

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

**MICROPROCESSORS AND INTERFACING**

[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. Define instruction cycle.
2. List any four data transfer instructions.
3. List any two assemblers of x86.
4. Write the order of priority of interrupts in 8086.
5. What is hyperthreading ?

(5×2 = 10)

PART — B

(Maximum marks : 30)

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

1. Explain memory segmentation in 8086.
2. List features of 8086.
3. Explain shift and rotate instructions.
4. Write software interrupts of 8086.
5. What are the two types of control words in 8259.
6. What is the importance of virtual memory concept.
7. Explain super scalar processors with suitable diagram.

(5×6 = 30)

## PART — C

(Maximum marks : 60)

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

## UNIT — I

III Explain internal architecture of 8086 with block diagram. 15

OR

IV (a) Explain any four addressing modes of 8086 with suitable examples. 8

(b) Explain conditional flags in flag register of 8086. 7

## UNIT — II

V (a) What is Procedure ? What are the steps taken by processor during procedure call ? 8

(b) Write an assembly language program to calculate square of a number. 7

OR

VI (a) Explain any four string instructions with examples. 8

(b) What are the pre-requisites for using string instructions ? 7

## UNIT — III

VII (a) Explain functional blocks of 8255 with internal block diagram. 8

(b) Describe the modes of operation of 8255. 7

OR

VIII (a) Write interrupt response of 8086. 8

(b) Explain interrupt vector table. 7

## UNIT — IV

IX (a) Explain the concept of multicore processing. 8

(b) Write the major issues in multicore processing. 7

OR

X (a) Explain the stages of pipelining. 8

(b) What are pipeline hazards ? 7