

**Computer Science**

**Year 12 – Summer Transition Homework**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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**Sixth Form Expectations**

To enable you to cope with the demands of the course and achieve your target grades, it is essential that you fulfil the following expectations.

* **Attendance = attainment.** Attend all lessons, arrive on time and bring all the necessary books. Do not book appointments during lesson hours.
* Necessary equipment of pens, paper, and your working folders should be brought to **EVERY** lesson.
* Take responsibility for arriving on time to lessons after break or after a free period.
* No mobile phones in use or in view in the lesson.
* Work to the best of your ability in class and focus on the lesson
* Listen respectfully to the views of other students
* Complete all homework and split classroom work.
* Read widely in your own time, including reading the complete set texts for each component as soon as possible
* Complete all necessary research as directed
* Keep a reading log
* Attempt all work. If you are unsure of what to do, of course you may ask questions, but there are times when your teacher will want you to work independently without question. You must respect this.
* Take advantage of any extra lessons/revision sessions.
* Keep to deadlines.

**Learner Agreement**

As a dedicated student of Information Technology at Uxbridge High School, I promise to meet the expectations above. I understand that not doing so, will result in school sanctions, parent meetings, and most importantly, it will have a negative impact on my attainment.

Signed \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Print name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Outline**

The Cambridge Technicals in ICT consist of six qualifications:

|  |  |  |  |
| --- | --- | --- | --- |
| **Scheme code** | **Qualification title** | **Number of Units** | **Guided learning hours (GLH)** |
| **5838** | Level 3 Cambridge Technical Certificate in IT  | 2 | 180 |
| **5839** | Level 3 Cambridge Technical Extended Certificate in IT  | 5 | 360 |
| **5840** | Level 3 Cambridge Technical Introductory Diploma in IT  | 5 | 360 |
| **58 41** | Level 3 Cambridge Technical Foundation Diploma in IT | 8 | 540 |
| **5842** | Level 3 Cambridge Technical Diploma in IT | 11 | 720 |
| **TBA** | Level 3 Cambridge Technical Extended Diploma in IT | 17 | 1080 |

**Nb** If you are resitting any exams, these need to be revised in your personal time. Speak to your teacher should you wish to be entered for a resit.

**Units**

[M = mandatory unit O= Optional unit]

| **OCR Unit No** | **Unit title** | **Unit Reference No (URN)** | **Credit value** | **Level** | **GLH** | **Certificate** | **Diplomas** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Introductory** | **Subsidiary** | **Diploma** | **Extended** |
|  | 1 | Communication and | F/601/7233 | 10 | 3 | 60 |  | M |  |  | M |  |  | M |  |  | M |  |  | M |  |  |
|  | employability skills for IT |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 2 | Information systems | H/601/7256 | 10 | 3 | 60 |  | M |  |  | M |  |  | M |  |  | M |  |  | M |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 3 | Computer systems | M/601/7261 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 4 | Managing networks | K/601/7663 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 5 | Organisational systems | T/601/7312 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  | security |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 6 | e-Commerce |  | A/601/7313 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 7 | Computer networks | R/601/7320 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 8 | IT technical support | J/601/7279 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 9 | Project planning with IT | Y/601/7321 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 10 | Developing computer | K/601/7324 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  | games |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 11 | Maintaining computer | J/601/7329 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  | systems |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 12 | Website production | Y/601/6623 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 13 | Installing and upgrading | H/601/7290 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  | software |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 14 | Computer animation | D/601/7658 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  | Computer game |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 15 | platforms and |  | L/600/6610 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  | technologies |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 16 | 2D animation production | J/502/5663 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 17 | Interactive media | T/502/5769 | 10 | 3 | 60 |  | O |  | O |  | O |  | O |  | O |  |  |
|  | authoring |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 18 | Web animation for | A/502/5661 | 10 | 3 | 60 | O | O | O | O | O |  |
| interactive media |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 19 | Spreadsheet modelling | Y/601/6637 | 10 | 3 | 60 | O | O | O | O | O |  |
| 20 | Impact of the Use of IT on | K/601/7260 | 10 | 3 | 60 | O | O | O | O | O |  |
| Business Systems |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 21 | Communication | F/601/7264 | 10 | 3 | 60 | O | O | O | O | O |  |
| Technologies |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | IT Systems |  |  |  |  |  |  |  |  |  |  |
| 22 | Troubleshooting and | A/601/7280 | 10 | 3 | 60 | O | O | O | O | O |  |
|  | Repair |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 23 | Database Design | J/601/6617 | 10 | 3 | 60 | O | O | O | O | O |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 24 | Client Side Customisation | Y/601/7660 | 10 | 3 | 60 | O | O | O | O | O |  |
| of Web Pages |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 25 | Data Analysis and Design | H/601/7323 | 10 | 3 | 60 | O | O | O | O | O |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 26 | Web server Scripting | A/601/0443 | 10 | 3 | 60 | O | O | O | O | O |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 27 | Digital Graphics | M/601/6630 | 10 | 3 | 60 | O | O | O | O | O |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 28 | Networked Systems | J/601/7332 | 10 | 3 | 60 | O | O | O | O | O |  |
| Security |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 29 | \*The business | Y/502/5408 | 10 | 3 | 60 | O | O | O | O | O |  |
| environment |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 30 | \*Business Resources | D/502/5409 | 10 | 3 | 60 | O | O | O | O | O |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 31 | Digital Graphics for | F/600/6622 | 10 | 3 | 60 | O | O | O | O | O |  |
| Interactive Media |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 32 | Computer Game Design | H/502/5671 | 10 | 3 | 60 | O | O | O | O | O |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 33 | System design | R/505/4647 | 10 | 3 | 60 | O | O | O | O | O |  |
|  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
| 34 | Systems analysis | K/505/5481 | 10 | 3 | 60 | O | O | O | O | O |  |
|  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |
|  | System development |  |  |  |  |  |  |  |  |  |  |
| 35 | requirements and | Y/505/4634 | 10 | 3 | 60 | O | O | O | O | O |  |
|  | constraints |  |  |  |  |  |  |  |  |  |  |
| 36 | Exploring computer | M/505/5403 | 10 | 3 | 60 | O | O | O | O | O |  |
| applications |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 37 | Developing programming | L/505/5215 | 10 | 3 | 60 | O | O | O | O | O |  |
| solutions |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 38 | Key computing concepts | R/505/5216 | 10 | 3 | 60 | O | O | O | O | O |  |
| for IT solutions |  |
|  |  |  |  |  |  |  |  |  |  |  |
|  | Understanding the |  |  |  |  |  |  |  |  |  |  |
| 39 | business analytics process | J/505/5326 | 10 | 3 | 60 | O | O | O | O | O |  |
|  | for Big Data |  |  |  |  |  |  |  |  |  |  |
| 40 | Cloud computing in | M/505/5384 | 10 | 3 | 60 | O | O | O | O | O |  |
| business |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 41 | Understanding mobile | L/505/5392 | 10 | 3 | 60 | O | O | O | O | O |  |
| technology |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 42 | Developing a smarter | D/505/5400 | 10 | 3 | 60 | O | O | O | O | O |  |
| planet |  |
|  |  |  |  |  |  |  |  |  |  |  |
| 43 | Understanding social | T/505/5399 | 10 | 3 | 60 | O | O | O | O | O |  |
| media for business |  |
|  |  |  |  |  |  |  |  |  |  |  |

**Unit 1 – Communication and Employability skills for IT**

**Understand the personal attributes valued by employers**

1. **Explain what are Personal attributes, such as:**
	1. Self motivation,
	2. Leadership qualities,
	3. Respect,
	4. Dependability,
	5. Punctuality,
	6. Problem solving,
	7. Determination,
	8. Independent workers,
	9. Time management,
	10. Team working,
	11. Written numerical and verbal skills,
	12. Planning and organisational skills

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1. Health and safety,
2. Following organisational procedures,
3. Adhering to legislation

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 **Explain specific IT job sectors and personal skills required for those roles**

1. Networking, Computer gaming,
2. Computer graphics and animation,
3. Programming,
4. Web design

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**Explain what are interpersonal skills, such as:**

1. Verbal conversation,
2. Lip reading,
3. Signing

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**Explain what are the cues in verbal exchanges, such as:**

1. Body language,
2. Use of intonation,
3. Nodding,
4. Summarising
5. Paraphrasing

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**Explain what are the barriers to effective communication, such as:**

1. Language,
2. Distraction, noise,
3. Lack of concentration

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**Explain different styles of questioning techniques, such as:**

1. Closed,
2. Open,
3. Probing questions,
4. Response times

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**Explain different styles of written communication, such as:**

1. Emoticons,
2. Note taking,
3. Reports,
4. Letters,
5. Faxes,
6. Email

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**Explain what is proofing documents. For example:**

1. grammar checking,
2. spell checking,
3. proofreading,
4. punctuation

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**Be able to use IT to communicate effectively**

**Explain what is communication technology. For example**:

* 1. Presentation software
	2. Word processing
	3. Email
	4. Web
	5. Blogs/vlogs
	6. Instant messaging
	7. Video conferencing/podcasting.

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**Explain what is effective communication. For example:**

1. Understanding the audience
2. Adapt information to target audience
3. Clarification of requirement (e.g. discussion, meetings, questioning, research).

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**Be able to address personal development needs**

**Explain what is self-identification, in regards to personal development needs. For example**

1. self assessment,
2. appraisal meeting notes,
3. feedback,
4. performance data

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**Explain what are recording needs, in regards to personal development needs. For example:**

1. Target setting,
2. Appraisal records,
3. Performance management reviews

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**Explain what are addressing needs, in regards to personal development needs. For example:**

1. Work shadowing,
2. Team meetings,
3. Training,
4. Conferences

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**Explain what are learning styles and characteristics. For example:**

1. Active or reflective,
2. Visual,
3. Auditory or physical

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**Explain what is a well-structured CV and application. For example:**

1. Focussed,
2. Accurate,
3. Relevant,
4. Proofed

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**ICT GLOSSARY**

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| Accessibility | Major consideration for choice of educational software and hardware. Barriers to access can include, for example, equipment that relies heavily on fine motor skills, on conveying information only by visual means, or systems assuming too high a level of literacy or technical skill. See also augmentative and alternative communication and assistive technology.  |
| Address book | In e-mail, list of regular contacts’ addresses held in the e-mail software. |
| Adventure game | Computer-based game which allows the exploration of a scenario or story in which the player is an ‘adventurer’. Adventure programs used to be in text form only, often with long narrative descriptions, but they have now incorporated graphics. Some adventure games have graphics only. The user is encouraged to make decisions based on a limited set of rules or options predetermined by the author of the program. The outcome of the game depends on the decisions made. |
| Agent | Software tool which will search the world wide web according to a user’s specifications. Also known as a knowbot, bot or droid. See also search engine. |
| Analog | Signal which does not vary in discrete steps, but continuously from one level to another. For storage, processing and communicating with computers, analog signals (such as the output of a microphone) are converted into digital form using analog to digital converters (a-to-d or a/d). This is called digitization, as the information is then stored in binary code. See also digital. |
| Anchor | On the world wide web, the target of a hyperlink, a clickable link between documents or files or between places within a document or file. Anchor and links are created using a programming language called hypertext mark-up language.  |
| Animation | Display of a sequence of images to give the impression of movement. Simple animation programs are available. |
| Applet | Pre-written, mini-programs (sub-routines) used on a web page to operate a specific function. For example, an applet might be used to make part of a text wiggle while various colours flow through it. (from ‘application’.) |
| Archive | To store files which are not needed but cannot be discarded. This often involves backing up/saving to a separate hard disk, floppy disk or other storage medium. Also used for stored messages contributed to e-mail discussions, sometimes searchable by date, topic, contributor, etc. |
| Ascii | Acronym for ‘american standard code for information interchange’. Internationally adopted standard of numerical equivalents for characters representing numbers, letters, punctuation marks, symbols, and control codes. Ascii gives rise to plain text which can be read by most computers and most text-reading software.  |
| Assistive technology | Use of technology, including computers, to render the environment accessible to users who have learning difficulties, limited mobility or sensory impairment, e.g. Switches, voice recognition programs, overlay keyboards, etc. |
| Attachment  | File which is attached (linked) to and sent with an e-mail message. |
| Augmentative and alternative communication (aac) | For users who have limitations on their ability to communicate using natural speech, the use of technology, including computers, to assist or replace speech, such as voice boxes or speech synthesizers. |
| Authoring software | Programs which help relatively inexperienced users create multimedia or hypertext documents. |
| Back up | To make a duplicate but separately stored copy of the contents of a computer-held data set, software application, or individual files. Back-ups should be done regularly. |
| Bandwidth | Range of signal frequencies which indicates how much data can pass along a channel at one time. Broadband networks, the basis of the information superhighway, allow video signals to pass at high speed; narrowband networks tend to be text-only and are slower. For example, voice over the telephone network requires a bandwidth of 3 khz, while uncompressed video requires a bandwidth of 6 mhz. |
| Bar code | Arrangement of vertical lines of varying thickness with spaces in between. The spacing and line thickness represent a numeric code used to enable a computer to identify the item. A scanner is used to read the code. |
| Basic (beginners’ all-purpose symbolic instruction code) | One of the easiest languages for writing programs (see programming language). Many operating systems come supplied with a version of basic. |
| Bit | Contraction of ‘binary digit’. The smallest unit of computer information, equal to either of the digits 0 or 1, called binary because it has only two values, on or off. See also byte. |
| Bitmap | Graphic image held by a computer as a screen representation, with each bit relating to the setting of an individual pixel on the screen. |
| Bits per second (bps) | Unit of measurement of data transfer speed. For example, the bit rate of widely used modems is in the range 300 to 56000 bps (or 56 kbit/s: higher rates are given in kbit/s). |
| Boolean operator | Also known as ‘logical operator’, word or symbol which defines a logical relationship between two data items. This relationship can be ‘and’, ‘or’ or ‘not’. For example, searching a database can be made more efficient by using Boolean operators with the search terms, so that only terms which occur together are retrieved (using and) and others are excluded (using not). |
| Boot | To start up a computer. The computer is regarded as ‘bootstrapping’ itself by loading the program which starts its operating system. |
| Braille notebook | Portable computer in which the user keys in braille, the system of representing letters with raised dots to allow reading by touch. The output can be printed either as braille or in regular text format. |
| Broadband | Informally used to mean ‘faster than common networks’, and so the actual meaning depends on what is common at the time. Currently broadband is regarded as starting at 34 mbit/sec (mbps) – under this classification, all commonly occurring local area networks (such as ethernet) are narrowband. |
| Browser | Software used to search and retrieve information from the world wide web. Netscape, Microsoft internet explorer and ant fresco are browsers. |
| Bug | Error or fault in computer software which causes it to malfunction. |
| Bulletin board system (bbs) | Electronic equivalent of a noticeboard, software on a central computer which allows users remote from it and each other to exchange information electronically via a network, e-mail or the world wide web. Information posted by users can be stored and displayed and, sometimes, software downloaded. See also list server, UseNet. |
| Byte | Unit of information equal to eight bits. Usually, each byte stores one character.  |
| Cache | Temporary memory used to access frequently used instructions, thus speeding up processing time. Also denotes temporary storage of world wide web pages by browser software |
| Cad/cam (computer aided design / computer aided manufacturing) | Drafting and design with the aid of a computer which can handle technical geometric detail. Cad allows the user to manipulate drawings and view them from all angles. Cam is a general term for computer support during the manufacturing process. |
| Card | Circuit board that plugs into a computer to provide a new function, such as sound or video input and output. |
| Case sensitivity | Some software’s inability to construe upper and lower case versions of a letter as representing the same letter, so that, for instance, a browser may not be able to find a file if its name has an initial capital and you have given it in lower case. |
| Calculator-based ranger (cbr), calculator-based laboratory (cbl) | Versions of data logging devices that connects directly to a graphic calculator. The cbr collects motion data. The cbl comes with probes that can collect voltage, light and temperature data. |
| CD-ROM (compact disk read-only memory) | Computer storage medium, optical disk which physically which resembles a 12 cm audio cd but contains a range of data types stored digitally, such as words, graphics and sound rather than simply sound. CD-ROMs can store up to 250,000 pages of text with a capacity of 650mb. Once written, the disk cannot be altered, hence ‘read-only’. See also floppy disk, hard drive. |
| Cd writer (compact disk writer) | Hardware device which can save information on to a cd. |
| Central processing unit | Generally used to mean the microprocessor, the integrated circuit which is the controlling core of a personal computer, usually situated in the box with the hard disk. Sometimes used to refer to the box and its contents. |
| Chip | Popular name for an integrated circuit, also called a ‘silicon chip’ as all the circuitry is etched on to a thin slice of silicon. |
| Client  | Program or computer which asks for services from a server (a resource-providing computer). |
| Clip art | Library of copiable pictures (usually copyright-free) stored on computer disk, CD-ROMs or web site, useful for importing into art, multimedia or desktop-published files |
| Clipboard | Temporary storage area for an item during its transfer from one part of a document to another or to another document, e.g. During cutting, copying and pasting.  |
| Clock speed | Speed of a microprocessor expressed in megahertz (MHz) (millions of cycles per second) representing the number of instructions the computer can carry out each second.  |
| Compatibility | Pieces of equipment and/or software which are capable of being used together without special modification or adaptation are termed ‘compatible’. |
| Compression | Technique which reduces the amount of space required to store data. General compression techniques apply to any data, but better results can be obtained by using characteristics of the particular type of information, such as text, audio, image or video.  |
| Computer conferencing | Development of electronic mail designed to support many-to-many communication. Each conference consists of a group of users who have a common interest in the conference subject matter. Computer conferencing software enables organization, storage, structuring and retrieval of messages. In particular, messages may be organized under different topics, by author or by date of posting. See also list server, UseNet. |
| Computer-mediated communications (cmc) | Use of computers to communicate, as in computer conferencing and electronic mail |
| Concept keyboard | Particular make of overlay keyboard. |
| Cookie | Set of instructions from a web server to a client machine. Cookies may be used by a web site owner to identify and track users of that site. Browsers can be customized to accept or reject cookies. |
| Copy, cut and paste | Techniques of duplicating or removing data from one place and inserting it elsewhere. See also clipboard. |
| Crash | Sudden failure of software or hardware, often resulting in no response to mouse or keyboard actions. |
| Cursor | Screen representation of a pointer which responds to mouse or keyboard movements.  |
| Cyberspace | Popular term for the internet, coined by William Gibson in his novel necromancer, published in 1984. |
| Data | Representation of information – facts, concepts or instructions – in a formalized manner in order that it may be communicated, interpreted or processed by human or automated means. In computing, information that may be processed by a computer |
| Data capture/collection | Acquisition and input of information for use on a computer using manual or computer input devices. |
| Data logging | Acquisition of information by a computer through use of sensors to measure and record environmental changes – for example, the changes in temperature of water in a pond over the period of several hours.  |
| Data-logging software | Software which is able to take the value of a parameter such as light level or temperature from a sensor/interface box and scale it to a meaningful measurement, such as si units. It often also presents the value either as a big number for a class demonstration or as a value-versus-time graph.  |
| Data protection act 1984 | United kingdom act of parliament which sets out rules for the storage of data about individuals. Defined data users must register with the data protection registrar and comply with principles of fairness, privacy, confidentiality, relevance, accuracy, accessibility and security. |
| Database | Structured collection of conceptually related data or data files organized and stored in a computer system. Databases can be set up in different ways: for example, the simplest are tables with a row for each record (a set of related items such as an individual’s name and address) and a column for each field (the categories within each record such as last name, house number, street, town, etc.). Hierarchical databases hold their data in tree structures, e.g. One for a school might divide into staff and students at a high level, with individual names at the lowest and divisions like department or class in between. The most powerful databases use a method of storing data which does not restrict the way users can query it. |
| Default | Computer or software settings as set in the factory or by the software creator. |
| Desktop computer | Traditional office or personal computer. This has three or more parts linked together by cables: the system unit which houses the central processing unit and disk drives, the monitor, a keyboard and probably a mouse.  |
| Desktop publishing (dtp) | Production via a desktop or personal computer of page layouts which combine words, graphics and images with different sizes and styles of type and form the master copies of materials such as newspapers, magazines and leaflets. |
| Dial-up | Connection to the internet or another computer over an ordinary telephone line. |
| Digital | In computing, the representation of information as discrete digits, or bits. Contrasted with analog. |
| Digital camera | Camera which captures and stores images as digital (electronic) information. Images can be stored either on a memory chip in the camera, on disks or in some cases on plug-in memory cards. |
| Digital data network | Network specifically designed for the transmission of data in digital form, so that people, computers and other devices can communicate (e.g., isdn). |
| Digital versatile disk (dvd) | Data storage medium, optical disk capable of storing high quality video as well as data such as programs, text, still images and sound (also known as ‘digital video disk’). |
| Digitized speech | Electronic means of recording, storing and reproducing human speech, similar to using a tape recorder. Digitized speech is increasingly used in electronic communication aids as well as or in place of synthesized speech. |
| Domain name system (dns) | . Hierarchical naming system used to locate computers on the internet, matching the number by which one networked computer recognizes another (the ip number) to a name which assigns the computer owner to a domain or category of user. Top-level domains are indicated by the abbreviations at the end of the name. For countries outside the us, top-level domains are countries (uk, au, fr). Within the us at the top-level and at the second level elsewhere, domain names describe degree-awarding universities (edu in the us, ac in the uk), commercial organizations (com, co), government agencies (gov), non-profit and charitable organizations (org), etc. The next level down, and often the first element of the name, is the name or alias of an organization or an individual, so that the open university’s internet identity is open (name of organization) ac (type of organization) uk (country). |
| Dos (disk operating system) | Standard operating system designed to manage files for personal computers, e.g. Ms-dos, developed by Microsoft for the ibm pc. |
| Dots per inch (dpi) | Measure of printer or screen resolution or quality. The higher the dpi the sharper and clearer the image. |
| Download | To use one computer to obtain data from another computer, electronically. Downloaded information can be incorporated into other files, displayed, printed or saved |
| Dynamic geometry | Software which enables the user to create and manipulate geometric diagrams using points, lines, circles and standard constructions. Angles, lengths and areas can be measured. Some versions offer co-ordinate geometry and transformation geometry. Some versions also offer linked graphing and spreadsheet facilities. |
| E-mail (electronic mail) | Messages or letters sent and received in electronic form via computers. |
| Electronic whiteboard | Interactive screen modelled on a standard whiteboard that is linked to a computer. The computer image is projected onto the screen, sometimes using a standard data projector (often ceiling mounted). The user interacts on the screen with a ‘pen’ and the screen sends information back to the computer about the pen’s movements, enabling the user to interact with various software packages. |
| Embed | To insert information stored in one format into information in another format, for example a graphic into a text file. |
| Embosser | Special type of printer that can produce braille from a computer |
| Emulator | Hardware or software which enables one type of computer to behave like another. |
| Encryption | Conversion of data into a format that cannot be read except with a special decryption program. Used on the internet for secure transactions. |
| Expanded keyboard | Keyboard which may include extra formatting options, a numeric key pad and the ability to customize key-press response times. |
| Expansion card | Card which slots into the motherboard of the computer to increase its functionality, e.g., a sound or graphics card. |
| Fax (facsimile) | Transmission of images over the telephone network, most often of letters or other text. Fax messages can be sent direct from a desktop computer fitted with a fax modem. |
| Fax modem | Modem which, in addition to its normal data transmission capabilities, handles faxes. With suitable software, a fax modem allows a microcomputer to operate like a fax machine, in the sense that any electronic document can be printed to the fax modem and thus sent out as a fax. Some fax modems with suitable software allow the receipt of faxes and their display on the computer screen. |
| Fibre optic cable | Very thin strands of pure glass used for transmitting high volumes of data at high speed. |
| Field | Category in a database, roughly equivalent to a column in a table. Databases contain records (which are like the rows in a table) which have the same fields of information but for different individuals or objects, e.g. A database of club members has a record for each member which contains the fields ‘name’, ‘initials’, ‘membership status’, ‘number’.  |
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| File | Collection of data held on a computer as one thing with one name. A file can be a piece of work created by the user in an application such as a word processor or a database. Each file needs a unique label (filename) in order to be accessed. See also directory. |
| File extension, filename extension | Suffix which follows a user-created filename which allows the file type (e.g. Word-processed document, spreadsheet) to be recognized by the computer. Common extensions are &lsqb;filename&rsqb;.doc for a word-processed document and &lsqb;filename&rsqb;.gif for an image.  |
| File transfer | To copy or move a file from one computer to another. |
| File transfer protocol (ftp) | Common method of transferring files from one computer to another over the internet. See also protocol. |
| Firewall |  |