Roll No. | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ECE)/(EE)/(EEE)/(EIE)/(IT)/(CSE)(Sem.–3)

OBJECT ORIENTED PROGRAMMING USING C++

Subject Code : CS-252

Paper ID : [A0304]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly:

(a) If the body of a for loop is executed 'm' times, how many times is the counter updated and how many times is the condition checked?

(b) How class is different from object?

(c) Define constructor and destructor.

(d) What is the output from the code below?

```
#include <iostream>
using namespace std;
int x;
int main( )
{ int x = 5;
x= 10;
{x = :: x;
cout« :: x + x + :: x + x ;
} } return 0 ; }
```

(e) List down at least 3 differences between Static and Dynamic Memory Allocation.

(f) *"Inheritance supports the concept of reusability"*.Comment.

(g) What is a friend function and friend class?

(h) How is polymorphism achieved at compile time and runtime?

(i) What are the different modes in which C++ file is opened?

(j) Briefly define 'this' pointer.

SECTION-B

2. Can we pass class objects as function arguments? Explain with the help of an example.

3. What is inline function? How do we make inline functions in C++ classes?

4. Give the output of following code with detailed steps showing the computation of output.

```
int main ( )
{    int i = 6, j = -4 ;
test (i, &j );
cout << "i = " << i  << ",j = " <<  j;
return 0;
}
int test ( int a, int* b )
{ a = a * a;
*b = *b ** b ;
}
```

5. How generic function is different from normal function? Show with suitable example.

6. Write the differences between call by value and call by address.

SECTION-C

7. Create a class Shape which has two overloaded member functions: Area ( ) & Perimeter( ). Depending upon whether the dimensions are input as integers or floating–point numbers, calculate the area and perimeter of three different shapes. The dimensions of the shape would be entered by the user. The output should be in the format as the input. (10)

8. a) How multilevel inheritance is different from multiple inheritance? (5)

   b) What ambiguity arises in multiple inheritance and how it is resolved? (2,3)

9. Create a class called Time that has separate int member data for hours, minutes and seconds. One constructor should initialize this data to 0. and another should initialize it to fixed values. A member function should display it, in 11:59:59 format. Write a program to add time of two objects by overloading '+' operator. (10)