



II Semester B.A./B.Sc. Examination, May/June 2018
(CBCS) (F + R) (2014-15 and Onwards)
COMPUTER SCIENCE – II
Data Structures

Time : 3 Hours

Max. Marks : 70

Instruction : Answer all the Sections.

SECTION – A

Answer any ten questions. Each question carries two marks.

(10×2=20)

1. What is non-linear data structure ? Give an example.
2. Define complexity of algorithms.
3. Write an algorithm to traverse linear arrays.
4. What is garbage collection ?
5. Define Queue.
6. Compare linear search and Binary search methods.
7. Write the difference between Stack and Queue.
8. Define complete Graph.
9. What are the applications of Trees ?
10. Define walk and Trail in a graph.
11. Define circular Queue.
12. Define :
 - a) Degree of a Tree
 - b) Binary Tree.



SECTION - B

Answer any 5 questions. Each question carries 10 marks.

(5×10=50)

13. a) Explain various types of data structures.
b) Briefly explain any four string handling functions.
14. a) Write an algorithm for Binary Search Techniques.
b) Write an algorithm to delete an element from the array.
15. a) Write a C program to Implement bubble sort.
b) Mention various Applications of the stack.
16. a) Explain various types of linked lists.
b) Write a C program for tower of Hanoi problem.
17. a) Explain various types of Queues.
b) Evaluate the following post fix expression :
40 35 * -1 +.
18. a) Write an algorithm to insert an element into a circular queue.
b) What is deque ? Explain the types of deque.
19. a) Explain Depth first search Graph traversals.
b) Explain sequential representation of graph in memory.
20. a) Briefly explain various tree traversal methods with suitable examples.
b) Construct a binary tree given their pre order and in order traversals.
Pre order : F A E K C D H G B
In order : E A C K F H D B G.

