A Level · OCR · Computer Science

17 mins 4 questions

Exam Questions

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

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.....

(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.

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(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

(12 marks)