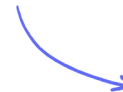


# 1.2 Types of Processor

CISC vs RISC / Graphics Processing Unit (GPU) / Multicore & Parallel Processors

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Total Marks

/17

- 1 A team of programmers create a robot that will be used in a factory. The robot will be able to do the work of multiple humans.

The programmers discuss whether to write the instructions for the robot in assembly language or a high-level language.

The robot uses a **multi-core processor**.

The programmers **assume** that this means that the robot will execute programs more quickly than using a single core processor.

**Explain why** this assumption is not always true

.....  
.....  
(2 marks)

- 2 The robot uses a multi-core processor. The programmers assume that this means that the robot will execute programs more quickly than using a single core processor.

**Give one reason** why this assumption can sometimes be true.

.....  
(1 mark)

- 3 OCR Insurance uses a computer system to calculate the price that customers pay for car insurance.

The computer system contains a CPU, GPU, RAM and ROM

**Describe one non-graphical use** OCR Insurance may have for a GPU.

.....  
.....  
(2 marks)

- 4** A charity uses a desktop computer to record financial donations that it receives. The computer contains a single core, 2.4GHz processor with 2MB cache.

The charity has several desktop computers in their office that use a CISC processor. They are considering buying mobile devices for their staff to use when they are not in the office.

**Discuss** whether these mobile devices should use the same CISC processors that are used in their desktop computers or if they should use a RISC processor instead.

You should include the following in your answer:

- the **difference** between each processor type
- the **suitability** of each processor type for mobile devices

[illegible]

**(12 marks)**