Register Number :

Name of the Candidate :

5 7 0 4

B.C.A. DEGREE EXAMINATION, 2010

(SECOND YEAR)

(PART - III)

(PAPER - IX)

230. DATA STRUCTURES AND ALGORITHMS

(Revised Regulations)

(Including Lateral Entry)

December] [Time : 3 Hours

Maximum : 100 Marks

PART - A (8 × 5= 40)

Answer any EIGHT questions.
All questions carry equal marks.

1. Explain the various operations of data structures.

2. Explain the recursion application of stack.

Turn Over

3. With the help of a procedure, explain the insertion of a node at the end of a singly linked list.

4. Explain circular queue with a neat diagram.

5. Write a short note on binary tree representation.

6. Explain with an example, how a general tree can be converted into a binary tree.

7. Explain the selection sort with an example.

8. Write the procedure for merge sort and explain.

9. Explain tree search with an example.

10. Explain any one method of hashing.

PART - B (3 ×20= 60)

Answer any THREE questions.
All questions carry equal marks.

11. (a) Explain the operations on a list with examples. (10)

(b) Explain with an example, how in-fix notation can be converted into pre-fix notation. (10)

12. (a) Explain the simulation using linked lists.(10)

(b) Write a detailed note on other list structures. (10)

13. Explain the various binary tree traversal methods with examples. (20)

14. Explain the following with a procedure and example :

(a) Tree sort.

(b) Radix sort. (20)

15.(a) Explain binary search with a procedure and example. (10)

(b) Explain general search trees with examples. (10)

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B.C.A. DEGREE EXAMINATION, 2010

(SECOND YEAR)

(PART - III)

(PAPER - IX)

230. DATA STRUCTURES AND ALGORITHMS

(Revised Regulations)

(Including Lateral Entry)

May] [Time : 3 Hours

Maximum : 100 Marks

PART - A (8 × 5 = 40)

Answer any EIGHT questions.
All questions carry equal marks.

1. What is meant by data type ? Write short notes on its various types.

2. Explain the push operation of a stack with a procedure and an example.

Turn Over

3. Briefly explain the sequential representation of a queue.

4. Write a procedure to delete a node from the linked list. Explain it with an example.

5. What is a binary tree ? Write a brief note on the sequential representation of the binary tree.

6. Write a brief note on the properties of a binary serach tree.

7. Explain the insertion sort with a procedure and example.

8. Write a procedure for selection sort. Explain it with an example.

9. Explain the linear search method with a procedure.

10. Write a brief note on division method in hashing technique.

PART - B (3 × 20 = 60)

Answer any THREE questions.
All questions carry equal marks.

11. Describe the various applications of stack. (20)

12. Write a procedure to arrange the nodes in ascending order in a linked list. Explain with an example. (20)

13. Explain in detail, the conversion of general trees to binary trees. (20)

14. Describe the tree searching method. (20)

15. Describe the general search trees. (20)

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B.C.A. DEGREE EXAMINATION, 2011

(SECOND YEAR)

(PART - III)

(PAPER - IX)

230. DATA STRUCTURES AND ALGORITHMS

May] [Time : 3 Hours

Maximum : 100 Marks

PART - A (8 × 5 = 40)

Answer any EIGHT questions.
All questions carry equal marks.

1. Briefly explain the various data structues.

2. Briefly explain the various operations of data structures.

3. What is queue ? Write a short note on the sequential representation of a queue.

Turn Over

4. Write a brief note on the various list structures.

5. Briefly explain the various binary tree representations.

6. Briefly explain about the applications of trees.

7. Explain about insertion sort with an example.

8. Explain about merge and radix sorts with examples.

9. Explain the breadth first search procedure with an example.

10. Explain about the depth first search procedure with an example.

PART - B (3×20=60)

Answer any THREE questions.
All questions carry equal marks.

11. (a) Explain the various operations of stacks with examples. (10)

    (b) Explain how an in-fix notation can be changed to post-fix and pre-fix notation.(10)

12. (a) Describe the various operations of queues. (10)

    (b) Explain in detail, about the various insertions in a singly linked lists. (10)

13. (a) Explain any two binary tree traversal methods with examples. (10)

    (b) Explain the Huffman algorithm with an example. (10)

14. (a) With a procedure and example, explain quick sort method. (10)

    (b) Explain about address calculation sort with procedure and example. (10)

15. (a) Describe about general search trees. (10)

    (b) Write a detailed note on hashing. (10)