

OCR Computer Science A Level

1.1.2 Types of Processor

Concise Notes



Specification:

1.1.2 a)

- RISC Processors
- CISC Processors
- The difference between RISC and CISC

1.1.2 b)

- GPUs and their uses

1.1.2 c)

- Multicore Systems
- Parallel Systems



RISC and CISC processors

Reduced Instruction Set Computers (RISC)

- Small instruction set
- Each instruction is one line of machine code
- Used in common computers
- Pipelining is possible since each instruction takes one clock cycle

Complex Instruction Set Computers (CISC)

- Large instruction set
- Instructions are built into the hardware
- Used in microcontrollers and embedded systems
- The compiler has less work to do
- Less RAM is required to store the code
- Many specialised instructions are made, even though only a few of them are used

Graphics Processing Unit (GPU)

A-Level only

- A co-processor made up of lots of independent processors
- Efficient at tasks such as image processing and machine learning

Multi-core and Parallel Systems

- Multi-core CPUs have multiple independent cores that complete separate fetch-execute cycles
- Parallel systems complete multiple instructions simultaneously using techniques like pipelining, it can be completed using a single core and threading

