

SECOND SEMESTER B.C.A. DEGREE EXAMINATION, MAY 2014
(U.G. – CCSS)
Core Course
C A 2B 02 – PROGRAMMING IN C++ AND DATA STRUCTURES

Time: Three Hours

Maximum: 30 weightage

I. Answer all twelve questions:

1. _____ is the equivalent expression using short hand assignment operator for the expression $a=a*10$.
2. _____ is an example for a ternary operator in C++.
3. A constructor with no arguments is called a _____ constructor.
4. In C++ a function contained within a class is called _____.
5. In _____ inheritance the derived class acts as the base class for further inheritance.
6. In private mode of inheritance, the protected data becomes _____.
7. _____ function is an example for runtime polymorphism.
8. _____ bytes in memory is allocated for an interger array of size 20.
9. _____ is an example of non-linear data structure.
10. The number of nodes connected to a particular node in the tree is called _____.
11. If the last node of a list points to the first node, then list is called _____.
12. In a tree, the nodes that have zero degree are called _____.

[12x ¼ = 3 weightage]

II. Answer all nine questions:-

13. Write short notes on identifires with example.

14. What is the basic concept of structured programming?
What is its drawback?
15. What is the importance of friend functions in C++?
16. What is a copy constructor? What is its use?
17. What is meant by destructor?
18. Define template.
19. Explain, how push operation is performed in a stack?
20. Write an algorithm selection sort.
21. Define binary tree and draw a binary tree with 5 nodes.

[9x1= 9 weightage]

III. Answer any five questions:-

22. Explain logical and relational operators in C++.
23. Write C++ program to find the product of two matrices using operator overloading.
24. Write a short note on argument passing mechanisms in C++.
25. Write a short note on exception handling.
26. Write a C++ program to implement linear queue.
27. Write and explain quick sort algorithm.
28. Represent the expression $(a-b)(c*d)+e$ by means of a binary tree.

[5x2= 10 weightage]

IV. Answer any two questions:-

29. [a] Explain the important characteristics of object oriented programming.
[b] Explain the shift operators in C++.
30. [a] What is meant by operator overloading? What are the important points to be considered when we overload operators?
[b] Write C++ program to evaluate a postfix expression.

31. [a] write a function to insert a new node in binary search tree.

[b] Write a C++ program to implement a queue using linked list.

[2x4= 8 weightage]

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