

6 A computer with a Von Neumann architecture has a central processing unit (CPU).

(a) Complete the statements about the operation of the CPU.

Use the terms from the list. **Not** all terms will need to be used. You should only use each term once.

- accumulator arithmetic logic unit character set
- control unit current instruction register cipher decoding set
- instruction counter instruction set memory address register
- memory data register memory instruction register next instruction register
- program counter program register

The stores the address of the next instruction to be fetched. This address is then sent to the
This address is the location in RAM where the instruction can be found. The instruction is retrieved from RAM and immediately stored in the
The instruction is then sent to the where it is decoded by the The instruction is decoded using an

[6]

(b) Handling interrupts is one function of an operating system.

(i) An interrupt is sent to the CPU every time a key is pressed on the keyboard.

Give the name of this type of interrupt.

..... [1]

(ii) Give the name of the program that services the interrupt.

..... [1]

(iii) Give **one** other function of an operating system.

..... [1]