Reg. No. : | | | | | | | | | | | |

Q 2317

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Second Semester

Information Technology

IF 144 — OBJECT ORIENTED PROGRAMMING

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define the term 'abstraction' with suitable example.

2. How does Object Oriented program offers reusability? Explain.

3. What is copy constructor?

4. List the operators that can not be overloaded in C++.

5. What are the advantages of abstract classes?

6. What are the limitations of multiple inheritance?

7. Explain the unique features of Java programming language.

8. What is meant by name space compartmentalization and how it is incorporated in Java?

9. Explain the keywords present in the Java main ( ) function.

10. Explain different states of an applet.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Discuss the non-object oriented features of C++ with programming examples. (8)

(ii) Write a C++ program to create a new data type to emulate 'set' with union and intersection operations. (8)

Or

(b) (i) Discuss the various objected oriented concepts and features in detail. (10)

(ii) Explain how object oriented system provides reusability, extensibility and maintainability features. (6)

12. (a) (i) Write a C++ program to demonstrate the operator overloading with <, >, << and >> operators. (8)

(ii) Write notes on the 'this', 'new' 'delete' and 'static' keywords. (8)

Or

(b) (i) Write C++ programs to convert a standard data type to an object, to convert an object to a standard data type and to convert an object to another type of object. (9)

(ii) What is meant by 'friend' function? Why it is required in C++? Explain with suitable example. (2 + 2 + 3)

13. (a) (i) Write a C++ program to implement an employee class. Inherit the Manager class from the employee class. In both the classes implement the necessary member function. Assume that each employee is working under a manager. Write a program to instantiate an array of three manager objects and an array of ten employee objects and print the employee details working under each manager. (10)

(ii) Compare and contrast the various methods of inheriting a class using 'Private', 'Protected' and 'Public' keywords. (6)

Or

(b) (i) Illustrate the late binding and virtual function concepts with an example program. (8)

(ii) What is the use of 'static' data and member functions in a class? (4)

(iii) Compare the static and dynamic polymorphism. (4)

14. (a) (i) Explain the keywords 'extends' and 'implements' in Java with suitable programming examples. (8)

(ii) List down the features of Java that are not present in C++. (8)

Or

(b) (i) What are the differences in extending Thread class or implementing Runnable interface for multithreaded programs? (6)

(ii) Write a multithreaded program to demonstrate the simultaneous execution of threads and thread synchronization. (10)

15. (a) (i) Write an applet to print a Greeting message given by the user in different fonts and styles in client a computer. (8)

(ii) Write a Java program to tokenize the given ASCII file input. (8)

Or

(b) (i) Compare Java application and an Applet. (4)

(ii) Explain the categories of I/O stream class hierarchy in Java. (6)

(iii) Write a Java program to read the data from the user and write it onto a file using streams. (6)
