微算機原理及應用 (ET3403302)

Microcomputer Principles and Applications

#Quiz 2

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Score (得分): 96 Student ID (學號): B11102123 Name (姓名): 陳柏辰

Examination Time (考試時間): 40 minutes

Fill Questions (填充題): 4 points for a space (一個空格 4 分。共 100 分)

1. List the six interrupt sources of 8051.

   RESET, TF0, TF1, INT0, INT1, TI and RI.

2. Steps to program in mode 1. To generate a time delay, using the timer's mode 1, the following steps are taken. If XTAL = 12 MHz, what is the frequency of P1.1? 50kHz (ignore overhead)

	MOV	TMOD,#10H	;Set Timer 1, mode 1(16-bit)
AGAIN:	MOV	TL1,#0F6H	; initial count values, LOW byte
	MOV	TH1,#0FFH	; initial count values, HIGH byte
	SETB	TR1	;start Timer 1
BACK:	JNB	TF1,BACK	;stay until timer rolls over
	CLR	TR1	;stop Timer 1
	CPL	P1.1	;comp. P1.1 to get hi, lo
	CLR	TF1	;clear Timer 1 flag
	SJMP	AGAIN	;is not auto-reload

3. asynchronous serial data communication is widely used for character-oriented transmissions, while block-oriented data transfers use the synchronous method.

4. When Timer 1 is used to set the baud rate it must be programmed in mode 2, that is 8-bit, auto-reload.

5. Which communication mode does the serial port of 8051 belong to? Simplex, Half Duplex, or Full Duplex. Full Duplex

6. Please write the full name of the following abbreviations(請寫出下列縮寫的全名):

(a) bps: bits per seconds

(b) ISR: interrupt service routine

(c) RI: receive interrupt

(d) TI: transmitte interrupt

(e) UART: universal asynchronous receiver transmitter

7. The 8051 has two pins that are used specifically for transferring and receiving data serially. These two pins are called RxD and TxD are part of the port 3 group (P3.0 and P3.1).

8. The moment a byte is written into SBUF, it is framed with the start and stop bits and transferred serially via the TxD pin.

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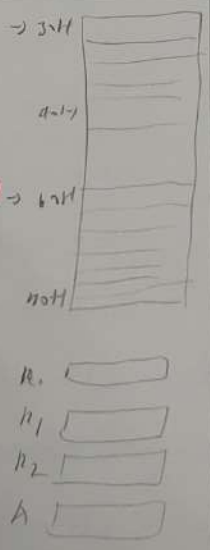
9. Finish Program 1, using "Indirect addressing" method to write a function to transfer memory data from RAM address 30H-40H to RAM address 60H-70H.

```
;Program 1
MOV     R0, #30H
MOV     R1, #60H
MOV     R2, #10 #11H
BACK:
MOV     A, @R0
MOV     @R1, A
INC R0
INC R1
DJNZ    R2, BACK
```



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```
;Program 2
        ORG     0000H
        LJMP    MAIN
        ORG     0013H
        SETB    P1.5
        MOV     R3,#255
BACK:   DJNZ    R3,BACK
        CLR     P1.5
        RETI
        ORG     0030H
MAIN:   MOV     IE,#10000100B   ;enable
external INT1
HERE:   SJMP    HERE
        END
```

10. In Program 2, 0000H is the interrupt vector of RESET. 0013H is the interrupt vector of INT1.