

EE 306 Microprocessors- Memories

This practice quiz covers the material under the Course Content **11. Memories** – lecture notes ***Mp_w10_memories.pdf***, up to the title Direct Memory Access.

Multiple Choice Questions (MCQs)

1. How many memory locations can be addressed with a 32-bit address?
 - a) 64K
 - b) 4M
 - c) 4G
 - d) 16E

2. Which type of memory requires periodic refresh to maintain data?
 - a) ROM
 - b) SRAM
 - c) DRAM
 - d) Flash Memory

3. In a memory cell, the time that elapses between the initiation and completion of a word transfer is called:
 - a) Cycle Time
 - b) Bandwidth
 - c) Access Time
 - d) Latency

4. In SDRAM, the contents of an entire row are loaded into:
 - a) Cache
 - b) Data register

c) Sense/Write latches

d) ROM

5. In Double Data Rate SDRAM (DDR SDRAM), data is transferred:

- a) Only at the rising edge of the clock
- b) Only at the falling edge of the clock
- c) Both rising and falling edges of the clock
- d) Independently of the clock

6. Which memory type uses ultraviolet (UV) light for erasure?

- a) PROM
- b) EPROM
- c) EEPROM
- d) Flash

7. Which one is non-volatile?

- a) DRAM
 - b) SRAM
 - c) MRAM
 - d) SDRAM
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Matching Questions

Match the term with its correct description:

Term Description

A. ROM 1. Memory that can be electrically reprogrammed and erased

- B. EEPROM 2. Static memory requiring no refresh
- C. SRAM 3. Contents are programmed once and cannot be changed
- D. DRAM 4. Dynamic memory that needs periodic refresh
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Fill in the Blanks

1. A memory unit with a 16-bit address can access up to _____ memory locations.
 2. In a Static RAM read operation, the Sense/Write circuit monitors _____ and sets the output accordingly.
 3. The signal used to load the row address into a DRAM is called _____.
 4. Memory _____ is the minimum time delay between two successive operations.
 5. In SDRAM, the use of _____ allows new access operations to start while data transfer is still ongoing.
 6. The main bottleneck in a computer system is often the _____ time of memory, not the processor speed.
 7. _____ RAM stores data using the charge of a capacitor and needs periodic refresh.
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Answer Key – Memories Assignment

Multiple Choice Questions (MCQs)

1. c) 4G
2. c) DRAM
3. c) Access Time
4. c) Sense/Write latches
5. c) Both rising and falling edges of the clock
6. b) EPROM
7. c) MRAM

Matching Questions

Term Correct Match

- | | |
|-----------|--|
| A. ROM | 3. Contents are programmed once and cannot be changed |
| B. EEPROM | 1. Memory that can be electrically reprogrammed and erased |
| C. SRAM | 2. Static memory requiring no refresh |
| D. DRAM | 4. Dynamic memory that needs periodic refresh |
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Fill in the Blanks

1. 64K
2. bit lines
3. Row Address Strobe (RAS)
4. Cycle time
5. registers
6. access
7. Dynamic