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

(An Autonomous Institution affiliated to VTU, Belagavi)

Second Semester, Master of Computer Applications (MCA)

Semester End Examination; May/ June - 2019

Object Oriented Programming Using C++

Time: 3 hrs *Max. Marks: 100*

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

UNIT - I

1 a.	Explain the basic elements of Object Oriented Programming with an example for each.	10
b.	Explain with example, String manipulators.	5
c.	Illustrate with example conditional operators used in C++.	5
2 a.	What is function? Explain function components.	10
b.	Define function overloading. Illustrate with an example program.	10

UNIT - II

3 a.	Demonstrate with C++ program to find average of 2 better marks for each student. Define class Student with USN, name, marks in 3 tests.	10
b.	Demonstrate with example program how to return objects from functions?	10
4 a.	What is Constructor? List the different types of Constructor. Write C++ program to demonstrate Parameterized constructor.	10
b.	Can constructor be overloaded? Justify the statement with an example program.	10

UNIT - III

5 a.	Explain the characteristics of friend function.	5
b.	List any five rules for operator overloading.	5
c.	Design C++ program to exchange private values of two classes using friend function.	10
6 a.	Create a class called Matrix, write a C++ program to perform addition and subtraction of two matrices by overloading + and – operator respectively.	12
b.	Create a class template to represent a generic vector to perform the following tasks : i) To create a vector ii) To modify value of given element iii) To modify vector by scalar value iv) To display vector	8

UNIT - IV

7 a.	Describe different types of inheritance with an example program.	10
b.	How do you pass arguments to a base class constructor? Explain with supporting example.	10
8 a.	Briefly explain the visibility of inherited member's based on different types of derivation.	5
b.	Discuss the rules of virtual function. Give supporting example.	10
c.	Differentiate Early and Late binding.	5

UNIT - V

9 a.	Describe with diagram different categories of stream class hierarchy.	10
b.	Outline different types of manipulators supported by C++.	10
10 a.	Define exception. Illustrate exception handling blocks with an exmaple.	10
b.	Explain different categories of containers supported by STL.	10

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