

Università degli studi “Roma Tre”

A.Y: 2022/2023

Teaching: Sistemi Operativi

Course: Ingegneria Informatica

Exam session: 28/02/2023 – Written test

Lecturer: Romolo Marotta

Maximum score: 21 points

STUDENT ID _____ Last Name _____ First Name _____

It is recommended that you write your surname and name on this sheet and use it as a folder to contain the answer sheets. If you consider a question ambiguous, write down your interpretation and respond accordingly.

Question 1 (6 points)

Describe the paginated segmentation and show a diagram of how it works.

Question 2 (6 points).

In the context of CPU-scheduling algorithms, what is an aging policy? what is its purpose? Please provide at least one example.

Question 3 (9 points).

Provide a description of the following techniques for file allocation on disk: a) indexed, b) chained and c) contiguous.

Given a file of 2^{20} records stored on a disk with blocks of 4×2^{10} records, what is the minimum number of blocks (entirely and/or partially) occupied by the file and by the related system record in cases a), b) and c)? Assume that a reference to a record requires 16 records.

The publication of the result via Web will take place anonymously using the serial number. To have your exam grade published on the course website, you must sign the following authorization.

The undersigned, pursuant to law 675 of 31/12/96, authorizes the lecturer to publish the results of the exam on the bulletin board and / or on the Web. In faith

Legible signature: _____