nepal college of information technology

Assessment

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| Level: Bachelor | Semester – Spring | Year : 2013 | |
| Programme: BE\_IT | | Full Marks : 100 | |
| Pass Mark : 45 | |
| Course: : Microprocessor and ALP | | 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) Compare Microprocessor, Microcomputer and Microcontroller. Which is better for high speed operation? Give reason. (7)

b) Draw block diagram 8086 Microprocessor and explain its Bus Interface Unit. (8)

2. a) Explain the addressing modes of 8086 microprocessor. (7)

b) Draw the timing diagram for the 8085 instruction STA 2014H. (8)

3. a) Write an 8085 ALP that checks an array of ten memory location starting from C000H for even numbers and transfers the even numbers in memory location starting from C00EH. (7)

b) What is the role of assemblers in ALP? Explain one-pass and two-pass assemblers in brief. What is macro assembler? (8)

4. a) You have given two strings “Microprocessor Programming” and “Assembly Language”. Write an ALP to print “Microprocessor Assembly language Programming” using the above given strings. (8)

OR

Write an ALP to input a string from keyboard and print it in reverse order.

b) Write an assembly language program to find the sum of two 8-bit numbers and display the sum in screen. (7)

5. a) How interrupt processing occurs in a microprocessor? Explain vector chain and polled interrupt. (8)

b) What do you mean by address decoding? Design an address decoding circuit to interface 4K×8 RAM, 8K×8 ROM and 16K×8 RAM with starting address 0000h. (7)

OR

Explain bus structure of a Microprocessor. What do you mean by Synchronous and Asynchronous Bus?

6. a) Draw block diagram of 8259A PIC and explain in brief. (7)

b) Explain 8259A modes of operation. How can we accommodate 18 interrupt sources with 8259A PIC? (8)

7. Write short notes.(any two) 2×5=10

a) 8085 Flag Registers

b) Assembler Directives

c) Vectored and Non-Vectored Interrupts