1. Are the following properties about the Observer Pattern correct?
2. The Concrete Observer calls the subscribe() method
3. All Observers are informed when the state changes in the PushNotification Observer type.
4. The state of the Subject is an attribute in the Concrete Subject
5. The Concrete Subject calls the subscribe() method

The correct answer is: The Concrete Observer calls the subscribe() method → True, All Observers are informed when the state changes in the PushNotification Observer type. → True, The state of the Subject is an attribute in the Concrete Subject → True, The Concrete Subject calls the subscribe() method → False

1. Which statements about patterns in software engineering are correct? Select one or more:

a. They are a method for solving a problem using a finite sequence of well-defined instructions

b. They express a relation between a context, a problem, and a solution Correct

c. They are useful in managing software engineering knowledge Correct

d. They describe generic solutions for recurring problems Correct

The correct answers are: They are useful in managing software engineering knowledge, They describe generic solutions for recurring problems, They express a relation between a context, a problem, and a solution

1. Which statements on about Pattern-Oriented Analysis and Design are correct? Select one or more:

a. Reduces time-to-market Correct

b. Increases cost

c. POAD is applicable during analysis, system design, object design and testing Correct

d. Model-based development that focuses on reuse and extensive use of patterns Correct

e. Increases complexity

The correct answers are: Model-based development that focuses on reuse and extensive use of patterns, Reduces time-to-market, POAD is applicable during analysis, system design, object design and testing

1. Map the following clues in a problem statement to an appropriate design pattern.

-> composite, bridge, strategy,façade, adapter pattern

"must have variable depth and width"

"must be location transparent"

"must interface with an existing object"

"an early prototype must be demonstrated"

"must interface to several systems, some of them to be developed in the future"

"must interface to existing set of objects"

"must allow to change algorithms at runtime"

The correct answer is: "must have variable depth and width" → Composite Pattern, "must be location transparent" → Proxy Pattern, "must interface with an existing object" → Adapter Pattern, "an early prototype must be demonstrated" → Bridge Pattern, "must interface to several systems, some of them to be developed in the future" → Bridge Pattern, "must interface to existing set of objects" → Facade Pattern, "must allow to change algorithms at runtime" → Strategy Pattern

1. Which statements about the Adapter Pattern are correct? Select one or more:

a. Adapter provides a different interface to its subject. Proxy provides the same interface.

b. Bridge makes things work after they're designed; Adapter makes them work before they are

c. Bridge is designed up-front to let the abstraction and the implementation vary independently. Adapter is retrofitted to make unrelated classes work together.

d. Adapter defines a new interface, whereas Facade reuses an old interface.

The correct answers are: Adapter provides a different interface to its subject. Proxy provides the same interface. Bridge is designed up-front to let the abstraction and the implementation vary independently. Adapter is retrofitted to make unrelated classes work together.