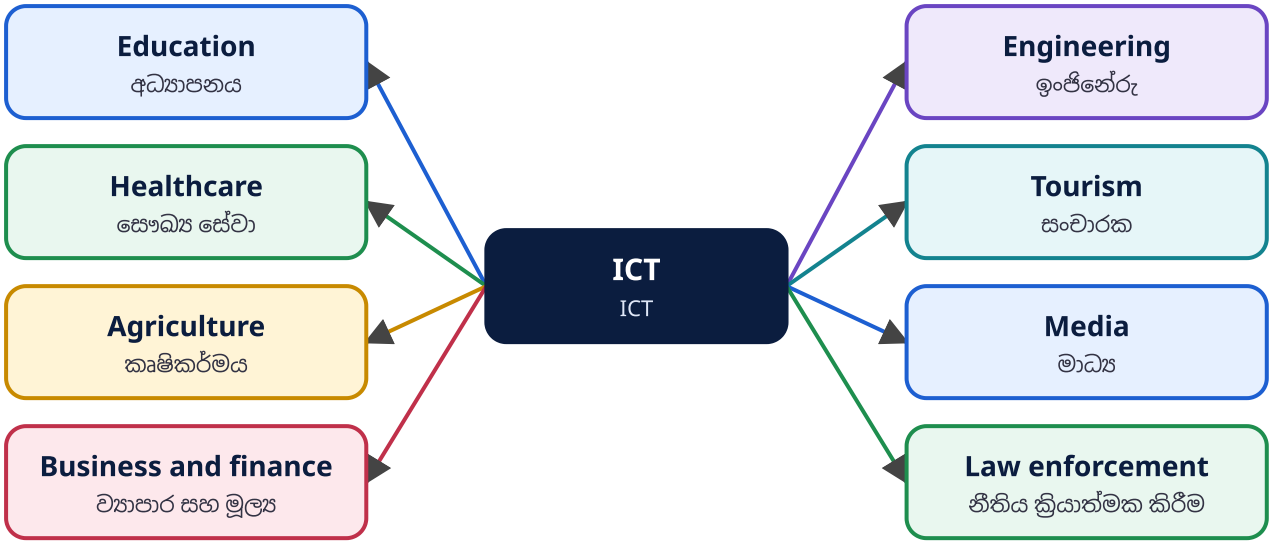
Grade 12 A/L ICT · Lesson 1

1.6 Applications of ICT in Different Domains

Syllabus 1.6. ICT is used in almost every area (domain) of life. In this part you explore how ICT is used in **education, healthcare, agriculture, business and banking, engineering, transport, government and media**, which tools are used, and which **ICT skills** people need to use these tools well.



ICT is used in many domains.

1. ICT tools in each domain

Domain	ICT tools and uses	Benefit
Education	LMS (Moodle, Google Classroom), e-books, video lessons, online exams, smart boards	Learning any time, anywhere; e-learning; distance learning
Healthcare	Electronic health records, telemedicine, scanners (CT, MRI), patient monitors, e-channelling	Faster, more accurate diagnosis; doctors reached from far away
Agriculture	Soil and weather sensors, drones, automatic irrigation, market price apps	Precision farming; less water and fertiliser; better prices
Business and banking	E-commerce, online banking, ATMs, POS, accounting software, digital payments (LankaQR)	Trade 24 hours; faster payments; global customers
Engineering and manufacturing	CAD/CAM, robots, simulation, 3D printing	Accurate designs; automated production
Transport	GPS navigation, online ticketing, traffic control, ride-hailing apps	Safer, faster travel; less waiting

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Government (e-governance)	Online services (gov.lk), e-revenue licence, online tax, digital ID	Less queueing; transparency; services from home
Media and entertainment	Social media, streaming, digital TV, online news, games	Instant news; new jobs for content creators

2. Some important terms

- **E-learning** – learning using electronic media and the Internet.
- **Telemedicine** – a doctor treats a patient from a distance using video and data links.
- **E-commerce** – buying and selling goods and services over the Internet.
- **E-governance** – the government gives services and information using ICT.
- **CAD/CAM** – computer-aided design and computer-aided manufacturing.
- **Precision agriculture** – using sensors, GPS and data to give each part of a field exactly what it needs.

🧱 **Worked example: Choose ICT tools for a domain**
A rural hospital has no heart specialist. **Tool:** telemedicine (video call + sending ECG data). **Input:** ECG readings. **Process:** the specialist in Colombo studies them. **Output:** advice to the local doctor. **Benefit:** the patient does not travel.

3. ICT skills people need

Skill	Example
Basic computer operation	Using an OS, files and folders
Office applications	Word processing, spreadsheets, presentations
Internet and communication	Searching, email, video meetings
Information literacy	Checking if information is true and from a reliable source
Safety and security	Strong passwords, spotting phishing
Special software	CAD for engineers, accounting software for accountants

💡 Exam tip: when asked about a domain, give the tool, what it does and the benefit – three marks in one sentence.

🚀 **Beyond the syllabus (2026 update)** *Not required for the exam – read for interest.* **Generative AI in many domains (2026).** Teachers use AI to make practice questions, doctors use AI to read X-rays, farmers use AI apps to identify plant diseases from a photo, and businesses use chatbots. Skills now include **writing good prompts** and **checking AI answers**, because AI can be wrong or biased.

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Key Words

Domain – An area of life or work where ICT is used.

E-learning – Learning using electronic media and the Internet.

LMS – A learning management system that delivers online courses.

Telemedicine – Treating patients from a distance using ICT.

Electronic health record – A patient's medical history stored digitally.

Precision agriculture – Farming using sensors, GPS and data for exact care.

E-commerce – Buying and selling over the Internet.

Online banking – Doing bank work through the Internet.

CAD – Computer-aided design of objects and buildings.

CAM – Computer-controlled machines that make products.

GPS – A satellite system that finds exact location.

E-governance – Government services given through ICT.

Information literacy – The skill of finding and judging reliable information.

Sample Q&A

1. Give two uses of ICT in education.

> **Answer:** Learning management systems for online lessons, and online exams or e-books.

2. What is telemedicine?

> **Answer:** Giving medical care from a distance using video calls and sending patient data over networks.

3. How does ICT help farmers?

> **Answer:** Sensors and drones show soil and crop needs, automatic irrigation saves water, and apps give market prices and weather.

4. What is e-governance? Give an example.

> **Answer:** Government services through ICT. Example: renewing a vehicle revenue licence online.

5. Name two ICT tools used in engineering.

> **Answer:** CAD software for design and CAM / robots for manufacturing.

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6. Why is information literacy an important ICT skill?

> **Answer:** Because much online information is false; people must check sources before using or sharing information.

MCQ

1. Treating a patient from a distance by video is:

A. Batch processing
B. Telemedicine
C. CAD
D. E-commerce
E. E-governance

2. Engineers design a bridge using:

A. OMR
B. MICR
C. A spreadsheet only
D. An LMS
E. CAD software

3. Moodle and Google Classroom are examples of:

A. CAD tools
B. Operating systems
C. Device drivers
D. Learning management systems
E. Search engines

4. Using soil sensors and drones to give each part of a field what it needs is:

A. E-commerce
B. Batch processing
C. Precision agriculture
D. Telemedicine
E. Piracy

5. Renewing a vehicle revenue licence online is an example of:

A. E-governance
B. Telemedicine
C. E-learning
D. Social media
E. CAM

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6. Buying goods from an online shop is:

A. Telemedicine
B. E-governance
C. E-commerce
D. E-learning
E. CAD

7. Which tool helps a driver find the shortest route?

A. GPS navigation
B. OMR
C. LMS
D. MICR
E. CAD

8. Checking whether online information comes from a reliable source is:

A. CAM
B. Piracy
C. Batch processing
D. Data logging
E. Information literacy

9. Robots on a car assembly line are an example of:

A. OCR
B. CAD
C. LMS
D. CAM
E. E-governance

10. A patient’s medical history stored digitally is a(n):

A. CAD drawing
B. Bar code
C. E-book
D. Spam email
E. Electronic health record

11. LankaQR is used for:

A. Reading cheques
B. Digital payments
C. Designing buildings
D. Weather forecasts
E. Online exams

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12. A benefit of e-learning is:

A. Learning any time, anywhere
B. Teachers are not needed at all
C. It is always offline
D. No Internet ever needed
E. No need for any device

13. Which term means: "An area of life or work where ICT is used"?

A. LMS
B. Domain
C. Online banking
D. GPS
E. Precision agriculture

14. Which term means: "Learning using electronic media and the Internet"?

A. E-governance
B. Telemedicine
C. E-learning
D. CAD
E. E-commerce

15. Which term means: "A learning management system that delivers online courses"?

A. Electronic health record
B. CAM
C. Information literacy
D. LMS
E. Online banking

16. Which term means: "Treating patients from a distance using ICT"?

A. Telemedicine
B. Domain
C. CAD
D. Precision agriculture
E. GPS

17. Which term means: "A patient's medical history stored digitally"?

A. CAM
B. E-learning
C. Electronic health record
D. E-commerce
E. E-governance

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18. Which term means: "Farming using sensors, GPS and data for exact care"?

A. Online banking
B. Precision agriculture
C. GPS
D. Information literacy
E. LMS

19. Which term means: "Buying and selling over the Internet"?

A. CAD
B. E-governance
C. Domain
D. E-commerce
E. Telemedicine

20. Which term means: "Doing bank work through the Internet"?

A. CAM
B. E-learning
C. Electronic health record
D. Information literacy
E. Online banking

Structured Questions

1. Explain how ICT is used in healthcare, naming three tools. *(4 marks)*

> Electronic health records keep patient history; scanners such as MRI and CT help diagnosis; telemedicine lets specialists treat patients far away; patient monitors give alerts

2. Describe two ways ICT helps agriculture in Sri Lanka. *(3 marks)*

> Soil and weather sensors with automatic irrigation save water; drones check crop health; mobile apps give market prices and weather so farmers get better prices

3. Define e-commerce and e-governance, and give one benefit of each. *(4 marks)*

> E-commerce – buying and selling online; benefit – trade 24 hours with global customers; e-governance – government services through ICT; benefit – less queueing and more transparency

4. A rural hospital has no heart specialist. Using the IPO model, explain how telemedicine helps. *(4 marks)*

> Input – ECG readings and video of the patient; process – the specialist studies them remotely; output – diagnosis and advice to the local doctor; benefit – no travel, faster treatment

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5. Name four ICT skills that a modern office worker needs and give an example of each. *(4 marks)*

> Basic operation – managing files; office applications – spreadsheets; communication – email and video meetings; safety – spotting phishing and using strong passwords

Summary

- ICT is used in education, health, agriculture, business, engineering, transport, government and media.
- Key terms: e-learning, telemedicine, e-commerce, e-governance, CAD/CAM.
- Each domain uses special tools to save time, cost and effort.
- People need basic, office, communication, information literacy and safety skills.
- In exams, give the tool, what it does and the benefit.

MCQ answer key – 1.6

1. **B** – Tele = far.
2. **E** – Computer-aided design.
3. **D** – Used in education.
4. **C** – Exact care with data.
5. **A** – A government service.
6. **C** – Online trade.
7. **A** – Satellite location.
8. **E** – An ICT skill.
9. **D** – Computer-aided manufacturing.
10. **E** – Healthcare tool.
11. **B** – Scan to pay.
12. **A** – Flexible learning.
13. **B** – Domain – An area of life or work where ICT is used.
14. **C** – E-learning – Learning using electronic media and the Internet.
15. **D** – LMS – A learning management system that delivers online courses.
16. **A** – Telemedicine – Treating patients from a distance using ICT.
17. **C** – Electronic health record – A patient's medical history stored digitally.
18. **B** – Precision agriculture – Farming using sensors, GPS and data for exact care.
19. **D** – E-commerce – Buying and selling over the Internet.
20. **E** – Online banking – Doing bank work through the Internet.

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