65 Common DSA Pattern-Based Questions

1. Arrays & Searching (10 Qs)

1. Find maximum & minimum in an array
2. Find 2nd largest element
3. Reverse an array
4. Rotate array by k steps
5. Move all zeros to the end
6. Find missing number (1 to n)
7. Find duplicate number
8. Kadane’s Algorithm (Maximum Subarray Sum)
9. Trapping Rain Water
10. Buy & Sell Stock (1 transaction)

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2. Two Pointers & Sliding Window (10 Qs)

1. Pair sum in sorted array
2. 3Sum problem
3. Subarray with given sum (positive numbers)
4. Longest substring without repeating characters
5. Minimum window substring
6. Maximum consecutive ones
7. Longest subarray with sum k
8. Sliding window maximum
9. Smallest subarray with sum > target

10. Fruit Into Baskets (2 distinct chars)

3. Binary Search & Variants (7 Qs)

1. Binary search (basic)
2. Search in rotated sorted array
3. Find first and last occurrence of element
4. Square root of number
5. Aggressive cows (Binary Search on Answer)
6. Koko eating bananas
7. Capacity to ship packages in d days

4. Strings (7 Qs)

1. Check palindrome
2. Valid anagram
3. Valid parentheses
4. Longest palindromic substring
5. Group anagrams
6. Longest common prefix
7. Word break problem

5. Recursion & Backtracking (7 Qs)

1. Print all subsequences
2. Subset sum
3. Generate all subsets
4. Subsets with duplicates
5. Generate permutations
6. N-Queens problem
7. Combination sum

6. Linked List (7 Qs)

1. Reverse linked list
2. Detect cycle in linked list
3. Merge two sorted linked lists
4. Remove nth node from end
5. Palindrome linked list
6. Add two numbers (linked list representation)
7. Rotate linked list

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7. Stack & Queue (7 Qs)

1. Next greater element
2. Stock span problem
3. Largest rectangle in histogram
4. Min stack
5. Evaluate postfix expression
6. Valid parentheses (stack)
7. Rotten oranges (BFS with queue)

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8. Trees (5 Qs)

1. Inorder / Preorder / Postorder traversal
2. Level order traversal
3. Diameter of binary tree
4. Symmetric tree
5. Lowest common ancestor (LCA)

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9. Graphs (5 Qs)

1. BFS traversal
2. DFS traversal

3. Detect cycle in undirected graph
4. Number of islands
5. Topological sort

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10. Dynamic Programming (5 Qs)

1. Fibonacci using DP
2. Climbing stairs
3. Coin change (minimum coins)
4. Longest common subsequence
5. 0/1 Knapsack