SDLC and STLC Detailed Notes

☑ SDLC – Software Development Life Cycle

📌 Definition:
SDLC is the process followed to develop software in a structured way from requirement gathering to deployment and maintenance.

📚 Phases of SDLC:

- 1. Requirement Gathering and Analysis
- 2. Design
- 3. Implementation / Coding
- 4. Testing
- 5. Deployment
- 6. Maintenance

🧠 Common SDLC Models (with Importance Ratings):

SDLC Model	Explanation	Importance
Agile	Iterative model with fast feedback. Work is divided in sprints.	⭐ ⭐ ⭐
V-Model	Testing phase is planned parallel to dev phase. High focus on testing.	⭐ ⭐ ⭐
Waterfall	Linear-sequential. One phase must complete before next begins.	⭐ ⭐
Spiral Model	Risk-driven. Combines design & prototyping in stages.	⭐
Iterative Model	Software is developed in cycles. Feedback after each cycle.	⭐
Big Bang Model	No formal planning. Used for small projects or POCs.	❌ Not used in real jobs

🧠 Quick Notes (Waterfall):

- Sequential model.
- No early feedback or changes.
- Testing is done after development.
- Risk of failure is high in case of mistakes.

☑️ STLC – Software Testing Life Cycle

📌 Definition:
STLC is the process followed during the testing phase of SDLC to ensure software quality and correctness.

📚 Phases of STLC:

- 1. Requirement Analysis
- 2. Test Planning
- 3. Test Case Development
- 4. Test Environment Setup
- 5. Test Execution
- 6. Test Cycle Closure

💡 STLC Key Concepts (Important for Interviews):

- Test Plan: Document with test strategy, scope, resources, and schedule.
- Test Case Writing: Step-by-step document to validate a function or feature.
- Bug Life Cycle: The life of a bug from identification to closure.
- Severity vs Priority: Severity = Impact of bug, Priority = How soon it should be fixed.
- Bug Reporting: Reporting format to log bugs in tools like JIRA, Bugzilla, etc.

🧭 Suggested Order to Study:

- 1. SDLC → Learn all 6 phases.
- 2. SDLC Models → Focus on Agile, V-Model, and Waterfall.
- 3. STLC → Learn 6 phases and related testing concepts.
- 4. Types of Testing (Unit, Integration, System, UAT, etc.)
- 5. Test Case Writing
- 6. Bug Life Cycle
- 7. Severity vs Priority
- 8. Test Plan & Bug Reporting
- 9. API Testing with Postman (as you're already doing via Udemy)