**SESSIONAL EXAMINATION**

**DTC**

**THIRD SEMESTER [B.TECH] OCT’20**

**Paper Code: PCC-CSE-203-G Subject: DSA**

**Time: One Hour Thirty Minutes Max. Marks: 30**

**Note: Attempt any *three* questions including Q.no. 1 which is compulsory. All questions carry equal marks.**

Q.1. Attempt any *two* questions. (5 X 2 =10)

a) What are data structures? Explain primitive and non primitive data structures.

b) What is the difference between static and dynamic data structures.

c) What are binary trees? How are they different from AVL trees.

d) What are algorithms? How can we create efficient algorithms?

e) Explain Polish Notation? Evaluate the following expression : 4 3 8 \* + 5 -

Q.2. (a) What are stacks? Explain various applications of stacks? (10)

OR

(b) What are Circular queues? How beneficial are they as compared to linear queues?

Q.3. (a) What are AVL trees? Explain all rotations in AVL trees with example. (10)

OR

(b) What are linked lists? Explain the algorithm to insert an element in a linked list.

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