Exam. Code : 107204

Subject Code : 1969

BCA Semester—IV

DATA STRUCTURE AND FILE PROCESSING

Paper—I

Time Allowed—3 Hours] [Maximum Marks—75

Note :— Attempt ALL the questions. All questions carry equal marks.

1. (a) Discuss the features of Array and Queues. 5

   (b) What are major operations that can be performed on Stacks ? Explain with an example. 10

2. (a) Differentiate between Linked List and Array Data Structures. 7½

   (b) Write an algorithm for inserting a node at the beginning of linked list. 7½

3. (a) Write an algorithm for selection sort. 7½

   (b) Discuss the working of binary search along with its algorithm. 7½

4. (a) What is the concept of Quick Sort ? Illustrate with the help of an example. 7½

   (b) Compare the working of bubble sort and merge sort. 7½

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5. (a) How file organization is done with the help of fields and records ? 10

   (b) Discuss the direct file organization. 5

6. Describe the following concepts :

   (a) Blocking

   (b) Master and Transaction files. 15

7. Compare the index level sequential file organization and hashing with respect to addition and modification of records. 15

8. Write short notes on the following :

   (a) Trees

   (b) Complexity of algorithms. 15