

Topic 3: Hardware

EAL keyword sheet - Cambridge International AS & A Level Computer Science 9618. 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.	<i>The mouse is hardware.</i>	
computer	A device that processes data using instructions.	<i>A tablet is a computer.</i>	
embedded system	A computer built into a device to do one task.	<i>A microwave contains an embedded system.</i>	
microprocessor	A CPU on a single integrated circuit chip.	<i>A microprocessor controls the washing machine.</i>	
primary memory	Memory the CPU can access directly: RAM and ROM.	<i>Primary memory is faster than a hard drive.</i>	
RAM	Volatile memory that stores programs and data in use.	<i>More RAM lets you run more programs.</i>	
DRAM / SRAM	Dynamic RAM needs refreshing and is cheaper. Static RAM is faster and used for cache.	<i>SRAM is used in the CPU cache.</i>	
ROM	Non-volatile memory that stores start-up instructions.	<i>ROM keeps the bootstrap program.</i>	
PROM / EPROM / EEPROM	Types of ROM that can be programmed or erased in different ways.	<i>EEPROM can be erased with electricity.</i>	
volatile / non-volatile	Loses data without power / keeps data without power.	<i>ROM is non-volatile.</i>	
secondary storage	Permanent storage that is not directly accessed by the CPU.	<i>A hard disk drive is secondary storage.</i>	
magnetic storage	Storage that records data using magnetised areas.	<i>A hard disk drive uses magnetic storage.</i>	
optical storage	Storage that uses a laser to read pits and lands on a disc.	<i>Blu-ray is optical storage.</i>	
flash memory	Solid-state storage with no moving parts.	<i>A USB stick uses flash memory.</i>	
SSD (solid-state drive)	A fast storage device that uses flash memory.	<i>An SSD is quieter than a hard drive.</i>	
input device	Hardware that sends data into a computer.	<i>A barcode reader is an input device.</i>	
output device	Hardware that shows results from a computer.	<i>A monitor is an output device.</i>	

Keyword	Meaning	Example sentence	In my language
sensor	A device that measures a physical quantity.	<i>A temperature sensor sends data to the computer.</i>	
barcode / QR code	A pattern that stores data and is read by a scanner.	<i>The supermarket scans the barcode.</i>	
touchscreen	A screen that is also an input device. It detects touch.	<i>Capacitive touchscreens detect electrical changes.</i>	
buffer	A temporary store that holds data while it moves between two parts at different speeds.	<i>A buffer helps the printer receive data.</i>	
logic gate	A circuit that takes binary inputs and gives one output.	<i>An AND gate needs both inputs to be 1.</i>	
truth table	A table that shows all outputs for all possible inputs.	<i>A truth table for two inputs has 4 rows.</i>	
NOT / AND / OR gate	Basic logic gates: reverse / both true / at least one true.	<i>NOT changes 1 to 0.</i>	
NAND / NOR / XOR gate	AND reversed / OR reversed / true if the inputs are different.	<i>XOR gives 0 if both inputs are 1.</i>	
logic circuit	Several logic gates joined together.	<i>I drew a logic circuit for the alarm.</i>	
Boolean expression	A way to write a logic statement using AND, OR and NOT.	<i>$X = (A \text{ AND } B) \text{ OR } C.$</i>	