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P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belgaum)
Sixth Semester, B.E. - Electrical and Electronics Engineering
Semester End Examination; June - 2016
OOPS with C++

Time: 3 hrs   Max. Marks: 100

Note: i) Answer **FIVE** full questions, selecting **ONE** full question from each **unit**.
          ii) Missing data may suitably assume.

UNIT - I

1 a. Mention the basic concepts of OOP. Explain the following terms with examples :   6

   (i) Inheritance   (ii) Polymorphism.

   b. Differentiate procedure oriented programming and object oriented programming.   6

   c. Explain the structure C++ programming with class and write a program to display name and
   age of a person using class "PERSON" and the members function "get data" and "put data".   8

2 a. Define following with suitable examples:

   i) Tokens   ii) Key word   iii) Identifiers   6

   iv) Operator   v) Strings   vi) Constant

   b. Mention the advantages and applications of OOP.   6

   c. Explain the following with suitable examples,
   (i) CONST qualifier   (ii) Operator overloading.   8

UNIT - II

3 a. What is function overloading? What are the selection criteria for overloaded functions to
   determine which function to call?   6

   b. What is a class? Give the general term of a class definition including data members and
   member functions and creation of an object.   8

   c. Write a function "Fact" to find the factorial of a given number write a main program to take
   user input for a natural number of which factorial need to be found and test the functions.   6

4 a. Create a class with member functions that read two integers, find largest among them and
   display the largest integer, write a main program to test the class.   6

   b. Explain with an example program, how default arguments are passed to the functions.
   Mention the conditions followed while configuring default arguments.   8

   c. Explain with an example program, the nesting of member functions.   6

UNIT - III

5 a. What is passing of an object to the function? Explain how this is achieved with an example program. 8

b. What are local and global objects? Mention the scope and life time of local and global objects. 6

c. Explain copy constructor with an example. 6

6 a. What is a constructor? What are its characteristics? 6

b. Explain multiple and parameterized constructor with the help of a sample program. 8

c. Briefly explain const member functions. 6

UNIT - IV

7 a. Explain the overloading of input operator >> and output operator << with sample program. 8

b. Define type conversions? Explain basic to class type conversion. 8

c. Explain how a private member can be inherited. 4

8 a. Explain single and multi level inheritance with an example program [write the block diagram also]. 12

b. What is operator overloading? Example the overloading of unary (-) minus operator with example. 8

UNIT - V

9 a. Explain "this pointer" with an example program. 10

b. Explain Virtual Functions and pure virtual function with examples 10

10 a. Explain C++ streams and C++ stream classes with block diagram. 10

b. Explain opening a file and closing a file with an example. 10

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