Which testing stage focuses on verifying that individual components, such as functions or objects, work correctly in isolation?

A) System testing
B) Acceptance testing
C) Component (Unit) testing
D) Customer testing

In the V-model of software testing, which phase is directly associated with the Acceptance Test Plan?

A) Requirements specification
B) System design
C) Service
D) Module and unit code and test

Why is the traditional distinction between software development and evolution (maintenance) becoming less relevant?

A) Because all software is now developed using agile methods.
B) Because fewer systems are completely new, and continuous change is the norm.
C) Because maintenance is handled entirely by automated tools.
D) Because businesses no longer update their software requirements.

What are the primary costs associated with changes in large software projects?

A) Only the implementation of new features
B) Only the rework required to adapt existing components
C) Both rework (e.g., re-analyzing requirements) and implementing new functionality
D) Training users on the updated system

Which strategy involves designing a software process to accommodate changes at a relatively low cost, often through incremental development?

A) Change anticipation
B) Full system rework

C) Prototype development
D) Change tolerance

Which approach involves delivering system increments to the customer for feedback, thereby supporting both change avoidance and change tolerance?

A) System prototyping
B) Incremental delivery
C) Full system deployment
D) Waterfall development

What is a key difference between plan-driven and agile processes in software development?

A) Plan-driven processes completely avoid planning, while agile processes rely on detailed upfront plans.
B) Plan-driven processes are only used for small projects, while agile processes are for large projects.

C) Agile processes are strictly sequential, while plan-driven processes are highly flexible.
D) Plan-driven processes plan all activities in advance, while agile processes adapt incrementally to changing requirements.

Which software process model is characterized by distinct, non-overlapping phases of specification and development, and is strictly plan-driven?

A) Incremental development
B) Reuse-oriented software engineering
C) Waterfall model
D) Agile development

What is the primary limitation of the waterfall model in software development?

A) It requires too much documentation.
B) It cannot accommodate changes easily once a phase is completed.
C) It is only suitable for small-scale projects.
D) It lacks a testing phase.

When is the waterfall model best used?

A) Projects with highly uncertain or frequently changing requirements.
B) Large multi-site projects with stable requirements.
C) Small-scale agile projects requiring rapid iterations.
D) Projects where most components are reused from existing systems.

What is a key advantage of incremental development over the waterfall model?

A) Faster delivery of usable software to customers

B) Requires complete documentation before coding begins

C) Eliminates all testing phases
D) Works best for projects with never-changing requirements

What is a major challenge of incremental development?

A) It requires all requirements to be finalized before starting
B) It prevents early customer feedback
C) System structure quality declines over time without refactoring
D) Documentation is always up-to-date

Which development approach delivers value to customers incrementally throughout the project?

A) Agile
B) Waterfall
C) Both equally
D) Neither

What key advantage does the Agile approach demonstrate in the risk comparison diagram?

A) Eliminates all project risks upfront
B) Reduces risk through incremental releases

C) Requires less documentation

D) Works better for fixed-scope projects

What is the first key stage in reuse-oriented software engineering?

A) System design with reuse

B) Requirements modification

C) Component analysis

D) Development and integration

Which of the following is NOT a type of software component mentioned in type of software component ?

A) Web services developed according to service standards

B) Stand-alone COTS systems configured for specific environments

C) Machine learning algorithms trained on big data

D) Object collections integrated with frameworks like .NET or J2EE