U.S.N | | | | | | | | | | |

P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Third Semester, B.E. - Information Science and Engineering

Semester End Examination; Dec. - 2015

Object Oriented Programming and Java

Time: 3 hrs *Max. Marks: 100*

***Note**: Answer **FIVE** full questions, selecting at least **ONE** full question from each **unit**.*

UNIT - I

1 a. Explain the features of Object Oriented Programming. 8

b. What is inline function? Explain with an example. Mention its advantages. 6

c. What is function overloading? Write a C++ program to swap two integers and two float numbers using function overloading. 6

2 a. What is a class? Write a program to create a class called employee which consist of name, designation, ecode and salary as a data member and read, write as a member functions. Using this class read and print 10 employee information. 8

b. Explain :
i) "this" operator ii) "arrow" operator. 6

c. Explain three access specifiers. 6

UNIT - II

3 a. What is dynamic memory management? Write a C++ program to demonstrate the usage of new and delete operators. 10

b. What is a constructor? Mention its types. Explain parameterized constructor with an example. 10

4 a. Discuss with examples the implications of deriving a class from an existing class by the 'public' and protected access specifiers. 8

b. Write a C++ program, to initialize base class members through a derived class constructor. 6

c. List different type of inheritance. Explain multiple and multilevel inheritance with example. 6

UNIT - III

5 a. Write the difference between early binding and late binding. 6

b. What are virtual functions? What is their use? Give an example. How compilers resolve a call to virtual function. 8

c. Explain virtual destructors and virtual constructors. 6

6. a. What is operator overloading? Explain the circumstances under which operator overloading becomes mandatory. 10

b. Illustrate the overloading of + + and - - operators. 10

Contd… 2

UNIT - IV

7 a.	Write a short note on I/O stream classes, with hierarchy for C++ stream handling.	8
b.	What are the flags that are associated with file operations?	6
c.	Explain the following : i) tellg and tellp ii) seekg and seekp	6
8 a.	Define a function template. Write a C++ program to implement array representation of Stack of integers, characters using class template.	10
b.	Explain C++ style of solution for handling exception with an example.	10

UNIT - V

9 a.	Write a Java program to initialize and display different types of integers and floating point variables.	5
b.	Define type casting. Explain with an example.	5
c.	Explain looping constructs in Java with example.	10
10 a.	List and explain any two Java Non - Access modifiers.	6
b.	Difference between constructor and method with an example.	6
c.	Differentiate between nested class and inner class. Explain.	8

* * * *