

ECE 1175 Embedded Systems Design

Sample exam questions

Note: these sample questions are only used to demonstrate the form of questions that may appear in the exam. They may or may not relate to the actual questions in the exam in any way.

Sample question 1: design methodology of embedded systems

What are the major non-functional requirements you need to consider in embedded system design? For each requirement, use a specific example to explain.

Sample question 2: microprocessor design

What's the basic difference between RISC and CISC architecture? Which embedded system design scenarios does each of these two architectures should be applied to? Use some realistic examples to explain your choice.

Sample question 3: I/O programming

1. What's the two different methods of doing I/O programming? Explain the pros and cons of each method.
2. Write the pseudo-code of Busy-and-Wait I/O programming using Test-and-Set.

Sample question 4: Raspberry Pi programming

Write pseudo codes for displaying a straight line on the LED matrix of SenseHAT. You can decide the location of line by yourself. You only need to write codes for the major steps and function calls corresponding to the actual program.