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Candidate surname	Other names
Centre Number	Candidate Number
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Pearson Edexcel International GCSE (9–1)

Thursday 8 May 2025

Morning (Time: 1 hour 30 minutes)	Paper reference	4IT1/01R
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Information and Communication Technology (ICT)

PAPER 1: Written Paper

You do not need any other materials.	Total Marks
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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 ☒.

Vasu is a blogger and uses ICT at work and for leisure.



(Source: PAL)

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1 Vasu pays for cloud-based storage.

(a) State the computer hardware component used to store data.

(1)

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(b) Which **one** of these is meant by the term **cloud**?

(1)

- A** Local applications
- B** Online servers
- C** Utility software
- D** Web browsers

(c) Which **one** of these is a use of an ISP?

(1)

- A** Access to cloud storage
- B** Searching websites
- C** Securing sent data
- D** Rendering HTML

(d) Explain why Bluetooth cannot be used to access cloud storage.

(2)

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(e) State **two** types of network that use IP addresses to identify devices.

(2)

1

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2

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(f) Draw **one** straight line from **each** network requirement to its use.

(3)

Network requirement

Use

- Gateway
- Media Access Control (MAC)
- Switch

- Connecting networks that use different protocols
- Converting IP addresses
- Directing data
- Identifying devices on a LAN
- Managing firewalls

(g) Vasu accesses data on a network.

(i) Describe the role of a router.

(2)

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(ii) State the term used for a computer that requests resources from a server. (1)

(iii) Which **one** of these is used to create a personal area network? (1)

- A GPS
- B NFC
- C SMTP
- D WPS

(iv) Describe **one** use of tethering. (2)

(v) Describe how a mobile phone is uniquely identified on a mobile phone network. (2)

(vi) Which **one** of these is the **least** secure way to transfer data? (1)

- A Ethernet
- B GPS
- C HTTPS
- D USB

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(h) Vasu takes photographs and publishes them on a blog.

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

(1)

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(ii) Explain why copyright is important to Vasu.

(2)

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(Total for Question 1 = 22 marks)



2 Vasu chooses a new laptop.

(a) Vasu's laptop uses secondary storage.

(i) Which **one** of these is the number of mebibytes in a tebibyte?

(1)

- A 8
- B 1000
- C 1024
- D 1,048,576

(ii) Data is lost when a hard drive fails.

State **one** way Vasu could ensure data is not lost if a hard drive fails.

(1)

(iii) Which **one** of these uses magnetic media?

(1)

- A Hard disk drives
- B Flash memory devices
- C Optical devices
- D Solid state drives

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(iv) State **one** disadvantage of using optical media.

(1)

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(v) Four files (A, B, C and D) are stored on a hard drive.

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



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

(2)



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

(1)

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(c) Computers use system software and application software.

(i) Describe the purpose of system software.

(2)

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

(2)

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(d) Which **one** of these devices can have high or low resolution?

(1)

- A** CPU
- B** Keyboard
- C** Monitor
- D** Storage

(e) Vasu ensures data is secure.

(i) Give **one** example of a secure password.
*It should have at least **three** features.*

(3)

(ii) Describe **one** file permission Vasu could set to ensure that data is secure.

(2)

(iii) Explain **one** advantage of using passwords rather than biometrics.

(2)

(f) Random access memory (RAM) is a type of main memory.

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

(1)



(ii) State **one** reason why RAM cannot be used to store the program needed to load the operating system.

(1)

(iii) Explain the benefit of increasing RAM in a computer.

(2)

(g) One function of an operating system is memory management.

State **two other** functions of an operating system.

(2)

1

2

(h) Laptop 1 has a 2.4 GHz CPU.

Laptop 2 has a 3.0 GHz CPU.

Explain why the CPU in Laptop 2 might be a better choice.

(2)

(Total for Question 2 = 27 marks)

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3 Vasu designs multimedia blogs.

(a) State **two output** peripherals that Vasu could need to design a multimedia blog.

(2)

1

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(b) Vasu creates online content.

Explain **two** negative impacts of the Internet on the way organisations do business.

(4)

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(c) Local storage is always available.

Explain **one other** reason to use local storage rather than online storage.

(2)

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(d) Describe **one** way Vasu can protect against threats to data when opening an email attachment.

(2)

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(e) State **two** positive impacts of the Internet on society.

(2)

1

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2

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(f) Vasu uses an online workspace.

(i) State **two** ways online workspaces allow users to collaborate on a global scale.

(2)

1

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2

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(ii) State **two** reasons why Vasu is given a responsible use policy for the workspace.

(2)

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(Total for Question 3 = 16 marks)



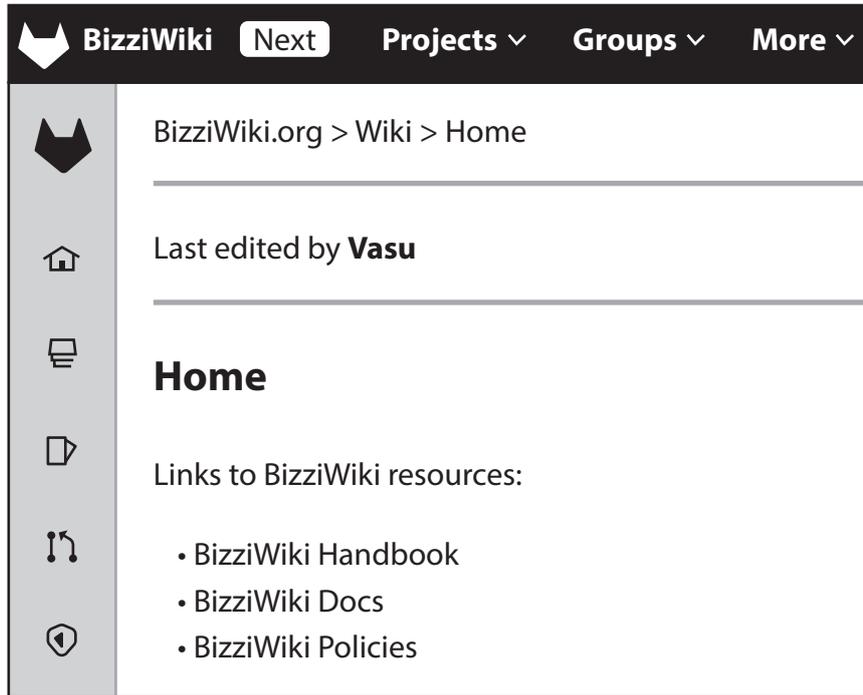
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4 Vasu designs a wiki.

(a) Here is the home page.



State **one other** feature Vasu should include.

(1)

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(b) Describe how cookies can be used to improve the user experience.

(2)

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(c) Explain **one** benefit to website owners of the ability to monitor digital communications.

(2)

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(d) Web design is increasingly using artificial intelligence to produce content.

Explain **one** way this could positively impact Vasu.

(2)

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(e) Explain **one** disadvantage of using a peer-to-peer network to share files in the office rather than a client-server network.

(2)

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

Discuss the benefits and drawbacks to **employers** of home working.

You should consider these points in your response:

- costs
- productivity
- supervising and supporting employees.

(8)

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(Total for Question 4 = 17 marks)



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5 Vasu designs blogs for a range of digital devices.

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

(2)

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2

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

(2)

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(c) The disposal of devices uses energy.

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

(2)

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(d) Vasu searches the web for information.

Here are the search results.

Search prompt: "benefits of walking for health"

Results:

Title: Walking is the Only Exercise You Need
 Snippet: Forget about running, cycling or any other exercise. Walking alone is sufficient to keep you in top shape and healthy...

Title: My Journey: How Walking Changed My Health
 Snippet: After committing to daily walks, I noticed a significant improvement in my mood and energy levels. Here's how walking transformed my life...

Title: Walking 10 Minutes a Day Cures All Health Issues
 Snippet: Just 10 minutes of walking each day can completely cure ailments such as heart disease, diabetes and depression without any other treatment needed...

Explain **one** reason why the results are not fit for purpose.

(2)

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(e) Describe how a search engine returns relevant results to a user's query.

(2)

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(f) Discuss the data protection requirements when storing data about individuals.

You should consider these points in your response:

- the legal requirements of those storing data about individuals
- an individual's legal rights.

(8)

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(Total for Question 5 = 18 marks)

TOTAL FOR PAPER = 100 MARKS

