**SESSIONAL EXAMINATION**

**SKIT**

**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? Difference between static and dynamic data structure.

b) Define arrays? Explain the memory occupancy pattern of various types of arrays.

c) What are binary trees? Write various properties of binary trees.

d) What are AVL trees?

e) Explain Polish Notation? Convert the following infix expression to postfix : x^y/(5\*z)+2

Q.2. (a) What are threaded binary trees and how are they different from binary trees? (10)

OR

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

Q.3. (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?

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