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17IS62

Sixth Semester B.E. Degree Examination, Dec.2023/Jan.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. Discuss about the fundamental file processing operations. (10 Marks)
b. What is file structures? Differentiate between physical files and logical files. (10 Marks)

OR

- 2 a. Explain different record structures used in the organization of a file. (10 Marks)
b. What are the different ways of adding structures to a file to maintain the identity of fields? (10 Marks)

Module-2

- 3 a. Explain the different operation required to maintain indexed file. (10 Marks)
b. How spaces can be reclaimed from deletion of records from fixed length record file and variable length record file. (10 Marks)

OR

- 4 a. Explain in brief the two solutions for improving the secondary index structure. (10 Marks)
b. Discuss the limitations of binary searching and internal sorting. (10 Marks)

Module-3

- 5 a. Apply K-way merge technique for merging large number of lists. Demonstrate with an example. (10 Marks)
b. With a neat diagram, explain paged binary trees. What are its disadvantages? (10 Marks)

OR

- 6 a. List B-tree properties. Explain search and insert methods with respect to B-tree. (10 Marks)
b. Explain the object oriented model for implementing co sequential process. (10 Marks)

Module-4

- 7 a. Explain simple prefix B + tree and its maintenance. (10 Marks)
b. With an example, explain adding a simple index to the sequence set. (10 Marks)

OR

- 8 a. With a suitable diagram, explain the internal structure of index set block. (10 Marks)
b. Explain the block splitting and merging due to insertion and deletion in the sequence set with an example. (10 Marks)

Module-5

- 9 a. What is hashing? Explain the three different steps used in simple hashing algorithm. (10 Marks)
b. Explain different collision resolution techniques. (10 Marks)

OR

- 10 a. Explain how extendible hashing works. (10 Marks)
b. Explain dynamic hashing and linear hashing with example. (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.

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