Cairo Higher Institute
Systems and Computer Engineering Dept.
Advanced Topics in Embedded System

Quiz (1)

Total Time : 35 Min **Final Mark: 25**

Part I : Answer the following questions by marking the best answer among the choices given (1.5 Mark each)

1. The accuracy of the External Oscillator of C8051F020 is …..

   a) 1%
   b) 20%
   c) Non of the Above *

2. The State of Timers could be Checked by ….

   a) Interrupts.
   b) Flags.
   c) Both (a) & (b). *

3. The Interrupt priority of Timer 1 interrupt is ….....

   a) 1.
   b) 2.
   c) 3. *

4. In C8051F020 Micro-controller CKCON SFR is the Clock Control responsible for ….....

   a) All Timers
   b) All except Timer 3 *
   c) All except Timer 0, 1.

5. In C Language, Relational Operations has the input type as …..... and the output type as ….....

   a) Boolean / Boolean.
   b) Data / Data.
   c) Data / Boolean. *

6. The Following part of code is used for …....

```
EA =0
```

   a) Disable Watchdog timer.
   b) Disable all timers.
   c) None of the above. *

7. The Watch Dog timer width is ….....

   a) 16 bit.
   b) 21 bit. *
   c) 24 bit .

8. For Forcing zeroes on a specific bit in a non-bit addressable register we use ….....

a) AND Operations *
b) OR Operations
c) XOR Operations.

9. In C8051F020 micro-controller C language the following instruction do ….....

```
while ( !(TMR3CN & 0x80) )
```

a) Check for Timer flag. *
b) Check for external Oscillator Validation.
c) Check for Internal Oscillator running on the specified clock.

10. For micro-controllers to work Accurately, clock source for C8051F020 based on …..... is Used

a) RC Oscillator.
b) Crystal Oscillator. *
c) CMOS Clock.

Part II: Mark the following statements as either True (T) or False (F). (1 Mark each)

11. Timer 3 can work either 8 or 16 bit counter. (F)
12. Extended Interrupt enable 2 (EIE2) SFR is not bit addressable. (F)
13. CMOS Oscillators are used as external oscillators if accurate clock is needed. (F)
14. The Smallest Variable could be declared in C8051F020 code is Int . (F)
15. Timer 3 is a count up timer. (T)

Part III: Compute the Output of the Following Operations in a C Language program for a C8051F020 device. (1 Mark each)

16.	`! (0DFH & 0A0H )`	(False)
17.	`~ (02AH / 002H)`	(0EAH)
18.	`(0A8H – 0F3H) >= 0`	(True)
19.	`002H<<3`	(010H)
20.	`3+5*4`	(23)

Part IV: Write C8051F020 C Language code to Do the Following Functions (2.5 Mark each)

21. Configuration of external crystal oscillator working at 6 MHz
    The same as Example in Lecture 5 Slide no. 10
22. initiate timer 0 in Auto-reload Mode.
    Discussed in the section before