

Paper reference 4IT1 / 01R
Pearson Edexcel
International GCSE (9 – 1)

Total Marks

Information and Communication Technology (ICT)

PAPER 1: Written Paper

Thursday 9 May 2024

Time: 1 hour 30 minutes Afternoon

In the boxes below, write your name,
centre number and candidate number.

Surname					
Other names					
Centre Number					
Candidate Number					

V74654A

**YOU MUST HAVE
Nil.**

**YOU WILL BE GIVEN
A separate Data Book.**

INSTRUCTIONS

- **Answer ALL questions.**
- **Answer the questions in the spaces provided in this Question Paper.**

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.**
-

**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 .**

(continued on the next page)

- 1. Look at the Photograph in the separate Data Booklet.**

Tessy plays music in a band.

- (a) State ONE type of output device that Tessy would use to listen to sound.**

(1 mark)

(continued on the next page)

Question 1 continued

**(b) Which ONE of these is a benefit of using a wired connection rather than a wireless connection?
(1 mark)**

☐

A Decreases bandwidth

☐

B Decreases latency

☐

C Increases interference

☐

D Increases portability

(continued on the next page)

Turn over

Question 1 continued

- (c) State ONE drawback to people who stream a live performance.
(1 mark)**

- (d) State what is meant by 'bandwidth'.
(1 mark)**

(continued on the next page)

Question 1 continued

- (e) Explain why Tessy uses a WAN rather than a LAN to stream the performance.
(2 marks)**

(continued on the next page)

Question 1 continued

- (f) Explain ONE way Tessy can protect unauthorised distribution of the performance.
(2 marks)**

(continued on the next page)

Turn over

Question 1 continued

(g) Tessy's computer has 16 GiB of RAM.

Each recording uses 400 MiB of RAM.

**(i) Construct an expression to show how many recordings can be held in RAM at once.
(2 marks)**

(continued on the next page)

Turn over

Question 1 (g) continued

- (ii) State ONE reason for increasing the speed of a CPU.
(1 mark)**

(continued on the next page)

Question 1 (g) continued

(iii) State TWO advantages to
Tessy of using hard
disks rather than magnetic
tape to store recordings.
(2 marks)

ADVANTAGE 1

ADVANTAGE 2

(continued on the next page)

Turn over

Question 1 (g) continued

**(iv) Which ONE of these does the 'O' stand for in ROM?
(1 mark)**

☐

A Online

☐

B Only

☐

C Open

☐

D Operating

(continued on the next page)

Turn over

Question 1 (g) continued

- (v) Which ONE of these is the reason why RAM is called 'Random'?
(1 mark)**

☐

A The way data is checked

☐

B The way data is erased

☐

C The way data is processed

☐

D The way data is written

(continued on the next page)

Turn over

Question 1 (g) continued

- (vi) State the computer component whose speed is measured in cycles per second.
(1 mark)**

- (vii) State ONE way USB can be used to improve how audio can be recorded on a laptop.
(1 mark)**

(continued on the next page)

Turn over

Question 1 continued

(h) Tessy's fans can subscribe to email notifications.

**(i) Which ONE of these is a risk to data when using email?
(1 mark)**

☐

A Defragmenting

☐

B Encrypting

☐

C Licensing

☐

D Phishing

(continued on the next page)

Turn over

Question 1 (h) continued

- (ii) Passwords, PINs and biometrics can be used to authenticate users.**

Describe TWO OTHER ways a user can prevent unauthorised access to their data.

(4 marks)

Answer space continued on the next page

WAY 1 _____

Question 1 (h) (ii) continued

WAY 2 _____

(continued on the next page)

Question 1 (h) continued

- (iii) State TWO legal requirements when storing data about users.
(2 marks)**

REQUIREMENT 1

REQUIREMENT 2

(continued on the next page)

Turn over

Question 1 (h) continued

**(iv) Describe how the use of cookies can benefit subscribers.
(2 marks)**

(Total for Question 1 = 26 marks)

2. Tessy posts a link to a performance on online communities.

**(a) State ONE feature of a social network that would benefit Tessy.
(1 mark)**

(continued on the next page)

Question 2 continued

(b) Cyberbullying is a threat to the safety of members of social networks.

**(i) Describe ONE OTHER way the overuse of social networks can negatively affect mental health.
(2 marks)**

(continued on the next page)

Turn over

Question 2 (b) continued

- (ii) Which ONE of these can cause a threat to members of social networks?
(1 mark)**

☐

A Anonymity

☐

B Bookmarking

☐

C Consent

☐

D Convergence

(continued on the next page)

Turn over

Question 2 (b) continued

- (iii) State ONE type of policy that sets the rules for users when communicating online.
(1 mark)**

(continued on the next page)

Question 2 continued

- (c) Explain TWO benefits of threaded discussions on social networks.
(4 marks)**

Answer space continued on the next page

BENEFIT 1 _____

Question 2 (c) continued

BENEFIT 2 _____

(continued on the next page)

Question 2 continued

**(d) People find information online.
Some information is not reliable.**

**(i) State TWO OTHER ways the
fitness for purpose of
information found in online
communities could be
negatively affected.
(2 marks)**

WAY 1 _____

WAY 2 _____

(continued on the next page)

Turn over

Question 2 (d) continued

- (ii) State ONE method that can be used to check the reliability of online information.
(1 mark)**

(continued on the next page)

Question 2 (d) continued

**(iii) Which ONE of these is a benefit of paraphrasing?
(1 mark)**

☐

A Avoiding plagiarism

☐

B Finding information

☐

C Protecting data

☐

**D Referencing
sources**

(continued on the next page)

Turn over

Question 2 continued

- (e) Which ONE of these should a user do to improve their online safety?
(1 mark)**

☐

A Downvote comments

☐

B Disable location sharing

☐

C Share more information

☐

D Take regular breaks

(continued on the next page)

Turn over

Question 2 continued

- (f) Tessy lives in an area with excellent connectivity.**

Explain ONE reason why some people in the same area cannot access the Internet.

(2 marks)

(Total for Question 2 = 16 marks)

3. Tessy connects to different types of networks.

(a) Tessy connects to the Internet.

**(i) Which ONE of these is an ISP used for?
(1 mark)**

☐

A Connecting to the Internet

☐

B Filtering content

☐

C Searching for content

☐

D Wireless connectivity

(continued on the next page)

Turn over

Question 3 (a) continued

(a) (ii) A network uses a router.

**State TWO additional
components of a network
required to connect
computers to the Internet.
(2 marks)**

COMPONENT 1

COMPONENT 2

(continued on the next page)

Turn over

Question 3 (a) continued

**(iii) Describe the role of a router
when connecting to
the Internet.
(2 marks)**

(continued on the next page)

Question 3 (a) continued

- (iv) State ONE use of a machine access code (MAC).
(1 mark)**

(continued on the next page)

Question 3 (a) continued

- (v) Explain ONE drawback of using a device name, rather than an IP address, to identify a device. (2 marks)**

(continued on the next page)

Question 3 continued

(b) Tessy uses different types of networks.

**(i) State TWO types of wireless connectivity that could be used to create a PAN.
(2 marks)**

TYPE 1 _____

TYPE 2 _____

(continued on the next page)

Turn over

Question 3 (b) continued

- (ii) Explain ONE reason why Tessy would prefer to use a LAN to watch a video stream. (2 marks)**

(continued on the next page)

Question 3 continued

- (c) Tessy watches TV via satellite and the Internet.**

**State TWO OTHER ways Tessy can receive TV signals.
(2 marks)**

WAY 1 _____

WAY 2 _____

(continued on the next page)

Turn over

Question 3 continued

- (d) Describe ONE role of a client in a client–server network.
(2 marks)**

(continued on the next page)

Question 3 continued

- (e) Explain TWO drawbacks of using a client–server network rather than a peer–to–peer network. (4 marks)**

Answer space continued on the next page

DRAWBACK 1

Turn over

Question 3 (e) continued

DRAWBACK 2

(continued on the next page)

Question 3 continued

- (f) Tessy sends financial data to a music company.**

Explain ONE reason why Tessy uses a VPN for this.

(2 marks)

(continued on the next page)

Question 3 continued

- (g) Tessy's studio contains many electronic devices.**

Explain the choice of connectivity Tessy should use when connecting a laptop to the LAN in the studio.

(2 marks)

(Total for Question 3 = 24 marks)

Turn over

4. Tessy uses a laptop to record audio.

- (a) Which ONE of these would represent the minimum amount of data required to store a one – second, compressed, audio recording?
(1 mark)**

☐

A Gibibyte

☐

B Kibibyte

☐

C Mebibyte

☐

D Tebibyte

(continued on the next page)

Turn over

Question 4 continued

- (b) State the type of software that manages computer resources during an audio recording.
(1 mark)**
-
-

(continued on the next page)

Question 4 continued

- (c) Explain ONE drawback to Tessy of using open source software.
(2 marks)**

(continued on the next page)

Question 4 continued

(d) State ONE way Tessy could add new features to software.

(1 mark)

(continued on the next page)

Question 4 continued

- (e) Which ONE of these is the type of software Tessy would use to record audio?**
(1 mark)

☐

A Applications

☐

B Control

☐

C System

☐

D Utility

(continued on the next page)

Turn over

Question 4 continued

- (f) Explain ONE reason why Tessy uses a laptop to record audio rather than a desktop replacement.
(2 marks)**

(continued on the next page)

Question 4 continued

- (g) Tessy travels to play music at venues around the country.**

Discuss the benefits and drawbacks of the different connectivity types available to Tessy when doing this.

You should consider these points in your response:

- **broadband**
- **mobile broadband**
- **cellular networks.**

(8 marks)

Answer space continued on the next five pages

Question 4 (g) continued

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Turn over

Question 4 (g) continued

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Turn over

Question 4 (g) continued

[illegible]

Turn over

Question 4 (g) continued

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Turn over

Question 4 (g) continued

[illegible]

(Total for Question 4 = 16 marks)

Turn over

5. Tessy's use of digital technologies has implications.

**(a) State TWO negative IMPACTS for individuals of the digital divide.
(2 marks)**

IMPACT 1 _____

IMPACT 2 _____

(continued on the next page)

Question 5 continued

- (b) Explain TWO positive social IMPACTS on communities of having no access to digital technologies.
(4 marks)**

Answer space continued on the next page

IMPACT 1 _____

Question 5 (b) continued

IMPACT 2 _____

(continued on the next page)

Question 5 continued

- (c) Describe TWO ways online media companies can mitigate their environmental impact.
(4 marks)**

Answer space continued on the next page

WAY 1 _____

Question 5 (c) continued

WAY 2 _____

(continued on the next page)

Question 5 continued

(d) Tessy's music is available online.

Discuss the impact of the Internet on musicians.

You should consider these points in your response:

- **the global reach of the Internet**
- **competition**
- **copyright.**

(8 marks)

Answer space continues on the next five pages

Turn over

Question 5 (d) continued

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Question 5 (d) continued

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Question 5 (d) continued

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Question 5 (d) continued

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Question 5 (d) continued

(Total for Question 5 = 18 marks)

TOTAL FOR PAPER = 100 MARKS

END OF PAPER
