



1.1.1 Processor Components

1 The CPU is made up of various components.

(a) The processor has various registers that are used when a program is executed.

(i) State what is meant by the term 'register'.

[2 marks]

(b) There are three different buses inside a computer.

(i) State what is meant by the term 'bus'.

[2 marks]

(ii) Name the three buses and describe what each is used for.

[6 marks]

(iii) Name two signals that might be sent on the control bus and what each is used for.

[4 marks]

2 Describe the purpose of each of the following components of a CPU.

(a) ALU

[2 marks]

(b) Control Unit

[3 marks]





- 3 Figure 1 shows some of the components inside a computer that are connected together. Some of the names have been omitted and replaced with numbers.

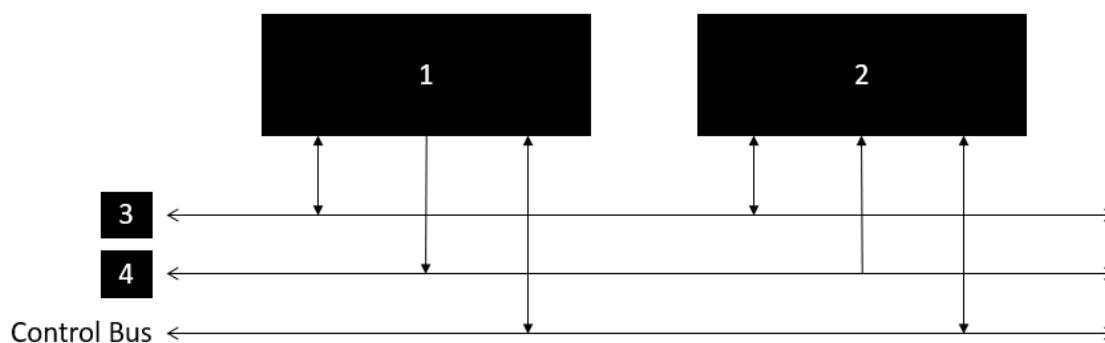


Figure 1

- (a) Complete the table by writing the component number from Figure 1 that corresponds with the component name in the table.

Component Name	Component Number (1-4)
Address Bus	
Data Bus	
Processor	
Main Memory	

[2 marks]





4 A processor needs to fetch data from main memory which is located in memory location 46.

(a) Explain how the following are used in the process:

- (i) Memory Address Register
- (ii) Address Bus
- (iii) Data Bus
- (iv) Memory Data Register

[4 marks]

5 The Von Neumann architecture uses a Control Unit and an Arithmetic Logic Unit.

(a) State the register in which the Arithmetic Logic Unit stores its results.

[1 mark]

(b) Tick the stage of the fetch, decode, execute cycle in which the register in part (a) would receive a value from the Arithmetic Logic Unit.

Stage	Tick one
Fetch	
Decode	
Execute	

[2 marks]

