

Please check the examination details below before entering your candidate information

Candidate surname

Other names

Centre Number

Candidate Number

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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/



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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)

(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)

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

(1)

(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)

(f) Explain **one** disadvantage of increasing the speed of the camera's processor. (2)

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(g) Flash memory is non-volatile.
(i) State **two other** characteristics of flash memory. (2)

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(ii) Describe how a flash memory device stores data. (2)

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(iii) State why flash memory must be non-volatile. (1)

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(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.



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

(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



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

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

(2)

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(d) Describe low latency.

(2)

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(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)

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(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)



3 Nihal uses an online banking service.

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

(2)

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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

(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)

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

(4)

1

2

(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



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)

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(b) Nihal's employer uses hosted storage.

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

(2)

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(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)

Large empty rectangular area for writing the answer to Question 4.



5 Nihal downloads communication software to his laptop.

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

(2)

1

2

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

(4)

1

2

(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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