INSTRUCTIVO
HOJA DE RESPUESTAS
INGLÉS PARA INFORMÁTICA I & INGLÉS PARA INFORMÁTICA II

INSTRUCCIONES GENERALES

Los ejercicios asignados en este curso son aquellos que responden a los objetivos de aprendizaje del curso y a la práctica laboral de los estudiantes. De ahí, que este instructivo cuente sólo con las respuestas a los ejercicios indicados en las orientaciones del curso. Cada estudiante primero hará los ejercicios y posterior a esto revisará sus respuestas con las que se presentan en este folleto. Las dudas o incongruencias serán consultadas al tutor durante tutorías.

UNIT 1

1 The digital age

A
1b   2a   3d   4c

B
Open task

C
SS check answers to B

D
1 v
2 n
3 adj or adv (used as an adverb in this text)
4 v or n (used as a verb in this text)
5 adj
6 adj
7 n or v (used as a verb in this text)
8 adj
9 n or v (used as a noun in this text)
10 n

E
a7   b1   c8   d9   e5   f3   g10   h6   i2   j4

2 Language work: collocations 1

A
1d   2e   3c   4b   5a

B
1 access the Internet
2 transfer money

3 make calls
4 give presentations
5 do research
6 store information
7 send texts

4 The magic of computers

A
a2   b5   c4   d1   e3

B
1 telephones, calculators, the car' s electronic ignition, the timer in the microwave, the programmer inside the TV set
2 Hardware and software
3 Bills, customers' lists, accounts, inventories, letters, memos, legal documents, etc.
4 Because it enables you to interact with other computers and with people around the world

UNIT 2

1 Computer hardware

A
Open task

C
1 mouse
2 screen/monitor
3 DVD drive (or hard drive)
4 CPU
5 printer

2 What is a computer?
A
Open task

B
1c   2f   3g   4h   5b   6d   7i   8e   9a

4 Language work: classifying

A
1 consists of
2 can be divided into/ are classified into
3 includes / is a type of
4 There are two types / classes

UNIT 3

1 Technical specifications

A
Open task

B
1 The main function of a computer's processor is to process the instructions provided by the software; it also coordinates the activities of the other units.
2 The gigahertz (GHz). 1 GHz is equivalent to 1000 NHz.
3 RAM stands for random access memory

2 What is inside a PC system?

A
1 The control unit, the ALU and the registers
2 Arithmetic logic unit; it performs mathematical calculations and logical operations
3 To measure and synchronize the flow of data
4 One thousand million hertz, or cycles, per second
5 RAM (random access memory)
6 ROM (read only memory)
7 By adding extra chips, usually contained in a small circuit board called a DIMM
8 Motherboard
9 An electrical path or channel that allows devices to communicate with each other
10 They allow you to install expansion cards (for example, sound, memory or network cards)

B
1 The CPU, or central processing unit
2 a single chip
3 the instruction
4 the computer's
5 a program
6 devices (inside the computer)

3 Language work: defining relative clauses

1 (which/that)
2 (which/that)
3 who/that
4 which/that
5 (which/that)
6 who/that

UNIT 4

1 In a computer shop

A

Possible answers

A portable hard drive, a new printer, a digital camera, an MP3 player, etc.

2 Language functions in a computer shop

1 The Ulysses SD is a powerful, expandable computer that offers high-end graphics at a low price. (Describing)
2 A laptop is likely to be more expensive than the equivalent desktop, but a laptop is more practical if you travel a lot. (Comparing)
3 What's the storage capacity of the hard drive? (Asking for technical specs)
4 I'm looking for a desktop PC that has good graphics for games. (Explaining what you are looking for)
5 Do you need any help? (Greeting and offering help)
6 And how much does the PDA cost? (Asking the price)
7 The workstation has a Pentium processor with dual-core technology, 1,024 gigabytes of RAM, and 1 terabyte of disk space. (Giving technical specs)

4 Choosing the right computer

A
Speaker 1: Gateway C-120 convertible notebook
Speaker 2: Dell Inspiron 531 desktop PC
Speaker 3: Sun workstation
Speaker 4: Sony Vaio AR laptop

B
Open task

5 Vocabulary tree

CPU:
registers
gigahertz
ALU
processor
computer brain
system clock

Main memory:
ROM
RAM
DMMS
Byte
megabyte
expandable memory

Peripherals:
DVD
mouse

keyboard
printer
webcam
hard drive

UNIT 5

1 Interacting with your computer

1 light pen
2 game controller
3 scanner
4 mouse
5 keyboard
6 graphics tablet
7 trackball
8 microphone

3 Describing functions and features

A
Possible answer

The PlayStation 3 controller is an input device used to control video games on the Sony PlayStation 3. It is held with both hands and the thumbs are used to handle the direction and action buttons. It has a six-axis sensing system, which allows the user to move the controller in six different directions: up, down, left, right, forward and backwards.

The PS3 controller operates wirelessly via Bluetooth, but it features a USB mini port and USB cable which can be connected to the PlayStation for wired play and for charging the internal battery.

4 About the keyboard

A
a2   b3   c5   d1   e4

B
1f   2b   3h   4g   5d   6c   7e   8a

5 Mouse actions

1 control
2 move
3 click
4 select
5 drag
6 grab
7 double-click

UNIT 6

1 The eyes of your computer

A
Possible answers

A scanner, a digital camera, a web cam, a camera phone, a bar code reader

B
SS read the text and check their answer to A

C
1 A scanner
2 The scanner reads the image or text, converts it into a series of dots and then generates a digitized image which is sent to a computer and stored.
3 Digital cameras don't use film. Photos are stored in the camera's memory card as digital data (binary codes).
4 A built-in camera
5 A camcorder, or digital video camera
6 Video editing software

4 Language work: superlatives

A
SS read the HELP box to check their answers

B
1 fastest: highest
2 most revolutionary
3 easiest
4 best; the least
5 most modern

5 Language work: suffixes

A
1 colorful (adj); colored (adj)
2 professional (adj)
3 photographic (adj); photographer (noun)
4 wired (adj); wireless (adj)
5 blurry (adj); blurred (adj)
6 innovative (adj); innovation (noun); innovator (noun)
7 underexposure (noun); underexposed (adj)

B
1 manufacturer
2 reduction
3 Cropping

4 sharpness
5 technology

2 How screen displays work

A
1 pixel
2 video adapter
3 aspect ration
4 plasma screen
5 resolution
6 color depth

B
1 CRT stands for Cathode Ray Tube ; LCD stands for Liquid Crystal Display.
2 The screen size is measured diagonally (in inches).
3 Active-matrix LCDs should use TFT (thin film transistor) technology, in which each pixel has its own switch.
4 Brightness, or luminance, is measured in cd/m2 (candela per square meter).
5 Phosphor
6 They consume less power, produce brighter colors and are flexible, so they can be bent when not in use.

5 Language work: instructions and advice

A
1 should
2 should
3 shouldn't
4 should
5 shouldn't

B
1 **You shouldn't / It's a bad idea to** open the monitor. It's dangerous
2 **You shouldn't / It's a bad idea to** stare at the screen for long periods of time
3 **You should / It's a good idea to** position the monitor at eye level or just below
4 **You should / It's a good idea to** leave enough space behind the monitor for unobstructed movement.
5 **You shouldn't / It's a bad idea to** sit near or back of CRT monitors. You should / It's a good idea to use LCD screens instead – they're free from radiation
6 **You should / It's a good idea to** keep the screen clean to prevent distorting shadows.

UNIT 8

1 Types of printer

A
Open task

B
1 inkjet printer
2 laser printer
3 dot-matrix printer
4 plotter
5 imagesetter
Thermal transfer printers and platesetters aren't pictured.

C
1 graphics
2 resolution
3 hue
4 toner
5 scalable fonts
6 bar code
7 (printing) plate
8 intermediate

2 Language work

A

Giving examples	Listing/ Sequencing	Giving reason/cause
Such as	To begin with	Since
For instance	Then	Because
For example	Finally	as
Including	Firstly, secondly, Thirdly, etc.	
	Next	
	After that	
	At the end	

B
See words in italics in table above for possible answers

5 Language work: comparatives

1 quieter
2 more expensive; greater
3 better; good
4 more reliable; easier

5 good
6 less accurate
7 heavier

UNIT 9

2 Computers for the disabled

A
1 The Americans with Disabilities Act (ADA); the Disability Discrimination Act
2 He uses an adapted keyboard, headphones and screen reading software.
3 Electronic notetakers
4 Optical Character Recognition (OCR)
5 The eyegaze system
6 The pneumatic switch, also known as a sip and puff
7 Voice recognition devices understand human speech, allowing users to speak to the computer and input data.

B
1 TEXTPHONE
2 ONSCREEN
3 EMBOSSER
4 ALERTS
5 READER
6 MAGNIFIER
7 BRAILLE

3 Language work: noun phrases

A
1a   2d 3c   4a   5a   6b

B
2 An engineer who works in rehabilitation (using technology to improve the quality of life for people with disabilities)
3 Abilities that the employee has
4 A keyboard that has been adapted
5 A computer that is activated by voice
6 A device that points (used to move the pointer on the screen)
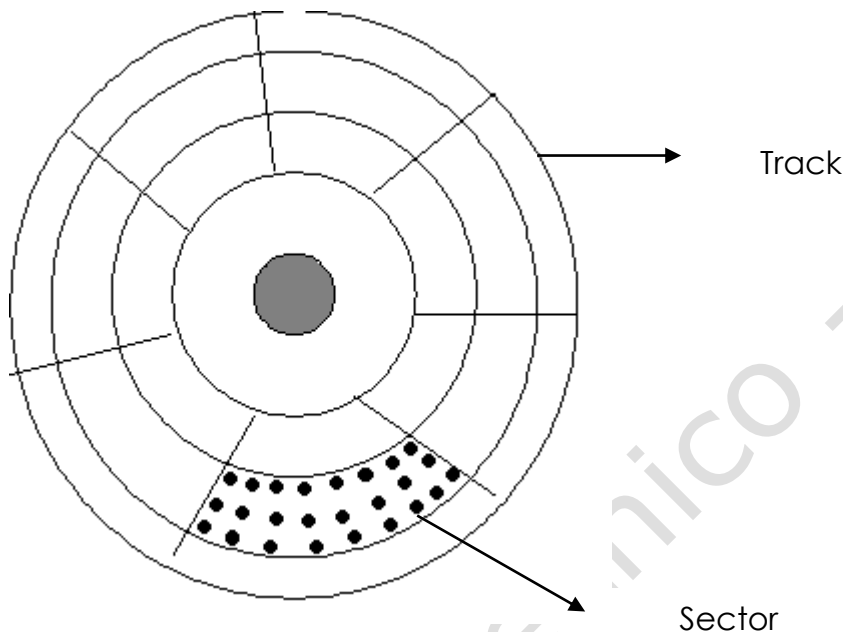
UNIT 10

1 Types of magnetic drive

A
1 C: drive
2 A portable external hard drive
3 Magnetic tape drive
4 3.5"; 1.44 MB

B
1 storage
2 capacity
3 hold
4 secondary
5 archiving

3 Magnetic storage

A

B
1 False – A hard drive spins more quickly than a floppy disk drive
2 True
3 False – Hard drives can be partitioned to run separate operating systems on the same disk.
4 False – Seek time and transfer rate mean different things. Seek time is the average time it takes the read/write heads to move and find data; transfer rate is the average speed required to transmit data from the disk to the CPU
5 True

4 Language work: precautions
A
1b   2d   3e   4a   5f   6c

UNIT 11

1 CDs and DVDs

A

1 CD stands for compact disc; DVD stands for digital versatile disc.
2 DVDs can hold more information than CDs. (A basic DVD can hold up to seven times more data than a compact disk)

B
Open task

2 Optical discs and drives

A
1 Optical discs can store data at much higher densities than magnetic disks; they ate therefore ideal for multimedia applications where images, animation and sound occupy a lot of disc space. Furthermore, they are not affected by magnetic fields. This means that they are secure and stable – for example, they can be transported through airport detectors without damaging the data. However, optical drives are slower than hard drives
2 17 GB
3 A DVD burner is a DVD computer drive that records data on DVDs. A DVD recorder typically refers to a stand – alone unit, similar to a video cassette recorder.
4 Multi format playback
5 HD-DVD and Blu-ray
6 Unlike DVDs, wich use a red laser to read/write data, Blu-ray uses a blue-violet laser.

B
CDs
Capacity
650-700 MB
Formats
CD-ROMs (read only memory) are'read-only'units, meaning you cannot change the data stored on them (for example, a dictionary or a game).
CD-R (recordable) discs are write-once devices which let you duplicate music CDs and other data CDs.
CD-RW (rewritable) discs enable you to write onto them many times, lust like a hard drive.
Possible uses
CR-ROM: to include a dictionary or a game
CR-R: to duplicate music and data CDs
CR-RW: to back up important files

DVDs
Capacity
A basic DVD can hold 4.7 GB. A DVD can also be double-sided, dual layer, with a capacity of 17 GB.

Formats
DVD- ROMs are used in DVD computer drives. They allow for data archiving as well as interactive content (for example, an encyclopedia or a movie).
DVD-R or DVD+R can only be recorded on once.
DVD-RW or DVD+RW discs can be erased and reused many times. They are used to back up data files and to record audio and video.

Possible uses
DVD-ROM: to sell interactive content (for example, an encyclopedia, a movie, etc.)
DVD-R: to back up information.
DVD-RW: to back up data files and to record audio and video

Blu-ray discs
Capacity
25 GB (single layer), 50 GB (dual layer) and 100 GB (four layer)

Formats
Not mentioned in text

Possible uses
To record and play high-definitions TV, audio and computer data

3 Language work: connectors 2

A

Indicating addition	Making contrasts	Explaining the results of effects of something
Furthermore	However	Therefore
In addition	Whereas	As a result

B
Open task

C
1 Although
2 As a result
3 so
4 because
5 and
6 therefore

4 Choosing storage devices

Possible answers

1 Seagate hard drive
2 Panasonic portable DVD player
3 Seagate hard drive, lomega portable hard drive; Toshiba USB flash drive
4 lomega portable hard drive; La Cie DVD drive
5 Seagate hard drive; LaCie DVD drive
6 Sony Blu-ray disc drive

2 Memory in a flash!

A

Memory in a flash literally means "very quick memory" . It is a suitable name for the text because the text is about flash drives, so called because they can be erased very quickly, or "in a flash"

B

1 A type of non-volatile memory that can be electronically erased and reprogrammed.
2 RAM is volatile; flash memory is non-volatile, so it retains its content when the power is turned off; RAM is faster.
3 They can store more that one bit per cell.
4 Flash drives, are more easily transported than external hard drives; as they use solid-state technology, they don't have fragile moving parts that can break if dropped; however, the have less capacity than hard drives.
5 You can store both applications and data: applications can run on the host computer without requiring installation.
6 From 8 MB to several gigabytes
7 The Memory Stick

C
1 non-volatile
2 rewritable
3 partitions
4 to back up
5 offloaded
6 flash card reader
7 hybrid

3 Word building

A
Possible answers

blog	mail	Print
Blogger	To mail	Printout
To blog	Mailing	To print
Blogging	Email	Reprint
Blogosphere	Emailing	Printer
Photoblog	Mailbox	Printing
Videoblog (vlog)	Webmail	Printed
Moblog	(Hotmail)	Printable
weblog	mailman	Fingerprint
	mail merge	Footprint
	mail order	Printout
	junk mail	Print head
	snail mail	Print spooler

B
1 lightweight
2 recording
3 playback
4 folders
5 activation
6 connector
7 download
8 storage

5 Vocabulary revision

1 track
2 flash
3 rewritable
4 millisecond
5 DVD
6 cells
7 giga
8 record
9 USB
10 drive
11 laser
12 erasable

UNIT 13

1 The function of the operating system

A
1
Possible answer
Microsoft Windows, Mac OS from Apple, Linux, Unix, Windows Mobile (Pocket PC), Palm OS

2
Possible answer
The function of the operating system is to control the hardware and software resources. The OS consists of a set of programs that interface between the user, application programs and the computer.

B
1 software
2 system software
3 application software
4 operating system

2 GUI operating systems

A
1 User-friendly means easy to use or designed with the user in mind
2 Open task

B
user-friendly, accessible, intuitive, graphics-based

C
1 text-based
2 The Macintosh was the first computer that used a mouse and a graphical user interface.
3 windows, icons, menus and pointer
4 By double-clicking the program icon or a document icon
5 Running several programs and doing various tasks at the same time.
6 Unix
7 Open-source software like Linus is freely distributed- i.e. you can copy, change and redistribute its code.
8 Windows Mobile.

D
Open task

E
a menu bar
b drop-down (pull-down) menu
c program icon
d folder icon
e document icon
f window
g hard drive icon
h scroll bar
i desktop
j dock

4 Language work: countable and uncountable nouns

A
user c
email c and u (c: a message; u: the system for sending messages over the Net)
computing u
edition c
entertainment u
interface c
icon c
technology c and u (c: a type of technology – Wi-Fi is a new technology; u: technology in general- Tecnology is advancing quickly)
security c and u (c: in financial usage; u: meaning safety)
spyware u

B
1 an
2 a
3 The
4 –
5 a
6 a
7 –
8 –

UNIT 14

1 Word processing features

A
Possible answers
1 A word processor is a computer program which manipulates text and produces documents suitable for printing.

2 A word processor can be used to compose, edit, format and print any sort of printable material. It is mainly used to write memos, briefs, technical reports and business letters. It also allows you to merge text from one file into another file; this is very useful for producing many files (e.g. personalized letters) with the same format but with different data.
3 Microsoft Word, Word Perfect, Open Office. org Writer, Kword. Word is probably the most popular, as it often comes ready-installed with Windows.

B
Open task

C
1 Toolbar; Formating
2 typeface
3 Bold; Italic
4 Indent
5 Header; Footer

4 Language work: giving and following instructions

A
A: I need a photo for my curriculum vitae. How do I insert one into this Word document?
B: Well, first choose insert on the Menu bar.
A: Like this?
B: Yes. From the insert menu, select Picture. As you can see, this displays a drop down menu with different options: Clip Art, From File, From Scanner, Chart, etc., Select From File and you'll get a dialog box.
A: OK. I've done that now. What next?

B: OK. Now you navigate your hard drive's contents and find the picture that you want to insert.
A: Right. I'd like to include this one.
B: OK, good. Now click insert and the phptograph will be inserted into your document.
A: Here it is. Is that right?
B: Yes. Finally, right-click with the mouse and select Format Picture to adjust the size and other properties.
A: Brilliant, thanks!

B
1 select; drag
2 click
3 position
4 click; right-click

UNIT 15

1 Spreadsheets and databases

A
Possible answers
1 A spreadsheet is like a large sheet of paper with a lot of columns and rows.
2 Spreadsheets are used in business for financial planning, to make calculations, to keep a record of the company's accounts, etc.

B
a column
b cell
c row

1 You can enter text, numbers and formulae (or formulas).
2 The values of the spreadsheet are automatically recalculated.

2 An invoice, a business letter and a fax

A
1 Company
2 Product
3 Description
4 Quantity
5 Price
5 VAT
7 Grand total

B
1 Dear Ms Atkinson
2 I am writing to
3 I am enclosing

4 We would be grateful if you could
5 Please contact us
6 Yours sincerely

3 Databases

A
Possible answers

To keep records or mailing lists with names, addresses, phone numbers, salaries, departments, etc; to keep track of stock, sales, orders, bills and other financial information; to store and find information about patients in a hospital or general medical practice; to keep records of students/pupils at college/school; to store data about music collection, with artist names, song titles, video clips, etc.; to catalogue books, CDs and DVDs in a library, or to record the books that readers borrow.

C
Students check their answers to B

D
1 A database management system is used to store, organize and retrieve information from a database.
2 Information is entered on a database via fields.
3 Each field holds a separate piece of information.
4 Updating a file means making changes, adding new records or deleting old ones.
5 Some advantages of a database program over a manual filing system are: it is much faster to consult; it occupies much less space; records can be easily sorted; information can be easily updated; computer databases can be shared by a lot of users over a network.
6 Access to a common database over a network can be protected by using user-defined passwords and other security devices.

E
1 database
2 record
3 field
4 relational
5 network
6 search
7 sort
8 query

4 Language work: plurals

A
1 clients
2 keys
3 queries

4 businessmen
5 faxes
6 salaries
7 mice
8 viruses

B

/S/	/IZ/	/Z/
Laptops	Databases	Passwords
Graphs	Switches	Orders
Networks	Taxes	Tables
spreadsheets	Packages	Systems

SECCION 5

Unit 16. B
1 What type of Internet connection do you have at home?
2 How fast is your Internet connection?
3 How much do you pay for broadband access?
4 How often do you access the internet?
5 Which email program do you use?
6 Who do send email to?
7 Do you use a mobile phone to access the Internet?
8 Do you use the Internet in public places using Wi-Fi?
9 Do you play games online?
10 How many newsgroups do you subscribe to?

Exercise 4 Email
1 Mail server
2 Email client/ mail program
3 Username
4 Subject
5 Attachment
6 Emoticons or smileys
7 spam

Unit 17
Exercise 1 A typical web page
B
A go back to one page
B go forward one page
C URL address
D go to the home page
E refresh the current page
F stop the current transfer
G search box
H feed button
I clickable hypertext link
J clickable image link
K show favourites

Exercise 2 The collectives of cyberspace
A
1 Google   3 MoveOn   5 Flickr   7 BitTorrent
2 Amazon   4 YouTube   6 eBay
B   1e   2c   3a   4b   5d
C 1 wikis   2 e-tailer   3 videoblog   4 Skype   5 podcast

Exercise 3 Language work: collocations 2

A

1 a and e	3 a and b	5 f
2 b and c	4 b	6 d

B Possible Answers

* Online encyclopedias are easier to search than traditional ones.
* Sites like MoveOn are encouraging more people to take action when they feel strongly about something.
* I'm not allowed to use my work email for personal use so I sue Hotmail to email friends.
* As soon as I get back from holiday I upload my photos to Flikr.
* I need to get a portable player to listen to music on the way to work.
* Before I see a film, I go to the official website to find out more about it.

C 1 be online (verb+adv); browse the Web (verb+noun); visit chat rooms (verb+noun); send and receive emails (verb+noun)

2 Instant messaging (adj+noun); great way (adj+noun); communicative with (verb+particle)

3 fully compatible (adv+adj)

4 plug into (verb+particle)

5 highly addictive (adv+adj); addictive game (adj+noun)

6 virtual reality (adj+noun)

Exercise 5 Language work: the prefixes e- and cyber-

1 cyberslacker	4 cybercafé	7 e-signature	10 e- book
2 e-card	5 cybercrime	8-e-assessment	
3 e-zine	6 e-voting	9 e-cash	

Unit 18
Exercise 2 Virtual meetings

A a4 b1 c3 d5 e2

B

1 It enables virtual workgroups to communicate easily over long distances; they can exchange ideas and information as if they were in the same room.

2 A webcam and a conferencing program, for example Netmeeting or CU-SeeMe.

3 Internet telephony, also known as VoIP

4 web chat rooms allow multiple users to join in a conversation and see what all the other people are typing; they are based around certain themes (love, music, business, etc.). Instant Messaging , however, refers to chatting privately with a select person or group of people, usually with friend and colleagues.

5 With a username and password.

C

1 flat-rate	3 buddy list	5 virtual reality
2 Instant Messaging /IM	(buddy=friend)	6 avatars
	4 in real time	

Exercise 3 Netiquette

A 1 True

2 you're shouting

3 Giving out personal or financial information

4 posting unsolicited advertising messages

5 read the FAQs (Frequently Asked Questions)

6 angry responses or offensive comments

7 True
Exercise 4 R U free 4 chat?

A

Abby:	By the way, where are you going for your holiday?
Sue:	Girona. Have you been?
Abby:	Yes. I went to Girona last summer.
Sue:	Did you have a good time?
Abby:	It's great, in my opinion. How are you going to travel?
Sue:	We're flying.
Abby:	Where are you staying?
Sue:	In a youth hostel.
Abby:	I see. In other words, the cheapest place possible!
Sue:	Laughing out loud! Yes. By the way, any recommendations?
Abby:	Let me think. I'll send you a message as soon as possible.
Sue:	Thanks in advance.
Abby:	Got to go. Bye for now.

B

Paulo:	BTW, r u free on Saturday?
Emma:	Sure—it would b good 2 meet F2F. Shall we go 4 a coffee?
Paulo:	Good plan. Café Moka makes the best coffee, IMO
Emma:	It's the closest 2 ur home IOW!
Paulo:	LOL! Yes, ur right! But the coffee really is good.
Emma:	C u at 4?
Paulo:	Great. BFN

Unit 19

Exercise 1 On Alert

A Possible Answers

1 A hacker is someone who obtains illegal or unauthorized access to computer date.
2 It's difficult, but it's definitely possible to break into computer systems and read confidential information.
3 You can protect your computer by using anti-virus software and a personal firewall. You shouldn't open emails from strangers.

B 1d 2c 3a 4b

Exercise 2 Security and privacy on the Internet

A *Hacker* used to be the general word for a person who was interested in computers. *Cracker* was the word used to describe someone who used their computer skills to break into people's computers for criminal gain. Now the word *hacker* is used to mean *cracker.* In the computer business, *hackers* who use their skills for good are known as *white hats* while crackers are knows as *black hats*.

B 1 Because the Internet is an opne system and we are exposed to hackers and crackers who break into computer systems to steal or destroy data. Security is vital when we send sensitive information or credit card numbers.

2 Mozilla Firefox displays a lock when the website is secure and it warns you if the connection is not secure; it also allows you to disable or delete cookies.

3 Banks use SLL (Secure Sockets Layer), a protocol which provides secure transactions.
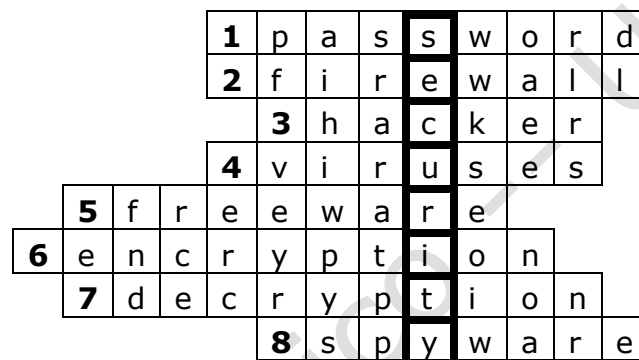
4 We can encode our email using an encryption program like Pretty Good Privacy.

5 The most common methods to protect private networks (intranets) are passwords for access control, firewalls, and encryption and decryption systems.

6 A virus can enter a PC via an infected disc or via the internet.

7 A worm spreads through email attachments; it replicates itself and sends a copy to everyone in an email address book.

C

1	p	a	s	s	w	o	r	d
2	f	i	r	e	w	a	l	l
	3	h	a	c	k	e	r	
	4	v	i	r	u	s	e	s
	5	f	r	e	e	w	a	r	e
6	e	n	c	r	y	p	t	i	o	n
	7	d	e	c	r	y	p	t	i	o	n
		8	s	p	y	w	a	r	e

Exercise 4 The History of Hacking

A 1 Kevin Mitnick hacking into the North American Defense Command in Colorado Springs

2 1981

3 He was arrested in connection with virus spreading after the Union Bank of Switzerland almost lost £32 million to hackers

4 15

Exercise 5 Language work: the past simple

1 was	4 launched	7 infected
2 showed	5 spread	8 stole
3 attempted	6 overwrote	9 weren't affected

SECCION 6

Unit 20
Exercise 1 Computer graphics
A

1 a and d are three-dimensional; b-and c are two dimensional.

2 3-D images represent objects (like the care here) more accurately; in graphs, they can also illustrate different quantities more clearly.

3 Possible answers: a Businesspeople; b Architects; c Cartographers (map makers); d Car engineers or designers

4 Possible answers: Designers in all kinds of industries to design and test products; engineers (e.g. telephone and electrical engineers) to plan circuits; weather forecasters to show changes in weather; economists to illustrate economic development; web designers to create pages for the Web; scientists in research; journalists in broadcasting; teachers; students.

C
1 Raster graphics represent images as bitmaps. This means they are stores as pixels, which can become jagged or distorted when manipulated. Vector graphics, however, represent images as mathematical formulas, so they can be changed or scaled without losing quality
2 JPEG, GIF, TIFF and EPS
3 Compositing is assembling multiple images to make a single final image
4 Computer Aided Design
5 Computer graphics can be used to develop, model and test car designs before the physical parts are made; this can save money and time.
6 GIS (Geography Information Systems)
7 Computer animation is used by animators to create cartoons or to add effects in movies and video games.

D 1e 2d 3a 4f 5b 6c

Exercise 2 Language work: the –ing form
A
1 g (after a preposition)
2 a
3 g (after a preposition)
4 pp (present continuous)
5 g (complement of a verb)
6 pp (reduced relative clause)

B
1 Computer animation is the process **of creating** objects which move across the screen
2 Texturing involves **adding** paint, colour, and filters to the drawings and designs
3 you can open the color palette **by clicking** on the corresponding icon
4 CAD programs are very fast **at performing** drawing functions
5 A lot of time and money is saved **by testing** a car design **before making** the product
6 **Rendering** refers to the techniques used to make realistic images

Exercise 4 Choosing graphics software
1f 2e 3c 4d 5a 6b

Unit 21

Exercise 1 What is the desktop publishing?
A
1 Possible answers: books, newspapers, magazines, newsletters, leaflets, brochures, posters, advertisements, and business cards.
2 Possible answers: text, charts and graphs, drawings and illustrations, and photographs.

C

1 A page-layout program (also called a desktop publishing program or DTP program)
2 DTP software is different from a word processor in that it uses high-quality scalable fonts and gives you control over typographic features such as kerning. Another difference is the text flow feature.
3 PDF means Portable Document Format, a standard format developed by Adobe which allows people to view, search and print documents exactly as the publisher intended.
4 Adobe Acrobat Reader
5 Because CTP machines are expensive, and service bureau offer services such as scanning and printing.

D

1 font
2 kerning
3 text flow
4 printing plate
5 platesetter

Exercise 2 Language Work: order of adjectives

1 user-friendly desktop publishing software
2 a reliable, young hardware company
3 the German graphic design industry
4 modern word processing applications
5 a new Sony portable music player

Exercise 3 Steps in DTP publication

A 1a 2c 3e 4d 5f 6b
C

1 dimensions
2 horizontal ruler
3 toolbox
4 guide
5 scanned photo
6 layout of master pages

Exercise 4 Writing a letter
A

The writer is asking for information about the kind of DTP software that the newspaper uses and wants to find out how long the paper's online edition has been running for.
B 1b 2a 3e 4c 5d 6f 7g 8h

Exercise 5 e-publishing versus paper publishing

Online newspapers and magazines, blogs, e-books.

Unit 22
Exercise 1 Multiple forms of media
Possible answers

1 Multimedia applications can combine test, high-quality sound, graphics, photo images, animation and full-motion video.
2 E-books, encyclopedias and dictionaries (on CD-ROMs or DVDs), slide presentations, computer games, web pages, movies, 3G mobile phones, virtual reality systems, information kiosks, computer-based training courses.

Exercise 2 Components and system requirements

A 1b 2b 3a
B

1 Fast	4 speakers	7 interactive
2 High-quality	5 headphones	8 animation
3 Sound	6 Microphone	9 rippers

Exercise 3 Multimedia magic!
A a4 b1 c3 d2
B 1 Multimedia training software is distributed on **optical discs (and over the Internet)**
2 You need to have **a sound card** on your computer to hear speech and music
3 **MIDI** allows your computer to communicate with electronic musical instruments
4 A CD ripper converts CDs to **MP3 format**
5 The Encyclopedia Britannica is available **in print, online, on DVD, and as a concise version for iPods, PDAs and mobile phones.**
C 1b 2e 3c 4d 5a

Exercise 4 Language work: conditional sentences
A

1 bring	3 had	5 'd invest
2 don't have	4 'd buy	

Exercise 5 Application of multimedia
a4 b3 c5 d1 e2

Unit 23

Exercise 1 A typical home page
Possible answers
1 Companies have websites in order to promote projects and advertise products. In some cases, the website is the company's business. For example, there are portals that provide a full range of web services including email, e-commerce, forums, news, entertainment, etc. specialist portals are related to particular subjects, such as music or sports. Portals that provide links to other websites on a particular topic are also called supersites. They can include news and information about the subject as well as personal comments.
2 A website is a collection of web pages (usually including a home page), set up by an organization or an individual, which are usually stored on the same server. A website contains many web pages. A website is like a book and web pages are the pages of the book. The pages are all linked together; you can move from one page to another by clicking on words or pictures called hyperlinks. Some websites have a site map that shows the layout of the entire site. A web page is an individual document on the Web, identify by its own unique URL. Web pages contain different elements, such as text, pictures, video, links, etc.
3 A home page is the introductory page that tells visitors what information is contained on a website. It has links to the other areas of the site. It can also include information such as when the site was built or updated. A home page is also the default star-up page on which a web browser starts.

Exercise 2 Web page design

A 1 HTML (hypertext markup language)
2 web editor (e.g. Macromedia Dreamweaver, Microsoft FrontPage)
3 .pdf (the portable document format)
4 frames
5 .jpg (joint photographic experts groups), .gif (graphics interchange format), and .png (portable network graphics)
6 .avi (audio video interleave), .mov (QuickTime movie) and .mpg (moving pictures expert groups)
B 1c   2e   3a   4b   5d   6f

Exercise 3 Language work: Modal verbs
A The following modals appear in the text: *needn't, can, could, should, may, must. Might* is referred to in the HELP box but doesn't appear in the text. Other modal verbs include *will* (See unit 30) and *would* (See unit 22).
B

1 can/could	4 should	7 Can/Could/May
2 can/could	5 must	
3 needn't	6 may/might	

SECCION 7

<u>**Unit 24**</u>
Exercise 2 Steps in programming

A 1c   2a   3d   4e   5b

B Students check their answers to **A**

C 1 Understand the problem and plan a solution
2 Make a flowchart of the program
3 Write instructions in a programming language
4 Compile the program (to turn it into machine code)
5 Test and debug the program
6 Prepare documentation

Exercise 3 Computer languages

A Eight: FORTRAN, COBOL, BASIC, Visual BASIC, PASCAL, C, C++, Java

B 1 No, computers don't understand human languages because the processor operates only on machine code
2 An assembler is a special program which converts a program written in a low level language into machine code
3 To make programs easier to write and to overcome the problem of intercommunication between different types of computer
4 PASCAL

5 A compiler translates the source code into object code (machine code) in one go. However, an interpreter translates the source code line by line, as the program is running
6 Because they use instructions called markup tags to format and link text files

C

1 XML	3 Java	5 COBOL
2 FORTRAN	4 VoiceXML	

Exercise 4 Word Building

Program (n or v)	Programmers (n)	Programming (n or present participle of v)	Programmable (adj)
1 programming	2 program	3 programmers	4 programmable

Compile (v)	Compiler (n)	Compilation (n)
5 compilation	6 compiler	7 compile

Bug (n or v)	Debug (v)	Debugger (n)	Debugging (n or present participle of v)
8 debug	9 debugger; debug		10 debugging

Exercise 5 Language work: The infinitive

A 2 It's expensive to set up a data-processing area
3 It's advisable to test the programs under different conditions
4 It's unusual to write a program that works correctly the first time it's tested
5 It's important to use a good debugger to fix errors
6 It's easy to learn Visual BASIC.

B 1c   2b   3b   4c   5c   6a   7a   8b

Unit 25

Exercise 1 Java applets

A a4   b1   c3   d5   e2   **B** 1c   2e   3a   4b   5d

Exercise 2 The Java language
A 1 Java was invented by **Sun Microsystems**
2 With the **compiler**, a program is fist converted into java bytecodes
3 Java **is** compatible with most computing platforms
4 the Java language is **multi-threaded, various parts** executing at the same time
5 Java **does** have competitors: Microsoft's C# and Adobe Flash
6 Flash files are called **flash movies**.

B 1a   2d   3f   4b   5c   6e

C
1 animated
2 object oriented
3 compiled; interpreted
4 used
5 configured
6 pronounced

Exercise 3 Language work: the -ed form

/t/	/d/	/id/
Stopped	Described	Decided
Asked	Called	Executed
Produced	Programmed	Object-oriented
Watched	Configured	Persuaded
Published	Arranged	Converted
	Designed	

B 1 decided
2 developed
3 called
4 had
5 based
6 renamed
7 could
8 were
9 began
10 supported

Unit 26

Exercise 1 IT Professionals
A
1 hardware engineer
2 software engineer
3 blog administrator
4 DTP operator
5 network administration
6 webmaster
7 computer security specialist
8 help desk technician

Exercise 2 Job advertisements

A Open task: some other qualities or abilities which could be added to the list:
enthusiasm, good communication skills, reliability, punctuality, versatility, confidence, ability to work under pressure, ability to cope with routine work.
C Charles Graham's experience and qualifications mean he is more suited to the DTP operator position.

Exercise 3 A letter of application
A 1 Senior programmer
2 She saw the advertisement in The Times
3 She has been working as a software engineer for (the last) three years
4 She has written programs in COBOL (for commercial use) and in C (for large retail chains)
5 She spent three months in Spain two years ago

B   1 until   2 For   3 since   4 ago

Exercise 5 Language work: the present perfect

A 1 's never liked   3 's been using   5 's been writing
2 've been working   4 have you written   6 've interviewed

B 1 's been   3 Have you ever worked   5 sent
2 worked   4 've lost

C 1 Have you ever lived or worked in another country?
2 Have you ever had a bad job interview?
3 Have you ever done a job you hated?
4 How long have you been studying English?
5 How long have you been using computers?
6 How many emails have you received today?
7 How many jobs have you applied for this year?

SECCION 8

Unit 27
Exercise 1 Information and Communications technology (ICT)

A 1 Possible answer: an ICT system is more than just computer; it is a combination of hardware, software and data, and the people who use them. It often also includes communications technology, such as the Internet. Some ICT systems are used to manage data and information, others (for example, a mobile phone or an interactive TV) are used to send and receive text, voice and video content.

2 Possible answer: a computer network, fax services, teletext (a system of communicating information by using TV signals), public switched telephone network, mobile phone network, analogue and digital TV, radio network, The Internet (email, the Web, Instant Messaging, FTP, etc), satellite communications.
3 One PC can be connected to antoher in the same building by using a Local Area Network (LAN). If the computers are further away from each other, they can be linked by adding modems and connecting them to the telephone lines (see Unit 28).

	2 Fax	6 Digital radio
	3 Call centre	7 Wearable computer
	4 GPS	
B 1 Teletext	5 Digital TV	

C 1 digital radio   4 Teletex   7 GPS
2 Wearable computers   5 call centre
3 digital TV   6 fax

D 1 Modem
2 Teleworking
3 Broadcasting
4 It offers pay multimedia; it offers interactive services; it can be widescreen; it provides a better quality of picture and sound; you can have more channels

5 DMB (Digital Multimedia Broadcasting) and DVB-H (Digital Video Broadcast-Handheld)
6 Wireless
7 Blackberrys
8 Cybernetic organism—a being that is part robot, part human

Exercise 2 Language work: The passive
B has been sent (present perfect), was arrested (past simple), has been caught (past perfect), was accused (past simple), was fined (past simple), is reported (present simple), has [now] been sentenced (present perfect), will be introduced (future)

C 1 are made	4 was developed	7 can be connected
2 are used	5 are being replaced	8 was being fixed
3 have been equipped	6 will be accessed	

Exercise 4 Mobile Phones

a Wireless support	e Keypad
b LCD screen	f SIM card (Subscriber Identity Module)
c Ringtone	g Built-in camera
d Changeable faceplate	h Brand

Unit 28

Exercise 1 Small Networks

A Possible answers
1 A computer network is a system of interconnected computers that share files and other resources
2 They enable us to get the most from our peripherals. For example, printers, scanners and high speed modems or routers can be shared by a great number of users on the same network. In the same way, networks allow us to send and receive messages, have access to large databases, and transfer files to and from other computers. This implies faster communications, and flexible and interactive work between users.

Exercise 2 Networking FAQs

B 1 Personal Area Network
2 A network protocol is the language or set of rules that computers use to communicate with each other.
3 To log on to an Interactive Service Provider, you need to type in your username and password.
4 WiMAX has greater range than Wi-Fi and is used to connect various Wi-Fi hotspots with each other. (WiMAX is short for Worldwide Interoperability for Microwave Access)
5 To set up a wireless LAN, you need computers equipped with wireless adapter or wireless card, a wireless access point (a wireless router) and a broadband internet connection.

6 Wireless networks are easier to install; they let you move, or roam, from one access point to another. However, they are less secure than wired networks and are subject to interference.

C 1b   2a   3b   4c   5c   6b   7a   8c

Exercise 3 Language Work: Verbs with participle
B 1 fill in   2 carries out   3 takes up   4 make up   5 find out
C 1c   2a   3e   4b   5d   6f

<u>Unit 29</u>
Exercise 1 Game platforms
B

a Handheld games	d Arcade games
b PC games	e Massive multiplayer online games
c Console games	f Mobile phone games

C

1 Console games; video games console	4 Massively multiplayer online games
2 Handheld games; portable gaming service	5 Mobile phone games; 3G mobile phones
3 PC games; personal computer games	6 Arcade games

Exercise 2 Game Genres
A The following genres are mentioned in the text: First person shooter (FPS), Action, Role-playing game (RPG); Massively multiplayer online RPGs, Adventure, Puzzle, Sports, Racing, Simulation, Strategy and Fighting

B
1 **First-person shooter (FPS) and Action** games are currently the most popular.
2 Massively multiplayer online RPGs have been made possible by widespread **broadband** access
3 *Oblivion* is a **Role-playing game**.
4 *The Sims* series is the **most** popular in the Simulation category.
5 Strategy games are mainly restricted to **PC**.
6 *Warcraft* belongs to the **Strategy** genre.
7 Console gamers are typically prefer **Sports, Racing, Fighting, RPGs and FPS titles.**

C
1 currently
2 widespread
3 despite
4 increansingly
5 sub-genre
6 massive hits
7 best-selling

8 update

Exercise 3 Language works: Adverbs

A   1 widely   2 recently   3mainly   4 well   5 fast
B   1 adj   2 adv   3 adj   4 adv   5 adv   6 adj

Unit 30
Exercise 1 Future Trends

A 1 In this context, trend refers to new developments or changes

B a2   b1   c3   d5   e4

C 1 Nanometre (one billionth of a metre)
2 Nanotubes are more flexible, resistant, and durable than regular materials such as steel or aluminium
3 Doctors will use expert systems to diagnose illnesses
4 Biometrics analyze physical characteristics such as fingerprints, facial features, voice, iris and retina patterns
5 Ubiquitous computing or pervasive computing
6 The alarm system will alert the alarm company and then the police. It will also turn on the lights in the home and then send a text message to the owner's phone. It may even send images captured by wireless cameras to phones and PCs.
7 All devices will be interconnected over a home area network.

D 1 nanobot   2 android   3 biometrics   4 embedded   5 appliances

Exercise 3 Language work: future for

A
1 'll have
2 're going to spill
3 're going to give
4 'll lend
5 will probably change
6 will be

B
1 will have found
2 will be living
3 will be working
4 will have bought
5 will be living