



4. Controls the flow of components ~~bits~~ inside the CPU between the registers, ALU and memory. Sends and receives control signals outside the CPU.  
 . Decodes instructions  
 . Controls the execution of instructions (FDE)

4 Describe the purpose of the control unit.

The control unit (CU) decides if the task needs to be executed through the arithmetic Logic Unit (ALU) or the CU. It decides if it is a ~~subrouted~~ task or logical.

[2]

5 A washing machine is an example of a device that has an embedded operating system. Describe what an embedded operating system is.

The embedded operating system is the physical knobs, buttons and/or touchscreen/touchpanels which when pressed know what type of wash/dry cycle the person has chosen and decides how it will operate the machinery based on the input. This question is not meant for this test! for the future!

[3]

6 State the difference between the Memory Address Register (MAR) and the Memory Data Register (MDR).

The MAR holds the address of the line in the RAM, which is brought in by the PC, and through the address bus, but the MDR holds the data of the address which comes from the data bus. MAR holds the address in memory of the instruction or data to be ~~too vague~~

[2]

7 A CPU contains many different special purpose registers. State the names of two registers and describe their function. (Not the MAR or MDR)

ACC (Accumulator): Holds the numerical value which comes from the result of calculations of the ALU (arithmetic Logic Unit)

PC (Program Counter): Holds the address of the next line of information of the RAM.

[4]

8 State the purpose of the CPU.

To fetch, decode and execute instructions from the user and/or programs. It allows all operations to occur in the computer as it is the Central Processing Unit

[2]

Students engage with feedback and correct answer in green

Marks are awarded and coded feedback

Verbal feedback on topic misconceptions, or exam technique issues, are provided during lessons.