**Politecnico di Milano**

# Dipartimento di Elettronica, Informazione e Bioingegneria

**prof. Fabrizio Ferrandi**

## Advanced Algorithms and Parallel Programming 1st part (Advanced Algorithms)–January 14th 2022

**Polimi ID** _____ _____

**Surname** _____ _____ **Name** _____

- This is a closed-book examination. You cannot use computers, phones or laptops during the exam.
- Paper will be provided, but you should bring and use writing instruments that yield marks dark enough to be read easily. Erasable pens can be used.
- Total available time: 1h:00m.

**Exercise 1 (6 points)** _____

**Exercise 2 (5 points)** _____

**Exercise 3 (5 points)** _____

## Exercise n. 1

Discuss why dynamic programming matter for Longest common subsequence algorithm.

## Exercise n. 2

Describe how Karger and Stein algorithm works. Discuss and compare the two algorithms' complexity.

## Exercise n. 3

Explain the difference between Monte Carlo and Las Vegas Randomized based algorithms.