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Sixth Semester B.E. Degree Examination, June/July 2011
File Structures

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions selecting
at least TWO questions from each part.**

PART - A

1.
 - a. What are file structures? Explain briefly the history of file structures design. (06 Marks)
 - b. Explain seeking with C and C++ streams. (04 Marks)
 - c. Explain sector based data organization in magnetic disk. (06 Marks)
 - d. Differentiate between constant linear velocity (CLV) and constant angular velocity (CAV). (04 Marks)
2.
 - a. What is a record? Explain different methods for organizing records of a file. (12 Marks)
 - b. Write brief notes on :
 - i) Performance of sequential search
 - ii) Direct access. (08 Marks)
3.
 - a. Explain how spaces can be reclaimed in files. (10 Marks)
 - b. What is an index? Explain a simple index for entry-sequenced file. (10 Marks)
4.
 - a. What is co-sequential processing and what are the assumptions and components of the model? (10 Marks)
 - b. Explain the following:
 - i) K-way merge
 - ii) A selection tree for merging large number of lists. (10 Marks)

PART - B

5.
 - a. Explain with an example the creation of B-trees. (10 Marks)
 - b. Explain the following with respect to B-Tree:
 - i) Worst-case search depth
 - ii) Redistribution during insertion. (10 Marks)
6.
 - a. Explain simple prefix B⁺ tree and the issues involved in maintenance of such trees. (10 Marks)
 - b. Explain the internal structure of index set blocks. (10 Marks)
7.
 - a. What is hashing? Explain a simple hashing algorithm. (10 Marks)
 - b. What is collision? Explain collision resolution by progressive overflow. (10 Marks)
8.
 - a. Explain the working of extendible hashing. (10 Marks)
 - b. Write short notes on:
 - i) Dynamic hashing
 - ii) Linear hashing (10 Marks)
