EECE.3170: Microprocessor Systems Design I

Summer 2017

Lecture 10: Key Questions
June 8, 2017

1. Describe the PIC instructions used for multi-bit bitwise operations.

2. Describe the PIC shift and rotate instructions.

3. **Example:** Show the values of all changed registers after the following sequence. Assume the carry bit is initially 0.

```
cblock    0x40
    z
endc

clrf      z
movlw     0xF0
iorwf     z, F
xorlw     0xFF
rrf       z, F
andwf     z, W
lslf      z, F
asrf      z, F
```

4. Describe the PIC control flow instructions.

5. Describe the instructions used for conditional execution on the PIC 16F1829.

6. **Example:** Show the values of all changed registers after each of the following sequences.
    What high-level operation does each perform?

```
a.  movf      a, W
    sublw     0x1A
    btfsc     STATUS, Z
    goto      L1
    incf      b, W
    goto      L2
L1
    decf      b, W
L2
    movwf     a
```

```
b.  movf      NUM2, W
    subwf     NUM1, W
    btfss     STATUS, C
    goto      BL
    movf      NUM1, W
    goto      Done
BL
    movf      NUM2, W
Done
    movwf     MAX
```