

2002 SCHEME

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EC45

Fourth Semester B.E. Degree Examination, December 2010 Microprocessors

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1**
- With a neat block diagram, explain the function of 8085 processor. (10 Marks)
 - What are the different addressing modes of 8085? Explain each with examples. (06 Marks)
 - What are the functions of the following pins?
i) ALE ii) RESET. (04 Marks)
- 2**
- Explain the functions of the following instructions:
i) LHL 16 bit address ii) CALL 16 bit address iii) MOV A, M
iv) DAA v) XCHG (10 Marks)
 - Draw the timing diagram for the instruction MVI A, #05H (10 Marks)
- 3**
- Write an ALP to add 'N' 8-bit numbers available from memory location 'NUMBER' and store the 16-bit result in 2-consecutive memory location 'X' and 'X+1'. (10 Marks)
 - What is stack? Explain the operation of stack, with example and the instructions related to the stack. (10 Marks)
- 4**
- Write an assembly language program to convert a binary number into BCD number. Store the unpacked BCD number in three consecutive memory locations. (10 Marks)
 - Write a subroutine to generate a time delay of 10 minutes with a clock frequency of 3.07 MHz. (06 Marks)
 - What are the flags? Explain the different flags in 8085. (04 Marks)
- 5**
- What is an interrupt? Explain the different types of interrupts available in 8085 processor. (10 Marks)
 - What is DMA? Explain the different DMA operations. (10 Marks)
- 6**
- Differentiate between the I/O mapped I/O and memory mapped I/O, with a diagram. (08 Marks)
 - Interface the following memory to 8085:
ROM: 4 K × 8 bit – 2 Nos.
RAM: 2 K × 8 bit – 4 Nos.
Show all the control signals and memory mapping. (12 Marks)
- 7**
- Explain the operation of 8255, with its block diagram. Explain its different modes. (10 Marks)
 - Interface an A/D converter to 8085 and write a program to convert the analog input to digital. (10 Marks)
- 8**
- Write short notes on:
- Keyboard hexa interface
 - Serial communication using 8251
 - RIM and SIM instructions
 - Timer modes of operation. (20 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 eg, 42+8 = 50, will be treated as malpractice.

