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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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