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Sixth Semester B.E. Degree Examination, June/July 2018
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? Describe any two preprocessor directives with their syntax. **(06 Marks)**
   b. Briefly explain the standard input and output operations of C++ using iostream library. **(06 Marks)**
   c. Explain how dynamic memory is allocated and de-allocated to a single data and array data of specific type with examples. **(08 Marks)**

2 a. Explain enumerated data type with examples. **(04 Marks)**
   b. Explain the meaning of the following statements of C++
      i) 1E – 3F   ii) L'x'   iii) 2038UL   iv) int *P[5]; **(08 Marks)**
   c. Correct the errors if any in the following statements of C++. Justify your answer :
      i)   const int ci;
      ii) int *pi = 10;
      iii) int a[3] = {0, –1, 2, 3};
      iv) const char sub[3] = "C++"; **(08 Marks)**

3 a. List all relational, logical and bitwise operators of C++ along with their precedence and associatively. **(08 Marks)**
   b. Write a C++ programs to find minimum of 3 integer values using :
      i) if –structure   ii) conditional operator. **(06 Marks)**
   c. Write a C++ program to find whether the given number is prime or not. **(06 Marks)**

4 a. What is function prototype? Explain how default argument function works with an example. **(06 Marks)**
   b. Describe three different ways of argument passing techniques to a function using overloaded swap( ) functions in a C++ program. **(08 Marks)**
   c. Define Recursion. Write a C++ recursive function to find greatest common divisor (gcd) of two numbers. **(06 Marks)**

PART – B

5 a. What is inline function? Write a C++ inline function to find cube of a number. **(04 Marks)**
   b. What is an exception? Explain how a try and catch blocks are used to handle possible exceptions in a C++ program. **(08 Marks)**
   c. Write a C++ program to illustrate the process of catching all uncaught exceptions thrown in a try–block. **(08 Marks)**

6 a. With a simple C++ program using a class, explain the terms : private, public, friend and class objects. **(10 Marks)**
   b. Define a stack class. Each object of this class represents stack of integers. Include constructor, destructor, push, pop and display member functions. **(10 Marks)**

7 a. What is operator overloading? Describe the syntax of operator functions for unary and binary operator with examples. **(10 Marks)**

   b. Define a complex class. Each object of this class represents a complex number storing real and imaginary values as double type. Include a constructor, destructor and display functions. Use overloaded '+' operator to add two complex numbers. **(10 Marks)**

8 a. What is inheritance? Describe the syntax of multiple inheritance with suitable C++ program. **(10 Marks)**

   b. Mention different forms of inheritance. Explain public, private and protected inheritance and their effect on the visibility of data members. **(10 Marks)**

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