

**Paper Reference 4IT1/01**  
**Pearson Edexcel**  
**International GCSE (9-1)**

<b>Total Marks</b>
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**INFORMATION AND COMMUNICATION  
TECHNOLOGY (ICT)**  
**PAPER 1: WRITTEN PAPER**

**Time: 1 hour 30 minutes plus your additional  
time allowance.**

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

<b>Surname</b>					
<b>Other names</b>					
<b>Centre Number</b>					
<b>Candidate Number</b>					

## **YOU WILL BE GIVEN**

- **A separate Data Book.**

**You do not need any other materials.**

## **INSTRUCTIONS**

- **Answer ALL questions.**
- **Answer the questions in the spaces provided in this Question Paper or in the Data Book – 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.**
  - **Good luck with your examination.**
-

**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  .**

**Turn over**

**A family uses digital devices in their everyday lives.**

**Look at the photograph in the separate Data Book.**

**The photograph shows a family (mother, father, son and daughter) sitting on a sofa. They are using digital devices. The mother has a tablet in her right hand.**

**The son is holding a smartphone. The daughter is holding a laptop. They are all looking and smiling at the smartphone.**

**Question 1 is on the next page.**

1. Howard buys a tablet computer.

(a) Give TWO types of wireless connectivity that the tablet computer could use.

(2 marks)

TYPE 1. \_\_\_\_\_

\_\_\_\_\_

TYPE 2. \_\_\_\_\_

\_\_\_\_\_

(b) Give TWO types of peripheral storage media that the tablet computer could use.

(2 marks)

TYPE 1. \_\_\_\_\_

\_\_\_\_\_

TYPE 2. \_\_\_\_\_

\_\_\_\_\_

(continued on the next page)

Turn over

**1. continued**

**(c) Which ONE of these is required for the tablet computer to connect to the Internet?**  
**(1 mark)**

☐

**A GPS**

☐

**B ISP**

☐

**C LAN**

☐

**D NFC**

**(continued on the next page)**

**1. continued**

**(d) Which ONE of these is found in all computers?**  
**(1 mark)**

☐

**A Control software**

☐

**B Keyboard**

☐

**C Operating system**

☐

**D Processor**

**(continued on the next page)**

**Turn over**

**1. continued**

**(e) Which ONE of these would be used as a desktop replacement computer?**  
**(1 mark)**

☐

**A Laptop**

☐

**B Mainframe**

☐

**C Media Player**

☐

**D Server**

**(continued on the next page)**

**1. continued**

**(f) Describe how tablet computers allow people to work from home.**

**(2 marks)**

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**1. continued**

**(g) A CPU has 16 MiB of cache memory.**

**Construct an expression to show how many  
bits are in 16 MiB.**

**(3 marks)**

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**(continued on the next page)**

**1. continued**

**(h) Howard sells his old hard disk drive to Steve.**

**(i) Complete the table below by ranking these storage devices in order of their read/write speed.**

**A) Hard disk drive**

**B) Optical disk drive**

**C) Solid state drive**

**(2 marks)**

<b>1 (FASTEST)</b>	
<b>2</b>	
<b>3 (SLOWEST)</b>	

**(continued on the next page)**

1. continued

(h) (ii) Describe TWO factors that affect the read/write speed of a hard disk drive.  
(4 marks)

FACTOR 1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

FACTOR 2. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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**1. continued**

- (h) (iii) Explain ONE benefit to the environment of buying previously – owned devices.  
(2 marks)**

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**1. continued**

**(h) (iv) Which ONE of these is the type of software Howard should use to make copies of his applications?  
(1 mark)**

☐

**A Control**

☐

**B Office – productivity**

☐

**C Project management**

☐

**D Utility**

**(Total for Question 1 = 21 marks)**

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**Turn over**

**2. Judy is researching online.**

**(a) List TWO types of user – generated reference sites Judy could use.**

**(2 marks)**

**TYPE 1. \_\_\_\_\_**

\_\_\_\_\_

**TYPE 2. \_\_\_\_\_**

\_\_\_\_\_

**(b) Judy uses a mobile phone to make a voice call.**

**On the blank space provided for Question 2 (b) in the separate Data Book, draw a diagram to show the mobile phone's input and output devices required to make the call.**

**Label each device you use in your diagram.**

**(3 marks)**

**(continued on the next page)**

**2. continued**

**(c) Judy sets file permissions on her online documents.**

**Which ONE of these is a benefit of doing this?**  
**(1 mark)**

☐

**A Improves encryption**

☐

**B Increases storage**

☐

**C Quicker backup**

☐

**D Secures data**

**(continued on the next page)**

**2. continued**

- (d) Describe how a CAPTCHA test reduces the function of malware.  
(2 marks)**

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**2. continued**

**(e) Explain ONE positive impact of cloud – based services on learning.**

**(2 marks)**

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**2. continued**

- (f) Describe how mobile broadband can be used to provide access to cloud – based services.  
(2 marks)**

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**2. continued**

**(g) Give ONE reason why Judy should use mobile broadband.**

**(1 mark)**

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**(h) Explain ONE benefit of using wired connectivity.**

**(2 marks)**

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**(Total for Question 2 = 15 marks)**

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**3. Eunice installs some software on her laptop.**

**(a) Look at the diagram for Question 3 (a) in the separate Data Book.**

**Draw ONE straight line from EACH example of utility software to the correct purpose.**

**(3 marks)**

**(b) Which ONE of these types of device can have software installed to it?**

**(1 mark)**

☐

**A Memory**

☐

**B OMR Reader**

☐

**C Processor**

☐

**D Storage**

**(continued on the next page)**

**Turn over**

**3. continued**

- (c) Explain ONE benefit to Eunice of updating her software regularly.  
(2 marks)**

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**(continued on the next page)**

**3. continued**

**(d) Eunice is travelling by train.**

**She connects to the Internet using the train's  
Wi – Fi connection.**

**Explain why the Wi – Fi provider blocks  
video streaming.**

**(2 marks)**

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**(continued on the next page)**

**3. continued**

- (e) The Internet has provided a wider range of entertainment and leisure opportunities. One example is video and audio streaming. State TWO OTHER examples. (2 marks)**

**EXAMPLE 1.** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**EXAMPLE 2.** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**(continued on the next page)**

**3. continued**

**(f) Eunice changes her laptop's GPS settings.**

**Which ONE of these statements is true?**

**(1 mark)**

☐

**A GPS is used by all digital devices**

☐

**B GPS does not use an Internet connection**

☐

**C GPS uses cloud computing**

☐

**D GPS is better if open source software is used**

**(continued on the next page)**

**3. continued**

**(g) Eunice writes a blog.**

**(i) Eunice wants visitors to her blog to see posts that are likely to be relevant to them.**

**Describe how cookies can be used to achieve this.**

**(4 marks)**

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**Turn over**

**3. continued**

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**(g) (ii) In some countries, laws require website owners to obtain ‘informed consent’ from visitors before using cookies.**

**Explain why these laws are required.**

**(2 marks)**

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**(Total for Question 3 = 17 marks)**



4. Hugh sells his music online.

(a) Which ONE of these is a law that protects his work?

(1 mark)

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**A Computer Misuse Act**

☐

**B Copyright, Designs and Patents Act**

☐

**C Human Rights Act**

☐

**D Data Protection Act**

(continued on the next page)

**4. continued**

**(b) List THREE benefits to Hugh of selling his music online.**

**(3 marks)**

**BENEFIT 1.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**BENEFIT 2.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**BENEFIT 3.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**(continued on the next page)**

**Turn over**

4. continued

(c) Look at **Figure 1** for Question 4 (c) in the separate Data Book.

**Figure 1** shows an image of Hugh's social media settings.

Explain **TWO** ways Hugh has protected his personal information.

(4 marks)

WAY 1. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

(continued on the next page)

**4. continued**

**WAY 2.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**(continued on the next page)**

**4. continued**

- (d) Hugh is choosing the type of computer he will use to manage the purchase and delivery of audio files to customers.**

**Explain why an embedded system is a poor choice.**

**(2 marks)**

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**4. continued**

**(e) Hugh is working on a musical project.**

**(i) List TWO key features of sound editing software that Hugh could use to create a song.**

**(2 marks)**

**FEATURE 1.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FEATURE 2.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**(continued on the next page)**

**4. continued**

- (e) (ii) Describe TWO key features of project management software that Hugh could use to make sure the project is complete before the deadline.

(4 marks)

**FEATURE 1.** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**FEATURE 2.** \_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

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**Turn over**

**4. continued**

- (f) Hugh uses a desktop computer to write, create and distribute his music.**

**Discuss the advantages and disadvantages to Hugh of selecting a desktop computer rather than a laptop, smartphone or tablet computer.**

**In your answer you should consider: components, portability, connectivity, cost and maintenance.**

**(8 marks)**

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#### 4. continued

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#### 4. continued

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**4. continued**

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**(Total for Question 4 = 24 marks)**

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**5. Hugh creates a website for a band.**

**(a) Explain ONE drawback to the website users of Hugh reducing the file size of images used on the website.**

**(2 marks)**

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**5. continued**

- (b) Describe the function of TWO network components that are used to transfer data on the Internet.  
(4 marks)**

**NETWORK COMPONENT 1** \_\_\_\_\_

\_\_\_\_\_

**FUNCTION** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**NETWORK COMPONENT 2** \_\_\_\_\_

\_\_\_\_\_

**FUNCTION** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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**5. continued**

- (c) Explain why streaming allows users with limited storage on their devices to listen to the band's music.**

**(2 marks)**

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**5. continued**

**(d) Describe ONE method that should be used to secure payment data transferred between Hugh's server and other computers.**

**(3 marks)**

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**5. continued**

**(e) Describe how WPA is a more secure protocol than WEP.**

**(2 marks)**

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**5. continued**

- (f) Hosted applications have fewer features than local applications.**

**Explain ONE positive impact on the user experience of reducing the number of features.  
(2 marks)**

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**5. continued**

**(g) Evaluate how online communities have impacted on how we socialise.**

**(8 marks)**

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**Turn over**

## 5. continued

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**Turn over**

## 5. continued

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**5. continued**

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**(Total for Question 5 = 23 marks)**

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**TOTAL FOR PAPER = 100 MARKS**

**END OF PAPER**

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