

Con. 6460-10.

(REVISED COURSE)

(3 Hours)

GT-6684

[Total Marks : 100]

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 8253 with 8085 microprocessor in I/O mapped I/O. 10
mode. Draw memory map and interface diagram.
- (b) Explain Asynchronous data communication with SFRs in 8051 10
Microcontroller, also specify the use of Timer in serial communication.
2. (a) Draw the internal memory organization of 8051. Specify the use of bit 10
addressable memory with one example.
- (b) Explain the software and hardware interrupts of 8051 with neat diagram. 10
3. (a) Give the comparison of salient features of 8051 with it's derivatives like 10
89C51, 89C52 and 89C2052.
- (b) Explain the different Logical and Arithmetic instructions in ARM processor 10
with addressing mode.
4. (a) Define the terms Instruction Cycle, Machine Cycle and T state in 8085. 10
Specify the machine cycles for following instructions.
(i) LDA (ii) LXI (iii) INR M (iv) RRC (v) DAD H.
- (b) Explain the multiplexed address/data bus and different machine cycles 10
of 8085 with neat diagram.
5. (a) Write the assembly language program for 8085 to unpack the packed BCD 10
number stored at memory location E002H. Store result at B004H and B005H.
Also draw the flow chart for the same.
- (b) with neat labeled diagram explain interfacing of LCD with 8051. Use port0 for 10
Data bus and port1 for control bus.
6. (a) Write the assembly language program for 8051 and draw the flow chart to 10
Add two 4 digit BCD numbers. Store result in DPTR register after addition.
- (b) Draw and explain the register architecture of ARM processor in different 10
operating modes.
7. Write a short note on following: (Any four). 20
 - (a) Program status register and Barrel shifter of ARM Processor.
 - (b) External and Internal memory organization of 8051.
 - (c) Addressing modes of 8051.
 - (d) 8085 Serial Communication.
 - (f) Interfacing Hex Keyboard with 8051.
 - (g) Interfacing 8155 with 8085.