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06IS63

Sixth Semester B.E. Degree Examination, December 2012
File Structures

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 a. Differentiate between physical file and logical file systems. (02 Marks)
- b. Given, a class of car with data members CAR {string model, string EngNo, string RegNo} and number functions ReadCar Info () and Display Car Info (); write a C++ program for i) creating a file and writing 'n' records into it; ii) display all car records from the file. (08 Marks)
- c. Explain strengths and weaknesses of CD-ROM. (10 Marks)
- 2 a. Explain with example the different ways of structuring i) fields; ii) records. (10 Marks)
- b. Explain how record blocking improves the performance of sequential search. (05 Marks)
- c. List the UNIX tools for sequential processing with example explain their working. (05 Marks)
- 3 a. Define internal and external fragmentation compare the 3 placement strategies. (05 Marks)
- b. What is an Index? Explain the operations required to maintain an indexed file. (10 Marks)
- c. Explain in brief the 2 solutions for improving the secondary index structure. (05 Marks)
- 4 a. Briefly explain the different methods used to sort files on a type. (10 Marks)
- b. Write the suitable assumptions and essential components of consequential processing model. (10 Marks)

PART – B

- 5 a. For the given sequence "T C S D A M P I B W N G U", show how B-tree of order 4, is constructed stepwise. (10 Marks)
- b. What are the properties of B-tree? Explain the process of tree searching procedure. (10 Marks)
- 6 a. Explain the issues in maintenance of simple prefix B⁺ trees. (10 Marks)
- b. Explain the internal structure of index set blocks. (10 Marks)
- 7 a. Brief, how hashing differs from indexing. (04 Marks)
- b. Explain the simple hasing algorithm. (12 Marks)
- c. What is packing density? And why it is needed. (04 Marks)
- 8 Write short notes on:
 - a. Key sorting.
 - b. Data compression.
 - c. Dynamic hashing.
 - d. AVL trees. (20 Marks)

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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.