Which of the following statements are true? Select one or more:

1. In statechart diagrams an event triggers a transition.

2. In activity diagrams the completion of an activity causes a state transition.

3. In statechart diagrams an event triggers the next activity.

4. Statechart diagrams have triggerless transitions.

The correct answers are: In activity diagrams the completion of an activity causes a state transition., In statechart diagrams an event triggers a transition.

Question 2

Which of the following statements are true? Select one or more:

1. In a stair diagram one object creates all the others.

2. Each diagram is either a fork or stair diagram

3. In a fork diagram one object creates all the others.

The correct answer is: In a fork diagram one object creates all the others.

Question 3

The single most applicable example for composition is ... Select one or more:

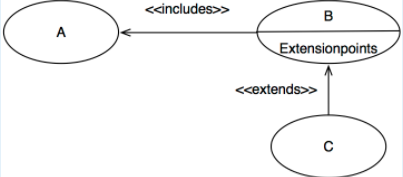
1. A house and its floors

2. A pet and dogs

3. A car and its wheels

The correct answer is: A house and its floors

Question 4



The Usecase diagram has the following meaning: Select one or more:

1. If B then A and C are called as well

2. If A then B is called and C might be called

3. If B then A is called and C might be called

4. If A then B and C are called as well

The correct answer is: If B then A is called and C might be called

Question 5

The application domain is ... Select one or more:

1. The environment in which the system is operating

2. The technology stack used to build the system

The correct answer is: The environment in which the system is operating

Question 1

Which of the following statements are true? Select one or more:

* Requirements can be split in functional and non-functional requirements. Correct
* Requirements can be split in functional, non-functional and constraint requirements.
* Requirements can be split in functional, performance and security requirements.

The correct answer is: Requirements can be split in functional and non-functional requirements.

Question 2

Which of the following statements are true? Select one or more:

* Scenarios describe interactions between generic users and the system.
* Scenarios describe the use of the system as a series of interactions between a specific end user and the system. Correct
* Scenarios describe a functional requirement from the perspective of an end user.

The correct answer is: Scenarios describe the use of the system as a series of interactions between a specific end user and the system.

Question 3

Which of the following requirements are performance requirements? Select one or more:

* The system must be developed in swift.
* The system must be available 99,99% of the year.
* The system must be executable on windows.
* The system must be faster than 1 second per command.
* The lecture system must offer the possibility to add new students.
* 30 students must be able to access the system simultaneously.
* After a system failure the system must restart in under 5 minutes.

The correct answers are: The system must be available 99,99% of the year., The system must be faster than 1 second per command., After a system failure the system must restart in under 5 minutes., 30 students must be able to access the system simultaneously.

Question 4

Which of the following statements are true? Select one or more:

* Requirements Elicitation: Definition of the system in terms understood by a developer.
* The Requirements Elicitation results in a requirements specification. Correct
* Requirements Engineering = Requirements Analysis + Requirements Elicitation Correct

The correct answers are: Requirements Engineering = Requirements Analysis + Requirements Elicitation, The Requirements Elicitation results in a requirements specification.

**Question 1:** Match the MVC components to its responsibility.

|  |
| --- |
| Responsible for application domain knowledge |
| Responsible for interacting with the user and notifying of changes |
| Responsible for displaying information to the user |

The correct answer is: Responsible for application domain knowledge → Model, Responsible for interacting with the user and notifying of changes  → Controller, Responsible for displaying information to the user  → View

**Question 2:** Match each of the following development activities to the correct domain:

|  |
| --- |
| Fixing a bug during maintenance |
| Implementation |
| Analysis |
| Object Design |
| Testing |
| Introducing a feature request during maintenance |
| System Design |
| Delivery |
| Requirements Elicitation |
| Refactoring a system design |

* Application Domain
* Solution Domain

The correct answer is:

|  |  |
| --- | --- |
| Fixing a bug during maintenance | Solution Domain |
| Implementation | Solution Domain |
| Analysis | Application Domain |
| Object Design | Solution Domain |
| Testing | Solution Domain |
| Introducing a feature request during maintenance | Application Domain |
| System Design | Solution Domain |
| Delivery | Solution Domain |
| Requirements Elicitation | Application Domain |
| Refactoring a system design | Solution Domain |

**Question 3:** High Low Medium Subsystem Decomposition Cohesion Coupling   
Fill in the blanks to form the right statements:

 measures dependency among classes. ->Cohesion

 measures dependency among subsystems. -> Coupling

 cohesion and  coupling are desired design goals. ->high,low

**Question 4:** Which statements are correct about the relationship between architectural styles and software architectures?

a. An architectural style is an instance of a software architecture

b. A software architecture is an instance of an architectural style

The correct answer is: A software architecture is an instance of an architectural style

**Question 5:** A UML communication diagram visualizes the interactions between objects as a flow of messages and describes:

a. the static structure as well as the dynamic behavior of a system

b. the dynamic behavior of a system

c. the static structure of a system

The correct answer is: the static structure as well as the dynamic behavior of a system

**Question 6:** A design trade-off is a pair of design goals that conflict with each other. For each design goal on the left-hand side, pick a conflicting design goal from the right-hand side.

|  |
| --- |
| Backward Compatibility |
| Reusability |
| Functionality |
| Efficiency |
| Cost |

* Robustness
* Cost
* Usability
* Portability
* Readability

The correct answer is:

|  |  |
| --- | --- |
| Backward Compatibility | Readability |
| Reusability | Cost |
| Functionality | Usability |
| Efficiency | Portability |
| Cost | Robustness |

**Question 1:** Are the following statements about UML Deployment Diagrams correct?

|  |
| --- |
| Deployment Diagrams are composed of nodes only |
| Deployment Diagrams are useful for showing a design before system design decisions |
| Nodes in Deployment Diagrams are shaped as boxes |
| Deployment Diagram Nodes can contain components |

The correct answer is: Deployment Diagrams are composed of nodes only → false, Deployment Diagrams are useful for showing a design before system design decisions → false, Nodes in Deployment Diagrams are shaped as boxes → true, Deployment Diagram Nodes can contain components → true

**Question 2:** To which hardware device would you map the 3 object types:

Memory, Processor, Input/output device

|  |
| --- |
| Control Objects |
| Boundary Objects |
| Entity Objects |

The correct answer is: Control Objects  → Processor, Boundary Objects → Input/Output Devices, Entity Objects → Memory

**Question 3:** Match the elements of an Object Model to those of a Database (table, row, column)

|  |
| --- |
| instance |
| class |
| attribute |

The correct answer is: instance → row, class → table, attribute → column

**Question 4:** Are the statements about the following diagram correct?

|  |
| --- |
| This is a Deployment Diagram |
| The Inventory System is providing to the Order System |
| This is a Component Diagram |
| The Customer Repository is requiring an Order System |

The correct answer is: This is a Deployment Diagram → false, The Inventory System is providing to the Order System → true, This is a Component Diagram → true, The Customer Repository is requiring an Order System  → false

**Question 5:** Components, filters, Connectors, pipes 

 are computational units with a specified interface, e.g. .

 are responsible for the interaction between subsystems, e.g. .