

7 E - Sem - 2 - Old - Electrical .

MPM C

8/12/15

Q.P. Code : **2001**

(3 Hours)

[Total Marks : 100

- N.B. :** (1) Question No.1 is compulsory.
(2) Answer any **Four** from the remaining **Six** questions.
(3) Assume suitable **data** if **required**.
(4) **Figures** to the **right** indicates **full marks**.

1. (a) Define T-State, machine cycle and instruction cycle. 5
(b) Explain the generalized bus structure of microprocessor based system. 5
(c) Explain the CALL instructions of 8051 microcontroller. 5
(d) Enlist the different components present in microcontroller 8051. 5
2. (a) Design the microprocessor 8086 based memory interface in maximum mode configuration. 10
(b) Draw and explain the control word and operating modes of 8255 PPI. 10
3. (a) Explain different addressing modes of 8086 microprocessor along with the examples. 10
(b) Explain different addressing modes of 8051 microcontroller. 10
4. (a) What do you mean by assembler directive and explain any seven assembler directives, use in 8086 programming. 10
(b) Write a program in assembly language for 8086 processor to sort all even and odd numbers (from the given array). 10
5. (a) Explain the multiplication and division instructions of 8051 microcontroller. 10
(b) Draw and explain in detail, the read / write bus cycle for microprocessor 8086. 10
6. (a) Explain the memory segmentation and physical address generation in 8086. 10
(b) Draw and explain different operating modes of 8254 Timer / Counter. 10
7. Write short notes on any two : 20
(a) Memory organization of 8051 microcontroller
(b) Universal synchronance / Asynchronance Receiver / Transmitter (8251)
(c) Seven segment LED display interfacing with 8051 microcontroller

QP-Con. 10301-15.