
COURSE OUTLINE **TIME ALLOTMENT**

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1. DIGRAPHS **9 HRS**

1.1 Directional Concepts and Converse Concepts
1.2 Digraph Invariants
1.3 Walk, Path and Circuit
1.4 Adjacency Matrix
1.5 Isomorphism and Automorphism

2. MULTIDIGRAPHS **6 HRS**

2.1 Converse of a Digraph / Multidigraph
2.2 Directional Duality Principle
2.3 Independent Set, Absorbent Set, Kernel

QUIZ 1

3. UNDIRECTED GRAPHS **12 HRS**

3.1 Simple Graph, Multigraph
3.2 Walk, Path and Cycle
3.3 Connected Graph, Components of a Graph
3.4 Regular Graphs, Platonic Solids
3.5 Adjacency Matrix
3.6 Complement
3.7 Isomorphism and Automorphism

QUIZ 2

4. SUBGRAPHS **3 HRS**

4.1 Proper Subgraph
4.2 Induced Subgraph
4.3 Spanning Subgraph

5. SOME CLASSES OF GRAPHS **9 HRS**

5.1 Tree
5.2 Complete Graph, Complete Bipartite Graph
5.3 Path, Cycle, Wheel
5.4 Hamiltonian Graphs
5.5 Eulerian Graphs

QUIZ 3

6. SOME GRAPH INVARIANTS **3 HRS**

6.1 Independence Number
6.2 Dominance Number
6.3 Chromatic Number

FINAL EXAMINATION
