🔥 **StudyBlaze.io**

Your AI Tutor for interactive quiz, worksheet and flashcard creation.

Graph Theory Quiz PDF

Graph Theory Quiz PDF

Disclaimer: *The graph theory quiz pdf was generated with the help of StudyBlaze AI. Please be aware that AI can make mistakes. Please consult your teacher if you're unsure about your solution or think there might have been a mistake. Or reach out directly to the StudyBlaze team at max@studyblaze.io.*

What is a tree in graph theory?

○ A graph with cycles

○ A connected graph with no cycles

○ A graph with multiple components

○ A graph with weighted edges

What is the degree of a vertex in a graph?

○ The number of vertices in the graph

○ The number of edges in the graph

○ The number of edges incident to the vertex

○ The number of cycles in the graph

Describe how graph coloring can be applied to solve scheduling problems.

What is a Hamiltonian circuit?

○ A path that visits every edge once

○ A path that visits every vertex once

○ A circuit that visits every vertex once

○ A circuit that visits every edge once

Explain the difference between a Hamiltonian path and an Eulerian path.

Create hundreds of practice and test experiences based on the latest learning science.

Visit Studyblaze.io

Graph Theory Quiz PDF

🔥 **StudyBlaze.io**

Your AI Tutor for interactive quiz, worksheet and flashcard creation.

Which of the following are characteristics of a complete graph? (Select all that apply)

☐ Every pair of distinct vertices is connected by a unique edge
☐ It contains cycles
☐ It is always a tree
☐ It can be directed or undirected

Which of the following are true about Eulerian paths? (Select all that apply)

☐ They visit every vertex exactly once
☐ They visit every edge exactly once
☐ They can exist in both directed and undirected graphs
☐ They require all vertices to have even degree

Which of the following is a representation of a graph?

○ Matrix
○ Tree
○ List
○ Both A and C

Discuss the importance of graph isomorphism and provide an example of when it might be used.

How does Dijkstra's Algorithm work, and what are its limitations?

Create hundreds of practice and test experiences based on the latest learning science.

Visit Studyblaze.io

Graph Theory Quiz PDF

🔥 **StudyBlaze.io**

Your AI Tutor for interactive quiz, worksheet and flashcard creation.

Provide a real-world example of a problem that can be solved using minimum spanning tree algorithms.

Which of the following are types of graph traversal algorithms? (Select all that apply)

☐ Breadth-First Search
☐ Depth-First Search
☐ Kruskal's Algorithm
☐ Dijkstra's Algorithm

Which type of graph has edges with directions?

◯ Undirected Graph
◯ Directed Graph
◯ Weighted Graph
◯ Complete Graph

What are the applications of graph theory? (Select all that apply)

☐ Network Analysis
☐ Biological Networks
☐ Social Networks
☐ Linear Regression

Which algorithms are used to find a minimum spanning tree? (Select all that apply)

Create hundreds of practice and test experiences based on the latest learning science.

Visit Studyblaze.io

Graph Theory Quiz PDF

🔥 **StudyBlaze.io**

Your AI Tutor for interactive quiz, worksheet and flashcard creation.

- ☐ Dijkstra's Algorithm
- ☐ Kruskal's Algorithm
- ☐ Prim's Algorithm
- ☐ Bellman-Ford Algorithm

What is the significance of Euler's work on the Seven Bridges of Königsberg in the development of graph theory?

Which algorithm is used to find the shortest path in a weighted graph?

- ◯ Prim's Algorithm
- ◯ Kruskal's Algorithm
- ◯ Dijkstra's Algorithm
- ◯ Depth-First Search

Which graph property ensures that there is a path between every pair of vertices?

- ◯ Complete Graph
- ◯ Planar Graph
- ◯ Connected Graph
- ◯ Eulerian Graph

Which statements are true about planar graphs? (Select all that apply)

- ☐ They can be drawn without any edges crossing
- ☐ They always have an Eulerian circuit
- ☐ They can be represented in three dimensions without crossings
- ☐ They have a maximum of 3n - 6 edges, where n is the number of vertices

What is a graph in graph theory?

- ◯ A collection of numbers
- ◯ A set of vertices and edges

Create hundreds of practice and test experiences based on the latest learning science.

Visit Studyblaze.io

Graph Theory Quiz PDF

🔥 **StudyBlaze.io**

Your AI Tutor for interactive quiz, worksheet and flashcard creation.

◯ A type of tree
◯ A single line

Create hundreds of practice and test experiences based on the latest learning science.

Visit Studyblaze.io

Graph Theory Quiz PDF