

1. Hardware Devices

INPUT

Joystick
Microphone
Sensor
Digital Camera
Graphics Digitiser
Light Pen
Scanner
Mouse
OMR (Optical Marked Reader)
OCR (Optical Character Reader)
Touchscreen

OUTPUT

Inkjet Printer
Laser Printer
Plotter
Speakers
Motor
Lights—Bulb
Buzzer
Screen

STORAGE

CD—RW
DVD—RW
Flash Card
Zip Disk
Magnetic Tape
Hard Disk Drive
Memory Pen/Stick

2. Smart Devices

Smart devices are devices such as Smart Mobile Phones that offer the many of the features found on a computer. Some of these features include:

- Internet access
- E-mail that automatically downloads to the phone when it is received.
- A calendar and contacts address book
- Applications software such as word processing and spreadsheets
- Large memory for storing data, and the option to insert additional memory cards.
- A digital camera.

3. Networks

LAN—Local Area Network

A network which covers a small area such as an **office or school**.

Properties:- Computers connected by **cables**.

WAN—Wide Area Network

A network which connects computers in a large area or on a number of sites—**Worldwide**.

Properties— Computers connected by **wireless/satellite**.

4a. Spreadsheets

A software package used for performing **calculations** and drawing **graphs**.

Numbers, labels and formulas are the three different types of information that can be input into a cell.

The results of formulas will be **calculated automatically** when input values are changed.

Spreadsheet cells containing labels can be **formatted** e.g. bold, underline, left and right justify, fill,

Numbers can be formatted to **fixed decimal places** or displayed as **currency**.

4b. Spreadsheet Functions

- =SUM(A12:A18)
- The SUM function calculates the sum of the cells in the brackets.
- =ROUND(D1,2)
- This function rounds the value of D1 to 2 digits.
- =ROUNDUP(D1,2)
- This rounds the value of D1 UP to 2 digits.

4c. Spreadsheet Functions (continued)

- =MIN(A1:A9)
- This function is used to find the minimum value within a range of cells.
- =MAX(A1:A9)
- This function is used to find the maximum value within a range of cells.
- =COUNT(D1:D10)
- This tells you how many cells in the range contain numbers.

4d. Spreadsheet Functions (continued)

- =IF(A2>A1, "Over", "Under")
- This IF function checks the condition (is value of A2 > A1), and returns "Over" (if answer is true) or "under" (if value is false).
- =VLOOKUP("Apple", A2:A6, B2:B6)
- Looks up a value within a range of cells.
- =RANK(D4,D4:D9)
- Tells you where the value in D4 ranks in the range given.

4e. Spreadsheet Functions (continued)

- =HLOOKUP(21, A1:F5, 2, FALSE)
- Looks up a column value within the cell range. It then looks to the second (2) row of that column and displays that value. If a match is not found it will display "FALSE".
- =AVERAGE(A1:A9)
- Shows that average value of cells within the range.

4f. Absolute and Relative Cell Referencing

Relative cell referencing:

When a formula is copied to a cell, the cell will look relative to where the cell before checked. The formula will change relative to the cell is copied to.

Absolute cell referencing:

The location of cells in a formula are stored, it is unaffected by the location of the cell containing that formula. Cell references with this absolute referencing are marked by \$ in the cell reference. E.g. **D1** will become **\$D\$1**.

5a. Tasks performed by an Operating System (O.S.)

- Managing communications between computers and connected peripherals e.g. Printers, Digital Cameras, Scanners.
- Providing a user interface.
- Allocation of computer memory.
- Organising data on backing storage devices.
- Booting up the computer—checking all hardware.
- Handling interrupts.
- Managing security: The operating system is responsible for making users log on.

5b. Operating System Types and GUI

Windows or Linux—For PCs (Personal Computers)

Mac OS—For Mac computers

Unix—For mainframes

Symbian, Android, IOS—For mobile phones/ smart devices.

GUI—Graphical User Interface

These have graphical features such as icons, buttons, menus, hyperlinks, windows (display software), scroll bar and other interactive features that change what is displayed on a screen.

6a. Databases

- **Field** a single item of data stored in a database such as *Gender* or *car registration number*. The data in a field can not be slip up. Each field is identified by a field name.
- **Record** all of the information that is stored in about a person or thing. It is a collection of logically related fields.
- **File/Table** a collection of records, each of which has the same structure.
- **Key Field (Primary key)**. An item which is used to uniquely identify each record.

6b. Data Validation and Verification

Data Validation.

A check made by the **software** that data upon **input** is **sen-**
sible.

- RANGE check (Exam Paper marks 0 to 20).
- PRESENCE check (Must enter 11 digits for a phone number to proceed).
- LOOK-UP LIST (checks the data entered to see if it exactly matches one value from a list of pre-set values.
- TYPE CHECK (checks if a field contains all of the same data type, or in a specific format, or is a specific length.
- CHECK DIGIT (Carries out a calculation on long numbers and generates a result. This result is used to compare with the check digit. For example the last digit on a barcode).

6c. Data Validation and Verification

Data Verification.

Data is entered manually **twice**, a comparison is made to see if there are any errors.

The document is **Proof Read** to verify its content.

7a. The Data Protection Act (DPA)

The 8 PRINCIPLES

1. Data must be Processed fairly.
2. Data must not be kept longer than necessary.
3. Data must be kept secure.
4. Data must not be used for the registered purpose.
5. Data must be given to data subject upon request.
6. Data must be kept up to date.
7. Data must be relevant for purpose.
8. Data must Not be transferred outside EEC.

7b. The Data Protection Act (DPA)

Exemptions

1. Where national security may be put at risk.
2. Where information must be available to the public.
3. Where information is for personal use within families.
4. Where information is needed to prevent and detect crime.
5. Where information is needed to collect taxes.

7c. The Computer Misuse Act

- Created to prevent unauthorised access to computer data.
- This is sometimes called **hacking**. Most networks only allow users to access limited parts of the system. If someone tries to use a part of the network they are not authorised to use, this is breaking the **Computer Misuse Act**.

7d. Copyright and Plagiarism

Plagiarism—A form of cheating, such as **copy and paste**.

- Information should be marked or quoted with its original source.
- Or the information can be rewritten in the user's words.

Some images or material may be subject to **copyright** which will be marked with a © symbol. This content will then need permission to be used from the **copyright owner**.

7e. The Data Protection Act (DPA)

Data Subject's rights

Subject Access An individual is entitled to be supplied by any data controller with a copy of any personal data held about him or her. The data controller may charge a small administration fee for this service.

Correction or deletion If data is inaccurate then a data subject may complain to the courts and have the data blocked, deleted or corrected.

Damage Protection A data subject may prevent any processing which is likely to cause damage or distress.

8. Desk Top Publisher (DTP)

- Software used to produce **professional** looking documents.
- Newsletters, newspapers, leaflets and posters can be produced and are good enough to **publish**.
- Information is inserted on pages in **blocks** called **frames**.
- **Layouts** can be changed easily—moving frames.
- Frames can be **layered**—put on top of each other. E.g. placing text on top of a picture.

9a. Email

Positives of Email compared to post:

E-mail sent **instantly**.

Can **attach** files and documents.

Can send **same e-mail** to many people at once.

Less chance of getting **lost**.

Cheaper than post.

Negatives of email:

Both sender and receiver need internet access and e-mail accounts.

Hardware and software is expensive.

Type the **incorrect** e-mail address and it may be delivered to the **wrong** person.

9b. Email Abbreviations

Phishing:

An email that is sent claiming to be from an organisation such as a bank. These normally ask users to enter their details (banking) on fake phishing sites. This is used by criminals to gain bank details such as passwords.

Junk Mail:

E-mail sent in bulk to users who have not requested or opted into that e-mail list. Sent by companies to make money from advertising products or services, or organisation trying to gain personal details or obtain money through illegal means.

Flaming e-mails:

E-mails that contain angry or abusive messages.

Cc:

Stands for "carbon copy", sends the message to a receiver who is not directly affected by a message, but someone who is to be aware of the message.

9c. Email Abbreviations (continued)

Spam Filters:

They work by blocking all known spammers and search for keywords in messages. This is not 100% accurate so some genuine e-mails could be redirected into the junk mail or spam folder. These senders can be manually added to a list of safe senders to avoid this in the future.

Chain e-mails:

E-mails that are sent to a large number of receivers and encourage those receivers to send it to everyone in their address book. This makes the chain longer. Sometimes these contain threats to the receivers if they break the chain.

Bcc:

Stands for "blind carbon copy", a copy of the email will be sent to this receiver but none of the other recipients will be able to see the bcc's email address. They are therefore unaware that an additional copy has been sent.

10. User Interfaces

GUI Graphical User Interface

Windows is a GUI and makes use of:-

Windows Icons Menus Pointers (WIMP)

Menu driven Interface

Make choices from a menu.

Press buttons to move to next screen

E.g. ATMs—Automatic Telling Machine (Bank Cash Machines)

Command Line Interface

List of commands.

Must be typed correctly.

Must be in correct order.

E.g. LOGO—the turtle

11. Methods of data collection:

Trying to find out information about a system, analysts can use methods of researching a system:

- Observation of the users of a system.
- Questionnaire/Survey of the users of a system (forms).
- Interview with the users of a system.

12. The System Life Cycle

13a. ICT in Supermarkets

Positives: for the Company

Fast checkout via Barcodes
Quicker stock availability
Quicker to change prices
Customer profiling (look at buying habits)
Quicker calculation of wages
Gain IT skills

Negatives: for the Company

Less personal contact Less job satisfaction
Loss of jobs Need training
Equipment is expensive

13b. ICT in Supermarkets (continued)

Positives for the Customer:

Shorter Queues Itemised receipt
Shop Online Cash back
Automatic doors CCTV prevents crime
Goods more available on shelf

Negatives for the Customer

Less personal service
Customer profiling
Junk/Spam
Hackers get credit card information.

14. Types of Application Software

Bespoke Application Software

This type of software is:

- Tailor-made
- Does what you expect
- Is very expensive
- Takes long time to develop

Off the shelf application Software

This type of system is:

- Cheap to buy
- Won't do everything you want it to do
- Can't be available straight away

15. Methods of Processing

- **Real Time Processing**—immediate response—no delay e.g. flying a plane, computer games.
- **Transaction processing**—(pseudo real time) slight delay of a second or two. Processes virtually straight away. Prevents double bookings e.g. booking a plane ticket.
- **Batch processing**—similar data is gathered and processed in one run usually at the time of the day. E.g. cheques and wages.

16. Characteristics of ROM and RAM

ROM

- Read Only Memory
- Will not be lost when computer is turned off
- Non Volatile
- Instructions for computer boot up

RAM

- Random Access Memory
- Data is lost when computer is turned off
- Volatile
- E.g. The print queue

17a. Positives of the Internet

Benefits of Internet to Companies

- Online shopping—saves retail spaces and money
- Advertise can reach larger target audience
- Communicate easier-order with suppliers.
- Teleconferencing-hold meetings
- Use the internet-able to research competition
- Pay online-carry out financial transactions

17b. Negatives of the Internet

- Illegal activities
- Terrorism
- Hacking
- Stalking paedophilia
- Selling illegal products
- Football hooliganism
- Theft and fraud (via spoof sites)
- Give false identity

Reasons why

- Easier to keep contact
- Music \ downloads
- Stolen credit card fraud is easier—anonymous users

18. Simulation

This is where a computer produces simulation of a real life situation.

Examples

- Flying a plane
- F1 racing simulator
- Bird flu spread simulator

Positives of using simulation

- Can introduce certain situations e.g. its raining
- Doesn't cost a lot - if you crash a £6 million plane nobody gets hurt

19a. Health and Safety

Types of injury using a computer

- **RSI** repetitive strain injury

Prevented by wrist guards, ergonomic keyboard

- **Back and Neck Strain**

Prevented by regular breaks, 5 point swivel chair with back support, ability to tilt the screen.

- **Eyestrain**

Prevented by regular breaks

- **Stress**

Prevented by good interface design

19b. Health and Safety (continued)

Types of injury where computers are used

- **Tripping (over cables)**

This can be prevented by keeping cables off the floor and having extra power sockets installed if possible.

- **Heat**

The heat given off by many computers in a room can become uncomfortably hot. This can be prevented by having an air conditioning system to circulate air.

- **Lighting**

Diffused lighting and blinds can reduce the glare/ reflection of light on monitors that can lead to eye stain

20. Home Entertainment Systems

As TV programmes are broadcast digitally, they can be stored on a hard drive, this is what enables us to record TV programmes to watch later on.

Integrated Entertainment Systems can link TV, video and music on a range of systems and devices around the home.

Games can be played on a TV screen as the data is digital.

TV has become interactive through digital services.

21a. Web Design

Homepage

The first page of a website that a visitor will see, it contains feature panels that will be updated regularly. Catches the attention of the visitor.

Template

This page will contain all the items that appear of every page in a website, such as a menu.

Hyperlink

An element of a web page that links to a file or another web page.

21b. Web Design (continued)

Marquee

An area of a web page that contains scrolling text.

Spry Menu Bar

This is added to a web page to create dynamic user-friendly menu/navigation bars.

Counter

A website counter shows the number of visitors to that site.

22. Collaborative Working

This is where a group of people work together to achieve a common goal.

House Style—an agreed set of layout and format rules that may involve logo placement, fonts, colour schemes, etc.

Recursive—a process that is repetitive, for example where a document is revised, edited and proofread to improve the final product.

Examples—multi-user online game, creating a year-book, etc.

23. Units of Memory

8 bits = 1 byte
1024 bytes = 1 kilobyte (KB)
1024 KB = 1 megabyte (MB)
1024 MB = 1 gigabyte (GB)
1024 GB = 1 Terabyte (TB)

1. Definitions

Absolute cell reference—the actual location of the cell within a formula is stored, this is unaffected by the location of the cell containing the formula.

Acceptable use policies—AUPs are agreements that set out what users are allowed to do on an organisation's computer system.

Actuators—devices that perform an action in response to signals from a computer.

Analogue signals—electrical signals that vary continuously.

2. Definitions

Applications software—computer programs that are designed to carry out specific tasks.

Artwork—the version of a document that is sent to a printer. It includes the text, pictures and photographs of a document.

ATM—automated teller machine. Allow bank customers to check, deposit and withdraw money from their accounts. Sometimes known as cashpoints or hole-in-the-wall machines.

3. Definitions

Avatar—a picture that is chosen to represent a user online. Safer than using a real picture of users.

AVERAGE—a function that returns the average of a set of results.

Backups—copies of data stored in case the original is stolen or becomes corrupt.

Biometric—uses human characteristics such as fingerprints for identification purposes.

4. Definitions

Boots up—when the computer is switched on, it automatically performs a set of processes to allow the computer to be used.

Budget—a financial plan to show how much money can be spent on each part of a project.

Buffers—temporary storage area in the printer that hold the data waiting to be printed.

Bulletin Boards—online discussion spaces where people can post messages and get responses from other people.

5. Definitions

CAD—computer-aided design. Uses a computer to produce drawings of the design for a product. It can also be used for automatic calculation of weights, strengths, etc.

CAM—computer-assisted manufacture. Often uses output from CAD packages. It uses a computer to control the tools that manufacture/assemble products.

CCTV—closed-circuit television. An unmanned, remotely mounted video camera is used to transmit live pictures back to a television screen where developments can be monitored and recorded.

6. Definitions

Chain e-mails—e-mails that are sent to a large number of receivers and encourage those receivers to send it to everyone in their address book. This makes the chain longer. Sometimes these contain threats to the receivers if they break the chain.

Client—the person who wants the new system.

Closed questions—questions where the answers are limited. Where the response has to be one of the options needed.

7. Definitions

Control software—software used to programme robots and devices with instructions so that they can act remotely or automatically.

Copyright—a legal right given to someone who creates documents, pictures or music. It means that other people cannot use that work without the permission of the copyright owner.

Corrupt—means that the data in a file is unreadable. This can happen if data is changed or damaged in a way so that it cannot be loaded by the original software.

8. Definitions

CPU—central processing unit; the part of a computer that does most of the data processing.

Cyber bullying—using computers and mobile phones in ways that make another person unhappy or uncomfortable.

Data—raw figures or words with no context or meaning.

Databases—collections of data or records stored in a table.

9. Definitions

Data controller—the person in an organisation who is responsible for ensuring the Data Protection Act 1998 rules are followed.

Data Protection Act 1998—a law designed to protect the privacy of personal information.

Data redundancy—when the same data is stored more than once in a table. This is sometimes called data duplication.

Data subjects—people about whom data is stored.

10. Definitions

Data types—descriptions of the types of data or records being stored in a cell, for example text, numbers or dates.

Data users—people or organisations that store personal data.

Deadline—an established date by which tasks have to be completed.

Desktop publishing—DTP. A type of application software used to create printed materials containing text and images.

11. Definitions

Devices—pieces of hardware. For example, a monitor is an output device.

Digital signals—signals that take on only two values, off or on, in binary code.

Dongle—a small piece of hardware that connects to a computer's USB port. It allows a computer user to use certain pieces of software. Most wireless broadband services use dongles as part of modem devices.

E-commerce—uses the internet for commercial tasks such as selling goods or services.

12. Definitions

Encoding—replaces data with a code which shortens it (for example replacing male with M or female with F).

Encryption—scrambling data to make it secure. Only users with the key to the code can unscramble and read the data.

Exemption—situations where the data protection rules do not apply.

Export—preparing a file that is currently open so that it can be opened in different applications software.

13. Definitions

Feasibility study—an investigation to decide whether it is worth proceeding with a project or not.

Feedback—the way the output influences the input. For example, a heater switching on will affect the temperature input.

Fields—column headings in database tables. Fields are part of a record.

File extension—a code that defines the type of file. At the end of the file name there is a dot plus the extension, for example letter.doc is a document called letter.

14. Definitions

File path—an address for the file that specifies exactly which folder it is stored in.

File permissions—the actions that users are allowed to perform on a file, for example read only or read/write.

Filter—in graphics software, a filter is a process which changes the appearance of an image. Filters are used to create specific effects, for example blur, pixelate and add brush strokes.

15. Definitions

Firewall—software or hardware that limits the data that can be sent to or from a computer, preventing unauthorised access.

Flaming e-mails—e-mails containing angry or abusive messages.

Flash—applications software used to add animation and interactivity to web pages.

Flat file database—a database with just one table of data.

16. Definitions

Forum—sometimes called a message board. An online discussion website consisting of user-generated content.

Functions—mathematical operations performed on the value in a cell, for example SUM and AVERAGE.

Gantt charts—diagrams that show a schedule of individual tasks as they occur over the period of time which the project is developed.

Generic features—features that appear in many different types of applications software.

17. Definitions

Grooming—a criminal offence where a person gradually builds up a young person's confidence online. They may then ask the young person to meet them in person.

GUI—graphical user interface with windows, icons, menus and pointers.

Hacking—accessing a computer system you are not authorised to use. Hacking is an offence under the Computer Misuse Act 1990.

18. Definitions

Hardware—the physical objects that make up a computer system, such as computers, monitors and printers.

Hotspots—areas of a page that change when the mouse hovers over or clicks on them. A hotspot can be invisible, for example an area on an image that does not immediately look as if it is clickable.

House style—an agreed set of layout and format rules that might involve logo placement, fonts, colour schemes, etc.

19. Definitions

Hyperlinks—links to other web pages or files, usually accessed by clicking on a word or image.

Identity theft—gathering personal information that can be used to identify someone, then obtaining money or goods by pretending to be that person.

IF—an IF statement asks a question, then returns one value if the answer is yes, and another if the answer is no.

20. Definitions

Import—transfer a file that was created in one applications software package into the applications software that is currently open.

Information—data with meaning.

Information commissioner—the government department that enforces the Data Protection Act 1998.

Input—data entered into a system. Examples of inputs are bar-codes scanned in a supermarket, or key strokes entered by a typist.

21. Definitions

Instant messaging—real-time text conversation between two or more people who are all online.

Integrated entertainment systems—systems that combine a range of devices offering visual, musical, video, audio and gaming entertainment.

Intellectual property—ideas or creations such as software or music that can be protected by copyright.

Interactive presentation—a presentation that is affected by user input, for example the clicking of a button.

22. Definitions

Internet fraud—a general term for using the internet to steal money by obtaining banking or credit card details.

Internet service provider (ISP) - a company that provides people with access to the internet, for example using dial-up, cable or a broadband connection.

Intranet—a system within an organisation that looks like a website and allows people to access information.

Junk mail—also known as spam; e-mails that are not welcome or solicited and are often sent in bulk. Typically they are of a commercial nature.

23. Definitions

Key field—also called the primary key. A field in a table which uniquely identifies each record in that table.

Laptops—also called notebooks. A personal computer that is small enough to use on your lap and to carry around. They have a built-in keyboard, mouse and screen.

Levels of access—the rights that you have over network files.

Local Area Network (LAN) - a network connecting computers in the same area/room/building.

24. Definitions

Logging interval—the length of time between recording each measurement.

Logging period—the total length of time that data is being recorded.

MAX—a function that returns the largest value in a set of values.

Menu user interface—an interface where the user chooses from a restricted list of options.

25. Definitions

Microprocessor—a silicon chip that contains a central processing unit, which acts as the 'brain' of a computer.

Milestones—key points that must be reached by a certain date if a project is to be completed on time.

MIN—a function that returns the lowest value in a set of values.

Modem—electronic device used to connect computers via a telephone line. It converts digital data to analogue data and vice versa.

26. Definitions

Multimedia—content that has many different forms, such as a combination of text, audio still image, animation and video.

Number format—descriptions of how the data in a cell is displayed, for example number of decimal places.

OCR—optical character recognition. This can involve scanning a printed document and converting each letter shape to a text character. It can also involve a form where the user writes one letter in each box, for example in a passport application.

27. Definitions

OMR—optical mark recognition. The data is entered by the user shading in boxes on a printed sheet. An example would be answer sheets for multiple choice exams.

Open questions—questions where the person can give any answer at all.

Operating systems software—controls and manages the computer. Examples are Windows, Mac OS, and Linux.

28. Definitions

Output—the action that occurs after an input has been processed. For example, the name and price of an item is displayed on a monitor following a bar-code scan.

Passwords—combinations of letters and numbers that control access to your user name. passwords should be kept secret.

Patch—a piece of code that updates a software package. Patches are often downloaded from the software company's website.

29. Definitions

Peer-to-peer site— also called a P2P site; a website where people upload music and video so that other people can download it, usually illegally.

Performance criteria—statements of what levels of performance the finished product should have. An example might be that a web page must link to another specified web page.

Phishing—An email that is sent claiming to be from an organisation such as a bank. These normally ask users to enter their details (banking) on fake phishing sites. This is used by criminals to gain bank details such as passwords.

30. Definitions

PIN—personal identification number. A numeric password often used to access ATMs and bank accounts.

Plagiarism—copying a piece of writing, music or other intellectual property from someone else and presenting this as your own work.

Play list—a list of songs selected from a library.

31. Definitions

Plug-in— a small software application that you download using an Internet browser. Each plug-in enables a specific feature or function of the web browser. An example would be a website containing Flash. It would offer an Adobe Flash plug-in on the Flash objects.

Podcast—audio and video files downloaded from the internet, normally updated daily or weekly.

Presentation software—software that is used to create slideshows. Text, graphics, video and sound can be used.

32. Definitions

Processing—turning the input into a useful form. For example, comparing bar-code data with a database to analyse which item it corresponds to.

Project management software—a computer program to help plan projects and resources.

RAM—random-access memory

Records—these are also rows in a database table, and they hold all of the information about one subject.

33. Definitions

Recursive—a process that is repetitive, for example where a document is revised, edited and proofread to improve the final product.

Relational database—a database containing two or more tables that are linked to each other. This overcomes problems of data redundancy, resulting in fewer entry errors and reduced storage space.

Relative cell reference—where the program does not actually store the address of the cell. Instead it stores the position of the cell relative to the cell containing the formula.

34. Definitions

Remote access—the ability for users to log on to a network from locations outside the building where the network is.

Resolution—measures how many dots of colour an image is made of. This can apply to a bitmap image, a display on a monitor or a printed page. High resolution (more dots per inch) gives better quality.

Resources—things that are required for the project, for example hardware, software, or even people with specialist skills.

35. Definitions

ROM—Read-only memory

RSI—repetitive strain injury, a condition that causes painful joints in the wrist or fingers. It is sometimes called upper limb disorder. Using a computer for long periods of time can cause RSI.

Sample size—the number of questionnaires that are given out.

Schedule—a time plan listing all of the tasks in the project and when they must be completed.

36. Definitions

SIM card—subscriber identity module card; a small electronic card inserted into a mobile phone that provides a unique ID for that phone.

Smart mobile phone—also called smart phones or PDAs or palmtops. These mobile phones offer features found on personal computers such as Internet access, e-mail and some application software.

SMS—short message service; a system for sending text messages on mobile phones.

37. Definitions

Social networking—contacting other people/friends to arrange to meet or to find out about their interests.

Software licence—a legal agreement stating how a piece of software may be installed and used.

Spam filters—They work by blocking all known spammers and search for keywords in messages. This is not 100% accurate so some genuine e-mails could be redirected into the junk mail or spam folder. These senders can be manually added to a list of safe senders to avoid this in the future.

38. Definitions

Spreadsheets—documents that store data in a grid of rows and columns. They allow the data to be analysed using formulae and calculations.

Spyware—software that is downloaded onto a computer without the owner's knowledge or permission. It sends data back from the owner's computer.

Stored—information that is kept for later use, for example information on the stock levels after the item has been scanned.

39. Definitions

Streaming—multimedia content is played back to the end user whilst it is still being downloaded.

SUM—a function that adds together all numbers specified in a list or range.

Task specific—applications software is task specific. It has a number of features that are designed to carry out particular jobs.

Teleconferencing—using ICT to hold a virtual meeting using text and sound but not video.

40. Definitions

Teleworking—working from home using a networked computer rather than travelling to a place each day.

Turtle—a small robot, either real or on-screen. Simple instructions are used to programme it to move around.

Uniform resource locator (url) - another name for a web address.

UPS—uninterruptible power supply. This protects a computer if the power fails by providing power until the computer can be closed down safely. It will also protect against voltage surges.

41. Definitions

User—the person who will actually use the system.

User interface—the way the user interacts with the computer—input and output devices as well as the screen display.

User names—unique names that you must use to access networks.

Validation—ensures that data is sensible in the context in which it is being used. For example, a percentage mark for an examination must not be less than 0 or more than 100.

42. Definitions

Version control—a system put in place to make sure that people working collaboratively do not use old versions of a document by mistake.

Videoconferencing—using ICT to hold a virtual with two-way video and audio transmitted in real time.

Virtual learning environments (VLEs) - systems available in schools and colleges so that students can access school material from home.

43. Definitions

Viruses—pieces of computer code that can reproduce by copying themselves to other files. They can cause damage to stored data or stop programs running properly.

VoIP—voice over Internet protocol, a method of using internet technologies to make phone calls.

Web browser—also called an Internet browser. It is a software application used to view web pages.

44. Definitions

Web logs—usually abbreviated to blogs. These are websites where people or organisations write entries about recent events or on a particular subject.

Wide Area Network (WAN) - a network that covers a geographical area larger than a single building; it may be national or global.

Wikis—web pages that allow people who read them to edit and add content to them.

45. Definitions

Wireless Application Protocol (WAP) - a technology that allows mobile-phone users to view phone-friendly versions of websites on a phone screen.

Word processor—a type of applications software used to create text documents.

Workflow management software—a computer program to help a business manage the flow of a project.

46. Definitions

World Wide Web (www) - a system of Internet servers that support a collection of web pages on the Internet which hyperlinks to each other.

WYSIWYG— an acronym for 'what you see is what you get'. It is a term used to describe software that allows the user to view something similar to the end result while the document is being edited.