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)Marks are indicated against each question in square brackets.

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

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1. Provide any four application of social network analysis in real world. Discuss how SNA has contributed to understanding and addressing real-world problems.

    [CO-1] [3M]

2. Explain the concept of an undirected and directed edge in a social network graph?

    [CO-2] [2M]

3. Define centrality measures in social network analysis. Discuss the significance of centrality measures in understanding network structures. [CO-2] [2M]

4. In the context of social networks, what is the significance of "Betweenness Centrality"? Consider the following undirected graph: [CO-2] [1+3M]
    Nodes: A, B, C, D, E, F
    Edges: (A-B), (A-C), (B-C), (B-D), (C-D), (C-E), (D-E), (A-F), (C-F)
    Calculate Betweenness Centrality of node C and E

5. Differentiate between paths, walks, trails, and components in a network. Provide examples to illustrate each concept. [CO-1] [4M]