International Master in Computer Science, 1st Year
Concurrency and Parallelism

Written Test

Thursday, December 20, 2012

Please write clearly. You can write as much as you need, but not more. Clearly mark your copy with your name. While developing the following points, try to be critical and to make connections among the concepts presented during the class. You will be graded more for your ability to synthesize and organize the course material originally than for your ability to recall the details. No books, documents, computers, tablets, cellphones, or smartphones are allowed. The marking scheme, on a 0 to 20 scale, is provided for information only.

1. (7 pts) Discuss the relationships between the level of parallelism of a program and the architecture of a parallel machine.

2. (3 pts) What are *algorithmic skeletons*?

3. (4 pts) How can the performance of a parallel algorithm be measured?

4. (6 pts) Compare latency-oriented and throughput-oriented architectures.