



Aims Academy

TEST:3: Programming in C++

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1. C++ name was suggested by

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2. In C++ a function contained within a class is called

a. **a member function** b. an operator c. a class function d. a method

3. A member function can always access the data in _____, (in C++).

A **the class of which it is member** B. the object of which it is a member

C the public part of its class D. the private part of its class

4. Which of the following is not correct (in C++) ?

1. Class templates and function templates are instantiated in the same way

2. Class templates differ from function templates in the way they are initiated

3. Class template is initiated by defining an object using the template argument

4. Class templates are generally used for storage classes

a. 1,2,3 b. **2,3,4** c. 2,3,4 d. All the above

5. Which of the following cannot be passed to a function in C++ ?

A. Constant B Structure C Array d. **Header file**

6. Which of the following is a correct statement?

A. **Composition is a strong type of association between two classes with full ownership.**

B. Composition is a strong type of association between two classes with partial ownership.

C. Composition is a weak type of association between two classes with partial ownership.

D. Composition is a weak type of association between two classes with strong ownership.

7. Which of the following is not a correct statement?

A Every class containing abstract method must be declared abstract.

B. **Abstract class can directly be initiated with 'new' operator.**

C. Abstract class can be initiated.

- D Abstract class does not contain any definition of implementation.
8. When a method in a subclass has the same name and type signatures as a method in the superclass, then the method in the subclass _____ the method in the superclass.
 A Overloads B. Friendships C. Inherits **D. Overrides**
9. It is possible to define a class within a class termed as nested class. There are _____ types of nested classes.
 A. 2 B. 3 C. 4 D. 5
10. When one object reference variable is assigned to another object reference variable then
 A a copy of the object is created.
 B. **a copy of the reference is created.**
 C a copy of the reference is not created.
 D it is illegal to assign one object reference variable to another object reference variable.
11. Which of the following, in C++, is inherited in a derived class from base class ?
 A Constructor B. Destructor C. **data members** D. virtual methods
12. Which of the following is not a member of class?
 A. Static function **B. Friend function** C. Const function D. Virtual function
13. By default functions available in C++ language are
 1.Constructor 2.Destructor 3. Copy constructor 4. Assignment operator
 a. 1,2,3 b.2,3,4 c.1,3,4 **d. All the above**
- 14) Types of inheritance in C++ are
 1. Multilevel 2. Multiple 3. Hierarchical 4. Single
a. 1,2,3 b.2,3,4 c. 2,3 d. All the above
- 15) _____ members of base class are inaccessible to derived class
 A. **Private** B. Protected C. Public D. None
16. How can Encapsulation be achieved?
a) Using Access Specifiers b) Using only private members
 c) Using inheritance d) Using Abstraction
17. Which among the following violates the principle of encapsulation almost always?
 a) Local variables **b) Global variables**
 c) Public variables d) Array variables
18. Data members which are static
 (A) cannot be assigned a value **(B) can only be used in static functions**
 (C) cannot be defined in a Union (D) can be accessed outside the class
19. It is possible to declare as a friend
 (A) a member function (B) a global function (C) a class **(D) all of the above**

- 20 . How many constructors can a class have?
(A) 0 (B) 1 (C) 2 (D) **any number**
21. In multiple inheritance
(A) the base classes must have only default constructors (B) **cannot have virtual functions**
(C) can include virtual classes (D) None of the above.
22. Declaration of a pointer reserves memory space
(A) for the object. (B) **for the pointer.**
(C) both for the object and the pointer. (D) none of these.
23. Identify the operator that is NOT used with pointers
(A) -> (B) & (C) * (D) >>
24. In which case is it mandatory to provide a destructor in a class?
(A) Almost in every class
(B) Class for which two or more than two objects will be created
(C) Class for which copy constructor is defined
(D) **Class whose objects will be created dynamically**
25. Overloading the function operator
(A) **requires a class with an overloaded operator.**
(B) requires a class with an overloaded [] operator.
(C) allows you to create objects that act syntactically like functions.
(D) usually make use of a constructor that takes arguments.
26. Mechanism of deriving a class from another derived class is known as ____
(A) Polymorphism (B) Single Inheritance
(C) **Multilevel Inheritance** (D) Message Passing
27. RunTime Polymorphism is achieved by ____
(A) friend function (B) **virtual function**
(C) operator overloading (D) function overloading
28. A function call mechanism that passes arguments to a function by passing a copy of the values of the arguments is ____
(A) call by name (B) **call by value** (C) call by reference (D) call by value result
29. In C++, dynamic memory allocation is accomplished with the operator ____
(A) **new** (B) this (C) malloc() (D) delete
30. Which of the statements is true in a protected derivation of a derived class from a base class?
(A) Private members of the base class become protected members of the derived class
(B) Protected members of the base class become public members of the derived class
(C) **Public members of the base class become protected members of the derived Class**
(D) Protected derivation does not affect private and protected members of the derived Class.
31. A pointer to the base class can hold address of

- (A) only base class object (B) only derived class object
 (C) **base class object as well as derived class object** (D) None of the above
32. The major goal of inheritance in c++ is:
 (A) To facilitate the conversion of data types. (B) To help modular programming.
 (C) **To extend the capabilities of a class.** (D) To hide the details of base class.
33. A class defined within another class is:
 (A) **Nested** (B) Inheritance (C) Containership (D) Encapsulation
34. Which of the following is not the characteristic of constructor.
 (A) They should be declared in the public section. (B) They do not have return type.
 (C) They can not be inherited. (D) **They can be virtual.**
35. An array element is accessed using
 (A) a FIFO approach (B) **an index number** (C) the operator (D) a member name
36. If there is a pointer p to object of a base class and it contains the address of an object of a derived class and both classes contain a virtual member function abc(), then the statement p->abc(); will cause the version of abc() in the _____ class to be executed.
 (A) Base Class (B) **Derived class**
 (C) Produces compile time error (D) produces runtime error
37. A pure virtual function is a virtual function that
 (A) has no body (B) returns nothing (C) is used in base class (D) **both (A) and (C)**
38. A static function
 (A) should be called when an object is destroyed.
 (B) is closely connected with and individual object of a class.
 (C) **can be called using the class name and function name.**
 (D) is used when a dummy object must be created.
39. A copy constructor takes
 (A) no argument (B) **one argument** (C) two arguments (D) arbitrary no. of arguments
40. Which of the following ways are legal to access a class data member using this pointer?
 (A) this.x (B) *this.x (C) *(this.x) (D) **(*this).x**
41. If we store the address of a derived class object into a variable whose type is a pointer to the base class, then the object, when accessed using this pointer.
 (A) continues to act like a derived class object.
 (B) **Continues to act like a derived class object if virtual functions are called.**
 (C) Acts like a base class object.
 (D) Acts like a base class, if virtual functions are called.
42. Which of the following operator can be overloaded through friend function?
 (A) -> (B) = (C) () (D) *
43. To access the public function fbase() in the base class, a statement in a derived class function fder() uses the statement.fbase();

(A) fbase(); (B) fder(); (C) base::fbase(); (D) der::fder();

44. If a base class destructor is not virtual, then

(A) It can not have a function body.

(B) It can not be called.

(C) It can not be called when accessed from pointer.

(D) Destructor in derived class can not be called when accessed through a pointer to the base class.

45. Member functions, when defined within the class specification:

(A) are always inline.

(B) are not inline.

(C) are inline by default, unless they are too big or too complicated.

(D) are not inline by default

46. How many specifiers are present in access specifiers in class?

a) 1

b) 2

c) 3

d) 4

47. What is the syntax of user-defined data types?

a) typedef_existing data type_new name

b) typedef_new name_existing data type

c) def_existing data type_new name

d) none of the mentioned

48. In object-oriented programming more importance is given to -----

A) Function

B) Procedure

C) Data

D) All of above

49. Which of the following statements is false?

A) Every C++ program must have a main().

B) In C++, white spaces and carriage returns are ignored by the compiler.

C) C++ statements terminate with semicolon.

D) main() terminates with semicolon.

50. Which of the following feature of object oriented program is false?

A) Data and Functions can be added easily

B) Data can be hidden from outside world

C) Object can communicate with each other

D) The focus is on procedures

51. An array name is a _____

A. subscript

B. formal parameter

C. memory address

D. prototype

52. The scope resolution operator is

A. a comma(,)

B. a semicolon(;)

C. a colon(:)

D. two colons(::)

53. Inheritance occurs when a class adopts all the traits of _____

A. an object

B. a parent class

C. a variable

D. a function

54. What is the difference between protected and private access specifiers in inheritance?

a. private member is not inheritable and not accessible in derived class.

b. protected member is inheritable and also accessible in derived class.

c. Both are inheritable but private is accessible in the derived class.

d. Both are inheritable but protected is not accessible in the derived class.

55. What will be output of following program?

```
#include<iostream>
using namespacestd;
int main ()
{
int a,b;
int result;
a=5;
b=2;
a=a+1;
result=a-b;
cout<<result;
return 0;
}
```

A. 4

B. 3

C. 2

D. 5

56. Output of following program?

```
#include <iostream>
#include<string>
using namespace std;

class Base
{
public:
    virtual string print() const
    {
        return "This is Base class";
    }
};

class Derived : public Base
{
public:
    virtual string print() const
    {
        return "This is Derived class";
    }
};

void describe(Base p)
```

```

{
    cout << p.print() << endl;
}

int main()
{
    Base b;
    Derived d;
    describe(b);
    describe(d);
    return 0;
}

```

(A) This is Derived class This is Base class	(B) This is Base class This is Derived class
(C) This is Base class This is Base class	(D) Compiler Error

57. What is meant by multiple inheritance?

- a) Deriving a base class from derived class b) Deriving a derived class from base class
c) Deriving a derived class from more than one base class d) None of the mentioned

58. Which symbol is used to create multiple inheritance?

- a) Dot **b) Comma** c) Dollar d) None of the mentioned

59. In case of inheritance where both base and derived class are having constructors, when an object of derived class is created then _____.

- a. constructor of derived class will be invoked first
b. constructor of base class will be invoked first
c. constructor of derived class will be executed first followed by base class
d. constructor of base class will be executed first followed by derived class

60) If the derived class is struct, then default visibility mode is _____.

- a. public** b. protected c. private d. struct can't inherit class

61) If base class has constructor with arguments, then it is _____ for the derived class to have constructor and pass the arguments to base class constructor.

- a. Optional **b. Mandatory** c. Compiler dependent d. Error

61) In Multipath inheritance, in order to remove duplicate set of records in child class, we _____

- a. Write Virtual function in parent classes b. Write virtual functions in base class
c. Make base class as virtual base class d. All of these

62) In case of inheritance where both base and derived class are having constructor and destructor, then which of the following are true ?

1. Constructors are executed in their order of derivation

2. Constructors are executed in reverse order of derivation

3. Destructors are executed in their order of derivation

4. Destructors are executed in reverse order of derivation

a. Only 2 ,4

b. Only 1 , 3

c. Only 1 , 4

d. Only 2, 3

63) When a child class inherits traits from more than one parent class, this type of inheritance is called _____ inheritance.

a. Hierarchical

b. Hybrid

c. Multilevel

d. Multiple

64) A Constructor that does not have any parameters is called _____ Constructor.

a. Custom

b. Dynamic

c. Static

d. Default

65. Output?

```
#include <iostream>
using namespace std;
```

```
class Base1 {
public:
    ~Base1() { cout << " Base1's destructor" << endl; }
};

class Base2 {
public:
    ~Base2() { cout << " Base2's destructor" << endl; }
};

class Derived: public Base1, public Base2 {
public:
    ~Derived() { cout << " Derived's destructor" << endl; }
};
```

```
int main()
{
    Derived d;
    return 0;
}
```

(A) Base1's destructor
Base2's destructor
Derived's destructor

(B) Derived's destructor
Base2's destructor
Base1's destructor

(C) Derived's destructor

(D) Compiler Dependent