

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

(2) Attempt any four questions from remaining six questions.

(3) Assume data if necessary.

1. (a) (i) Interface 16 KB RAM memory chip to 8085 using Absolute decoding technique. 4
(ii) Modify the address decoding circuit in the above design to incorporate partial decoding and thus explain the difference between Absolute decoding technique and partial decoding technique. 4
- (b) (i) Draw and explain the formats of Interrupt Enable SFR and Interrupt Priority SFR of 8051. 4
(ii) Write a program to enable all the interrupts of 8051 and set the priority of all interrupts of 8051 to low level. 4
- (c) Explain any two addressing modes of ARM processor with suitable examples. 4
2. (a) Analyze the given subroutine and answer the following :—
MVIC, 05H
up MOV A, C
DCRC
JNZ up
RET
(i) Calculate the time delay produced by the given subroutine. Assume the crystal frequency of 8085 is 6MHz. 5
(ii) Calculate the maximum time delay that can be produced by the given subroutine. Assume the crystal frequency of 8085 to 6 MHz. 5
- (b) Draw and explain the Internal Memory Organization of 8051. 10
3. (a) Assume an oscillator running at 12 MHz controls 8051 micro controller. Write a program to generate 2 KHz square wave on P_{1.0} using Timer 0 in mode 1. 10
(b) Interface 8155 to 8085 in memory mapped I/O mode using Absolute decoding technique. 10
4. (a) Analyze the given program and answer the following :—
MVI A, 4 BH
SIM
EI
HLT
(i) What is the status (Masked/Unmasked) of 5 Hardware interrupts of 8085 after executing the program and why ? 5
(ii) What is the status of SOD pin after executing the program and why ? 5
- (b) (i) Draw and explain the internal structure of port 0 of 8051. 6
(ii) Explain the features of port 3 of 8051. 4

5.	(a)	Interface single 8259 to 8085 in I/O mapped I/O mode using Absolute addressing technique.	10
	(b)	(i) Compare the Power down mode and Idle mode of 8051.	6
		(ii) Explain any four, bit level instructions of 8051.	4
6.	(a)	(i) Write a program to continuously turn ON and OFF a LED Connected to PC ₅ of Port C of 8255 using ISR mode (8255 is connected to 8085).	6
		(ii) Specify the number of Machine cycles, T-states, addressing mode and number of bytes for the instruction POP PSW and INR M of 8085.	4
	(b)	Explain the key features of ARM Processor Architecture.	10
7.	(a)	Draw and explain Timing Diagram for the instruction LDAX B of 8085.	10
	(b)	Specify and explain any five instructions of ARM processor.	10
