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SUBJECT CODE NO:- H-430
FACULTY OF SCIENCE AND TECHNOLOGY
SE(EC/ECT/IE/E&C) (Sem-I)
Data Structure
[OLD]

[Time: Three Hours] **[Max. Marks:80]**

Please check whether you have got the right question paper.
N.B.: 1) Q. No.1 from Section A and 6 from Section B are compulsory.
2) From remaining solve any two questions from each Section.

Section A

Q.1 Answer any five:- 10

1) What are the primitive operations performed on stack.
2) What is push?
3) Explain Insertion into circular queue.
4) What is the Prefix And Post Fix Notation Of $(a + B)^*(c + D)$?
5) What are Application of Queue?
6) What is priorty queue?
7) What is function?
8) Explain one dimensional array with example.

Q.2 a) Write an algorithm to convert infix expression to postfix expression. 08
b) Explain Circular queue in detail. 07

Q.3 a) Using single dimensional, write a program to find average of numbers. 08
b) Explain doubly linked list. 07

Q.4 a) Define linked list. Explain operations on singly linked lists. 08
b) Discuss storage classes in detail. 07

Q.5 Write short notes on (any three) 15

1) Circular Queue
2) Circular Linked list
3) Concept of linked list
4) Operation on Stack

Section B

Q.6 Answer any five:- 10

1) What is merger sort?
2) Define Heap.

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3) State the properties of a binary tree.
4) What is sorting? What are the types of sorting?
5) What is a graph?
6) What is shortest path?
7) What are the tasks performed during postorder traversal?
8) What Is Tree Traversal?

Q.7 a) Write an algorithm for BFS and DFS. 08
b) Explain spanning and minimum spanning tree. 07

Q.8 a) Explain selection sort with a program. 08
b) Explain application of tree. 07

Q.9 a) Create a binary tree from the following sequence: 14,34,22,44,11,24,33 08
b) Explain the Bubble sort with example. 07

Q.10 Write short notes on (any three) 15

1) Sparse matrix
2) Merge sort with algorithm
3) Traversal technique of binary tree
4) Shell sort

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