Your notes

Cambridge National IT: revision notes

The Internet of Everything

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What the Internet of Everything is

- The **Internet of Things** (IoT) is everyday objects connected to the internet that collect and share data, such as smart thermostats and fitness trackers.
- The **Internet of Everything** (IoE) goes further. It connects people, processes, data and things, so they can work together intelligently.

The four pillars

- People: the users of connected devices and services.
- Things: physical devices and **sensors**.
- Data: collected by devices and turned into useful information.
- Processes: the rules that get the right information to the right person or machine at the right time.

Uses

- Smart homes: heating, lighting and security controlled by phone or voice. Smart cities: traffic lights that respond to traffic, and **sensors** that show free parking spaces.
- Healthcare: wearable monitors that alert doctors. Transport: connected cars and live travel updates.
- Agriculture: soil **sensors** that switch on watering when it is needed. Retail: stock tracked automatically.

Benefits and drawbacks

- Benefits: saves time and energy, convenience, better decisions from **real-time data**, safety and health monitoring, and **automation**.

- Drawbacks: security risks (every device could be hacked), privacy worries (lots of personal data), reliance on an internet connection, cost, devices that don't work together, and e-waste.

Key terms

Internet of Things	Everyday objects connected to the internet that collect and share data.
Internet of Everything	The connection of people, processes, data and things.
Sensor	A device that detects and measures something, such as temperature or movement.
Smart device	An everyday device that is connected to the internet.
Real-time data	Data that is collected and used immediately.
Automation	Machines or systems doing tasks without people controlling them.

Quick questions

Cover the answers and test yourself: remembering is what makes it stick.

1. What is the Internet of Things?
2. What are the four pillars of the Internet of Everything?
3. Which of these is a smart home device?
4. How can the IoE help a smart city?
5. What is one privacy concern with the IoE?
6. Why is security a risk with IoE devices?
7. How can the IoE help farmers?
8. What does a wearable health monitor do?

Answers

1. Everyday objects connected to the internet that collect and share data
2. People, processes, data and things
3. A thermostat you can control from your phone
4. Traffic lights can change using real-time traffic data
5. Devices collect lots of personal data
6. Every connected device could be hacked
7. Soil sensors can switch on watering only when it is needed
8. Tracks data such as heart rate, and can alert doctors

What to do next

Practise 12 questions on this topic

Try 4 exam questions, with mark schemes

Read the lesson, one step at a time

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