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

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester, B.E. - Electronics and Communication Engineering

Semester End Examination; June - 2017

Programming in 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 following data types of C++ with general syntax and examples: (i) Reference type (ii) Enumeration type (iii) Bool type. 10

b. What is a variable? Mention the rules associated with declaration of variables with examples. 6

c. Discuss const qualifier with general syntax and examples. 4

2 a. List out the arithmetic, equality relational and logical operators with their precedence and associativity. 10

b. Explain bitwise operators in C++ with examples for each. 6

c. Explain conditional operator with general syntax and example. 4

UNIT - II

3 a. Write a C++ program to computes the sum of first N natural numbers from 1 to infinity using: (i) For loop (ii) While loop. 8

b. Write a C++ program to find whether a given number is prime number or not. 6

c. What is dynamic memory allocation? How the dynamic memory allocation and deallocation is made in C++. Explain with examples. 6

4 a. What are the advantages of using function? 4

b. What is argument passing? Write a function to swap two integer numbers using any two forms of function argument passing mechanisms. 10

c. Write a recursive function to find factorial of 'n' numbers. 6

UNIT - III

5 a. What is inline function? Write the syntax of defining inline function and also give example program which illustrate inline function. 6

b. Define function overloading in C++? Write a C++ program to illustrate this concept using a function addition ( ) 6

c. Define class and object. With the help of general syntax describe a class, class members and class object arrays. 8

Contd….2

6. a	Write a C++ program to define a class called student with roll number, name and percentage as its data members, getData ( ) and printData() as member functions.	8
b.	What are class constructor and class destructor? Give the characteristic of each through example program.	12

UNIT - IV

7 a.	What is inheritance? Briefly explain public, private and protected inheritance with an example.	10
b.	Explain the following with reference to object oriented programming: (i) Single inheritance (ii) Multiple inheritance.	10
8 a.	What is an operator overloading? Write a program to overload ++ and -- operator.	10
b.	With example explain overloading of new and delete operators.	10

UNIT - V

9 a.	What is an exception? What are different types of exception?	4
b.	What is the purpose of using exception handling mechanism? Explain the C++ exception handling mechanism with programming example.	10
c.	Explain rethrowing an exception with example program.	6
10.	Write a short notes on: (i) Late binding (ii) Abstract class (iii) Friend function (iv) Static function.	20

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