Quiz on ADC and UART

Due No due date   **Points** 15   **Questions** 11
Available until Mar 22 at 3:30pm   **Time Limit** 15 Minutes

Instructions

Choose the letter of the correct answer, match the items or select true or false.

This quiz was locked Mar 22 at 3:30pm.

Attempt History

	Attempt	Time	Score
LATEST	**Attempt 1**	15 minutes	5 out of 15 *

* Some questions not yet graded

⚠ Correct answers are hidden.

Score for this quiz: **5** out of 15 *
Submitted Mar 22 at 3:19pm
This attempt took 15 minutes.

Question 1	1 / 1 pts

When the receiver could not detect the stop bit of the incoming data frame, which of the following will occur?

- 🔘 Frame Error
- ○ Parity Error
- ○ Connection Error
- ○ Overrun Error

Incorrect

Question 2	0 / 1 pts

Which of the following register of the MB90F387S MCU holds the digital equivalent of the input signal?

- 🔘 ADCS
- ○ TBTC
- ○ ICR03
- ❌ ADCR

Question 3	1 / 1 pts

Which of the following best describes UART?

- 🔘 A circuit that takes bytes of data and transmits the individual bits in a sequential fashion and reassembles the data on the receiving end.
- ○ A hardware system that transmits bytes in parallel in a single clock.
- ○ A serial communication protocol which requires only one data line.
- ○ A system that allows data to be transmitted serially through a bus.

Incorrect

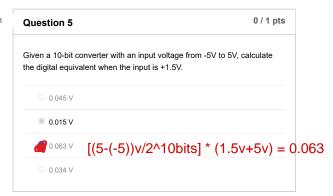| Question 4	0 / 1 pts

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What is baud rate?

- ☐ It is the unit of the number of symbol per second.
- ☐ It is the unit of the number of packets per second.
- ❌ It is the unit of the number of pulses per second.
- ☑ It is the unit of the number bits transmitted in one second.

Incorrect

Question 5	0 / 1 pts

Given a 10-bit converter with an input voltage from -5V to 5V, calculate the digital equivalent when the input is +1.5V.

- ○ 0.045 V
- 🔘 0.015 V
- ❌ 0.063 V   **[(5-(-5))v/2^10bits] * (1.5v+5v) = 0.063**
- ○ 0.034 V

Question 6	1 / 1 pts

A stop bit in a UART frame is:

- ○ switches between low to high
- 🔘 always high
- ○ always low

- ○ switches between high to low

Question 7	1 / 1 pts

Which of the following is not part of the UART frame?

- ○ Parity bit
- ○ Start bit
- ○ Stop bit
- 🔘 Acknowledge bit

Incorrect

Question 8	0 / 1 pts

In the RS-232 standard, logic-1 is presented by which voltage level?

- ❌ -3V
- 🔘 0 V
- ○ +5V
- ○ +3V

Incorrect

Question 9	0 / 1 pts

Which of the following A/D conversion methods uses a D/A converter and a comparator.

~~Flash~~

☐ Counter

❤ Successive Approximation   **only**

☐ Integrating

Question 10   1 / 1 pts

Given a 4-bit A/D converter with a reference voltage of 12V which of the following is its step voltage?

○ 1.2 V/step

○ 0.5 V/step

◉ 0.75 V/step

○ 1.0 V/step

Question 11   Not yet graded / 5 pts

A temperature sensor can measure from -100 degrees Celsius to +100 degrees Celsius and is connected to a 10-bit A/D converter. At -100 degrees Celsius, the voltage of the sensor is 0 V and at +100 degrees Celsius the voltage is 12V. What is the temperature measured by the sensor if the digital value of the A/D converter is 350_{10}? Assume that the

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reference voltage is 10 V. Show your solution and type the answer in bold face.

Your Answer:

-100 to 100 = 200 + 1 (0 value)

201 / 1023 = x / 350

= 68.77

= 68.77 - 100 = **-32.23 degrees celsius**

Quiz Score: **5** out of 15