Operating Systems, Sejong University
College of Electronics and Information Engineering

Mid-term Exam (April 2019)

1. What is a process /0.5
2. Describe and explain the major 4 sections representing a layout of a process /1.5 pt
3. What is a process control block (PBC) /0.5pt
4. What is the purpose of system calls? /1pt
5. What is the purpose of the command interpreter? Why is it usually separate from the kernel? /1 pt
6. What is the purpose of system programs? /0.5 pt
7. What is the main advantage of the layered approach to system design? What are the disadvantages of the layered approach? /1.5
8.List five services provided by an operating system, and explain how each creates convenience for users /2.5 pts
9. When a process creates a new process using the fork() operation, which of the following states is shared between the parent process and the child process? /0.5pt
a. Stack
b. Heap
c. Shared memory segments
10. Define and explain the four general states of a process /2pts
11. What is a process control block (PBC) /0.5pt
12. Describe and explain two major forms of pipes provided by windows /1pt
13. Describe and explain the four primary benefits of multithreaded applications /2pts
14. Using an example, explain the difference between concurrency and parallelism /1.5pt
15. What are two differences between user-level threads and kernel-level threads? Under what circumstances is one type better than the other? /1.5pt
16. Describe and explain the four main challenges in designing multithreaded applications /2pts

Good Luck