

	<b>Alexandria Higher Institute of Engineering &amp; Technology (AIET)</b>	
	<b>CE 001</b>	<b>Introduction to computer systems</b>
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		<b>1<sup>st</sup> Semester, 2014-2015</b>
		<b>Sheet (3)</b>

**Q1: Find the true statement below then rewrite the remaining false statement so they are true:**

1. A computer chip is a small piece of semi conducting material, usually silicon, on which integrated circuits are etched. **true**
2. Four basic operations in a machine cycle (1) ~~comparing~~(**fetching**), (2) decoding, (3) executing, and if necessary (4) ~~pipelining~~(**storing**).
3. Processors contain a ~~motherboard~~(**control unit**) and an arithmetic logical unit (ALU).
4. The ~~central processing unit~~(**motherboard**), sometimes called the system board, is the main circuit board of the system unit.
5. The leading processor chip manufacturers for personal computers are ~~Microsoft~~(**intel**), IBM, AMD, and MOTOROLA
6. A computer's memory access time directly affects how fast the computer process data.**true**
7. A gigabyte (gb) equals approximately 1 ~~trillion~~(**billion**) bytes.
8. Most computers are ~~analog~~(**digital**), which means they recognize only two discrete states: on and off.
9. Most RAM ~~retains~~(**loses**) its contents when the power is removed from the computer.
10. Read only memory (ROM) refers to memory chips storing ~~temporary~~ (**permanent**)data and instructions
11. The system unit is a case that contains ~~mechanical~~(**electronic**)components of the computer used to process data.
12. Memory cache helps speed the process of the computer because it stores ~~seldom~~ (**frequently**) used instructions.
13. A ~~bus~~(**port**) is the point at which a peripheral attaches to communicates with the system unit so that the peripheral can send data or receive information from the computer.
14. An ~~AC adaptor~~(**expansion slot**)is a socket on the motherboard that can hold an adaptor card.
15. Built into the power supply is a ~~heater~~(**fan**) that keeps components of the system unit ~~warm~~(**cool**).
16. The higher the bus clock speed the ~~slower~~ (**faster**)the transmission of data.
17. The Main memory is ~~non~~-volatile.
18. Pipelining is the method of speeding up processing.**true**

**Q2: answer the following questions:**

1. What is the motherboard?
  - *Main circuit board in system unit*
  - *sometimes called system board*
  - *processor chips and memory chips are installed on the mother board*
  - *to which all computer system components connect*
2. What is a computer chip? *A computer chip is a small piece of semi conducting material, usually silicon, on which integrated circuits are etched.*
3. What are the four basic operations in the machine cycle? *Fetching, decoding, executing, and if necessary storing.*
4. What are some functions of register?
  - *Registers are parts of the processor*
  - *Storing the location from where instruction was fetched*
  - *Storing an instruction while control unit decodes it*
  - *Storing data while the arithmetic logic unit computes it*

- *Storing the results of the calculations*

5. What is the difference between RAM and ROM? *RAM can be read from and written to by processor, volatile, The more RAM a computer has, the faster it responds. also called main memory.*

*ROM: Memory chips that store permanent data and instructions, The data on most ROM chips cannot be modified, also called firmware*

6. What are the types of memory? *RAM, ROM, cache, registers, CMOS, flash memory*

7. State the difference between static RAM (SRAM), Dynamic RAM (DRAM) and magnetoresistive RAM (MRAM).

*DRAM: must be reenergized constantly or they lose their contents, storing data using electrical charge.*

*SRAM: no need to be energized, more expensive than DRAM, store data using electrical charge.*

*MRAM: retain data after power is removed from the computer, store data using magnetic charges*

### Q3: Choose the correct answer:

1- The processor also is called the -----

- a. motherboard      b. adaptor card      c. chip      **d. central processing unit (CPU)**

2- The processor contains small, high speed storage locations, called -----, that temporarily hold data and instructions

- a. flash drive      **b. registers**      c. jacks      d. heat sinks

3- ROM chips, called -----, contain permanently written data, instructions or information

- a. memory cache      b. registers      **c. firmware**      d. transistors

4- A ----- ports is an interface that connects devices by more than one bit at a time.

- a. serial      **b. parallel**      c. USB      d. mouse

5- Which of the following is another name for primary storage?

- a. ROM      b. ALU      c. CPU      **d. RAM**      e. CDR

6. Which of the following is not included in a computer's mother board?

- a. expansion slots      b. RAM chips      c. ROM chip      **d. keyboard**      e. microprocessor

7. Which of the following coding is widely used on microcomputer?

- a. ABCDIC      b. Unicode      **c. ASCII**      d. Unix      e. microcode

8. Which of the following is used to measure the processing speed in microcomputer?

- a. **MHz**      b. milliHz      c. FLOPS      d. pico second

### Practical question:

Search the web to make a comparison of currently available pc and notebook computer processors. Determine the following

1. The name of each processor
2. The name of manufacturer,
3. The availability of multicore.

Make a summarized and brief report with pictures and upload it to your Wordpress blog web site.