



# CBCS SCHEME

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15IS62

## Sixth Semester B.E. Degree Examination, Aug./Sept.2020 File Structures

Time: 3 hrs.

Max. Marks: 80

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

### Module-1

- 1 a. Explain the functions of OPEN, READ and WRITE with parameters. (06 Marks)
- b. What are various ways of organizing records in a file? Explain. (06 Marks)
- c. Explain the concept of inheritance, using the IO buffer class hierarchy. (04 Marks)

OR

- 2 a. Briefly explain the different basic ways to organize the data on a disk. (08 Marks)
- b. Define physical file and logical file. (04 Marks)
- c. In C++ language, how do you perform the following: i) Open a file ii) Seek file. (04 Marks)

### Module-2

- 3 a. Describe the operations required to maintain an indexed file, in detail. (07 Marks)
- b. Define data compression. Explain irreversible compression techniques. (05 Marks)
- c. Discuss the limitations of retrieving the records using combinations of secondary keys. (04 Marks)

OR

- 4 a. What is an index? Explain a simple index for entry-sequenced file. (05 Marks)
- b. How is key sort used to sort large files? Explain with C++ code. (06 Marks)
- c. Explain the limitations of binary searching and internal sorting. (05 Marks)

### Module-3

- 5 a. Explain the model for implementing the consequential processing and its applications to general ledger program. (08 Marks)
- b. How large files are ordered on disk, using merging? (04 Marks)
- c. Explain how spaces can be reclaimed in files. (04 Marks)

OR

- 6 a. What is multilevel indexing? Explain the concept of B-Trees in multilevel indexing with an example. (07 Marks)
- b. Explain Object-oriented model for implementing consequential processes. (05 Marks)
- c. With respect to B-Tree, explain worst-case search depth. (04 Marks)

### Module-4

- 7 a. Give the structure of indexed sequential access. (04 Marks)
- b. With a neat sketch, discuss simple prefix B<sup>+</sup> tree and its maintenance. (06 Marks)
- c. Compare the strengths and weakness of B<sup>+</sup> trees and B-trees. (06 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. Explain a B-tree, the creation with examples. (08 Marks)  
b. Explain the internal structure of index set blocks. (08 Marks)

Module-5

- 9 a. What is Hashing? Explain the different Hashing functions with an example. (05 Marks)  
b. Explain the different collision resolution techniques. (05 Marks)  
c. How can we delete records from a hashed file? Explain any one method. (06 Marks)

OR

- 10 a. What is collision? Explain the process of collision resolution by progressive overflow. (07 Marks)  
b. Construct a procedure for finding buddy-buckets. (04 Marks)  
c. Explain the extendible hashing performance. (05 Marks)

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