BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - III COMPUTER SCIENCE & ENGINEERING : SUMMER : 2024
SUBJECT: NON-LINEAR DATA STRUCTURES

Day : Wednesday | Time : 02:30 PM-05:30 PM

~~Date: 08/05/2024~~ **S-25310-2024** | Max. Marks : 60

N.B.

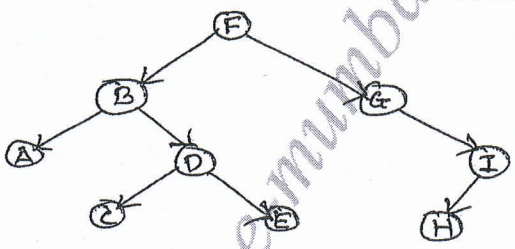
1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Assume suitable data, if necessary.
4) Draw neat and labeled diagrams, **wherever** necessary.

Q.1 Discuss AND/OR graphs, explain with example. **(10)**

OR

Q.1 Define Nonlinear Data structure. Differentiate between Linear and Nonlinear data structure. Explain any one types of Nonlinear data structure. **(10)**

Q.2 Find the solutions for different tree traversal methods on the following figure. **(10)**



OR

Q.2 Explain Threaded binary trees with suitable examples. Also give advantages and disadvantages of the same. **(10)**

Q.3 Comment on Characteristic, Insertion and Deletion operations on B+ trees. **(10)**

OR

Q.3 What are Multi-way Search Trees? Explain detail. **(10)**

Q.4 Explain Heap data structure with advantages, disadvantages and applications. **(10)**

OR

Q.4 Differentiate between Tree and Heap with proper example. **(10)**

Q.5 What are the commonly used types of Hashing? **(10)**

OR

Q.5 What is Rehashing, why Rehashing is needed and how it is done? **(10)**

Q.6 Comment on Pattern Searching using Suffix Tree. **(10)**

OR

Q.6 How to search a pattern in the built suffix trees? Give applications of the suffix trees. **(10)**

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