PCMCMT204.2 - Paper-IV : Elective-II : Data Structure & File System

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Notes :
1. All questions are compulsory and carry equal marks.
2. Draw neat and labelled diagram and use supporting data wherever necessary.
3. Avoid vague answers and write specific answer related to question.

Either

1. a) Discuss the different operations that can be performed on data structures. **8**

b) What are the different types of arrays and their memory representation. **8**

OR

c) Explain the concept of Big-O notation in brief. **8**

d) What is stack explain with suitable example. **8**

Either

2. a) Discuss the properties of recursion and its advantages and disadvantages. **8**

b) Explain the different representations of linked lists. **8**

OR

c) What are queues and what are their applications? **8**

d) Write a program to find factorial of a number using recursion. **8**

Either

3. a) What are trees and their importance in data structures? **8**

b) Discuss the sequential representation of graphs. **8**

OR

c) Explain binary search tree (BST) and how is it implemented. **8**

d) Define graphs and the terminologies associated with them. **8**

Either

4. a) Describe the operations and types of file organizations. **8**

b) Write a program to arrange the list of number in a sorted order using merge sort. **8**

c)	Explain the concept of topological sorting in detail.		**8**
d)	Define searching and the different types of search methods.		**8**

5. Solve all the questions.

a)	Differentiate between data and information.		**4**
b)	Write a short note on tail recursion.		**4**
c)	What are AVL trees and their significance.		**4**
d)	Define sorting and its importance in data processing.		**4**

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