JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

T1 Examination - 2023

B.Tech-VIII Semester (CS/IT)

COURSE CODE (CREDITS): 18B1WCI732 (3)   MAX. MARKS: 15

COURSE NAME: Social and Information Network Analysis

COURSE INSTRUCTORS: Dr. Kushal Kanwar   MAX. TIME: 1 Hour

Note: 1. All questions are compulsory. Marks are indicated against each question in square brackets.

2. Attempt all parts of the Questions in continuation.

Q1. Give adjacency matrix, adjacency list, and edge list for the Star Graph with 7 nodes. Also, specify what is order and size of the graph.   [CO-1, 2] [1x5=5]

Q2. Compute following for the Star Graph of 7 nodes. (a) Degree Centrality (b) Eccentricity (c) Radius (d) Diameter (e) Degree Distribution.   [CO-1, 2][1x5=5]

Q3. Derive expression for Degree Distribution of Configuration Model. Explain its relationship with G(n, p) and G(n, m) model.   [CO-2, 3][5]