1)What is class in object-oriented programming language?

a. In object-oriented programming, a class is a blueprint defining objects' attributes and behaviors, serving as a template for creating objects.

2) What is an Object in Object Oriented Programming Language?

a. An object in OOP is like a character or a thing in a computer program. It has its own qualities and actions, and is made from a blueprint called a class. The class defines what the object can do and what it is made of. When the program runs, these objects can interact with each other and carry out their actions.

3) What Is Difference Between Class and Interface?

a. A class is a blueprint for an object and defines its properties and behaviors. An interface is a contract that defines behaviors for classes to implement, but does not provide implementation details.

4) What Is Method Overloading in Object Oriented Programming Language?

a. Method overloading is defining multiple methods with the same name but with different parameters in a class, allowing for methods to
 be called based on the number of parameters, their types, or order.

5) What Is Data hiding in Object Oriented Programming Language?

a. Data hiding in OOP is the practice of making certain information in a class inaccessible to the outside world, for the purpose of protecting the class's internal state and reducing the risk of bugs and stability issues.

6) What are the differences between abstract classes and interfaces?

a. Abstract classes provide a partial implementation with fields and methods, while interfaces only declare method signatures with no implementation. A class can inherit from one abstract class, but implement multiple interfaces.

7) What is the Virtual Function in Object Oriented Programming?

a. Virtual functions in OOP are methods that can be redefined in derived classes and their implementation is determined at runtime based on the actual type of the object, used for polymorphism.

8) What is Constructor in Object Oriented Programming?

a. A constructor in OOP is a special method that initializes an object's data members and sets up its initial state, automatically called when an object is created.

9) What is Abstract class in Object Oriented Programming?

a. An abstract class is a blueprint for other classes in OOP, which can have both concrete and abstract methods and can't be instantiated on its own. It provides a common interface for related classes.

10) What is Final Keyword in Object Oriented Programming?

a. The "final" keyword in OOP restricts inheritance or override of methods or classes, making them unchangeable and providing greater control over the design and behavior of the system.

11) What is Pure Virtual function in Object Oriented Programming?

a. A pure virtual function is a virtual function in OOP with no implementation, used to create an abstract base class and provide a common interface for related classes to inherit from.

12) What is Sealed Modifier in Object Oriented Programming?

a. The "sealed" modifier in OOP restricts inheritance of a class or method, ensuring that its behavior cannot be changed by subclasses and providing greater control over the design and behavior of the system.

13) What is Dynamic or run time Polymorphism in oops?

a. Dynamic polymorphism in OOP allows objects to respond differently to the same method call based on their actual type at runtime, enabling more flexible and reusable code through method overriding.

14) What is Access Modifier in Object Oriented Programming?

a. Access modifiers in OOP control the visibility and accessibility of class members, such as fields, methods, and constructors. The main access modifiers are "public", "private", and "protected", which define the scope and control the flow of data within a program.

15) What is Friend Function in Object Oriented Programming?

a. A friend function in OOP is a non-member function that has access to the private and protected members of a class, allowing it to perform related operations that cannot be done through the public interface.

16) What is Overriding in Object Oriented Programming?

a. Overriding in OOP is when a subclass provides a new implementation for a method that already exists in its base class, taking precedence over the implementation in the base class. It allows for polymorphism and more flexible and reusable code.

17) What is the role of mutable storage class specifier?

a. The "mutable" specifier in C++ allows a member variable of a const object to be changed, enabling optimization and caching while preserving const-correctness.