SPRING MID SEMESTER EXAMINATION-2018

OBJECT ORIENTED PROGRAMMING
[IT-1002]

Full Marks: 30   **Time: 1.5 Hours**

Answer any five questions including question No.1 which is compulsory.
The figures in the margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable and
<u>*all parts of a question should be answered at one place only.*</u>

Q1   Answer the following questions: (2 x 5)

   a) What do you mean function overloading? Explain with a suitable example.

   b) What is an inline function? What are the advantages and disadvantages of it?

   c) State **True** or **False** and Justify your answer.
      i.   void fun(int i=5;int j=4;int k){}
      ii. Friendship is implicitly specified.
      iii. Default constructor does not take any arguments.
      iv. In the declaration, class Demo{int a;}; a is private member of class Demo.

   d) What will be the output of the following program?

```
// Assume that integers take 4 bytes.
#include<iostream>
using namespace std;
 class ABC
 {
  static int i;
 };
int ABC::i;

int main()
 {
   cout << sizeof(ABC);
   return 0;
 }
```

   e) What will be the output of the following program?

```
#include<iostream>
using namespace std;
void fun(int,int&,int*);
int main()
 {
  int a=10,b=20,c=30;
  fun(a,b,&c);
```

```
    cout<< a <<" "<< b<<" "<<c;
     return 0;
   }
   void fun(int x, int &y, int *z)
   {
      x=y;
      y=x;
      *z=y;
   }
```

Q2 a) Discuss the different characteristics of Object-oriented programming with examples. (2.5)

   b) Write a program to count the number of objects created in a class by the use of static data member and member function. (2.5)

Q3 a) What is a default argument? What is the need of it? Write a program using default argument to calculate the simple interest of certain amount where principal, rate and time is given. Demonstrate the use of default argument in it and discuss. (2.5)

   b) Write a program to find the area of cube, cylinder and sphere using function overloading. (2.5)

Q4 a) What is a constructor? Explain different types of constructor with examples. (2.5)

   b) Define a class distance to store feet and inches. Write a function to add two distances by using passing of objects to a function. Use your own member functions to read and display the distances. (2.5)

Q5 a) Write a program to add two complex numbers using constructor. (2.5)

   b) Write a C++ program using class to dynamically allocate two integer arrays, add them it to a third array and display all the arrays. (2.5)

Q6 Declare a class bank account of 10 customers with the following data members: Name of the depositor, Account Number, Type of account (S for Savings and C for current), Balance amount. The class also contains the following member functions
   i.   To read the data members
   ii.   To deposit money in any account
   iii. Withdrawal of money after checking the minimum balance of Rs. 1000
   iv.   To display all customers
(5)

Q7 Write short notes on **any two** of following: (2.5X2)

   a) Copy constructor

   b) friend function

   c) this pointer

   d) Static Data Members and Static Member Functions

===========================THE END=========================