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10IS63

Sixth Semester B.E. Degree Examination, Dec.2015/Jan.2016

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 do you mean by file structure? Explain in brief a short history of file structure design. **(04 Marks)**

b. Bring out the differences between physical files and logical files. **(05 Marks)**

c. Define the following terms :
i) Seek time ii) Rotational Delay iii) Transfer time **(06 Marks)**

d. With neat sketch, explain UNIX directory structure. **(05 Marks)**

2 a. What do you mean by a record? Explain different methods for organizing records of a file with an example. **(10 Marks)**

b. Explain the tools available in UNIX for sequential processing of a file. **(04 Marks)**

c. Write a Pack( ) and unpack ( ) methods in C++ for employee id, employee name, employee designation, employee contact number fields for variable length records. **(06 Marks)**

3 a. Explain the different limitations of binary searching and internal sorting. **(06 Marks)**

b. Explain the algorithm for keysort. **(06 Marks)**

c. Explain the different operations required to maintain an indexed file. **(08 Marks)**

4 a. Explain how co – sequential processing is implemented in a general ledger program. **(10 Marks)**

b. Explain how much time merge sort takes to sort a given file. **(10 Marks)**

PART – B

5 a. What do you mean by B – tree? Explain deletion, merging and redistribution of elements on B – tree. **(10 Marks)**

b. What are paged binary trees? Explain the problems associated with paged binary trees. **(06 Marks)**

c. Mention the four properties of B* trees. **(04 Marks)**

6 a. Define indexed sequential access. Explain the block splitting and merging due to insertion and deletion in a sequence set with example. **(10 Marks)**

b. Explain simple prefix B^1 trees and its maintenance. **(10 Marks)**

7 a. What do you mean by hashing? Explain the simple hashing algorithm with example. **(10 Marks)**

b. What is collision? Explain the process of collision resolution by progressive overflow. **(10 Marks)**

8 Write a short note on :
i) Linear Hashing ii) AVL trees
iii) Strengths and weakness of CD Rom iv) Pinned Records. **(20 Marks)**

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