CSCI 40300/ECE 40800
Operating Systems– Fall 2016
Quiz 3
Solutions

Name: _____

Page:	1	2	Total
Points:	8	4	12
Score:			

Normalized Total to $100 = 100 \times \text{Total}/12 =$ _____ (what will appear in OnCourse gradebook).

1. (2 points) Which of the following will result in a process being in the Ready state?

   A. Completion of an I/O event B. Awaiting its turn on the CPU C. Newly-admitted process
   D. All of the above

2. (2 points) What concept allows multiple executions to take place concurrently in the same process environment?

   A. interrupts, B. PCBs, ***C. threads,*** D. kernel, E. none of these

3. (2 points) What data structure contains information about a process' state, its program counter, stack pointer, and other information?

   A. the scheduler
   B. the interrupt vector
   C. the process control block
   D. the thread
   E. none of these

4. (2 points) Which of the following are items *private* to each thread?

   A. stack B. open files C. address space D. all of these are private E. none of these are private

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5. (4 points) You're hired by AB Computers to improve the performance of their system. They point out that their applications only use 10 of the CPU's 32 registers; so to improve the performance of the applications, they suggest that you change the OS's context switch routine so it only saves the 10 registers used by the applications. Assume that you can correctly modify the context switch routine to work this way. Is this a good or bad idea? Why?

Answer: This is a very bad idea. Possible justifications for this answer: Long-term implications, such as problems with changes to applications or the use of future applications (what if all of a sudden a future application starts using more than 10 registers?) and the intermittent problems that will result; also, issues with legacy applications (which may use more than 10 registers).