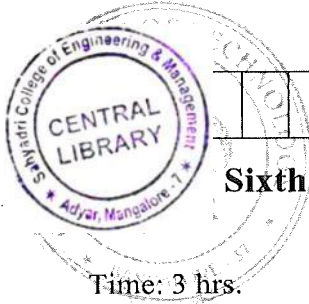17IS62

Sixth Semester B.E. Degree Examination, Feb./Mar. 2022
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. Discuss in detail the history of file structures design.　(10 Marks)
　　b. With syntax, explain read( ), write( ) and seek( ) functions.　(10 Marks)

OR

2　a. Discuss the methods for organizing the records of a file.　(10 Marks)
　　b. What are the strength and weakness of CD ROM? Explain in detail.　(10 Marks)

Module-2

3　a. Define data compression. Discuss in detail different techniques available for compressing data.　(10 Marks)
　　b. Illustrate deleting fixed length records for reclaiming space dynamically using linked lists and stack.　(10 Marks)

OR

4　a. Illustrate simple index for entry-sequenced file.　(10 Marks)
　　b. List and explain the operations required to maintain an index file.　(10 Marks)

Module-3

5　a. What is consequential processing? Write a C++ program snippets for consequential matching and merging with an example.　(10 Marks)
　　b. Apply K-way merge technique for merging large number of lists. Demonstrate with an example.　(10 Marks)

OR

6　a. Write short notes on : (i) AVL trees　(ii) Paged Binary tree　(10 Marks)
　　b. Write the formal definition of B-tree properties. Discuss the three situations that can occur during B-tree deletion with example.　(10 Marks)

Module-4

7　a. Illustrate block splitting and merging due to insertion and deletion in the sequence set.　(10 Marks)
　　b. Discuss loading a simple prefix B^+ tree with diagrams.　(10 Marks)

OR

8　a. Compare and contrast B-tree, B^+ tree and B* trees.　(08 Marks)
　　b. Explain adding simple index to the sequence set.　(12 Marks)

Module-5

9　a. Define hashing. Illustrate simple hashing algorithm.　(10 Marks)
　　b. Discuss some other hashing methods.　(10 Marks)

OR

10　a. Explain how collision resolution by progressive overflow works with example.　(10 Marks)
　　b. Explain linear hashing with example.　(10 Marks)

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