

Approved by:

20



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**E4160
Microprocessor & Microcontroller System**

Assignment 3

1. (a) State the differences between Static RAM (SRAM) and Dynamic RAM (DRAM). Give your answer in form of table.
(b) Explain the following sentence.
“Nowadays DRAM is more popular compared to SRAM”
(c) Explain the disadvantages of DRAM compared to SRAM
2. Defines the following terms:
 - i. MROM
 - ii. PROM
 - iii. EPROM
 - iv. EEPROM
3. Draw the memory map for a microprocessor 68000. The specifications of the system are like below:
 - Size of EPROM is 2 MB and starting address at \$000000
 - Size of RAM is 4MB and ending address at \$7FFFFFFF
 - Size of I/O is 256 KB and starting address at \$800000
4. The memory size of a system is 32 MB. Assume the system has TWO (2) 8 MB RAM residing consecutively at the top of the memory.
 - i. Calculate the starting and ending address of each block of memory.
 - ii. Draw a complete memory map of the system

5. Given the specification of a RAM is 8K x 4.
 - i. Find the number of address line.
 - ii. The total capacity that can store in the RAM.

6. Refer to a memory map of 8 bits microprocessor as show in figure 1. Determine the sizes of RAM, ROM and I/O

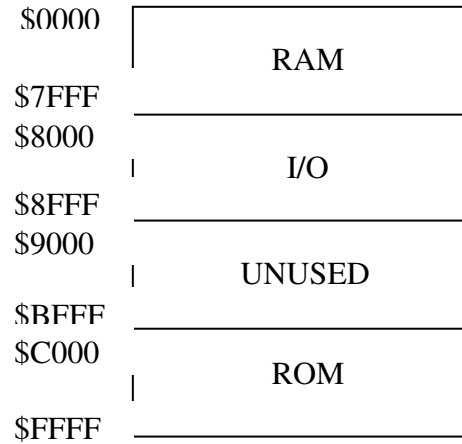


Figure 1: Memory map

7. Calculate the numbers of EPROM-27128 chip that required for a computer system 64K x 8 bit. If the size of EPROM-27128 is 16K x 8 bit. Draw the connection of the address decoder for this system.

Instruction:

1. Answer all questions.