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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)

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)

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(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)

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

(1)

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(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)

(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)

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

(1)

(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)

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

(1)

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(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)

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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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(c) Explain **two** benefits of threaded discussions on social networks.

(4)

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(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)

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2 .....

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

(1)

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(iii) Which **one** of these is a benefit of paraphrasing?

(1)

☒ A Avoiding plagiarism

☒ **B** Finding information

☒ **C** Protecting data

☒ **D** Referencing sources

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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)

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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)

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2 .....

(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)

(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)

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(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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(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)

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(Total for Question 4 = 16 marks)

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5 Tessy's use of digital technologies has implications.

(a) State **two** negative **impacts** for individuals of the digital divide.

(2)

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

(4)

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(c) Describe **two** ways online media companies can mitigate their environmental impact.

(4)

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(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)

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(Total for Question 5 = 18 marks)

TOTAL FOR PAPER = 100 MARKS

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