

# Quiz 2

**Due** Oct 6 at 1:05pm **Points** 20 **Questions** 8  
**Available** until Oct 6 at 1:10pm **Time Limit** 20 Minutes

This quiz was locked Oct 6 at 1:10pm.

## Attempt History

	Attempt	Time	Score
LATEST	<a href="#">Attempt 1</a>	24 minutes	18 out of 20

❗ Correct answers are hidden.

Score for this quiz: **18** out of 20

Submitted Oct 6 at 1:06pm

This attempt took 24 minutes.

Incorrect

### Question 1

1 / 2 pts

Answer the following questions about the ARM programming model:

a. How many general purpose registers are there?

Incorrect

### Question 2

2 / 2 pts

b. Answer the following questions about the ARM programming model:

What is the purpose of the T bit?

Indicates processor's current state: 0-ARM state, 1-thumb state

Incorrect

### Question 3

2 / 2 pts

d. Answer the following questions about the ARM programming model:

Where is the program counter kept in the register bank?

PC is stored in R15 - 32 bit register

Incorrect

### Question 4

2 / 2 pts

c. Answer the following questions about the ARM programming model:

What is the purpose of the C bit?

The carry (C) bit is set when there is a carry out of the operation.

### Question 5

2 / 2 pts

2. Your Company has been asked to build an embedded system that controls a dishwashing machine. The customer is most concerned about longevity, reliability over temperature, and design cost. These are not expensive machines, so the unit cost of the embedded system is a major concern. Size, Weight, and Power are not a concern within reason.

Processing speed required is moderate, 30 MIPs should be sufficient. A major concern is the ease of bug fixes, these must be easy to do. This is all the information you have been given.

a. Choose which implementation architecture is the most appropriate for this design.

☐ Discrete

☐ ASIC

☐ FPGA

☐ MPU

☒ MCU

☐ Embedded PC

### Question 6

2 / 2 pts

c. Your Company has been asked to build an embedded system that controls a dishwashing machine. The customer is most concerned about longevity, reliability over temperature, and design cost. These are not expensive machines, so the unit cost of the embedded system is a major concern. Size, Weight, and Power are not a concern within reason. Processing speed required is moderate, 30 MIPs should be sufficient. A major concern is the ease of bug fixes, these must be easy to do. This is all the information you have been given.

Would the Freescale (NXP) KL25Z128M4 be a workable processor choice for this product?

☐ No

☐ Yes

Partial

**Question 7**

2 / 2 pts

b. Your Company has been asked to build an embedded system that controls a dishwashing machine. The customer is most concerned about longevity, reliability over temperature, and design cost. These are not expensive machines, so the unit cost of the embedded system is a major concern. Size, Weight, and Power are not a concern within reason. Processing speed required is moderate, 30 MIPS should be sufficient. A major concern is the ease of bug fixes, these must be easy to do. This is all the information you have been given.

Choose 2 of the several standards organizations that your customer will need to respond to regarding this product:

☐ FCC☒ UL/CSA☒ IEC☐ DOD☐ Telcordia☐ IEEE

Partial

**Question 8**

5 / 6 pts

Name the tools that engineers need to build an Embedded System  
(Check all that apply)

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☒ IDE

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☐ Paper shredder

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☒ Oscilloscope

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☒ Voltmeter

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☐ Moxie

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☐ Staple Gun

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☒ Evaluation Board

Quiz Score: **18** out of 20