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06IS63

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)**

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