



COLLEGE OF ENGINEERING & TECHNOLOGY

Department: Computer Engineering

Lecturers: Dr. Mohammed El-Habrouk

Course: Computer Organization

Course No. CC312

Date: 10/11 October 2005

Please follow the home work guidelines on the site <http://www.aast-compeng.info>

SHEET #1

Class work problems of chapter 2:

2.3 Construct a 5-to-32-line decoder with four 3-to-8-line decoder with enable and one 2-to-4-line decoder. Use block diagrams.

2.12 The content of 4-bit register is initially 1101. The register is shifted six times to the right with the serial input being 101101. What is the content of the register after each shift?

2.19 The following memory units are specified by the number of words times the number of bits per word. How many address lines and input-output data lines are needed in each case?

- (a) 2Kx16 (b) 64K x 8

2.20 Specify the number of bytes that can be stored in the memories listed in Prob. 2-19.

2.21 How many 128x8 memory chips are needed to provide a memory capacity of 4096x16 and how large will be the address decoder?

Home work problems of chapter 2:

2.7 Construct a 16-to-1-line multiplexer with two 8-to-1-line multiplexers and one 2-to-1-line multiplexer. Use block diagrams for the three multiplexers.

2.12 The content of 4-bit register is initially 0100. The register is shifted eight times to the right with the serial input being 10101101. What is the content of the register after each shift?

2.19 The following memory units are specified by the number of words times the number of bits per word. How many address lines and input-output data lines are needed in each case?

- (c) 16Mx32 (d) 4Gx64

2.20 Specify the number of bytes that can be stored in the memories listed in Prob. 2-19.

2.21 How many 64x8 memory chips are needed to provide a memory capacity of 4096x32 and how large will be the address decoder?