✓ **Congratulations! You passed!**

Grade received 80%	**Latest Submission Grade** 80%	**To pass** 70% or higher	[Go to next item]

1. Which of the following best describes software architecture?

| 1 / 1 point |

○ The choice of technology stack drives the software architecture.

◉ It represents the earliest design decisions.

○ It captures implementation details.

○ It describes how the application should be coded.

> ✓ **Correct**
> Correct! Software architecture choices represent the earliest design decisions in development.

2. Which of the following are artifacts that result from designing the software architecture?

| 1 / 1 point |

○ Test cases

○ Administrator user guide

◉ UML diagrams

○ Software requirements specification (SRS)

> ✓ **Correct**
> Correct! UML diagrams are often produced when designing software architecture.

3. Components in a well-structured design should be _____.

| 1 / 1 point |

○ tightly coupled

○ loosely cohesive

○ loosely constrained

◉ tightly cohesive

> ✓ **Correct**
> Correct! Components in a well-structured design should be tightly cohesive and loosely coupled.

4. Which of the following is an advantage of using UML diagrams when designing software architecture?

| 0 / 1 point |

◉ They explain which methods should be included when coding an object.

○ They serve to bring new team members up to speed quickly.

○ They describe which parameters should be passed when instantiating an object.

○ They all use JavaScript.

> ⊗ **Incorrect**
> Incorrect. Please review Design and Modeling.

5. Which of the following best describes encapsulation?

| 1 / 1 point |

○ A component should be easily replaced with another component.

○ A component's design so it doesn't have dependencies on other components.

◉ Bundling data and methods to hide an internal state, so a component's specific implementation is not exposed.

○ Designing a component so it operates in different environments.

> ✓ **Correct**
> Correct! This is a description of encapsulation.

6. Which of the following best describes a service?

| 1 / 1 point |

◉ A unit of functionality that focuses on a solution to a business need, is deployed independently, and is reused by multiple systems.

○ A service defines, composes, and implements loosely coupled independent components so they work together to create an application.

○ A focus on the decomposition of a design into logical components.

○ It is a type of object.

⊘ **Correct**
Correct! This is a description of a service.

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7. Which statement is true regarding a 2-tier architecture?

0 / 1 point

◉ The two different tiers are the application tier and the data tier.

○ The interface resides on client machines and makes requests to a server for data or services.

○ A 2-tier architecture consists of a decentralized network of nodes that are both clients and servers.

○ A 2-tier architecture consists of producers and consumers of events.

⊗ **Incorrect**
Incorrect. Please review Architectural Patterns in Software.

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8. Which of the following architecture patterns are mutually exclusive?

1 / 1 point

○ Peer-to-peer and event-driven

◉ Peer-to-peer and two-tier

○ Three-tier and microservices

○ Microservices and event-driven

⊘ **Correct**
Correct. In a peer-to-peer architecture, each node is both client and server whereas a two-tier architectural pattern involves clients communicating with servers on separate machines.

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9. Which of the following environments is intended for developers to use while they are actively coding the application?

1 / 1 point

○ Staging

◉ Development

○ Production

○ QA

⊘ **Correct**
Correct! The development environment is intended for developers to use while they are actively coding the application.

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10. Which of the following is a security device that monitors traffic between an internal and an external network?

1 / 1 point

○ Web server

◉ Firewall

○ Router

○ Load balancer

⊘ **Correct**
Correct! A firewall is a security device that monitors traffic between an interior and an exterior network.