Time : 3 hours]   [*Total Marks* : 80

PART—A   3×10=30

Instructions :   (1)   Answer **all** questions.

           (2)   Each question carries **three** marks.

           (3)   Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. List the features of ADC0809 chip.

2. What is the significance of ADC chip in data acquisition system.

3. Define check sum byte of ROM.

4. List the features of serial EEPROM chip 24c02.

5. What is key-bouncing problem in a keyboard?

6. List any six command codes for programming the LCD.

7. List the pins of DS12887 RTC chip.

8. Write the interrupt feature of DS12887 chip.

9. What is the need of opto isolator in interfacing with 8051.

10. How does PWM controls the speed of small DC motor?

Instructions : (1) Answer *any* **five** questions.

(2) Each questions carries **ten** marks.

(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

11. Draw and explain the interfacing of DAC0800 to 8051.

12. Draw and explain memory address decoding mechanism using 74LS138 decoder.

13. Draw and explain the interfacing of external 16k x 8 program ROM to 8051.

14. Draw and explain the interfacing of LCD to 8051.

15. Write an assembly language program to identify which key is pressed of 4 x 4 matrix key board.

16. Draw and explain address map of the DS12887.

17. Write an assembly language program for setting time in DS12887 RTC chip.

18. Draw and explain the interfacing circuit for control of a small DC motor using darlington transistor.

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