G.C.E. O/L Grade 10 ICT · Lesson 2

Lesson 2 O/L Exam Practice: Questions and Answers

These questions are in the style of the O/L ICT exam. Paper I has multiple choice questions. Paper II has structured questions with parts. They cover all of Lesson 2 (2.1 to 2.5), including the 2026 syllabus topics. Try them first, then check the answers and explanations.

Paper I – Multiple choice questions (25)

1. The Department of Meteorology uses a very powerful computer to forecast the weather. Which type of computer is most suitable?

A. Minicomputer
B. Supercomputer
C. Embedded computer
D. Microcomputer

2. A bank handles thousands of customer transactions at the same time from all its branches. Which computer is mainly used?

A. Analog computer
B. Laptop computer
C. Mainframe computer
D. Tablet computer

3. A car speedometer with a moving needle shows speed as a continuously changing value. This is an example of

A. a supercomputer
B. a hybrid computer
C. a digital device
D. an analog device

4. Consider these statements.
P – A hybrid computer combines analog and digital features.
Q – An ECG machine in a hospital can be a hybrid computer.
R – Digital computers work only with continuous signals.
Which are correct?

A. Q and R only
B. P and Q only
C. P only
D. P, Q and R

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

5. Which of the following is an INPUT device?

A. Barcode reader
B. Projector
C. Speaker
D. 3D printer

6. A touch screen on a supermarket self-checkout is best described as

A. an input device only
B. an output device only
C. both an input and an output device
D. a storage device

7. Which memory loses its contents when the power is switched off?

A. RAM
B. Flash drive
C. SSD
D. ROM

8. Which storage device has NO moving parts and is the fastest of these for loading the operating system?

A. Hard disk drive (HDD)
B. DVD
C. Magnetic tape
D. NVMe SSD

9. Which unit is a measure of the clock speed of a processor?

A. GB
B. GHz
C. Mbps
D. dpi

10. A student wants to connect a laptop to a classroom smart TV to show video with sound using one cable. Which port is most suitable?

A. VGA
B. PS/2
C. HDMI
D. RJ45

11. Which statement about USB-C is CORRECT?

A. It is used only for charging
B. It is a network cable port
C. It can be inserted only one way
D. It is reversible and can carry data, power and video

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

12. Which output device builds a solid object layer by layer?

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

13. Compared with an LCD screen, an OLED screen

A. always uses more power
B. is an input device
C. does not need a backlight, so it shows deeper blacks
D. can only show black and white

14. In the block diagram of a computer, which unit performs addition and comparison (for example, A > B)?

A. Input unit
B. Arithmetic and Logic Unit (ALU)
C. Control Unit (CU)
D. Secondary storage

15. Which part of the CPU sends control signals to direct the other parts of the computer?

A. ALU
B. Hard disk
C. Control Unit
D. Registers

16. Which gives the correct order of the machine cycle?

A. Decode → Fetch → Execute
B. Fetch → Execute → Decode
C. Execute → Fetch → Decode
D. Fetch → Decode → Execute

17. Registers are best described as

A. cables that join computers
B. large storage for saving files
C. ports on the back of the system unit
D. very small, very fast memory locations inside the CPU

18. Which network type connects the computers in one school building?

A. PAN
B. LAN
C. WAN
D. MAN

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

19. Connecting a mobile phone to wireless earbuds with Bluetooth creates a

A. PAN
B. WAN
C. LAN
D. MAN

20. Which device connects a school LAN to the Internet and chooses the best path for data?

A. Hub
B. Router
C. Switch
D. NIC

21. Consider these statements about transmission media.
P – Fibre optic cable sends data as light.
Q – Twisted pair cable is commonly used in school LANs.
R – Wi-Fi is a guided (wired) medium.
Which are correct?

A. P and Q only
B. P, Q and R
C. P and R only
D. Q only

22. Which of these is a DISADVANTAGE of a computer network?

A. A virus can spread quickly to many computers
B. Files can be shared easily
C. Printers can be shared
D. Users can communicate by email

23. A student receives an SMS: “Your bank account is blocked. Click this link and enter your OTP.” This is most likely

A. ransomware
B. a software update
C. phishing
D. a firewall

24. Which software lets a teacher hold a live online class with video, chat and screen sharing?

A. A network operating system only
B. An antivirus program
C. A spreadsheet program
D. Zoom or Google Meet

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

25. Which pair is correctly matched?

A. 5G – mobile network with high speed and low delay

B. Fibre – uses radio waves

C. Bluetooth – connects cities

D. Wi-Fi 6 – a type of cable

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

Paper II – Structured questions

1. Scenario – Types of computers. A hospital in Kandy uses different computers: a doctor's laptop, a central computer that stores all patient records for many users, and an ECG machine that measures heart signals and shows them as numbers. *(10 marks)*

(i) Name the type of computer (by size) of the doctor's laptop and of the central computer. *(2 marks)*
(ii) Classify the ECG machine by the type of data it uses and give a reason. *(2 marks)*
(iii) State two differences between analog and digital computers. *(2 marks)*
(iv) Give one use of a supercomputer in Sri Lanka or the world, and one reason it is used. *(2 marks)*
(v) Name two embedded computers found in a modern home. *(2 marks)*

2. Scenario – Supermarket checkout. At a Colombo supermarket, the cashier scans each item. The computer finds the price, adds the total and prints a bill. The sales are saved, and at night the data is sent to the head office. *(12 marks)*

(i) Identify the five functions of a computer in this scenario. *(5 marks)*
(ii) Name one input device and one output device used at the checkout. *(2 marks)*
(iii) State one difference between primary and secondary storage, giving an example of each. *(3 marks)*
(iv) Why is cloud storage useful for the head office? *(2 marks)*

3. Scenario – A new computer lab. A school in Galle is buying computers for its new lab. Each computer will have a 512 GB NVMe SSD, 16 GB RAM, USB-C, HDMI and RJ45 ports, and an OLED monitor. *(10 marks)*

(i) State the use of each port: USB-C, HDMI and RJ45. *(3 marks)*
(ii) Give two advantages of an SSD over a hard disk drive. *(2 marks)*
(iii) Why does the lab not need computers with VGA or PS/2 ports? *(2 marks)*
(iv) Name one advantage of an OLED monitor and one device the lab could add for a design project. *(2 marks)*
(v) What is meant by “16 GB RAM”? *(1 marks)*

4. Block diagram. Study the block diagram of a computer: Input unit → CPU (Control Unit, ALU, Registers) ↔ Main memory → Output unit, with secondary storage connected to memory. *(11 marks)*

(i) Draw a labelled block diagram of a computer showing data flow and control signals. *(4 marks)*
(ii) State the main function of the ALU and of the Control Unit. *(2 marks)*
(iii) What are registers? Why are they needed? *(2 marks)*
(iv) Explain the fetch–decode–execute cycle in three steps. *(3 marks)*

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

5. Scenario – School network. A school has 40 computers in two labs, a shared printer and fibre Internet from a Sri Lankan ISP. Students also use Wi-Fi 6 on tablets in the library. *(10 marks)*

(i) What type of network is this (PAN, LAN, MAN or WAN)? Give a reason. *(2 marks)*
(ii) State the function of a switch, a router and a NIC in this network. *(3 marks)*
(iii) Name one guided and one unguided medium used here. *(2 marks)*
(iv) Give two advantages and one disadvantage of this network. *(3 marks)*

6. Scenario – Online learning and safety. During school holidays, a Grade 10 class in Jaffna joins lessons on Google Meet using 4G phones. One student gets an email saying “You won a laptop! Enter your bank card number to pay delivery.” *(10 marks)*

(i) Name two features of video-conferencing tools that help online lessons. *(2 marks)*
(ii) Compare 4G and 5G mobile networks (two points). *(2 marks)*
(iii) What type of attack is the email? Give two signs that show it is fake. *(3 marks)*
(iv) What is ransomware? Give two ways to protect a computer from it. *(3 marks)*

7. Scenario – Networks around us. A Sri Lankan company has offices in Colombo, Kandy and Dubai. Inside the Colombo office, staff share files. The offices in the Colombo city area are linked by fibre, and all offices are linked over the Internet. A manager uses Bluetooth earbuds with her phone. *(10 marks)*

(i) Identify a PAN, a LAN, a MAN and a WAN in this scenario. *(4 marks)*
(ii) Why is fibre optic cable preferred for linking offices? *(2 marks)*
(iii) What is a network operating system (NOS)? Give one task it does. *(2 marks)*
(iv) Give one advantage of Wi-Fi 6 over older Wi-Fi for a busy office. *(2 marks)*

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

Exam tips

- Read every statement (P, Q, R) on its own and mark it true or false before you look at the options.
- Learn computer types by size (super, mainframe, mini, micro) and by data (analog, digital, hybrid) with one example each.
- In scenario questions, write the real action for each function (e.g. “scanning barcodes” = input).
- Remember: RAM is volatile; ROM, SSD, HDD and flash keep data without power.
- Touch screens and multifunction printers can be both input and output – read the question carefully.
- Know the modern ports: USB-C, HDMI, Thunderbolt/DisplayPort, RJ45 and audio. Legacy ports (VGA, PS/2) appear only for comparison.
- Use the correct units: GHz for clock speed, GB/TB for storage, Mbps for network speed.
- Practise drawing the block diagram: label every box and use different arrows for data and control signals.
- ALU = calculate and compare; CU = control and coordinate; Registers = tiny fast memory in the CPU.
- Choose the network type by area: PAN < LAN < MAN < WAN.
- Switch = inside a LAN; router = links networks/Internet; NIC = connects one computer; modem = converts signals.
- For “advantages and disadvantages” questions, give the exact number asked and one clear point per mark.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

Answers and explanations

Paper I

1. **B** – Weather forecasting needs billions of calculations per second, which is the job of a supercomputer.
2. **C** – Mainframes serve many users at once and process huge numbers of transactions reliably, as in banks.
3. **D** – Analog devices measure continuous quantities such as speed or temperature. A digital display would show separate numbers.
4. **B** – P and Q are true. R is false: digital computers work with discrete values (0 and 1), not continuous signals.
5. **A** – A barcode reader sends data into the computer. Projectors, speakers and 3D printers give output.
6. **C** – You touch it to give input and it shows information as output, so it is both.
7. **A** – RAM is volatile. ROM, SSDs and flash drives are non-volatile and keep data without power.
8. **D** – An NVMe SSD uses flash memory over a fast PCIe connection. HDDs, DVDs and tapes have moving parts and are slower.
9. **B** – Clock speed is measured in hertz, e.g. 3.2 GHz. GB is storage size, Mbps is data speed and dpi is printer/scanner resolution.
10. **C** – HDMI carries both high-quality video and audio. VGA is an old video-only port; RJ45 is for networks; PS/2 is an old keyboard/mouse port.
11. **D** – USB-C is reversible and supports data, charging (Power Delivery) and display output. Thunderbolt uses the same shape.
12. **A** – A 3D printer adds material layer by layer to make real objects. A scanner is an input device.
13. **C** – Each OLED pixel makes its own light, so no backlight is needed and black pixels are fully off.
14. **B** – The ALU does arithmetic (+, −) and logic (>, <, =, AND, OR) operations.
15. **C** – The Control Unit fetches and decodes instructions and sends control signals – like a traffic police officer directing traffic.
16. **D** – The CPU first fetches an instruction from memory, decodes it, then executes it, and repeats.
17. **D** – Registers hold the data and instruction the CPU is working on right now. They are faster than RAM but very small.
18. **B** – A LAN covers a small area such as a home, lab or school.
19. **A** – A Personal Area Network links one person's devices within a few metres.
20. **B** – A router joins different networks and routes data between them. A switch connects devices inside one LAN.
21. **A** – P and Q are true. Wi-Fi uses radio waves, so it is unguided (wireless).
22. **A** – Sharing is an advantage. The fast spread of viruses and security risks are disadvantages.
23. **C** – Fake messages that try to steal passwords or OTPs are phishing. Never share an OTP; contact the bank directly.
24. **D** – Video-conferencing tools such as Zoom, Microsoft Teams and Google Meet support live online classes.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

25. **A** – 5G gives faster mobile data with very low latency. Bluetooth is short range, Wi-Fi 6 is wireless and fibre uses light.

Paper II – model answers and marking points

1. *(10 marks)*

> **(i)** (2 marks)
> Laptop – microcomputer (1); central computer – mainframe (or server) (1)

> **(ii)** (2 marks)
> Hybrid computer (1); it measures continuous (analog) heart signals and shows them as digital numbers (1)

> **(iii)** (2 marks)
> Any two (1 each): analog uses continuous values / digital uses discrete 0 and 1; digital is more accurate; analog is used for measuring quantities like speed/temperature, digital for general processing

> **(iv)** (2 marks)
> Use (1): weather/climate forecasting, scientific research, AI training. Reason (1): it can do billions of calculations very fast

> **(v)** (2 marks)
> Any two (1 each): washing machine, microwave oven, smart TV, air conditioner, rice cooker, smart meter

> 🎯 Examiner tip: name the type exactly (e.g. “mainframe”, not just “big computer”) and always link your reason to the scenario.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

2. *(12 marks)*

(i) (5 marks)
Input – scanning the barcodes (1); Process – finding prices and adding the total (1); Output – printing the bill (1); Storage – saving the sales (1); Communication – sending data to head office (1)

(ii) (2 marks)
Input (1): barcode reader / keyboard / card reader. Output (1): receipt printer / monitor / customer display

(iii) (3 marks)
Primary storage is directly used by the CPU / RAM is volatile (1); example RAM (1); secondary storage keeps data permanently, e.g. SSD/HDD (1)

(iv) (2 marks)
Any two (1 each): access data from any branch over the Internet; automatic backup; no need to buy extra hardware; easy to increase space

🎯 Examiner tip: for each function, write the actual action from the scenario, not just the word “input”.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

3. *(10 marks)*

(i) (3 marks)
USB-C – data, charging and video for devices such as flash drives/phones (1); HDMI – sends video and audio to a monitor/projector/TV (1); RJ45 – wired network (Ethernet) cable (1)

(ii) (2 marks)
Any two (1 each): faster loading/booting; no moving parts so less damage; silent; uses less power; lighter

(iii) (2 marks)
They are old (legacy) ports (1); modern monitors use HDMI/DisplayPort and keyboards/mice use USB (1)

(iv) (2 marks)
OLED (1): deeper blacks/better colours/thinner/no backlight. Device (1): 3D printer / graphics tablet / scanner

(v) (1 marks)
The computer has 16 gigabytes of main (primary) memory to hold running programs and data (1)

🎯 Examiner tip: don't just name the port – say what you connect to it. Modern ports earn marks; legacy ports are only for comparison.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

4. *(11 marks)*

(i) (4 marks)
Input, CPU (CU + ALU), memory, output and storage boxes (2); data flow arrows input → memory/CPU → output (1); control signal arrows from CU to other units (1)

(ii) (2 marks)
ALU – arithmetic and logic operations/comparisons (1); CU – fetches and decodes instructions and sends control signals to coordinate all parts (1)

(iii) (2 marks)
Very small, very fast memory inside the CPU (1); they hold the current instruction/data so the CPU can work quickly (1)

(iv) (3 marks)
Fetch – CU brings the next instruction from memory (1); Decode – CU works out what the instruction means (1); Execute – the ALU/other parts carry it out, then the cycle repeats (1)

🎯 Examiner tip: in diagrams, use two kinds of arrows (solid for data, dashed for control) and label them – unlabelled arrows lose marks.

5. *(10 marks)*

(i) (2 marks)
LAN (1); it covers a small area – one school (1)

(ii) (3 marks)
Switch – connects the lab computers and sends data to the right one (1); Router – connects the school LAN to the Internet (1); NIC – lets each computer connect to the network (1)

(iii) (2 marks)
Guided (1): twisted pair (UTP) cable / fibre optic. Unguided (1): Wi-Fi (radio waves)

(iv) (3 marks)
Advantages (any two, 1 each): share the printer; share files/Internet; central backup; communication. Disadvantage (1): viruses spread fast / cost of setup / needs an administrator / network failure stops work

🎯 Examiner tip: a switch and a router are not the same – the switch works inside the LAN, the router links networks.

© 2026 schoolict.net (Ruwan Mangala Suraweera) · All rights reserved

6. *(10 marks)*

(i) (2 marks)
Any two (1 each): live video/audio; screen sharing; chat; recording; breakout rooms; whiteboard

(ii) (2 marks)
5G is faster (1); 5G has lower delay (latency) / supports more devices (1)

(iii) (3 marks)
Phishing (1); any two signs (1 each): too-good-to-be-true prize; asks for card/bank details; unknown sender; urgent request; suspicious link

(iv) (3 marks)
Malware that locks/encrypts files and demands payment (1); any two (1 each): regular backups; update software; antivirus; don't open unknown attachments

🎯 Examiner tip: when asked “how to protect”, give actions (backup, update), not just the word “security”.

7. *(10 marks)*

(i) (4 marks)
PAN – phone and Bluetooth earbuds (1); LAN – network inside the Colombo office (1); MAN – offices linked across Colombo city (1); WAN – Colombo, Kandy and Dubai offices over the Internet (1)

(ii) (2 marks)
Any two (1 each): very high speed/bandwidth; long distance with little signal loss; not affected by electrical interference; more secure

(iii) (2 marks)
Software that manages a network and its shared resources (1); task (1): user accounts and passwords / file and printer sharing / security

(iv) (2 marks)
Handles many devices at the same time (1) with faster speed / less congestion / better battery life for devices (1)

🎯 Examiner tip: decide the network type by the AREA it covers – room/person (PAN), building (LAN), city (MAN), country/world (WAN).

© 2026 schoolict.net (Ruwan Mangala Suraweera). All rights reserved.