Pearson Edexcel International GCSE (9–1)

Thursday 7 November 2024

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 ▶

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 ⊠.

Jan, Taylor, Peta and Stevie are a family that uses digital devices at home and at work.

(Source: © Pearson Asset Library)

1 Jan buys a new computer.

(a) Which **one** of these is used by all computers?

(1)

☒ **A** Connectivity

☒ **B** Keyboard

☒ **C** Mouse

☒ **D** Processor

(b) Which **one** of these is a wireless connection method?

(1)

☒ **A** ISP

☒ **B** LAN

☒ **C** NFC

☒ **D** WAN

(c) A computer can be connected to a local area network (LAN).

Give **two other** types of network a computer can connect to.

(2)

1 ....

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2 ....

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(d) Give **two** types of internal storage media that a computer can use.

(2)

1 ....

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2 ....

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(e) Which **one** of these is a portable computer?

(1)

☒ **A** Desktop

☒ **B** Desktop replacement

☒ **C** Mainframe

☒ **D** Server

(f) Describe how 4G allows people to work from anywhere.

(2)

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(g) A Solid State Drive (SSD) has 2 TiB of storage.

Construct an expression to show how many bits are in 2 TiB.

(3)

Use this space for workings out.

Expression:

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(h) Jan sells an old server to Chris.

(i) Give the term used for a computer logged on to a server.

(1)

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(ii) Connecting computers to a server allows users to access data from any device.

Explain **one other** benefit of connecting computers to a server.

(2)

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(iii) Describe **two** factors that affect the speed that data is transferred on a network.

(4)

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(iv) Explain **one** benefit to the environment of reusing devices.

(2)

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(Total for Question 1 = 21 marks)

2 Taylor installs some software.

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

(3)

Utility software   **Purpose**

Reorder data

Formatting

Create copies of files

Encryption

Reduce file sizes

Protect data

Defragmentation

Set the file system

(b) Which **one** of these could be hosted software?

(1)

☒ **A** Application

☒ **B** Control

☒ **C** Memory management

☒ **D** Utility

(c) Explain why an operating system uses resource management when Taylor loads the software.

(2)

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(d) Explain the advantage of using open source software rather than proprietary software.

(2)

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(e) Give **two** ways of staying safe when using social networks.

(2)

1 ....

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2 ....

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(f) Which **one** of these statements is true?

(1)

☒ **A** 4G uses a landline network

☒ **B** Bluetooth and GPS have latency

☒ **C** Infra-red connectivity produces heat

☒ **D** NFC uses Wi-Fi

(g) Taylor accepts cookies.

(i) Give **two** examples of data held in a tracking cookie.

(2)

1 ....

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2 ....

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(ii) Explain why the use of cookies can limit information shown to users.

(2)

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(iii) Which **one** of these is a requirement when storing data about individuals?

(1)

⊠　**A**　Allow access to the data from anywhere

⊠　**B**　Share the data with other organisations

⊠　**C**　Store the data forever

⊠　**D**　Use the data for limited purposes

(Total for Question 2 = 16 marks)

3 Peta studies online.

(a) Peta provides 'read/write' access to all documents.

Give **one** drawback of doing this.

(1)

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(b) Describe how a firewall prevents malware from being sent to devices in a network.

(2)

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(c) Which **one** of these technologies is used to provide Wi-Fi connectivity?

(1)

☒ **A** 3G

☒ **B** Copper cable

☒ **C** Radio waves

☒ **D** WAN

(d) Which **one** of these is a benefit of using wireless connectivity?

(1)

☒ **A** Devices can be more portable

☒ **B** New devices can be added

☒ **C** Provides unlimited connections

☒ **D** Reduces interference

(e) The Internet has improved access to information.

(i) Which **one** of these is an example of a user-generated content site?

(1)

☒ **A** Online game

☒ **B** Search engine

☒ **C** Social network

☒ **D** Wiki

(ii) Explain **one** drawback to Peta of gathering information from a user-generated reference site.

(2)

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(iii) Describe **two** features of a virtual learning environment (VLE) that can be used to help students learn.

(4)

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(iv) Explain **one** reason why Peta paraphrases the information found during research for an essay.

(2)

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(v) Explain **one** impact of unequal access to information.

(2)

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(f) Peta makes a video call to another student.

(i) Give **two** output devices required to make a video call.

(2)

1 ....

2 ....

(ii) Explain **one** benefit to Peta of increasing bandwidth.

(2)

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(g) Copper cable can be used to transmit data.

Explain why using cable that is wrapped in a thin sheet of metal increases transmission speed.

(2)

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(Total for Question 3 = 22 marks)

4 Stevie's company creates graphics to share online.

(a) Give **two** benefits to the company of sharing digital products online.

(2)

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(b) Stevie uses solid state drives and hard disk drives with image editing software.

(i) Explain the benefit of using magnetic storage rather than solid state storage.

(2)

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(ii) Explain the benefit of increased RAM when editing images.

(2)

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Turn over ▶

(c) Give **two** key features of image editing software that Stevie could use to edit a photograph.

(2)

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2 ....

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(d) Explain **one** reason why copyright legislation cannot always protect the rights of digital media producers.

(2)

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(e) Stevie sells digital images.

Discuss the advantages and disadvantages to customers who use digital payment systems.

In your answer, you should consider:

- Third-party payment systems

- Bank cards

- Contactless payment using NFC

- Payment protection systems.

(8)

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(Total for Question 4 = 18 marks)

5 Stevie creates a website.

(a) Describe **one** way website content can be optimised to reduce the bandwidth requirements of users.

(2)

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(b) Stevie adds music to the website.

Describe **one** way that streaming music differs from downloading music.

(2)

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(c) Explain **one** benefit to companies of using targeted advertising.

(2)

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(d) Describe how transaction logs improve the security of Stevie's data.

(2)

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(e) Stevie uses hosted software.

The software can be accessed from low-performance devices.

(i) Give **two other** benefits of hosted software.

(2)

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2 ....

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(ii) Which **one** of these is the reason hosted software can be used from low-performance devices?

(1)

⊠ **A** Application servers do the processing

⊠ **B** Bandwidth is improved

⊠ **C** Faster access to storage

⊠ **D** Latency is higher

(f) Describe **two** functions of a network operating system.

(4)

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(g) 'The increased availability of digital devices has had a positive impact on how people use their free time.'

Justify this statement.

(8)

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(Total for Question 5 = 23 marks)

TOTAL FOR PAPER = 100 MARKS