



Politecnico di Milano

Dipartimento di Elettronica, Informazione e Bioingegneria

prof. Fabrizio Ferrandi

Advanced Algorithms and Parallel Programming 1st part (Advanced Algorithms)–June 9th 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

Describe how divide and conquer work with some examples and why master theorem method matter.

Exercise n. 2

Describe how the randomized select-ith method work. Is it a Monte Carlo randomization-based algorithm?

Exercise n. 3

Discuss how skip list insertion work? What about its worst vs average case complexity?