Data Structures (CO-303) — Unit 1 PYQ Analysis 🔥

Maine tumhare saare uploaded PYQs analyze kiye.

Unit-1 me mainly ye topics repeatedly aaye hain:

UNIT-1 TOPICS

1. Introduction to Data Structures

2. Classification of Data Structures

3. Abstract Data Type (ADT)

4. Arrays vs Linked List

5. Stack and Queue Basics

6. Recursion

7. Asymptotic Notation / Complexity

8. Infix to Postfix Conversion

9. Operations on Data Structures

10. Linked List Representation

⭐ MOST REPEATED QUESTIONS (VERY IMPORTANT)

1. Differentiate between Stack and Queue

🔥 MOST REPEATED

Appeared in:

- June 2024
- June 2023
- Multiple papers

Expected in Upcoming Exam:

✅ HIGHLY EXPECTED

Prepare:

- Definition
- FIFO vs LIFO
- Operations
- Applications
- Comparison table

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2. Infix to Postfix Conversion Program / Algorithm

🔥 VERY VERY IMPORTANT

Appeared in:

- June 2024
- June 2023
- Nov 2022
- Dec 2025

Expected:

✅ 100% expected

Prepare:

- Algorithm
- Stack usage
- Example conversion
- C Program

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3. Classification of Data Structures

Appeared in:

- Dec 2025
- Dec 2024

Expected:

✅ HIGH chance

Topics:

- Linear DS
- Non-linear DS
- Static DS
- Dynamic DS
- Primitive / Non-primitive

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4. Abstract Data Type (ADT)

Appeared in:

- Dec 2025
- June 2023

Expected:

✅ HIGH chance

Prepare:

- Definition
- Features
- Advantages
- Examples

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5. Operations on Data Structures

Appeared in:

- Nov 2022
- Dec 2025

Expected:

✅ Important

Operations:

- Traversing
- Insertion
- Deletion
- Searching

- Sorting
- Merging

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6. Arrays vs Linked List

🔥 VERY IMPORTANT

Appeared in:

- Dec 2024
- Dec 2025

Expected:

✅ HIGH chance

Prepare:

- Memory allocation
- Access speed
- Insertion/deletion
- Dynamic size
- Comparison table

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7. Recursion

Appeared in:

- June 2024

Expected:

✅ Moderate to High

Prepare:

- Definition
- Recursive function
- Advantages/disadvantages
- Example

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8. Asymptotic Notation / Complexity

🔥 IMPORTANT

Appeared in:

- June 2024
- Dec 2023

Expected:

✅ HIGH chance

Prepare:

- Big O
- Omega
- Theta
- Time complexity examples

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9. Linked List Representation in Memory

Appeared in:

- Nov 2022

Expected:

✅ Important

Prepare:

- Node structure
- Pointer representation
- Diagram

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10. Stack Operations using Program

Appeared in:

- Nov 2022

Expected:

✅ Important

Prepare:

- Push
- Pop
- Overflow
- Underflow

🔥 MOST IMPORTANT QUESTIONS FOR UPCOMING EXAM

TOP 10 PREDICTED QUESTIONS

1.

Differentiate between Stack and Queue.

2.

Write an algorithm/program to convert Infix expression to Postfix expression.

3.

Define Abstract Data Type (ADT). Explain with example.

4.

Explain classification of Data Structures in detail.

5.

Differentiate between Arrays and Linked List.

6.

Explain operations performed on data structures.

7.

Explain asymptotic notation with examples.

8.

What is recursion? Explain with example.

9.

Explain stack operations with suitable program.

10.

Explain linked list representation in memory.

🔥 MOST IMPORTANT FOR 14 MARKS

Prepare these FULLY:

VERY IMPORTANT LONG QUESTIONS

1.

Infix to Postfix conversion with algorithm and example.

2.

Classification of Data Structures.

3.

Stack vs Queue.

4.

Asymptotic notation.

5.

Arrays vs Linked List.

FINAL EXAM STRATEGY 🚀

MUST PREPARE FIRST

1. Stack vs Queue
2. Infix to Postfix
3. ADT
4. Arrays vs Linked List

5. Complexity

EASY SCORING TOPICS

✅ Classification of DS

✅ Operations on DS

✅ Recursion

✅ Linked List representation