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10IS63

Sixth Semester B.E. Degree Examination, Dec.2017/Jan.2018

File Structures

Time: 3 hrs.   Max. Marks:100

Note: *Answer any FIVE full questions, selecting*
at least TWO questions from each part.

PART – A

1   a. Explain the seeking operation in detail with respect to C stream and also C++ stream class. **(08 Marks)**
    b. List and briefly explain the strength and weakness of CD ROM. **(05 Marks)**
    c. Write a C++ program to read the contents of a file and display the contents in reverse order on the terminal. **(07 Marks)**

2   a. Differentiate between fixed length record and variable length record with suitable examples. **(04 Marks)**
    b. Explain the class hierarchy for record buffer object - IOBuffer. Also write only the class structure with main members and methods of class IOBuffer. **(08 Marks)**
    c. Write a C++ program to pack the 'n; number of student records in a file. (Fixed length record structure can be used) **(08 Marks)**

3   a. Write a C++ function or algorithm to search a record using RRN. **(06 Marks)**
    b. List the needs of data compression. Explain Run-length encoding algorithm with an example. **(08 Marks)**
    c. Explain the various placement strategies. **(06 Marks)**

4   a. Define co-sequential processing. Explain the essential components of consequential processing model. **(10 Marks)**
    b. Explain K-way merge algorithm with an example. **(10 Marks)**

PART – B

5   a. List the B-tree properties. Explain search and insert methods with respect to B-tree. **(10 Marks)**
    b. Calculate the number of levels for a B-tree given 1000000 keys and order 512. **(10 Marks)**

6   a. Explain indexed sequential access. Explain block splitting and merging in the sequence set with suitable examples. **(10 Marks)**
    b. Explain in detail simple prefix B^+ tree maintenance. **(10 Marks)**

7   a. Define hashing. Differentiate between hashing and indexing. Explain simple hashing algorithm with an example. **(10 Marks)**
    b. Explain double hashing and chained progressive overflow in detail **(10 Marks)**

8   Explain the following:
    a. Tries
    b. Unix directory structure
    c. Field structures
    d. Key sorting algorithm. **(20 Marks)**

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