

- c. Constructors have a return type, but member functions do not.
  - d. Member functions are called automatically when an object is created.
8. Consider the following code snippet. What is the output of this program? 1M
- a. Compilation error: Invalid constructor syntax
  - b. Output: "Value of x: 5" followed by "Value of x: 0"
  - c. Output: "Value of x: 0" followed by "Value of x: 5"
  - d. Output: "Value of x: 5" followed by "Value of x: 5"

C/C++

```
#include <iostream>

class MyClass {
public:
    int x;

    MyClass(int val) {
        x = val;
    }

    MyClass() {
        x = 0;
    }

    void display() {
        std::cout << "Value of x: " << x << std::endl;
    }
};

int main() {
    MyClass obj1(5);
    MyClass obj2;
    obj1.display();
    obj2.display();
    return 0;
}
```

9. Which function is called when `add(3.0, 4)` is invoked? 1M

C/C++

```
int add(int a, int b) {
    return a + b;
}

double add(double a, double b) {
    return a + b;
}
```

- a. The int version of add.
- b. The double version of add.
- c. Both functions are called.
- d. It results in a compilation error due to ambiguity.

**Indian Institute of Information Technology, Sri City**  
**Object Oriented Programming**  
**Term - I**

Duration: 90 Mins

Maximum Marks: 20

**Instructions**

1. Please carefully read all questions and answer appropriately
  2. All questions are compulsory.
  3. Figures to the right indicate full marks.
  4. Preferably, write the answers in sequential order.
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1. Briefly discuss the following terms: **6M**
    - a. Object and Class
    - b. Data Abstraction and Data Encapsulation
    - c. Inheritance and Polymorphism
  2. Briefly discuss the application of the scope resolution operator (::) with an example? **3M**
  3. Briefly discuss the function overloading with a C++ program. **3M**
  4. How do we invoke a constructor in the class? List some of the special properties of the constructor. **3M**
  5. Which constructor is called when an object is passed by value as a function argument? **1M**
    - a. Default constructor
    - b. Parameterized constructor
    - c. Copy constructor
    - d. Destructor
  6. In C++, what is the order of destruction when dealing with multiple objects in an array of a user-defined class type? **1M**
    - a. From the last element to the first element
    - b. From the first element to the last element
    - c. In a random order
    - d. In the order of object creation
  7. In C++, what is the difference between a constructor and a member function? **1M**
    - a. Constructors cannot have parameters, but member functions can.
    - b. Constructors are used to create objects, while member functions perform operations on objects.

[P.T.O]