

Quiz 1

رقم الشعبة: 2

رقم التسجيل:

الاسم:

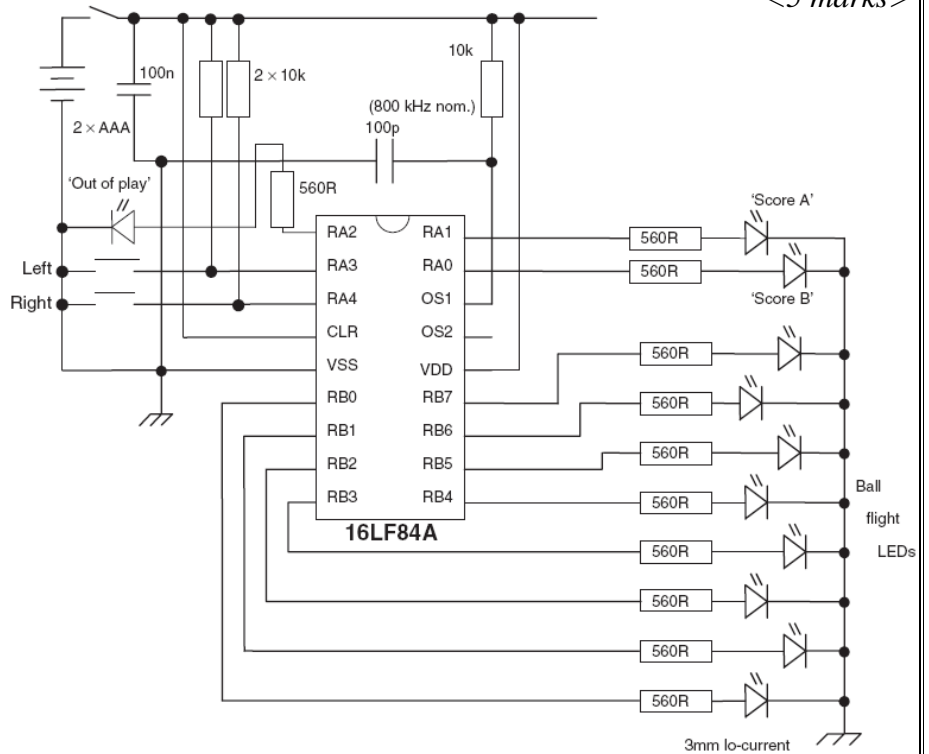
**Instructions:** Time 20 minutes. Open book and notes exam. No calculators. Please answer all problems in the space provided and limit your answer to the space provided. **No questions are allowed.**

**Q1.** Given the following circuit, you need to complete the program to the left. Your program should turn on the “Score A” LED when the “Left” push button is pressed and turn on the “Score B” LED when the “Left” push button is released. When one LED is on, the others should be off.

<5 marks>

```

status equ 03
porta equ 05
trisa equ 05
portb equ 06
trisb equ 06
;
bsf status,5
movlw B'00011000'
movwf trisa
movlw 00
movwf trisb
bcf status,5
    
```



*One solution is:*

Start

```

btfsc porta, 3 ;skip the next instruction if Left is pressed
goto Released ;
    
```

Pressed

```

bsf porta, 1 ;turn on Score A
bcf porta, 0 ;turn off Score B
goto Start
    
```

Released

```

bcf porta, 1 ;turn off Score A
bsf porta, 0 ;turn on Score B
goto Start
end
    
```

**Q2.** What do the microcontrollers of one family have in common?

*<1 mark>*

**Same core CPU.**

**Q3.** The PIC 12F508 microcontroller has a 2-entry stack. What is the main implication of this limitation?

*<1 mark>*

**Can call a maximum of two nested subroutines.**

**Q4.** Why it is complex to modify the EEPROM contents in the PIC16F84A microcontroller?

*<1 mark>*

**So that these contents are not modified by mistake or unintentionally.**

**Q5.** Out of the seven microcontrollers of the PIC 16 series studied in the class, which one do you select for interfacing large number of I/O devices?

*<1 mark>*

**16F874A or 16F877A.**

**Q6.** What is the main function of the program counter?

*<1 mark>*

**Holds the address of the instruction to be fetched.**

*<Good Luck>*