B.M.SCOLLEGEOF ENGINEERING,BANGALORE-19
(Autonomous Institute,AffiliatedtoVTU)
Computer Science & Engineering

INTERNALS-3

CourseCode: 19CS3PCDST	**CourseTitle:Data Structures**	
Semester:3	**MaximumMarks: 40**	**Date: 17- 02-2021**
FacultyHandlingtheCourse:	Dr. Kayarvizhy, Sheetal V A,Selvakumar S	

Instructions: ***Internalchoiceis providedinPart C.***

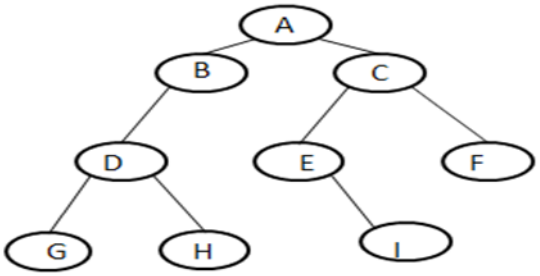
PART-A

Total 5 Marks (No Choice)

No.	Question	Marks
1	Differentiate between Circular Linked List and Doubly Linked List with an example.	5

PART-B

Total 15 Marks (No Choice)

No.	Question	Marks
2a	Using the hash function 'key mod 7', insert the following sequence of keys in the hash table using the concept of separate chaining. 50, 700, 76, 85, 92, 73 and 101	5
2b	Differentiate between Binary Tree and Binary Search with an example. Analyze and construct a Binary Search Tree for the below given node values: 50, 30, 70, 10, 35, 60, 80, 5, 3, 65, 89	**5**
2c	Apply the Pre-order, In-order and Post-order Traversal techniques for the tree shown below. 	**5**

PART- C

Total 20 Marks (Answer any 2 questions)

No.	Question	Marks
3a	Write a complete C-Function to implement the deletion of node in a Binary Search Tree with appropriate explanation with example.	**10**
	OR	
3b	Write a program to add two long positive numbers using doubly linked list. Example: Number 1: 9 8 8 Number 2: 9 2 Resultant: 1 0 8 0	**10**
4a	Given the doubly linked list to keep one occurrence and to remove the duplicate occurrences of the item (example: 5) Input: 23 <-> 5 <-> 61 <-> 5 <-> 89 <-> 5 <->90<->5 Output: 23 <->5 <->61 <-> 89 <-> 90	**10**
	Write the program for the above scenario using Doubly Linked List. **OR**	
4b	The Transportation company willing to automate their process of storing and retrieving their driver details. Assume driver Id and salary information will be stored non-linearly in the system to access it quickly. Write a C program to demonstrate above scenario and also to find the maximum salaried person.	**10**

ALL THE BEST