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VA—313—2024

FACULTY OF SCIENCE AND TECHNOLOGY

B.Sc. (First Year) (Second Semester) EXAMINATION

NOVEMBER/DECEMBER, 2024

(New/CBCS Pattern)

COMPUTER SCIENCE

Paper III

(Introduction to Data Structure)

(Friday, 20-12-2024)

Time : 10.00 a.m. to 12.00 noon

Time—Two Hours

Maximum Marks—40

N.B. :— (i) Attempt all questions.

(ii) Assume suitable data, if necessary.

1. (a) Define data structure. Explain different control structures. 15

Or

(b) Define Binary Tree. Explain memory representation of Binary Tree. 8

(c) Explain Binary Tree Traversing using pre-order technique. 7

2. (a) Explain memory representation of linked list. Write an algorithm to insert a node at the beginning of a list. 15

P.T.O.

Or

- (b) Write an algorithm for PUSH operation in STACK. 8
- (c) Explain memory representation of queue. 7
3. Write short notes on the following (any *two*) : 10
- (a) Data structure operation
- (b) Overflow and underflow
- (c) Pop operation
- (d) Threaded Binary Tree.