

2002 SCHEME

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IS56

Fifth Semester B.E. Degree Examination, December 2010 File Structures

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Explain the following :
 - i) Physical file
 - ii) Opening file
 - iii) Logical file
 - iv) Reading and writing file. (08 Marks)
- b. How is the data physically stored on a CDROM? List the major strengths and weaknesses of CDROMS. (12 Marks)
- 2 a. Explain the organization of data on tapes, with a neat diagram. Estimate the tape length requirements, with a suitable example. (10 Marks)
- b. Which are the most common methods of adding structures to files to maintain the identity of fields? Comment on any two methods. (10 Marks)
- 3 a. What is a record? What are the ways in which records can be organized in a file? (12 Marks)
- b. Write an explanatory note on buffer management. Explain its importance. (08 Marks)
- 4 a. What do you mean by an index? Explain the simple index for a sequential file. (10 Marks)
- b. Explain how spaces can be reclaimed in files after record deletion. (10 Marks)
- 5 a. Explain co-sequential processing. Explain the K – way merge algorithm. Illustrate the use of a selection tree to assist in the selection of a key with minimum value. (10 Marks)
- b. Explain heapsort with class definition function, insert and remove, with an example. (10 Marks)
- 6 a. What is multilevel indexing? With an example, explain the creation of B – trees. (10 Marks)
- b. What are B – trees? Explain the following :
 - i) Worst – case search depth
 - ii) Deletion and merging. (10 Marks)
- 7 a. What is hashing? Explain a simple hashing algorithm. (10 Marks)
- b. Explain the differential collision resolution techniques. (10 Marks)
- 8 Write short notes on :
 - a. Sequential search
 - b. Record organization
 - c. Magnetic tapes
 - d. Storage fragmentation. (20 Marks)

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.

