Quiz 10

Due Feb 16 at 11:59pm **Points** 24 **Questions** 19 **Available** Feb 7 at 12am - Feb 21 at 11:59pm **Time Limit** None

Instructions

Read Sections 10.1-10.5 then answer the following questions. One try. No time limit.

Attempt History

	Attempt	Time	Score
LATEST	Attempt 1	90 minutes	19 out of 24

Score for this quiz: **19** out of 24
Submitted Feb 16 at 9:45pm
This attempt took 90 minutes.

Question 1 **1 / 1 pts**

With full duplex data may be transmitted...

- only one direction at a time
- Correct! two directions at once

Question 2 **1 / 1 pts**

Which of the following communication standards use differential voltage signals?

- RS-232
- Correct! RS-485
- Correct! USB

Question 3 **2 / 2 pts**

Give the (hexadecimal) ASCII encoding for the following characters (See Appendix F). Give your answer as two hexadecimal digits.

(a) 'U' = 55

(b) '7' = 37

(c) '#' = 23

(d) LF (line feed) = 0A

Answer 1:

Correct! 55

Answer 2:

Correct! 37

Answer 3:

Correct! 23

Answer 4:

Correct! 0A

Correct Answer A

Question 4

1 / 1 pts

On an RS-232 cable, mark is a [Select] voltage and a space is a [Select] voltage.

Answer 1:

Correct!

negative

Answer 2:

Correct!

positive

Question 5

1 / 1 pts

For logic voltage levels (e.g. CMOS or TTL), mark is a high voltage and space is a low voltage

Answer 1:

Correct!

high

Answer 2:

Correct!

low

Question 6

1 / 1 pts

When no data are being transmitted, the line is in a(n) _____ state.

- space
- indeterminate

Correct!

- mark

Question 7

1 / 1 pts

A start bit is a _____

- mark

Correct!

- space

Question 8

1 / 1 pts

A stop bit is a _____

- space

Correct!

- mark

Question 9

1 / 1 pts

For data bits, a 0 is transmitted as a [Select] and a 1 is transmitted as a [Select]

Answer 1:

Correct!

space

Answer 2:

Correct!

mark

Question 10

1 / 1 pts

What is the duration of a bit at 19,200 baud (19.2 kbaud)? Give your answer in microseconds.

Correct!

52

Correct Answers

52.08 (with margin: 0.1)

Question 11

0 / 1 pts

Data are transmitted using 8 data bits, 1 parity bit and 1.5 stop bits. What percentage of time is used of overhead (i.e. not data)?

You Answered

23.8

Correct Answers

30.4 (with margin: 0.4)

Question 12

1 / 1 pts

Calculate the total number of bits transmitted if 150 pages of ASCII data are sent using 8 data bits, no parity and one stop bit. Assume each page averages 60 lines of 40 characters each (including spaces and control characters). Give your answer in bits (not kilobits or megabits). Note: While ASCII is a 7-bit code, characters are usually stored in and transmitted as 8-bit bytes. Hint: don't forget to count the start bit.

Correct!

3,600,000

Correct Answers

3,600,000 (with margin: 0)

Question 13

0 / 1 pts

How long will it take to transmit 500,000 characters (about the size of a small paperback book) at 19.2 kbaud with a format of 7 data bits, one parity bit and two stop bits? Give your answer in seconds. (Assume each character is 7 bits.)

You Answered

260

Correct Answers

286.46 (with margin: 0.5)

Question 14

1 / 1 pts

Which timer of the 8051/8052 cannot be used to generate baud rates?

Correct!

- (•) Timer 0
- ( ) Timer 1
- ( ) Timer 2

Question 15

0 / 3 pts

On an 8051, to what value should SCON be loaded in order to use each of the formats below? (Assume that (a) you will need a variable baud mode, (b) you want to enable reception and (c) you want clear both RI and TI flags). Give your answer as two hexadecimal digits. (Hint: SM2 nd RB8 should be set to zero.)

(a) 8 data bits, no parity, one stop bit.

SCON = 10

(b) 8 data bits, one parity bit, one stop bit.

SCON = 18

(c) 8 data bits, no parity, two stop bits. (Set TB8 so it need not be changed again.)

SCON = 1C

Answer 1:

You Answered: 10

Correct Answer: 50

Correct Answer: 58

Answer 2:

You Answered: 18

Correct Answer: D0

Correct Answer: D8

Answer 3:

You Answered: 1C

Correct Answer: D8

Question 16

3 / 3 pts

Assume an crystal frequency of 7.3728 MHz. What value must be loaded into TH1 to obtain the baud rates listed below. Give your answer as two hexadecimal digits. (Assume SMOD = 0, its default value.)

(a) 9600 baud

TH1 = FE

(b) 1200 baud

TH1 = F0

(c) 110 baud (standard for teletypes, but slow as molasses) Note: this one doesn't come out evenly, so choose the nearest value for TH1.

TH1 = 51

Answer 1:

Correct!: FE

Answer 2:

Correct!: F0

Answer 3:

Correct!: 51

Correct Answer: 52

Question 17

1 / 1 pts

Exactly when (with respect the the transmission of the stop bit) is the TI flag raised?

Correct!

- (•) At the beginning of the (first) stop bit
- ( ) At the end of the (first) stop bit
- ( ) Halfway through the (first) stop bit

Question 18

1 / 1 pts

Exactly when (with respect the the reception of the stop bit) is the RI flag raised?

- ( ) At the end of the stop bit
- ( ) At the beginning of the stop bit

Correct!

Halfway through the stop bit

Question 19 1 / 1 pts

Assume an oscillator frequency of 11.0592 MHz and that TH1 = 0FDH. What is the baud rate if SMOD = 1. (Give your answer in baud, not kbaud).

Correct!

19,200

Correct Answers

19,200 (with margin: 0)

Quiz Score: **19** out of 24