JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2025

B.Tech-VIII Semester (CSE/IT)

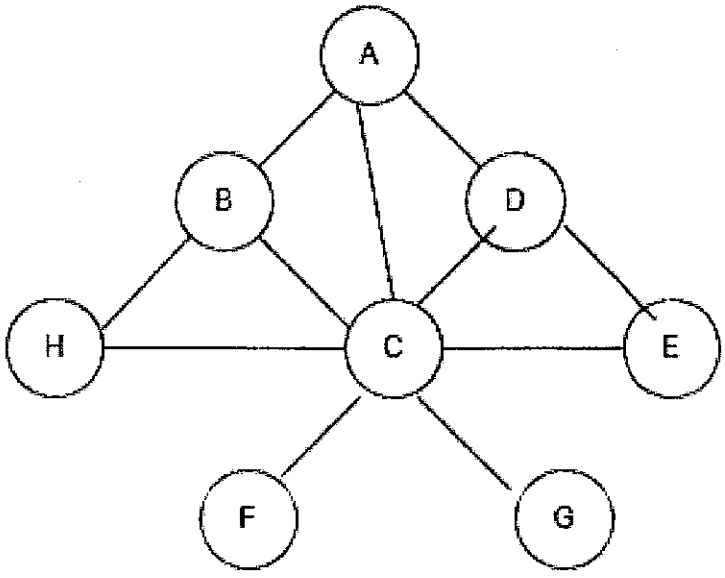
COURSE CODE (CREDITS): 18B1WCI847 (2) MAX. MARKS: 15

COURSE NAME: Social and Information Network Analysis

COURSE INSTRUCTORS: Seema Rani MAX. TIME: 1 Hour

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks
Q1	In a corporate network, the CEO, managers, and employees interact at different levels. Construct a simple adjacency matrix for this network and classify nodes into Core and Periphery categories.	[CO-2]	2
Q2	What are Simmelian Ties, and how do they differ from normal embedded ties? How do they impact group cohesion?	[CO-1]	2
Q3	A network has 15 nodes and consists of 3 separate clusters. The sizes of these clusters are: [6, 5, 4]. Compute the F-measure using the formula.	[CO-2]	3
Q4.	What are the differences between paths, trails, and walks in graph theory? Provide examples for each.	[CO-1]	3
Q5.	Consider a directed graph network from node A to H. Compute the Betweenness Centrality of node C and B, find out which node is more prominent for the given network. 	[CO-2]	3
Q6.	Define and differentiate between geodesic distance and diameter in a network.	[CO-1]	2