

Topic 3: Hardware

EAL keyword sheet - Cambridge IGCSE Computer Science 0984. Write the word in your own language in the last column.

Keyword	Meaning	Example sentence	In my language
hardware	The physical parts of a computer that you can touch.	<i>A keyboard is hardware.</i>	
CPU (central processing unit)	The 'brain' of the computer. It runs program instructions.	<i>The CPU processes billions of instructions every second.</i>	
ALU (arithmetic logic unit)	The part of the CPU that does calculations and logic decisions.	<i>The ALU adds two numbers.</i>	
control unit (CU)	The part of the CPU that controls and manages the other parts.	<i>The control unit decodes the instruction.</i>	
register	A very small, very fast storage place inside the CPU.	<i>A register holds data that the CPU is using now.</i>	
program counter (PC)	A register that stores the address of the next instruction.	<i>The program counter increases by one after each fetch.</i>	
MAR (memory address register)	A register that stores the address of the memory location to read or write.	<i>The MAR holds the address being accessed.</i>	
MDR (memory data register)	A register that stores the data just read from, or about to be written to, memory.	<i>The MDR holds the data from RAM.</i>	
accumulator (ACC)	A register that stores the results of calculations.	<i>The result from the ALU goes into the accumulator.</i>	
bus	A set of wires that carry data between parts of the computer.	<i>The address bus carries memory addresses.</i>	
fetch-decode-execute cycle	The steps the CPU repeats: get an instruction, understand it, then do it.	<i>The CPU runs the fetch-decode-execute cycle all the time.</i>	
instruction	One command that the CPU can carry out.	<i>An instruction can tell the CPU to add two numbers.</i>	
Von Neumann architecture	A design where data and instructions are stored together in the same memory.	<i>Most computers use the Von Neumann architecture.</i>	

Keyword	Meaning	Example sentence	In my language
core	One processing unit inside a CPU. More cores can do more tasks at once.	<i>A quad-core CPU has four cores.</i>	
cache	Very fast memory close to the CPU that stores data that is used often.	<i>A bigger cache can make the computer faster.</i>	
clock speed	How many instruction cycles the CPU can do each second, measured in hertz (Hz).	<i>A clock speed of 3 GHz is fast.</i>	
embedded system	A computer inside a larger device that does one job.	<i>A washing machine contains an embedded system.</i>	
input device	Hardware used to put data into a computer.	<i>A microphone is an input device.</i>	
output device	Hardware that shows or gives results from a computer.	<i>A printer is an output device.</i>	
sensor	A device that measures something in the real world, e.g. temperature or light.	<i>A sensor measures the temperature.</i>	
actuator	A device that makes something move or change, e.g. a motor.	<i>The actuator opens the door.</i>	
primary storage	Memory the CPU can access directly: RAM and ROM.	<i>Primary storage is faster than secondary storage.</i>	
RAM (random access memory)	Temporary memory that holds the programs and data being used now. It loses its data when power is off.	<i>Opening more programs uses more RAM.</i>	
ROM (read-only memory)	Memory that keeps its data when power is off. It stores start-up instructions.	<i>The start-up program is stored in ROM.</i>	
volatile	Loses its data when the power is turned off.	<i>RAM is volatile.</i>	
non-volatile	Keeps its data when the power is turned off.	<i>An SSD is non-volatile.</i>	
secondary storage	Long-term storage for programs and files, e.g. a hard disk drive.	<i>I save my homework on secondary storage.</i>	
magnetic storage	Storage that uses magnetic fields, e.g. a hard disk drive.	<i>Magnetic storage is cheap and has a large capacity.</i>	

Keyword	Meaning	Example sentence	In my language
optical storage	Storage that uses a laser to read marks on a disc, e.g. a DVD.	<i>A CD is optical storage.</i>	
solid-state drive (SSD)	Storage with no moving parts. It uses flash memory and is fast and quiet.	<i>An SSD makes the computer start faster.</i>	
virtual memory	A part of secondary storage used as extra RAM when RAM is full.	<i>Virtual memory is slower than RAM.</i>	
cloud storage	Storing data on servers on the internet instead of on your own device.	<i>I can open my files from any device with cloud storage.</i>	