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10EC665

Sixth Semester B.E. Degree Examination, Dec.2017/Jan,2018
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 preprocessor directives? List the different types and explain their use. (06 Marks)
b. Explain dynamic memory allocation in C++. What is memory leak? (06 Marks)
c. With the help of a general class structure, explain in detail object based design. (08 Marks)
- 2 a. What is variable? What are the accepted conventions of naming a variable? (05 Marks)
b. Explain the difference between the following literal constants : (05 Marks)
i) 12.345L ii) 024 iii) L "a" iv) 1024UL v) 2.56F.
c. Explain the following terms with example : (10 Marks)
i) pointer arithmetic
ii) class scope operator
iii) const qualifies
iv) reference variables
v) Enum.
- 3 a. Differentiate implicit and explicit type conversion. Give atleast three general program situations when implicit type conversions happen. (08 Marks)
b. Write a program to accept ten numbers from the user and print the sum and average of them. (08 Marks)
c. Differentiate between the while and do-while looping constructs. (04 Marks)
- 4 a. What are functions? Explain the general structure of functions in C++. (08 Marks)
b. Explain different ways of argument passing in a function with the help of swap(). (function to swap two numbers). (12 Marks)

PART – B

- 5 a. What are exceptions? What is the mechanism given by C++ to handle them? (05 Marks)
b. Write a C++ program to handle : (10 Marks)
i) Divide by zero
ii) Stack full exception.
c. Explain the flow of the program on occurrence of an exception. (05 Marks)
- 6 a. Using the general structure of class, explain how information hiding is implemented in C++. (08 Marks)
b. Explain the following with examples : (09 Marks)
i) Class constructor
ii) Class destructor
iii) Default constructor.
c. Explain the following definition class Accounts{ }, Account Name [10]. (03 Marks)

- 7 a. Explain how ++ and -- operators can be overloaded using a sample class. (12 Marks)
- b. Differentiate the following definitions for class student :
- i) Student *S = new student (24) ;
 - ii) Student *S = new student (10); (08 Marks)
- 8 a. Define class inheritance. How are Public, Private and Protected inheritance implemented. Give an example. (12 Marks)
- b. Class vehicle {...};
Class two wheeler : public vehicle {...};
Class four wheeler : public vehicle , public two wheeler { };
Explain the scope of inheritance in the above structure. (08 Marks)
