OOP/IT-2005/B Tech (CSE, IT, CSCE, CSSE & ECS)/3rd Semester/ 2019

Mid Semester Examination – 2019

School of Computer Engineering

Kalinga Institute of Industrial Technology (KIIT) Deemed to be University

Subject: Object Oriented Programming , Code :IT-2005

Time: 1.5 Hrs Full Marks: 20

(Answer any Four Questions including Question No. 1)

1. Answer the following questions briefly. [1 X 5]

a. What is a reference variable? What is its major use?

b. When will you make a function **inline?** Why?

c. How can you resolve the ambiguity arising due to multiple inheritance in C++?

d. **Find output of the program assuming no compilation errors.**

```
#include<iostream>
 using namespace std;
 class Demo{
};
int main(){
Demo d1;
cout<<sizeof(d1);
return 0;
}.
```

e. **Find output/errors of the program.**

```
#include<iostream>
using namespace std;
int fun (int x, int y)
{
        return x + y ;
}
double fun (int x, int y)
{
        return x * y ;
}
int main()
{
        cout<<fun(5 , 10);
        return 0;
}
```

2.(a) What is a Class ? How does it accomplish data hiding ? Define and implement a **student** class with data members and member functions, that you feel most essential. [2.5]

(b) Can we pass class objects as function arguments? Explain with the help of an example. [2.5]

3.(a) Write a program to count the number of objects created using static member function [2.5]

(b) What is function overloading ? How do we achieve function overloading ? On what basis, the compiler distinguishes between a set of overloading functions having the same name ?

4.(a) Write a program using friend function to swap the private data of two classes assuming each class to contain one private integer data member and associated member functions for inputting and displaying the data. [2.5]

(b) What do you mean by friend function and friend class? Explain the use of friend function with a suitable example. [2.5]

5.(a) Write a program to add two complex numbers using constructor. [2.5]

(b) Explain the characteristics of constructors and destructors with examples ? [2.5]

6.(a) Explain the advantages of inheritance and mention different types of inheritance in C++. Also justify the significance of protected access specifier in inheritance. [2.5]

(b) Write a program to create a class "**abc**" that stores the first name, roll number and section of a student . Create another class "**xyz**" that stores the last name and 4 subject marks as its secure data members. Derive a class "**studentdetails**" from class "**abc**" and class "**xyz**". Use necessary member functions for inputting and displaying the full name, roll number, section, all subject marks along with average mark of a student through derived class object. [2.5]

~~~~~ ALL THE BEST ~~~~~
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