

B.Tech I Year II Semester (R15) Supplementary Examinations December 2019

DATA STRUCTURES

(Common to CSE & IT)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) Define and give an example for big-O notation.
 - (b) What is the difference between one dimensional array and multi dimensional array?
 - (c) What is the difference between stack and queue?
 - (d) Define stack and give one example.
 - (e) What is binary tree and give an example?
 - (f) List any four operations on graphs.
 - (g) Differentiate sorting by selection and sorting by exchange.
 - (h) Give an example for which the quick sort and selection sort take same time. Justify your answer.
 - (i) Explain how sequential search different from binary search.
 - (j) What is collision resolution and give an example?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 Define double linked list and write a program on double linked list.

OR

- 3 Define circular double linked list and write a program on circular double linked list.

UNIT – II

- 4 Analyze application of stack and write a program on stack using linked list representation.

OR

- 5 Define queue and write a program on queue using linked list representation.

UNIT – III

- 6 Discuss about shortest path problem and topological sorting with an example.

OR

- 7 Describe about height balanced trees and B.trees with suitable illustration.

UNIT – IV

- 8 Explain the difference between straight insertion sort and list insertion sort with suitable examples.

OR

- 9 Explain the difference between merging order files and merging unordered files with suitable examples.

UNIT – V

- 10 What is open addressing and explain it with an example?

OR

- 11 Discuss linked list collision resolution with examples.
