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10TE661

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. Define the term dynamic memory allocation. What are the primary differences between static and dynamic memory allocation? How memory is allocated during run-time? **(08 Marks)**

b. Write a C++ program that finds largest element in an array. **(06 Marks)**

c. Explain role of preprocesses directives with example, explain conditional directives. **(06 Marks)**

2 a. Explain the following with appropriate example
   i) Literal constant
   ii) Bool data type
   iii) Enumeration data type **(09 Marks)**

b. Explain how pointers and arrays are related in C++ with example. **(06 Marks)**

c. Write a C++ program to copy one string to another (Note : Don't use library function strcpy ( )). **(05 Marks)**

3 a. Write and explain any four bitset operations. **(04 Marks)**

b. Explain various branching statements in C++ with their syntax and appropriate example. **(08 Marks)**

c. Write a C++ program to check and display prime numbers in a given range of numbers. **(08 Marks)**

4 a. What are functions? What is function prototype, function call, function definition? Explain with example. **(07 Marks)**

b. Write a C++ program to swap two numbers using following parameter passing mechanism :
   i) Call by value
   ii) Call by reference with pointer argument
   iii) Call by reference with reference argument. **(09 Marks)**

c. What do you mean by recursion? Explain with example. **(04 Marks)**

PART – B

5 a. What is exception handling? Explain try, throw and catch blocks in C++ with example. **(10 Marks)**

b. Discuss the design issues associated with the use of exception handling. **(10 Marks)**

6 a. What is a class? Explain structure of a class with the help of an example. Different between class and structure. **(08 Marks)**

b. Write a C++ program to count number of objects. **(04 Marks)**

c. Write a class "rectangle" containing two data items "length" and "breadth" and four functions getdata ( ), setdata ( ), displaydata ( ) and area ( ) to get the use input, to set the length and breath, to display and to find area of the rectangle respectively. Also write main program which declares the objects and uses the member functions of the class. **(08 Marks)**

7 a. What is operators overloading? Write a program to concatenate two strings by overloading + operator. **(10 Marks)**

b. Explain overloading of operator ++ and -- with friend function and without friend function. **(10 Marks)**

8 a. Explain different forms of Inheritance. **(06 Marks)**

b. Differentiate between public, private and protected inheritance. **(06 Marks)**

c. Discuss class scope under multiple inheritances with an example. **(08 Marks)**

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