ICPC 2-Week Personalized Training Sheet

WEEK 1: Core Fundamentals + Easy/Medium Problem Solving

Day 1 — Math Basics + Ad-hoc

• GCD, LCM, Prime, Divisors

• Solve: Ad-hoc (1), GCD/LCM (1), Divisor/Prime (1)

Day 2 — Arrays + Prefix Sum

• Prefix sum, Prefix XOR, Sliding window

• Solve: Prefix (1), Window (1), Array (1)

Day 3 — Graph Basics

• BFS, DFS, Components

• Solve: BFS (1), DFS (1), Component (1)

Day 4 — Greedy

• Sorting, Interval, Activity Selection

• Solve: Sorting greedy (1), Interval greedy (1), Math-greedy (1)

Day 5 — DP (Intro)

• Fibonacci DP, Knapsack idea

• Solve: Easy DP (1), Medium DP (1), Array DP (1)

Day 6 — String Algorithms

• KMP, Hashing

• Solve: KMP (1), Z (1), String easy (1)

Day 7 — Review + Mini Mock

• 3 random problems + failed problem re-solve

WEEK 2: ICPC Core + Medium Difficulty

Day 8 — Dijkstra + Shortest Path

• Dijkstra, BFS 0–1

• Solve: Dijkstra (1), Weighted graph (1), Shortest path (1)

Day 9 — Advanced Math

• Modulo, Fast Expo, nCr, Mod inverse

• Solve: Mod calc (1), BinExpo (1), Number theory (1)

Day 10 — DP Advanced

• Bitmask DP, Grid DP

• Solve: Grid (1), Bitmask (1), Medium DP (1)

Day 11 — Trees + LCA

• Tree depth, parent, binary lifting

• Solve: Tree (1), LCA (1), Tree DP (1)

Day 12 — Greedy + Two Pointers

• Sorting, TP, Binary search on answer

• Solve: Two-pointer (1), BS (1), Greedy (1)

Day 13 — Mixed ICPC Simulation

• Implementation + Ad-hoc

• Solve: Mixed 3 problems

Day 14 — Mock + Upsolve

• 3 contest problems + 2 upsolve (optional)

Target Output:

• Total 42+ Problems

• Graph + DP + Math strong foundation

• ICPC-ready problem-solving flow