

Assignment 4

Chapter 4

5. If an 8051 is rated as 25MHz, what is the maximum frequency that can be connected to it?

Answer: 25MHz

7. RST is an _____(input, output) pin.

Answer: input

9. What are the contents of the PC (program counter) upon RESET of the 8051?

Answer: 0000H

10. What are the contents of the SP (program counter) upon RESET of the 8051?

Answer: 0007H

12. Find the machine cycle for the following crystal frequencies connected to X1 and X2.

(a) 12 MHz (b) 20 MHz

Answer: (a) 1us (b) 0.48 us

15. PSEN is an _____(input, output) pin.

Answer: output

16. ALE is an _____(input, output) pin.

Answer: output

22. Upon the reset, all the bits of ports are configured as _____(input, output).

Answer: input and output

29. Write a program to toggle all the bits of P1 and P2 continuously

(a) using AAH and 55H (b) using the CPL instruction.

Answer:

```
MOV A, #55H
a) BACK: MOV P1, A
          MOV P2, A
          ALALL DELLAY
          MOV A, #0AAH
          MOV P1, A
          MOV P2, A
          ACALL DELAY
          SJMP BACK
```

```
MOV A, #55H
b) BACK: MOV P1, A
          MOV P2, A
          ALALL DELLAY
          CPL A
          SJMP BACK
```

37. Write a program to monitor bit P1.3. When it is high, send 55H to P2.

Answer:

```
SETB P1.3
HERE: JNB P1.3, HERE
      MOV P2, #55H
      SJMP HERE
```