USN ☐☐☐☐☐☐☐☐☐☐ 15IS62

Sixth Semester B.E. Degree Examination, June/July 2018
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. Differentiate Filestructures ad Datastructures. Briefly discuss the evaluation of file structures. **(08 Marks)**
   b. Calculate the space required on tape, if we want to store 1 million 100 bytes records on 7250 bpi tape that has an internal block gap of 0.2 inches and with a blocking factor of 60. Hence calculate the space required. **(08 Marks)**

OR

2 a. Describe the different record structures used in the organization of the file. **(08 Marks)**
   b. Write brief notes on :
      i) Performance of sequential search
      ii) Performance of Direct access
      iii) RRN **(08 Marks)**

Module-2

3 a. Briefly explain with example how spaces can be reclaimed dynamically in fixed length records file. **(08 Marks)**
   b. What is Data compression? Explain any two Data Compression algorithms with example. **(08 Marks)**

OR

4 a. Illustrate the steps or operations Required to maintain an Indexed file. **(08 Marks)**
   b. How do you improve Secondary Index Structure using Inverted Lists.. **(08 Marks)**

Module-3

5 a. Apply K-way Merge technique for merging large number of lists. Demonstrate with an example. **(08 Marks)**
   b. Using Co-sequential match based on a single loop, demonstrate intersection of two lists. **(08 Marks)**

OR

6 a. Explain the following with respect to B-tree
      i) Worst case search depth
      ii) Properties of B-tree. **(10 Marks)**
   b. Construct B-tree for the following set of keys : (order H) show every steps clearly
      C G J X N S U O A E B H I F K L Q R T V **(06 Marks)**

Module-4

7 a. Explain the following :
      i) Use of Blocks
      ii) Choice of Block size. **(08 Marks)**
   b. Explain how to add simple index to the sequence set. **(08 Marks)**

OR

8 a. With a neat sketch, discuss simple prefix B+ tree and its maintenance. (10 Marks)
   b. Explain about A variable Order B – tree. (06 Marks)

Module-5

9 a. What is hashing? Write an hashing algorithm and explain with an example. (10 Marks)
   b. What are the limitations of chained progressive overflow? Explain with an example.
   (06 Marks)

OR

10 a. Explain how extendible hashing works. (10 Marks)
   b. Write short notes on the following :
       i) Double hashing
       ii) Extendable hashing performances. (06 Marks)

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