1. What is the purpose of a constructor in a class?

a. To initialize an object's properties

b. To delete an object

c. To declare a variable

d. To perform mathematical operations

Answer: a

2. What does inheritance enable in object-oriented programming?

a. The process of copying a file

b. The transmission of properties from one class to another class

c. Connecting to a database

d. Creating graphical user interfaces

Answer: b

3. What is polymorphism in object-oriented programming?

a. The ability of different classes to respond to the same function call

b. Changing the data type of a variable

c. Encrypting data

d. Writing data to a file

Answer: a

4. What is the role of a destructor in a class?

a. To initialize an object's properties

b. To encrypt an object's properties

c. To clean up resources when an object is no longer needed

d. To multiply two numbers

Answer: c

5. When defining a class in C++, which keyword is used to declare a private member?

a. public

b. private

c. protected

d. class

Answer: b

6. What is the output of calling a virtual function through a base class pointer in C++?

a. The function in the base class is always called

b. The function in the derived class is called, if it is overridden

c. The program crashes

d. None of the above

Answer: b

7. How can a derived class call a function of the base class if it has been overridden?

a. By using the scope resolution operator (::)

b. By declaring the function again in the derived class

c. By using a special keyword 'super'

d. It is not possible

Answer: a

8. What is the correct way to initialize a class's member variables in C++?

a. Using an assignment operator in the constructor

b. Using an initialization list in the constructor

c. By declaring them as public and initializing outside the class

d. Both a and b are correct

Answer: d

9. In C++, which of the following is true about constructors?

a. Constructors can be virtual

b. Constructors must always be public

c. A class can have multiple constructors

d. Constructors are used to destroy objects

Answer: c

10. What concept allows classes to have the same interface but different underlying implementations?

a. Encapsulation

b. Inheritance

c. Polymorphism

d. Composition

Answer: c