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10TE661

Sixth Semester B.E. Degree Examination, Dec.2019/Jan.2020

**Programming in C++**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting at least TWO questions from each part.**

**PART - A**

- 1 a. Explain any two features of object oriented programming. (06 Marks)
- b. What is a compiler? Explain the two common forms of program errors (06 Marks)
- c. Explain dynamic memory allocation and deallocation. What does the term memory leak means? (08 Marks)
- 2 a. What are reference variables? Explain with examples. (05 Marks)
- b. Write a C++ program to find the length of a given string without using library function. (05 Marks)
- c. Explain with appropriate examples the various datatypes available in C++. (10 Marks)
- 3 a. Write a C++ program to find the largest of three numbers using conditional operator. (06 Marks)
- b. Explain any two bitwise operators and any four bitset operations. (08 Marks)
- c. Explain unconditional branching statements with examples. (06 Marks)
- 4 a. Write a C++ program to demonstrate call by reference with point's arguments. (06 Marks)
- b. What is inline function? Explain with an example. List the disadvantages. (08 Marks)
- c. Explain recursion in C++ with an example. (06 Marks)

**PART - B**

- 5 a. Explain the process of stack unwinding during an exception. (06 Marks)
- b. Explain exception handling mechanism in C++. (08 Marks)
- c. What is the role played by public and private access specifier in case of class? Explain with example. (06 Marks)
- 6 a. Write a C++ program to create a class called EMPLOYEE which consists name, ecode, salary and dept as data members and read() and write ( ) as member functions. Using this class read and prints 10 employee information. (10 Marks)
- b. Define constructors and destructor. What are the characteristics of constructors? (10 Marks)
- 7 a. Explain operator overloading with syntax. List the operators that cannot be overloaded. (08 Marks)
- b. Write a C++ program to add two complex numbers by overloading the + operator. Also overload -- operator to decrement the sum. (12 Marks)
- 8 a. What are the advantages of inheritance? Explain single and multilevel inheritance. (10 Marks)
- b. Create a class called STUDENT, with data members usn, age and fees. Using inheritance, create derived classes UGSTUDENTS and PGSTUDENT with data members as sem and dept. Write a main( ) program to create two objects of each derived class. Use member function to read and display the student details. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.