Seat No. _____

S.Y.BCA Examination

APRIL - 2016

Data and File Structure – 201

Subject Code– 8431

Time: 3 Hours **Total Marks: 100**

Q.1 Answer the following Questions

(A) Explain primitive and non-primitive data types in brief. **(10)**

(B) What is data structure? Explain application, aim and goals of data structures in detail. **(10)**

OR

Q.1 Answer the following Questions

(A) What is data structure? Explain Time & Space efficiency of data structure. **(10)**

(B) Explain linear, non-linear, static and dynamic data structures in detail. **(10)**

Q.2 Answer the following Questions

(A) Explain sequential search in detail with suitable example. **(10)**

(B) Write down quick sort algorithm with its merits & demerits. **(10)**

OR

Q.2 Answer the following Questions

(A) Explain binary search in detail with example and algorithm. **(10)**

(B) Write down binary search algorithm with its merits & demerits. **(10)**

Q.3 Answer the following Questions:

(A) What is stack? Explain various operations performed on stack with example. **(10)**

(B) Write down algorithms for insert, update, delete and search operations on queue. **(10)**

OR

Q.3 Answer the following Questions:

(A) Write a detailed note on types of linked list. **(10)**

(B) What is queue? Explain priority queue with example. **(10)**

Q.4 Answer the following Questions

(A) Write down algorithms for insert, display, search and update on binary tree. **(10)**

(B) Define the terminology: Binary Tree, complete binary tree, incomplete binary tree, Adjacency & Incidence. **(10)**

OR

Q.4 Answer the following Questions

(A) Explain Memory Representations of Binary Tree with example. **(10)**

(A) Explain binary tree traversal techniques with suitable example. **(10)**

Q.5 Answer the following Questions

(A) Explain magnetic disk with structural diagram in detail. **(10)**

(B) Write a detailed note on storage devices. **(10)**

OR

Q.5 Answer the following Questions

(A) Explain Storage device and their Characteristics. **(10)**

(B) Write a detailed note on external sorting. **(10)**