

# Pearson Edexcel International GCSE

**May–June 2022 Assessment Window**

Syllabus  
reference

**4IT1**

## **Information and Communication Technology (ICT)**

### **Advance Information**

**You are not permitted to take this notice into the examination.**  
This document is valid if downloaded from the [Pearson Qualifications website](https://www.pearsonqualifications.com).

### **Instructions**

- Please ensure that you have read this notice before the examination.

### **Information**

- This notice covers Components 01 and 01R only.
- There is no advance information for Component 02.
- The format/structure of the assessments remains unchanged.
- The Advance Information details the focus of the content of the exams in the May–June 2022 assessments.
- There are no restrictions on who can use this notice.
- This notice is meant to help students to focus their revision time.
- Students and teachers can discuss the advance information.
- This document has 8 pages.

There are two option codes for this qualification. Some centres will enter for option "R", depending on their location – if you're unsure if your centre uses option "R" papers you should contact your centre who can confirm and check the [Information Manual](#). Please ensure you consult the advance information relevant to the option code used within your centre. Information related to the "R" option is indicated by an "R" after the paper number, e.g. 4IT1/01R or Paper 01R.

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## General advice

- In addition to covering the content outlined in the advance information, students and teachers should consider how to:
  - manage their revision of parts of the specification which may be assessed in areas not covered by the advance information.
  - manage their revision of other parts of the specification which may provide knowledge that helps with understanding the areas being tested in 2022.
- For specifications with synoptic questions, topics not explicitly given in the advance information may appear, e.g. where students are asked to bring together knowledge, skills and understanding from across the specification.
- For specifications with NEA, advance information does not cover any NEA components.

A link to the Joint Council for Qualifications guidance document on advance information can be found on the Joint Council for Qualifications website or [here](#).

## **Advance Information**

### **Subject specific section**

- For our Pearson Edexcel International GCSE Information and Communication Technology (ICT) Specification, for the Component 01 examination paper, questions within this paper will sample content only from the areas specified in this notice.
- The advance information content is presented in numerical order as set out in the specification, and not reflecting the question order of the examination papers.
- Some questions may be answerable using more than one area of specified content.
- Any content listed may appear in the examination papers in any question style, from short response questions through to higher tariff extended response questions.

**Paper 41T1/01**

<b>Subject Content</b>	<b>Specification reference</b>	<b>Student should</b>
1.1 Types of digital devices	1.1.1	Be aware that mainframe computers are used for complex processing tasks and microprocessors are embedded in products such as washing machines.
	1.1.5	Be able to describe the purpose and use of other digital devices such as: cameras and camcorders.
1.3 Software	1.3.2	Know about operating systems and system software tools such as utilities.
	1.3.4	Know about software applications (apps), including project management software.
	1.3.6	Understand that the purpose of communication software is to provide remote access to systems and to exchange files and messages in text, images, audio and/or video formats between different computers or users.
	1.3.7	Know why software is updated, how it is done and possible risks to data/systems.
1.4 Types of peripheral devices – input and output	1.4.2	Know about types of input peripheral such as digital camera, webcam, OCR reader, bar code scanner, sensor and when they would be used.
1.5 Types of peripheral devices – storage	1.5.2	Know the characteristics of hard disk drives (HDD), solid state drives (SSD), optical disk drives.
	1.5.4	Know about types of storage media such as hard disks, optical disks (CD, DVD, Blu-ray), flash memory devices, magnetic tape.
	1.5.6	Understand the terms describing the capacity of storage such as bit, byte and multiples of these (kibibytes, mebibytes, gibibytes, tebibytes) (using 1KiB = 1024 bytes).
1.6 Memory	1.6.2	Be able to describe the characteristics of RAM and ROM, the differences between them and the impact on the user of the size of ROM/RAM.
1.7 Processors	1.7.1	Understand the function of the processing unit (CPU).
1.8 ICT systems to meet specified needs	1.8.1	Be able to identify digital devices and associated peripheral devices that meet particular needs, including accessibility.
2.1 Types of digital communications	2.1.2	Know that digital devices can communicate device to device and by using networks: local area network (LAN), wide area network (WAN), personal area network (PAN), tethering.
	2.1.4	Know the differences between Wi-Fi and Bluetooth and when each is best used.

Subject Content	Specification reference	Student should
2.2 Factors influencing the choice of digital communication in a network	2.2.2	Understand the benefits and drawbacks of wired versus wireless communication in local networks.
	2.2.3	Understand the significance of bandwidth and latency, and their impact on the 'user experience'.
	2.2.4	Understand the features of broadband, mobile broadband and cellular networks.
2.3 Requirements for connecting to a network, including the internet	2.3.1	Know about network operating systems and how devices are identified on a network: device name, internet protocol (IP) and Media Access Control (MAC).
	2.3.3	Know the role of these for connecting to and using the internet: <ul style="list-style-type: none"> <li>• web browser</li> <li>• ISP</li> <li>• search engine</li> <li>• filter software.</li> </ul>
2.4 Benefits of using a LAN/home network	2.4.3	Understand the benefits of using local area network: <ul style="list-style-type: none"> <li>• shared peripherals.</li> </ul>
2.5 Securing data on a network, including the internet	2.5.1	Know about and understand the use of log-ins and passwords, firewalls, WEP/WPA, encryption, VPN, file access rights, transaction logs and backups.
3.1 Potential risk to data and personal information when information is transmitted and stored digitally	3.1.1	Be aware of risks to data and information: <ul style="list-style-type: none"> <li>• theft of personal data: phishing, pharming.</li> </ul>
	3.1.2	Know about methods available to secure data and personal information online: <ul style="list-style-type: none"> <li>• firewalls</li> <li>• encryption</li> <li>• passwords, PIN, biometrics, CAPTCHA tests, security questions</li> <li>• anti-malware, anti-virus, anti-adware, anti-spyware</li> <li>• access rights, file permissions</li> <li>• secure websites</li> <li>• not opening email attachments or following web links</li> <li>• backup procedures.</li> </ul>
3.2 Impact of the internet on individuals	3.2.2	Understand the impact on working practices, including collaborative working and flexible or mobile working.
	3.2.5	Understand how to stay safe online.
3.4 Impact of the internet on organisations	3.4.1	Understand positive impacts: improved communication, access to global markets and workforce, changes in the way information is managed and used.
3.5 Impact of the internet on society	3.5.3	Understand the implications of unequal access to ICT (locally, globally).
3.6 Types of online communities	3.6.1	Understand key features of online communities: <ul style="list-style-type: none"> <li>• social networking</li> <li>• user-generated reference sites: wikis, websites, forums.</li> </ul>

<b>Subject Content</b>	<b>Specification reference</b>	<b>Student should</b>
3.7 Use of online communities	3.7.3	Be aware of the purpose of responsible use and acceptable behaviour policies.
3.8 Implications of the use of digital technologies	3.8.1	Know about the legal requirements of those storing data about individuals and an individual's legal rights.
	3.8.2	Understand how copyright legislation affects the use of digital information and media.
	3.8.3	Understand that individuals' movements and communications can be monitored.
	3.8.5	Understand sustainability issues and ways of mitigating the environmental impact of digital devices.
4.1 Types of services	4.1.1	Understand what online services are offered by: <ul style="list-style-type: none"> <li>• shopping sites – basket, checkout, secure payment, product catalogue</li> <li>• booking systems for travel, leisure and entertainment</li> <li>• banks</li> <li>• education and training providers – VLE, online support, online training courses, remote access</li> <li>• gaming sites</li> <li>• news and other information providers</li> <li>• auction sites</li> <li>• entertainment providers – on demand, streaming, downloads.</li> </ul>
4.2 Impact of online services	4.2.3	Understand how transactional data is collected and used: what is collected, cookies, transaction tracking.
4.3 Online software	4.3.2	Understand the features and characteristics of hosted applications software and locally installed software.

**Paper 41T1/01R**

<b>Subject Content</b>	<b>Specification reference</b>	<b>Students should</b>
1.1 Types of digital devices	1.1.1	Be aware that mainframe computers are used for complex processing tasks and microprocessors are embedded in products such as washing machines.
	1.1.5	Be able to describe the purpose and use of other digital devices such as: cameras and camcorders.
1.2 Features of digital devices	1.2.1	Understand features of digital devices: portability, performance, storage, user interface, connectivity, media support, energy consumption, expansion capability, security features.
1.3 Software	1.3.2	Know about operating systems and system software tools such as utilities.
	1.3.4	Know about software applications (apps), including project management software.
	1.3.7	Know why software is updated, how it is done and possible risks to data/systems.
1.4 Types of peripheral devices – input and output	1.4.2	Know about types of input peripheral such as digital camera, webcam, OCR reader, bar code scanner, sensor and when they would be used.
1.5 Types of peripheral devices – storage	1.5.4	Know about types of storage media such as hard disks, optical disks (CD, DVD, Blu-ray), flash memory devices, magnetic tape.
	1.5.6	Understand the terms describing the capacity of storage such as bit, byte and multiples of these (kibibytes, mebibytes, gibibytes, tebibytes) (using 1KiB = 1024 bytes).
1.6 Memory	1.6.2	Be able to describe the characteristics of RAM and ROM, the differences between them and the impact on the user of the size of ROM/RAM.
	1.6.3	Be able to describe the characteristics and uses of flash memory.
1.7 Processors	1.7.1	Understand the function of the processing unit (CPU).
1.8 ICT systems to meet specified needs	1.8.3	Understand that settings of ICT systems can be configured to meet the accessibility needs of individuals.
	1.8.4	Be able to justify choices made in identifying and configuring hardware and software.

Subject Content	Specification reference	Students should
2.1 Types of digital communications	2.1.1	Know the range of ways that digital devices communicate satellite, broadcast (TV, radio), wired (cable), wireless.
	2.1.2	Know that digital devices can communicate device to device and by using networks: local area network (LAN), wide area network (WAN), personal area network (PAN), tethering.
	2.1.4	Know the differences between Wi-Fi and Bluetooth and when each is best used.
2.2 Factors influencing the choice of digital communication in a network	2.2.3	Understand the significance of bandwidth and latency, and their impact on the 'user experience'.
2.3 Requirements for connecting to a network, including the internet	2.3.1	Know about network operating systems and how devices are identified on a network: device name, internet protocol (IP) and Media Access Control (MAC).
	2.3.3	Know the role of these for connecting to and using the internet: <ul style="list-style-type: none"> <li>• web browser</li> <li>• ISP</li> <li>• search engine</li> <li>• filter software.</li> </ul>
2.4 Benefits of using a LAN/home network	2.4.3	Understand the benefits of using local area network: <ul style="list-style-type: none"> <li>• shared peripherals.</li> </ul>
2.5 Securing data on a network, including the internet	2.5.1	Know about and understand the use of log-ins and passwords, firewalls, WEP/WPA, encryption, VPN, file access rights, transaction logs and backups.
	2.5.2	Be able to select suitable methods of securing data for a particular context.



Subject Content	Specification reference	Students should
3.1 Potential risks to data and personal information when information is transmitted and stored digitally	3.1.1	Be aware of risks to data and information: <ul style="list-style-type: none"> <li>• theft of personal data: phishing, pharming.</li> </ul>
	3.1.2	Know about methods available to secure data and personal information online: <ul style="list-style-type: none"> <li>• firewalls</li> <li>• encryption</li> <li>• passwords, PIN, biometrics, CAPTCHA tests, security questions</li> <li>• anti-malware, anti-virus, anti-adware, anti-spyware</li> <li>• access rights, file permissions</li> <li>• secure websites</li> <li>• not opening email attachments or following web links</li> <li>• backup procedures.</li> </ul>
	3.1.3	Know about online payment systems, third party payment systems, bank cards, contactless payment using NFC and how payments are protected.
3.2 Impact of the internet on individuals	3.2.1	Know about the impact on employment, such as new job opportunities as the nature of a job changes, new skills requirements, potential job loss.
	3.2.2	Understand the impact on working practices, including collaborative working and flexible or mobile working.
	3.2.3	Know about better access to information and services, new ways of learning, and the wider range of entertainment and leisure opportunities.
	3.2.4	Know about social impacts such as: <ul style="list-style-type: none"> <li>• reduced social interaction</li> <li>• increases in cyberbullying</li> <li>• reduced physical activity.</li> </ul>
	3.2.5	Understand how to stay safe online.
3.4 Impact of the internet on organisations	3.4.1	Understand positive impacts: improved communication, access to global markets and workforce, changes in the way information is managed and used.
	3.4.2	Understand negative impacts: security issues, risk of hacking, greater competition.
3.5 Impact of the internet on society	3.5.5	Understand the impact of changes in ways of socialising.

<b>Subject Content</b>	<b>Specification reference</b>	<b>Students should</b>
3.6 Types of online communities	3.6.1	Understand key features of online communities: <ul style="list-style-type: none"> <li>• social networking</li> <li>• online gaming</li> <li>• online work spaces</li> <li>• virtual learning environments (VLE)</li> <li>• user-generated reference sites: wikis, websites, forums</li> <li>• user-generated content: video sharing sites, blogs, websites</li> <li>• social bookmarking.</li> </ul>
3.8 Implications of the use of digital technologies	3.8.1	Know about the legal requirements of those storing data about individuals and an individual's legal rights.
	3.8.2	Understand how copyright legislation affects the use of digital information and media.
	3.8.5	Understand sustainability issues and ways of mitigating the environmental impact of digital devices.
3.9 Availability of information online and the use of online information	3.9.4	Be able to evaluate the fitness for purpose of available information in terms of accuracy, age, relevance, reliability, bias.
4.1 Types of services	4.1.1	Understand what online services are offered by: <ul style="list-style-type: none"> <li>• shopping sites – basket, checkout, secure payment, product catalogue</li> <li>• booking systems for travel, leisure and entertainment</li> <li>• banks</li> <li>• education and training providers – VLE, online support, online training courses,</li> <li>• remote access</li> <li>• gaming sites</li> <li>• news and other information providers</li> <li>• auction sites</li> <li>• entertainment providers – on demand, streaming, downloads.</li> </ul>
4.2 Impact of online services	4.2.3	Understand how transactional data is collected and used: what is collected, cookies, transaction tracking.
	4.2.4	Know about targeted marketing and personalisation techniques.

## **END OF ADVANCE INFORMATION**