7. Explain the following with examples :

(a) Polynomial representation using linked lists. [8]

(b) Representation of queue using arrays. [8]

UNIT-IV

8. (a) What are spanning trees ? How these are useful and used ? Discuss with examples. [8]

(b) Explain Binary tree traversals and their C++ code segments. [8]

9. Explain the following with examples : [16]

(a) Breadth first search, its uses and applications.

(b) Prim's algorithm and its implementation with C++ code.

Roll No. .....

67056

M.C.A. 2nd Semester
(CBCS Scheme) w.e.f. 2016-17
Examination– May, 2017
DATA STRUCTURE USING C++

Paper-MCA-201-(HC)

Time : 3 hours ***Max. Marks : 80***

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Question No. 1 is **compulsory**. Attempt **four** more questions selecting **one** question from each unit.

1. Answer the following questions briefly : [8×2=16]

(a) Discuss the advantages of minimal spanning trees.

(b) Explain complexity of heap sort.

(c) Describe advantages of structured programming.

(d) Discus major features of B-trees.

(e) Write applications of depth first search.

(f) Describe the and calculate complexity of binary search.

(g) Explain the advantages of linked lists.

(h) Discuss the advantages of D-Queue.

UNIT-I

2. (a) What is an algorithm ? How is it useful and used ? Discuss its major characteristics with examples. [8]

(b) Discuss uses and advantages of analysis of algorithm with suitable examples. [8]

3. Explain the following briefly with suitable examples :

(a) Bottom up approach to algorithm design. [8]

(b) Complexity of an algorithm. [8]

UNIT-II

4. (a) What is binary and linear search ? How are these useful and used ? Explain with examples and C++ code segments. [8]

(b) Discuss quick sort and its complexity with an example and C++ code segments. [8]

5. Describe the following with examples : [16]

(a) Hashing schemes and their relative merits.

(b) Merge sort and Radix sort with C++ code segments.

UNIT-III

6. (a) What is stack ? How is it used and useful ? Explain its three major applications with suitable examples and C++ code segment. [8]

(b) Discuss circular linked list and its advantages with an example and C++ code segment. [8]