

(3 Hours)

[Total Marks : 100]

16/12/09

230 to 530

N.B. (1) Question No. 1 is compulsory.

(2) Attempt any **four** questions out of remaining **six** questions.(3) Assume **suitable** data wherever required with justification.(4) **Figures** to the **right** indicate full marks.

1. (a) Explain how to interface an (i) 8Kx8 EPROM using 2Kx8 chips (ii) 16Kx8 RAM using 2Kx8 chips with 8085 microprocessor. Draw memory map and interface diagram. 10
- (b) Explain how to interface an External 16KX8 Data RAM and Program RAM with 8051 microcontroller. Draw the interface circuit Diagram. 10
2. (a) Explain the Serial I/O lines of 8085. Discuss the use of these lines for implementation of asynchronous serial data communication. 10
- (b) Draw the timing diagram for following 8085 instructions. 10
 - i) SHLD 4040H ii) CALL 5214H
3. (a) Explain in detail timers/ counters with SFR's in 8051 microcontroller. 10
- (b) Explain the different addressing modes in ARM processor with suitable example. 10
4. (a) Explain the working of following instructions of 8051 & identify addressing modes of each instruction. 10
 - (i) XCHD A, @Ri
 - (ii) SWAP A
 - (iii) RR A
 - (iv) RETI
 - (v) XRL A, # data
- (b) Write the assembly language program and draw the flow chart to find smallest and largest element in a block of 20 elements for 8085 microprocessor. 10
5. (a) Explain the different operating modes of ARM processor with different SFR's in each mode. 10
- (b) Write the assembly language program for 8051 to sort the array of 20 elements in Ascending order. Draw flow chart for same. 10

6. (a) Draw the interface diagram for interfacing 8085 with 8259. Give the interface Diagram for I/O mapped I/O and memory mapped I/O. 10
- (b) Write the assembly language program for 8085 and draw the flow chart to Convert 2 digit numbers to their equivalent (a) BCD to HEX and (b) HEX to BCD. 10
7. (a) Interface with 8051 microcontroller Analog to Digital converter ADC 804. Draw the interface diagram and Read, Write pulses input waveforms. 10
- (b) Draw the interface diagram and memory map for 8255 and 8085. Explain the Interfacing signals and operating modes of 8255. 10
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