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

1. **Which of the following is the best description of a design model?**

A) It shows what the system will do.

B) It shows how the system will work.

C) It shows why the system is required.

Answer: B

1. **Which of the following is an example of design?**

A) There will be a class called Client in the Agate system.

B) The Client class has an attribute called companyName.

C) The maximum length of the companyName attribute when printed will be 40 characters.

Answer: C

1. **Which statement is true?**

A) Iterative processes such as the Unified Process give phases different names from activities to confuse students.

B) Iterative processes such as the Unified Process give phases different names from activities because they share the same namespace and must be unique.

C) Iterative processes such as the Unified Process give phases different names from activities to allow the same activities to take place in different phases.

Answer: C

1. **Which of the following is not a reason for separating the analysis stage from the design stage?**

A) Analysts and designers may be people with different skills and knowledge.

B) It is not possible to begin design until all the analysis has been completed.

C) Clients will want clear decision points at which they can agree that the project should progress to the next stage and incur further costs.

Answer: B

1. **Which of the following is claimed as an advantage of iterative development processes?**

A) Risk mitigation—by identifying technical problems early on.

B) Logical design—by producing a design that is not tied to the physical implementation.

C) Diagram separation—by making it possible to use different kinds of diagrams in analysis from those used in design.

Answer: A

1. **Which of the following is a description of logical design?**

A) Design of aspects of the system without having to consider how they will physically be implemented.

B) Design of the logic used in operations, based on decision trees, decision tables or Object Constraint Language.

C) Design of the logic gates used in the implementation of the processor chips used in the system.

Answer: A

1. **Which statement is an example of logical design?**

A) Communication between the Agate system and the company accounts system will be by passing messages.

B) There will be a message sent to the accounts system called NewInvoice, which will be formatted in XML, and each invoice will have a six-digit invoice number allocated by the accounts system.

C) Communication between the Agate system and the company accounts system will use the OpenJMS Java message server with persistent storage of messages provided by the MySQL database.

Answer: A

1. **Which combination of cohesion and coupling is desirable in a design?**

A) High cohesion and low coupling.

B) High cohesion and high coupling.

C) Low cohesion and high coupling.

Answer: A

1. **What is system design?**

A) Designing the architecture of the system and setting standards, for example for user interface design.

B) Designing the inputs and outputs of the system, processes and data storage.

C) Designing classes that will implement the system in an object-oriented language.

Answer: A

1. **Which of the following is not part of detailed design?**

A) Screen and window layouts in the form of user interface classes.

B) Allocation of sub-systems to processors.

C) Allocation of responsibilities to classes.

Answer: B

1. **Which of the following is a list of characteristics of good analysis?**

A) Completeness, consistency, correct scope and correct content.

B) Consistency, security, reliability and completeness.

C) Consistency, efficiency, effectiveness and correct scope.

Answer: A

1. **Which of the following is a list of characteristics of good design?**

A) Consistency, efficiency, effectiveness and correct scope.

B) Efficiency, reliability, security and flexibility.

C) Efficiency, redundancy, functionality and usability.

Answer: B

1. **What is meant by an economical design?**

A) The design itself was produced at a low cost.

B) The fixed costs and running costs of the system will be low.

C) The system will use inexpensive disks.

Answer: B

1. **What is meant by a secure design?**

A) The design is held in encrypted format in a CASE tool repository.

B) The models are backed up nightly and the back-up stored off-site.

C) The design includes measures to protect the system from deliberate or inadvertent damage.

Answer: C

1. **Which of the following is not a characteristic of a maintainable design?**

A) The developed program code and the design model are kept in sync.

B) The design and program code are well documented.

C) The code is designed to require maintenance work equivalent to 60% of all staff time.

Answer: C

1. **Which of the following might provide a measure of the usability of a system?**

A) The number of errors made by programmers.

B) The number of errors made by users.

C) The number of bugs found by system testers.

Answer: B

1. **What is meant by reusability in design?**

A) Design of classes that can be reused in other systems.

B) Reuse of legacy systems.

C) Buying rather than building software.

Answer: A

1. **What is meant by design trade-offs?**

A) A way of resolving conflicts between requirements and design constraints.

B) A way of achieving measurable objectives in design.

C) A way of producing reusable code.

Answer: A

1. **What is meant by the term ‘measurable objectives’?**

A) Aims of the system that are vague and difficult to assess.

B) Objectives that can be quantified and have a specific numeric target.

C) Strategic aims of the organisation that is getting a new system.

Answer: B

1. **Which of the following is not a measurable objective?**

A) To reduce errors made by users by 50%.

B) To cut response times by an average of 5 seconds.

C) To process more invoices.

Answer: C

1. **Which of the following is considered to be a major element of system design?**

A) Class diagrams are mapped onto tables in a relational database management system.

B) Data management classes are identified.

C) Standards for code development and human computer interaction are determined.

Answer: C

1. **The sub-division of an information system into sub-systems brings which of the following** **benefits?**

A) The constructed system will be smaller and hence easier to maintain.

B) It improves the performance of the system.

C) It makes the system easier to maintain.

Answer: C

1. **Which of the following statements is true about a client–server architecture?**

A) The client interface must be specified first.

B) The server only provides the functionality required by the client.

C) The client requests services from the server.

Answer: C

1. **Which of the following is true about a closed layered architecture?**

A) Dependencies between the layers are minimized.

B) The architecture is less open to change.

C) A layer may only communicate with any of the layers beneath it.

Answer: A

1. **Which of the following is true about an open layered architecture?**

A) System performance may be reduced.

B) It is more open to change.

C) It is less easy to maintain.

Answer: C

1. **When constructing a layered architecture which of following is not a specific consideration?**

A) Maintaining the interfaces for each layer.

B) Maintaining a consistent level of granularity for sub-systems.

C) The further sub-division of complex layers.

Answer: B

1. **The advantages of the Model–View–Controller architecture include which of the following?**

A) It is best suited to process control applications.

B) It places complex functionality in the controller components.

C) It supports diverse styles of view and controller.

Answer: C

1. **Which of the following is a property of a broker architecture?**

A) It improves performance while providing a client component with services.

B) It hides the server components from the client components.

C) It acts a server component.

Answer: B

1. **A scheduler provides which of the following facilities?**

A) It is useful for allocating computer-processing resources when time constraints are not tight.

B) It determines which parts of the system execute in a pre-determined sequence.

C) It can be used to ensure that each thread of control operates within the constraints on its response time.

Answer: C

1. **When objects are being designed in detail the signature of each operation has to be specified.** **Which of the following statements is consistent with the term operation signature?**

A) Each operation in a class has the same signature.

B) The operation name and the number of parameters are part of the operation signature.

C) A class may not have two operations with the same name.

Answer: B

1. **When is a UML interface used?**

A) It describes boundary classes.

B) It describes an interface that a class may offer to another class.

C) It describes the human-computer interface.

Answer: B

1. **Which of the following is a beneficial consequence of good cohesion in a class?**

A) The attributes in the class will only be accessed by the operations of that class.

B) The class will exhibit high levels of encapsulation.

C) The operations in the class will be easier to maintain.

Answer: C

1. **The Liskov Substitution Principle is best described by which of the following?**

A) A derived object may be treated as if it is the base object.

B) A derived object should be replaced by its base object.

C) Derived objects should be used instead of base objects.

Answer: A

1. **How many collection classes could sensibly be used to implement a two-way many-to-many** **association?**

A) Two or more.

B) Two.

C) One.

Answer: B

1. **Which of the following statements best describe the application of referential integrity during** **object design?**

A) An object may only refer to another object if they share a link.

B) When an object is deleted all objects to which it refers must be deleted.

C) Referential integrity only applies for one-to-one associations.

Answer: A

1. **Which of the following statements best describes the relationship between patterns and** **frameworks?**

A) A framework may involve many patterns.

B) A framework is more abstract than a pattern.

C) A pattern may incorporate one or more frameworks.

Answer: A

1. **Several key principles underlie the use of patterns. Which of the following is not a key principle** **involved in the use of patterns?**

A) Abstraction.

B) Separation of concerns.

C) Conformance testing.

Answer: C

1. **A pattern is normally described in the format of a pattern template. Which of the following** **statements best describes the forces of a pattern?**

A) The forces embody the constraints that must be addressed by the solution.

B) The forces describe why it is important to find a solution to the problem

C) The forces are the constraints that solution is unable to resolve.

Answer: A

1. **Which of the following is not one of the categories defined for the GOF patterns?**

A) Creational.

B) Static.

C) Behavioural.

Answer: B

1. **Which of the following best describes when to use the State pattern?**

A) The pattern may be used when a class has many states.

B) The pattern may be used when a class has many operations.

C) The pattern may be used when an object appears to change class at run-time.

Answer: A