GradeMax

Please check the examination details below before entering your candidate information

Candidate surname | Other names

Centre Number | Candidate Number

Pearson Edexcel International GCSE (9-1)

Thursday 8 May 2025

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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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 ☒.

Viren is a web designer and uses ICT at work and for leisure.

(Source: © Pearson Asset Library)

1 Viren pays for cloud-based storage.

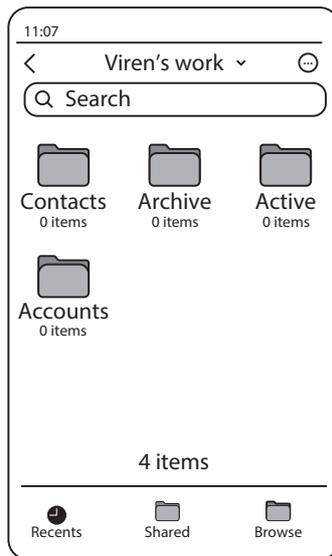(a) Which **one** of these is used to store data?

(1)

☒ **A** Central processing unit

☒ **B** Hard disk drive

☒ **C** Media access control

☒ **D** Near field communication

(b) State what is meant by the term **cloud**.

(1)

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(c) Here is an image of a cloud storage app.

Which **one** of these is required to use the app?

(1)

☒ **A** Filter software

☒ **B** ISP

☒ **C** Search engine

☒ **D** Web browser

(d) Explain why 4G is a better choice than 3G to access cloud storage.

(2)

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(e) State **two** ways that devices can be identified on a local area network.

(2)

1 ....

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2 ....

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(f) Draw **one** straight line from **each** type of web software to its use.

(3)

Web software   **Use**

Blocking access to websites

Browser   Converting analogue signals

Search engine   Ranking websites against keywords

Filter   Reading web pages

Sending malware

(g) Viren accesses data on a network.

   (i) Describe the role of a gateway.

(2)

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   (ii) State the type of computer that hosts a website.

(1)

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   (iii) Which **one** of these is created using NFC?

(1)

   ☒   **A**   Local area network

   ☒   **B**   Metro area network

   ☒   **C**   Personal area network

   ☒   **D**   Wide area network

   (iv) Describe how a tethered device accesses the Internet.

(2)

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   (v) Describe the role of a mobile phone SIM.

(2)

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(vi) Which **one** of these is used to secure network data?

(1)

☒ **A** GPS

☒ **B** HTTPS

☒ **C** URL

☒ **D** USB

(h) Viren publishes a website.

(i) State what is meant by the term **copyright**.

(1)

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(ii) Explain why some content will upload more quickly than other content.

(2)

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(Total for Question 1 = 22 marks)

2 Viren is choosing a new laptop.

(a) Viren's laptop uses secondary storage.

(i) Which **one** of these is the number of kibibytes in a mebibyte?

(1)

☒ **A** 8

☒ **B** 1000

☒ **C** 1024

☒ **D** 1000000

(ii) Data could be lost if a hard drive fails.

Which **one** of these should be used to reduce the risk to data?

(1)

☒ **A** Anti-malware

☒ **B** Backup

☒ **C** Compression

☒ **D** Encryption

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

(1)

☒ **A** Hard disk drives use optical media

☒ **B** Flash memory devices use solid state media

☒ **C** Optical devices use tape media

☒ **D** Solid state drives use magnetic media

(iv) Which **one** of these is the most energy efficient storage device?

(1)

☒ **A** CD

☒ **B** DVD

☒ **C** HDD

☒ **D** SSD

(v) Four files (W, X, Y and Z) are stored on a hard drive.

Each file is made up of blocks (1, 2, 3, etc.)

	Y1	W1	W2		X2			X1	Y2	Y3	Z1			Z2	

Complete the diagram to show the state of the storage after running a defragmentation utility.

(2)

(b) Which **one** of these is an example of convergence?

(1)

☒ **A** Mainframe

☒ **B** Print spooling

☒ **C** Smartphone

☒ **D** Speaker

(c) Computers use system software and application software.

(i) Describe the purpose of application software.

(2)

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(ii) State **two** benefits of using open source software rather than proprietary software.

(2)

1 ....

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2 ....

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(d) Which **one** of these should Viren use to select a monitor with the best picture quality?

(1)

☒ **A** Control device

☒ **B** Expansion capability

☒ **C** Screen resolution

☒ **D** Screen size

(e) Viren ensures data is secure.

(i) State **three** features of a secure password.

(3)

1 ....

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2 ....

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3 ....

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(ii) Describe how file permissions secure data.

(2)

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(iii) Explain **one** reason why biometrics are more secure than passwords.

(2)

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(f) Read only memory is a type of memory.

(i) State **one other** type of memory.

(1)

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(ii) State **one** reason why read only memory is used to store the program needed to load the operating system.

(1)

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(g) Laptop 1 has more memory than Laptop 2.

(i) Explain why Viren should choose Laptop 1.

(2)

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(ii) Explain why operating systems use memory management.

(2)

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(h) State the number of clock cycles performed by a 2.4 GHz processor.

(1)

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(Total for Question 2 = 26 marks)

3 Viren designs websites at home and at the office.

(a) State **two** input peripherals that Viren could use to design websites.

(2)

1 ....

2 ....

(b) Viren designs business websites.

Describe **two** impacts the Internet has on the way organisations do business.

(4)

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2 ....

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(c) Explain **one** reason to use online storage rather than local storage.

(2)

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(d) Explain **one** reason why Viren should not open an email attachment from an unknown sender.

(2)

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(e) State **two** negative social impacts of the Internet.

(2)

1 ....

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2 ....

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(f) Viren designs a gaming website that uses an online community.

State **two** features Viren could add to improve user safety.

(2)

1 ....

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2 ....

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(g) Viren has added all user safety features.

State **two other** features of an online community that Viren could add to the gaming website.

(2)

1 ....

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2 ....

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(Total for Question 3 = 16 marks)

4 Viren designs a shopping website.

(a) Here is the home page.

(Source: © Pearson Asset Library)

State **two** features Viren should include in the shopping website.

(2)

1 ....

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2 ....

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(b) Shopping websites keep the user's choice even if the page is reloaded.
Describe **one** way this is made possible.

(2)

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(c) Some shopping websites collect lots of data about users.
This can include personal details, browsing history and private messages.

Describe how data protection laws give users more control over their
personal information.

(2)

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(d) Artificial intelligence is increasingly used in web design.

Explain **one** way this could impact employment in web design companies.

(2)

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(e) Viren's employer wants to share files in the office.

Explain **one** advantage of using a peer-to-peer network for this compared to a
client-server network.

(2)

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(f) Viren works from home and at the office.

Discuss the benefits and drawbacks to Viren of working from home.

You should consider these points in your response:

- working hours
- working with others
- motivation.

(8)

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(Total for Question 4 = 18 marks)

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5 Viren designs websites for a range of digital devices.

(a) State **two** causes of unequal access to ICT.

(2)

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2 ....

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(b) Explain **one** impact of the digital divide.

(2)

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(c) The manufacture of devices uses energy and causes pollution.

Describe **one other** way the manufacture of devices impacts the environment.

(2)

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(d) Viren searches the web for information.

Here are the search results.

> **Search prompt:** "climate change impact on farming"
>
> **Results:**
>
> Title: Climate Rally Held in Downtown Yesterday
> Snippet: Thousands gathered downtown to rally for climate action, emphasising the need for policies addressing climate change...
>
> Title: Climate Change and Crops: A Comprehensive Study (2003)
> Snippet: This study explores how rising temperatures and changing precipitation patterns have affected crop yields over the past decade...
>
> Title: Miracle Solutions to Climate Change Effects on Farms
> Snippet: Discover how new technology can instantly reverse climate change impacts on crops. These miracle solutions are the future of farming...

None of the results are fit for purpose.

Explain **one** reason why.

(2)

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(e) Describe **one** way of improving search results.

(2)

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Turn over ▶

(f) Discuss the positive and negative health effects of using ICT.

You should consider these points in your response:

- access to information
- physical and mental effects.

(8)

(Total for Question 5 = 18 marks)

TOTAL FOR PAPER = 100 MARKS

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