VASAVI COLLEGE OF ENGINEERING *(Autonomous)* **HYDERABAD**

MCA. I/III I-Semester(Main) Examinations, March-2015

Computer Programming and Problem Solving

Time: 3 hours   Max. Marks: 70

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

Part-A (Marks: 10 X 2=20)

1. What is a data type? List any four data types and their sizes in C.

2. Evaluate the following expression in C with the values a=10, b=20, c=5

    a+(b*a/c)+b*c.

3. Explain about pointer arithmetic with examples.

4. What is recursion function? What are the advantages and disadvantages?

5. What is union? Differentiate between unions and structures.

6. Differentiate between sequential access file and random access file.

7. What is inline function? Write advantages and disadvantages of inline functions.

8. Explain about various access specifiers in C++.

9. Describe virtual destructor.

10. Differentiate between public inheritance and private inheritance.

Part-B (Marks: 5 X 10=50)
(All bits carry equal marks)

11. a) Explain various decision making statements in C. Explain with examples.
    b) Write C Program for given number is palindrome or not.

12. a) Develop a function in C to sort the numbers in ascending order using bubble sort technique.
    b) Develop a function in C to search an element in the given list using binary search technique.

13. a) Write a C program to copy the content of one file to into another file.
    b) Explain about string manipulation functions in C with syntax and examples.

14. a) What is a function template in C++? Write a template based program for sorting numbers.
    b) Define operator overloading. Write a program to overload arithmetic operator ' + '.

15. a) How to implement Dynamic polymorphism in C++ with suitable example.
    b) What is class template? Explain the syntax of class template in C++ with suitable example.

16. a) Write a C program for sorting the names in descending order.
    b) Explain about different storage classes supported by C++.

17. a) What is an exception? Explain try, catch and throw blocks.
    b) Write a C program for addition of two matrices.

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