

D-180584**B. Tech. EXAMINATION, 2018**

Semester IV (CBS)

MICROPROCESSORS & PERIPHERALS

(ECE, CSE, IT)

EC-402

Time : 3 Hours

Maximum Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt Five questions in all, selecting one question from each Sections A, B, C and D. Section E is compulsory.

Section A

1. What is a machine cycle ? Explain machine cycles and timing diagrams of 8085 by showing suitable waveforms. 12
2. Draw and explain the pin configuration of 8085. 12

Section B

3. Write a program to blink an LED at a frequency of 1 Hz. 12
4. What is a Memory ? What are its types ? In a small phone what type of memories are used ? 12

Section C

5. Differentiate between synchronous and asynchronous types of serial communication. 12
6. Write short notes on the following :
 - (i) Need of pipelining and Caches
 - (ii) Memory mapped I/O with I/O mapped I/O
 - (iii) Stack pointer and program counter. 12

Section D

7. What is segmentation ? What are its advantages ? How is segmentation implemented in typical microprocessors ? 12
8. Draw a neat Architecture of 8086 and explain each block suitably. 12

Section E

9. (a) What is subroutine ? 1×12
- (b) Define an instruction cycle.
- (c) What is implicit addressing ?
- (d) Find out the contents of register AL after the following has been executed ?
- MOV BL, 8C
- MOV AL, 7E
- ADD AL, BL
- (e) What are bit manipulation instruction ?
- (f) Write format of PUSH and POP instructions.
- (g) Define Operand and Opcode.
- (h) What is conditional JUMP ?
- (i) If we exchange the contents of register HL with DE, does any flag will be affected ?
- (j) CPU is the brain of computer. Justify.
- (k) What is meant by hand shaking signals ?
- (l) Why integrated circuits are a need today ?