



ABV- Indian Institute of Information Technology & Management, Gwalior

IT209: Graph Theory

Minor Examination (Session 2023–24)

Maximum Time: 1.5 Hours

Max Marks: 25

Note: Attempt all questions. Justify your steps clearly to secure full marks.

1. Define the following with suitable examples: (i) Simple Graph, (ii) Complete Graph, (iii) Bipartite Graph. (5 Marks)
2. State and prove the Handshaking Lemma with an example. (5 Marks)
3. Determine whether the graph $K_{3,3}$ is planar. Justify your answer. (5 Marks)
4. Find the number of edges in a complete graph with 8 vertices. Draw the graph. (5 Marks)
5. Write short notes on Eulerian and Hamiltonian paths with examples. (5 Marks)