1. Name three output devices.

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

2. What does the control unit do?

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

3. What is clock speed?

Clock speed is the number of instructions the CPU can carry out in 1 second. A 3GHz CPU = 3 billion instructions every second.

4. What does BIOS stand for?

BIOS stands for basic input/output system.

5. What are three advantages of using flash memory?

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

What is **secondary storage**?

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

Common System Threats

What is **ransomware**?

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

What is **phishing**?

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

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

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

Threat Prevention

What is **encryption**?

**Encryption** is the conversion of important data, using a **public encryption key**, into a form that cannot be read without a **private key**.
What does **defragmentation** software do?

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.

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

What is **bandwidth** measured in?

Bandwidth is measured in bits per second.

How is a **virtual network** created?

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

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

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.
Name four types of network topology.

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

What does HTTPS do?

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

What are cookies?

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

What is the digital divide?

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

Give three examples of open source software.

Examples of open source software include: Linux, GIMP, Audacity, Apache and Open Office.
Three common sorting algorithms are bubble sort, merge sort, and insertion sort.

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

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.

While is the pseudocode keyword used to create a loop.

MOD (modulus) returns the remainder after a division.
What are truth tables?

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

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

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

What is concatenation?

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

What is a string?

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

Why are databases useful?

Databases store large amounts of data, which can be categorized and structured so it can be easily accessed.
Describe two benefits of **sub-programs**, or **sub-routines**, save time and avoid repetitive code.

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

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

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

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

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

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

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

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

8 **bits** are in a byte.
Unicode was developed to set worldwide common coding standards and to represent all known languages using 16- and 32-bit binary codes.

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

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

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

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