Cs rev

**How many Bits in a Byte?**

8

**How many bytes in a KB?**

1024

**How many bytes in MB?**

1,000,000

**Explain the formulae on converting a binary number to denary:**

Use the 8 bit method (taught by the legend MR Andrew Adenola)

**Explain the formulae on converting a binary number to hexadecimal:**

1. Start at the rightmost digit and break the binary number up into groups of four digits. These are known as nibbles.
2. Next, convert each group of four digits into decimal.
3. Convert each decimal value into its hex equivalent.
4. Put the hex digits together.

**Explain the formulae on converting a denary number to hexadecimal:**

You divide the denary number by 16 and the remainder is the other number

**Why do computers use binary?**

Because computers don’t understand language or numbers, they understand power on and power off which can be represented as (0) and (1)

**What is a checksum?**

A checksum is **a value that represents the number of bits in a transmission message**

**What is parity bit check?**

A parity bit, or check bit, is **a bit added to a string of binary code**. Parity bits are a simple form of error detecting code.

**What is check digit and explain the formulae to find if a check digit passes:**

A check digit is an additional digit at the end of a string of other numbers designed to check for mistakes in input or transmission

**What is the difference between lossy and lossless compression?**

The difference is that **Lossy compression loses the data and you can't get it back.** **While lossless compression you can compress down and back up and nothing lost**.

**What is ASCII? How many bits and what is the difference between ASCII and Unicode?**

ASCII (American Standard Code for Information Interchange). ASCII is **an 8-bit code**. That uses eight bits to represent a letter or a punctuation mark.

Unicode is the universal character encoding used to process, store and facilitate the interchange of text data in any language while ASCII is used for the representation of text such as symbols, letters, digits, etc. in computers.

**What is an overflow error?**

When the result of an addition is too large for the number of bits the computer works with there will be an **overflow error**

**Explain the formulae on calculating an image size:**

**What happens to a binary if you shift it to the left or the right?**

When there is a shift the left it multiply and when you shift to the right

**Explain how you calculate a file size in a recording:**

**Define sound sampling, sample frequency and sample resolution:**

**What is metadata? And provide different examples**

Metadata is information on data such as date, color depth of an image and file size

**What could affect a file size of an image? With information**

The more the Resolution and color depth the bigger the file size

**What are the limitations of ASCII and Unicode?**

The limit to ASCII is 128-256 BITS and Unicode is all the languages

**What is a character set?**

Every word is made up of symbols or characters. When you press a key on a keyboard, a number is generated that represents the symbol for that key. This is called a character code. **A complete collection of characters** is a character set.