



CBGS SCHEME

15EC42

Fourth Semester B.E. Degree Examination, June/July 2019
Microprocessor

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

- Module-1**
- 1 a. Explain the internal architecture of 8086 with its neat block diagram. (08 Marks)
 - b. Explain any four addressing modes of 8086 microprocessor with an example each. (08 Marks)

- OR**
- 2 a. Write a program to exchange of two block of data from 5000H to 6000H memory locations. (08 Marks)
 - b. Explain any three conditional branch instructions with example. (03 Marks)
 - c. Explain the flag register of 8086. (05 Marks)

- Module-2**
- 3 a. Explain any four Assembler directives with one example each. (08 Marks)
 - b. Write an ALP to reverse the string "MY INDIA" and store in memory location STR2. (08 Marks)

- OR**
- 4 a. Explain the following instructions with example each.
(i) RCL (ii) SAR (iii) TEST (iv) LOOPZ.
 - b. What are the machine control instructions? Explain any 3 instructions. (08 Marks)
 - c. What is the difference between IRET and RET? (02 Marks)

- Module-3**
- 5 a. What is stack? Explain the stack operation for PUSH and POP instruction of 8086 with neat diagram. (08 Marks)
 - b. Define a macro. Write a program using macro to display a message. (04 Marks)
 - c. Write a delay program to generate a delay of 0.1 sec, using an 8086 system operating at 10 MHz. (04 Marks)

- OR**
- 6 a. Define Interrupts. Explain TYPE0 and TYPE2 Interrupts. (06 Marks)
 - b. Explain hardware interrupts of 8086 microprocessor. Explain maskable and NMI interrupts. (06 Marks)
 - c. Bring out the differences between MACRO and procedure. (04 Marks)

- Module-4**
- 7 a. Sketch the maximum mode configuration of 8086 and explain the operation briefly. (08 Marks)
 - b. Interface a 4x4 keyboard to 8086 and write the program logic flow. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written e.g., 42+8 = 50, will be treated as malpractice.

15EC42

- OR**
- 8 a. Interface a multiplexed 7-segment display to 8086 and explain. (08 Marks)
 - b. With a neat diagram, explain 8255 PPI device and also explain control register of 8255. (08 Marks)

- Module-5**
- 9 a. With a neat diagram explain the interfacing of 1.8° step stepper motor and also write clockwise rotation program for 100 steps assuming 'DELAY' procedure is available. (08 Marks)
 - b. Write interfacing diagram of DAC AD7523 with an 8086 CPU. Write an ALP to generate Sawtooth waveform. (08 Marks)

- OR**
- 10 a. With a neat diagram explain the 8087 coprocessor. (08 Marks)
 - b. Explain with a neat diagram of 8254 internal architecture. (08 Marks)

CMRIT LIBRARY
BANGALORE - 560 037

