Candidate surname | Other names

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

Centre Number | Candidate Number

**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.
- Good luck with your examination.

*Turn over*

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Pearson

**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 ☒.**

A family uses digital devices in their everyday lives.



(Source: © PAL)

*P66496A0224*

**1** Howard buys a tablet computer.

(a) Give **two** types of wireless connectivity that the tablet computer could use.

**(2)**

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2 ...................................................................................................................................................................

(b) Give **two** types of peripheral storage media that the tablet computer could use.

**(2)**

1 ...................................................................................................................................................................

2 ...................................................................................................................................................................

(c) Which **one** of these is required for the tablet computer to connect to the Internet?

**(1)**

☒ **A** GPS

☒ **B** ISP

☒ **C** LAN

☒ **D** NFC

(d) Which **one** of these is found in all computers?

**(1)**

☒ **A** Control software

☒ **B** Keyboard

☒ **C** Operating system

☒ **D** Processor

(e) Which **one** of these would be used as a desktop replacement computer?

(1)

☒ **A** Laptop

☒ **B** Mainframe

☒ **C** Media Player

☒ **D** Server

(f) Describe how tablet computers allow people to work from home.

(2)

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(g) A CPU has 16 MiB of cache memory.

Construct an expression to show how many bits are in 16 MiB.

(3)

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(h) Howard sells his old hard disk drive to Steve.

    (i) Complete the table by ranking these storage devices in order of their read/write speed.

          A) Hard disk drive
          B) Optical disk drive
          C) Solid state drive

**(2)**

| | |
|---|---|
| **1 (Fastest)** | |
| **2** | |
| **3 (Slowest)** | |

    (ii) Describe **two** factors that affect the read/write speed of a hard disk drive.

**(4)**

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    (iii) Explain **one** benefit to the environment of buying previously-owned devices.

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(iv) Which **one** of these is the type of software Howard should use to make copies of his applications?

(1)

- ☒ **A** Control
- ☒ **B** Office-productivity
- ☒ **C** Project management
- ☒ **D** Utility

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

**2** Judy is researching online.

(a) List **two** types of user-generated reference sites Judy could use.

**(2)**

1 ................................................................................................................................................................................................

2 ................................................................................................................................................................................................

(b) Judy uses a mobile phone to make a voice call.

Draw a diagram to show the mobile phone's input and output devices required to make the call.

Label each device you use in your diagram.

**(3)**
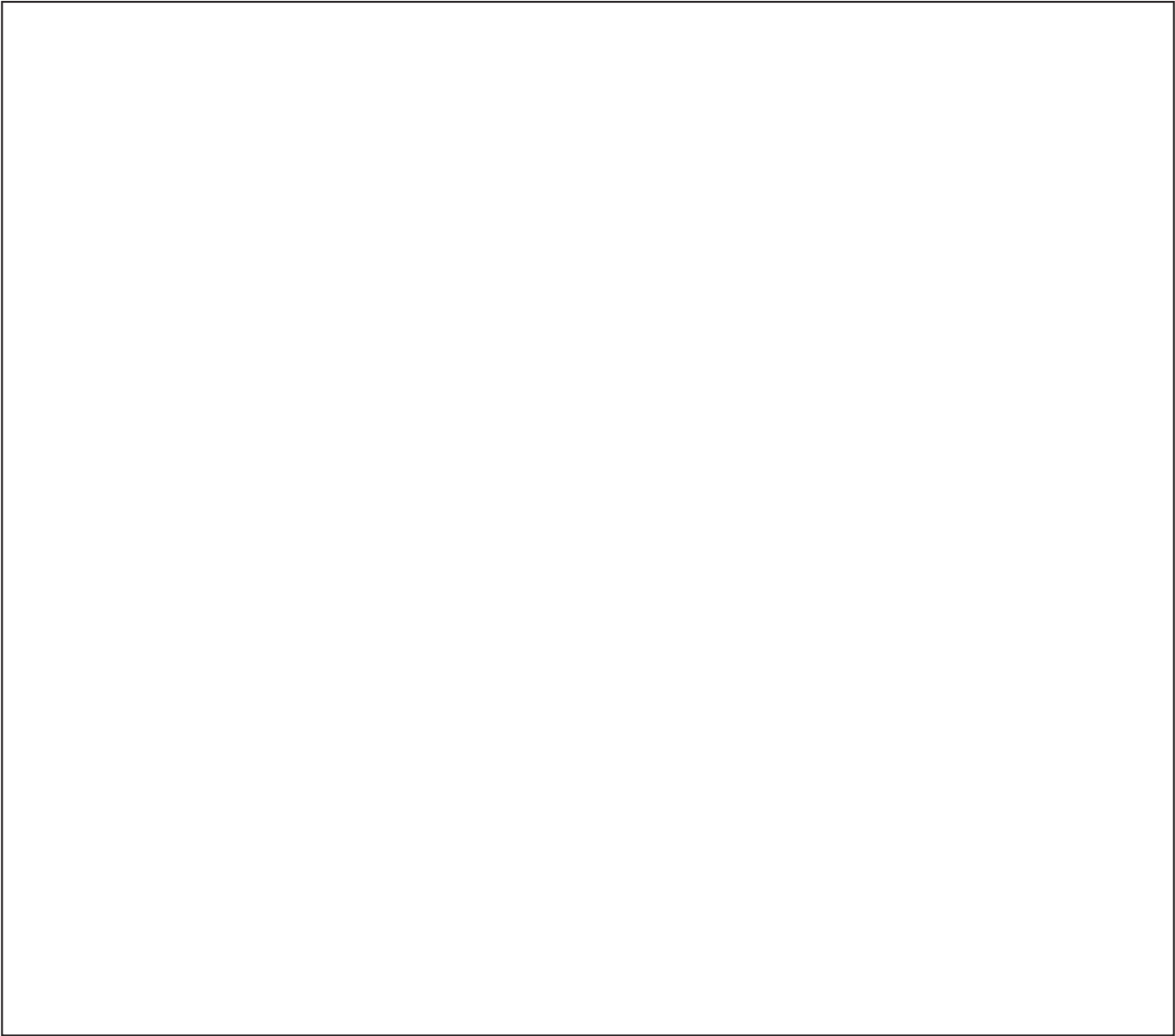
(c) Judy sets file permissions on her online documents.

Which **one** of these is a benefit of doing this?

(1)

- ☒ **A** Improves encryption
- ☒ **B** Increases storage
- ☒ **C** Quicker backup
- ☒ **D** Secures data

(d) Describe how a CAPTCHA test reduces the function of malware.

(2)

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(e) Explain **one** positive impact of cloud-based services on learning.

(2)

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(f) Describe how mobile broadband can be used to provide access to cloud-based services.

(2)

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(g) Give **one** reason why Judy should use mobile broadband.

(1)

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(h) Explain **one** benefit of using wired connectivity.

(2)

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**(Total for Question 2 = 15 marks)**

**3** Eunice installs some software on her laptop.

(a) Draw **one** straight line from **each** example of utility software to the correct purpose.

(3)

| **Utility software** | **Purpose** |
|---|---|

Compression •

Back-up •

Anti-malware •

• Protect from viruses

• Create copies of files

• Reduce file sizes

• Block IP addresses

• Convert file types

(b) Which **one** of these types of device can have software installed to it?

(1)

☒ **A** Memory

☒ **B** OMR Reader

☒ **C** Processor

☒ **D** Storage

(c) Explain **one** benefit to Eunice of updating her software regularly.

(2)

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(d) Eunice is travelling by train.

She connects to the Internet using the train's Wi-Fi connection.

Explain why the Wi-Fi provider blocks video streaming.

(2)

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(e) The Internet has provided a wider range of entertainment and leisure opportunities.

One example is video and audio streaming.

State **two other** examples.

(2)

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(f) Eunice changes her laptop's GPS settings.

Which **one** of these statements is true?

(1)

☒ **A** GPS is used by all digital devices

☒ **B** GPS does not use an Internet connection

☒ **C** GPS uses cloud computing

☒ **D** GPS is better if open source software is used

P 6 6 4 9 6 A 0 1 1 2 4

(g) Eunice writes a blog.

(i) Eunice wants visitors to her blog to see posts that are likely to be relevant to them.

Describe how cookies can be used to achieve this.

(4)

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(ii) In some countries, laws require website owners to obtain 'informed consent' from visitors before using cookies.

Explain why these laws are required.

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**(Total for Question 3 = 17 marks)**

**4** Hugh sells his music online.

(a) Which **one** of these is a law that protects his work?

(1)

☒ **A** Computer Misuse Act

☒ **B** Copyright, Designs and Patents Act

☒ **C** Human Rights Act

☒ **D** Data Protection Act

(b) List **three** benefits to Hugh of selling his music online.

(3)

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(c) **Figure 1** shows an image of Hugh's social media settings.

**Hugh**   | POSTS | PHOTOS | VIDEOS | EVENTS |

POST HISTORY

It was great to catch up with you last weekend!

Best homemade pizza with pineapple on the top, delicious!

AUTO-ACCEPT FRIENDS ( ⊙ off)

GALLERY

MAP ME      (activate ⊙ )
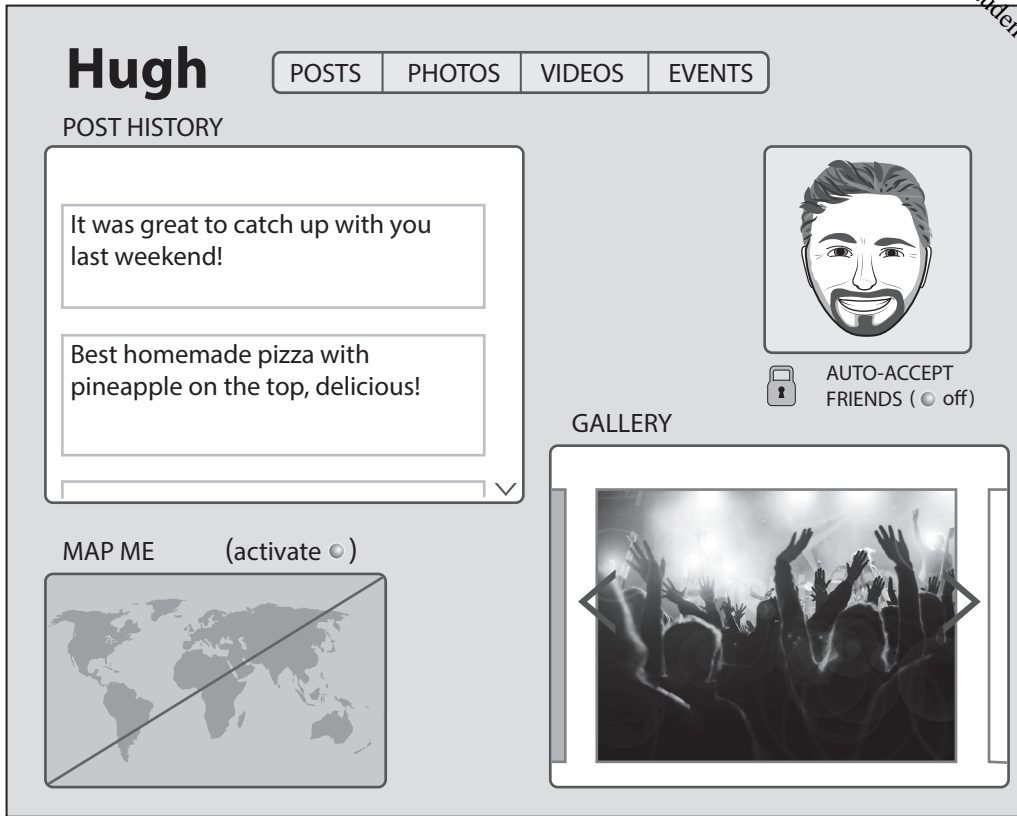
(Source: © PAL)

**Figure 1**

Explain **two** ways Hugh has protected his personal information.

**(4)**

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(d) Hugh is choosing the type of computer he will use to manage the purchase and delivery of audio files to customers.

Explain why an embedded system is a poor choice.

(2)

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(e) Hugh is working on a musical project.

(i) List **two** key features of sound editing software that Hugh could use to create a song.

(2)

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(ii) Describe **two** key features of project management software that Hugh could use to make sure the project is complete before the deadline.

(4)

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(f) Hugh uses a desktop computer to write, create and distribute his music.

Discuss the advantages and disadvantages to Hugh of selecting a desktop computer rather than a laptop, smartphone or tablet computer.

*In your answer you should consider: components, portability, connectivity, cost and maintenance.*

**(8)**

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**(Total for Question 4 = 24 marks)**

**5** Hugh creates a website for a band.

(a) Explain **one** drawback to the website users of Hugh reducing the file size of images used on the website.

(2)

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(b) Describe the function of **two** network components that are used to transfer data on the Internet.

(4)

Network component...................................................................................................................................

Function......................................................................................................................................................

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Network component...................................................................................................................................

Function......................................................................................................................................................

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(c) Explain why streaming allows users with limited storage on their devices to listen to the band's music.

(2)

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(d) Describe **one** method that should be used to secure payment data transferred between Hugh's server and other computers.

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(e) Describe how WPA is a more secure protocol than WEP.

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(f) Hosted applications have fewer features than local applications.

Explain **one** positive impact on the user experience of reducing the number of features.

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(g) Evaluate how online communities have impacted on how we socialise.

(8)

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**(Total for Question 5 = 23 marks)**

**TOTAL FOR PAPER = 100 MARKS**

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