

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE — APRIL, 2018

MICROPROCESSORS AND MICROCONTROLLERS

[Time : 3 hours

(Maximum marks : 100)

PART — A

(Maximum marks : 10)

Marks

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. Write the function of QUEUE Register in BIU.
2. Name the ports in 8051.
3. List the interfacing ICs.
4. Differentiate program memory and data memory.
5. What is assembler ?

(5×2 = 10)

PART — B

(Maximum marks : 30)

II Answer any *five* of the following questions. Each question carries 6 marks.

1. Compare microcontroller and microprocessors.
2. Draw the pin diagram of 8086 IC.
3. Explain the features of 8051 IC.
4. Draw and explain PSW register.
5. Define interrupts and explain different types.
6. Explain the pin details of 8255 IC.
7. Explain Timer/Counter in 8051.

(5×6 = 30)

PART — C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each full question carries 15 marks.)

UNIT — I

III Draw and explain the internal architecture of 8086 microprocessor IC. 15

OR

IV (a) Draw the block diagram of 8051 IC and explain. 10

(b) Explain the addressing modes of 8086. 5

UNIT — II

V (a) Draw the pin out diagram of 8051 and explain. 10

(b) Explain the memory organization of 8051. 5

OR

VI (a) Explain the PORTs in 8051. 5

(b) Briefly explain the different instruction set of 8051. 10

UNIT — III

VII (a) Draw and explain TMOD register. 8

(b) Draw and explain SCON registers. 7

OR

VIII Explain different modes of operation in serial communication. 15

UNIT — IV

IX (a) Draw and explain internal diagram of PPI 8255 IC. 10

(b) Draw the schematic diagram to interface 8051 with ADC. 5

OR

X (a) Draw the schematic diagram to interface 8051 with matrix key board and explain. 10

(b) Draw the pin diagram of 8253 IC. 5