

BACHELOR OF ENGG. (E. T. C. E) SUPPLEMENTARY EXAM., 2017
(3rd Year, 1st Semester Supplementary Examination, 2017)

MICROPROCESSORS & MICROCONTROLLERS

Time: Three Hours

Full Marks: 100

Answer **Q. No.1** and any **Four** from the rest.
(All Parts of a question must be answered at one place only)

1. Fill-in the Blanks

[2 Marks X 10]

- (a) _____ is the process of designing more than a thousand gates on a single chip.
- (b) Microprocessor (MPU) is manufactured by _____ technique, and it includes _____, _____ and _____.
- (c) _____ is computer that is designed using MPU as its CPU.
- (d) _____ is a combination of letters to suggest the operation of an instruction.
- (e) Most Opcode Fetch operation consists of _____ T-states.
- (f) In 8085 MPU, the data bus and lower order address bus are _____.
- (g) _____ instruction is an example of machine control operation.
- (h) The addressing mode used in the instruction "SUI 99H" is _____.
- (i) _____ instruction is an example of direct addressing.
- (j) The instruction _____ does not convert a binary number to a BCD number.

2. (a) Explain the difference between a microprocessor and a microcomputer.
- (b) Explain the difference between the machine language and assembly language of the 8085 MPU.
- (c) Explain the difference between the compiler and Interpreter.
- (d) What is an assembler?

[5+5+5+5]

3. Explain in detail the various classification of the signals available at the logic pin out of the 8085 MPU.

[20]

4. The following block of data is stored in the memory locations from XX55H to XX5AH. Transfer the data to the locations XX80H to XX85H in the reverse order. Data (H): 22, A5, B2, 99, 7F, 37. Explain the various steps in the

algorithm, draw the Flow Chart and write an 8085 Assembly Language Program (ALP). [5+5+10]

5. (a) Explain the following 8085 MPU addressing modes with examples:
(i) Register (ii) indirect
(b) What is Stack? Explain all the Stack related instructions with examples. [5+5+10]
6. (a) Explain the difference between the Peripheral mapped and Memory mapped I/O techniques.
(b) Differentiate Absolute and Partial Decoding.
(c) List the elements of 8255 Programmable Peripheral Interface (PPI) and explain its various operating modes. [5+5+10]
7. (a) Explain any one industrial application of 8085 MPU with a clear algorithm, a neat flow chart and the 8085 ALP. [20]
8. Write short notes on: [2 X 10]
(a) 8085 MPU Interrupts
(b) 8051 Microcontroller (MCU) features.