Code : 051301

B.Tech 3rd Semester Exam., 2013

OBJECT-ORIENTED PROGRAMMING

Time : 3 hours *Full Marks* : 70

Instructions :

(i) All questions carry equal marks.

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

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

(iv) Question No. 1 is compulsory.

1. Answer any *seven* questions :

(a) What do you understand by object-oriented programming? How is it different from procedural programming?

(b) What are keywords and identifiers? Explain with examples.

(c) Distinguish between *(i)* object and classes, and *(ii)* inheritance and polymorphism.

(d) Why do we need the preprocessor directive #include<iostream>?

(e) What are objects? How are they created?

(f) What is type conversion? Give example.

(g) Can we have more than one constructor in a class? If yes, explain the need for such a situation.

(h) What are enumeration types? Explain with examples.

(i) What are advantages of function prototypes in C++?

(j) When will you make a function inline? Why?

2. (a) What is function overloading? Illustrate function overloading through addition function which adds two integer numbers, and two float numbers.

(b) Explain break statement and continue statement with example.

3. (a) What is a constructor? Explain different types of constructor.

(b) What are benefits of using functions? Write a C++ function to swap the contents of two variables *a* and *b*, using different parameter passing mechanisms.

4. (a) What is virtual function? Explain with suitable example.

(b) With illustration, explain function overloading.

5. (a) What are different types of polymorphism achieved in OOP? What are pure virtual functions?

(b) What is operator overloading? Give an example of operator overloading, using friend class.

6. (a) Explain how base class member functions can be involved in a derived class if the derived class also has a member function with the same name.

(b) What is a Destructor? Write a class, using C++ without destructor and explain.

7. (a) What are implicit pointer and static class member? Explain with examples.

(b) What is inheritance? Bring out the concept of various types of inheritance and importance of derived class with examples.

8. (a) What is Exceptional Handling? How are exceptions handled in C++?

(b) What are Class Templates? Explain with examples.

9. (a) What do you understand by void pointers? Write a program to show the use of void pointers.

(b) Explain the uses of try, throw and catch keywords, used for exceptional handling.

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