

ECEN302 : Embedded Systems

Assignment 2 Submission

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1. *Explain how a Cache works and how it improves the performance of a microprocessor.*
2. *What is the main purpose of a Memory Management Unit?*
3. *What does the acronym JTAG stand for? Explain the uses of a JTAG interface.*
4. *Explain at least 4 of the many things that need to be considered when developing an embedded system for a product.*
5. *Explain 4 things you can do with a JTAG unit while debugging code.*
6. *ADCs and other devices often communicate with the microprocessor via a serial interface. What do the acronyms I2C and SPI stand for? Explain the differences between these two interface methods.*
7. *The first time an optical shaft encoder was connected to a microprocessor the engineer used an external interrupt but with it configured as a level edge triggered interrupt. Explain why that was not a good idea.*
8. *What does the acronym PCIe stand for? Give an overview of how this interface works and how it uses the advantages of both parallel and serial communications.*
9. *Discuss the differences between “bare metal” and a Linux operating system and give an example of when each is more appropriate.*