# ICT Concepts

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### Digital Revolution.

Digital Revolution refers to the change in technology that has been going on in the last 40 years. We've moved from analog and mechanical technology to the digital technology. Rapid development in the information technology with the computers becoming, faster, cheaper, powerful and smaller. Information technology became part of our lives as it is embedded in almost all the products. People are adjusting very fast to the rapid pace that the information environment is changing.

### Data vs Information.

Computers and other digital devices work with such things as texts, numbers, music, images, speech, and video. Data refers to the symbols that represent people, events, things, and ideas. In everyday conversation people use the terms data and information interchangeably. But they are different in professional terminology. They define data as any raw facts or observations that describe a particular phenomenon. Data becomes information when it is presented in a format that people can understand and use. Data is used by machines, such as computers, information is used by humans. Information may be data that has been processed in some way. When we speak of data processing, the input is data, the output is useful information. So, data processing is a series of actions or operations that convert data into useful information.

### Digital Devices.

Digitization is the process of converting text, numbers, sounds, photos and video into data that can be processed by digital devices. So, they play crucial role in our life and in manipulating all kind of data. Hence talking about digital devices people usually mean desktop, laptop and tablet computers, mobile phones, e-readers, storage devices, input and output devices.

### Hardware Components.

Computer consists of physical parts or components called computer hardware, such as monitor, mouse, keyboard, computer data storage, hard disk drive (HDD), graphic cards, sound cards, memory, motherboard, and so on, all of which are physical objects that are tangible. By contrast, software is the set of instructions that can be stored and run by hardware.

**E-waste.**

E-waste is any electrical or electronic equipment that's been discarded. This includes working and broken items that are thrown in the garbage or donated to a charity reseller like Goodwill. Often, if the item goes unsold in the store, it will be thrown away. E-waste is particularly dangerous due to toxic chemicals that naturally leach from the metals inside when buried. Since we know consumers will keep buying new devices, it's important to keep reinforcing that message that we need to recycle the older models, not throw them out. There are serious environmental risks if we send our electronics to a landfill. In contrast, recycling provides considerable benefits to our environment.

When recycled most electronic waste goes through a recycling system called a WEEE (Waste Electrical and Electronic Equipment), which not only recycles 95-98%, by weight, of all ewaste passed through it, but ensures that any data left on hard drives and memories are thoroughly destroyed too:

- first all the items are sorted by hand and batteries and copper are extracted for quality control.
- items are shredded into pieces as small as 100mm to prepare the ewaste to be thoroughly sorted. This is also where the data destruction takes place.
- using magnets, steel and iron are removed from the debris.
- aluminium, copper and brass are separated from the non-metallic content. The metallic can then be reused and resold as raw materials.
- water is used to separate plastic from the glass content. Once divided all raw materials can then be resold.