

2002 SCHEME

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CS45

Fourth Semester B.E. Degree Examination, June/July 2011 Introduction to Microprocessors

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. With a neat figure, explain the architecture of 8085 microprocessor. (10 Marks)
b. Explain the ways of writing into cache. (06 Marks)
c. Give any three differences between I/O mapped I/O and the memory mapped I/O. (04 Marks)
- 2 a. Briefly explain the following with respect to 8086 processor:
i) Execution unit ii) Bus interface unit. (10 Marks)
b. Explain the function of the following signals in 8086:
i) \overline{DEN} ii) \overline{INTA} iii) \overline{TEST} iv) \overline{RD} v) \overline{LOCK} (10 Marks)
- 3 a. Explain the following address modes by giving their physical address formation:
i) Direct address ii) Based indexed iii) Relative based indexed. (06 Marks)
b. What are the single bit indicators used in opcode field? Explain. (08 Marks)
c. Give set up instructions to multiply a number (i) by 10 (ii) by 20, without using MUL instructions. (06 Marks)
- 4 a. Explain the following with suitable examples :
i) DW ii) ENDP iii) SHORT (09 Marks)
b. Write a program to compute the average of any number of bytes in an array in memory. The number of bytes to be added in the 1st byte of the array. (08 Marks)
c. Explain the AAM instruction, with an example. (03 Marks)
- 5 a. Write a program to count the number of vowels in a given string. (10 Marks)
b. With an example, explain how the MACROS can be defined and called by passing parameters to MACROS. (05 Marks)
c. Write a program to generate a delay of 100 ms using 8086 system that runs at 5 MHz. (05 Marks)
- 6 a. Design an 8086 based system with the following specifications:
i) 8086 in minimum mode ii) 1M byte of RAM iii) Starting address of RAM is 00000H (10 Marks)
b. Explain the interfacing of stepper motor to 8086 processor? (10 Marks)
- 7 a. With a figure, explain the internal architecture of 8255. (10 Marks)
b. Explain the control word format of 8255 in I/O mode. Also, give the control word format for the following configuration :
i) PA – O/P port ii) PB – I/P port iii) Mode 0 (10 Marks)
- 8 Write short notes on:
a. Control of high power devices with 8255 (06 Marks)
b. Minimum mode operation of 8036 (07 Marks)
c. Instruction format. (07 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.

