNER

Prompt: Identify subject + help type. Do one of: generate summary (max 150 words), quiz (5 Qs), or explanation. Suggest next topic.

3.4 OUTPUT GENERATOR

Prompt: Use friendly tone, bullets, bold terms, and markdown formatting. End with: 'Want to revise another topic?'

SECTION 4: CHATGPT EXPLORATION LOG

Attempt 1: Prompt 'Quiz on Ohms Law'. Result: Too long. Changed to 5 questions. Why: Keep it simple.

Attempt 2: Prompt 'Explain binary search'. Result: Too complex. Changed to use simpler words and analogy.

Attempt 3: Prompt 'Give me something to revise'. Result: Random output. Added topic memory tracking.

SECTION 5: OUTPUT TESTS

Test 1: Normal input

Input: 'Quiz on Ohms Law'

Output: 5-question quiz with friendly tone.

Test 2: Vague input

Input: 'Give me something to revise'

Output: Suggested next topic based on memory.

Test 3: Invalid input

Input: ''

Output: Prompted user to try again with an example input.

SECTION 6: REFLECTION

6.1 Hardest part: Designing distinct prompts that worked well.

6.2 Most fun: Watching AI respond better with each change.

6.3 Improvement: Add progress tracking or user levels.

6.4 Learned: Prompt clarity matters more than complexity.

6.5 When stuck: Asked ChatGPT for help and iterated.

SECTION 7: HACK VALUE

Added memory simulation, markdown formatting, and topic suggestions to improve engagement.