CBCS SCHEME

USN | | | | | | | | | |

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 keysort 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^+ tree and its maintenance. **(06 Marks)**
c. Compare the strengths and weakness of B+ trees and B-trees. **(06 Marks)**

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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