Please check the examination details below before entering your candidate information

| Candidate surname | Other names |
|---|---|
| | |

**Pearson Edexcel**
**International GCSE (9-1)**

Centre Number | Candidate Number

# Monday 13 May 2019

Morning (Time: 1 hour 30 minutes) | Paper Reference **4IT1/01**

# Information and Communication Technology (ICT)

## Paper 1: Written Paper

**You do not need any other materials.**

Total Marks

## Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*

## Information

- The 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.

*Turn over*

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1/1/1/1

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Pearson

LIVEWORKSHEETS

**Answer ALL questions.**

**Write your answers in the spaces provided.**

**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 ☒.**

(Source: © Pearson Asset Library)

**1** Kiki buys a smartphone.

(a) The smartphone uses a sensor that detects movement of the device.

One way in which the smartphone uses data from the sensor is to switch itself off if dropped.

Give **two other** ways in which the smartphone could use data from the sensor.

**(2)**

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LIVEWORKSHEETS

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

(i) Give **two** advantages to Kiki of using a **wired** method to connect to the smartphone.

**(2)**

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(ii) Give **two** advantages to Kiki of using a **wireless** method to connect to the smartphone.

**(2)**

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(c) The smartphone uses a SIM card.

Which **one** of these is a type of connectivity that the SIM card provides?

**(1)**

☐ **A** WLAN

☐ **B** Bluetooth

☐ **C** Infrared

☐ **D** 4G

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LIVEWORKSHEETS

(d) Kiki meets her friend, Zara.

(i) Draw a diagram to show how Kiki's smartphone can be used to provide Zara's tablet computer with an Internet connection.

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

**(4)**

(ii) Explain why sharing an Internet connection would affect the bandwidth available to Kiki's smartphone.

**(2)**

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(e) Kiki's smartphone and Zara's tablet computer share a lot of the same functionality.

State the term used to describe this.

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LIVEWORKSHEETS

(f) The smartphone has a 4 GHz CPU.

Describe the function of a CPU.

**(2)**

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(g) The smartphone uses application software.

Describe the purpose of application software.

**(2)**

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(h) Explain **one** benefit of using solid state storage with a smartphone.

**(2)**

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(i) Kiki's smartphone uses an open source operating system.

Which **one** of these describes the source code in an open source operating system?

**(1)**

☐ **A** It is owned by a company

☐ **B** It is made available to users

☐ **C** It is more secure

☐ **D** It uses less processing power

**(Total for Question 1 = 21 marks)**

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LIVEWORKSHEETS

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

(a) Describe the function of a router.

**(2)**

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(b) State **two** benefits to Zara of online TV.

**(2)**

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LIVEWORKSHEETS

(c) Zara streams an online video. She sees the notice shown in **Figure 1**.

**What has happened?**
Your files are no longer accessible.

**Can I get access to my files?**
Yes. Send a payment as described below.

**How long do I have?**
You have 14 days to send payment.

**How do I pay?**
Send £500 in Bitcoin to abc123def456ghi789.

**Figure 1**

Describe what has happened to Zara.

**(4)**

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(d) Give **two** benefits to Zara of connecting her tablet computer to her television.

**(2)**

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LIVEWORKSHEETS

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

List **three other** methods she could use to prevent unauthorised access to her data.

(3)

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(f) Explain **one** advantage of using hosted applications with tablet computers.

(2)

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(g) Explain **one** advantage of using locally installed applications.

(2)

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**(Total for Question 2 = 17 marks)**

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LIVEWORKSHEETS

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**3** Ruwan uses a smartwatch when he exercises.

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

Which **one** of these describes Bluetooth?

(1)

☒ **A** A high speed wired connection

☒ **B** A high resolution connection

☒ **C** A type of wireless connection

☒ **D** An energy saving connection

(b) The health monitor uses Bluetooth to transfer data to the smartwatch.

(i) Explain why Bluetooth rather than infrared is used for this transfer.

(2)

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(ii) Give **two** factors that might affect the speed of the transfer.

(2)

1 .....

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(c) Some data needs to be encrypted when it is transferred.

Describe how encryption helps keep data secure.

(2)

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LIVEWORKSHEETS

(d) Ruwan's smartwatch uses GPS to monitor his location.

Give **two** pieces of information that could be calculated using GPS data.

**(2)**

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(e) Some social networking services use GPS data.

Describe how the use of GPS data could place social network users at risk.

**(2)**

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(f) The health monitor stores 4 MiB of data.

Construct an expression to show how many bits are in 4 MiB.

**(3)**

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LIVEWORKSHEETS

(g) Ruwan purchased his smartwatch online.

Describe **two** ways in which the Internet can impact positively on companies that sell goods.

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**(Total for Question 3 = 18 marks)**

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LIVEWORKSHEETS

**4** Ruwan searches online for local sporting events.

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

(i) Complete this table to show how each property can **negatively** affect the fitness for purpose of information.

**(3)**

| **Property** | **Negative effect** |
|---|---|
| Bias | |
| Age | |
| Reliability | |

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

**(1)**

☐ **A** Cost

☐ **B** Keyword

☐ **C** Plagiarism

☐ **D** Relevance

(iii) Which **one** of these would improve the ranking of a search result?

**(1)**

☐ **A** Acknowledged sources

☐ **B** Alphabetical search terms

☐ **C** Copyrighted material

☐ **D** Sponsored adverts

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LIVEWORKSHEETS

(b) Explain why Ruwan must consider his use of keywords when using a search engine.

**(2)**

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(c) Zara enters the same search term as Ruwan but receives different results.

Explain why Zara receives different results.

**(2)**

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(d) Which **one** of these is a protocol used to transfer data on the Internet?

**(1)**

☐ **A** ISP

☐ **B** HTTPS

☐ **C** HTML

☐ **D** VPN

(e) Describe how MAC addresses can be used to prevent access to networks.

**(3)**

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LIVEWORKSHEETS

(f) Analyse how the use of cloud-based services has impacted on the gap between the information rich and the information poor.

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LIVEWORKSHEETS

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**(Total for Question 4 = 21 marks)**



LIVEWORKSHEETS