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Register Number:

**5956**

Name of the Candidate:

**B.C.A. DEGREE EXAMINATION, May 2015**

**(SECOND YEAR)**

**(PART-III)**

**230: DATA STRUCTURES AND ALGORITHM**

Time: Three hours

Maximum: 100 marks

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**SECTION-A**

**(8×5=40)**

**Answer any EIGHT questions**

1. What is list? How are data added, removed in linked lists?
2. Convert the infix expression  $(a+b+c) \wedge 2^*(a/b)$  into post fix expression. Explain its procedure.
3. With diagram explain, how pointers are updated in the doubly linked list.
4. List down the properties of a search tree.
5. List down the application of Huffman's algorithm.
6. How will you implement two queues in a single array? Explain.
7. What is bucket sorting? List down its areas of usage .
8. Explain the procedure for inserting the elements using insertion sorting.
9. What are the advantages of using binary searching over linear searching?
10. What is a hash function? Explain.

**SECTION-B**

**(3×20=60)**

**Answer any THREE questions**

11. What is stack? With pseudo code, explain the operations that can be performed with it.
12. What is circular queue? How are the front end and rear end pointers movements are handle? Explain with example.
13. Write the procedure for converting the non-binary tree into binary tree.
14. With example, explain the procedure to sort the elements using quick sort.
15. Explain how an element is searched using binary searching.

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