What is ICT?

ICT stands for Information Communications Technology. ICT refers to any device or system that allows the storage, retrieval, manipulation, transmission and receipt of digital information. For example, personal computers, digital television, email, robots.

ICT hardware will include:
- computers
- scanners
- digital cameras.

ICT covers software will include:

*Standard Office Applications - Main Examples*

**Word processing**  
E.g. Microsoft Word: Write letters, reports etc

**Spreadsheets**  
E.g. Microsoft Excel: Analyse financial information; calculations; create forecasting models etc

**Database software**  
E.g. Oracle, Microsoft SQL Server, Access: Managing data in many forms, from basic lists (e.g. customer contacts through to complex material (e.g. catalogue)

**Presentation software**  
E.g. Microsoft PowerPoint: make presentations, either directly using a computer screen or data projector. Publish in digital format via email or over the Internet

**Desktop publishing**  
E.g. Adobe InDesign, Quark Express, Microsoft Publisher: produce newsletters, magazines and other complex documents.

**Graphics software**  
E.g Adobe Photoshop and Illustrator; Macromedia Freehand and Fireworks: create and edit images such as logos, drawings or pictures for use in DTP, web sites or other publications

*Specialist Applications - Examples*

**Accounting package**  
E.g. Sage, Oracle: Manage an organisation's accounts including revenues/sales, purchases, bank accounts etc. A wide range of systems is available ranging from basic packages suitable for small businesses through to sophisticated ones aimed at multinational companies.

**Computer Aided Design**  
Computer Aided Design (CAD) is the use of computers to assist the design process. Specialised CAD programs exist for many types of design: architectural, engineering, electronics, roadways

**Customer Relations Management (CRM)**  
Software that allows businesses to better understand their customers by collecting and analysing data on them such as their product preferences, buying habits etc. Often linked to software applications that run call centres and loyalty cards for example.
The 'C' in ICT stands for communications, and covers all the communications technologies such as:

- digital TV
- digital radio
- e-mail
- Internet
- broadband
- networks (wired and wireless)
- mobile phones
- GPS (global positioning systems)
- videoconferencing
- instant messaging
- fax

**What is a system?**

We use systems in everyday life. It is a way of doing things. All systems involve input, process and output. There are many types of system – not just ICT systems. For example, we all have a nervous system and you are in an education system. Our homes have plumbing systems and electrical systems.

**What is an ICT system?**

If a system is a way of doing something, an ICT system is a way of doing something using ICT. These are used in many forms in everyday life, from the diary and organise roperations on a mobile phone to the roll call process at a school.

Businesses need many different ICT systems including:

- systems for paying staff (payroll systems)
- stock control systems
- order processing systems
- purchasing systems
- accountancy systems
- personnel (human resources) systems
- e-commerce systems
- banking systems.

**What do all systems have in common?**

All systems involve the three steps of **input, processing and output.** ICT systems are those where the output from the system goes directly to a human being or into another ICT system.

**Input** - involves capturing or entering the data. In many cases this will involve entering data via the
keyboard but there are many other faster and more accurate methods such as bar coding, scanning, etc. The input involves turning the data into a form that can be processed by the computer. The data needs to be encoded.

**Processing** - performing actions on the input data. This would involve performing calculations, searching, sorting, arranging, presenting, converting, transferring, classifying, etc.

**Output** - these are the results or the information produced when the data has been processed. All information systems produce output.

**The six components of an ICT System**

There are six components of any ICT system:

- **People** - are needed to supply the data to the ICT system and also to make judgements and decisions from the output supplied from the system.

- **Data** - is the raw material of any IT system and this is processed by the system to provide the information which is the output produced by the system.

- **Procedures** - determine what needs to be done and when. It also covers the passing of data or information between different people. Administrative procedures are needed to deal with problems such as customers not paying bills, problems with deliveries, etc.

- **Hardware** - these are the physical components that make up the ICT system. If you can touch it, then it is hardware. Hardware includes input devices (keyboards, mouse, scanner, etc.), storage (memory, hard drive, etc.), the processor and the output devices (screen, printer, plotter, etc.). Also included in hardware are the communication devices needed to send data across networks.

- **Software** - these are the computer programs which provided the step-by-step instructions to get the job done.

- **Information** - the results from processing data. Information is the output from an IT system.

*Summarise Activity 1 (The components of ICT Systems) from your textbook, Doyle, Page 126.*