G.C.E. O/L Grade 10 ICT · Lesson 2

2.3 Computer Ports and Peripherals

A desktop computer has a **system unit**, a **monitor**, a **keyboard** and a **mouse**, plus other devices joined using **ports**. In this note you will learn the main parts, the modern ports (USB-C, HDMI, Thunderbolt, RJ45…), today's displays, 3D printers and storage devices.

1. Main parts of a desktop computer

System unit
The box (case) that holds the motherboard, CPU, RAM, storage, power supply and fans.

Monitor
The screen that shows output. Today mostly LED or OLED flat panels.

Keyboard
Main input device for typing letters, numbers and commands. Can be wired (USB) or wireless (Bluetooth).

Mouse
Pointing device to move the pointer, click and drag. Optical mice use a light sensor.

Inside the system unit, the **motherboard** is the main circuit board. The CPU, RAM, storage and expansion cards plug into it. The **power supply unit (PSU)** changes mains electricity (230 V in Sri Lanka) into low voltages the parts need.

2. Modern ports

A **port** is a socket on the computer where you plug in a cable or device.

Port	Used for	Notes
USB Type-A	Pen drive, keyboard, mouse, printer	Flat rectangle; fits only one way
USB Type-C	Charging, data, display on phones and laptops	Small oval; reversible (fits both ways)
HDMI	Video + sound to TV, monitor, projector	Common on TVs and laptops
DisplayPort	High-quality video to monitors	Popular for gaming / office monitors
Thunderbolt	Very fast data, display and charging in one cable	Uses the USB-C shape
RJ45 (Ethernet)	Wired network / Internet cable	Looks like a wide phone plug
Audio jack (3.5 mm)	Headphones, speakers, microphone	Round small hole

💡 Easy way to remember: USB-C = one plug for everything on new phones and laptops. HDMI = to the TV or classroom projector. RJ45 = network cable.

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Legacy ports (old, just know the names): PS/2 (old round keyboard/mouse port), serial and parallel ports (old printers, modems), VGA (old blue analog video port). USB and HDMI replaced most of them.

3. Displays and printers

LED display
An LCD panel lit by LEDs from behind. Thin, low power, cheap. Most monitors and TVs.

OLED display
Each pixel makes its own light. Deep blacks, very thin, can bend. Used in many smartphones.

Inkjet / laser printer
Inkjet sprays ink drops (good for photos). Laser uses toner powder (fast, sharp text for offices).

3D printer
Builds a solid object layer by layer from melted plastic using a 3D design. Used for models, spare parts and school projects.

4. Storage devices

Device	How it works	Good points
HDD (hard disk)	Spinning magnetic disks	Cheap for large size (1–4 TB)
SSD	Flash memory chips, no moving parts	Fast, silent, strong
NVMe SSD	SSD that plugs straight into the motherboard (M.2)	Fastest storage in new laptops
Flash drive / memory card	Small flash memory	Portable, carry in pocket
Cloud storage	Files on Internet servers	Access anywhere, auto backup

NEW 2026 2026 trend: new laptops have only USB-C/Thunderbolt ports and an NVMe SSD. Wireless peripherals (Bluetooth keyboard, mouse, earbuds) and Wi-Fi printers are now normal in Sri Lankan homes and schools.

Key Words

System unit – The case holding the motherboard, CPU, RAM, storage and power supply.

Motherboard – The main circuit board that connects all parts.

Port – A socket where a cable or device is plugged in.

USB Type-C – Small reversible port for charging, data and display.

HDMI – Port that carries video and sound to a TV, monitor or projector.

Thunderbolt – Very fast port (USB-C shape) for data, display and power.

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RJ45 – The plug/port used for a wired Ethernet network cable.

OLED – Display where each pixel gives its own light.

3D printer – Output device that builds solid objects layer by layer.

NVMe SSD – Very fast SSD connected directly to the motherboard.

HDD – Hard disk drive using spinning magnetic disks.

Legacy port – An old port now rarely used, e.g. VGA, PS/2, serial, parallel.

Sample Q&A

1. Name the four main parts of a desktop computer.

> **Answer:** System unit, monitor, keyboard and mouse.

2. Which port connects a laptop to a classroom projector?

> **Answer:** HDMI (or USB-C / DisplayPort with an adapter).

3. Give one advantage of USB Type-C over USB Type-A.

> **Answer:** It is reversible (fits both ways) and can carry charging, data and video in one cable.

4. Why is an SSD faster than an HDD?

> **Answer:** An SSD uses flash chips with no moving parts; an HDD must spin disks and move a head.

5. What does a 3D printer do?

> **Answer:** It makes a solid object layer by layer from a 3D design, usually using melted plastic.

6. Name two legacy ports.

> **Answer:** VGA and PS/2 (also serial, parallel).

MCQ

1. Which part holds the motherboard, CPU and power supply?

A. System unit
B. Keyboard
C. Monitor
D. Mouse

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2. Which port is small, oval and reversible, used on new phones?

A. PS/2
B. VGA
C. USB Type-C
D. RJ45

3. To show a laptop screen on a TV with sound, which port is best?

A. HDMI
B. PS/2
C. RJ45
D. Audio jack

4. Which port is used for a wired Ethernet network cable?

A. HDMI
B. RJ45
C. DisplayPort
D. USB Type-A

5. Which port uses the USB-C shape but gives very high speed for data, display and charging?

A. VGA
B. PS/2
C. Thunderbolt
D. Serial

6. Which is a legacy (old) video port?

A. USB Type-C
B. DisplayPort
C. HDMI
D. VGA

7. In an OLED display:

A. Only black and white is shown
B. There are no pixels
C. Each pixel makes its own light
D. A big glass tube is used

8. Which device builds a solid object layer by layer?

A. Scanner
B. Laser printer
C. Projector
D. 3D printer

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9. Which storage device has spinning magnetic disks?

A. NVMe SSD
B. HDD
C. SSD
D. Flash drive

10. Which is the fastest storage in most new laptops?

A. NVMe SSD
B. DVD
C. Floppy disk
D. HDD

11. Which printer is best for fast, sharp text in a busy office?

A. 3D printer
B. Laser printer
C. Inkjet photo printer
D. Plotter for maps only

12. Headphones are usually plugged into the:

A. PS/2 port
B. VGA port
C. 3.5 mm audio jack
D. RJ45 port

13. Which is the main circuit board inside the system unit?

A. Motherboard
B. Router
C. Monitor
D. Keyboard

14. A wireless mouse usually connects using:

A. An HDMI cable
B. An RJ45 cable
C. A VGA cable
D. Bluetooth or a USB receiver

15. Which storage lets you open your files from any device with Internet?

A. ROM
B. Cloud storage
C. HDD inside one PC
D. RAM

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Structured Questions

1. (i) Name four ports found on a modern laptop. (2 marks)
(ii) State one use of each. (4 marks) *(6 marks)*

> Any four: USB-A – pen drive; USB-C – charging/data; HDMI – projector/TV; Thunderbolt – fast dock/display; RJ45 – network cable; audio jack – headphones.

2. Compare HDD and SSD under: (i) how data is stored (ii) speed (iii) cost per GB. *(6 marks)*

> (i) HDD – spinning magnetic disks; SSD – flash memory chips. (ii) HDD slower; SSD much faster. (iii) HDD cheaper per GB; SSD more expensive.

3. (i) What is a 3D printer? (2 marks)
(ii) Give two uses in Sri Lanka. (2 marks) *(4 marks)*

> (i) An output device that builds solid objects layer by layer from a digital 3D design.
> (ii) School science models; spare parts for machines; artificial limbs / dental models; architecture models.

4. State the difference between LED and OLED displays and give one place each is used. *(4 marks)*

> LED: LCD panel with LED backlight – cheaper; office monitors, TVs. OLED: each pixel lights itself – thinner, deep black, can bend; smartphones, premium TVs.

5. What are legacy ports? Name two and the modern port that replaced each. *(4 marks)*

> Old ports rarely used today. VGA → HDMI / DisplayPort; PS/2 → USB; parallel → USB (printers); serial → USB.

6. A student wants one cable to charge a laptop, connect a monitor and transfer files fast. Suggest the port and explain. (3 marks) *(3 marks)*

> USB-C with Thunderbolt (or USB-C with Power Delivery and DisplayPort mode). It carries power, video and high-speed data in one reversible cable.

Summary

- Desktop parts: system unit, monitor, keyboard, mouse.
- Motherboard connects CPU, RAM, storage; PSU gives power.
- Modern ports: USB-A, USB-C, HDMI, DisplayPort, Thunderbolt, RJ45, audio jack.
- Legacy ports (VGA, PS/2, serial, parallel) are mostly replaced.
- Displays: LED (backlit LCD) and OLED (self-lit pixels).
- Printers: inkjet, laser, and 3D printers that build objects.
- Storage: HDD, SSD, NVMe SSD, flash drives, cloud.

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- New laptops: USB-C/Thunderbolt, NVMe SSD, wireless peripherals.

MCQ answer key – 2.3

1. **A** – The system unit is the main case.
2. **C** – USB-C fits both ways.
3. **A** – HDMI carries both video and audio.
4. **B** – RJ45 is the network port.
5. **C** – Thunderbolt shares the USB-C connector.
6. **D** – VGA is an old analog video port.
7. **C** – OLED pixels are self-lit.
8. **D** – 3D printers add layers of material.
9. **B** – HDD = hard disk drive with platters.
10. **A** – NVMe SSDs connect directly to the motherboard.
11. **B** – Laser printers are fast for text.
12. **C** – The audio jack is for sound.
13. **A** – All parts plug into the motherboard.
14. **D** – Wireless peripherals use Bluetooth or a small dongle.
15. **B** – Cloud files live on Internet servers.

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