Name: Class: Mark:

1. Two computers are being sold in a shop for the same price. The specification of the CPU in each computer is listed below:

|  |  |
| --- | --- |
| **Computer 1** | **Computer 2** |
| Clock Speed: 2.3 GHz | Clock Speed: 3.4 GHz |
| Cache Memory: 2 MB L2 | Cache Memory: 2 MB L2 |
| Number of Cores: 4 | Number of Cores: 2 |

(a) A customer will mainly be buying the computer for video editing.

The sales assistant advises that Computer 1 will be likely to run faster for this.

Using information in the table, identify one reason for this. [1]

(b) Describe how the use of cache in a computer system can affect the   
performance of the CPU. [4]

(c) A computer system has 16 GB of RAM and 8 MB of cache which is faster than RAM.

Explain why the computer system does not have 16 GB of cache. [2]

(d) A dual-core computer system has two cores.

Explain **two** components that each core will contain. [4]

2. The CPU features a number of different buses that make up the **system bus**.

(a) Describe the term ‘**bus**’.[1]

(b) State the role of each bus in a CPU. [3]

|  |  |
| --- | --- |
| **Component** | **Purpose** |
| Address bus |  |
| Control bus |  |
| Data bus |  |

[Total 15 marks]