

# OBJECT ORIENTED ANALYSIS AND DESIGN

## QUIZ

(This is an 1-Hour Exam. There are 5 pages.)

Q.1) **(2)** What is a Object Technology?

- A. A set of principles guiding software construction.
- B. A new theory striving to gain acceptance.
- C. A dynamic new language by Grady Booch.
- D. Based on the principles of abstraction and modularity.

Q.2) **(2)** What is a model?

- A. Model is not necessary when team members understand their job.
- B. Model has to be structural AND behavioral.
- C. Model is a simplification of reality.
- D. Model is an excuse for building an elaborate plan.

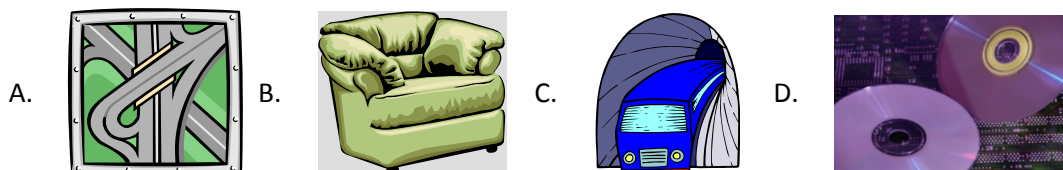
Q.3) **(2)** Why do we need modeling?

- A. Helps to visualize a system.
- B. Gives us a template for constructing a system.
- C. Documents our decisions.
- D. All of the above.

Q.4) **(2)** Which of the following is best connected to a model?

- A. Java
- B. Reality
- C. C ++
- D. Issues that tie it to an object-oriented developer

Q.5) **(2)** Which project would be least likely to require a model?



Q.6) **(4)** Which principals of modeling are correct?

- A. The model you create influences how the problem is attacked.
- B. The best kinds of models are those that let you chose your degree of detail.
- C. The best models are connected to reality.
- D. Create models that are built and studied separately.

Q.7) (2) Which process characteristic is not essential to working with the UML?

- A. Iterative and incremental
- B. Use-case driven
- C. Resilient
- D. Architecture-centric

Q.8) (2) What is a state of an object?

- A. Is defined by a "state" attribute or set of attributes.
- B. Does not normally change over time.
- C. Is defined by an object's attributes and relationships.
- D. Is the only condition in which an object may exist.

Q.9) (2) Which of the following best models the visible behavior of an object ?

- A. Attributes
- B. Responsibilities
- C. Operations
- D. Methods

Q.10) (2) What is an encapsulation?

- A. Allows direct manipulation of things that have been encapsulated.
- B. Is often referred to as information hiding.
- C. Causes costly and extensive maintenance.
- D. Causes changes to affect clients during implementation.

Q.11) (8) Match the object-oriented software development methodology terms with their definitions.

Term		Definition	
	Waterfall	A	An iterative software development process, created by Booch, Jacobson, and Rumbaugh, that is freely available for use.
	eXtreme Programming	B	Coding and testing are the key activities within this methodology.
	Unified Software Development Process (UP)	C	This methodology uses a single phase in which all workflows proceed in a linear fashion.
	Rational Unified Process	D	A commercial implementation of the UP methodology.

Q.12) (2) Which statement(s) about Use-Case-driven methodologies are true?

- a) Focus on relationships between actors and the system
- b) Based on the notion that software performs activities for users
- c) Uses non-functional requirements to drive structure of the system
- d) Must be iterative
- e) Focus on the systemic qualities, such as reliability and scalability

Q.13) (2) Which of the following best describes a generalization relationship?

- A. "Is a part of"
- B. "Is a kind of"
- C. "Is a replica of"
- D. "Is an inheritance of"

Q.14) (2) Which of the following would you use to organize elements into groups?

- A. Package
- B. Class
- C. Encapsulation
- D. Generalization

Q.15) (9) Match the object-oriented programming terms with their definitions.

Term		Definition
<i>polymorphism</i>	A	Generalization. Ignoring or hiding details to identify a commonality between different object instances.
<i>object</i>	B	The ability to derive new classes from base classes. These new classes acquire attributes and methods of the base class.
<i>inheritance</i>	C	The blueprint for an object.
<i>encapsulation</i>	D	Grouping data structures and the methods, which act on the data structures, in one capsule.
<i>class</i>	E	The measure of how much an entity (component or class) supports a singular purpose within a system.
<i>abstraction</i>	F	A state in which variables which can refer, at run time, to objects of different classes.
<i>association</i>	G	An instance of a class.
<i>coupling</i>	H	A relationship between two classes and the subsequently object instances of those two classes
<i>cohesion</i>	I	The degree to which classes within our system are dependent on each other.

Q.16) (8) Match the systemic qualities with their definitions.

Term		Definition
Developmental	A	Addresses the requisite qualities as the system evolves.
Manifest	B	Addresses the qualities reflected in the execution of the system.
Evolutionary	C	Addresses the requisite qualities in production.
Operational	D	Addresses the requisite qualities during system development.


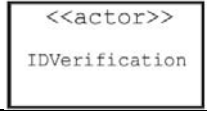
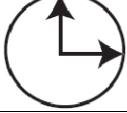

Q.17) (10) Match the tiers with their definitions.

Term		Definition
Client	A	Provides services and entities.
Presentation	B	All back-end components, such as a DataBase Management System (DBMS) or Enterprise Information System (EIS).
Business	C	Usually described as “thin”; often is a web browser.
Integration	D	Provides the Hyper Text Markup Language (HTML) pages and forms sent to a web browser and process the user’s requests.
Resource	E	Provides components that tie the business tier to the resource tier.

Q.18) (2) Which are the characteristics of the Construction workflow ?

- a) You will create a development plan during this workflow.
- b) You will create Package diagrams only during this workflow.
- c) You will create the Solution model during this workflow.
- d) The purpose of this workflow is to implement, test, and deploy the system.
- e) Focus is placed on discovering the functional requirements (FRs) and NFRs during this workflow

Q.19) **(8)** Write the name of each Use Case diagram symbol in the space allotted next to each symbol.

Symbol	Symbol Name
 employee	
 <<actor>> IDVerification	
	
 GetEmployeeInfo	

Q.20) **(3)** Which are the characteristics of the requirements gathering workflow?

- a) This workflow starts with business owner interviews.
- b) This workflow requires you to model the high-level system structure to satisfy the non-functional requirements (NFRs).
- c) The purpose of this workflow is to determine what the system must do.
- d) You will create a Domain model during this workflow.
- e) You will create initial Use Case diagrams during this workflow.

Q.21) **(2)** Which are the characteristics of the Requirements Analysis Workflow?

- a) This workflow includes recording Use Case scenarios.
- b) This workflow starts with analyzing and Use Case scenarios.
- c) The purpose of this workflow is to model how the system will support the use cases.
- d) You will create a Domain model during this workflow.
- e) You will create a Deployment diagram during this workflow.

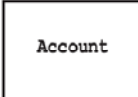
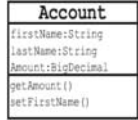




Q.22) **(3)** What are the characteristics of the Architecture workflow?

- a) You will create detailed Deployment diagram during this workflow.
- b) The purpose of this workflow is to model the high-level structure of the system to satisfy the NFRs.
- c) You will create a tiers and layers diagram during this workflow.
- d) The purpose of this workflow is to model the high-level structure of the system to satisfy the FRs.
- e.) You will refine the Design model during this workflow.

Q.23) **(3)** Which are the characteristics of the Design workflow?

- a) You will use an Activity diagram to verify Use Case diagrams during this workflow.
- b) You will analyze the Use Case scenarios to determine additional detail during this workflow.
- c) You will create a Solution model during this workflow.
- d) You might create a Statechart diagram during this workflow.
- e) The purpose of this workflow is to model how the system will support the use cases.

Q.24) (12) Write the name of each Class diagram symbol in the space allotted next to each symbol.

Symbol	Symbol Name
	
	
	
	
	
	

Q.25) (4) Write the name of each Object diagram symbol in the space next to each symbol.

Symbol	Symbol Name
