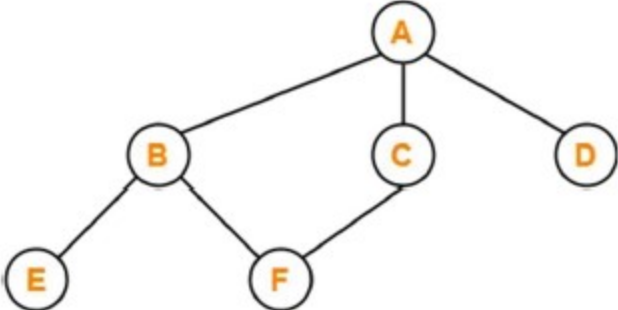


Shri G.S. Institute of Technology and science
 Department of information technology
 Session: 2024 - 2025
CLASS ASSIGNMENT-1
II YEAR MCA(2YDC)
CT20003: Analysis and Design of Algorithm

Date Of Issue: 23 Aug 2024		Date of Submission: 30 Aug 2024	
		CO	BL
Q.1	Discuss binary search tree? Explain the types of tree traversal with using an example?	CO1	BL2
Q.2	Describe hash Collision? Explain the Collision resolution techniques?	CO1	BL1,2
Q.3	Discuss asymptotic notation? Explain the properties of Asymptotic Notations?	CO2	BL2
Q.4	What are the cases covered by the Master Theorem? Can the Master Theorem be applied to all recurrences? Solve the following recurrence relation using Master's theorem $T(n) = 3T(n/2) + n^2$	CO2	BL1,3
Q.5	Describe DFS algorithm in Graph? How does DFS works? Apply DFS on the following Graph. <div style="text-align: center;">  <pre> graph TD A((A)) --- B((B)) A --- C((C)) A --- D((D)) B --- E((E)) B --- F((F)) C --- F </pre> </div>	CO1	BL1,3
Instruction: <ul style="list-style-type: none"> It is compulsory to submit the assignment in A4 size copy only. The assignment will not be submitted in any other paper form. Assignment should be in proper format. Diagrams are mandatory with related questions. 			