

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 – Afternoon
Time: 1 hour 30 minutes

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

Surname					
Other names					
Centre Number					
Candidate Number					

YOU MUST HAVE

Nil.

YOU WILL BE GIVEN

A separate Data Book.

INSTRUCTIONS

- **Answer ALL the 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.**

(continued on the next page)

Turn over

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 ☐.

1. Look at the Photograph in the separate Data Booklet.
Tessy plays music in a band.

Tessy streams a performance online.

- (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)

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)

(ii) State ONE reason for increasing the speed of a CPU.

(1 mark)

(continued on the next page)

Turn over

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)

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)

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)

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)

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 _____

(continued on the next page)

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)

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)

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)

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)**

BENEFIT 1 _____

BENEFIT 2 _____

(continued on the next page)

Turn over

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 _____

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

(continued on the next page)

Turn over

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)

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)

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)

Question 3 (a) continued

(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)

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)**

- (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)

Turn over

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)

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)

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)**

DRAWBACK 1 _____

DRAWBACK 2 _____

(continued on the next page)

Turn over

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)

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)

Question 4 continued

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

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

(continued on the next page)

Turn over

Question 4 continued

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

(1 mark)

(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 four pages

Question 4 (g) continued

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Turn over

Question 4 (g) continued

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Question 4 (g) continued

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Question 4 (g) continued

(Total for Question 4 = 16 marks)

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)

IMPACT 1 _____

IMPACT 2 _____

(continued on the next page)

Turn over

Question 5 continued

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

WAY 1 _____

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 four pages

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
