

--	--	--	--	--	--	--	--

Sixth Semester B.E. Degree Examination, May/June 2010
Object Oriented Programming using C++

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions,
 selecting at least TWO questions from each part.**

PART – A

- 1 a. Distinguish between procedure oriented programming and object oriented programming. (06 Marks)
- b. Enumerate the main features of OOP.
- c. Define the following, give an example for each. (06 Marks)
 - i) Tokens ii) keywords iii) identifiers iv) variables. (08 Marks)

- 2 a. Find errors, if any, in the following C++ statements and write correct statements.
 - i)

```
if x < y min = x
else min = y ;
```
 - ii)

```
# include <iostream> ;
using namespace standard ;
int main
{ // prints "Hello, world!" :
  cout << "Hello, world!\n"
  return 0 ;
}
```

 (06 Marks)
- b. What are user defined data types? Discuss each data type with its general form. (08 Marks)
- c. Write a C++ program to input an integer value from the keyboard and display on screen "WELL DONE" that many times. (06 Marks)

- 3 a. What is an inline function? State the general form of the inline function, explain inline function, with an example. Discuss the situations, where, inline functions may not work. (10 Marks)
- b. Find permutation of k items taken from a set of n items. Permutation equation is $P(n, k) = n!/(n - k)!$. Write a function called fact() to find factorial and use the same to find permutation. (10 Marks)

- 4 a. What is a class? How does class accomplish data hiding? Give general form of a class, definition of the member functions defined in the class and creation of an object. (08 Marks)
- b. Create a class with member functions that read two integers, find largest among them and display the largest integer. Write a main program to test the class. (08 Marks)
- c. What is a static member function? How the static member functions can be accessed within the main function? (04 Marks)

PART - B

- 5 a. What is a constructor? How to declare a constructor in a class and create an object using the constructor? (06 Marks)
- b. Mention the special characteristics of the constructor functions. (06 Marks)
- c. Explain the copy constructor, with an example. (08 Marks)

- 6 a. What is an operator overloading? Discuss the rules for overloading operators. (10 Marks)
b. Write a C++ program to overload unary minus. Program must have a class with three integers as data and member functions to input data, overload minus to obtain opposite sign and display the result. (10 Marks)
- 7 a. Mention different forms of inheritance. Briefly explain each of them using block diagrams. (06 Marks)
b. How a private member be made inheritable? (06 Marks)
c. What is a virtual base class? Explain the necessity of class virtual. (08 Marks)
- 8 a. Create an array of numbers and a pointer to point base address of the numbers. Use defreferencing to find sum of the even numbers entered as an array. (10 Marks)
b. How do the following two statements differ in operation?
 cin >> c ;
 cin.get(c) ;
 where c is char type. (04 Marks)
c. Describe the stream classes in C++. (06 Marks)

* * * * *