

## CS 3113 Intro to Operating Systems

Name and ID \_\_\_\_\_

### Homework #2

**Due date: 10/21/2023 at 11:59 pm**

**Instructions:**

**1) To complete assignment one, you need to read Chapters 1, 3 and 4 of the textbook.**

**2) HW must be submitted on typed pdf or word document.**

**You must do your work on your own.**

Q1. How is a process different from a thread? (15 points)

Q2. Describe the differences among short term, medium term, and long term scheduling. (15 points)

Q3. Describe possible states in which a process can be. Draw the state diagram corresponding to these states. (15 points)

Q4. Give an example of a situation in which ordinary pipes are more suitable than named pipes and an example of a situation in which named pipes are more suitable than ordinary pipes. (15 points)

Q5. Is it possible to have concurrency but not parallelism? Explain. (10 points)

Q6. Provide two programming examples in which multithreading does not provide better performance than a single-threaded solution. (20 points)

Q7. Under what circumstances does a multithreaded solution using multiple kernel threads provide better performance than a single-threaded solution on a single-processor system? (10 points)