

# UNIT-4 PYQ Analysis

## (Backtracking & Branch and Bound)

Topic	2022	2023	2024	2025	Total	Probability
8 Queen Problem	✓	✓	✓	✗	3	🔥 Very High
Graph Coloring	✓	✗	✓	✗	2	★ High
Hamiltonian Cycle	✓	✗	✗	✓	2	★ High
TSP (Branch & Bound)	✗	✓	✓	✓	3	🔥 Very High
LC Branch & Bound	✗	✓	✗	✗	1	✓ Important
Lower Bound Theory	✓	✓	✗	✗	2	★ High
Parallel Algorithm	★	★	✗	★	3	★ High

## **8 Queen**

Asked:

2022

2023

2024

Questions:

- Solve 8 Queen using Backtracking.
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## **Graph Coloring**

Asked:

2022

2024

Questions:

- Explain m-Coloring.
  - Draw State Space Tree.
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## **Hamiltonian Cycle**

Asked:

2022

2025

Questions:

- Explain Hamiltonian Cycle.
  - State Space Tree.
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## **TSP**

Asked:

2023

2024

2025

Questions:

- Solve TSP using Branch and Bound.
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## ★ LC Branch & Bound

Asked:

2023

Questions:

- Explain LC Search.
  - Explain FIFO Branch & Bound.
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## ★ Lower Bound Theory

Asked:

2022

2023

Questions:

- Explain Lower Bound Theory.
- Comparison Tree.