Practice Quiz: Modules 09, 10: Clocks, Watchdog Timer, TimerB, UART

Due Nov 1 at 11:59pm **Points** 21 **Questions** 9 **Available** until Nov 1 at 11:59pm **Time Limit** 20 Minutes

Instructions

This quiz covers topics related to MSP430 clock subsystem, timer peripherals (watchdog timer, TimerB), and UART serial communication.

This quiz was locked Nov 1 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	2 minutes	7.33 out of 21

ⓘ Correct answers are hidden.

Submitted Nov 1 at 5:55pm

Partial

Question 1

2 / 3 pts

Match MSP430 clocks with their definitions.

MCLK	Master Clock
SMCLK	Substitute Clock
ACLK	Auxiliary Clock

Question 2

1 / 1 pts

MSP430 Clock modules allow software developers to change frequencies of the clock signals used by the processor and peripherals.

- (●) True
- ( ) False

Unanswered

Question 3

0 / 2 pts

The ACLK clock frequency is 32,768 Hz. How many MCLK clock periods occur during one ACLK clock period if we know frequency of MCLK is 2^21 Hz. Note: enter positive decimal number.

Partial

Question 4

1.33 / 2 pts

Select all operating modes of the MSP430 Watchdog Timer peripheral.

- [x] Watchdog mode
- [x] Interval timer mode
- [ ] UP/DOWN counting mode

- [ ] UP counting mode
- [ ] HOLD (not counting)

Incorrect

Question 5

0 / 2 pts

What action do you perform to "pat the dog" in case of the watchdog timer operating in the watchdog mode?

- ( ) Set all bits in the WDT control register
- ( ) Set the WDTCTLCL bit to 1 in the WDT control register to clear the timer counter
- ( ) Send a bone to the dog by snail mail
- (•) Clears all bits in the WDT control register

Partial

Question 6

1 / 2 pts

Pair TimerB counting modes with their definition.

STOP mode	The timer is halted.
UP mode	The timer repeatedly counts f
UP/DOWN mode	The timer repeatedly counts f

CONTINOUS mode The timer repeatedly counts f

Unanswered

Question 7

0 / 4 pts

TimerB configured in the UP counting mode uses SMCLK as the source clock. SMCLK clock frequency is 2,000,000 Hz.

What is the maximum resolution when timestamping an external event with frequency?

microseconds

What is duration of one period if TBCCR0=9,999?

microseconds

Answer 1:

(You left this blank)

Answer 2:

(You left this blank)

Unanswered

Question 8

0 / 3 pts

UART communication. You configure USCI for UART communication (8-bit data, 2 stop bits, odd parity).

1. How many bits is transferred when transmitting a single character (type in the number)?

bits

2. What is the parity bit if you are sending ascii character 'a' (0x61)?

(enter 1 or 0)

3. How long does it take to transmit this character if the UART is configured for 38,400 bps (bits per second)?

ms (miliseconds) (enter 4 decimal places)

Answer 1:

(You left this blank)

Answer 2:

(You left this blank)

Answer 3:

(You left this blank)

Question 9

2 / 2 pts

UART communication. Device B always sends data to device A over a serial asynchronous link (UART). No data flows from A to B. How do you connect A and B? Symbol "---" means connects to,

- RxD pin of A -- RxD pin of B
- TxD pin of A -- RxD pin of A
- TxD pin of A -- TxD pin of B
- RxD pin of A -- TxD pin of B