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10IS63

Sixth Semester B.E. Degree Examination, June/July 2013
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? What is the driving force behind the file structure design? **(04 Marks)**

b. Explain the functions READ and WRITE with parameters. **(06 Marks)**

c. What are the three distinct operations that contribute to the total cost of access on disk? **(04 Marks)**

d. Briefly explain the organization of data on Nine-Track tapes with a neat diagram. **(06 Marks)**

2 a. What are the different ways of adding structures to a file to maintain the identity of fields? Explain with example. **(08 Marks)**

b. Explain the concept of inheritance using the I/O buffer class hierarchy. **(06 Marks)**

c. What is RRN? Explain how does it support direct access with example. **(06 Marks)**

3 a. Briefly explain with example how spaces can be reclaimed dynamically in fixed length records. **(08 Marks)**

b. What are the limitations of keysort method? **(03 Marks)**

c. What are inverted lists? How does it improve the secondary index structure? **(09 Marks)**

4 a. Explain the object-oriented model for implementing co-sequential process. **(10 Marks)**

b. With example, explain K-way Merge and selection tree for merging large number of lists. **(10 Marks)**

PART – B

5 a. In detail, discuss paged binary tree. What are its advantage and disadvantage? **(10 Marks)**

b. What is B-tree? With example explain the following operations in B-tree:
i) Deletion; ii) Merging; iii) Redistribution. **(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. Explain simple prefix B^+ trees and its maintenance, with diagram. **(10 Marks)**

7 a. What is hashing? Explain the simple hashing algorithm with example. **(10 Marks)**

b. Explain any two different collision resolution techniques. **(10 Marks)**

8 a. Briefly discuss the working of extendible hashing. **(10 Marks)**

b. Write short notes on: i) Dynamic hashing; ii) Storage fragmentation. **(10 Marks)**

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