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10TE661



## Sixth Semester B.E. Degree Examination, June/July 2016

### Programming in C++

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

#### PART – A

- 1 a. What are the characteristics of object oriented programming language? Explain any two of them. (08 Marks)
- b. Explain with an example program, how dynamic memory allocation is performed, with the help of new and delete operators. (06 Marks)
- c. What are preprocessor directives? Explain with examples. (06 Marks)
- 2 a. Explain with appropriate examples the following :
  - i) bool data type
  - ii) Reference variable
  - iii) Enumerated data type. (06 Marks)
- b. What are variables? What are the two values associated with variables? List out rules for naming variables. (06 Marks)
- c. What are the basic operations performed on string. Write a program in C++ to find the length of the string. (08 Marks)
- 3 a. Explain bitset operators used in C++. (08 Marks)
- b. Write a program in C++, to find if the given number is prime or not. (06 Marks)
- c. Explain goto, break and continue statements with an examples. (06 Marks)
- 4 a. What are functions? Mention its advantages in programming. (05 Marks)
- b. Write a C++ program to find largest element in an array, using a function. (07 Marks)
- c. Define recursion. Write a C++ recursion function to find GCD of 2 integers. (08 Marks)

#### PART – B

- 5 a. What is an exception? Why is exception handling needed? Name the different types of exceptions. (10 Marks)
- b. With an example, explain briefly try, throw and catch mechanism in C++. (10 Marks)
- 6 a. Define class and object. With the help of general syntax, describe a class, class members, class object arrays and vectors. (10 Marks)
- b. Explain parameterized constructors. Develop a C++ program to implement parameterized constructors. (10 Marks)
- 7 a. What is operator overloading? Write a C++ program to add 2 complex numbers by overloading operator '+'. (10 Marks)
- b. Write a C++ program to overload the ++ and -- operator. (10 Marks)
- 8 a. Explain single and multilevel inheritance with examples. (10 Marks)
- b. Explain the following :
  - i) Base class and derived class
  - ii) Local, static and global variables. (10 Marks)

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.