

1. What are the three main components of a CPU?

Answer:

The three main components of a CPU are:

Arithmetic/Logic Unit

Control Unit

Register Unit (containing registers)

2. How does the CPU perform operations on data stored in main memory?

To perform operations on data stored in main memory, the control unit transfers the data from memory into the general-purpose registers within the CPU. Then, it activates the appropriate circuitry in the arithmetic/logic unit and informs the arithmetic/logic unit about which registers hold the data and which register should receive the result.

3. What are the two major philosophies of CPU architecture mentioned, and what distinguishes them?

The two major philosophies of CPU architecture are Reduced Instruction Set Computer (RISC) and Complex Instruction Set Computer (CISC). RISC focuses on executing a minimal set of machine instructions to achieve efficiency and speed, while CISC supports a larger number of complex instructions to handle the growing complexities of modern software.

4. How are the machine instructions categorized, and what is the primary purpose of the data transfer group of instructions?

Machine instructions are categorized into three groups: data transfer, arithmetic/logic, and control. The primary purpose of the data transfer group of instructions is to request the

VU APEX CAMPUS	vuapex.com.pk	vuapex.pk
Contact Us:	0322-8877744	

movement or copying of data from one location to another, including transferring data between the CPU and main memory. This group includes LOAD and STORE instructions for moving data between registers and memory.

APEX CAMPUS

VU APEX CAMPUS	vuapex.com.pk	vuapex.pk
Contact Us:	0322-8877744	