

ORAL QUESTION BANK

1.What is UML

The Unified Modeling Language (UML) is a language used in the field of software engineering that represent the components of the Object-Oriented Programming concepts. It is the general way to define the whole software architecture or structure.

2.Who invented the UML?

Grady Booch, Ivar Jacobson, and James Rumbaugh created the Unified Modeling Language in 1995 while working at Rational software

3.How many UML diagrams, names? 4.What are the Types of UML diagram like behavioral, structural?

There are two main categories; structure diagrams and behavioral diagrams. Click on the links to learn more about a specific diagram type.

- Structure Diagrams
 - [Class Diagram](#)
 - [Component Diagram](#)
 - [Deployment Diagram](#)
 - [Object Diagram](#)
 - [Package Diagram](#)
 - [Profile Diagram](#)
 - [Composite Structure Diagram](#)
- Behavioral Diagrams
 - [Use Case Diagram](#)
 - [Activity Diagram](#)
 - [State Machine Diagram](#)
 - [Sequence Diagram](#)
 - [Communication Diagram](#)
 - [Interaction Overview Diagram](#)
 - [Timing Diagram](#)

5.All name of the units of ASM

[Unit I-Introduction To Modeling](#)

Unit II-Class Modeling

Unit III-State Modeling

Unit 4-Interaction Model

Unit 5- Object Oriented Design

[Unit 6- Software Testing](#)

All 6 Experiments along with theory

All UML diagrams theory, description, notations, relationships

Questions will be like for example what is trigger in the state diagram, what is join in activity diagram, explain include and extend relationship in use case etc.

Draw class, Use case, state, activity diagram, sequence diagram with the given problem statement. For example, ATM System, library, railway reservation Etc.

8.What is TDD

Test Driven Development (TDD) is software development approach in which test cases are developed to specify and validate what the code will do. In simple terms, test cases for each functionality are created and tested first and if the test fails then the new code is written in order to pass the test and making code simple and bugfree. • Test-Driven Development starts with designing and developing tests for every small functionality of an application. TDD framework instructs developers to write new code only if an automated test has failed. This avoids duplication of code. The TDD full form is Testdriven development

9.Explain the steps of TDD

Following steps define how to perform TDD test, 1.Add a test. 2.Run all tests and see if any new test fails. 3.Write some code. 4.Run tests and Refactor code. 5.Repeat

Software testing and all concepts mentioned in unit 6

10 OCL?

The Object Constraint Language (OCL) is an expression language that describes constraints on object-oriented languages and other modelling artifacts.

A constraint can be seen as a restriction on a model or a system.

OCL is part of Unified Modeling Language (UML) and it plays an important role in the analysis phase of the software lifecycle.

- Expression language OCL is a pure expression language. Therefore, an OCL expression is guaranteed to be without side effect. It cannot change anything in the model.
- Modeling language OCL is a modeling language, not a programming language. It is not possible to write program logic or flowcontrol in OCL.
- Formal language OCL is a formal language where all constructs have a formally defined meaning

Component and deployment diagram

Object and package diagram

11 .4+1 view architecture?

The logical view or conceptual view – It describes the object model of the design.

The process view – It describes the activities of the system, captures the concurrency and synchronization aspects of the design.

The physical view – It describes the mapping of software onto hardware and reflects its distributed aspect.

The development view – It describes the static organization or structure of the software in its development of environment

scenario view or use case view - It is coherent with other four views and are utilized to illustrate the architecture serving as “plus one” view, (4+1) view model.

11.UML Building Blocks ?

Things

Things are the most important building blocks of UML. Things can be –

- Structural
- Behavioral
- Grouping
- Annotational

Diagram

1. Structural Diagram
2. Behavioral Diagram
3. Interaction Diagram

Relationships

Dependency

Association

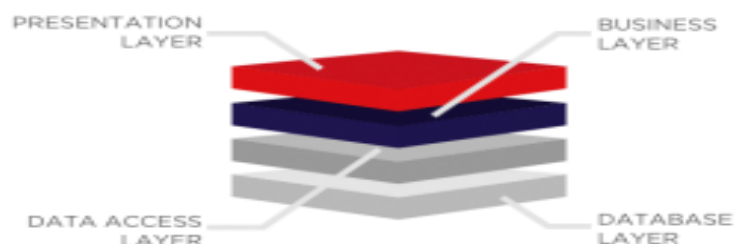
Generalization

Realization

12.UML Common Mechanisms?

UML has four common mechanisms –Specifications, Adornments, Common Divisions, Extensibility Mechanisms

13.UML Layered Approach?



14.What is modelling?

The three types of modeling in UML are as follows:

1. Structural modeling:

- It captures the static features of a system.
- It consists of the following diagrams:
 1. Classes diagrams
 2. Objects diagrams
 3. Deployment diagrams
 4. Package diagrams
 5. Composite structure diagram
 6. Component diagram
- This model represents the framework for the system and all the components exist here.
- It represents the elements and the mechanism to assemble them.
- It never describes the dynamic behavior of the system.

2. Behavioral modeling:

- It describes the interaction within the system.
- The interaction among the structural diagrams is represented here.
- It shows the dynamic nature of the system.
- It consists of the following diagrams:
 1. Activity diagrams
 2. Interaction diagrams
 3. Use case diagrams
- These diagrams show the dynamic sequence of flow in the system.

3. Architectural modeling:

- It represents the overall framework of the system.
- The structural and the behaviour elements of the system are there in this system.
- It is defined as the blue print for the entire system.
- Package diagram is used.

Draw simple class diagram and implement the class diagram with a suitable object-oriented language like in python or c++ or java

Draw simple State diagram implement the state model with a suitable object-oriented language like in python or c++ or java