Code : 051301

B.Tech 3rd Semester Exam., 2017

OBJECT-ORIENTED PROGRAMMING

Time : 3 hours *Full Marks* : 70

Instructions :

(i) The marks are indicated in the right-hand margin.

*(ii) There are **NINE** questions in this paper.*

*(iii) Attempt **FIVE** questions in all.*

*(iv) Question No. **1** is compulsory.*

1. Choose the correct answer of the following (any *seven*) : 2×7=14

(a) To prevent any method from overriding, we declare the method as

(i) static

(ii) const

(iii) final

(iv) None of the above

(b) Which of the following types of class allows only one object of it to be created?

(i) Virtual class

(ii) Abstract class

(iii) Singleton class

(iv) Friend class

(c) Multiple inheritance means

(i) one class inheriting from more superclasses

(ii) more classes inheriting from one superclass

(iii) more classes inheriting from more superclasses

(iv) None of the above

(d) When the compiler cannot differentiate between two overloaded constructors, they are called

(i) overloaded

(ii) destructed

(iii) ambiguous

(iv) overriding

(e) In C++, dynamic memory allocation is accomplished with the operator

(i) new

(ii) this

(iii) malloc

(iv) delete

(f) If we create a file by 'ifstream', then the default mode of the file is

(i) ios :: out

(ii) ios :: in

(iii) ios :: app

(iv) ios :: binary

(g) To perform file I/O operations, we must use _____ header file.

(i) <ifstream>

(ii) <ofstream>

(iii) <fstream>

(iv) Any of these

(h) Which keyword is used to check exception in the block of code?

(i) Catch

(ii) Throw

(iii) Try

(iv) None of the above

(i) What will happen when the exception is not caught in the program?

(i) Error

(ii) Program will execute

(iii) Block of that code will not execute

(iv) None of the above

(j) Which of the following gives the memory address of integer variable a?

(i) *a;

(ii) a;

(iii) &a;

(iv) address(a);

2. Distinguish between static binding and dynamic binding. Explain the use of virtual functions and the vtable in dynamic binding. 14

3. (a) Explain adaptor class or wrapper classes with example. 7

(b) Explain dangling pointer with the help of an example. 7

4. Compare between overloading and overriding of functions with example. 14

5. Define a class CARTESIAN to represent a point in cartesian coordinates (x, y) and class POLAR to represent it in polar coordinates (r, θ). Use constructor conversion and operator conversion functions in class CARTESIAN to convert object of one type into another. 14

6. (a) What is a friend function and what are its advantages? 7

(b) What are the guidelines that should be followed while using friend function? 7

7. (a) Describe scope and life of a variable. 7

(b) Describe 'this' pointer with its applications. 7

8. With a suitable example, explain how a function is invoked using pointers. 14

9. *(a)* What is a constructor? Describe the types of constructor each with an example. 7

(b) Explain pointer-to-pointer with an example. 7

★ ★ ★