This question paper contains **2** printed pages]

NA—313—2023

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New/CBCS Pattern)

COMPUTER SCIENCE

Paper-III

(Introduction to Data Structure)

(Saturday, 23-12-2023) **Time : 10.00 a.m. to 12.00 noon**

Time—2 *Hours* *Maximum Marks*—40

N.B. :— (1) Attempt *all* questions.

(2) Draw neat labelled diagram wherever necessary.

1. What is linked list ? Explain memory representation of linked list. Write an algorithm for searching an element in unsorted linked list. 15

Or

(*a*) What is data structure ? Explain operations on data structure. 8

(*b*) Explain control structures. 7

2. What is binary tree ? Explain traversing a binary tree in 'POST ORDER' traversal with algorithm. 15

Or

(*a*) Explain delete operation in 'Queue' with suitable algorithm. 8

(*b*) Explain 'PUSH' and 'POP' operation on 'Stack'. 7

P.T.O.

3. Write short notes on (any *two*) : 10

(*a*) Elementary data organization

(*b*) Overflow and Underflow

(*c*) Representation of Graphs

(*d*) Memory representation of stack.