

**DIPLOMA EXAMINATION IN ENGINEERING/ TECHNOLOGY/
MANAGEMENT/ COMMERCIAL PRACTICE, APRIL-2021**

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). Mention the address bus size and data bus size of 8086
(2). Write the opcode and operand of the instruction MOV AL,02h
(3). Write any two conditional jump instructions.
(4). Name the two interfaces provided by 8279.
(5). What is hyperthreading? (3 x 2 = 6)

PART – B

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

- II. (1). Explain conditional flags in flag register of 8086.
(2). Explain any four addressing modes of 8086.
(3). Explain any four data transfer instructions.
(4). Explain dedicated interrupts.
(5). Draw the internal block diagram of Programmable Interrupt Controller 8259.
(6). Explain superscalar architecture with suitable diagram.
(7). Explain the three types of pipeline hazards. (4 x 6= 24)

PART – C

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

UNIT –I

- III. Draw and explain the internal architecture of 8086 (15)

OR

- IV. (a). How 20-bit physical address is generated in 8086? (8)
(b). Explain the minimum mode pin configuration of 8086. (7)

UNIT-II

- V. (a). Explain any four arithmetic instructions in 8086 with examples (8)
(b). List various shift and rotate instructions. Explain the various rotate instructions in 8086. (7)

OR

- VI. (a). List the various string instructions in 8086. Explain any three. (8)
(b). Explain how procedures are defined and invoked in 8086 programs (7)

UNIT-III

- VII. (a). Describe hardware and software interrupts (8)
(b). Explain the steps in processing an interrupt request. (7)

OR

- VIII. (a). Draw the internal diagram of 8255 & briefly explain each block (8)
(b). List and explain the operating modes of 8255. (7)

UNIT-IV

- IX. (a). Describe real mode and protected virtual addressing mode of 80386 (8)
(b). List the features of Pentium Processor. Draw the five stage Pentium pipeline (7)

OR

- X. (a). Explain the concept of multicore processing (8)
(b). Describe MMX technology (7)
