G.C.E. O/L Grade 10 ICT · Lesson 1

1.1 ICT and National Development

ICT is all around us – in our phones, schools, banks, hospitals and farms. In this note you will learn what ICT is, and how it helps Sri Lanka grow. We also look at new technologies like AI, IoT, cloud and 5G.

1. What is ICT?

ICT means **Information and Communication Technology**. It is the use of computers, phones, networks and the Internet to **collect, store, process, send and receive information**.

> 💡 Think of it like this: **IT** (Information Technology) is the computer side – storing and processing. **C** (Communication) is the sending side – phones, Internet, Wi-Fi. Put them together and you get **ICT**.

Computer
Stores and processes data very fast.

Communication
Phone networks, Internet, Wi-Fi and fibre carry information.

Software and apps
Programs tell the device what to do.

People
People use ICT to learn, work and get services.

2. ICT and national development

A country develops when people get better education, health, jobs and services. ICT makes these **faster, cheaper and easier to reach**, even from a village.

Field	How ICT helps	Everyday Sri Lankan example
e-Government	Government services online, less queues and paperwork.	Checking O/L results online, renewing a vehicle revenue licence online, 1919 Government Information Centre.
Agriculture	Weather news, crop advice, market prices, smart watering.	A farmer gets crop advice and prices by SMS or an app; a soil sensor switches on water only when needed.
Education	Learning anytime, anywhere.	e-Thaksalawa lessons, online classes on Zoom or Google Meet, Google Classroom homework.
Health	Faster care and better records.	Booking a doctor through e-channelling, 1990 Suwa Seriya ambulance, hospital patient records on computer, telemedicine video calls.

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Industry and business	Machines and computers work faster with fewer mistakes.	Robots in garment factories, CAD to design products, online shops, QR code payments, online banking.
Entertainment and media	Music, films, games and news on demand.	Watching YouTube, listening to music online, e-newspapers, online games.

3. New technologies helping development (2026 syllabus)

NEW 2026 These topics were added to the 2026 revised Grade 10 syllabus. Learn the basic idea and one or two everyday uses of each.

Artificial Intelligence (AI)
Computers that can do "thinking" jobs such as understanding speech, recognising faces and answering questions. Examples: chatbots, Google Translate (Sinhala ↔ English), face unlock on a phone.

Machine Learning (ML)
A type of AI where the computer **learns from many examples** instead of being told every rule. Example: your email learns which mails are spam; YouTube learns what videos you like.

Internet of Things (IoT)
Everyday things with sensors that connect to the Internet and share data. Smart home: lights or a CCTV camera controlled from a phone. Smart farm: soil sensors and automatic watering.

Cloud computing
Using storage and software on the Internet instead of only on your own device. Examples: Google Drive, OneDrive, Google Workspace (Docs, Sheets), Microsoft 365 (formerly Office 365).

Fast networks: 4G/5G, Wi-Fi 6, fibre
4G and 5G are mobile network generations; 5G is faster with less delay. Wi-Fi 6 handles many devices at once. Fibre optic cables carry data as light – very fast home and office Internet.

Online collaboration
Working and learning together from different places: Zoom, Microsoft Teams, Google Meet video meetings, shared documents and remote learning platforms.

💡 Think of the cloud like a **bank locker for your files**: your files are kept safely somewhere else, and you can open them from any device with your password.

4. Advantages and problems of ICT

Advantages	Problems to manage
Saves time and travel (online services).	Digital divide – some people have no device or Internet.
New jobs: software, BPO, online business, ICT support.	Some routine jobs are done by machines.
Fast, accurate work with fewer mistakes.	Cyber threats: phishing, ransomware, fake news.
Learning and health care reach villages.	Health issues from too much screen time.

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5. Use ICT safely and responsibly

- **Data privacy:** do not share your NIC number, passwords, OTP codes or home address on social media. Sri Lanka has a Personal Data Protection Act (No. 9 of 2022).
- **Phishing:** fake messages or websites that try to steal passwords or bank details (e.g. "You won a prize, click this link"). Do not click – check first.
- **Ransomware:** harmful software that locks your files and asks for money. Keep backups (e.g. in the cloud) and update your software.
- **Digital citizenship:** be kind online, respect others' work, check news before sharing, use strong passwords and two-step verification.

Key Words

ICT – Information and Communication Technology – using computers and communication to handle information.	**e-Government** – Giving government services to people online.
Telemedicine – A doctor helping a patient from far away using video calls and the Internet.	**Artificial Intelligence (AI)** – Computers doing tasks that normally need human thinking.
Machine Learning – A part of AI where computers learn from examples (data).	**Internet of Things (IoT)** – Everyday devices with sensors connected to the Internet.
Cloud computing – Using storage and software over the Internet.	**5G** – The fifth generation of mobile networks – faster with less delay than 4G.
Fibre optics – Thin glass cables that carry data as light, very fast.	**Phishing** – Fake messages or websites made to steal passwords or money.
Ransomware – Malware that locks files and demands money to unlock them.	**Digital divide** – The gap between people who can use ICT and people who cannot.

Sample Q&A

1. What does ICT stand for?

> **Answer:** Information and Communication Technology. It joins computers (IT) with communication (phones, Internet).

2. Give one example of e-Government in Sri Lanka.

> **Answer:** Checking O/L or A/L results online. People get the service from home without going to an office.

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3. How can IoT help a farmer?

> **Answer:** A soil moisture sensor checks if the soil is dry and switches on the water pump automatically. This saves water and time.

4. What is cloud storage? Give an example.

> **Answer:** Saving files on servers on the Internet so you can open them from any device. Example: Google Drive or OneDrive.

5. Name two tools used for online classes.

> **Answer:** Zoom and Google Meet (Microsoft Teams is also used). Teachers and students can meet by video from home.

6. What should you do if you get an SMS saying "You won Rs. 1 million, click here"?

> **Answer:** Do not click the link or share any OTP or password. It is probably phishing. Delete it or tell an adult.

MCQ

1. What does ICT stand for?

A. Information and Communication Technology
B. Information and Computer Training
C. International Communication Technology
D. Internet and Computer Technology

2. Which of these best describes ICT?

A. Writing letters by hand
B. Only repairing computers
C. Using computers and communication technology to handle information
D. Only using a telephone

3. Checking exam results on the Department of Examinations website is an example of:

A. Telemedicine
B. Online gaming
C. e-Government
D. e-Commerce

4. A farmer gets crop advice and market prices on his mobile phone. This is ICT in:

A. Agriculture
B. Health
C. Entertainment
D. Banking only

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5. Booking a doctor’s appointment online through e-channelling is ICT in:

A. Industry
B. Health
C. Agriculture
D. Entertainment

6. Which is an example of Artificial Intelligence (AI) in daily life?

A. Printing a photocopy
B. A ruler measuring a line
C. A ceiling fan turning
D. A phone unlocking by recognising your face

7. In Machine Learning, a computer mainly:

A. Only stores files
B. Works without any data
C. Learns patterns from many examples (data)
D. Only prints documents

8. A home where lights and a CCTV camera can be controlled from a phone uses:

A. Fax machines
B. Internet of Things (IoT)
C. Vacuum tubes
D. Punched cards

9. Which is a cloud storage service?

A. Google Drive
B. A pen drive
C. A DVD
D. A printer

10. Google Workspace and Microsoft 365 are examples of:

A. Input devices
B. Computer viruses
C. Cloud-based office services
D. Mobile networks

11. Compared with 4G, the main benefit of 5G is:

A. It works only with landline phones
B. It needs no towers or antennas
C. It stores files permanently
D. Higher speed and less delay

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12. Fibre optic cables carry data as:

A. Light
B. Paper signals
C. Sound waves
D. Water pressure

13. Which tool is used for online video meetings and classes?

A. Calculator
B. Microsoft Teams
C. Paint
D. Notepad

14. An email says your bank account is blocked and asks for your password through a link. This is:

A. e-Learning
B. Machine learning
C. Cloud computing
D. Phishing

15. Malware that locks your files and asks for money is called:

A. Shareware
B. Ransomware
C. Firmware
D. Freeware

Structured Questions

1. (i) Write the full form of ICT. (1 mark)
(ii) Name two fields in Sri Lanka where ICT is used and give one example for each. (4 marks) *(5 marks)*

> (i) Information and Communication Technology.
> (ii) Any two, e.g. **Education** – online classes on Zoom / e-Thaksalawa lessons; **Health** – e-channelling doctor appointments; **Agriculture** – crop advice by SMS/app; **e-Government** – online exam results.

2. (i) What is e-Government? (2 marks)
(ii) Write two advantages of e-Government for citizens. (2 marks) *(4 marks)*

> (i) Providing government services and information to people using ICT / the Internet.
> (ii) Saves time and travel cost; no long queues; services available 24 hours; less paperwork; more transparency (any two).

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3. (i) What is Artificial Intelligence (AI)? (2 marks)
(ii) Explain what Machine Learning means with one example. (2 marks)
(iii) Give two everyday uses of AI. (2 marks) *(6 marks)*

> (i) The ability of computers to do tasks that normally need human intelligence, such as understanding language or recognising images.
> (ii) A type of AI where the computer learns patterns from many examples (data) instead of fixed rules. Example: an email spam filter, video recommendations.
> (iii) Chatbots, language translation, face unlock, voice assistants, navigation apps (any two).

4. (i) What is the Internet of Things (IoT)? (2 marks)
(ii) Describe one use of IoT in a smart home and one in smart agriculture. (4 marks) *(6 marks)*

> (i) A network of everyday devices with sensors and software that connect to the Internet and share data.
> (ii) Smart home: switching lights, fans or a CCTV camera on/off from a phone; a smart door lock. Smart agriculture: soil moisture sensors switch on watering automatically; sensors check temperature in a greenhouse.

5. (i) What is cloud computing? (2 marks)
(ii) Name one cloud storage service and one cloud-based office service. (2 marks)
(iii) Give one advantage of cloud storage for a student. (1 mark) *(5 marks)*

> (i) Using storage, software and computing services over the Internet instead of only on your own computer.
> (ii) Storage: Google Drive / OneDrive. Office: Google Workspace / Microsoft 365.
> (iii) Files can be opened from any device; files are safe even if the phone is lost; easy sharing with classmates.

6. (i) Write two problems that can come with the use of ICT. (2 marks)
(ii) What is phishing? (1 mark)
(iii) Write two things a student can do to protect personal data online. (2 marks) *(5 marks)*

> (i) Digital divide; cyber crime (phishing, ransomware); fake news; health problems from screen use; some jobs replaced by machines (any two).
> (ii) Tricking people with fake messages or websites to steal passwords, OTPs or bank details.
> (iii) Use strong passwords and two-step verification; never share OTP/password; keep profiles private; do not click unknown links; keep backups (any two).

Summary

- ICT = Information and Communication Technology: computers + communication used to handle information.

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- ICT supports national development in e-Government, agriculture, education, health, industry and entertainment.
- AI lets computers do thinking tasks; Machine Learning learns from examples.
- IoT connects everyday devices with sensors – smart homes and smart farms.
- Cloud computing gives storage and software over the Internet (Google Drive, Google Workspace, Microsoft 365).
- 4G/5G, Wi-Fi 6 and fibre optics give fast connections; Zoom, Teams and Meet allow online learning and work.
- ICT has problems too: digital divide, phishing, ransomware and fake news.
- Protect your data: strong passwords, no OTP sharing, check links, keep backups.

MCQ answer key – 1.1

1. **A** – ICT = Information and Communication Technology.
2. **C** – ICT joins computers and communication to collect, process and share information.
3. **C** – A government service given online is e-Government.
4. **A** – Crop advice and prices help farming, so it is agriculture.
5. **B** – Doctor appointments belong to the health field.
6. **D** – Face recognition is a “thinking” task done by AI.
7. **C** – ML learns from examples, like a spam filter learning from many emails.
8. **B** – Devices connected to the Internet and controlled remotely are IoT (a smart home).
9. **A** – Google Drive keeps files on Internet servers. A pen drive is local storage.
10. **C** – They give Docs, Sheets, Word, Excel, email and storage over the Internet.
11. **D** – 5G is the newer mobile generation: faster with lower delay (latency).
12. **A** – Fibre uses pulses of light inside thin glass strands.
13. **B** – Teams, Zoom and Google Meet are online collaboration tools.
14. **D** – Fake messages that try to steal passwords are phishing.
15. **B** – Ransomware holds files “for ransom”. Backups and updates help protect you.

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