Paper ID & Roll No. to be filled in your Answer Book

Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐

BCA (Second Semester)
Even Semester Examination, 2015
DATA STRUCTURE & FILE ORGANIZATION

Time: 3.00 Hours]   [Max. Marks: 70

Note: Attempt any two of the following: (2×5=10)

1. (a) What do you mean by complexity of an algorithm? Describe the different schemes of notation for complexity of the algorithm.

    (b) Explain the row wise address calculation formulae of multi-dimensional array with suitable examples.

    (c) What is Priority Queue?

Note: Attempt any Four of the following: (4×5=20)

2. (a) Describe the polish notation of an expression, convert the following expression into pre and post fix notation.

$$2*a++*(a-b)/(a+b)*25$$

    (b) What is stack? How is it different from queue? Compare the role of TOP in respect to FRONT and REAR.

    (c) Implement a program to create a single link list and write functions to do insertion, deletion and updation into the link list.

(d) Explain binary search; How is it different from linear search? Illustrate with suitable examples.

(e) What do you mean by File Organization?

Note: Attempt any two of the following: (2×10=20)

3.   (a) What is sparse matrix? List the usage of creating a sparse matrix with examples.

(b) Describe quick sort algorithm, How is it different from merge sort?

(c) What do understand by Recursion Process? Explain by example.

Note: Attempt any Four of the following: (4×5=20)

4.   (a) Illustrate the Huffman's algorithm with an example.

(b) What is data organization? Explain the different operations made over data structure.

(c) Describe the process of polynomial addition with suitable example.

(d) Explain the various methods of tree traversal.

(e) Write down the procedure to add one node at any position to a doubly linked list.

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