VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD
B.E. (E.C.E.) II Year II-Semester Backlog Examinations, May-2017

Finishing School - II : Technical Skills

Time: 1½ hours   Max. Marks: 35

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (5 × 2 = 10 Marks)

1. Narrate the important advantages of C++ over C programming language.

2. Define Constructor. Write the default & parameterized constructor of Complex number system class having real and imaginary integer data items.

3. Write a C++ function that accepts a string and convert to entire upper case form.

4. What is an exception? Write the syntax of handling exception in C++.

5. Write a singly linked list structure with integer data item & create a Head Node with the value 7.

Part-B (5 × 5 = 25 Marks)

6. a) Write a C++ program to use inline functions that returns area and volume of a cylinder.   [3]

   b) Using the precedence of operators in C++, evaluate the following expression: [2]
   int a=10;
   a *= 9 + 8 – 7 & 6 ^ 5 * 4 / 3 %2 | 1;

7. a) Using function overloading, write a C++ program to print the smallest of given 3 integers and 3 real numbers.   [3]

   b) Write a C++ function to add two natural numbers using only bit-wise operators.   [2]

8. a) Using operator overloading, write a C++ program to perform addition of two rational numbers.   [3]

   b) Write a C++ function which returns the second position of a given character in a string.   [2]

9. a) Write a C++ class template to maintain 'N' data items and using appropriate member functions, perform bubble sort of integers, real numbers and characters.   [3]

   b) What is run-time polymorphism? With a C++ example program, explain how to achieve it.   [2]

10. a) Write a C++ program to maintain a doubly linked list of 'N' student's CGPA and display the list.   [3]

    b) If CGPA of 'N' students were maintained as data item of a doubly linked list, write a C++ function that prints the roll number of the topper.   [2]

11. a) Write a C++ program to do matrix multiplication using pointers.   [3]

    b) What is a copy constructor? Explain when is it mandatory to write.   [2]

12. Answer any *two* of the following:

    a) Write a short note on static data members and static member functions in C++ classes.   [2½]

    b) Demonstrate the advantage of Inheritance in C++ with an example program.   [2½]

    c) For a singly linked list having the integer data, write C++ functions to: [2½]
    i) Add a node after 'N' nodes.   ii) Delete all the nodes with the value 'K'.

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