CBCS SCHEME

USN | | | | | | | | | | |

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. **(10 Marks)**

b. Discuss the sequence of loading a simple prefix B+ tree. **(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 **(10 Marks)**

b. Explain how extendible hashing works. **(10 Marks)**

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