

<b>Your Name:</b>	
<b>SID:</b>	
<b>TA / Discussion Section:</b>	
<b>Score:</b>	

This is a **closed book** ten-minute quiz. Write all of your answers directly on this paper.

**Good Luck!!**

1. What state does the kernel save/restore when context switching between lightweight processes (5 points)?

*All CPU registers including program counter (or return PC) and stack pointer. Registers only 3 points. PC or return PC 1 point. Stack pointer 1 point. Listing something that should not be saved, -1 point (Ex.: heap, stack, I/O state).*

2. Which of the following instructions should be privileged? *Explain your answer* (5 points each)
  - a. Turn off interrupts

*Privileged. This instruction could prevent the kernel/dispatcher from regaining control. Correct answer 3 points. Correct explanation 2 points.*

- b. Read the time-of-day from the computer's hardware clock

*Not privileged. This instruction has no effect on other threads, processes, or the kernel.*

- c. Switch the CPU from user to kernel mode (note that this instruction is not the same as a trap or system call)

*Privileged. This instruction could be used to gain control of the machine (e.g., modify the TLB).*