Seat No.

T.E. (Electronics & Telecommunication) (Semester - VI) (Revised) Examination, November - 2017
MICROPROCESSOR & MICROCONTROLLER
Sub. Code: 66918

Day and Date :Friday, 03 - 11 - 2017

Time :2.30 p.m. to 5.30 p.m.

Total Marks : 100

Instructions :
1) All questions are compulsory.
2) Figures to the right indicate full marks.
3) Assume suitable data if necessary.

Q1) Attempt any two of the following.   [2×8=16]

   a)   Draw and Explain Architecture of 8085.

   b)   Draw and Explain Machine Cycle of Instruction MVI A, 20H.

   c)   Draw and Explain Interrupt structure of 8085.

Q2) Attempt any two of the following: [2×8=16]

   a)   Draw and Explain Block Diagram of 8255.

   b)   Interface 8K×8 RAM to 8085 using 4K×8 RAM chip with starting address of memory 2000H, Explain Interfacing in detail with memory address.

   c)   Interface ADC 0809 to 8085 using 8255 and write a program to convert analog voltage to digital value which is connected to channel 5.

Q3) Attempt any two of the following: [2×9=18]

   a)   Draw and Explain Architecture Block diagram of 8051.

   b)   Explain different addressing modes of 8051 with one Example each.

   c)   Draw and Explain RAM and ROM Memory organization of 8051.

Q4) Attempt any two of the following: [2×8=16]

a) Write an ALP for 8051, to transmit data serially at baud rate 4800. Assume that the data is stored at RAM location 30H and crystal frequency = 11.0592MHz.

b) Draw and explain block diagram of Mode 2 of timer 0 in 8051. Explain TMOD SFR in detail.

c) Write the Interrupts available in 8051 along with their vector addresses. Explain IE and IP register in detail.

Q5) Attempt any two of the following: [2×9=18]

a) Interface 16K ×8 RAM to 8051 using memory chips of 8K×8 capacity. Explain the interfacing in detail and also give the start and end addresses of RAM memory.

b) Draw the interfacing diagram of ADC 0808 to 8051. Write in detail the use of every pin of ADC 0808, used for interfacing.

c) Interface LM35 sensor and LCD to 8051. Write the detail algorithm/ flowchart to display the temperature on LCD.

Q6) Attempt any two of the following: [2×8=16]

a) Write the various data types available in embedded C along with their size. Also write an embedded C program for 8051 to generate any delay.

b) Write an embedded C program to generate a square wave of 1 KHz on pin P1.0 of 8051. Assume crystal frequency = 12 MHz.

c) Write an embedded C program to send out the value 44H serially one bit at a time via P1.0. The MSB should go out first.

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