Department of Electrical and Computer Engineering
University of Alabama in Huntsville
CPE 323 – Introduction to Embedded Computer Systems
Quiz 3 keys

1 (16)	2 (6)	Total (22)

(Fold the test and write your name on the outside)

1. (16 points) Circle the correct answer, true or false. Each question is worth of 2 points.

1.A. (True | False) Interrupts typically arise at unpredictable times, asynchronously to program execution.

1.B. (True | False) Interrupts can be triggered from software (e.g., by setting a flag bit).

1.C. (True | False) When multiple interrupt requests are pending at the same time, the MSP430 accepts the one with the highest priority.

1.D. (True | False) During exception processing PC is the only register that is pushed on the stack.

1.E. (True | False) Nesting of interrupt service routines is enabled by default in MSP430.

1.F. (True | False) Interrupt vector table does not reside in main memory.

1.G (True | False) The MSP430 cannot handle interrupt requests that arise outside the chip.

1.H (True | False) During an instruction execution an interrupt request from a communication device arises. The MSP430 will accept this request if no other requests are pending and the global interrupt enable is cleared, GIE=0.

2. (6 points)

2.A (2 points) How does the interrupt vector table get initialized?

During program initialization (explicitly defining the content of the interrupt vector table entries with the starting addresses of service routines or by compiler).

2.B. (2 points) What steps need to be taken in interrupt service routines that handle multi-source requests?

Interrupt flags needs to be cleared explicitly.

2.C. (2 points) Two peripherals P1 and P2 request interrupts at the same time. The ISR_P1 has its starting address in the entry #9 of the interrupt vector table, and ISR_P2 has its starting address in entry #6 of the interrupt vector table. Which request will be serviced first providing that both interrupts are enabled and GIE=1?

P1.