nepal college of information technology

Assessment

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| Level: Bachelor | Semester – Spring | Year : 2013 | |
| Programme: BE\_ELX\_CE | | Full Marks : 100 | |
| Pass Mark : 45 | |
| Course: Microprocessors | | Time : 3 hrs | |
| *Candidates are required to give their answers in their own words as far as practicable.* | | |
| *The figures in the margin indicate full marks.* | | |
| Attempt all the questions. | | |

1. (a) What is microprocessor? What are the main differences between microprocessor and microcontroller? (5)

(b) Define flags and addressing modes What are the different addressing modes used in 8085 microprocessor? Explain with suitable figures and examples. (5)

© Explain the functions of following pins of 8085 microprocessor: (5)

IO , TRAP, READY ,HOLD , SID

2. (a) Write an ALP in 8085 to count the number of positive, negative and zero in a given series of data. The length of series is given at address C000H and the series starts from 2050H.Store your result at 5000H onwards. (7)

(b) Draw the labeled timing diagram for the instruction MVI A,33H.. Also find out the time required to execute this instruction for the microprocessor with system clock of 2 MHz. (8)

3. (a) Explain how three 2048 \* 8 RAM are interfaced with 8085 microprocessor and also find the address range for each RAM chips. (7)

(b) Why is the purpose of I/O interface?Differentiate between Memory Mapped I/O and I/O Mapped I/O. (4)

(c) Explain the main purpose of the following functional chips with respect to 8086 as a master chip: (4)

(i) 8284A (ii)8282 (iii) 8286 (iv)8288

4. (a) Draw the functional block diagram of 8086 Microprocessor and explain how segmentation and pipelining concepts are implemented in this microprocessor. (8)

(b) Differentiate between serial and parallel data communication. Explain how asynchronous serial data communication occurs. (7)

5. (a) Two computers are to be connected with each other via modems. Using RS-232 standards, explain the connections. How can they be connected directly without any modems using RS-232 standards? (7)

(b) Define and explain Assembler Directives with examples. Differentiate between one pass and two pass assembler. 8)

6. (a) Write an 8086 ALP for MASM to display the string “POKHARA UNIVERSITY” without using 09h on screen. Explain all steps and assume necessary data. (7)

(b) Write an assembly language in 8086 which transfers 10 byte of data stored in ‘array 1’ to the new location ‘array 2’. (8)

7. Write short notes (any two) ( 5×2)

(a) Physical address computation in 8086

(b) Evolution of microprocessor

(c) Intel 80386 microprocessor