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

(An Autonomous Institution affiliated to VTU, Belgaum)

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

Make-up Examination; Jan/Feb - 2017

Object Oriented Programming with C++

Time: 3 hrs *Max. Marks: 100*

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

UNIT - I

1 a.	State the important features of object oriented programming. Compare the object oriented system with procedure oriented system.	8
b.	What is function overloading? Illustrate functions overloading through add function which adds two integers and two floating point numbers.	6
c.	Explain the working of inline function with an example.	6
2 a.	What is a friend class? Illustrate friend as bridges.	10
b.	Explain : i) *this* operator ii) *arrow* operator.	5
c.	Write a note on Name space.	5

UNIT - II

3 a.	What is a constructor? Explain different types of constructor.	10
b.	Explain new and delete operator used in dynamic memory allocation.	10
4 a.	List the limitation of overloading unary operator, also explain the rules to overload binary operator.	10
b.	Write a program to overload post increment and pre increment operator.	10

UNIT - III

5 a.	Define a template. Implement stack using function templates.	12
b.	Differentiate between : i) Lists and Vectors ii) Sets and Maps.	8
6 a.	What do you mean by exception? How it is handled in C++? Explain with suitable example.	10
b.	Write a program to sort given array using class template.	10

UNIT - IV

7 a.	What is inheritance? Explain the different types of inheritance possible in C++.	10
b.	Write a C++ program to create a class STUDENT with data members – USN, NAME and AGE. Using inheritance create class UGSTUDENT having fields SEM, FEES and STIPEND. Enter data for 5 student and compute the average age for 5 UG students.	10

Contd.....2

8 a. With a suitable example, illustrate how base class member function can be invoked in a derived class, if the derived class also has a member function with the same name. 10

b. What are differences between inheriting a class with public and private mode. Give a sutiable example. 10

UNIT - V

9 a. What is a virtual function? Explain with a example. 10

b. Write a short note on :

i) I/O stream classes with hierarchy for C++ stream 10

ii) Fromatted I/O .

10 a. Differentiate between early and late binding by giving an example to each. 10

b. Describe the rules to be satisfied while creating virtual functions. 10

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