



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

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)

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.

OR

- 8 a. With a neat sketch, discuss simple prefix B<sup>+</sup> 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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