PART - A

1. What is a system sequence diagram?

A system sequence diagram (SSD) is a fast and easily created artifact that illustrates input and output events related to the systems under discussion. They are input to operation contracts and most importantly object design.

2. What are System Sequence Diagrams?

A system sequence diagram is a picture that shows, for one particular scenario of a use case, the events that external actors generate their order, and inter-system events. All systems are treated as a black box; the emphasis of the diagram is events that cross the system boundary from actors to systems.

3. What is the Logical Architecture?

The logical architecture is the large-scale organization of the software classes into packages (or namespaces), subsystems, and layers. It\'s called the logical architecture because there\'s no decision about how these elements are deployed across different operating system processes or across physical computers in a network.

4. What is a Layer?

A layer is a very coarse-grained grouping of classes, packages, or subsystems that has cohesive responsibility for a major aspect of the system. Also, layers are organized such that \"higher\" layers (such as the UI layer) call upon services of \"lower\" layers, but not normally vice versa.

5. What is Software Architecture?

An architecture is the set of significant decisions about the organization of a software system, the selection of the structural elements and their interfaces by which the system is composed, together with their behavior as specified in the collaborations among those elements, the composition of these structural and behavioral elements into progressively larger subsystems, and the architectural style that guides this organization these elements and their interfaces, their collaborations, and their composition.

6. What\'s the Connection Between SSDs, System Operations, and Layers?

The SSDs illustrate these system operations, but hide the specific UI objects. Nevertheless, normally it will be objects in the UI layer of the system that capture these system operation requests, usually with a rich client GUI or Web page.

7. What is controller?

A controller is the first object beyond the UI layer that is responsible for receiving or handling a system operation message.

8. What is UML Class Diagrams?

The UML includes class diagrams to illustrate classes, interfaces, and their associations. They are used for static object modeling.

9. Define Classifier?

A UML classifier is \"a model element that describes behavioral and structure features\" Classifiers can also be specialized. They are a generalization of many of the elements of the UML, including classes, interfaces, use cases, and actors. In class diagrams, the two most common classifiers are regular classes and interfaces.

10. What is UML Operations?

A UML operation is a declaration, with a name, parameters, return type, exceptions list, and possibly a set of constraints of pre-and post-conditions. But, it isn\'t an implementation rather, methods are implementations.

11. What is UML Method?

A UML method is the implementation of an operation; if constraints are defined, the method must satisfy them. A method may be illustrated several ways, including:

• in interaction diagrams, by the details and sequence of messages

• in class diagrams, with a UML note symbol stereotyped with «method»

12. What is UML Keyword?

A UML keyword is a textual adornment to categorize a model element. For example, the keyword to categorize that a classifier box is an interface is (shocking surprise!) «interface».

What are UML Properties and Property Strings?

In the UML, a property is \"a named value denoting a characteristic of an element. A property has semantic impact.\" Some properties are predefined in the UML, such as visibility a property of an operation. Others can be user-defined.

Properties of elements may be presented in many ways, but a textual approach is to use the UML property string {name1=value1, name2=value2} format, such as {abstract, visibility=public}. Some properties are shown without a value, such as {abstract}; this usually implies a boolean property, shorthand for {abstract=true}. Note that {abstract} is both an example of a constraint and a property string.

13. What is qualified association?

A qualified association has a qualifier that is used to select an object (or objects) from a larger set of related objects, based upon the qualifier key.

14. What is an association class?

An association class allows you treat an association itself as a class, and model it with attributes, operations, and other features. For example, if a Company employs many Persons, modeled with an Employs association, you can model the association itself as the Employment class, with attributes such as startDate.

15. What is a Sequence diagram?

Sequence diagrams illustrate interactions in a kind of fence format, in which each new object is added to the right.

16. What is a Communication diagram?

Communication diagrams illustrate object interactions in a graph or network format, in which objects can be placed anywhere on the diagram

17. What are the Strengths and Weaknesses of Sequence vs. Communication Diagrams?

Part –B (16 Marks)

1. Explain System sequence diagrams with an Example?

2. Explain logical architecture and UML package diagrams?

3. What\'s the Connection Between SSDs, System Operations, and Layers?

4. Explain Logical architecture refinement?

5. Explain UML class diagrams?

6. Explain Inter-Layer and Inter-Package Interaction?

7. Explain UML Interaction Diagrams?

8. Explain Operations and Methods with an example?