

Question Bank (G scheme)

Name of subject: Data Structure Using 'C'

Subject code:17330

Semester: III

Unit Test :II

Course : CM/IF

CHAPTER-4 QUEUES (12)

3 Marks

1. Explain Queue as an abstract data type.
2. Define the circular queue with example.

4 Marks

3. Define any two terms with Example.
 - A. Dequeue
 - B. Priority queue
 - C. Linear queue
4. Define Consider the following queue of character ,where QUEUE is circular array which is allocated six memory cells
FRONT=2,REAR=4,QUEUE=____,A,C,D,__,__.
Describe queue as following operation takes place:
 - 1.F is added to Queue.
 - 2.Two letters are deleted
 - 3.K,L,M are added to queue.
 - 4.S is added to queue.
5. Write a c program to implement a queue with insert operation.

CHAPTER-5 LINKED LIST (12)

3 Marks

6. List types of linked list.
7. Define the following terms :
 - a. Null pointer
 - b. Empty list
 - c. next pointer
 - d. Address
8. Describe Doubly Linked list with suitable example

4 Marks

9. Write Algorithm for insertion of new node at start and End in singly linked list .
10. Describe the structure of circular linked list.

CHAPTER-6 TREES (18)

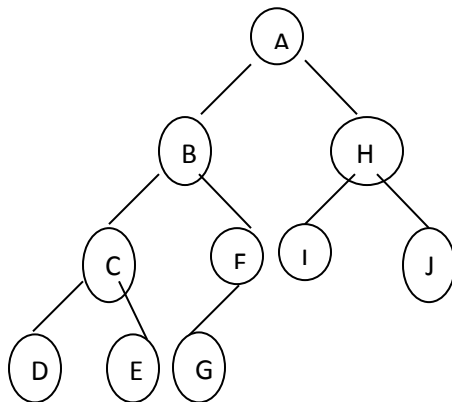
3 Marks

11. Explain one of the following binary search operation with example.
 - A. Insertion of Node
 - B. Deletion of Node
12. Draw the tree structure for the following expression. (any two)
 - a. $(a-3b)(2x-y)^3$
 - b. $(2a+5b)^3(x-7y)^4$
 - c. $(2a+5b)^3(x-7y)^4$
13. Define
 - a. AVL tree
 - b. Weight balanced tree
14. Construct a binary search tree from the given list of letters inserted in order into all empty binary search tree .

J , R , D , G , T , E , N , H , P , A , F , Q

4 Marks

15. Explain Binary tree with Example.
16. Define following terms related to binary tree:
 - A. level,
 - B. depth,
 - C. path
 - D. degree of node
17. Perform preorder, Inorder, Postorder for following binary Tree



18. Suppose Following eight numbers are added in order into empty binary search tree T.
50, 33, 44, 22, 77, 35, 60, 40.
Draw the tree T and search an item 20 in the tree.
19. Draw the tree structure of the expression given below:

$$(x + 2y + 3z + 4a + 5b + 6c)^2 * (7d + 4z)^2$$

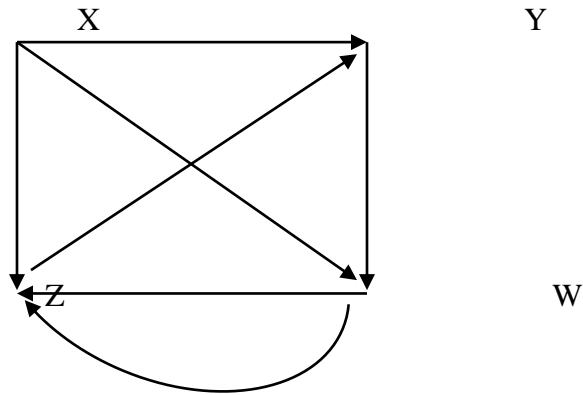
CHAPTER-7 GRAPH & HASHING (16)

3 Marks

20. Explain Linked representation of graph with suitable Example
21. Describe Hash Function. Explain Different Hash Function

4 Marks

22. Consider the following Graph .Find its adjacency Matrix & Path Matrix by using Sequential Representation of Graph.(4 Marks)



23. Describe application of graph in data structure.
24. Write the Breadth First Search algorithm.
25. Compare sequential representation of graph with linked representation method of graph.