

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)

Thursday 9 May 2024

Afternoon (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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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 ☒.

Tessy plays music in a band.



(Source: AL1376712)

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1 Tessy streams a performance online.

(a) State **one** type of output device that Tessy would use to listen to sound. (1)

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

- A Decreases bandwidth
- B Decreases latency
- C Increases interference
- D Increases portability

(c) State **one** drawback to people who stream a live performance. (1)

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

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

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(f) Explain **one** way Tessy can protect unauthorised distribution of the performance.

(2)

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(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)

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

(1)

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(iii) State **two** advantages to Tessy of using hard disks rather than magnetic tape to store recordings.

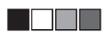
(2)

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

(1)

- A Online
- B Only
- C Open
- D Operating

(v) Which **one** of these is the reason why RAM is called 'Random'?

(1)

- A The way data is checked
- B The way data is erased
- C The way data is processed
- D The way data is written

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

(1)

(vii) State **one** way USB can be used to improve how audio can be recorded on a laptop.

(1)



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

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

(1)

- A** Defragmenting
- B** Encrypting
- C** Licensing
- D** Phishing

(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)

1

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(iii) State **two** legal requirements when storing data about users.

(2)

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

(2)

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(Total for Question 1 = 26 marks)

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

(a) State **one** feature of a social network that would benefit Tessy.

(1)

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(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)

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(ii) Which **one** of these can cause a threat to members of social networks?

(1)

- A** Anonymity
- B** Bookmarking
- C** Consent
- D** Convergence

(iii) State **one** type of policy that sets the rules for users when communicating online.

(1)

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(e) Which **one** of these should a user do to improve their online safety?

(1)

- A** Downvote comments
- B** Disable location sharing
- C** Share more information
- D** Take regular breaks

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

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

(2)

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(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)

- A Connecting to the Internet
- B Filtering content
- C Searching for content
- D Wireless connectivity

(ii) A network uses a router.

State **two** additional components of a network required to connect computers to the Internet.

(2)

1

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

(2)

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(iv) State **one** use of a machine access code (MAC).

(1)

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

(2)

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(b) Tessy uses different types of networks.

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

(2)

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(ii) Explain **one** reason why Tessy would prefer to use a LAN to watch a video stream.

(2)

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

State **two other** ways Tessy can receive TV signals.

(2)

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(d) Describe **one** role of a client in a client-server network.

(2)

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(e) Explain **two** drawbacks of using a client-server network rather than a peer-to-peer network.

(4)

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

Explain **one** reason why Tessy uses a VPN for this.

(2)

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(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)

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(Total for Question 3 = 24 marks)



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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)

- A Gibibyte
- B Kibibyte
- C Mebibyte
- D Tebibyte

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

(c) Explain **one** drawback to Tessy of using open source software. (2)

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

(1)

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(e) Which **one** of these is the type of software Tessy would use to record audio?

(1)

- A** Applications
- B** Control
- C** System
- D** Utility

(f) Explain **one** reason why Tessy uses a laptop to record audio rather than a desktop replacement.

(2)

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(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)

1

2

(b) Explain **two** positive social **impacts** on communities of having no access to digital technologies.

(4)

1

2



(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)

Area with horizontal dotted lines for writing the response.



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(Total for Question 5 = 18 marks)

TOTAL FOR PAPER = 100 MARKS



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