

Time- 3 Hours

Total Marks-80



- N.B:** 1. Question No. 1 is Compulsory.
 2. Attempt any Three from the remaining questions.
 3. Assume suitable data wherever necessary.
 4. Figure to right indicate full marks.
- Q.1 a) States features of 8051 microcontroller. (05)
 b) Explain SBUF register of 8051 microcontroller. How data is loaded in to SBUF. (05)
 c) Explain the evaluation of microprocessor. (05)
 d) Write a program to clear 10 RAM locations starting at RAM address 1000H. (05)
- Q.2 a) Write a program to multiply two 8 bit numbers stored at locations 70H and 71H and store the result at memory locations 52H and 53H. Assume that the least significant byte of the result is stored in low address. (10)
 b) Explain different I/O ports of 8051 microcontroller. (10)
- Q.3 a) Explain addressing modes of 8051 microcontroller. (10)
 b) Write a program to continuously generate a square wave of 2 kHz frequency on pin P1.5 using timer 1. Assume the crystal oscillator frequency to be 12 MHz. (10)
- Q.4 a) Write a program for the 8051 to transfer letter 'A' serially at 4800- baud rate, 8 bit data, 1 stop bit continuously. (10)
 b) Explain TMOD and TCON timer registers of 8051 microcontroller. (10)
- Q.5 a) Draw architecture of advanced 80251 microcontroller and state its features (10)
 b) Interface LCD with 8051 microcontroller. Write a assembly program to display "HELLO" using MOV C instruction. (10)
- Q.6 a) Write a program to find the cube of an 8 bit number program. (10)
 b) Draw and explain Interrupt internal circuit diagram with its registers of 8051 Microcontroller. (10)