

Unit 13 - Week 11

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Serial Communication Protocols, USCI Module in MSP430

MSP430 Timer in Capture Mode

Coding Ninja

Building an Electronics Project

Feedback Form

Quiz : Assignment 11

Week 12

Lecture PPT

Download Videos

Assignment Solutions

Live Session

Assignment 11

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-12-02, 23:59 IST.

- 1) Which of the following protocols would be cost effective and reliable for long distance wired-communication with multiple devices? **1 point**
- RS-232
 - SPI
 - I2C
 - RS-485

No, the answer is incorrect.
Score: 0

Accepted Answers:
RS-485

- 2) How does a master device start to send the data via I2C? **1 point**
- By sending the address of the slave on the SDA line.
 - By sending the data first.
 - By pulling the SDA line LOW while the SCL remains HIGH.
 - By sending clock pulses on the SCL line.

No, the answer is incorrect.
Score: 0

Accepted Answers:
By pulling the SDA line LOW while the SCL remains HIGH.

- 3) 115200-8O1 means **1 point**
- Baud rate of 115200, 8 data bits, Odd parity, 1 stop bit
 - Baud rate of 115200, Total 8 bits to be sent including odd parity bit and a stop bit..
 - 8-bit data with odd parity being sent with a clock signal of 115200Hz
 - 8-bit data including odd parity and a stop bit being sent with a clock signal of 115200Hz.

No, the answer is incorrect.
Score: 0

Accepted Answers:
Baud rate of 115200, 8 data bits, Odd parity, 1 stop bit

- 4) How much time will it take to transmit 10 bytes of data using the UART interface if the UART Communication is specified by 9600-8-E-2? **1 point**
- 1.25ms
 - 11.46ms
 - 0.1ms
 - 12.5ms

No, the answer is incorrect.
Score: 0

Accepted Answers:
12.5ms

- 5) Which method is preferable to measure frequency of around 0.2Hz and 1KHz respectively? **1 point**
- Time period method, Direct Frequency method
 - Direct Frequency, Time Period method
 - Both with direct frequency method
 - Both with time period method

No, the answer is incorrect.
Score: 0

Accepted Answers:
Time period method, Direct Frequency method

- 6) In a setup, an unknown signal is passed through Mod-2 counter and fed to MSP430, which then captures the rising edge and falling edge times in its register. If the values are $(24D5)_{16}$ and $(72F5)_{16}$ respectively and the timer is clocked at 32768Hz. What is the frequency of the original unknown signal? **1 point**
- 32.768Hz
 - 6.5536Hz
 - 3.2768Hz
 - 1.6384Hz

No, the answer is incorrect.
Score: 0

Accepted Answers:
1.6384Hz

- 7) Why is it better to divide the frequency of an external clock signal by two and then process it further? **1 point**
- So that it doesn't damage the internal circuit of the Controller.
 - Because the external signal has high frequency as compared to processor
 - So that signal has equal HIGH and LOW times and thus the system has enough time to process data at either rising edge or falling edge.
 - None of these

No, the answer is incorrect.
Score: 0

Accepted Answers:
So that signal has equal HIGH and LOW times and thus the system has enough time to process data at either rising edge or falling edge.

- 8) MSP430 Timers, in capture mode, can capture **1 point**
- Only Rising edge
 - Only Falling edge
 - Both Rising and falling edge
 - High and Low level

No, the answer is incorrect.
Score: 0

Accepted Answers:
Both Rising and falling edge

- 9) How many LEDs can be controlled independently by Charlieplexing using 10 pins of a microcontroller? **1 point**
- 90
 - 92
 - 100
 - 110

No, the answer is incorrect.
Score: 0

Accepted Answers:
90

- 10) What should be the very first step towards making any project from scratch? **1 point**
- Visualisation
 - Start making a prototype
 - Deciding the aim and objective of the project
 - Design PCB then move further

No, the answer is incorrect.
Score: 0

Accepted Answers:
Deciding the aim and objective of the project