CBCS SCHEME

USN | | | | | | | | | |

15IS62

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

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 reading and writing operation to file processing:
i) Read and write
ii) Write a program in C++ to display the contents of a file. **(08 Marks)**

b. Suppose we have a block-addressable disk drive with 40,000 byte per track and amount of space taken up by sub blocks and inter block gaps is equivalent to 300 byte per block. To store a file containing 100 byte records on the disk. How many records can be stored per track if the blocking factor is 10? If it is 60? **(08 Marks)**

OR

2 a. List and explain the common methods for adding structure to files to maintain identity of fields. **(08 Marks)**

b. Explain the evaluating performance of sequential search and improving the sequential search performance with record blocking. **(08 Marks)**

Module-2

3 a. What is Data compression? List and explain any different data compression methods. **(08 Marks)**

b. Write an algorithm for key sort and explain the same using example. **(08 Marks)**

OR

4 a. Explain the operations required to maintain an indexed file. **(08 Marks)**

b. Explain the method for improving the secondary index structure: inverted list. **(08 Marks)**

Module-3

5 a. Write an algorithm for match is based on single loop for consequential match. Explain with an example. **(08 Marks)**

b. Explain heap sort method with an example. While building the heap while reading the file for key F D C G H I B E A. **(08 Marks)**

OR

6 a. What are problems with paged binary tree, explain with an explain? **(08 Marks)**

b. Explain the following operation of B-tree:
i) Searching
ii) Insertion
iii) Create open close. **(08 Marks)**

Module-4

7 a. Explain the use of blocks in maintaining a sequence set. **(08 Marks)**

b. Explain the simple prefix B^+ tree maintenance by considering single block and multiple block. **(08 Marks)**

OR

8 a. Explain internal structure of index set blocks for a variable-order B-tree. **(08 Marks)**

b. What is B^+ tree? Explain with an example. **(08 Marks)**

Module-5

9 a. What is hashing? Explain a simple hashing algorithm. **(08 Marks)**

b. Suppose there are 4000 address and 4000 records whose keys are to be hashed to the address using poisson function give probability that a given address will have no keys hashed to it, exactly one, two or three keys hashed to it. **(08 Marks)**

OR

10 a. How to overcome collision resolution by progressive overflow? **(08 Marks)**

b. Explain how extendible hashing works. **(08 Marks)**

* * * * *