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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 - 2018

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 salient features or elements of the OOP's.	10
	b.	What is function overloading? Explain the benefits using a programming example.	10
2	a.	What is a function template? State the benefits with an example.	10
	b.	What are qualifiers? Illustrate them with examples.	5
	c.	What are default arguments? Explain with an example.	5

UNIT - II

3	a.	Specify different uses of scope resolution operator in C++.	6
	b.	Write a note on 'this' pointer.	4
	c.	What are the different types of access specifiers supported by C++? Write a program to read and display complex number using suitable access specifiers.	10
4	a.	What are constructors and destructors? How the constructor and destructors functions are executed for global and local objects? Illustrate with an example.	10
	b.	Explain the static members. Demonstrate the static member's usage with an example.	10

UNIT - III

5	a.	What are friend functions? Explain with a suitable example.	10
	b.	Write a program to perform addition of two complex numbers by overloading '+' operator.	10
6	a.	What is operator overloading? Write a C++ program to overload [ ] operator.	10
	b.	What are class templates? How are they created? Create a template for bubble sort function.	10

UNIT - IV

7	a.	Discuss the various types of inheritance. Write a program for multiple inheritances.	10
	b.	What is virtual base class? Illustrate with an example.	10
8	a.	What is virtual function? Illustrate with an example.	10
	b.	Define early binding and late binding with an example.	10

UNIT - V

9	a.	What are I/O streams? Explain the stream class hierarchy, with a neat diagram.	10
	b.	What are manipulators? List the various predefined manipulators supplied by C++ I/O streams.	10
10	a.	With an example, explain input and output file operations.	10
	b.	What is exception handling? Briefly explain the facilities in C++ for exception handling.	10

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