Shivaji University , Kolhapur

Question Bank For Mar 2022 (Summer) Examination

Subject Code: 80796

Subject Name: 1154-B.Tech. CBCS Sem. V - Object Oriented Modeling and Design

Question Bank 1 (MCQ)

Multiple Choice Questions	
Question No.	**Question**
1	_____ is the selective examination of certain aspects of a problem. A. visualization B. communication C. abstraction D. reduction
2	Object model describes _____ structure of the object in system. A. static B. dynamic C. detailed D. overall
3	_____ is the sharing attributes and operations among classes based on hierarchal relationship A. inheritance B. abstraction C. polymorphism D. none of these
4	1. A system can best be understood by first examining its_____ structure A. dynamic B. static C. logical D. none of these
5	The attribute values and link held by an object are called its A. state B. value C. operation D. none of these
6	A process is drawn as an _____ containing a description of the transformation, usually its name. A. rectangle B. dotted circle C. ellipse D. none of these
7	Which aspect of objects are addressed by analysis model?

	A. Static structure B. Sequencing of instructions C. Data transformations D. All of the above
8	Associations often corresponds to _____ in problem statement. A. Nouns B. Verbs C. Adjectives D. All of the above
9	A change in specification of one thing affect another thing that uses it, this is called as A. Generalization B. Dependency C. Aggregation D. Association
10	Select the graphical symbol for rendering constraints or comments attached to an element or group of elements A. Note B. Tagged Values C. Constraints D. Stereotypes
11	An _____ diagram is essentially a flowchart, showing flow of control from activity to activity. A. sequence B. interaction C. collaboration D. activity
12	The activity diagram in which number of groups divided from its neighbor by a vertical solid line are called as _____. A. Object lifeline B. Focus of control C. Swimlanes D. Forks
13	A _____ is a physical and replaceable part of system that conforms to and provides the realization of a set of interfaces. A. interface B. component C. state D. none of these
14	A _____diagram is a diagram that shows the configuration of the run time processing nodes and components that live on them. A. deployment B. interaction C. activity D. component
Subjective Type Questions	

1.	Explain different Object-Oriented Themes.
2.	Explain how generalization can be used as extension and restriction.
3.	Write note on i) Events ii) States
4.	Explain the following elements of data flow diagrams: i) Processes ii) Data Flows iii) Actors
5.	Describe the overview of analysis process with neat diagram.
6.	List the steps in construction of an Object Model. Explain how to identify the object classes from application domain.
7.	Explain structural things in UML.
8.	Explain the Conceptual Model of UML.
9.	Explain interaction diagram, its contents and common uses.
10.	Explain different kinds of events with respect to behavioral modeling
11.	Explain deployment diagram, its uses and uses.
12.	Write note on frameworks.

Question Bank 2

Multiple Choice Questions	
Question No.	**Question**
1	_____ consists of separating the external aspects of an object, which are accessible to other objects from the internal implementation details A. inheritance B. abstraction C. polymorphism D. encapsulation
2	_____ means that the same operation may behave differently on different classes A. polymorphism B. classification C. method D. object
3	A _____ is a name that uniquely identifies one end of and association A. ordering B. role name C. qualification D. none of these
4	An event is a _____ transmission of information from one object to another. A. two-way B. one-way C. one to many D. none of these
5	The response to an event depends on state of the object and can include A. Change in state B. Sending of another event C. Both (A) and (B)

	D. None of the above
6	An _____ is an active object that drive data flow graph by producing or consuming values A. actor B. data flows C. data stores D. none of these
7	_____ is overall organization of the system into the components called subsystems. A. System architecture B. System design C. Object design D. None of these
8	The object design phase adds internal objects for implementation and optimizes _____. A. Classes and associations B. Data structures and algorithms C. Interface and algorithms D. Methods
9	Which are the extension mechanism available in UML A. Inheritance & Association B. Aggregation & Association C. Stereotype, Tagged values, Constraints D. None of these
10	Use case diagram is _____ diagram. A. Dynamic B. Structural C. Behavioural D. Architectural
11	An _____ is a behavior that comprises a set of messages exchanged among a set of objects within a context to accomplish a purpose. A. interaction B. communication C. relation D. none of these
12	Use case is realized by _____. A. Actor B. System boundary C. Process D. Collaboration
13	A ----- diagram shows a set of components and their relationships. A. deployment B. interaction C. activity D. component

14	A _____ is an architectural pattern that provides an extensible template for applications within a domain. A. mechanism B. pattern C. framework D. none of these
Subjective Type Questions	
1.	What is model? Explain several purposes of models.
2.	What is class and object? Explain with appropriate example.
3.	Write note on Scenarios and event traces.
4.	Explain the following elements of data flow diagrams: i) Data Stores ii) Control Flows iii) Nested Data Flow Diagrams
5.	Explain the several phases of the OMT Methodology.
6.	Explain the impact of an object-oriented approach.
7.	Explain the following terms with respect to UML – i) Generalization ii) Aggregation iii) Multiplicity
8.	Explain the architecture of UML
9.	Explain the following terms with respect to sequence diagram: i) Object lifetime ii) Focus of Control
10.	Explain the following terms with respect to Activity diagram: i) Action states ii)Transitions iii) Branching
11.	What is component? Give difference between components and classes.
12.	Explain patterns and frameworks.

Question Bank 3

Multiple Choice Questions	
Question No.	**Question**
1	An functional diagram is a graph whose nodes are _____ and whose arcs are _____ A. state and transition B. process and data flow C. object classes and relationships D. None of the above
2	Generalization is sometime called as _____ relationship A. and B. part of C. is-a D. none of these
3	Aggregation is the _____ relation A. whole B. part C. part-whole or a-part-of D. none of these

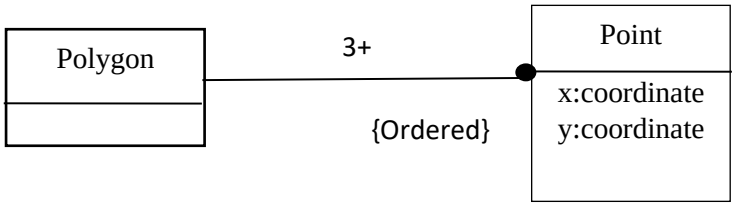
4	A _____ is a sequence of events that occurs during one particular execution of a system A. state diagram B. information transfer C. scenario D. sequence diagram
5	The sequence of events and the objects exchanging events can both be shown in an augmented scenario call an _____ diagram A. event diagram B. state diagram C. object diagram D. event trace diagram
6	In data flow diagram, data store is drawn as _____ . A. Rectangle containing name of data store B. Cylinder containing name of data store C. Ellipse containing name of data store D. A pair of parallel lines containing name of data store
7	_____ is concerned with devising a precious, concise, understandable, and correct model of the real word. A. analysis B. design C. implementation D. none of these
8	If a class has little or nothing to do with a problem, then they are called as A. identical B. redundant C. associate D. irrelevant
9	Use case is realized by _____. A. Actor B. System boundary C. Process D. Collaboration
10	The UML language is used for A. Visualizing B. Specifying C. Documenting D. All of above
11	A _____ represents the splitting of a single flow of control into two or more concurrent flow of control. A. fork B. join C. swimlanes D. none of these
12	A _____ represents a named object that is dispatched asynchronously by one object and then received by another object.

	A. event B. time event C. signal D. none of these
13	A _____ is a physical element that exists at run time and represents a computational resource A. component B. node C. Class D. none of these
14	Graphically, a component is rendered as a A. Rounded rectangle B. Rectangle with circle C. Rectangle with tabs D. Dotted rectangle
Subjective Type Questions	
1.	Explain the three models of OMT.
2.	Explain the following terms: i) Multiplicity ii) Role Names iii) Qualification
3.	Draw and explain the state diagram for phone line.
4.	Explain the relation of functional model to object and dynamic models.
5.	Write short note on problem statement used in analysis process.
6.	State and explain the different criteria used to keep the right classes and discard unnecessary and incorrect classes.
7.	Explain different UML diagrams with their purpose.
8.	Explain four kinds of relationships in the UML
9.	Explain include and extend relationships in use case diagram with suitable example.
10.	Explain Activity diagram with example.
11.	What is components? Explain type of components.
12.	Explain the following terms with respect to architecture modeling: i) Node ii) Collaboration iii) Pattern

Question Bank 4

Multiple Choice Questions	
Question No.	**Question**
1	A _____ is physical or conceptual connection between object instances A. association B. link C. generalization

	D. none of these
2	_____ reduces the effective multiplicity of this association. A. classification B. role name C. qualification D. ordering
3	An abstract class is which of the following A. A class that has direct instances, but whose descendants may have direct instances B. A class that has no direct instances, but whose descendants may have direct instances C. A class that has direct instances, but whose descendants may not have direct instances D. A class that has no direct instances, but whose descendants may not have direct instances
4	The sequence of events and the objects exchanging events can both be shown in an augmented scenario call an _____ diagram A. event diagram B. state diagram C. object diagram D. event trace diagram
5	A _____ has initial and final states. A. Continuous loops B. Scenario C. Event trace diagram D.,One-shot state diagram
6	In data flow diagram, actor is drawn as _____ . A. Rectangle B. Rounded Box C. Ellipse D. A pair of parallel lines
7	The classes having ill-defined boundaries or to broad in scope are called as A. vague classes B. identical C. irrelevant D. none of these
8	Interface can be separated into application logic and the _____ interface A. state B. object C. user D. none of these
9	_____ is an interaction diagram that emphasizes the time ordering of messages A. Activity Diagram B. Interaction Diagram C. Sequence Diagram D. Collaboration Diagram
10	Stereotypes means _____

	A. Extends vocabulary of UML B. To mention class name C. To represent relationships D. To add role names
11	An _____ is atomic, meaning that it cannot be interrupted by an event and therefore runs to completion. A. Action B. Activity C. Process D. None of the above
12	_____ constraint specifies that instance or link is created during execution of the enclosing interaction but is destroyed before completion of execution. A. destroyed B. new C. transient D. none of these
13	Stereotype that can be applied to component is A. Executable B. Library C. Table D. All of the above
14	Graphically, a node is rendered as a _____. A. Rectangle B. Circle C. Ellipse D. Cube
15	For the class diagram below, draw an instance diagram for two triangles with common side under the following conditions: i) A point belongs to exactly one polygon ii) A point belongs to one or more polygons  **Figure: Class diagram for polygon and points.**

Subjective Type Questions

1.	Explain multiple inheritance with example.
2.	Explain the following advanced dynamic modeling concepts: i) Entry and Exit Actions ii) Internal Actions iii) Automatic Transitions
3.	Draw and explain the data flow diagram for ATM transaction process.

4.	List and explain the steps involved in designing the algorithms.
5.	Explain in detail the actions taken by designer in design optimization.
6.	Explain the behavioral things in UML.
7.	Explain the Class Diagram, its properties , contents and common uses.
8.	Draw and explain use case diagram for credit card validation system.
9.	Explain collaboration diagram with example.
10.	Explain types of components and standard stereotypes that apply to components.
11.	Explain relationship between a component and its interfaces.

Question Bank 5

Multiple Choice Questions	
Question No.	**Question**
1	The _____ model describes those aspects of a system concerned with time and sequencing of operations A. object B. dynamic C. functional D. none of these
2	Association are inherently A. bidirectional B. unidirectional
3	A _____ is a logical construct for grouping classes, association, and generalizations. A. module B. sheet C. object D. generalization
4	In event trace diagram, a vertical line represents _____ and horizontal arrow represents _____ . A. State, event B. Object, event C. State, data flow D. Function , data flow
5	One-shot state diagrams represent objects with _____ lives. A. Finite B. Infinite C. Both (A) and (B) D. None of the above
6	A process can be expanded into another _____ . A. Process B. State diagram C. Object diagram

	D. Data flow diagram
7	The decomposition of system into _____ may be organized as a sequence of horizontal layers or vertical partitions A. modules B. groups C. subsystem D. sheet
8	During _____, the designer must rearrange the execution order for efficiency. A. Designing algorithms B. Design optimization C. Design association D. Physical packaging
9	A _____ extends the properties of a UML building block, allowing you to create new information in that element's specification. A. Note B. Tagged Values C. Constraints D. Stereotypes
10	Which are following grouping things A. Notes B. State C. Packages D. Classes
11	Scenarios are: A. the same as use cases B. the same as test cases C. used to derive test cases D. the same as object diagrams
12	A call event represents A. passage of time B. the dispatch of an operation C. a change in state D. the occurrence of a signal
13	An interface that a component realizes is called an _____ meaning an interface that the component provides as a service to other components. A. import interface B. export interface C. send interface D. receive interface
14	A set of objects or components that are allocated to a node as a group is called a _____ A. Distribution unit B. Contribution unit C. Components unit D. Collection
Subjective Type Question	

1.	Explain Object Modeling Technology (OMT) stages.
2.	Compare aggregation with Generalization.
3.	Write note on “nesting state diagrams".
4.	Draw and explain the data flow diagram for windowed graphics display.
5.	Explain three kinds of controls implementation systems.
6.	Explain breaking a system into subsystems with respect to system design.
7.	Explain the grouping and annotational thing in UML
8.	Explain extensibility mechanisms in UML
9.	Draw and explain use case diagram for Cellular Telephone Call system
10.	Explain the relationship between use cases and collaborations.
11.	Explain the relationship between a node and the components.
12.	Write note on organizing collaborations.