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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

MCA I Year II Semester Supplementary Examinations Dec 2019
DATA STRUCTURES

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 Write a Routine for sorting elements using quick sort method. Explain the working of the routing with an example. **12M**

OR

- 2 Discuss the Algorithm of merge sort with an example. **12M**

UNIT-II

- 3 What is linked list? Write and explain the algorithm for create, insertion and traverse operations in doubly linked list with example. **12M**

OR

- 4 **a** Discuss in detail about the polynomial representation. **6M**
b Explain with suitable example, the sort operation of single linked list. **6M**

UNIT-III

- 5 Write a procedure to convert an infix expression into postfix form. Explain it by an example. **12M**

OR

- 6 What is stack? Write algorithm for operations of stack with examples. **12M**

UNIT-IV

- 7 **a** Explain height balanced tree with an example. **6M**
b Explain LR and RL Rotations with examples. **6M**

OR

- 8 What is heap? Explain algorithm for heap sort with an example. **12M**

UNIT-V

- 9 Explain BFS algorithm with example. **12M**

OR

- 10 Define graph. Explain various operations on graphs. **12M**

*** END ***