

Topic 6: Automated and Emerging Technologies

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
automated system	A system that works with little or no help from people.	<i>A greenhouse can be an automated system.</i>	
sensor	A device that measures something, e.g. light or temperature.	<i>The light sensor turns on the street lamp.</i>	
microprocessor	A small processor that reads sensor data and decides what to do.	<i>The microprocessor controls the heating.</i>	
actuator	A device that moves or changes something when it receives a signal.	<i>An actuator opens the valve.</i>	
feedback	Output data that is sent back to affect the next input.	<i>The sensor gives feedback to the microprocessor.</i>	
advantage	A good point; a benefit.	<i>One advantage is that machines do not get tired.</i>	
disadvantage	A bad point; a problem.	<i>One disadvantage is that people may lose their jobs.</i>	
robot	A machine controlled by a computer that can do tasks by itself.	<i>A robot arm can build cars.</i>	
robotics	The study and use of robots.	<i>Robotics is used in factories.</i>	
characteristics	Typical features of something.	<i>A robot's characteristics include a mechanical structure and a program.</i>	
mechanical structure	The physical body of a robot, e.g. arms and wheels.	<i>The mechanical structure lets the robot move.</i>	
risk	The chance that something bad happens.	<i>There is a risk of injury near robots.</i>	
artificial intelligence (AI)	Computers that can do tasks that normally need human intelligence.	<i>AI can recognise faces.</i>	
expert system	A program that gives advice in one subject, like a human expert.	<i>A doctor uses an expert system to help find an illness.</i>	

Keyword	Meaning	Example sentence	In my language
knowledge base	A large store of facts and rules in an expert system.	<i>The knowledge base holds medical facts.</i>	
rule base	The IF-THEN rules an expert system uses to make decisions.	<i>The rule base links symptoms to illnesses.</i>	
inference engine	The part of an expert system that uses the rules to reach a conclusion.	<i>The inference engine finds the answer.</i>	
machine learning	A type of AI where computers learn from data instead of being given exact instructions.	<i>Machine learning improves with more data.</i>	
training data	Examples used to teach a machine learning system.	<i>The system used thousands of photos as training data.</i>	
autonomous	Able to work and make decisions alone.	<i>An autonomous car drives itself.</i>	
ethics	Ideas about what is right and wrong.	<i>Ethics is important when we use AI.</i>	