USN ☐☐☐☐☐☐☐☐☐☐

18IS61

Sixth Semester B.E. Degree Examination, Dec.2023/Jan.2024
File Structure

Time: 3 hrs.   Max. Marks: 100

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

Module-1

1   a. What are physical and logical files? Explain basic file handling operation.   **(10 Marks)**
    b. Briefly explain field and record structures with examples.   **(10 Marks)**

OR

2   a. Calculate the space requirement on Tape, if we want to store 1 million 100 bytes records on 7250 bpi tape that has an internal block gap of 0.2 inches and with a blocking factor of 1 and blocking factor 60.   **(10 Marks)**
    b. Write brief notes on :
        (i)   Performance of sequential search.
        (ii) Performance of Direct access and RRN.   **(10 Marks)**

Module-2

3   a. Describe the operations required to maintain an indexed file in detail.   **(10 Marks)**
    b. Briefly explain the reclaiming space in files dynamically for deleting in fixed length records.   **(10 Marks)**

OR

4   a. Explain the limitation of Binary searching and internal sorting.   **(10 Marks)**
    b. Explain key sorting with example.   **(10 Marks)**

Module-3

5   a. Apply K-way merge technique for merging large number of lists. Demonstrate with an example.   **(10 Marks)**
    b. Explain consequential match using single loop. Demonstrate with example.   **(10 Marks)**

OR

6   a. What is multilevel indexing? Explain the concept of B-tree in multilevel index with an example.   **(10 Marks)**
    b. With example, explain deletion, merging and redistribution in B-trees.   **(10 Marks)**

Module-4

7   a. What is indexed sequential ocean? With example explain maintaining a sequence set.   **(10 Marks)**
    b. Give the internal structure of index set block.   **(10 Marks)**

OR

8 a. With a neat sketch, discuss simple prefix B$^+$ tree and its maintenance. (10 Marks)
b. Explain the use of blocks and choice of block size. (10 Marks)

Module-5

9 a. What is hashing? Write an hashing algorithm and explain with an example. (10 Marks)
b. What is collosion? Explain collosion resolution by progressive overflow. (10 Marks)

OR

10 a. Explain the working of extendible hashing. (10 Marks)
b. Write a note on:
    (i)   Double hashing.
    (ii)   Extendible hashing performance. (10 Marks)

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