



4.1.1 FDE Cycle

- 1 The processor contains registers including the accumulator and the program counter. The contents of these registers are modified during the Fetch-Decode-Execute cycle.

(a) Describe how the accumulator is used during the Fetch-Decode-Execute cycle.

[2 marks]

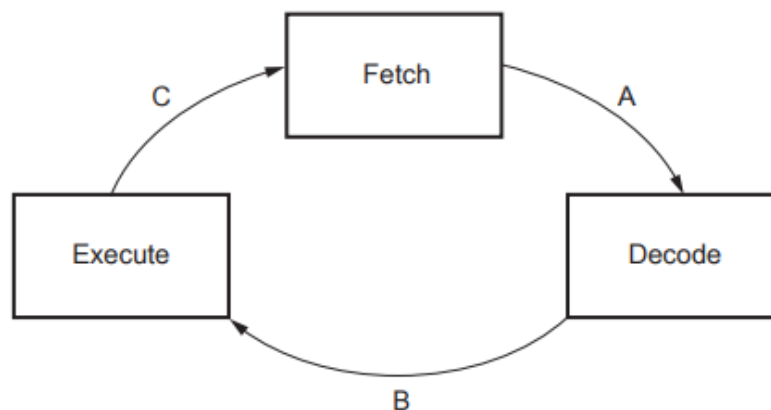
(b) Describe how the program counter is used during the Fetch-Decode-Execute cycle.

[2 marks]

(c) State the name of **three** other registers that are used during the Fetch-Decode-Execute cycle.

[3 marks]

- 2 A CPU will repeatedly run the Fetch-Decode-Execute-cycle shown below.



(a) Describe what happens during the 'Fetch' stage shown above.

You should refer to the use of specific registers in your answer.

[4 marks]





- (b) A CPU may need to stop running the Fetch-Decode-Execute-cycle in order to handle an interrupt.

Tick **one** box to indicate where an interrupt would be handled.

Fetch	
Decode	
Execute	

[1 mark]

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- 3 State how each of the following components is used in the fetch phase of the fetch-decode-execute cycle:

- (a) Program counter:
- (b) Memory address register
- (c) Memory data register
- (d) Current instruction register
- (e) Data bus
- (f) Address bus:

[6 marks]

