

ICT Module 1 Terminology

Why learn terminology?

Both to understand the course and to be able to answer an exam question properly, you will need to understand all of the terminology associated with this unit.

Knowing terminology empowers you to be able to understand the subject and to show to the examiner that you understand the questions set.

This booklet outlines the terminology that you must know for Module 1.

Module Specific Terminology (Created by AS ICT Students – 2002)

10.1 - Knowledge, Information and Data

Data	These are the raw facts or figures, which are, collected from different sources. For example, how many shoes were sold in a store. Or how many people are 14 years old in a school.
Information	The raw data can then be processed into something, which is useful which people can use. The data needs to be put into context. For example- people knowing the amount of shoes that have been sold is not useful. But if you put it into context and say how many shoes there were originally and what percentage have been sold then the data now becomes information .
Knowledge	The information that has been gathered is then processed and put into something, which people can understand. For example- the information we have about the amount and percentage of shoes sold in the shop means that we could use it to see how many shoes the shop needs to order in to supply demand.

EPOS	(Electronic point of sale) These are the terminals, which are used in shops to scan, price and print out the information of the products bought. For example- Checkouts, and the lottery stations.
Data Capture	How data is collected for use.
Quality of Data	How good the data is. To be useful it must be: accurate, Up-to-date and Complete. If not it will be false data and no use to any one.
Encoding	The changing of data in to information to make it meaningful.
The nature of information	The way information can be presented on and through ICT.
The role of information	How information is used by ICT systems and their users.
Information in a Context	How information is used and interpreted in different situations.

10.2 – Value and Importance of Information

Commodity	A commodity is something of use or value. When information is a commodity, it has value because it can be used for a particular purpose, such as marketing, advertising or selling.
Data collection	A method of getting hold of data. It can be collected for a specific purpose or for one purpose and then used for another. Data collection methods include, surveys and questionnaires.
Data usefulness	Data is of poor quality when it is out-of-date, inaccurate or incomplete. Therefore useful data should be up-to-date, accurate and complete. This means constantly updating information.
Coding value judgements	A value judgement is a description such as 'tall', 'handsome', etc. The problem arises when these are collected on questionnaires and secondly when they have to be put into a computer system.
Speed of processing	How fast data can be processed to create useful information.
Storage capacity	How much data / information can be stored on a computer system. Today, the storage capacity has to be vast.
Instant response	Computer systems need to give responses to input very quickly, so need to process in real-time.
Limitations	Computer systems have drawbacks – these are called limitations and are based on what they cannot do.

Information overload	The speed at which computer systems work can mean that employees just cannot keep up with the volume of information created. E-mails are a particular example. Can lead to information overload syndrome.
Bottlenecks	Inadequate hardware may cause the flow of information to slow down, known as a 'bottleneck'.
Garbage in - garbage out	Information is only as good as the data that is put into the system. If it is badly input, then poor information will be the result.

10.3 – Control of Information

Levels of access	The level of authority that a user has inside a specific network set-up. For example the system inside a school could be: <ul style="list-style-type: none"> • ICT Technician (full access). • Teachers (have access to the admin network, they can also delete print jobs). • Sixth Form (have extra icons relating to their course). • Other Students.
No access	The user will not have access to specific files
Read only	Users will be allowed to see files but not be able to alter the original in any way
Read and copy	The user will be allowed to see the file and take a copy, but not alter it in any way.
Read and write	User is able to look at the file and add / change information.
Password	A word or a sequence of letters and figures made up by the user to allow them access to system or file.
Data protection legislation	An act passed to preserve personal privacy on a computer system, expanded in 1988 to include paper records as well.
Personal data	Information about the individual, i.e. name and address.
Automatically processed	Processed by a machine.
Data users	Controllers of the contents and the use of personal data.
Data subjects	Who the data relates to.

10.4 – Capabilities and Limitations of ICT

Object linking and Embedding (OLE)	This something that allows you share information between program, such as a worksheet from Excel into word. By using the Paste, copy or cut function.
Linked Object	The original information remains stored in the source file.
Embedded Object	Means the information or data becomes part of the destination file.
Portability of Data	The ability to run the same program on different types of computer, also refer to the ability to transfer a file from one computer to another.
Upgradeability	This refers to how easy it is and how many times you can upgrade a piece of software. It may also refer to the downgradability of software, such as windows ability to interface with previous versions of itself.
Compatibility of existing hardware	This is whether the new software will run on the existing equipment.
Compatibility of existing Software	Can the files from other packages be imported or exported to and from the new packages to other packages?
Packages	This is a few software titles of programs sold together, such as Microsoft office or Lotus.
Video conferencing	A discussion between two or more groups of people who are in different places but can see and hear each other using electronic Pictures and sound that are carried by the telecommunication network (Phone line or microwave) and such conferences can take place across the world.

10.5 – The Social Impact of ICT

BACS	Banks Automated Clearing Service (Standing Orders and Direct Debits are dealt with automatically by the clearing service operated by the bank's computer and then the money is transferred between accounts)
ATM	Automatic Teller Machines (Cash Points)

EFT	Electronic Fund Transfer (This is the movement of money from one bank account to another without any paper transactions i.e. being paid by your employer straight into your bank account)
EFTPOS	Electronic Fund Transfer at Point Of Sale (When a customer is in a shop and they hand over their bankers card either a debit or credit card- i.e. Visa, MasterCard, Switch, Solo etc – and the card is swiped through the POS terminal the payment is then made directly from the customers bank account to that of the shop)
MICR	Magnetic Ink Character Recognition. (This is used to sort and process cheques in a bank.)
Online Banking	Using the internet (at a Banks website) and or with such programmes such as Microsoft Money 2000 to complete all of your regular banking needs.
Smart Cards	Electronic cards i.e. Mondex store “Money” on a microchip which can be topped up from a bank account. Goods are able to be paid for by inserting into a special reader and typing the amount that you wish to be debited from your card.
CAD	Computer Aided Design. (Computer Software is used to design the products)
CAM	Computer Aided Manufacture. (Computers are used in all areas of the production process i.e. lathes, milling machines and robots)
Expert Systems (Also known as “Knowledge-Based Systems”)	They are computer programs that attempt to replicate the performance of a human expert on a specialist topic.
Voice Recognition	Allows speech to be converted to printed or displayed output.
Multimedia	A software program incorporating sound, graphics, videos and pictures.
Authoring Software	Allows students and professionals to create a multimedia software, allowing the entering of text, added graphics, photographs etc.
Teleworking	Working from home.
WAN	Wide Area Network.
NOF	New Opportunities Fund (Training teachers in ICT)
Information Overload Syndrome	People are suffering from stress because there is too much information coming at them to deal with at once.

RSI	Repetitive Strain Injury. Caused by repetitive movements over a long period of time, such as caused by the use of a mouse or keyboard.
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10.6 – Role of Communications Systems

Network	This is a group of computers that are linked so that the same information can be found on all of the computers so that you don't have to always use the same one. Networks often have a password system so that each user has their own file, which only they can access.
WAN	This stands for Wide Area Network. This is a network, which connects computers over a wide geographical areas, it can even connect computers in several different countries. Devices such as telephone lines, satellite dishes and radio waves are used to connect the computers over such long distances.
LAN	This stands for Local Area Network. This is a network that connects computers within a small area such as an office, or a university campus. These can't cover such a widespread area as WAN's.
Videoconferencing	This uses video cameras and microphones to record images and sounds to enable people in different locations to have conversations so that they can see and hear each other using computer screens and loudspeakers. As the name suggests, video conferencing can be used to replace face-to-face conferences, with relatively large numbers of participants able to come together for a discussion even though they are in separate locations.
Data Transmission	Data transmission is when things such as Telecommunications lines originally designed for telephone voice communications are also capable of transmitting computer-readable data, thereby facilitating such innovations as the Internet and e-mail.
E-mail	Email is the most popular tool on the Internet, and is basically a way of sending and receiving messages from anybody at any Internet connection in the world. Internet users need a password for secure emails and this will log them onto the email software. If they have any new emails they will appear on the screen and can be read or deleted and if necessary replied to. When an email message is sent it goes down through the telephone exchange and sits in the central server that belongs to the computer it is trying to get into. It sometimes has to wait for up to a day if the server is very busy. Eventually it will be sorted into the right file and will sit waiting for the user to read it. It is just like sending a letter through the post but takes out the

	<p>human delivery element</p> <p>Messages passed from one computer user to another, often through computer networks. A message begins with several lines of headers, followed by a blank line, and the body of the message. An increasing number of e-mail systems support the MIME standard, which allows the message body to have "attachments". Headers give the name and electronic mail address of the sender and recipient, the time and date when it was sent and a subject.</p> <p>The message is composed, usually using a special program (a "Mail User Agent" or MUA). It is then passed to a "Message Transfer Agent" (MTA) (a program that is responsible for passing the message to another MTA.) The message is eventually delivered to the recipient's mailbox.</p>
Protocol	<p>A protocol is a standard set of rules that determines how computers communicate with each other across networks. When computers communicate with one another, they exchange a series of messages.</p> <p>To understand and act on these messages, computers must agree on what a message means. Examples of messages include establishing a connection to a remote machine; sending or receiving e-mail; and transferring files and data.</p>
Mailing List	<p>A mailing list is a way to communicate and share information with many people via electronic mail. People join mailing lists by subscribing, which allows them to receive all messages that are sent to that list. Mailing lists may be moderated, restricted, or open and un-moderated.</p>
Intranet	<p>A network, which has similar services in an organisation to those provided by the Internet outside it but isn't connected to the Internet. Some companies give restricted access to their intranets to other companies or the general public. This is known as an extranet.</p>
Viewdata	<p>Viewdata is an interactive videotext system in which information can be retrieved or transmitted.</p>
Telephone	<p>An instrument that converts voice and other sound signals into a form that can be transmitted to remote locations and that receives and reconverts waves into sound signals.</p> <p>Many organisations have complex internal telephone networks that allow calls to be made 'internally' at low or no cost. Features of internal telephone networks include call forwarding, call redirection when telephones are unanswered or busy.</p>

Newsgroups	An area on a computer network, especially on the Internet, devoted to the discussion of a specified topic. Anyone can post on the Usenet groups. Some moderated groups are distributed as stories, news etc, with groups of postings collected with an index to them.
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10.7 – Information and the Professional

Job Specification	Definition of the tasks involved in a particular job.
Status	Value of someone's position in the company's hierarchy.
Organisation	Another name for a company or business or administrative body united in a particular goal or set of objectives.
Skill Profile	A list of abilities an employee will need to carry out a particular task.
Professional	A trained worker in a certain field.
Technical Skills	The specific skills that an employee needs to be able to work with technology.

10.8 – Information Systems, Malpractice and Crime

Crime	An act that contravenes the laws of that country.
Malpractice	Improper or unethical conduct with regards to the usage of a system.
Firewalls	Any of a number of security schemes that prevent unauthorized users from gaining access to a computer network or that monitor transfers of information to and from the network.
Viruses	Is an executed program that runs within a computer with the definite intention to cause damage to a computers files or operating system or to cause annoyance to the user.
Cracking	This is the unauthorised access to data that is held on a computer system.
Hacking	This is the same as cracking, but it is for testing the system, rather than entering it with malicious intent.
Fraud	A deliberate deception practiced in order to secure unfair or unlawful gain.
Logic Bomb	Similar to a virus and may be delivered by one, a logic bomb is written to destroy, or change the contents of an organisations computer system.

<p>The Computer Misuse Act of 1990</p>	<p>This named three different criminal offences to deal with the problems of hacking, viruses and other such things. The offences are:</p> <ul style="list-style-type: none"> • Unauthorised access to computer programs or data, • Unauthorised access with further criminal intent, • Unauthorised modification of computer material.
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10.9 – The Legal Framework

<p>Personal data</p>	<p>Information about living, identifiable individuals. Personal data does not have to be sensitive, but can be simply names and address.</p>
<p>Automatically processed</p>	<p>Processed by a computer or other technology such as document image processing systems.</p>
<p>Data users</p>	<p>Those who control the contents and use and collection of personal data.</p>
<p>Data subjects</p>	<p>The individuals to whom the personal data is about.</p>
<p>Data protection principles</p>	<p>There are eight principles of the Data Protection Act:</p> <ul style="list-style-type: none"> □ fairly and lawfully processed; □ processed for limited purposes; □ adequate, relevant and not excessive; □ accurate; □ not kept longer than necessary; □ processed in accordance with the data subject's rights; □ secure; □ not transferred to countries without adequate protection.
<p>Data protection registrar</p>	<p>The office of the registrar carries out the following duties with respect to the DPA:</p> <ul style="list-style-type: none"> □ maintaining a register of data users and computer bureaux and making it publicly available; □ disseminating information on the Act and how it works; □ promoting compliance with the Data Protection Principles; □ encouraging the development of Codes of Practice to help data users comply with the Principles; □ considering complaints about breeches of the Principles of the Act; □ prosecuting offenders, or serving notices on how they are contravening the Principles.

Information overload	The speed at which computer systems work can mean that employees just cannot keep up with the volume of information created. E-mails are a particular example. Can lead to information overload syndrome.
RSI (Repetitive Strain Injury)	Caused by repetitive movements over a long period of time, such as caused by the use of a mouse or keyboard.
Eyestrain	Caused by lighting at a computer station.
ELF radiation (Extremely Low Frequency)	Emitted by computer terminals, especially monitors.
VDU (Visual Display Unit)	A monitor or computer screen.
Ergonomic environment	Ergonomics is the study of the relationship between workers and their working environment. When related to computers, the following should be taken into account: lighting, furniture, work space, noise, hardware and software.
HCI (Human-Computer Interaction)	A growing field of study in computing, seeking amongst other things, to find out what makes software difficult or unpleasant to use and how it can be improved.