

ICT

INFORMATION AND COMMUNICATION TECHNOLOGY

GRADE 10



UNIT 1

Information and Communication Technology

Teacher Guide - Answers and Marks



"The King of ICT"

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TEACHER GUIDE

Marks and Answers

You decide how much class time each part needs



Chapter	Exercise	Marks
Chapter 1	A Data or information?	10
	B Fill in the blanks	8
	C Complete the systems	8
	D Which quality is missing?	5
	E Turn data into information	10
	F Read the NIC number	8
Chapter 2	A Fill in the blanks	8
	B Match the machine to its job	7
	C True or false	8
	D Who uses the LMS?	6
	E Answer these	6
Chapter 3	A Name the ICT device	8
	B Which field?	10
	C Good use or bad effect?	10
	D Answer these	7
Chapter 4	A Put the story in order	6
	B Who am I?	6
	C Complete the generations	5
	D Which generation?	4
	E Choose the correct answer	5
	F Answer these	6
	G Crossword	10
End	Unit 1 Test	40
TOTAL		201

SUGGESTED SHAPE OF ONE CHAPTER

READ	Teach the chapter pages. Students read with you and underline the key words.
DO	The activity: websites, the library, or a visit in town.
WRITE	The written exercises. Walk around and help.
MARK	Mark the work together. Fill the tick boxes.



ANSWERS

Chapter 1

Data, information and systems



A Data or information?

10 marks

1. D 78	6. I It will rain in Kandy tomorrow afternoon.
2. I Ravi's average mark is 78.	7. D 12, 45, 67, 23
3. D Colombo	8. I Our school has 250 more students than last year.
4. I Rizwan came first in the class.	9. D Kasun
5. D Blue	10. I The shop made a profit of Rs. 50,000 this month.

B Fill in the blanks

8 marks

1. **data**
2. **information**
3. **decisions**
4. **system**
5. **input**
6. **output**
7. **processing**
8. **storage**

C Complete the systems

8 marks (1 per box)

System	Input	Output
ATM machine	ATM card and PIN number	Account balance or cash
Fingerprint reader	The fingerprint of a worker	Time of arrival and time of leaving
QR code	The QR code, scanned with a phone	Details about the item
Term test report	The marks of each subject	Total, average and rank

Accept any sensible input and output with the same meaning.

D Which quality is missing?

5 marks

1. **Timely** - The weather report you are reading is from last week.
2. **Accurate** - A doctor gets the wrong blood group of a patient.
3. **Complete** - To find the average income of Sri Lanka, only 10 people were asked.



4. **Relevant** - A job form asks for all your marks from Grade 1 to Grade 11, but it only needs your best result.
5. **Cost effective** - A shop spends Rs. 100,000 to find information that earns it only Rs. 20,000.

E Turn data into information

10 marks

Name	Total	Average	Rank
Amal	210	70.0	2
Nadee	255	85.0	1
Kasun	175	58.3	3

Decision (1 mark): Kasun, who has the lowest average (58.3). The teacher should help Kasun first.

F Read the NIC number

8 marks (1 for year, 1 for gender)

Begins with	Year of birth	Male or female
92 1	1992	Male
88 6	1988	Female
79 2	1979	Male
95 8	1995	Female

ANSWERS**Chapter 2**

ICT in government, education and health

A Fill in the blanks

8 marks

1. **communication**
2. **ICT**
3. **e-Government**
4. **edutainment**
5. **WBT**
6. **LMS**
7. **distance learning**
8. **telemedicine**



B Match the machine to its job

7 marks

1. CAT machine → B
2. MRI machine → F
3. ECG machine → D
4. EEG machine → A
5. Cardiac screening machine → G
6. Blood sugar testing machine → C
7. Blood pressure wrist band → E

C True or false

8 marks

1. T - e-Government helps citizens to get government services easily.
2. T - WBT means Web Based Training.
3. F - You do not need the Internet to use an LMS.
4. T - Parents can check their child's progress using an LMS.
5. F - An MRI machine uses X-rays to make pictures.
6. F - An ECG machine records the activity of the brain.
7. T - In telesurgery, the specialist doctor can be in another country.
8. F - Online distance learning costs much more than studying abroad.

D Who uses the LMS?

6 marks

1. Upload the homework done at home → Student
2. Add good learning materials → School
3. Check the progress of a child from home → Parent
4. Publish the test results → School
5. Use the lessons at any time, from anywhere → Student
6. Keep the records of students and teachers up to date → School

E Answer these

6 marks (2 each)

1. What is e-Government? Give one example from Sri Lanka.

A government using ICT to communicate with its citizens, companies, organisations and other governments. Example: the official government web portal www.gov.lk, the Government Information Centre, or ICTA.

2. What is telemedicine? Write two types of telemedicine.

Using ICT to examine or treat a patient who is far from the hospital. Any two: emergency telemedicine, home health monitoring, telemedicine consultation, telesurgery, medical teletraining.



3. Write two features of online distance learning.

Any two: you can learn at a flexible time; a digital library; online assignments and quizzes; contact with a teacher online; it is easy to get the teacher's advice.

ANSWERS

Chapter 3

ICT at work, on the road and at play

A Name the ICT device

8 marks

1. Greenhouse
2. Drip irrigation
3. Robot
4. RFID tag
5. CCTV camera
6. Traffic light
7. Fingerprint scanner
8. Video conferencing

B Which field?

10 marks

1. Drip irrigation → Agriculture
2. Parking identification placard → Transport
3. ECG machine → Health
4. Video conferencing → Business
5. Automatic weed remover → Agriculture
6. Traffic light control system → Transport
7. e-Banking → Business
8. Telesurgery → Health
9. RFID tags for farm animals → Agriculture
10. Online shopping → Business

C Good use or bad effect?

10 marks

1. G Checking the weather with ICT before planting crops	6. B Sharing a changed photo of a classmate to make fun of them
2. B Playing online games all night and missing school	7. B Copying a song and selling it without permission
3. G Paying the electricity bill with a mobile phone	8. G Talking to your uncle abroad on a video call
4. B Making friends with strangers on social media	9. B Sitting at the computer all day with no exercise



5. G Watching a lesson video when you were sick at home

10. G A robot that works 24 hours a day in a factory

D Answer these

7 marks

1. Write three advantages of online shopping. (3 marks)

Any three: you can buy from shops all over the world; it is open 24 hours; you can see and order goods from home; you can pay with a credit card or another electronic method; goods are delivered to your home, which saves time, travel and money.

2. Write two reasons why factories use robots. (2 marks)

Any two: they work 24 hours; they never get tired; they are efficient; they are accurate; they are hygienic (clean).

3. Write two ways to use ICT in a responsible way. (2 marks)

Any two sensible answers, for example: limit your screen time; do not make friends with strangers online; do not visit harmful websites; use antivirus software; do not change or share other people's photos; respect copyright.

ANSWERS

Chapter 4

The history of the computer



A Put the story in order

6 marks

The numbers the student writes, from the top of the list down:

- 1. 6 - Howard Aiken builds MARK 1.**
- 2. 1 - People use the abacus to add numbers.**
- 3. 5 - Charles Babbage starts to build the Analytical Engine.**
- 4. 2 - Blaise Pascal makes the Adding Machine.**
- 5. 4 - Joseph Jacquard makes a loom that uses punch cards.**
- 6. 3 - Leibnitz improves Pascal's machine so it can multiply and divide.**

B Who am I?

6 marks

- 1. I made the first mathematical machine, the Adding Machine, in 1642. → C (Blaise Pascal)**
- 2. In 1674 I made the Adding Machine able to multiply and divide. → F (Gottfried Wilhelm von Leibnitz)**
- 3. I made a loom that used punch cards. → E (Joseph Jacquard)**
- 4. People call me the Father of Computing. → A (Charles Babbage)**
- 5. People call me the first programmer. → D (Ada Augusta Lovelace)**



6. I built MARK 1 at Harvard University in 1944. → B (Howard Aiken)**C Complete the generations**

5 marks

1. First generation → Vacuum tubes
2. Second generation → Transistors
3. Third generation → Integrated circuits (IC)
4. Fourth generation → Microprocessor (VLSI)
5. Fifth generation → ULSI chips

D Which generation?

4 marks

1. Picture A → Third generation
2. Picture B → First generation
3. Picture C → Fourth generation
4. Picture D → Second generation

E Choose the correct answer

5 marks

1. (b) add numbers
2. (c) Charles Babbage
3. (b) Second
4. (c) third generation
5. (d) They made a lot of heat

F Answer these

6 marks

1. Why do we call Charles Babbage the Father of Computing? (2 marks)

He started to build the Analytical Engine. It used input, process, output and storage, like a computer of today. That is why he is called the Father of Computing.

2. Name two machines that used punch cards. (2 marks)

Any two: the loom of Joseph Jacquard; the Analytical Engine of Charles Babbage; MARK 1 and other early computers.

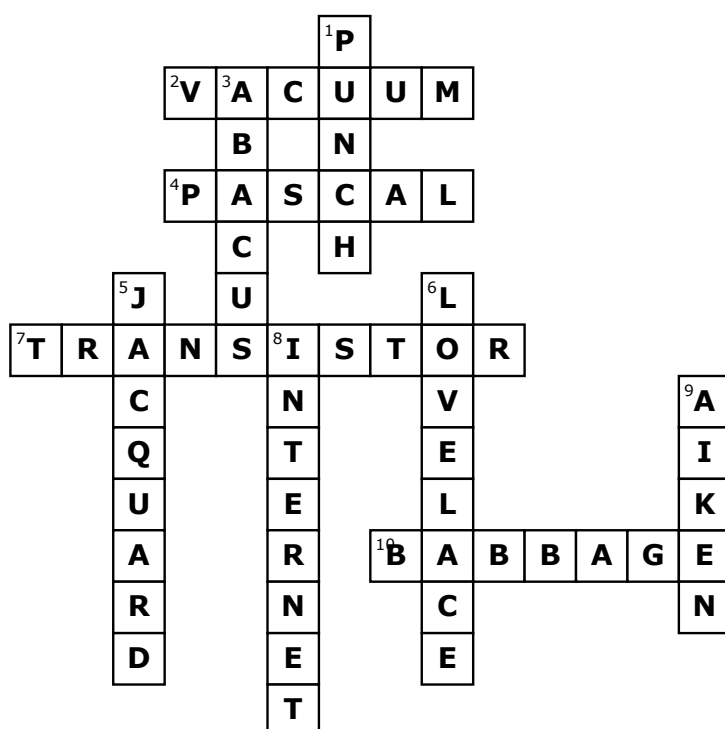
3. Write two ways the second generation was better than the first generation. (2 marks)

Any two: it used transistors, not vacuum tubes; the computers were smaller; they were faster; they made less heat; they used less electricity.



G Crossword

10 marks



ACROSS
 2. VACUUM
 4. PASCAL
 7. TRANSISTOR
 10. BABBAGE
DOWN
 1. PUNCH
 3. ABACUS
 5. JACQUARD
 6. LOVELACE
 8. INTERNET
 9. AIKEN

MARKING SCHEME

Unit 1 Test

Total 40 marks



1 Choose the correct answer

8 marks (1 each)

- (b) data
- (c) The class average is 67
- (a) input
- (c) timely
- (b) telemedicine
- (c) find and count animals
- (a) Ada Augusta Lovelace
- (c) integrated circuits

2 Fill in the blanks

8 marks (1 each)

- output
- system
- accuracy
- LMS



5. ECG
6. shopping
7. abacus
8. vacuum

3 Name the picture**8 marks (2 each)**

1. ATM (Automatic Teller Machine)
2. Robot
3. Abacus
4. CCTV camera

4 Answer these**16 marks****1. Write the difference between data and information. Give one example of each. (4 marks)**

Data are numbers, words, pictures or symbols that have no meaning on their own (for example: 78). Information is processed data. It has a meaning and helps us to make decisions (for example: Ravi's average mark is 78). 2 marks for the difference, 1 mark for each example.

2. Name the three main parts of an information system. Say what each part does. (3 marks)

Input: the data we give to the system. Process: changing the data into information. Output: the information we get. (Storage keeps data for later use - accept it as extra.) 1 mark for each part.

3. Write two uses of ICT in (a) education and (b) agriculture. (4 marks)

(a) Any two: presentations; videos of experiments; educational games; finding information on the Internet; LMS; WBT; online distance learning. (b) Any two: weather devices; automatic insect control; soil sensors; drip irrigation; automatic weed remover; robot planters and harvesters; greenhouses; RFID tags; automatic milking; CCTV.

4. Write three demerits of ICT. (3 marks)

Any three: addiction; unsuitable friendships on social media; viruses; harm from improper websites; publishing changed photos or videos of people; obesity; isolation; violating copyright.

5. Write two differences between first generation and fourth generation computers. (2 marks)

Any two: the first used vacuum tubes, the fourth used microprocessors (VLSI); the first were very large, the fourth very small and portable; the first made a lot of heat, the fourth much less; the first used a lot of electricity, the fourth used little; the first were slow, the fourth much faster.



 WHAT STUDENTS USUALLY GET WRONG

- A single number or word is only **data**, not information.
- **Input** is what goes in. **Output** is what comes out.
- An **MRI** uses magnets and radio waves, not X-rays.
- **ECG** is for the heart. **EEG** is for the brain.
- The Father of Computing is **Charles Babbage**, not Pascal.
- Generations: **tubes, transistors, IC, microprocessor, ULSI**.

ANSWERS

Past Paper Questions

Real O/L questions, easy ones first

1. (a) input, process and output [2020]	6. (b) G2C [2020]
2. (d) USB drive [2022]	7. (d) Calculating the average marks obtained by a student using a spreadsheet software [2021]
3. (b) G2C [2021]	8. (c) B and C only [2020]
4. (d) All A, B and C [2021]	9. (a) A video showing the doctors treating the patients in the clinic [2023]
5. (d) All A, B and C [2024]	

