

# **16.317: Microprocessor Systems Design I**

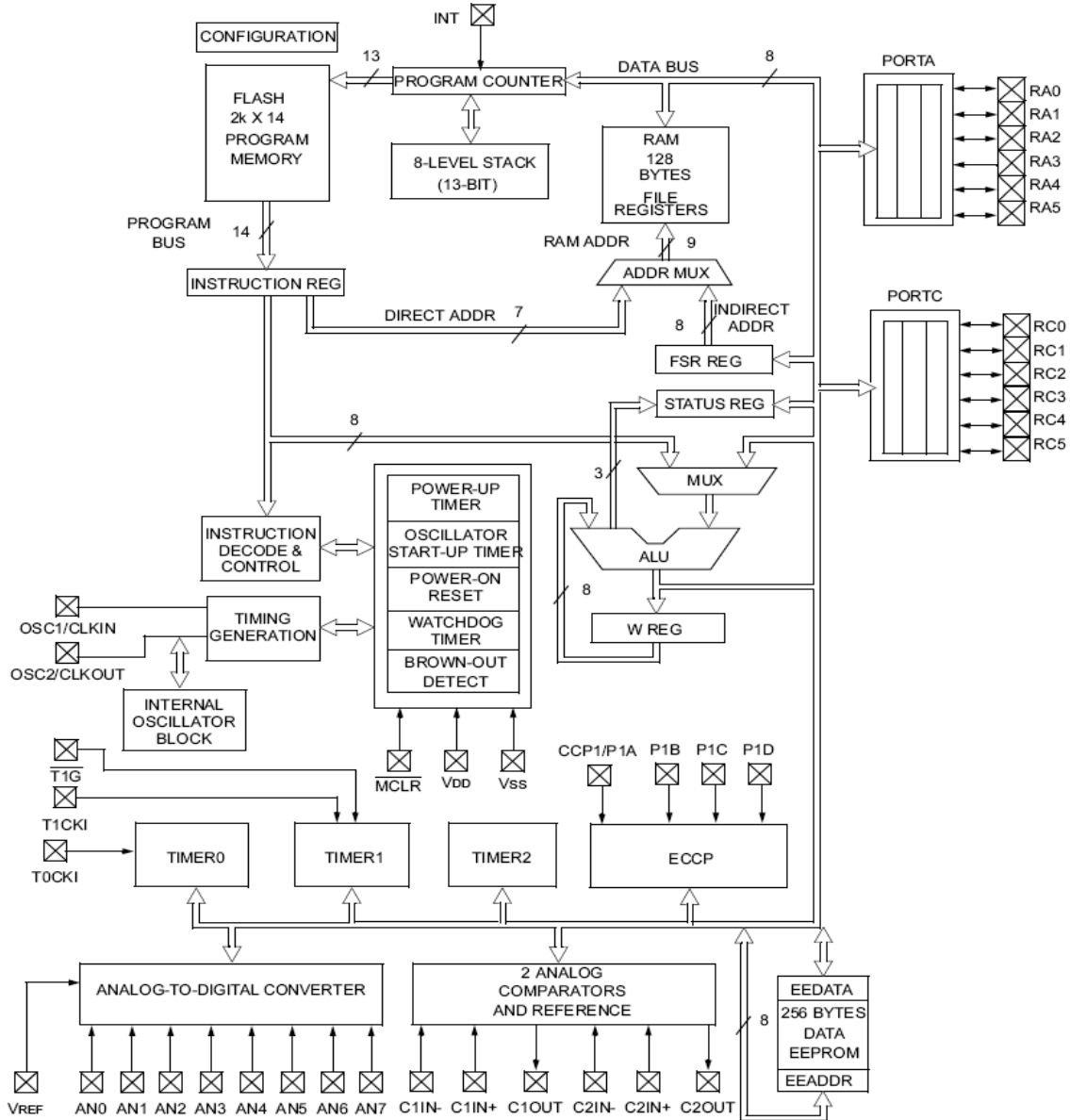
Spring 2012

## Lecture 29: Key Questions

April 11, 2012

1. Explain the major differences between a microprocessor and a microcontroller, including the typical features of a microcontroller.
2. Explain the major benefits and limitations of using a microcontroller.

3. Explain the general components of the PIC 16F684 block diagram shown below.



4. Briefly explain why the PIC 16F684 has so few pins and how they can be used to access all of the components shown above.
5. What is the difference between Harvard and von Neumann memory architectures?

6. Explain the basic organization of the PIC data memory.

7. Explain the purpose of the PCL and PCLATH registers.

8. Explain the basic organization of the PIC stack.