# UML INTERVIEW QUESTIONS & ANSWERS

1. **Question 1. What Is Uml?**

**Answer :**

* + UML is Unified Modeling Language.
  + Graphical language for visualizing artifacts of the system.
  + Allow to create a blue print of all the aspects of the system.

1. **Question 2. What Are The Three Types Of Modeling In Uml?**

**Answer :**

* + Structural.
  + behavioral.
  + architectural.

1. **Question 3. What Is Uml Architecture?**

**Answer :**

Takes care structural and behavioral aspect of a software system.  
Includes software usage, functionality, performance, reuse, economic and technology constraints.

1. **Question 4. What Are Uml Messages?**

**Answer :**

Specification of a communication.

1. **Question 5. Define Modeling In Uml And It Advantages?**

**Answer :**

* + Model is a simplification of reality.
  + Blueprint of the actual system.
  + Specify the structural and behavior of the system.
  + Templates for designing the system.
  + Helps document the system.

1. **Question 6. What Are The Different Views In Uml?**

**Answer :**

* + Use Case view - Presents the requirements of a system.
  + Design View - Capturing the vocabulary.
  + Process View - Modeling the systems processes and threads.
  + Implementation view - Addressing the physical implementation of the system.
  + Deployment view - Model the components required for deploying the system.

1. **Question 7. Define Sdlc In Uml?**

**Answer :**

* + SDLC is Software Development Life Cycle.
  + SDLC of a system included processes like Use case driven, Architecture centric, Iterative and Incremental. This Life cycle is divided into phases.
  + Phase is a time span between two milestones.
  + The milestones are Inception, Elaboration, Construction, and Transition.
  + Process Workflows that evolve through these phase are Business Modeling, Requirement gathering, Analysis and Design. Supporting Workflows are configuration, change management, and project management.

1. **Question 8. Explain The Types Of Diagrams In Uml?**

**Answer :**

We have nine types of diagram in UML.  
  
**Use Case Diagram:** Use Case Diagram describes HOW the system works. It identifies the primary elements and processes that form the system. It shows actors and their roles  
  
**Class Diagram:**This diagram explores detail design of the system. The class diagram is designed using Use Case diagram. We can identify all Nouns in use cases as classes and verbs as method of the classes.  
  
**Object diagram:**This diagram represents the state of classes in the system and their relationships or associations at a specific point of time.  
  
**State Diagram:**This diagram represents different states that objects in the system undergo during their life cycle.  
  
**Sequence diagram:**This diagram is used to explore logic of complex operations, function or procedure. In this diagram, sequence of the interactions between the objects is represented step by step.  
  
**Collaboration diagram:**This diagram groups together the interaction between different objects.  
  
**Activity diagram:**Activity diagram gives detail view of the business logic.  
  
**Deployment diagram:**It shows deployment view of the system. It shows how hardware and software works together to run system.

1. **Question 9. What Are The Advantages Of Using Uml?**

**Answer :**

* + Advantages of using UML breaks the complex system into discrete pieces that can be understood easily.
  + Handover the system to new team becomes easier.
  + Complex system can be understood by the disparate developers who are working on different platforms.
  + UML model is not a system or platform specific. It unifies all disparate developers under one roof.

1. **Question 10. What Is Component Diagrams In Uml?**

**Answer :**

A component diagram is particularly useful with teams of larger size. UML components are great to perform architectural landscape for a specific system. The component diagram allows to model high level software components and interfaces to those components. The sub teams effort is very less, once the interfaces are perfectly designed and accepted by the team members.

1. **Question 11. What Are The Various Components In Sequence Diagrams?**

**Answer :**

* + Actor: Actor represents an external user / end user who interact with the system.
  + Object: Object is represented by one of components of the system.
  + Unit: A unit is a subsystem, or a sub component or other entity within the system.
  + Separator: Separator represents a boundary among sub systems, components or units.
  + Group: Represents different header elements in the subsystem.

1. **Question 12. What Are The Parts Of A Deployment Diagram?**

**Answer :**

* + Nodes: A node represents any hardware component. The configuration of hardware is represented by attributes of nodes.
  + Components: A component represents software. Each component straightly represents a class or object that in turn represents methods.
  + Dependencies: The reliability of one component with that of another is depicted by dependencies.
  + Links: To tie up tow nodes, the links are utilized. The links are implemented by using nodes and their associations.

1. **Question 13. What Are The Elements In State Chart Diagrams?**

**Answer :**

* + Initial State: This state shows the first activity of the flow.
  + State: A state represents the state of an object at a particular given point of time.
  + Transition: The transition from one state to another state of objects is represented by an arrow.
  + Event and Action: A trigger that causes a transition to occur.
  + Signal: When a message or a trigger caused by an event to a state, which causes a transition, this message is called as a signal.
  + Final State: The state diagram ends with a diagram that depicts a bulls eye is known as Final State.

1. **Question 14. Explain All Elements Of A State-chart Diagram?**

**Answer :**

* + Initial State: The first or the default state the object is in. It is denoted by a solid circle.
  + State: All the states an object can go in are mentioned in this. It is represented by a rectangle with rounded edges.
  + Transitions: depicted by arrow from the source state to destination state.
  + Final State: Depicts the end of the. It is shown by a bull's eye symbol.

1. **Question 15. What Are The Different Elements Of A Collaboration Diagram?**

**Answer :**

* + Object: The interaction between objects takes place in a system. An object is depicted by a rectangle with the name of the object, preceded by a colon and underline.
  + Relation/Association: Association among objects is linked by connecting them. The cardinality can be depicted by placing qualifiers on either ends.
  + Messages: An arrow that commencing from one object to the destination object. This depicts the interaction between objects. The sequence or order of the interaction is depicted by the number.

1. **Question 16. Brief Explanation Of All Elements In Activity Diagrams?**

**Answer :**

* + Activities: An activity indicates an action that performed in the system.
  + Transitions: Transitions are represented by open arrow heads. Transitions are used to indicate the flow among elements in the diagram.
  + Decision Points: The logical branching is depicted by the decision points.
  + States: A state is shown in a rounded rectangle. States are indicated to mention the mile stones of processing in the activity diagrams.

1. **Question 17. Explain The Different Elements Of A Use Case?**

**Answer :**

Use case diagram is a subset of various behaviour diagrams. Use case diagrams are used to provide concrete examples of the elements which are supposed to implement. It is used to analyze objects.  
  
The following are the elements of the use case diagrams:  
  
**Actors:** An actor is one of the entities who perform certain actions. These roles are the actual business roles of the users in given system. An actor interacts with a use case of the system. For example, for a banking system, a customer is one of the actors.   
  
**Use Case:** A use case is a use case diagram of UML represents a business functionality that is distinct. The use case should list the discrete business functionality that is specified in the problem statement. Every business functionality is a potential use case.  
  
**System boundary:** A system boundary defines the scope of the system. The systems that use cases also need to be defined in the limits of the system. The system boundary is shown as a rectangle that spans all use cases of the system.

1. **Question 18. What Is The Difference Between Activity And Sequence Diagrams?**

**Answer :**

The following are the difference between Activity and Sequence Diagrams:  
A sequence diagram shows the way of processes execute in a sequence. For example, the order of operations and the parameters.  
► An activity diagram depicts the operational workflows.  
► A sequence diagram is focused to represent interactions between different objects.  
► Activity diagram shows the actions for various objects.

1. **Question 19. Difference Between Activity And Sequence Diagram?**

**Answer :**

* + Activity diagram: captures the process flow. They are used for functional modeling.
  + Sequence diagram: the track the interaction between the objects. They are used for dynamic modeling.

1. **Question 20. What Are Relationships?**

**Answer :**

There are different kinds of relationships: Dependencies, Generalization, and Association. Dependencies are relations ships between two entities that that a change in specification of one thing may affect another thing. Most commonly it is used to show that one class uses another class as an argument in the signature of the operation. Generalization is relationships specified in the class subclass scenario, it is shown when one entity inherits from other. Associations are structural relationships that are: a room has walls, Person works for a company. Aggregation is a type of association where there is a has a relationship, That is a room has walls, A±o if there are two classes room and walls then the relationship is called a association and further defined as an aggregation.

1. **Question 21. What Is Sdlc?**

**Answer :**

SDLC is Software Development Life Cycle. SDLC of a system included processes that are Use case driven, Architecture centric and Iterative and Incremental. This Life cycle is divided into phases. Phase is a time span between two milestones. The milestones are Inception, Elaboration, Construction, and Transition. Process Workflows that evolve through these phase are Business Modeling, Requirement gathering, Analysis and Design, Implementation, Testing, Deployment. Supporting Workflows are Configuration and change management, Project management.

1. **Question 22. What Is Modeling? What Are The Advantages Of Creating A Model?**

**Answer :**

Modeling is a proven and well-accepted engineering technique which helps build a model. Model is a simplification of reality; it is a blueprint of the actual system that needs to be built. Model helps to visualize the system. Model helps to specify the structural and behavior of the system. Model helps make templates for constructing the system. Model helps document the system.

1. **Question 23. What Are The Different Views That Are Considered When Building An Object-oriented Software System?**

**Answer :**

Normally there are 5 views.

***Use Case view*** - This view exposes the requirements of a system.  
***Design View*** - Capturing the vocabulary.  
***Process View***- modeling the distribution of the systems processes and threads.  
***Implementation view***- addressing the physical implementation of the system.  
***Deployment view***- focus on the modeling the components required for deploying the system.

1. **Question 24. What Are Diagrams?**

**Answer :**

Diagrams are graphical representation of a set of elements most often shown made of things and associations.

1. **Question 25. What Are Messages?**

**Answer :**

A message is the specification of a communication, when a message is passed that results in action that is in turn an executable statement.

1. **Question 26. Explain About Executable Uml?**

**Answer :**

Executable does not use full functionality and standards as present in UML. Although there are many constructs present in UML all of them are not used for designing, executable UML uses only limited number of constructs.

1. **Question 27. Explain About The Difficulties Of Interchange Format Of Uml?**

**Answer :**

XML standard should allow interchange of UML models but it is not the case scenario practically. Portability of the language from one format to another format is not possible and lack of information can be possible in the course. It also lacks sufficient details which make it impossible for interchange between modeling tools.

1. **Question 28. State Some Benefits Of Iterative Development?**

**Answer :**

Some of the benefits offered by iterative development are as follows:

* + Mitigation of risks in an earlier stage.
  + Visibility of progress.
  + Feedback, adaptation and engagement.
  + Complexity management.
  + Iteration management can improve the overall process of the project because it details and explains the various steps present in it.

1. **Question 29. Explain About Dependency?**

**Answer :**

This form of relationship exists when a change to a certain element changes the definition and structure of the other element as well. This is indicated by a pointing arrow from the dependent side to the independent side. This form of relationship can exist between classes and inheritance.

1. **Question 30. Explain About Aggregation?**

**Answer :**

Aggregation gives a much more detail than association. In aggregation you can name it and it can have same adornments. It may not be involved with more than two classes. It can have a collection of classes but its classes are not dependent on the life cycle. It's contents are not destroyed even when its classes are destroyed.

1. **Question 31. Detail The Meaning Of Association?**

**Answer :**

There are five types of association but importance is given to only two they are Bidirectional and unidirectional. It represents a family of links. Binary associations are represented by two ends and they are connected to class box. Higher order associations can have more than two ends.

1. **Question 32. Write Down The Main Phases Of Problem Solving Model?**

**Answer :**

The main phases of problem solving model are given below:  
• Data gathering.  
• Problem redefining.  
• Finding ideas.  
• Finding solutions.  
• Implementation.

1. **Question 33. What Is Prototype?**

**Answer :**

A prototype is a system or partially complete system that is built quickly to explore some aspects of the system requirements. It is not intended as the final system.

1. **Question 34. What Are The Main Stages Required To Prepare A Prototype?**

**Answer :**

The main stages required to prepare a prototype are as follows:  
• Perform initial analysis.  
• Define prototype objectives.  
• Specify prototype.  
• Construct prototype.  
• Evaluate prototype and recommend changes.

1. **Question 35. What Is Elaboration?**

**Answer :**

Elaboration focuses requirements capture and determining the structure of the system.

1. **Question 36. What Is Construction?**

**Answer :**

Construction’s main aim is to build the software system.

1. **Question 37. What Is Transition?**

**Answer :**

Transition deals with product installation and rollout.

1. **Question 38. What Is Inception?**

**Answer :**

Inception is concerned with determining the scope and purpose of the project.

1. **Question 39. What Does Mean "case"?**

**Answer :**

CASE stands for Computer Aided Software Engineering. CASE tools have been categories in various ways according to the phase in the life cycle which they should be used. Upper-CASE tools provide support for the analysis and design while lower-CASE tools are concerned with the construction and maintenance of software. These two categories of tools directly support the overall development process.

1. **Question 40. What Is Repository?**

**Answer :**

The part of a CASE tool environment that handles the storage of models, including diagrams, specification and definitions.

1. **Question 41. Define The Four Phases Of Usdp?**

**Answer :**

The four phases of Unified Software Development Process are as follows:  
• Inception.  
• Elaboration.  
• Construction.  
• Transition.

1. **Question 42. What Are Object, Class And Instance?**

**Answer :**

**Object:** A single thing or concept, either in a model of an application domain or in a software system that can be represented as an encapsulation of state, behavior and identity, a member of a class that defines a set of similar objects.  
**Class:**A class is a descriptor for a collection of objects that are logically similar in terms of their behavior and the structure of their data.  
**Instance:** A single object, usually called an instance in the context of its membership of a particular class or type.

1. **Question 43. What Is Generalization And Specialization?**

**Answer :**

**Generalization:** Generalization is the abstraction of common feature among elements by the creation of a hierarchy of more general elements that encapsulate common features. For example, in animal world a cat and a dog share some common features and we create a common general class “Mammal” which encapsulates common their common feature. A cat, a dog – both are consistent with mammal class.  
**Specialization:** The other face of generalization is specialization. A class is said to be specialized when it has a set of characteristics that uniquely distinguish it from its super class. For example, a cat is a mammal but it is more specialized

1. **Question 44. What Is Inheritance In Oosad?**

**Answer :**

The mechanism by which object-oriented programming languages implement a relationship of generalization and specialization between classes is called inheritance. When we extend a class from an existing class – the existing class is the superclass and the extended class is subclass. By the rules of inheritance the subclass inherits all the features from its superclass.

1. **Question 45. What Is Polymorphism In Oosad?**

**Answer :**

The ability of different methods to implement the same operation, and thus to respond same messages in different ways that are appropriate to their class is called polymorphism.

1. **Question 46. What Is Message-passing?**

**Answer :**

It is a metaphor for the way that objects interact in object-oriented system by sending each other messages that request services or supply information. In a system, several objects may collaborate to fulfil an action. These objects communicate by sending each other message. Since objects interact only through messages they exchange, their internal detail can remain hidden from each other.

1. **Question 47. What Is An Operation Signature?**

**Answer :**

determined by the operation’s name, the number and type of its parameters and the type of the return value if any. Polymorphically redefined operations have the same signature.

1. **Question 48. What Are Subclass And Supper Class?**

**Answer :**

**Subclass:**a specialized class that acquires general features from its ancestor super-classes in a generalization hierarchy, but that also adds one or more specialized characteristics of its own.  
**Superclass:** a generalized class that is an abstraction of the common characteristics of its subclasses in a generalization hierarchy.

1. **Question 49. What Are The Four Elements Of A Uml Diagram?**

**Answer :**

Elements are:  
• Icons  
• Two-dimensional symbols  
• Paths  
• strings

1. **Question 50. What Is Sub System?**

**Answer :**

A part of a system that can be regarded as a system in its own right.

1. **Question 51. What Is A Uml Package?**

**Answer :**

A package is a mechanism for grouping UML elements, usually classes, into groups. Packages can be nested within other packages.

1. **Question 52. What Is An Activity?**

**Answer :**

An activity is some behaviour that may persist for the duration of a state.

1. **Question 53. What Is A Guard Condition?**

**Answer :**

A guard condition is a Boolean expression associated with a transition that is evaluated at the time the event fires. The transition is take place if the condition is true.

1. **Question 54. What Is An Object Flow?**

**Answer :**

An object is a dependency between an object and an activity that results in a change to the state of that object.

1. **Question 55. What Is An Activity Diagram?**

**Answer :**

A variation of a statechart diagram that focuses on a flow of activity driven by internal processing within an object rather than by events that are external to it. In an activity diagram most (or all) states are action states, each of which represents the execution of an operation.

1. **Question 56. What Is Current System?**

**Answer :**

The existing system may a manual one, based on paper documents, forms and files; it may already be computerized; or it may be a combination of both manual and computerized elements is called current system.

1. **Question 57. Write Down The Types Of Requirements?**

**Answer :**

There are three types of requirements these are as follows:  
• Functional  
• Non-functional  
• Usability

1. **Question 58. What Is Functional Requirement?**

**Answer :**

Functional requirements describe what a system does or is expected to do, often referred to as its functionality.

1. **Question 59. What Is Non Functional Requirement?**

**Answer :**

Non-functionality requirements are those that describe aspects of the system that are concerned with how well it provides the functional requirements.

1. **Question 60. What Is Usability Requirement?**

**Answer :**

Usability requirement are those that will enable us to ensure that there is a good match between the system that is developed and both the users of that system and the tasks that they will undertake when using it.

1. **Question 61. What Is Stereotype?**

**Answer :**

A stereotype is a specialized UML modelling element. It has a special meaning and purpose in UML diagrams. The stereotype name is contained within matched guillemets <<…>. For example an interface is denoted as <<interface>>.

1. **Question 62. What Are Boundary, Entity And Control Classes?**

**Answer :**

Boundary objects model interaction between the system and actors. Entity objects represent information and behaviour in the application domain. Control objects co-ordinate and control other objects.

1. **Question 63. What Are Attributes?**

**Answer :**

An element of the data structure that, together with operations, defines a class. Describes some property of instances of the class.

1. **Question 64. Define Link And Association.**

**Answer :**

**Link:** A connection between objects; an instance of an association.  
**Association:** A logical connection, usually between different classes although in some circumstances a class can have an association with itself. An association describes possible links between objects, and may correspond either to logical relationship in the application domain or to message paths in software.

1. **Question 65. What Is Multiplicity?**

**Answer :**

Multiplicity is a constraint that specifies the range of permitted cardinalities, for example in an association role or in a composite class.

1. **Question 66. What Are Operations?**

**Answer :**

An aspect of the behaviour that defines a class; an element of the services that are provided by a class; a specification of an element of system functionality that will be implemented as a method of an object.

1. **Question 67. What Is Class Diagram?**

**Answer :**

A UML diagram that shows classes with their attributes and operations, together with the associations between classes.

1. **Question 68. What Is Crc Card?**

**Answer :**

CRC stands for Class–Responsibility–Collaboration. CRC cards help to model interaction between objects.

1. **Question 69. What Is Collaboration And Collaboration Diagram?**

**Answer :**

**Collaboration:** the structure and links between a group of instances that participate in a behaviour. The behaviour can be that of an operation or a use case (or any other behavioral classifier in UML).  
**Collaboration diagram:** a collaboration diagram shows an interaction between objects and the context of the interaction in terms of the links between the objects.

1. **Question 70. What Is Composition?**

**Answer :**

A strong form of aggregation with a lifetime dependency between each part and the whole. No part can belong to more than one composition at a time, and if the composite whole is deleted its parts are deleted with it.

1. **Question 71. What Is Aggregation?**

**Answer :**

A whole–part association between two or more objects, where one represents the whole and the others parts of that whole.

1. **Question 72. What Is A Pattern?**

**Answer :**

A pattern is an abstract solution to a commonly occurring problem in a given context. A pattern describes a problem which occurs over and over again in our environment, and then describes the core of a solution to that problem, in such a way that we can use this solution a million times over, without ever doing it the same way twice.

1. **Question 73. What Is An Antipattern?**

**Answer :**

Documents unsuccessful attempts at providing solutions to certain recurring problems but includes reworked solutions that are effective.

1. **Question 74. What Is An Abstract Class?**

**Answer :**

A class that has no instances; a superclass that acts only as a generalized template for its instantiated subclasses.

1. **Question 75. What Are The Elements Of Pattern?**

**Answer :**

The elements of pattern are:  
• Context.  
• Forces.  
• Software configuration.

1. **Question 76. What Is Multiple Inheritances?**

**Answer :**

Multiple inheritance occurs when a subclass inherits from more than one generalization hierarchy. All features are inherited from every superclass.

1. **Question 77. What Is Nih Syndrome?**

**Answer :**

**NIH Syndrome:** Some software developers are not inclined to trust software that was written elsewhere.

1. **Question 78. What Is Dependency?**

**Answer :**

A relationship between two model elements, such that a change in one element may require a change in the dependent element.

1. **Question 79. What Is Mean By A Component?**

**Answer :**

Component is an executable software module with a well-defined interface and identity.

1. **Question 80. Define Interaction?**

**Answer :**

An Interaction is defined in the context of Collaboration. It specifies the communication patterns between the roles in the Collaboration.

1. **Question 81. Define Sequence Diagram?**

**Answer :**

Sequence diagram shows an interaction between objects arranged in a time sequence. Sequence diagram can be drawn at different levels of detail and also to meet different purposes at several stages in the development life cycle.

1. **Question 82. What Do You Mean By Focus Of Control?**

**Answer :**

The focus of control indicates times during activation when processing is taking place within that object. Parts of an object activation that are not within the focus of control represent periods when, for example, an operation is waiting for a return from another object.

1. **Question 83. What Is An Object Lifeline?**

**Answer :**

A lifeline is a vertical dashed line that represents the existence of an object on an interaction sequence diagrams. An object symbol containing the object’s name is placed at the top of a lifeline.

1. **Question 84. What Is Contract?**

**Answer :**

A black box description of a service (of a class or sub-system) that specifies the results of the service and the conditions under which it will be provided.

1. **Question 85. Write Down Two Category Of Logical Specification?**

**Answer :**

Two category of logical specification are:  
• Algorithmic.  
• Non-algorithmic.

1. **Question 86. What Are Non-algorithmic Techniques?**

**Answer :**

Non-algorithmic techniques are:  
• Appropriate where correct result matters more than method to arrive at it.  
• Decision tree: complex decisions, multiple criteria and steps (not described further here).  
• Decision table: similar applications to decision tree.  
• Pre- and Post-condition pairs: suitable where precise logic is unimportant or uncertain.

1. **Question 87. What Are Algorithmic Techniques?**

**Answer :**

Algorithmic techniques are:

* + Suitable where users understand the procedure for arriving at a result.
  + Can be constructed top-down, to handle arbitrarily complex functionality.

Examples:

* + Structured English.
  + Activity Diagrams.

1. **Question 88. What Is Object Constraint Language?**

**Answer :**

A formal language that supplements the graphical notations of UML. OCL is generally used to give precise definitions for operation logic, or for properties such as invariants (q.v.).

1. **Question 89. What Are The Three Components Of Most Ocl Expression?**

**Answer :**

Three components of most OCL Expression are:  
• Context.  
• Property.  
• Operation.

1. **Question 90. Define Event, State And Transition?**

**Answer :**

**Event:** An event is occurrence of a stimulus that can trigger a state change and that is relevant to the object.  
**State:** A state reflects condition of an object at a given moment. The state of an object is determined by values of its attributes and presence or absence of links to other objects.  
**Transition:** The movement from one state to another state is called transition. A transition is triggered by an event. A transition may start and end at the same state.

1. **Question 91. What Are The Types Of Event?**

**Answer :**

There are four types of event:  
• A change  
• A call event  
• A signal event  
• An elapsed-time event

1. **Question 92. What Are The Approaches To Preparing State Chart?**

**Answer :**

Two approaches may be used:  
• Behavioural approach  
• Life cycle approach

1. **Question 93. What Is Concurrent States?**

**Answer :**

If an object may be in two or more states at the same time, then these states are concurrent states.

1. **Question 94. What Is Mean By Seamlessness In Object-oriented Systems Development?**

**Answer :**

The same model—the class model—is used through the life of the project During design, additional detail is added to the analysis classes, and extra classes are added to provide the supporting functionality for the user interface and data management Other diagrams are also elaborated in design activities.

1. **Question 95. What Is Cohesion And Coupling?**

**Answer :**

**Cohesion:**a measure of the degree to which an element of a model contributes to a single purpose.  
**Coupling:** relates to the degree of interconnectedness between design components and is reflected by the number of links and the degree of interaction an object has with other objects.

1. **Question 96. Define Two Different Styles Of Communication?**

**Answer :**

Two styles of communication are:  
• Client-server communication.  
• Peer-peer communication.

1. **Question 97. Define Four Main Strategies For Switching Over To The New System?**

**Answer :**

The four main strategies for switching over to the new system are as follows:  
• Direct changeover  
• Parallel running  
• Phase changeover  
• Pilot project.

1. **Question 98. What Is A Test Harnesses?**

**Answer :**

Write programs that create instances of classes and send them messages to test operations execute correctly is called test harnesses.

1. **Question 99. What Kinds Of Tests?**

**Answer :**

There are two types of tests. These are:  
• Black box testing and  
• White box testing

1. **Question 100. What Is Component Diagram And Deployment Diagram?**

**Answer :**

**Component diagram:** a diagram that shows the organization of and dependencies among components. One of two UML implementation diagrams (q.v.).  
**Deployment diagram:** A diagram that shows the run-time configuration of processing nodes (q.v.) and the components, processes and objects that are located on them. One of two UML implementation diagrams (q.v.).

1. **Question 101. What Are Referential Integrity, Dependency Constraint And Domain Integrity?**

**Answer :**

**Referential Integrity:**Referential integrity ensures that an object identifier in one object actually refers to an object that exists.  
**Dependency constraints:** Dependency constraints ensure that attribute dependencies, values are maintained consistently, where the value of one attribute is calculated from other attributes, are maintained consistently.  
**Domain integrity:** Domain integrity ensures that attributes only hold permissible values.

1. **Question 102. What Are Components Of An Mvc Architecture?**

**Answer :**

The components of MVC architecture are:  
• Model  
• View  
• Controller

1. **Question 103. What Is Integrity Constraint?**

**Answer :**

A constraint that has to be enforced to ensure that the information system holds data that is mutually consistent and is manipulated correctly.

1. **Question 104. What Is Interface?**

**Answer :**

That part of the boundary between two interacting systems across which they communicate, the set of all signatures for the public operations of a class or package.

1. **Question 105. What Is Realize Relationship?**

**Answer :**

A relationship between two classes where one class offers the interface of the other but does not necessarily have the same structure of the other. Commonly used to show that a class supports an interface. Written as a stereotype: «realize».

1. **Question 106. Explain About Dynamical Behavior View?**

**Answer :**

Dynamical behavior view plays a very important in determining relationships and behavior of the system. This view depicts collaboration among objects and the effective changes to the internal states of objects. This includes activity, sequence and state machine diagrams.

1. **Question 107. Define Types Of Dbms?**

**Answer :**

There are three types of DBMS. These are:  
• Relational databases  
• Object databases  
• Object-relational databases.

1. **Question 108. Explain About Xml Signature?**

**Answer :**

XML signature is recommended by w3c. It acts as a digital signature for XML documents. This technology is used by various technologies such as SAML, SOAP, etc.

1. **Question 109. How To Backup Active Directory?**

**Answer :**

Backing up Active Directory is essential to maintain an Active Directory database. You can back upActive Directory by using the Graphical User Interface (GUI) and command-line tools that theWindows Server 2003 family provides.  
You frequently backup the system state data on domain controllers so that you can restore the most current data. By establishing a regular backup schedule, you have a better chance of recovering data when necessary.  
To ensure a good backup includes at least the system state data and contents of the system disk, you must be aware of the tombstone lifetime. By default, the tombstone is 60 days. Any backup older than 60 days is not a good backup. Plan to backup at least two domain controllers in each domain, one of at least one backup to enable an authoritative restore of the data when necessary.

1. **Question 110. Define Types Of File Access Methods?**

**Answer :**

There are three types of file access methods. These are:  
• Serial access  
• Index-sequential access  
• Direct access.

1. **Question 111. Define Types Of File Organization?**

**Answer :**

There are three types of file organization. These are:  
• Serial organization  
• Sequential organization  
• Random organization.

1. **Question 112. Define Three Step Of Normalization?**

**Answer :**

The three step of normalization are:  
• First normal form  
• Second normal form  
• Third normal form.

1. **Question 113. What Is Mean By Relational And Object Dbms?**

**Answer :**

**Relational DBMS:** Complex objects have to be taken apart and the parts stored in different tables are called relational database management system.  
**Object DBMS:**Object databases are closely linked to programming languages with ways of navigating through the database.

1. **Question 114. What Is Mean By Broker And Proxy?**

**Answer :**

**Broker:** Use a broker class responsible for materializing instances of each class from the database.  
**Proxy:** Proxy objects act as placeholders for the real objects, e.g. IntCampaigns in Locations.

1. **Question 115. What Are The Non-functional Properties Of A Software Architecture?**

**Answer :**

The non-functional properties of a software architecture are:  
• changeability  
• interoperability  
• efficiency  
• reliability  
• testability  
• reusability.

1. **Question 116. What Are The Key Principles That Underlie Patterns?**

**Answer :**

Key principles that underlie patterns are:  
• abstraction  
• encapsulation  
• information hiding  
• modularization  
• separation of concerns  
• Coupling and cohesion  
• Sufficiency  
• Completeness and primitiveness  
• Separation of policy and implementation  
• Separation of interface and implementation  
• Single point of reference  
• Divide and conquer.

1. **Question 117. Define Three Type Of Design Patterns?**

**Answer :**

Three type of Design patterns are:  
• Creational pattern  
• Structural pattern  
• Behavioural pattern.

1. **Question 118. What Is Framework?**

**Answer :**

Frameworks are partially completed software systems that may be targeted at a specified type of application.

1. **Question 119. Define Model, View Controller?**

**Answer :**

**Model:** provides the central functionality of the application and is aware of each of its dependent view and controller components.  
**View:** corresponds to a particular style and format of presentation of information to the user.The view creates its associated controller.  
**Controller:** accepts user input in the form of events that trigger the execution of operations within the model.

1. **Question 120. Explain What Are The Gpc And The Gpt? Where Can We Find Them?**

**Answer :**

GPOs store group policy settings in two locations: a Group Policy container (GPC) (preferred) and a Group Policy template (GPT). The GPC is an Active Directory object that stores version information, status information, and other policy information (for example, application objects).

The GPT is used for file-based data and stores software policy, script, and deployment information. The GPT is located on the system volume folder of the domain controller. A GPO can be associated with one or more Active Directory containers, such as a site, domain, or organizational unit. Multiple containers can be associated with the same GPO, and a single container can have more than one associated GPO.