

4E 4160**4E 4160****B.Tech. IV Semester (Main/Back) Examination, May-2018****Computer Sc. & Engg.****4CSI A Microprocessors & Interfaces****CS, IT****Time : 3 Hours****Maximum Marks : 80****Min Passing Marks : 26****Instructions to Candidates :**

*Attempt any **five** questions, selecting **one** question from **each** unit. All Questions carry **equal** marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.*

Unit - I

1. a) Explain 8085 Bus structure in detail. (8)
b) Explain the basic four operations commonly performed by the Microprocessing Unit. (8)

OR

1. a) Differentiate between static and dynamic RAM. (8)
b) i) How many bits are stored by a 256×4 memory chip? Can this chip be specified as 128- byte memory? (6)
ii) What is the function of the accumulator? (2)

Unit - II

2. a) What are addressing modes? Explain each type in detail. (8)
b) Write a set of instructions to perform an addition and a subtraction (in 2's complement). (8)

OR

2. a) Explain the followings: (4×2=8)
i) MOV
ii) NOP
iii) IN and OUT
iv) HLT

2. b) What is 'Modular design approach'? Discuss different steps to design and run assembly language program. (8)

Unit - III

3. a) Define the stack, stack pointer (register) and program counter. Also describe their uses. (10)
- b) What are counters? Explain with a suitable example. (6)

OR

3. a) What are subroutines? Explain its parameter passing. (8)
- b) Explain RST instructions and their uses in detail. (8)

Unit - IV

4. a) Design a block diagram of 8255 I/O parts. Also explain their modes in detail. (10)
- b) What is control register? (6)

OR

4. a) Discuss 8254 control word formats in detail. (8)
- b) List the major components of the 8279 keyboard/display interface and explain their functions in brief. (8)

Unit - V

5. a) Design a driver circuit block diagram for connecting MPV with Liquid crystal display. (10)
- b) Discuss different Microprocessor applications in detail. (6)

OR

5. Write short note on: (any two) (2×8=16)
- a) RS 232C
- b) Parallel interface
- c) Matrix key board