Reg.No:							

SNS College of Technology, Coimbatore-35.
(Autonomous)
B.E/B.Tech- Internal Assessment -III
Academic Year 2023-2024(EVEN)
Second Semester (Regulation R2023)

A

23ITT101 – PROGRAMMING IN C AND DATA STRUCTURES
[Common to Aero, Agri, Auto, Civil, FT, MCT, Mech]

Time: $1^{1/2}$ Hours **Maximum Marks: 50**

Answer All Questions

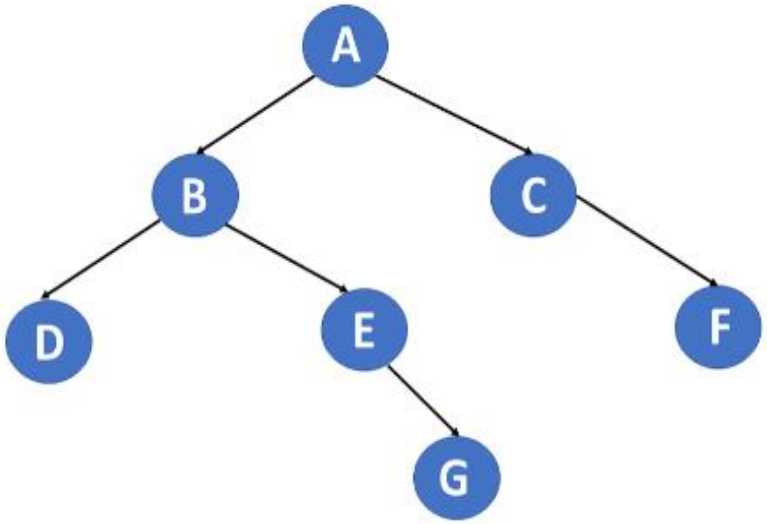
PART-A (5 x 2 = 10 Marks)

1	What are the various Operations performed on the Stack?	CO4	Und
2.	Convert the infix expression (a+b)*(c+d)/f into postfix expression	CO4	App
3.	What do you mean by non-linear data structure? Give example.	CO5	Und
4.	List out the types of binary tree and define complete binary tree.	CO5	Rem
5.	Differentiate binary tree and binary search Tree.	CO5	Ana

PART–B (13+13+14=40 Marks)

6.	a) Assume a Book Arrangement in a table Identify the policy and mention the operation used to take books. Implement the above using array implementation.	13	CO4	Ana
	(Or)			
	b) Explain the Queue ADT operation for Insertion and Deletion using array implementation.	13	CO4	Und
7.	a) Describe briefly types of Trees and Terminologies with an example	13	CO5	Und
	(Or)			
	b) Create a binary search tree for the following numbers start from an empty binary search tree. 45,26,10,60,70,30,40 Delete keys 10,60 and 45	13	CO5	App

8	a) Construct an algorithm for conversion of infix to postfix using stack and convert **a*b^c-(d^e*f^g) +h** to postfix expression	14	CO4	App
	(Or)			
	b) Illustrate for the below tree inorder, preorder and postorder form with an algorithm.	14	CO5	App



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Note: (Und-Understand Rem-Remember Ana-Analyze App-Apply)

Prepared by **Verified by** **HoD**