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10IS63

Sixth Semester B.E. Degree Examination, Dec.2016/Jan.2017

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 the three distinct operations that contribute to the total cost of access on disk? (04 Marks)
b. Implement UNIX command grep. Display output of your program on standard output. (06 Marks)
c. Explain the following functions:
i) Open a file
ii) Close a file. (10 Marks)
- 2 a. What is a record? Explain different methods for organizing records of a file with example. (11 Marks)
b. Explain the concept of Inheritance using the I/O buffer class hierarchy. (06 Marks)
c. Explain the tools available in UNIX for sequential processing of file. (03 Marks)
- 3 a. Briefly explain with example how spaces can be reclaimed dynamically in fixed length records. (08 Marks)
b. Explain the different operations required to maintain indexed file. (12 Marks)
- 4 a. Explain how co-sequential is implemented in a general ledger program. (10 Marks)
b. Explain with an example, the K-way merge algorithm. (10 Marks)

PART – B

- 5 a. In detail, discuss paged binary tree. What are its advantages and disadvantages? (10 Marks)
b. What is B-tree? Explain deletion, merging and redistribution of elements on B-tree. (10 Marks)
- 6 a. What is indexed sequential access? Explain the block splitting and merging due to insertion and deletion in sequence set with example. (10 Marks)
b. With a diagram, explain simple prefix B⁺ trees and its maintenance. (10 Marks)
- 7 a. What is hashing? Explain the simple hashing algorithm with example. (10 Marks)
b. What is collision? Explain the process of collision resolution by progressive over flow technique. (10 Marks)
- 8 a. Explain the working of extendible hashing in detail. (10 Marks)
b. Write short notes on:
i) Pinned records
ii) Dynamic hashing. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.