

MAY 2015

P/ID 16151/PITSA

Time : Three hours

Maximum : 100 marks

PART A — (6 × 5 = 30 marks)

Answer any SIX questions each in 200 words.

1. What are the operators that cannot be overloaded? What are the operators that cannot be overloaded only by friend function? Give example.
2. How does an Inline function differ from a pre processor macro? Discuss.
3. Mention the two ways in which a file can be opened.
4. What are the functions supported by file stream classes for performing I/O operations? Give example.
5. What are the file pointers? Describe get-pointers and put-pointers?
6. List out the steps involved in deleting a node from a binary search tree. Give example for each.

7. A full node is node with 2 children. Prove that the number of full node plus one is equal to the number of leaves in a non-empty binary tree.
8. How many passes does the insertion sort algorithm do to sort a list of 5 elements? What happens in its i^{th} pass?

PART B — (7 × 10 = 70 marks)

Answer any SEVEN questions each in 500 words.

9. Write a C++ program to extract the elements placed in the odd position of the array.
10. State the rule to be followed while overloading an operator. Write a program to illustrate overloading.
11. Explain multiple each statements with the help of suitable C++ coding.
12. Write a program using sequential file access to maintain and access employee pay roll.
13. What is meant by “Collision resolution” in hashing? Explain in detail.

14. Explain with examples how a node is inserted into an AVL tree. Discuss all possible cases.
 15. State the pseudo code for Dijkstra's algorithm.
 16. Develop an algorithm for implementing traversal on binary search tree.
 17. Explain hybrid inheritance with suitable C++ coding.
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