

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2020**

MICROPROCESSORS AND INTERFACING

[Maximum Marks: 75]

[Time: 2.15 Hours]

PART-A

(Answer *any three* questions in one or two sentences. Each question carries 2 marks)

- I. 1. Write the advantage of pre-fetch queue in 8086.
2. Define Assembler. Give the name of two Assemblers.
3. Compare 'TEST' and 'AND' instruction.
4. List the different modes of operation of 8255.
5. Give the important feature of super scalar architecture. (3 x 2 = 6)

PART-B

(Answer any *four* of the following questions. Each question carries 6 marks)

- II 1. Draw and explain the flag register of 8086.
2. Describe memory segmentation in 8086.
3. Explain different Data Defining Assembler Directives.
4. Write down different steps in processing an interrupt.
5. Draw the functional block diagram of 8259.
6. List the features of Pentium processor.
7. Explain about Hyper threading. (4 x 6 = 24)

PART-C

(Answer *any of the three units* from the following. Each full question carries 15 marks)

UNIT – I

- III (a) Explain the internal architecture of 8086 with the help of a block diagram. (12)
(b) How physical memory address of 8086 can be calculated. (3)

OR

- IV (a) Explain addressing modes of 8086 with examples. (8)
(b) Draw and identify the pin configuration of 8086. (7)

UNIT – II

- V (a) (i) Compare procedures and macros. (ii) Describe about string instructions. (8)
(b) Write assembly language program to check whether the given number is odd or even. (7)

OR

- VI (a) Explain different arithmetic instructions of 8086. (8)
(b) Explain different Bit manipulation instructions of 8086. (7)

UNIT- III

- VII (a) Draw and explain the internal block diagram of 8255. (8)
(b) List and explain various dedicated interrupts in 8086. (7)

OR

- VIII (a) Explain the importance of interfacing Programmable Interrupt Controller with 8086 using a diagram. (8)
(b) Describe the different operating modes of 8279. (7)

UNIT - IV

- IX (a) Draw and Explain the Superscalar architecture in Pentium Processor. (8)
(b) Illustrate real and protected virtual addressing modes of 80386. (7)

OR

- X (a) What are the major issues in multi core processing? (8)
(b) Explain the following.
(i) Snooping protocol (ii) MMX Technology (7)
