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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)

Time 1 hour 30 minutes

Paper reference **4IT1/01R**

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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Q:1/1/1/1/1/

P 7 1 5 5 4 A 0 1 2 4

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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 ☒.

Nihal travels for work and holidays.
He uses ICT to plan his travel and for entertainment.



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1 Nihal uses a camera and camcorder when travelling.

(a) State **one** use of a camcorder.

(1)

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(b) Which **one** of these is a wired connectivity type?

(1)

- ☒ **A** GPS
- ☒ **B** USB
- ☒ **C** WEP
- ☒ **D** Wi-Fi

(c) Which **one** of these is a reason why Wi-Fi is a better choice than Bluetooth for transferring files?

(1)

- ☒ **A** Data cannot be intercepted
- ☒ **B** Higher bandwidth
- ☒ **C** Higher latency
- ☒ **D** Only works with secure files

(d) Nihal uses a social network to send photographs of his holiday to his friends.

(i) Explain **one** drawback to Nihal of sharing his photographs online using a social network rather than using email.

(2)

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(ii) State who owns the copyright to Nihal's photographs.

(1)

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(e) Nihal uses a camera with a 64 GiB memory card.

Each photograph uses 2 MiB of storage.

(i) Construct an expression to show how many photographs can be stored on the memory card.

(2)

(ii) Which **one** of these is a benefit of using a memory card?

(1)

- ☒ **A** Easier to connect to a network
- ☒ **B** Easier to expand available storage
- ☒ **C** Files will be named automatically
- ☒ **D** Only image data can be stored

(iii) State the type of memory used to store the camera's start-up instructions.

(1)

(iv) State **one** type of utility software that will reduce the size of each photograph.

(1)

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(f) Explain **one** disadvantage of increasing the speed of the camera's processor.

(2)

(g) Flash memory is non-volatile.

(i) State **two other** characteristics of flash memory.

(2)

1

2

(ii) Describe how a flash memory device stores data.

(2)

(iii) State why flash memory must be non-volatile.

(1)

(iv) State the type of memory that is volatile.

(1)

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(h) State **one** advantage of using a Blu-ray disk rather than a CD.

(1)

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(i) A camera is an example of a product that uses an embedded system.

Give **one** use of an embedded system in a camera.

(1)

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(Total for Question 1 = 21 marks)

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2 Nihal arrives at a hotel.

(a) Nihal fills in a form at the hotel reception desk.

State **one** use of OCR.

(1)

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(b) Nihal connects his laptop to the hotel's local area network.

(i) Explain **one** advantage of using Media Access Control (MAC) addresses rather than Internet Protocol (IP) addresses to identify devices on a local area network.

(2)

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(ii) State **two** issues caused by not identifying devices correctly on a network.

(2)

1 .....

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2 .....

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(iii) Complete this sentence by adding the correct network devices.

(2)

A local area network uses a ..... to connect devices,

whereas a wide area network uses a ..... to connect local area networks.

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(iv) Explain **one** disadvantage of connecting a printer to a network.

(2)

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(v) Draw **one** straight line from **each** method of protecting a network to the correct description.

(3)

Method	Description
CAPTCHA tests	Checks that users are human
Encryption	Prevents data from being intercepted
Firewall	Processes plain text
	Checks data as it arrives at a network

(vi) Which **one** of these is an example of a device that connects using a personal area network?

(1)

- ☒ **A** Hard drive
- ☒ **B** Router
- ☒ **C** Server
- ☒ **D** Smartphone

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(c) Nihal streams a film using a low bandwidth connection.

Explain why reducing the bit rate of the file improves the user experience.

(2)

(d) Describe low latency.

(2)

(e) The hotel's computers are shared between users. The network manager has administrator privileges.

(i) Describe how the network manager can make sure users cannot see each other's data.

(2)

(ii) Describe **one** way that the network manager can make sure the hotel still has access to its data if a storage server was flooded by water.

(2)

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(f) The hotel staff use project management software.

State the feature of project management software that gives a timeline of all dependent tasks.

(1)

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(Total for Question 2 = 22 marks)

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3 Nihal uses an online banking service.

(a) (i) List **two** features of an online banking service.

(2)

1 .....

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2 .....

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(ii) Describe **one** benefit to Nihal of online targeted marketing.

(2)

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(b) Which **one** of these enables transaction tracking?

(1)

- ☒ **A** Authentication
- ☒ **B** Backups
- ☒ **C** Cookies
- ☒ **D** Encryption

(c) Which **one** of these describes unsafe practice when using online systems?

(1)

- ☒ **A** Anonymising posts
- ☒ **B** Copyrighting video
- ☒ **C** Geotagging photos
- ☒ **D** Plagiarising text

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(d) Some users meet people online who have a narrower range of views than people they meet in real life.

(i) State **one** reason for this.

(1)

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(ii) Explain **two other** negative impacts of increased access to the Internet.

(4)

1 .....

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2 .....

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(iii) Which **one** of these is used by social networks to improve the safety of users?

(1)

☒ **A** Customised avatars

☒ **B** Moderators

☒ **C** Time-limited posts

☒ **D** User ratings

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(e) Nihal reads a positive review of the hotel on a social networking site.

(i) List **two other** types of online community that Nihal could use to find out more about the hotel.

(2)

1 .....

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2 .....

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(ii) Describe **one** way Nihal could evaluate if a review is trustworthy.

(2)

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(Total for Question 3 = 16 marks)

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4 Nihal uses the Internet for work.

(a) Nihal uses the Internet to update the skills he needs for his work.

Describe **one other** way using the Internet has had a positive impact on employment.

(2)

(b) Nihal's employer uses hosted storage.

(i) Explain **one** drawback to Nihal's employer of doing this.

(2)

(ii) Which **one** of these is the best choice to perform complex processing tasks?

(1)

- ☒ **A** Desktop replacement
- ☒ **B** Embedded system
- ☒ **C** Games console
- ☒ **D** Mainframe

(c) Describe the role of a web browser when accessing a website.

(2)

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(d) Nihal uses this word as his password.

`Aeroplane`

Identify **two** features that make this a weak password.

(2)

1 .....

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2 .....

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(e) Explain **why** phishing messages are sent to many users.

(2)

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(f) State **one** way the use of batteries can damage the environment.

(1)

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(g) Discuss how ICT is used to protect payment systems.

(8)

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(Total for Question 4 = 20 marks)

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5 Nihal downloads communication software to his laptop.

(a) Give **two** features of a computer that are required to download software.

(2)

1 .....

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2 .....

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(b) Explain **two** ways the Internet has improved communication for organisations.

(4)

1 .....

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2 .....

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(c) Describe how **one** disability can be supported by configuring applications software.

(2)

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(d) List **two** reasons for updating system software.

(2)

1 .....

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2 .....

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(e) Explain **one** reason why compression should be used on files before backing up.

(2)

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(f) State the type of utility software that reorganises where data is stored on a magnetic disk.

(1)

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(g) Discuss the advantages and disadvantages of using sensors to make decisions for car drivers.

(8)

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(Total for Question 5 = 21 marks)

TOTAL FOR PAPER = 100 MARKS

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