



Computer Systems Engineering Department

Computer Design Lab
ENCS411

Experiment #2
Pre-Lab

Student's name: Ibrahim Abu Farha

Student's number: 1110024

Instructor: Dr. Ahmad Afaneh

Teaching assistant: Eng. Yazan Abu Farha

Section: 3

1-What are the modes of operation the 82C55 ports A, B, and C?

All ports are working in simple output mode (mode 0).

2- What happens if all the PPI ports receive a byte of 0xFF from CPU?

If all the PPI ports receive a byte 0xFF then all LEDs on the matrix will be OFF. That happens because ports A and B controls the cathode and port B controls the anode so there will be no voltage difference between cathode and anode. in order to make a LED on the matrix ON then the bit in port C must be '1' and the bit in ports A or B must be '0'.

3- What happens if Port-A receives a byte of 0x00 while Port-C receives a byte of 0xFF?

If Port-A receives a byte of 0x00 while Port-C receives a byte of 0xFF, all red LEDs on the matrix will be ON.

4- Referring to the schematics, how can you disable the 82C55 PPI by a simple hardware change?

We can disable the PPI by connecting its chip select pin (CS) to the +5V source.

5- Referring to schematics, if address to port-A is 0x18, then what would that be for ports B, C and the control register of the 82C55?

Port A	0x18
Port B	0x1A
Port C	0x1C
Control register	0x1E