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18IS61

Sixth Semester B.E. Degree Examination, June/July 2024

File Structures

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define file structures. Explain the history of file structure design. (08 Marks)
b. Explain the following fundamental file operations :
i) read() ii) write() with syntax (08 Marks)
c. Define :
i) Physical file
ii) Logical file. (04 Marks)

OR

- 2 a. Define File. Explain many ways of adding structures to files to maintain the identify of fields. (08 Marks)
b. Define record. Explain the methods for organizing the records for a file. (08 Marks)
c. List and explain strength and weakness of CD ROM. (04 Marks)

Module-2

- 3 a. What is data compression? Explain different data compression techniques with examples. (10 Marks)
b. Illustrate deleting fixed-length records for reclaiming space dynamically using linked lists and stack. (10 Marks)

OR

- 4 a. Write a short notes on :
i) Storage fragmentation
ii) Placement strategies. (12 Marks)
b. Explain how to improve the secondary index structure with example. (08 Marks)

Module-3

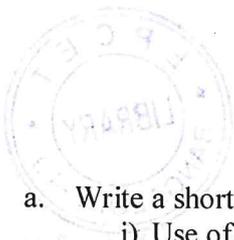
- 5 a. Explain co-sequential processing for matching names in two lists with example. (08 Marks)
b. Explain sorting large file on disks. (08 Marks)
c. Discuss the limitations of keysorting. (04 Marks)

OR

- 6 a. Define B-Tree, Construct B-tree for the following set of keys : (order 4).
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b. Explain:
i) Properties of B-Trees
ii) Worst care search depth. (08 Marks)

Module-4

- 7 a. Illustrate the internal structure of index set block. (08 Marks)
b. Explain simple prefix B+ tree and its maintenance. (12 Marks)



OR

- 8 a. Write a short notes on
 - i) Use of Blocks
 - ii) Choice of block size.
- b. Discuss the sequence of loading a simple prefix B+ tree.

(10 Marks)
(10 Marks)

Module-5

- 9 a. Discuss the Collision resolution by progressive overflow method with an example. (10 Marks)
- b. Define hashing. Explain simple hashing algorithm with all the steps. (10 Marks)

OR

- 10 a. With diagrams, explain :
 - i) Dynamic hashing
 - ii) Linear hashing
- b. Explain how extendible hashing works.

(10 Marks)
(10 Marks)

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