

Paper Reference 4IT1/01R

Pearson Edexcel

International GCSE (9 – 1)

INFORMATION AND

COMMUNICATION TECHNOLOGY

PAPER 1: WRITTEN PAPER

Monday 13 May 2019 – Morning

**TIME: 1 hour 30 minutes plus your additional
time allowance.**

Total Marks

**In the boxes below, write your name, centre number
and candidate number.**

Surname					
Other names					
Centre Number					
Candidate Number					

ITEMS INCLUDED WITH QUESTION PAPERS

- **A separate Data Booklet.**
- **A separate Spare Data Booklet.**

INSTRUCTIONS

- **Use BLACK ink, BLACK ball – point pen, BLACK felt tip or your usual method.**
- **Answer ALL questions.**
- **Answer the questions in the spaces provided in this Question Paper or in the Data Booklet – THERE MAY BE MORE SPACE THAN YOU NEED.**

INFORMATION

- **Total mark for this paper is 100.**
- **The marks for EACH question are shown in brackets – USE THIS AS A GUIDE AS TO HOW MUCH TIME TO SPEND ON EACH QUESTION.**

ADVICE

- **Read each question carefully before you start to answer it.**
 - **Try to answer every question.**
 - **Check your answers if you have time at the end.**
-

ANSWER ALL QUESTIONS.

SOME QUESTIONS MUST BE ANSWERED WITH

A CROSS IN A BOX .

IF YOU CHANGE YOUR MIND ABOUT AN ANSWER,

PUT A LINE THROUGH THE BOX  AND THEN

MARK YOUR NEW ANSWER WITH A CROSS .

Look at the photograph in the separate Data Booklet.

The photograph shows five young adults (two male and three female) sitting on a park bench, smiling and using different technology devices. The three females are holding smartphones and the two males are looking at a tablet computer.

Question 1 is on the next page.

1. Kiki buys a smartphone.

(a) The smartphone turns itself off when it is dropped.

Describe how the smartphone does this.

(2 marks)

Question 1 (b) is on the next page.

1. (b) Smartphones can be connected using wired or wireless methods.

(i) Give TWO disadvantages to Kiki of using a WIRED method to connect to the smartphone.

(2 marks)

DISADVANTAGE 1. _____

DISADVANTAGE 2. _____

Question 1 (b) (ii) is on the next page.

1. (b) (ii) Give TWO disadvantages to Kiki of using a WIRELESS method to connect to the smartphone.

(2 marks)

DISADVANTAGE 1. _____

DISADVANTAGE 2. _____

Question 1 (c) is on the next page.

Turn over

1. (c) The smartphone uses an SD card.

Which ONE of these does an SD card provide?

(1 mark)

☐

A Location data

☐

B Connectivity

☐

C Storage

☐

D Security

- (d) The smartphone is an example of a converged device.

State what is meant by the term
'convergence'.

(1 mark)

Turn over

1. (e) The smartphone has a **4 GHz CPU**.

Describe how the speed of the processor is measured.

(2 marks)

Question 1 (f) is on the next page.

Turn over

1. (f) The smartphone uses utility software.

State TWO uses for utility software.

(2 marks)

USE 1. _____

USE 2. _____

Question 1 (g) is on the next page.

1. (g) Explain ONE drawback of using solid state storage.

(2 marks)

Question 1 (h) is on the next page.

1. (h) Kiki's smartphone uses an operating system.

Which ONE of these describes an operating system?

(1 mark)

☐

A It is more secure than application software

☐

B It is controlled by software

☐

C It manages memory and resources

☐

D It provides open source code

Question 1 (i) is on the next page.

Turn over

1. (i) Kiki watches broadcast television.

On the blank space provided for Question 1 (i) in the separate Data Booklet, draw a diagram to show how Kiki's television can receive a television broadcast.

Label each component and the connectivity you use in your diagram.

(4 marks)

Question 1 (j) is on the next page.

1. (j) Describe how interference could affect Kiki's experience of watching broadcast television.

(2 marks)

(TOTAL FOR QUESTION 1 = 21 MARKS)

Question 2 is on the next page.

Turn over

2. Zara uses her tablet computer to watch TV online.

(a) Describe the function of a gateway.

(2 marks)

Question 2 (b) is on the next page.

Turn over

2. (b) State TWO drawbacks to Zara of watching
online TV.

(2 marks)

DRAWBACK 1. _____

DRAWBACK 2. _____

Question 2 (c) is on the next page.

2. (c) Look at **Figure 1** for Question 2 (c) in the separate Data Booklet.

Zara sees the page shown in **Figure 1**.

Describe how this page is a risk to Zara.

(4 marks)

2. (d) Give TWO drawbacks to Zara of connecting her tablet computer to her television.

(2 marks)

DRAWBACK 1. _____

DRAWBACK 2. _____

Question 2 (e) is on the next page.

Turn over

2. (e) Zara uses a PIN to unlock her tablet computer.

Describe how a PIN system works.

(3 marks)

Question 2 (f) is on the next page.

2. (f) Explain ONE disadvantage of using hosted applications.

(2 marks)

Question 2 (g) is on the next page.

2. (g) Explain ONE disadvantage of using locally installed applications.

(2 marks)

(TOTAL FOR QUESTION 2 = 17 MARKS)

Question 3 is on the next page.

Turn over

3. Ruwan uses a smartwatch when he exercises.

(a) The smartwatch can connect to a wireless health monitor.

Which ONE of these is a type of wireless connectivity?

(1 mark)

☐

A Serial

☐

B Parallel

☐

C Thunderbolt

☐

D Bluetooth

Question 3 (b) is on the next page.

3. (b) The health monitor uses Wi – Fi Direct to transfer data to the smartwatch.

(i) Speed is not a concern.

Explain why Wi – Fi Direct is a better choice than infrared for this transfer.

(2 marks)

Question 3 (b) (ii) is on the next page.

3. (b) (ii) Explain why distance might affect the speed of the transfer.

(2 marks)

Question 3 (c) is on the next page.

3. (c) Some data is encrypted.

Describe the purpose of encryption.

(2 marks)

Question 3 (d) is on the next page.

3. (d) Ruwan's smartwatch uses GPS.

Describe how GPS works.

(2 marks)

Question 3 (e) is on the next page.

3. (e) Some social networking services use GPS data.

Give TWO positive ways in which social network services use GPS data.

(2 marks)

POSITIVE WAY 1. _____

POSITIVE WAY 2. _____

Question 3 (f) is on the next page.

Turn over

3. (f) The health monitor stores **3 KiB** of data.

Construct an expression to show how many
bits are in **3 KiB**.

(3 marks)

Question 3 (g) is on the next page.

Turn over

3. (g) Ruwan purchased his smartwatch online.

Describe TWO ways in which transactional data
could be used during a purchase.

(4 marks)

WAY 1. _____

WAY 2. _____

(TOTAL FOR QUESTION 3 = 18 MARKS)

4. Ruwan searches online for local sporting events.

(a) Ruwan evaluates the fitness for purpose of the search results.

(i) Look at the table for Question 4 (a) (i) in the separate Data Booklet.

Complete the table to show how each property can **POSITIVELY** affect the fitness for purpose of information.

(3 marks)

(ii) Which **ONE** of these is another property of information that affects fitness for purpose?

(1 mark)

☐

A Bias

☐

B Plagiarism

☐

C Cost

☐

D Location

Turn over

4. (a) (iii) Which ONE of these affects the ranking of a search result?

(1 mark)

☐

A Keywords

☐

B Copyright

☐

C Accessibility

☐

D Bookmarks

Question 4 (b) is on the next page.

Turn over

4. (b) Describe how a search engine works.

(4 marks)

Question 4 (c) is on the next page.

Turn over

4. (c) Which ONE of these is used as a payment method?

(1 mark)

☐

A FTP

☐

B HTTP

☐

C NFC

☐

D VPN

Question 4 (d) is on the next page.

Turn over

4. (d) Describe how a firewall can be used to restrict access to a network.

(3 marks)

Question 4 (e) is on the next page.

Turn over

4. (e) Discuss how having less – restricted access to networks has impacted upon society.

(8 marks)

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(TOTAL FOR QUESTION 4 = 21 MARKS)

Question 5 is on the next page.

5. James teaches in a school that uses a local area network and a wide area network.

**(a) State what is meant by the term
‘wide area network’.**

(1 mark)

Question 5 (b) is on the next page.

5. (b) Some learners have accessibility needs.

Describe ONE way that ICT systems can be configured to support learners with accessibility needs.

(4 marks)

5. (c) Explain why roaming profiles could benefit teachers.

(4 marks)

Question 5 (d) is on the next page.

Turn over

5. (d) Which ONE of these is a benefit of using a client – server network?

(1 mark)

☐

A Reduced network traffic

☐

B Faster data transfer

☐

C Higher bandwidth

☐

D Centralised backup

Question 5 (e) is on the next page.

5. (e) Describe how the victims of cyber – bullying are affected by the anonymity of offenders.

(3 marks)

Question 5 (f) is on the next page.

5. (f) The learners use office productivity tools.

Give TWO examples of tasks that could be completed using office productivity tools.

(2 marks)

EXAMPLE 1. _____

EXAMPLE 2. _____

Question 5 (g) is on the next page.

5. (g) Discuss the impact of wikis on learning.

(8 marks)

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Turn over

45

(TOTAL FOR QUESTION 5 = 23 MARKS)

TOTAL FOR PAPER = 100 MARKS
