

Question Bank

Subject Software Engineering

What is Software Engineering? How does it differ from traditional programming.

Explain the characteristics of good software.

What are the different types of software?

Describe the software development life cycle (SDLC).

Compare different SDLC models (Waterfall, Agile, Spiral, V-Model).

What are software process models? Give examples.

Explain the phases of the Waterfall model. What are its advantages and disadvantages?

Describe the Scrum methodology and its key components.

What is the Spiral model, and how does it help in risk management?

What is the Prototype Model, and when should it be used?

What are functional and non-functional requirements? Provide examples.

Explain the importance of Software Requirement Specification (SRS).

Describe different requirement elicitation techniques.

What is feasibility study in software engineering?

Explain the difference between user requirements and system requirements.

What is software design? What are the principles of good design?

Differentiate between architectural design and detailed design.

Explain the concept of modularity in software design.

What are design patterns? Give examples of commonly used patterns.

Explain coupling and cohesion in software engineering.

What are the various software architectural styles?

What is software testing, and why is it necessary?

Differentiate between verification and validation.

What are the different levels of testing (Unit, Integration, System, Acceptance)?

Explain the difference between black-box and white-box testing.

What is regression testing, and why is it important?

What are test cases and test scenarios? Provide an example.

Explain the concept of alpha and beta testing.

What are the types of software maintenance?

Explain the challenges in software maintenance.

What is reverse engineering in software development?

How does refactoring improve software quality?

What is software reengineering, and why is it needed?

What is software project management? What are its key activities?

Explain cost estimation techniques in software engineering.

What is COCOMO (Constructive Cost Model)?

What is risk management in software projects? Provide examples of risks.

What is configuration management in software engineering?

What is Continuous Integration and Continuous Deployment (CI/CD)?

Discuss emerging trends in software engineering (e.g., AI in software development)