786

Register No.: [   ]

April 2018

<u>Time – Three hours</u>
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory.
Answer any FOUR questions from the remaining in each PART – A
and PART – B

(2) Answer division (a) or division (b) of each question in PART – C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and
10 marks in PART – C.]

PART – A

1. Explain the instruction MUL AB.

2. How the selection of a bank is done in 8051?

3. What is assembler directive? Give one example.

4. What is TFO?

5. What are the modes of timer 0 in 8051.

6. Mention the two ways to increase the baud rate of serial data transfer.

7. What is meant by ADC and DAC?

8. In 8051, if parallel ports are insufficient, how will you enhance it?

PART – B

9. Draw the PSW register format.

10. What are the unconditional jump instructions in 8051?

11. Write notes on assembly language, machine language and assembler.

12. Write the I/O ports with its internal RAM address of 8051.

13. Explain briefly about SETB 90H, CLR 91H and CPL 92H.

14. Explain RI flag.

15. Write a short note on DC motor control using PWM.

16. Write a program in 8051 to toggle bit P1.3 continuously (producing a square wave).

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PART – C

17. (a) Explain the internal memory organisation of 8051, both RAM and ROM.

    (Or)

    (b) Draw the architecture of 8051 and briefly explain.

18. (a) Explain the various addressing modes of 8051 with one example of each case.

    (Or)

    (b) Write an assembly language program to find the largest number in the array of 10 data.

19. (a) (i) Generate a square wave in port 1 for the output operation.
        (ii) Receive the input from port 1 and store it in the memory location 2040H of 8051.

    (Or)

    (b) Explain timer 1 mode 2 operation with a program.

20. (a) Explain 8051 serial data transmission with its program.

    (Or)

    (b) List the priority of 8051 interrupts with its vector location and also program timer 0 mode 1 for its interrupt operation.

21. (a) Explain the stepper motor interfacing with program in 8051.

    (Or)

    (b) Draw the block diagram of 8255 and give its control register format.

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