Response DW N° 02 (The Motherboard)

Exercice 01 :

   1) a-b ;
   2) a ;
   3) c-d-g-h;
   4) b ;
   5) b ;
   6) b ;
   7) c

8. In general, you need to:
- Turn off the computer.
- Move or remove a jumper on the motherboard.
- Power on for about ten seconds.
- Power off again.
- Return the jumper to its initial position.

Exercise 02:

Processor
- Range - Speed in GHz - L1 and L2 Cache Memory - Instruction Set

Hard Disk
- Capacity in GB - Transmission Rate - Rotation Speed - SATA or PATA –Technology HDD or SSD

Motherboard
- Speed - Compatibility with different types of processors (Intel, AMD...) - Number of USB ports - Number of PCI Express Buses - IDE and SATA Connectors

Exercise 03:

Match each word from the following list with one of the provided definitions:

1. A small quantity of ultra-fast memory to make frequently requested information immediately accessible to the processor. Answer: **k- Cache Memory**
2. Small memory contained within the microprocessor intended to temporarily store a certain amount of information such as intermediate results of a calculation or the address of the next instruction to be executed. Answer: **f- Register**
3. Type of electronic switch used to control the flow of electric current. Answer: **g- Transistor**
4. Main printed circuit board in a computer. **Answer: j- Motherboard**
5. Vibrating quartz crystal at a determined frequency, producing periodic signals used to synchronize tasks of a microprocessor. Answer: **a- Clock**
6. Type of volatile, readable, and rewritable memory, where each cell is directly accessible. **Answer: d-RAM**
7. Set of circuits etched on a silicon plate. Answer: **c- Integrated Circuit**
8. Deals with interfacing the microprocessor with fast devices (memory and graphics card) requiring high bandwidth. Answer: **b- Chipset**
9. Set of lines carrying signals that allow the microprocessor to communicate with its memories and

peripherals. Answer: **i- Bus**

10. Electronic circuit located on the motherboard responsible for coordinating data exchanges between the various components of the motherboard. Answer: **b- Chipset**
11. Main processing unit of a computer, usually contained in a single integrated circuit. **Answer: h-Microprocessor**
12. Program necessary for managing the hardware and software resources of a computer. **Answer: e-Operating System**

Question: What is the purpose of BIOS? Answer: **The BIOS is a program necessary for managing the hardware and software resources of a computer.**

Exercise 04:
  1. **CMOS and HDMI: What do the following acronyms stand for and what are they used for?**

CMOS: Complementary Metal-Oxide-Semiconductor. It is a semiconductor manufacturing technology used to produce electronic components, particularly in integrated circuits.

HDMI: High-Definition Multimedia Interface. It is a digital interface for transmitting high-quality audio and video signals between different electronic devices.
  2. **What is RTC? Explain the mechanism.**
RTC: Real-Time Clock. It is an internal clock on the computer's motherboard that tracks and displays the current time in real-time, even when the computer is turned off.
The RTC operates using a CMOS battery that continuously powers the clock.

  3. **What is the chipset on the motherboard and what is its purpose?**
The chipset on the motherboard is a set of electronic circuits that coordinate data exchanges between various components of the motherboard, such as the processor, memory, peripherals, etc. It comprises two parts: the North Bridge, which manages communication between the processor, memory, and graphics card, and the South Bridge, which handles input/output devices.
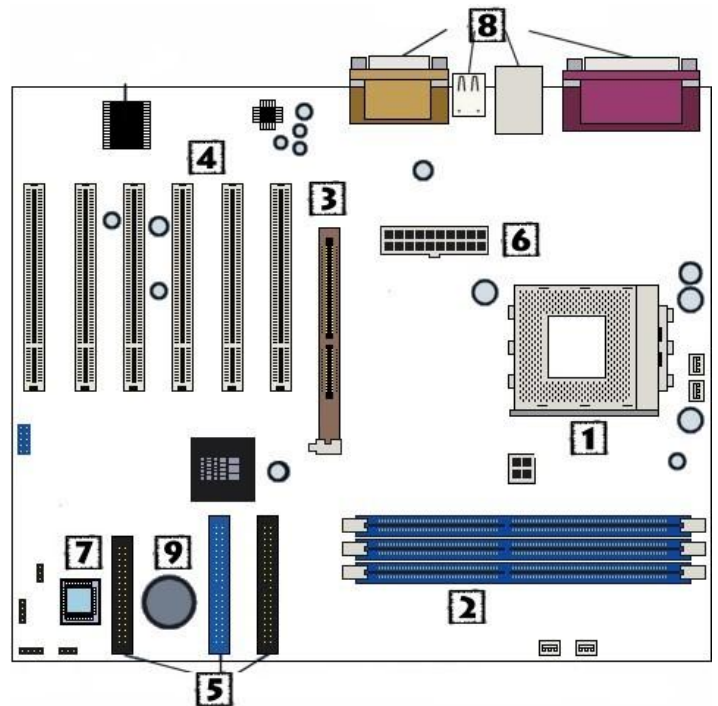 4. **Provide some motherboard form factors.**
  ➢ ATX (Advanced Technology Extended)
  ➢ Micro ATX
  ➢ Mini ITX Extended
  ➢ ATX (E-ATX) ITX
  ➢ Flex BTX (Balanced Technology Extended)
  ➢ Mini DTX

Exercice 05 :

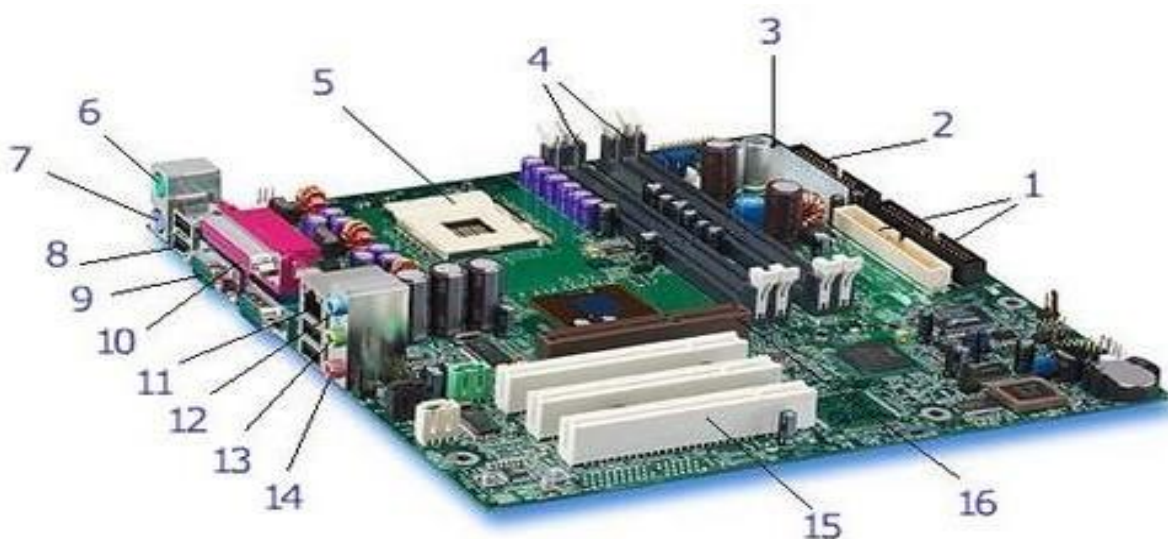**Carte mère**

Number	**Description**

1 Processor Socket

2 RAM Slot/Socket

3 AGP Slot for Graphics Card

4 PCI Slots for Interface Cards

5 IDE Connectors for Hard Drive, Floppy Drive,

CD/DVD Drive ,

6 Power Connector

7 ROM (BIOS)

8 Input/Output Device Ports

9 Battery

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Exercise 06 :

A- Pouvez-vous identifier les composants de cette carte mère ?

Processeur **5** -- RAM **4** -- IDE **1** -- LAN **11** -- Micro **14** -- Floppy **2** -- Clavier **7** -- Port USB **8** -- Port série **9** -- Souris PS2 **6** -- Alimentation **3** -- Port parallèle **10** -- Line In (Audio) **12** -- Line Out (Audio) **13** -- Carte graphique AGP **16** -- Cartes d'extension PCI **15**

B- **17.** PS/2 mouse port **18.** Parallel port **19.** RJ-45 port **20.** Line In jack **21.** Line Out jack **22.** Microphone jack **23.** USB 2.0 ports 3 and 4 **24.** USB 2.0 ports 1 and 2 **25.** Video port **26.** Serial port **27.** Keyboard port