Yashwantrao Chavan College of Science, Karad

Question Bank for

B.Sc. Electronics Part-II (2022-23)

Semester- IV

Paper –VIII : DSC-10D

8051 Microcontroller and Embedded System

As per Syllabus of

SHIVAJI UNIVERSITY, KOLHAPUR

UNDER CBCS

Prepared and Circulated

For B.Sc.-II Electronics Students

Q1. Multiple choice questions

1. ------------- is data transfer group instructions.
   a) MOV b) SETB   c) ADD d) DA A
2. ------------- is instructions used to BCD adjustment of accumulator.
   a) MOV b) SETB   c) ADD **d) DA A**
3. ------------- is instructions of the immediate addressing mode.
   a) MOV A,B b) SETB P1.2   **c) ADD A,#23H** d) ADD A, 23H
4. ------------- is stack related instruction of 8051.
   a) PUSH b) POP   c) RET **d) all of the above**
5. If A=49H, after execution of the SWAP A instructions A becomes -------------.
   a) 49H **b) 94H**   c) 95H d) 99H
6. The range of short jump is -------------.
   a) -100 to +100 **b) -128 to +127**   c) -200 to +200 d) 0 to 255
7. ------------- is a three byte instruction.
   a) SJMP b) JNZ   **c) LJMP** d) AJMP
8. ------------- is a three byte instruction.
   a) SJMP b) JNZ   c) AJMP **d) None of the above**
9. ------------- is used after end of the subroutine.
   a) PUSH b) POP   **c) RET** d) ACALL
10. Mode 1 of the timer in 8051 is -------------.
    a) 16-bit b) 8- bit   c) 13 bit d) 10 bit.
11. Mode 2 of the timer in 8051 is -------------.
    a) 16-bit **b) 8- bit**   c) 13 bit d) 10 bit.
12. -------- bit is user to start the timer 0.
    a) TR0 b) TF0   c) IE0 d) IT0
13. -------- bit indicates timer 1 is overflow.
    a) TR1 **b) TF1**   c) IE1 d) IT1
14. -------- SFR is used to select the modes of serial transmission.
    a) SBUF b) **SCON** c) TMOD d) TCON
15. -------- SFR is used to select the modes of timers.
    a) SBUF b) SCON c) **TMOD** d) TCON
16. Mode 1 of serial communication is ------------------.
    a) 8 bit standard UART b) shift register   c) 9-bit UART d) all of the above
17. In the RS232 standard '1' is represented by --------------------.
    a)   -3 V to + 3V **b) -3 V to -25 V** c) +3 V to +25 V d) all of the above
18. To select command resister --------- pin is used.
    a) RS b) E c) RW d) D7
19. For 1.8° step angle of the stepper motor requires -------- steps for complete revolution.
    a) 200 b) 300 c) 360 d)100
20. ----------------- is a super loop in 8051-C.

a.While(1)   b. for(;;)   c. for(i=0;i<10;i++)   **d. both a and b**

21. Bit addressable memory locations in 8051-C are----------.

    a. 20H-30H   **b.20H-2FH**   c. 20H-FFH   d. 80H-90H

22. 8051 can transmit/receive data serially using ----------------.
    a. Serial port b. port pin   c. P0   **d. both a & b**
23. ----------------- factor/factors affects the accuracy of time delay.
    a. Machine Cycle   b. Crystal value   c. compiler   d. all of the Above
24. The range of signed char data type is--------------.
    a. 0 to 255   b. 0 to 65535   **c. -128 to 127**   d. -32768 to 32767
25. The range of unsigned char data type is--------------.
    a. **0 to 255**   b. 0 to 65535   c. -128 to 127   d. -32768 to 32767
26. The range of signed int data type is--------------.
    a.0 to 255   b. 0 to 65535   c. -128 to 127   **d. -32768 to 32767**
27. The range of unsigned int data type is--------------.
    a.0 to 255   **b. 0 to 65535**   c. -128 to 127   d. -32768 to 32767
28. -------------- is single bit data type.
       a. SFR   **b. bit**   c. Code   d. char
29. ------------------ is/are 8-bit data type.
    a. SFR   b. char   c. unsigned char   **d. All of the above**
30. ------------- symbol is used for logical right shift operation in 8051-C.
    a.>>   b.<<   c.&   d.^
31. ------------- symbol is used for logical left shift in 8051-C.
    a. >>   **b.<<**   c.&   d.^
32. ------------- symbol is used for logical AND operation in 8051-C.
    a. >>   b.<<   **c.&**   d.^
33. ------------- symbol is used for logical OR operation in 8051-C.
    a.>>   **b.|**   c.&   d.^
34. ------------- symbol is used for logical XOR operation in 8051-C.
    a.>>   b.<<   c.&   **d.^**
35. ------------- symbol is used for logical NOT operation in 8051-C.
    a.>>   **b.~**   c.&   d.^
36. P1^2 means---------
    a. **Port 1 pin** 2 b. pin 1 xor pin 2   c. pin 1 and pin 2   c. Pin 1 right shift by 2
37. P0=P0>>4 means-------------.
    a. **Shift P0 4 Times right**   b. Shift P0 4 Times left   c. ANDing P0 with 4

    d. ORing P0 with 4

Q2. Long answer type questions

1. Explain any one type of the instruction group.
2. Explain data transfer group of instructions in 8051.
3. Explain arithmetic group of instructions in 8051.
4. Explain addressing modes of 8051
5. Explain logical group of instructions in 8051.
6. Explain registers involve in programming timers of facility 8051.
7. Explain registers involve in programming serial communication facility of 8051.
8. Explain TCON and TMOD registers of 8051.
9. Explain SBUF and SCON registers of 8051.
10. Explain LED interfacing with 8051.
11. Explain the architecture of the embedded system.

Q3. Short answer type questions

1. Write a short note immediate and register addressing mode instructions
2. Write a short note direct and indirect addressing mode instructions
3. Explain TCON register of 8051.
4. Explain TMOD registers of 8051.
5. Explain SCON register of 8051.
6. Write a short note on RS232 standards.
7. Write a short note on embedded system architecture.
8. Comparison between the assembly and C language programming.
9. Write a short note on serial data reception.
10. Explain any four data transfer group of instructions in 8051.
11. Explain any four arithmetic group of instructions in 8051.
12. Explain any two addressing modes of 8051
13. Explain logical group of instructions in 8051.