S.Y.B.Sc IT
SEMESTER III
DATA STRUCTURES

SYBSCIT sem III Reg & A.T.K.T. Exam oct-2019.

TIME: 2 ½ HOURS

03/10/19.

MARKS: 75

N.B: ALL QUESTIONS ARE COMPUSORY
FIGURES TO THE RIGHT INDICATE FULL MARKS.

Q.1 ANSWER THE FOLLOWING (ANY THREE):   15

A) Describe the abstract data types
B) Explain complexity of algorithm
C) Explain Big Theta notation
D) Explain memory representation of multi-dimensional array
E) Describe the Sparse arrays
F) Explain various searching techniques

Q.2 ANSWER THE FOLLOWING (ANY THREE):   15

A) Describe searching of one way link list
B) Describe memory allocation of one way link list
C) Explain reversing of link list
D) Describe circular link list
E) Describe traversal of two way link list
F) Explain de-allocation of memory

Q.3 ANSWER THE FOLLOWING (ANY THREE):   15

A) Explain array representation of stack
B) Describe application of stack
C) Explain evaluation of arithmetic expression with example
D) Explain recursion with help of example
E) Explain operations on the Queue
F) Describe the Deque

Q.4 WRITE SHORT NOTES ON FOLLOWING (ANY THREE):   15

A) Insertion sort
B) Bubble sort
C) Binary search
D) Heap and Heap sort
E) Red black tree
F) Traversing a binary tree

Q.5 ANSWER THE FOLLOWING (ANY THREE):   15

A) Quadratic probing
B) Bucket hashing
C) Graph terminology
D) Linked representation of graphs
E) Spanning trees
F) Application of graph

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