

1. Under what conditions should an integrated circuit be used in an IoT device?

- When highest performance is required
- When lowest power is required
- When the function is already commonly available as an integrated circuit
- All of the above

2. Given a choice between implementing a function as an integrated circuit (in hardware) or as a program (in software), what factor needs to be considered the least?

- The cost of manufacturing the integrated circuit
- The required time to design the integrated circuit vs. the program
- The performance required of the final product
- The physical look of the final device.

3. Generally, in a computer-based system, main memory is much larger than cache.

- True
- False

4. What is the fastest type of storage in a computer-based device?

- Registers
- Cache
- Flash
- Main memory

5. Which statement is false?

- A programmer may write assembly code directly if performance is very important
- High level languages are generally easier to program in than assembly language.
- Machine language is universal, allowing programs written in machine language to be executed on any microprocessor
- Assemble code is easier to read than machine code

6. What does an assembler generate?

- Machine code from assembly code.
- Assembly code from a high-level language.
- Assembly code from machine code.
- Machine code from a high-level language.

7. Compiled code generally executes faster than interpreted code.

- True
- False

8. Which of the following is NOT a benefit of using an operating system?

- Many programs can execute on the same processor at the same time.
- The frequency of the microcontroller clock can be significantly increased.
- The operating system provides a convenient programming interface to the hardware.
- The operating system enables separation between multiple processes.