Sixth Semester B.E. Degree Examination, June/July 2019
Programming in C++

Time: 3 hrs.   Max. Marks:100

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

PART – A

1 a. What are preprocessor directives? What are their functions? Give six examples of preprocessor directives. **(08 Marks)**
   b. What do mean by dynamic initialization of a variable? What is the primary difference between static and dynamic memory allocation? **(06 Marks)**
   c. Explain how new and delete operator manage memory allocation dynamically with an example. **(06 Marks)**

2 a. What are the basic operations performed on string? Write a C++ program to find the number of characters in the string. **(08 Marks)**
   b. What is the need for const qualifier? Explain with an example. **(06 Marks)**
   c. Justify the statement "array can be used as a pointer". **(06 Marks)**

3 a. With an example, explain the data types and variables in C++. **(04 Marks)**
   b. Write a program to accept a line of text and count the number of times an vowel occurs in it. **(08 Marks)**
   c. Distinguish between the while and do-while statements. **(03 Marks)**
   d. Write a C++ program to accept an integer and reverse it. Then print both the input and reversed integers. **(05 Marks)**

4 a. What is function? Mention the advantages of using function. **(05 Marks)**
   b. What do you mean by a function prototype? **(03 Marks)**
   c. Differentiate between –
      i.   Arguments and parameters
      ii. Normal functions and inline functions
      iii. Call-by-value and call-by –reference with pointer. **(06 Marks)**
   d. Write a recursive function to find factorial of n numbers. **(06 Marks)**

PART – B

5 a. What is an exception? What are the three keywords that are used with exception handling in C++? Explain with an example. **(10 Marks)**
   b. Write a C++ program to illustrate the process of catching all uncaught exceptions through in a try block. **(10 Marks)**

6   a.   Describe the difference between class and object with an example.   (04 Marks)
    b.   What are class constructor and class destructors? Give the characteristics of each. (06 Marks)
    c.   Write a C++ program to implement a class called STRING. In the class develop a copy
         constructor to copy one string to another. Write the supporting main( ) that uses the copy
         construct to copy one STRING object to another.   (10 Marks)

7   a.   What is operator overloading? List the operators that can be overloaded and that cannot be
         overloaded in C++.   (06 Marks)
    b.   What are the steps involved in operator overloading.   (04 Marks)
    c.   Write a C++ program to overload ++ and – – operator.   (10 Marks)

8   a.   Briefly explain public, private, protected inheritance.   (06 Marks)
    b.   Write a note on base class and derived class.   (04 Marks)
    c.   Explain with an example multiple inheritances.   (10 Marks)

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