

Connected Device and Communication

Textbook

Connected Devices and Communication



What Is the Internet of Things (IoT)?

Imagine your fridge texting your phone to say you're out of milk—that's the Internet of Things (IoT)! The IoT is a network of everyday physical objects that use sensors and internet connections to collect and share data. These "smart" devices talk to each other and to computers without needing you to do much. From smartwatches and thermostats to cars and kitchen appliances, the IoT is changing how we live, making life more convenient, efficient, and connected.

How We Talk to Computers: Input and Output

Computers need ways to get information from us and give it back—and that's where **input and output devices** come in. Input devices like keyboards, mice, touchscreens, and microphones let us send instructions or data to the computer. Output devices like monitors, printers, speakers, and headphones let the computer show us results. Some tools, like touchscreens or headsets with microphones, can even do both!

Predicting What Will Happen: Input vs. Output

When you press a key on your keyboard (input), letters appear on the screen (output). When you click the "print" button, your printer produces a page. Understanding how input leads to output helps us predict what a system will do. For example, if you say "Play music" into a smart speaker (input), you can predict that

music will start playing (output). This kind of thinking helps us understand how systems respond to commands.

Smart Technology in Everyday Life

Today, many input and output devices are connected to smart systems. For example, a smartwatch takes in data like your heart rate (input) and displays it on the screen (output). A smart doorbell uses a camera (input) to detect motion and sends a video to your phone (output). These smart devices are part of the Internet of Things—and they're becoming more common every year.

Peripherals: The Tools That Power Your Tech

Peripheral devices are tools you plug into or connect to your computer to help it do more. These include things like printers, scanners, webcams, microphones, external speakers, and game controllers. They give computers more ways to interact with the world around them and improve your user experience—whether you're learning, creating, or playing.

Critical Thinking Questions

1. How do input and output devices help computers interact with the world around them?
2. How might the Internet of Things improve life in schools, hospitals, or homes?

Questions (5)

1. What is the Internet of Things (IoT)?

MULTIPLE CHOICE

Choose the correct answer:

- A. A new brand of computers
- B. A group of websites
- C. A network of smart devices that share data
- D. A way to connect printers to laptops

2. Which of these is an input device?

MULTIPLE CHOICE

Choose the correct answer:

- A. Speaker
- B. Monitor
- C. Mouse
- D. Printer

3. What is the output when you click “print” on a computer?

Choose the correct answer:

- A. A page comes out of the printer
- B. A sound from the speaker
- C. A flashing light
- D. A change in temperature

4. Which of these devices can be both input and output?

Choose the correct answer:

- A. Keyboard
- B. Microphone
- C. Monitor
- D. Touchscreen

5. Why are peripheral devices useful?

Choose the correct answer:

- A. They store files permanently
- B. They expand what your computer can do
- C. They protect your computer from viruses
- D. They slow down the computer

Answer Keys & Solutions

Questions

1. What is the Internet of Things (IoT)?

MULTIPLE CHOICE

Correct Answer:

- A. A new brand of computers ✗ Incorrect
- B. A group of websites ✗ Incorrect
- C. A network of smart devices that share data ✓ Correct
- D. A way to connect printers to laptops ✗ Incorrect

2. Which of these is an input device?

MULTIPLE CHOICE

Correct Answer:

- A. Speaker ✗ Incorrect
- B. Monitor ✗ Incorrect
- C. Mouse ✓ Correct
- D. Printer ✗ Incorrect

3. What is the output when you click "print" on a computer?

MULTIPLE CHOICE

Correct Answer:

- A. A page comes out of the printer ✓ Correct
- B. A sound from the speaker ✗ Incorrect
- C. A flashing light ✗ Incorrect
- D. A change in temperature ✗ Incorrect

MULTIPLE CHOICE

4. Which of these devices can be both input and output?

Correct Answer:

- | | |
|----------------|-------------|
| A. Keyboard | ✗ Incorrect |
| B. Microphone | ✗ Incorrect |
| C. Monitor | ✗ Incorrect |
| D. Touchscreen | ✓ Correct |

5. Why are peripheral devices useful?

MULTIPLE CHOICE

Correct Answer:

- | | |
|--|-------------|
| A. They store files permanently | ✗ Incorrect |
| B. They expand what your computer can do | ✓ Correct |
| C. They protect your computer from viruses | ✗ Incorrect |
| D. They slow down the computer | ✗ Incorrect |