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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2026

M.Tech-III Semester (CSE/IT)

COURSE CODE (CREDITS): 22M1WCI234 MAX. MARKS: 25

COURSE NAME: Social and Information Network Analysis

COURSE INSTRUCTOR: Dr. Amit Kumar MAX. TIME: 1 Hour 30 Min

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

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

(c) Use of calculator is not allowed

Q.No	Question	CO	Marks
Q1	Describe the non-valued network and the concept of eigenvector centrality. Given a 5-node undirected graph with edges E = {(A,B), (A,C), (A,D), (B,C), (B,E), (C,D)}, compute the degree centrality for all nodes.	2	5
Q2	Analyze the workflow for negative ties. Explain the type of negative ties with the proper graphical explanation.	2	5
Q3	Mention four types of centrality measures with a proper graph as per the requirement. Show the difference between centrality and centralization	3	5
Q4	Give the properties and limitations of a clique with a suitable example of a graph. Compare the clique and community in a tabular format.	3	5
Q5	Explain the concept of modularity with its formula along with that also explains the concept of homophily with applications and how it can be measured (Formula).	4	5