

II B. Tech II Semester Supplementary Examinations, Nov/Dec-2016
DATA STRUCTURES
 (Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)
 2. Answer **ALL** the question in **Part-A**
 3. Answer any **THREE** Questions from **Part-B**

PART -A

1. a) Define is recursion? Explain linear and binary recursion? (3M)
- b) Define Queue? Explain the implementation of Queue operations using stack? (4M)
- c) What are advantages and disadvantages of single linked list? (3M)
- d) Define tree? What are the properties of binary tree? (4M)
- e) Define BST? Explain with example. (4M)
- f) Explain the representation of graphs using linked list. (4M)

PART -B

2. a) List searching techniques? Explain any two searching techniques with examples. (8M)
- b) Explain selection sort and merge sort with example. (8M)
3. a) What are applications of stack? Explain in detail. (8M)
- b) Explain circular queues and priority queues with examples. (8M)
4. a) Explain operations of single linked list with example. (8M)
- b) Define linked list? What are types of linked list explain in detail. (8M)
5. a) Explain binary tree in detail. (8M)
- b) Explain creation of binary tree from tree traversals. (8M)
6. a) Briefly explain balanced binary tree. (8M)
- b) Explain threaded binary trees with example. (8M)
7. a) Explain graph traversals in detail (8M)
- b) Explain prim's algorithm for minimum spanning tree. (8M)

