S. B. Roll. No.....

DATA STRUCTURES
4th Exam/CSE/IT/2095/Nov'24
(For 2018 Batch Onwards)

Duration: 3Hrs. **M.Marks:75**

SECTION A

Q1. Do as directed. **15x1=15**

a. Define data structure.
b. _____ is an example of linear data structure.
c. FIFO stands for_____.
d. _____is linear data structure in which data items are added and removed at only one end.
e. An array is collection of _____ data items.
f. _____ is the first node of Tree.
g. Binary Search divides the list in _____parts.
h. _____ is insertion operation in stack.
i. Deque stands for Double ended queue. (True/False)
j. Info part of the linked list contains_____.
k. Tree with maximum two children is called_____.
l. Node with no children is called_____.
m. _____means arranging data in some given order.
n. _____search can only be applied on sorted list.
o. Quick sort is sorting algorithm. (True/False)

SECTION-B

Q2. Attempt any six questions. **6x5=30**

i. Discuss linear and non linear data structure with an example.
ii. Define array and its types.
iii. Write a program to perform insertion in stack.
iv. Explain the different types of queue.
v. List the various applications of stack.
vi. What do you mean by full binary tree? Give example.
vii. Explain pre order and in order tree traversal with example.
viii. What are the various operations that can be performed on data structure

SECTION-C

Q3. Attempt any three questions. **3x10=30**

a. Explain Binary search with an example.
b. Explain the different types of linked list.
c. Explain the following: i) Binary Search tree ii) Complete binary tree
d. Define array. Write an algorithm to perform traversing in array.
e. Explain bubble sort with an example.