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## Sixth Semester B.E. Degree Examination, June/July 2019

### 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. What are File Structures? What is the driving force behind the file structure design? (04 Marks)
- b. Explain the sector based organization in magnetic disk with neat diagram. (08 Marks)
- c. Explain the following functions: (08 Marks)
  - (i) Open a file
  - (ii) Reading a file.
- 2 a. What is RRN? Explain how does it support direct access with example. (06 Marks)
- b. Define field and record. Explain different methods for organizing fields of a file with examples. (10 Marks)
- c. List the UNIX tools for sequential processing with example? (04 Marks)
- 3 a. Explain how space can be reclaimed dynamically in fixed length records. (08 Marks)
- b. What are the limitations of key sort method? (02 Marks)
- c. Explain the different operations required to maintain indexed file. (10 Marks)
- 4 a. Explain how consequential processing is implemented in a general ledger program. (10 Marks)
- b. With example, explain k-way merged selection tree for merging large number of lists. (10 Marks)

#### PART - B

- 5 a. What is B-tree? Explain deletion, merging and redistribution of elements on B-trees. (10 Marks)
- b. What are the advantages and disadvantages of paged binary tree? (04 Marks)
- c. Show the B-tree of order-4 that result from loading the following sets of keys in order: (06 Marks)
 

C S D T A M P I
- 6 a. Explain the issues in maintenance of single prefix B+ trees with diagram. (10 Marks)
- b. What is indexed sequential access? Explain block splitting and merging due to insertion and deletion in sequence set with example. (10 Marks)
- 7 a. What is hashing? Explain the simple hashing algorithm with example. (10 Marks)
- b. What is packing density? Why it is needed? (04 Marks)
- c. Explain the different collision resolution techniques by progressive overflow. (06 Marks)
- 8 Write short notes on :
  - a. Extendable hashing
  - b. Pinned records
  - c. CD-ROM Strength and weakness
  - d. Dynamic hashing

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.