CCSL, Round-37, Exam-6, Quiz-5

1. **Which of the following is true?**

A) Identifying what messages are passed between objects is a straightforward process.

B) Message passing is a metaphor used to describe object interaction.

C) Message passing is only concerned with query operations.

Answer: B

1. **Which of the following is true about boundary objects?**

A) The identification and specification of boundary objects is purely a design activity.

B) The identification and specification of boundary objects is part of requirements specification.

C) The identification and specification of boundary objects is considered in both analysis and design but in different ways.

Answer: C

1. **Which is the correct UML definition of a collaboration?**

A) A collaboration describes the messages between objects.

B) A collaboration describes objects that share functionality.

C) A collaboration describes the structure of instances playing roles in a behaviour and their relationships.

Answer: C

1. **An interaction sequence diagram drawn during analysis differs from one drawn during design** **which of the following ways?**

A) It normally does not include design objects or detailed specifications of message signatures.

B) It does not include boundary objects.

C) It does not include control objects.

Answer: A

1. **What is meant by the term ‘thread of control’ in the context of concurrent behaviour?**

A) A thread of control is a weak part of the control system.

B) A thread of control is the mechanism that controls concurrent behaviour.

C) A thread of control is an execution pathway that may occur simultaneously with other execution pathways.

Answer: C

1. **Which of the following is an appropriate way of managing complex behaviour on an interaction** **sequence diagram?**

A) A group of objects can be represented by a single lifeline.

B) Some messages are omitted to reduce the complexity.

C) Some objects are omitted from the diagram to reduce the complexity.

Answer: A

1. **Collaboration diagrams differ from interaction sequence diagrams in the following way?**

A) Collaboration diagrams cannot show the design detail that can be shown on a sequence diagram.

B) Collaboration diagrams only show the collaboration and not the sequence in which the messages are sent.

C) Collaboration diagrams show the links between the objects.

Answer: C

1. **In a collaboration diagram one message has the sequence number 5.1.1. Which of the following** **sequence numbers indicates the message that must be the immediate successor?**

A) A message with the sequence number 5.1.2.

B) A message with the sequence number 5.1.1.1.

C) A message with the sequence number 5.2.1.

Answer: B

1. **Which of the following is a disadvantage of collaboration diagrams?**

A) A collaboration diagram can only be used during analysis.

B) A collaboration diagram cannot include guard conditions.

C) A collaboration diagram is difficult to read if there are many messages between two objects.

Answer: C

1. **] An interaction diagram should be consistent with the associated class diagram in various ways.** **Which of the following statements is true?**

A) It is always correct to show a message between two objects if there is an association between their classes.

B) The sending object must have the object reference of the receiving object before sending an object-scope message.

C) A message should not be shown between two objects if there is no association between their classes.

Answer: B

1. **What is the advantage of using contracts in operation specification?**

A) A contract cannot be broken and thus the software will be more reliable in operation.

B) A contract encourages encapsulation by concentrating on the service that an object will provide to other objects and by ignoring the way that the service is to be achieved.

C) A contract encourages better design and testing by specifying exactly how an object will achieve a service that it is to provide to other objects.

Answer: B

1. **One of the following would not normally be included in a contract. Which one?**

A) The operation signature.

B) Events that the operation will transmit to other objects.

C) The object identifiers of other objects to which events will be transmitted.

Answer: C

1. **How does an algorithmic technique differ from a non-algorithmic technique?**

A) Algorithmic techniques describe the internal logic of an operation, while non-algorithmic techniques do not.

B) Algorithmic techniques describe only the external interface of an operation, whereas non-algorithmic techniques also describe the internal details.

C) Algorithmic techniques are used to describe algorithmically complex operations, while non-algorithmic techniques are used to describe only simple operations.

Answer: A

1. **Only one of the following is an algorithmic technique. Which one is it?**

A) Decision table.

B) Activity diagram.

C) Pre- and post-condition pair.

Answer: B

1. **Only one of the following is a non-algorithmic technique. Which one is it?**

A) Activity diagram.

B) Structured English.

C) Decision table.

Answer: C

1. **What do OCL statements generally contain?**

A) A context, a property of the context and an operation on that property.

B) Sequence, selection and iteration structures.

C) Operation intent, operation signature and logic description.

Answer: A

1. **Which of the following is true?**

A) A state is never transitory, it always lasts for an interval of time.

B) A state is a condition during the life of an object or an interaction during which it satisfies some condition.

C) An object always has more than one potential state.

Answer: B

1. **The transition from one state to another is triggered by an event. One type of event is a change** **event. Which of the following statements is true?**

A) A change event occurs when a condition becomes true.

B) A change event occurs when a condition changes.

C) A change event occurs when an attribute value changes in an object.

Answer: A

1. **Which of the following statements is true about statecharts in general?**

A) A statechart must have a final state.

B) A statechart must have at least one initial state.

C) A statechart must have one initial and one final state.

Answer: B

1. **A guard condition may be associated with a transition. Which of the following statements best** **applies to guard conditions?**

A) A guard condition may only involve attributes of the object that owns the statechart.

B) A guard condition may involve attributes and links of the object that owns the statechart.

C) A guard condition may only involve parameters from the triggering event.

Answer: B

1. **When an internal transition occurs within a state which of the following is true?**

A) The entry and exit actions, if present, are triggered.

B) The entry and exit actions are not triggered.

C) The entry and exit actions if present and the action tied to the internal transition are all triggered.

Answer: B

1. **A statechart may have states that include substates. Which of following is true?**

A) An object may occupy more multiple concurrent substates simultaneously.

B) An object may occupy only two concurrent substates simultaneously.

C) An object may only occupy one substate at a time.

Answer: A

1. **When an object exits a composite state which of the following is true.**

A) Each of the submachines in the composite state must enter their final state.

B) At least one of the submachines in the composite state must enter its final state.

C) Whatever combination of substates the composite is in, all those substates are exited.

Answer: C

1. **The behavioural approach to constructing statecharts involves which of the following?**

A) All interaction sequence diagrams should be analysed first.

B) All interaction sequence diagrams involving classes that have heavy messaging should be analysed.

C) One interaction sequence diagram for each class must be analysed.

Answer: B

1. **The lifecycle approach to constructing statecharts is so called for which of the following reasons.**

A) The statecharts are constructed throughout the development lifecycle.

B) Collaboration diagrams rather than sequence diagrams are used to analyse behaviour.

C) It attempts to identify the lifecycle of a class from use cases and other requirements documents.

Answer: C

1. **When a statechart is checked for consistency with other models of the system which of the** **following is true?**

A) Every operation in a class must appear as an event on a statechart.

B) Every action should correspond to the execution of an operation on the appropriate class.

C) Every event must appear on a sequence diagram.

Answer: B