

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.

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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.

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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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