

## MICROPROCESSORS

3 pm to 6 pm

Con. 2793-09.

VR-5109

## (REVISED COURSE)

(3 Hours)

[Total Marks : 100]

- N.B. :** (1) Question No 1 is compulsory attempt any **four** out of remaining **six** questions.  
 (2) Assume **suitable data** wherever **required**.  
 (3) **Figures** to the **right** indicate **full marks**.

1. (a) Show the interfacing of 8255 with 8086 in minimum mode to meet the following specifications :— **5**
  - Two 16 bits interrupt driven output ports in I/O mapped I/O.
  - Two 16 bits interrupt driven input ports in Memory Mapped I/O.
- (b) Write a program to check the overflow flag of 8086 and if it is set, it should generate Type 4 interrupt. What you will do to start ISR of this interrupt from memory address 5000H:0000H! **5**
- (c) Explain significance of TRAP flag of 8086. Explain method to set and reset Trap flag. **5**
- (d) Compare synchronous and asynchronous serial data communication. **5**
2. (a) Explain the interrupt structure of 8086 microprocessor with the discussion on :— **10**
  - Steps taken by the 8086 when it responds to an interrupt
  - Interrupt vector table (IVT)
  - Interrupt types
  - Priority structure
- (b) List all data types supported by 8087. **10**
3. (a) Draw interface of 8086-8087 and explain its working. **10**
- (b) Explain different ways in which the parameters are passed on to the procedure Write assembly language program to explain one of the ways to pass parameter to the procedure. **10**
4. (a) Explain the different modes of operation for 8259. How these modes changed dynamically. **10**
- (b) List all string instructions of 8086 explain each of them with suitable example. **10**

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5. (a) Interface 8254 to 8086 and explain its mode3 & mode4. 10  
(b) Explain addressing modes of 8086 with examples. 10
6. (a) Explain EIA RS 232 standard of serial communication. 10  
(b) Explain the significance of following pins of the 8086 microprocessor. 10  
(i) LOCK (ii) RQ/GT (iii) TEST (iv) BHE (v) QS0 & QS1
7. Write a short notes on the following :— 20  
(a) Loosely coupled multiprocessor system.  
(b) Mix language programming and its objectives.