

July 2010

Bachelor of Computer Application (BCA) Examination
VI Semester

Micro Processor and Assembly Language Programming

Time : 3 Hours]

[Max. Marks : 50

Note : Attempt all Five questions. Write answer of any two parts from each question.

1. (a) List the four categories of 8085 instructions that manipulate data.
(b) Define address bus, the data bus and the control bus. Explain their functions with respect to 8085 microprocessor.
(c) Explain memory map and explain how memory address are assigned to a memory chip.
2. (a) Specify the contents of registers and the flag status as each of the following instructions are executed :
MVI A, 00H
MVI B, C9H
MOV C, A
MOV D, B
HLT
(b) Write a program to add the two hexadecimal numbers 5BH and 3CH and to display the answer at an output port.
(c) Draw and explain 8085 programming model.
3. (a) Explain the need and method to demultiplex the AD₇ – AD₀ bus.
(b) (i) Define the three terms-instruction cycle, machine cycle, and T-state.
(ii) If the clock frequency is 5 MHz, how much time is required to execute an instruction of 18 T-states?
(c) Explain the difference between the peripheral mapped and memory-mapped I/O techniques.
4. (a) Draw and explain the block diagram of 8279 keyboard controller.
(b) Explain the functions of handshake signals.
(c) List the operating modes of the 8255A programmable peripheral interface.
5. (a) List the additional devices that are present in the 8051 microcontroller in comparison to microprocessor hardware. Why is a microcontroller also called a microcomputer?
(b) Describe the advantages of microcontrollers for some applications.
(c) Draw and explain 8051 architecture.

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