

SYMBIOSIS INTERNATIONAL UNIVERSITY

(Established under Section 3 of the UGC Act, 1956 vide notification No. F.9-12/2001-U.3 of the Government of India)
Accredited by NAAC with 'A' grade



Name of the Institute : SIT

Programme Name : B.Tech.

Batch : 2013-17

Programme Code : 070121

Semester : III

Course Name : Programming Paradigms

Course Code : 070121302 CS

Date : 19/12/2014

Maximum Marks : 45

Day : Friday

Time : 10.00 AM to 11.30 AM

Instructions:

1. All Questions from PART- A are compulsory.

PART A

- Q.1
- a. Name the type of inheritance when a class Result is derived from class Test as well as from class Sports and again class Test is derived from class Student. Represent with particular diagram. 2
 - b. Why we can overload the constructor and not the destructor? Explain by giving one example. 3
 - c. What will be the output of the following program? 3

```
#include<iostream.h>
int m=10;
int main()
{
    int m=20;
    {
        int k=m;
        int m=30;
        cout<<"We are in Inner Block";
        cout<<"K="<<k<<"\n";
        cout<<"M="<<m<<"\n";
        cout<<": :M="<<: :m<<"\n";
    }
    cout<<"We are in Outer Block\n";
    cout<<"M="<<m<<"\n";
    cout<<": :M="<<: :m<<"\n";
    return 0;
}
```

Q.2

Choose the right option for the following

2

1. Advantages of pass by reference is

- a) Modifying original values
- b) Returning multiple values
- c) Both a) and b)

2. What term is used to describe the internal representation of an object that is hidden from view outside the object definition

- a) Encapsulation
- b) Polymorphism
- c) Inheritance

3. Global variables can be access

- a) Anywhere in the code except inside function after its declaration
- b) Anywhere in the code even inside function after its declaration
- c) Nowhere in the code

4. For automatic objects, constructors and destructors are called each time the objects

- a) Enter and leave space
- b) are constructed
- c) are destroyed

a. Can we overload the Square function using following two function definitions? Justify.

2

- 1. `int Square(int value);`
- 2. `float Square(int value);`

b. Write a C++ code to overload - - operator.

3

c. How are data and functions organized in an Object oriented programming paradigm? Explain.

3

PART-B

- a. Consider a class D which is derived from class B. 5
B has two member functions b1 () and b2 () whereas D has two member functions d1 () and d2 () then write these classes for the following different situations.
1. b1 () should be accessible in the main (), b2 () should not be.
 2. Neither b1 () nor b2 () should be accessible in main ().

- b. Write a short note on functional Languages. 5

Write a C++ program for Hierarchy of student entered into the college which has different sections like Engineering, Arts and Science and again in Engineering section there are different departments like CS, IT, Mech. and this system should maintain the count of students entered into the college according to their sections and departments. 10

Also write down the output of program.

Solve any one from the following 7

- a. Discuss the concept of friend function for overloading binary operators with the help of suitable example.
- b. What is virtual function? Explain its use with the help of one example.