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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).
      CSDTAMPIBWMGURKEHOLJY QZF XV (12 Marks)
   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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