Semester VII (B.Tech.)

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Jaypee University of Engineering & Technology, Guna

T-1 (Odd Semester- 2023)

18B14CI645 – GRAPH ALGORITHMS AND APPLICATIONS

Maximum Duration: 1 Hour. Maximum Marks: 15

Notes:
1. This question paper has 3 questions.
2. Write relevant answers only.
3. Do not write anything on question paper (Except your Er. No.).

		Marks	CO No.
Q1.	Find the number of vertices, number of edges, degree of each vertex, adjacency matrix and diagram of the following graph: (a) K_7 (b) C_8 (c) $K_{3,4}$ (d) P_5 (e) T_6 ← Tree graph	[05]	CO3
Q2.	Explain following terms with suitable diagram: (a) Eccentricity and diameter of the graph (b) Ring sum and Fusion operations on the graph (c) Edge and vertex connectivity of the graph (d) Bridge edge and cut vertex of the graph (e) Complementary and sub graph	[05]	CO2
Q3.	Answer the following: (a) Describe the spanning tree graph and its properties (b) State the algorithm to find the number of possible spanning trees on a given graph. Compute the number of spanning trees on following weighted graph (Fig.1) using computational algorithm.	[05]	CO2 & CO4

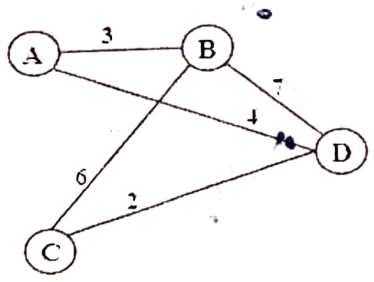

Figure 1