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Name **three output devices**.

1

Output devices include monitors or displays, speakers, devices that use mechanical movement, printers and lights.

1

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What does the **control unit** do?

2

The **control unit** controls the flow of data both in and around the central processing unit.

2

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What is **clock speed**?

3

Clock speed is the rate (in gigahertz per second) at which instructions are processed by the CPU.

3

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What does **BIOS** stand for?

4

BIOS stands for basic input/output system.

4

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What are three advantages of using **flash memory**?

5

Advantages of **flash memory** include: it is light, has no moving parts, has fast data access, and is durable, programmable and erasable.

5

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What is **secondary storage**?

6

Secondary storage refers to non-volatile devices and media used to store programs, documents and files.

6

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What is **ransomware**?

7

Ransomware is malware that locks a user out of their system, and encrypts their files, until a ransom is paid.

7

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What is **phishing**?

8

Phishing is impersonating an organization using emails, texts or phone calls in order to persuade users to confirm or divulge their personal details.

8

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Why would a programmer use **penetration testing** on a system?

9

Penetration testing is the search for problems and vulnerabilities in a system that could be exploited by users with criminal intentions.

9

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What is **encryption**?

10

Encryption is the conversion of important data, using a **public encryption key**, into a form that cannot be read without a **private key**.

10

System Software

What does **defragmentation** software do?

11

System Software

Defragmentation software analyses data and how it is stored on a disk. It then rearranges the data into a more logical sequence for faster access.

11

System Software

Give three current examples of an **operating system**.

12

System Software

Examples of an **operating system** include: Windows 10, Unix, Chrome OS, macOS, Linux, Ubuntu and MS-Dos.

12

Wired and Wireless Networks 1

What is **bandwidth** measured in?

13

Wired and Wireless Networks 1

Bandwidth is measured in bits per second.

13

Wired and Wireless Networks 2

How is a **virtual network** created?

14

Wired and Wireless Networks 2

A **virtual network** is created using software instead of physical devices, often within a larger network.

14

Wired and Wireless Networks 2

What does the **Domain Name Server** do?

15

Wired and Wireless Networks 2

The **Domain Name Server** links the Internet Protocol address of a computer on a network to a text-based website address that is easier to remember.

15

Network Topologies

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Name four types of network **topology**.

16

Network Topologies

Four types of **topology** are star, mesh, bus and ring.

16

Protocols and Layers

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What does **HTTPS** do?

17

Protocols and Layers

HTTPS encrypts communication between the server and the client to enable secure online transactions.

17

Ethical and Legal Concerns

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What are **cookies**?

18

Ethical and Legal Concerns

Cookies are small files stored on computers that contain Internet browsing data and can be accessed by web servers.

18

Cultural and Environmental Concerns

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What is the **digital divide**?

19

Cultural and Environmental Concerns

The **digital divide** is the social and economic gap between those who have access to computer technology and those who do not.

19

Computer Science Legislation

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Give three examples of **open source** software.

20

Computer Science Legislation

Examples of **open source** software include: Linux, GIMP, Audacity, Apache and Open Office.

20

Name three common sorting **algorithms**.

21

Three sorting **algorithms** are bubble sort, merge sort and insertion sort.

21

What are **flow diagrams** used for?

22

Flow diagrams are used to visualize an algorithm and show clearly the flow of information.

22

Are there any fixed rules for **pseudocode**?

23

There are no fixed rules for **pseudocode**. It must just make sense. Exam boards will normally provide a dictionary of common terms they expect you to know/use.

23

Which common **pseudocode** keyword is used to create a loop?

24

While is the **pseudocode** keyword used to create a loop.

24

What does the operator MOD (**modulus**) do?

25

MOD (**modulus**) returns the remainder after a division.

25

Computational Logic

What are **truth tables**?

26

Computational Logic

Truth tables are the representation of potential inputs and outputs (1s and 0s) in a logic diagram.

26

Computational Logic

What are the three main operations that are represented by **logic diagrams**?

27

Computational Logic

The three main operations represented by **logic diagrams** are AND, OR and NOT.

27

Programming Techniques 1

What is **concatenation**?

28

Programming Techniques 1

Concatenation is the adding together of two strings in a program.

28

Programming Techniques 1

What is a **string**?

29

Programming Techniques 1

A **string** is a collection of alphanumeric data characters and symbols that is usually enclosed in quotation marks.

29

Programming Techniques 2

Why are **databases** useful?

30

Programming Techniques 2

Databases store large amounts of data, which can be categorized and structured so it can be easily accessed.

30

Programming Techniques 3

Describe two benefits of **sub-programs**, or **sub-routines**.

31

Programming Techniques 3

Sub-programs, or **sub-routines**, save time and avoid repetitive code.

31

Producing Robust Programs

What is **extreme** (or **boundary**) **data**?

32

Producing Robust Programs

Extreme (or **boundary**) **data** is data at the limit of what a program should be able to handle.

32

Translators and Facilitators of Languages

Give three examples of **high-level languages**.

33

Translators and Facilitators of Languages

High-level languages include: Python, Java, JavaScript, Visual Basic, C++, C Family of languages, Ruby and BASIC.

33

Translators and Facilitators of Languages

What does a **run-time environment** allow?

34

Translators and Facilitators of Languages

A **run-time environment** allows a program to be run and tested within an integrated development environment (IDE).

34

Units and Formats of Data

How many **bits** are in a byte?

35

Units and Formats of Data

8 **bits** are in a byte.

35

Units and Formats of Data

Why was **Unicode** developed?

36

Unicode was developed to set worldwide common coding standards and to represent all known languages using 16- and 32-bit binary codes.

36

Converting Data 1

What is **denary**?

37

Denary (also known as decimal) is a base 10 number system with 10 digits.

37

Converting Data 2

What is a **check digit** system used for?

38

A **check digit** system is used to detect errors in identification numbers. The check digit is normally the last digit on the right.

38

Audio/Visual Formats and Compression

Name three file types that use **lossless compression**.

39

Three file types that use **lossless compression** include: RAW, WAV, TIFF and BMP.

39

Audio/Visual Formats and Compression

What is a **bit rate**?

40

The **bit rate** is the number of bits per second used to sample an audio file.

40