Sixth Semester B.E. Degree Examination, Jan./Feb. 2023
File Structures

Time: 3 hrs.   Max. Marks:100

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

PART – A

1.   a. Briefly explain history of file structures.   **(06 Marks)**
     b. Explain the cost of disk access.   **(04 Marks)**
     c. Explain different file handling operations; Write a program to read content of a file.
                                                         (10 Marks)

2.   a. With example, explain various record structures.   **(10 Marks)**
     b. Briefly, explain the hierarchy of record buffer objects.   **(05 Marks)**
     c. With example, explain the concept of RRN.   **(05 Marks)**

3.   a. What is keysorting? What are its limitations?   **(05 Marks)**
     b. Explain reclining spaces in file.   **(10 Marks)**
     c. Explain different operations required to maintain an index file.   **(05 Marks)**

4.   a. What is co-sequential processing? With example explain watching and merging.   **(10 Marks)**
     b. Explain sorting large files an disk and estimate its time requirement for a file of 800MB, buffer of 10MB, access time 11msec and transfer rate 1400 bytes/msec.   **(10 Marks)**

PART – B

5.   a. Give the formal definition of B-Tree.   **(05 Marks)**
     b. What is worst case search depth?   **(05 Marks)**
     c. What are paged binary trees? Explain the problems with paged binary trees.   **(10 Marks)**

6.   a. Explain with example the internal structure of index set blocks.   **(10 Marks)**
     b. Give the similarity and differences between B-Tree, B^+ Tree and simple prefix B^+ Tree.
                                                       (10 Marks)

7.   a. Explain Collision resolution by progressive overflow and give its search length.   **(10 Marks)**
     b. What is Collision? What are different collision resolution techniques?   **(10 Marks)**

8.   a. Explain the working of extendible hashing.   **(10 Marks)**
     b. Write short notes on :
         i) Dynamic hashing
         ii) Extendible hashing performance.   **(10 Marks)**

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