

Roll No.

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D-3728

B. Sc. (Part III) EXAMINATION, 2020

INFORMATION TECHNOLOGY

Paper Second

(Fundamental Data Structure)

Time : Three Hours] [Maximum Marks : 50

Note : Attempt any *two* parts from each Unit. All parts carry equal marks.

Unit—I

1. (a) What is Data Structure ? Explain linear and non-linear data structure.
- (b) What is Queue ? How is it different from stack and how is it implemented ?
- (c) What are infix, prefix and postfix notations ? Explain with example.

Unit—II

2. (a) What do you understand by Linked List ? Explain with example.
- (b) Mention the difference between doubly linked list and circular linked list.
- (c) Explain the applications of linked list.

Unit—III

3. (a) Explain different ways for representing binary tree.

- (b) What do you understand by binary tree ?
- (c) Explain Traversal along with example.

Unit—IV

4. (a) What do you understand by searching and sorting ? Explain with example.
- (b) Explain insertion sort with example.
- (c) State the difference between Heap and Bubble sort with example.

Unit—V

5. (a) Write short notes on the following :
 - (i) Spanning Tree
 - (ii) Graph
 - (iii) Greedy strategy for computing
- (b) Define Hash table along with example.
- (c) Explain Kruskal's algorithm in detail.

(B-4) P. T. O.

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