Object Oriented Analysis and Design MCQs with Answers

1. ___ is the process that groups data and procedures into an entity called objects.
a. Object development methodology
b. Linear programming
c. Structured programming
d. Object oriented system development

View Answer
Answer: D

2. ___ technique analyzes and converts business requirements into specifications and finally into manual procedures. a. Structured analysis
b. Structured analysis and design (SADT)
c. Object oriented analyses
d. Structured design

View Answer
Answer: D

3. ___ identifies the same data structure and behavior, and groups them into a class. a. Polymorphism
b. Identity
c. Classification
d. Inheritance

View Answer
Answer: C

4. We classify different objects of the program with the same properties into a class using ___.
a. Categorization
b. Instantiation
c. Decomposition
d. Generalization

View Answer
Answer: A

5. A ___ is defined as a group of objects with the same structure and behavior. a. Association
b. Polymorphism
c. Class
d. Method

View Answer
Answer: C

6. Messages are known as ___ functions.
a. Bounded
b. Unbounded
c. Non-specific
d. Specific

View Answer
Answer: C

7. In the ___ phase the design model is built based on the analysis model.
a. System Design
b. Application
c. Object design
d. Analysis

View Answer
Answer: C

8. ___ patterns are constant and inactive.
a. Generative
b. Anti
c. Design
d. Non-generative

View Answer
Answer: D

9. The ___ methodology includes the complete software development lifecycle and tracks the stress between different phases. a. Jacobson
b. Rumbaugh
c. Booch
d. Edward Yourdon

View Answer
Answer: A

10. ___ relationship is indicated by a dashed line beginning at the base use case and ending with an arrow pointing to the use case. a. Communication
b. Uses
c. Extends
d. Association

View Answer

Answer: C

11. ___ deals with the static process view of a system, from the perspective of a real or prototype case.
a. Component diagram
b. Object diagram
c. Deployment diagram
d. State diagram

View Answer
Answer: B

12. The state of an object need not be directly observable and is ___ of the implementation. a. Associated
b. Dependent
c. Independent
d. Interdependent

View Answer
Answer: C

13.___ is a creative activity to recognize and understand the problem, its related constraints, and the methods of overcoming those problems. a. Analysis
b. Implementation
c. Design
d. Testing

View Answer
Answer: A

14.___ denotes the aspirations of the users and the responsibility of the system to its users. a. UML
b. OOA
c. Use-cases
d. Association

View Answer
Answer: C

15. ___ emphasizes the key concepts and helps to identify issues and flaws in the analysis and design. a. Scenario
b. Use-case diagram
c. Documentation
d. Class diagram

View Answer
Answer: C

16. The output of object analysis is a description of the ___ and the user requirements. a. Problem
b. Solution
c. Quality assurance
d. Use cases

View Answer
Answer: A

17. Each iteration in the process of identifying relevant classes identifies some classes that were ___.
a. Described
b. Defined
c. Noticed
d. Unnoticed

View Answer
Answer: D

18. Class Responsibility Collaboration (CRC cards) is an important tool used in the ___ of object-oriented software. a. Analysis
b. Design
c. Development
d. Specification

View Answer
Answer: B

19. The idea of the interface was introduced to solve the problem of ___.
a. Generalization
b. Association
c. Multiple inheritances
d. Dependency

View Answer
Answer: D

20. Self delegation is a ___ an object sends to itself
a. Value
b. Attribute
c. Message
d. Event

View Answer

Answer: C

21. ___ relationship hides the internal details of the superclass from the subclasses. a. Interface

b. Inheritance

c. Part of

d. One too many

View Answer

Answer: B

22. ___ is said to be a valid fundamental truth that has no counterexample or exception. a. Cohesion

b. Attribute

c. Axiom

d. Corollary

View Answer

Answer: C

23. The third phase of OOAD design deals with ___.

a. Designing view layer classes

b. Designing attributes

c. Designing access layer classes

d. Refining UML class diagrams

View Answer

Answer: A

24. Corollary 6 deals with ___.

a. Large number of simple classes

b. Design using inheritance

c. Strong mapping

d. Standardization

View Answer

Answer: B

25. In object oriented design it is important to describe the ___ between the associated classes in an application. a. Protocol

b. Function

c. Constraint

d. Procedure

View Answer
Answer: A

26. ___ constraints are true for the attached set of relationships and instances over a long period of time. a. Primary key

b. Post-conditions

c. Pre-conditions

d. Invariants

View Answer
Answer: D

27. ___are objects that basically act as containers of data.

a. Display object

b. Value object

c. Application structure

d. Data object

View Answer
Answer: B

28. ___ is the layer of application functionality that encapsulates all the interactions within the database.

a. Business layer

b. Presentation layer

c. Application layer

d. Access layer

View Answer
Answer: D

29. ___ is a special data processing system or part of a data processing system that helps in storage, manipulation, reporting, management, and control of data. a. Object store

b. Persistence

c. Object oriented database management system

d. Database management system

View Answer
Answer: D

30. In ___, a single table is used to map multiple no inheriting classes.

a. Table– class mapping

b. Multi-Table– inherited classes mapping

c. Table-multiple classes mapping

d. Table– inherited classes mapping

View Answer
Answer: C

31. A prototype that provides only the model of the UI is a ___
a. Horizontal prototype
b. Vertical prototype
c. Visual prototyping
d. Rapid prototyping

View Answer
Answer: A

32. ___ interferes with the user’ s ability to use the conceptual model of how the application works.
a. Task automation
b. Interface
c. Prototyping
d. Modes

View Answer
Answer: D

33. ___ states that there should be a strong mapping between the user’ s view of doing things and UI classes a. Corollary 1
b. Corollary 2
c. Corollary 4
d. Corollary 3

View Answer
Answer: C

34. ___ testing is a process, or a series of processes, designed to ensure that the computer code does what it was designed to do and that it does not do anything unintended. a. Software
b. Quality
c. Hardware
d. Functional

View Answer
Answer: A

35. ___ testing technique is used for testing software against its specifications with some knowledge of its internal working as well. a. White -box
b. Black-box

c. Correctness

d. Grey-box

View Answer

Answer: D

36. ___ is a powerful macro substitution and when improperly used can cause serious errors. a. Abstraction

b. Encapsulation

c. Inheritance

d. Polymorphism

View Answer

Answer: C

37. Identifying the use cases is one of the initial stages of:

a. User satisfaction test

b. Program development

c. Usability testing

d. Use case design

View Answer

Answer: C

38. The main concern of ___ testing is how users interact with the system. a. Usability

b. Software

c. Quality

d. Object oriented

View Answer

Answer: A

39. Test goals and the ___ must be decided before the user satisfaction test is performed. a. Audience

b. Use case design

c. Testing questionnaire

d. Design goals

View Answer

Answer: A

40. Giving extra time for the test plans will reduce ___.

a. System performance

b. Testing time

c. Productivity

d. Consistency of the application

View Answer

Answer: C

41. Identify the approach used in system development to build information with the help of structured and modular programming. a. Object oriented approach

b. Traditional approach

c. Object oriented programming

d. Object technology

View Answer

Answer: B

42. Identify true and false statements.

1. The core of object oriented development is the identification and organization of the concepts related to the application domain.

2. Object oriented development is the traditional approach for analyzing software based on abstractions existing in the real world.

a. 1-F, 2-F

b. 1-T, 2-T

c. 1-T, 2-F

d. 1-F, 2-T

View Answer

Answer: C

43. Identify true and false statements.

1. The main aim of object-oriented system development is to make software development easier.

2. The object oriented systems are used to abstract the inner programming details of the software.

a. 1-F, 2-F

b. 1-T, 2-F

c. 1-T, 2-T

d. 1-F, 2-T

View Answer

Answer: C

44. The two types of traditional operating systems methodologies are ___ and ___.

a. Class centric, function centric

b. Algorithm centric, data-centric

c. Algorithm centric, function centric

d. Class centric, data centric

View Answer

Answer: B

45. Which of the following statement is true?

1. The class diagram depicts the allocation of classes and objects to modules in the physical design of a system.

2. Object diagram is a UML structural diagram that shows the instances of the classes. a. 1-F, 2-T

b. 1-T, 2-F

c. 1-T, 2-T

d. 1-F, 2-F

View Answer

Answer: A

46. In the ___ phase the class diagram is improved by adding more details like ___ and methods used for application. a. Analysis, Testing

b. Prototyping, Testing

c. Design, Testing

d. Design, Attributes

View Answer

Answer: D

47. In a state diagram, the start state is represented as a ___ and an end state as a ___.

a. Hollow circle, Hollow circle enclosing a smaller colored circle

b. Small darkened circle, Hollow circle enclosing a smaller colored circle

c. Hollow circle enclosing a smaller colored circle, Small darkened circle

d. Small darkened circle, a Colored circle enclosing a smaller hollow circle

View Answer

Answer: B

48. Identify if the following statements are true or false.

1. The behavior package describes the static structure of the UML 2. The structure package describes the dynamic structure of the UML a. 1F, 2T

b. 1F, 2F

c. 1T, 2T

d. 1T, 2F

View Answer

Answer: B

49. Identify true and false statements.
1. Use-case model defines what happens in the system when the use-case is performed. 2. Use-case model can identify classes and the relationships among subsystems of the systems.
a. 1-F, 2-F
b. 1-T, 2-F
c. 1-T, 2-T
d. 1-F, 2-T

View Answer
Answer: C

50. Business process model (BPM) can include both ___ processes and___ processes. a. Actor, UT
b. People, IT
c. Actor, People
d. People, UT

View Answer
Answer: B

Unit 1

1. What are the characteristics of software?
a. Software is developed or engineered; it is not manufactured in the classical sense.
b. Software doesn't " wear out ".
c. Software can be custom built or custom build.
d. All mentioned above

2. What is the simplest model of software development paradigm?
a. Spiral model
b. Big Bang model
c. V-model
d. Waterfall model

3. Software consists of _____ .
a. Set of instructions + operating procedures
b. Programs + documentation + operating procedures
c. Programs + hardware manuals
d. Set of programs

4. Which is the most important feature of spiral model?
a. Quality management
b. Risk management
c. Performance management
d. Efficiency management

5. Which is not a step of Requirement Engineering?
a. Requirements elicitation
b. Requirements analysis
c. Requirements design
d. Requirements documentation

6. Modifying the software to match changes in the ever changing environment is called _____ .
a. Adaptive maintenance
b. Corrective maintenance
c. Perfective maintenance
d. Preventive maintenance

7. The model in which the requirements are implemented by its category is _____ .
a. Evolutionary Development Model
b. Waterfall Model
c. Prototyping
d. Iterative Enhancement Model

8. Requirement engineering process includes which of these steps?
a. Feasibility study
b. Requirement Gathering
c. Software Requirement specification &
Validation
d. All mentioned above

9. Software Requirement Specification (SRS) is also known as specification of _____. a. White box testing
b. Acceptance testing
c. Integrated testing
d. Black box testing

1. Which of the following is not an Advantage of modularization?

a. Smaller components are easier to maintain.
b. Concurrent execution can be made possible.
c. Program cannot be divided based on functional aspects.
d. Desired level of abstraction can be brought in the program.

2. Which of the following defines the degree of intra-dependability within elements of a module?
a. Cohesion
b. Coupling
c. Design Verification
d. None of the above

3. When multiple modules share a common data structure and work on different part of it, it is called _.
a. Common coupling
b. Share coupling
c. Data coupling
d. Stamp coupling

4. Which tool is use for structured designing?
a. Program Chart
b. Structure Chart
c. Module Chart
d. All the above

5. In Design phase, which is the primary area of concern?
a. Architecture
b. Data
c. Interface
d. All of the above

6. Which of the following is the best type of module cohesion?
a. Functional Cohesion
b. Temporal Cohesion
c. Functional Cohesion
d. Sequential Cohesion

7. Which of the following is the worst type of module coupling?
a. Control Coupling
b. Stamp Coupling
c. External Coupling
d. Content Coupling

8.Choose the option that does not define Function Oriented Software Design.
a. It consists of module definitions.
b. Modules represent data abstraction.
c. Modules support functional abstraction.
d. None of the above

9. Which of the following is an indirect measure of product?
a. Quality
b. Complexity
c. Reliability
d. All of the above

10. Which among these best represents Coupling for an ideal device?
a. Do exactly one job completely.
b. Be loosely coupled to the rest of the program.
c. Hide its Implementation.
d. Never change its interface

15. ___ emphasizes the key concepts and helps to identify issues and flaws in the analysis and design. a. Scenario
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11. ___ deals with the static process view of a system, from the perspective of a real or prototype case.
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The vertcal dimension of a sequence diagram **shows**

a) abstract

b) line

c) time

d) messages

Aggregation is ...

a) set of relationship

b) composed of relationship

c) part of relationship

d) all of these

Cohesion and coupling are represented by using ...

a) structure part

b) structure effect

c) dependence matrix

d) all of these

2) What is the programming style of the object oriented conceptual model? a) Invariant relationships
b) Algorithms
c) Classes and objects
d) Goals, often expressed in a predicate calculus.

3) The essential characteristics of an object that distinguish it from all other kinds of objects and thus provide crisply defined conceptual boundaries, relative to the perspective of the viewer is called:
a) Encapsulation
b) Modularity
c) Hierarchy
d) Abstraction

5) The process of compartmentalizing the elements of an abstraction that constitute its structure and behavior is called as a) Hierarchy
b) Encapsulation
c) Modularity
d) Entity Abstraction

What is that concept in type theory in which a single name may denote objects of many different classes that are related by some common super class referred to _____ a) Monomorphism
b) Type Checking
c) Polymorphism
d) Generalization

Q1. Amongst which of the following is / are true in terms of design concepts in software engineering. Software design encompasses,

A. Set of principles
B. Concepts and practices
C. Development of a high-quality system or product
D. All of the mentioned above **Answer:** D) All of the mentioned above

Explanation:

Software design encompasses Set of principles, design concepts and practices, development of a high-quality system or product. Design principles establish design work. Design practices itself leads to the creation of various representations of the software.

Q2. Design develops a representation or ____.

A. Model
B. Testing

C. Requirements Analysis

D. None of the mentioned above **Answer:** A) Model

Explanation:

Unlike requirements modeling, design modeling produces a representation or model of software. Design modeling includes a detail description about the software architecture as well as data structures, interfaces, and other components that are required to implement in the system.

Q3. Generally the software design done by ____.

A. Software engineers

B. Mechanical engineers

C. Architect

D. None of the mentioned above **Answer:** A) Software engineers

Explanation:

In Software engineering, software designs done by software engineers.

Q4. Amongst which of the following is / are shows the key significances of software designs,

A. Design allows us to build the blue print of the system or product
B. The model gives clarity of proposed system and can be improved before code is generated
C. Tests can be carried out, and end users involves during the process
D. All of the mentioned above **Answer:** D) All of the mentioned above

Explanation:

The key significances of software designs are; design allows us to build the blue print of the system or product, the model gives clarity of proposed system and can be improved before code is generated and tests can be carried out, and end users involves during the process.

Q5. Amongst which of the following is / are the key steps of software designs?

A. Representation of architecture of the system or product
B. Representation of the interfaces that connect the software to end users
C. Construction and representation of the software components
D. All of the mentioned above **Answer:** D) All of the mentioned above

Explanation:

The architecture of the system or product must be represented; the interfaces that connect to the software to end users, to other systems and the software components that are used to construct the system are designed.

Q6. The primary work product produced during software design is / are,

A. Architectural design
B. Interface design
C. Creation of components and deployment
D. All of the mentioned above **Answer:** D) All of the mentioned above

Explanation:

The primary work products produced during software design are architectural design, Interface design and creation of components and deployment.

Q7. The design model is assessed by the software team to determine; and the that have been established.

A. Errors, inconsistencies, or omissions
B. Alternatives existence
C. Implementation of model within the constraints, schedule, and cost D. Al

of the mentioned above **Answer:** B) Alternatives existence

Explanation:

The software team evaluates the design model to identify whether there are any flaws, inconsistencies, or omissions; whether there are any alternatives; and whether the model can be implemented within the restrictions, schedule, and budget that have been specified.

Q8. The architectural design defines the relationship between major structural elements of the software,

A. True
B. False

Answer: A) True

Explanation:

The architectural design represents the framework of a computer-based system which is derived from the requirements model. The architectural design of a software system specifies the link between the primary structural aspects of the system under consideration.

Q9. Amongst which of the following is / are the key aspects of interface design,

A. Smooth communication between the system and the users who use it
B. This implies a flow of information
C. Both A and B
D. None of the mentioned above **Answer:** C) Both A and B

Explanation:

The key aspects of interface design are to keep Smooth communication between the system and the users who use it. An Interface design implies a flow of information.

Q10. The component-level design transforms structural elements of the software architecture,

A. True
B. False

Answer: A) True

Explanation:

Structures in the software architecture are transformed into procedures for describing how the components of the software work at the component level by using component-level design.

Q11. Component design is prepared with the information obtained from ____.

A. The class-based models
B. Behavioral models
C. Both A and B
D. None of the mentioned above **Answer:** C) Both A and B

Explanation:

The information gathered from the class-based models and behavioral models is used to make the component design. During the design phase, we make decisions that will have an impact on the overall success of the software creation process.

Q12. Design provides the representations of software that can be assessed for ____.

A. Quality
B. Testing
C. Analysis
D. All of the mentioned above **Answer:** A) Quality

Explanation:

Design provides the representations of software that can be assessed for quality. Essentially, design is a method of accurately translating the requirements of stakeholders into a finished software product or system.

Q13. Software design is a process of,

A. Translating requirements into a blueprint for software construction
B. A holistic view of software
C. Detailed data, functional, and behavioral requirements
D. All of the mentioned above **Answer:** D) All of the mentioned above

Explanation:

Software design is a process of translating requirements into a blueprint for software construction; a holistic view of software; and a detailed data, functional, and behavioral requirements.

Q14. Amongst which of the following is / are shows the software quality,

A. Implicit & explicit requirements
B. A readable, understandable
C. A complete picture from an implementation perspective
D. All of the mentioned above **Answer:** D) All of the mentioned above

Explanation:

The key aspects of software quality and attributes are; the design should implement implicit & explicit requirements, the design should a readable, and understandable, and the design should have a complete picture from an implementation perspective.

Q15. Amongst which of the following is / are the key attributes of software quality.

A. Functionality & Usability
B. Reliability & Performance
C. Supportability
D. None of the mentioned above **Answer:** B) Reliability & Performance

Explanation:

The key attributes of software quality are functionality, usability, reliability, performance and supportability.

Q16. The process of abstraction can also be referred to as ____.

A. Modeling
B. Analysis
C. Implementation
D. None of the mentioned above **Answer:** A) Modeling

Explanation:

The process of abstraction can also be referred to as modeling. It is all about hiding complexity in building various parts of application.

Q17. Software modularity is a,

A. Design approach to divide entire software into smaller units
B. Modularity facilitates a developer to identify issues quickly
C. Modularity helps developer to enhance software and its quality easily
D. All of the mentioned above **Answer:** D) All of the mentioned above

Explanation:

Software modularity is a design approach to divide entire software into smaller units; modularity facilitates a developer to identify issues quickly; and helps developer to enhance software and its quality easily.

Q18. Cohesion is a functional strength of a module.

A. True
B. False

Answer: A) True

Explanation:

Cohesion is a functional strength of a module. Unlike other modules, a cohesive module is focused on a single purpose and requires little interaction with other components in other part of a program to complete.

Q19. Coupling indicates the interdependence among modules.

A. True
B. False

Answer: A) True

Explanation:

The term "coupling" refers to the connectivity of modules in a software framework. Coupling indicates the interdependence among modules. The degree of coupling is determined by the intricacy of the interfaces between modules.

Q20. Deployment-level design elements allocate the architecture, its components, and the interfaces to the physical configuration of a system.

A. True
B. False

Answer: A) True

Explanation:

The architecture, its components, and its interfaces are allocated to the physical configuration of a system through the use of deployment-level design elements.

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