## **EECE.3170: Microprocessor Systems Design I**

Key Questions Logical instructions (Lecture 10)

## **QUESTIONS**

- 1. Explain the general operation of the AND, OR, XOR, and NOT instructions.
- 2. Explain the operation of shift instructions. What is the difference between SHR and SAR?

## **EXAMPLES**

1. Show the state of AL after each instruction in the following sequence:

MOV AL, 0x55 AND AL, 0x1F OR AL, 0xC0 XOR AL, 0x0F NOT AL 2. Given AL = 0x15, CL = 0x03, and CF = 0, show the state of AL and CF after each instruction in the sequence below:

SHL AL, 1

SHR AL, CL

SAL AL, 5

SAR AL, 2