

AI-Driven Development — 30-DayChallenge

(Task-2 “Theory + Practical + MCQs”)

PART A – THEORY (SHORT QUESTIONS)

A. Nine Pillars Understanding

1) Why is using AI Development Agents (like Gemini CLI) for repetitive setup tasks better for your growth as a system architect?

Ans) Using AI Development Agents reduces time spent on repetitive setup work and allows the developer to focus on system level thinking. This builds strong architecture skills, improves decision making and strengthens the ability to give clear instruction, essential qualities of a system architect.

2) Explain how the Nine Pillars of AIDD help a developer grow into an M-Shaped Developer?

Ans) M-Shaped Developer strategies build strong and deeper skills in many different areas, not just coding; they teach technical, architectural, and AI-collaborative expertise. By learning these pillars, a developer becomes good at several specialties and also understands how everything connects in a full system.

B. Vibe Coding vs Specification-Driven Development

1) why does Vibe Coding usually create problems after one week?

Ans) Vibe Coding lacks planning, structure and documentation. After a week, the project becomes confusing, difficult to debug and hard to extend because decisions were made randomly without clear direction.

2) how would Specification-Driven Development prevent those problems?

Ans) Specification-Driven Development starts with clear written requirements before coding. This keeps the project organized, predictable, easier to maintain and simple to test. The system grows in a clean and scalable way.

C. Architecture Thinking

1) How does architecture-first thinking change the role of a developer in AIDD?

Ans) Architecture-first thinking shifts the developer from “just writing code” to “designing complete systems.” The developer plans flows, organizes components and guides AI agents instead of focusing only on implementation details.

2) Explain why developers must think in layers and systems instead of raw code?

Developers should think in layers and systems, not just raw code. This way, the project stays organized, problems are easier to find and fix, and the system can grow or change smoothly. It also makes teamwork easier and lets AI tools work better. Overall, it helps build software that's clear, reliable, and scalable.

PART B – PRACTICAL TASK

Task:

“Using any AI CLI tool, generate a 1-paragraph specification for an email validation function”.

Requirements:

- Must contain “@”
- Must contain a valid domain (e.g., .com, .org)
- Should return clear error messages

Screenshot:

The screenshot shows a Windows PowerShell window titled "Windows PowerShell". Inside the window, the Gemini logo is displayed as a large, stylized word "GEMINI" composed of blue and purple pixels. Below the logo, there is a "Tips for getting started:" section with four numbered items: 1. Ask questions, edit files, or run commands. 2. Be specific for the best results. 3. Create GEMINI.md files to customize your interactions with Gemini. 4. /help for more information. Following this, a message indicates a Gemini CLI update from 0.15.0 to 0.16.0, stating it was installed with npm and is attempting to automatically update now. A success message follows, stating the update was successful and the new version will be used on the next run. At the bottom of the window, there is a command-line input field containing the placeholder text "Type your message or @path/to/file". To the right of the input field, the text "no sandbox (see /docs)" is visible, along with the word "auto" at the far right.

PART C – MULTIPLE CHOICE QUESTIONS

1. What is the main purpose of Spec-Driven Development?
 - B. Clear requirements before coding begins ✓
2. What is the biggest mindset shift in AI-Driven Development?
 - B. Thinking in systems and clear instructions ✓
3. Biggest failure of Vibe Coding
 - B. Architecture becomes hard to extend ✓
4. Main advantage of using AI CLI agents (like Gemini CLI)?
 - B. Handle repetitive tasks so dev focuses on design & problem-solving ✓
5. What defines an M-Shaped Developer?
 - C. Deep skills in multiple related domains ✓

