



Học tiếng Anh online với BEA

# Tiếng Anh chuyên ngành

# TINH HỌC

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I

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**ENGLISH  
FOR  
INFORMATICS**

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	LANGUAGE WORK	<b>Exercise 7</b> Complete the sentences by finding the missing letters

## INTRODUCTION

### 1. The authors

The course is designed by two teachers of English at Hanoi University of Technology, Ms. Tran Huong Giang and Ms. Nguyen Thi Bac. They both have Masters Degree in English language. They have a lot of experience in teaching English in general and English for Specific Purposes (ESP) in particular. They also have experience in designing materials for different courses.

### 2. The course

English for Informatics is a course on English for Specific Purposes (ESP) designed to develop the English skills and basic knowledge in electronics for technical students and engineers who work in the field. This textbook is intended for learners who begin to take the course of English in electronics. The most important aim of the course is to help students develop the ability to deal with the concepts used in technical texts.

The book consists of ten units which can be completed in twenty 45 minute class hours. The units are organized around the various topics used in electronics field. The skills are introduced as they relate to the topic. Each unit in the book is divided into different sections:

**Vocabulary and Pronunciation:** This consists of three exercises which provide new terms related to the topic.

**Reading:** There are two or three exercises in this part which contain comprehension questions to help students understand the reading text better.

**Language Focus:** This section introduces theory and practice on certain grammatical or vocabulary feature.

**Listening:** This part provides exercises to improve students' listening skills.

Although we hope that you will enjoy working through this textbook, we do not expect you find it easy. If you have any questions regarding the course, please do not be hesitating to contact us. We are always happy to share with you our expertise and experience of studying this subject.

**Business English Academy**

**UNIT 1****TYPES OF COMPUTERS****VOCABULARY AND PRONUNCIATION****Exercise 1 Match English terms and Vietnamese translations**

<b>English</b>	<b>Vietnamese</b>
1. built-in keyboard	a. máy tính để bàn
2. desktop computer	b. máy tính xách tay
3. docking station	c. chuột kiểu que trỏ
4. extranet	d. cổng
5. intranet	e. bàn phím gắn liền
6. laptop	f. màn hình cảm ứng
7. liquid Crystal Display (LCD)	g. mạng bên ngoài
8. optical drive	h. trạm nối
9. personal computer (PC)	i. mạng cục bộ, mạng nội bộ
10. personal digital assistant (PDA)	j. ống quang
11. pointing stick	k. bộ nhớ truy cập ngẫu nhiên
12. port	l. thiết bị kỹ thuật số hỗ trợ cá nhân
13. random access memory (RAM)	m. chuột cảm ứng
14. touch screen	n. màn hình tinh thể lỏng
15. touchpad	o. máy tính cá nhân

**Exercise 2 T.S 1 Listen and practice**

- |                      |                                |                          |
|----------------------|--------------------------------|--------------------------|
| 1. built-in keyboard | 6. laptop                      | 11. pointing stick       |
| 2. desktop computer  | 7. liquid Crystal Display      | 12. port                 |
| 3. docking station   | 8. optical drive               | 13. random access memory |
| 4. extranet          | 9. personal computer           | 14. touch screen         |
| 5. intranet          | 10. personal digital assistant | 15. touchpad             |

**Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap.**

built-in keyboard	laptop	pointing sticks
extranet	personal computer	touch screen
intranet	personal digital assistant	touchpad

1. .... are popular on many laptop systems.
2. A ..... is a computer display screen that is sensitive to human touch.
3. A ..... mimics the functions of a computer mouse.
4. An ..... is a Web site for selected users, rather than for the general public.
5. An ..... is a private network that is contained within an organization that uses computers.

**READING*****Types of Computer***

Computers can be classified as: desktop computers; personal digital assistants (PDA's); laptop and notebook computers.

A desktop computer is a personal computer (PC) in a form intended for regular use at a single location, as opposed to a mobile laptop or portable computer. Prior to the wide spread of microprocessors a computer that could fit on a desk was considered remarkably small. Today the phrase usually indicates a particular style of computer case. Desktop computers come in a variety of styles ranging from large vertical tower cases to small form factor models that can be tucked behind an LCD monitor. In this sense, the term 'desktop' refers specifically to a horizontally-oriented case, usually intended to have the display screen placed on top to save space on the desk top. Most modern desktop computers have separate screens and keyboards.

A personal digital assistant (PDA) is a handheld computer, also known as small or palmtop computers. Newer PDAs also have both color screens and audio capabilities, enabling them to be used as mobile phones (smartphones), web browsers, or portable media players. Many PDAs can access the Internet, intranets or extranets via Wi-Fi, or Wireless Wide-Area Networks (WWANs). Many PDAs employ touch screen technology.

A notebook is a small and lightweight portable computer, with most of the features of a standard laptop computer but smaller. Notebooks are smaller than laptops but larger than handheld computers. They often have smaller-sized screens, usually measuring from 7 inches (17.7 cm) to 13.3 inches (33.78 cm), and a weight from less than 1 kg (2.2 lbs) up to about 2 kg (4.4 lbs). The savings in size and weight are usually achieved

partly by omitting ports or having removable media/optical drives; notebooks are often paired with docking stations to compensate.

**Exercise 4 Match each of the following types of computer with its name.**

- |                                       |              |
|---------------------------------------|--------------|
| a. desktop computer                   | Figure ..... |
| b. personal digital assistant (PDA's) | Figure ..... |
| c. laptop                             | Figure ..... |
| d. notebook                           | Figure ..... |



Figure 1



Figure 2



Figure 3



Figure 4

**Exercise 5**

Read the text again and write the name for each type of computer next to the sentences.

**Write:**

- D = desktop computer
- PDA = personal digital assistant
- L = laptop
- N = notebook

1. Omitting ports or having removable optical drives makes **it** smaller and lighter.
2. It may be used as mobile phones, web browsers.
3. It is in a form intended for regular use at a single location.
4. It employs touch screen technology.

5. It has most of the features of a standard laptop computer but smaller.
6. It may have a vertical tower cases or a horizontally-oriented case.
7. It is paired with docking stations.
8. It has separate screens and keyboards.

## LISTENING

### Exercise 6 Listen to T.S3 and fill in the blanks with the words given

power	displays
functions	mobile
weigh	mouse
keyboard	battery
failure	price



A laptop computer or simply laptop is a small (1) ..... computer, typically weighing 3 to 12 pounds (1.4 to 5.4 kg), although older laptops may (2) ..... more. Laptops usually run on a single main (3) ..... or from an external AC/DC adapter that charges the battery while also supplying (4) ..... to the computer itself even in the event of a power (5) ..... Laptops contain components that are similar to their desktop counterparts and perform the same (6) ..... but are miniaturized and optimized for mobile use and efficient power consumption, although typically less powerful for the same (7) ..... Laptops usually have liquid crystal (8) ..... and most of them use different memory modules for their random access memory (RAM). In addition to a built-in (9) ..... they may utilize a touchpad or a pointing stick for input, though an external keyboard or (10) ..... can usually be attached.

## LANGUAGE WORK: WHICH

We use WHICH to connect two clauses.

E.g:

A battery charger is a device. The device is used to put energy into a secondary cell.  
→ A battery charger is a device which is used to put energy into a secondary cell.

### Exercise 7 Join the following pair of clauses to make longer sentences

1. A fuse is a protection device. The device operates once and then has to be replaced.
2. A softswitch is a central device. This device connects calls from one phone line to another.
3. Wi-Fi allows connectivity in peer-to-peer mode. This mode enables devices to connect directly with each other.

4. Routers incorporate a DSL-modem and a Wi-Fi access point. Routers provide Internet-access and internetworking to all devices connected to them.
5. System software can be operating systems. The operating systems interface with hardware to provide the necessary services for application software.
6. A battery is two or more electrochemical cells. These cells store chemical energy and make it available as electrical energy.
7. Incandescent light bulbs consist of a glass enclosure. The glass enclosure is filled with an inert gas.

**UNIT 2****WORD PROCESSOR****VOCABULARY AND PRONUNCIATION****Exercise 1 Match English terms and Vietnamese translations**

English	Vietnamese
1. word processor	a. bàn phím
2. composition	b. biên tập
3. editing	c. bộ xử lý từ
4. formatting	d. chỉ số
5. obsolete	e. chú thích
6. keyboard	f. cơ sở dữ liệu
7. dedicated computer	g. đánh dấu
8. monochrome display	h. đĩa, mềm
9. memory card	i. định dạng
10. diskette	j. hiển thị đen trắng
11. dot-matrix printing	k. in kim
12. markup	l. lỗi thời
13. database	m. máy tính chuyên dụng
14. mail merging	n. soạn thảo
15. indices	o. tham khảo chéo
16. cross-referencing	p. thẻ nhớ
17. annotation	q. trình kết hợp thư

**Exercise 2 T.S 1 Listen and practice**

- |                   |                         |                       |
|-------------------|-------------------------|-----------------------|
| 1. word processor | 7. dedicated computer   | 13. database          |
| 2. composition    | 8. monochrome display   | 14. mail merging      |
| 3. editing        | 9. memory card          | 15. indices           |
| 4. formatting     | 10. diskette            | 16. cross-referencing |
| 5. obsolete       | 11. dot-matrix printing | 17. annotation        |
| 6. keyboard       | 12. markup              |                       |

**Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap**

- |                |              |                   |
|----------------|--------------|-------------------|
| editing        | memory cards | indices           |
| word processor | diskette     | cross-referencing |
| Keyboard       | markup       | capabilities      |

1. Desktop publishing programs allowed users to import text that they have written using a text editor or .....
2. Read-only optical discs have replaced the .....in most current home console systems.
3. The idea of .....languages was apparently first presented by publishing executive William W. Tunnicliffe at a conference in 1967.
4. .....allows readers to locate the publication information of source material.
5. Mail Merge Toolkit is powerful add-in for Microsoft Office 2002 (XP) and 2003 designed to extend ..... in Microsoft Outlook.

## READING

**Exercise 4 Read the following passage and decide whether the following statements are true or false**

A word processor (more formally known as document preparation system) is a computer application used for the production (including composition, editing, formatting, and possibly printing) of any sort of printable material.

Word processor may also refer to an obsolete type of stand-alone office machine, popular in the 1970s and 80s, combining the keyboard text-entry and printing functions of an electric typewriter with a dedicated computer for the editing of text. Although features and design varied between manufacturers and models, with new

features added as technology advanced, word processors for several years usually featured a monochrome display and the ability to save documents on memory cards or diskettes. Later models introduced innovations such as spell-checking programs, increased formatting options, and dot-matrix printing. As the more versatile combination of a personal computer and separate printer became commonplace, the word processor disappeared.

Word processors are descended from early text formatting tools (sometimes called text justification tools, from their only real capability). Word processing was one of the earliest applications for the personal computer in office productivity.

Although early word processors used tag-based markup for document formatting, most modern word processors take advantage of a graphical user interface. Most are powerful systems consisting of one or more programs that can produce any arbitrary combination of images, graphics and text, the latter handled with type-setting capability.

Microsoft Word is the most widely used computer word processing system; Microsoft estimates over five hundred million people use the Office suite, which includes Word. There are also many other commercial word processing applications, such as WordPerfect, which dominated the market from the mid-1980s to early-1990s, particularly for machines running Microsoft's MS-DOS operating system. Open-source applications such as OpenOffice.org Writer and KWord are rapidly gaining in popularity. Online word processors such as Google Docs are a relatively new category.

1. A word processor is a system to prepare documents.
2. No memory cards are used in a word processor.
3. Spell-checking programs were one of the first use of word processor.
4. Thanks to the combination of personal computers and printers, the word processor was not in use any more.
5. Microsoft Word is the most popularly used computer word processing system.

## LISTENING

**Exercise 5 T.S 3 Listen to a short introduction about the characteristics of a word processor and fill in each gap with one suitable word**

### *Characteristics*

Word processing typically refers to text manipulation functions such as automatic generation of:

- batch mailings using a form letter template and an address .....  
(1) (also called mail merging);

- indices of keywords and their page .....(2);
- tables of contents with section titles and their page numbers;
- tables of figures with caption titles and their page numbers;
- .....(3) with section or page numbers;
- footnote numbering;
- new versions of a document using variables (e.g. model numbers, product names, etc.)

Other word processing functions include "spell checking" (actually checks against wordlists), "grammar checking" (checks for what seem to be simple grammar errors), and a "thesaurus" function (finds words with similar or opposite meanings). In most languages grammar is very complex, so .....(4) checkers tend to be unreliable and also require a large amount of RAM. Other common features include collaborative editing, comments and .....(5), support for images and diagrams and internal cross-referencing.

## LANGUAGE WORK

### Exercise 6 Complete the sentences by finding the missing letters

1. To perform word processing, you need a computer, a special program called a word p.....r, and a printer..
2. E.....g is the process of preparing language, images, or sound through correction, condensation, organization, and other modifications in various media.
3. Disk f.....g is the process of preparing a hard disk or other storage medium for use, including setting up an empty file system.
4. The advantages of both a color display and a high-resolution m.....e display are realized in a single display system by eliminating color filters from the display screen of the display system.
5. A memory card or flash memory card is a solid-state electronic flash memory data s.....e device used with digital cameras, handheld and Mobile computers.
6. A d.....e is a random access, removable data storage medium that can be used with personal computers.
7. A d.....e is a collection of data which is managed to meet the needs of a community of users.
8. A.....n is extra information asserted with a particular point in a document or other piece of information.

## UNIT 3 COMPUTER HARDWARE COMPONENTS

### VOCABULARY AND PRONUNCIATION

#### Exercise 1 Match English terms and Vietnamese translations

English	Vietnamese
1. Computing function	a. đồ họa
2. driver	b. giống với, tương tự
3. electronic device	c. máy chữ
4. graphical	d. đèn hình, ống hình
5. input device	e. chức năng tính toán
6. interface	f. thiết bị điện tử
7. keyboard	g. bàn phím
8. modify	h. giao diện
9. monitor	i. gói phần mềm
10. output device	j. màn hình
11. peripheral	k. ổ đĩa
12. picture tube	l. thiết bị đầu ra
13. resemble	m. ngoại vi
14. software package	n. điều chỉnh, cài biên
15. typewriter	o. thiết bị đầu vào

#### Exercise 2 T.S 1 Listen and practice

- |                       |                   |                      |
|-----------------------|-------------------|----------------------|
| 1. computing function | 6. interface      | 11. peripheral       |
| 2. driver             | 7. keyboard       | 12. picture tube     |
| 3. electronic device  | 8. modify         | 13. resemble         |
| 4. graphical          | 9. monitor        | 14. software package |
| 5. input device       | 10. output device | 15. typewriter       |

**Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap.**

Driver	keyboard	picture tube
graphical	peripheral	software package
input device	output device	typewriter

1. A ..... is a device connected to a computer; for example, a terminal or printer.
2. An ..... allows the transfer of information to a computer system.
3. A computer uses an ..... to present data to a user.
4. Computer parts need a ..... because they do not use standard commands.
5. The ..... is an input device designed to enter text, characters and other commands into the computer.

## READING

### The Actual Computer

Your "computer" is a collection of devices that function as a unit. The most basic collection includes a Computer CPU, a Monitor, a Keyboard, and a Mouse. The Computer CPU is normally a rectangular box that sits on your desktop (called a "Desktop Case") or next to your knee under the desk (called a "Tower Case"). The computer's CPU is actually a small electronic device inside the case but the term is often used to refer to the whole collection of electronics inside the box.

### The Monitor

The Computer Monitor is the computer user's window into the workings of the computer. It consists of a television picture tube that had been modified to accept the type of video signal created by the computer's electronics. Conventional televisions can be used as computer monitors if a translation device is used to connect them. The picture quality leaves something to be desired.

### The Keyboard

The Keyboard is the primary input device used to communicate with the computer. A computer keyboard closely resembles a conventional typewriter keyboard with the addition of numerous keys that are used specifically for computing functions.

### The Mouse

Named for the resemblance of the wire coming out of it and a mouse's tail, the mouse was introduced to computing in the early 1980's when Macintosh created its graphical user interface (GUI). The mouse is another input device used to point at objects on the

computer monitor and select them. Using the mouse and keyboard in combination allows the computer user substantial latitude in how to accomplish a wide variety of tasks.

### Peripherals

Computer peripherals are any electronic devices that can be hooked up to a computer other than the standard input-output devices (monitor, keyboard, mouse). Peripheral devices include speakers, microphones, printers, scanners, digital cameras, plotters, and modems. Peripherals often require special software packages called "drivers". These drivers are usually included with the peripheral at purchase time.



**Exercise 4** Match each of the following names with one part of the computer as indicated in the picture.

- a. printer
- b. CPU
- c. Monitor
- d. Keyboard
- e. Mouse



**Exercise 5** Read the text again and write the name for each part (CPU, Peripheral, Mouse, Keyboard, Monitor) next to each sentence.

1. It can be a speaker, microphone, printer, scanner, digital camera, plotter, and modem.
2. It is used to point at objects on the computer monitor and select them.
3. It is normally a rectangular box that sits on your desktop or next to your knee under the desk.
4. It often requires special software packages.

5. It closely resembles one part of a conventional typewriter.
6. It is the computer user's window into the workings of the computer.
7. It is actually a small electronic device inside the case.
8. It is a device that can be hooked up to a computer other than a input-output device.
9. It consists of a television picture tube.
10. It was introduced to computing in the early 1980's.

## LISTENING

### Exercise 6 Listen to T.S3 and fill in the blanks with the words given

Disks	information
Laser	data
Technology	place
Hardware	distribution
Collection	correspond



### The CD-ROM Drive

This modern miracle gained prominence in the late 1980's and has become the primary (1) ..... medium for software to consumers. The Compact Disk-Read Only Memory (CD-ROM) disk itself is a (2) ..... of concentric circles containing millions of pits and plateaus which (3) ..... to on/off bits of data. The disk is read with an optical (4) ..... similar to the one used to scan your groceries at the supermarket. Most (5)..... of this kind are "Read Only" meaning that the computer can retrieve (6) ..... from the disk, but cannot (7) ..... information on it. New developments have improved this (8) ..... to allow writing and rewriting (9) ..... to the disk. A different kind of (10) ..... mechanism is needed to employ this innovation.

## LANGUAGE WORK

We use AND to express similar ideas and BUT to express contrasting ideas

E.g

Silver conducts electricity very well, **and** copper is also a good conductor.

Silver conducts electricity well, **but** glass has very poor electrical property.

### Exercise 7 Now join the following ideas with **but** or **and**

1. The paths may split off here and there, ..... they always form a line from the negative to positive.
2. High voltage power lines are covered with thick layers of plastic to make them safe, ..... they become very dangerous when the line breaks and the wire is exposed.
3. The nearest band to one end of a resistor identifies the ‘first number’, ..... the second band identifies a ‘second number’.
4. A conductor allows electrical current to pass easily through, ..... an insulator doesn’t.
5. In a p-n diode, conventional current can flow from the p-type side to the n-type side , ..... it cannot flow in the opposite direction.
6. Diodes have two active electrodes between which the signal of interest may flow, ..... most are used for their unidirectional current property.
7. The track is usually rotary, ..... straight track versions are also available.
8. Such metals as copper, silver, and aluminum are excellent conductors, ..... such insulators as diamond and glass are very poor conductors.
9. The resultant crystal has two distinct regions of n-type and p-type material, ..... the boundary joining the two areas is known as an n-p junction.
10. In frequency modulation, the amplitude of the carrier wave is kept constant, ..... the frequency is varied in proportion to the amplitude of the modulating signal.
11. The 'Charge' is called the amount of stored electricity on the plates, ..... it is proportional to the applied voltage and capacitor's 'capacitance'.
12. Active components are power sources, ..... passive components are resistors, capacitors, microprocessors, transistors
13. Such metals as copper, silver, and aluminum are excellent conductors, ..... such insulators as diamond and glass are very poor conductors.

**UNIT 4****STORAGE AND MEMORY****VOCABULARY AND PRONUNCIATION****Exercise 1 Match English terms and Vietnamese translations**

<b>English</b>	<b>Vietnamese</b>
1. temporary storage	a. bộ lưu trữ dung lượng lớn
2. mass storage	b. bộ lưu trữ ngoại tuyến
3. optical discs	c. bộ lưu trữ sơ cấp
4. magnetic storage	d. bộ lưu trữ thứ cấp
5. primary storage	e. bộ nhớ
6. secondary storage	f. cấu trúc
7. architecture of computers	g. chuỗi
8. memory	h. đa năng
9. drawback	i. datum
10. datum	j. đĩa quang
11. binary numeral system	k. hạn chế
12. string	l. hệ thống số nhị phân
13. versatile	m. hiệu suất, sự vận hành
14. von Neumann machines	n. máy tính Von Neumann
15. hierarchy	o. sự cân bằng
16. tradeoff	p. sự lưu trữ bằng từ tính
17. performance	q. sự lưu trữ tạm thời
18. off-line storage	r. trật tự

**Exercise 2 T.S 1 Listen and practice**

- |                      |                              |                          |
|----------------------|------------------------------|--------------------------|
| 1. temporary storage | 7. architecture of computers | 13. versatile            |
| 2. mass storage      | 8. memory                    | 14. von Neumann machines |
| 3. optical discs     | 9. drawback                  | 15. hierarchy            |
| 4. magnetic storage  | 10. datum                    | 16. tradeoff             |
| 5. primary storage   | 11. binary numeral system    | 17. performance          |
| 6. secondary storage | 12. string                   | 18. off-line storage     |

**Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap**

- |                  |                       |                      |
|------------------|-----------------------|----------------------|
| mass storage     | temporary storage     | von Neumann machines |
| magnetic storage | datum                 | Tradeoff             |
| primary storage  | binary numeral system | String               |

1. ..... is a visible clipboard, where the user stores temporary items during editing.
2. ...., also known as main storage or memory, is the main area in a computer in which data is stored for quick access by the computer's processor.
3. A digital computer represents each ..... using the binary numeral system.
4. A ..... is able to move over interstellar or interplanetary distances and to utilize local materials to build new copies of itself.
5. A ..... of bits or bytes, for example, may be used to represent data retrieved from a communications medium.

**T.S 2**

1. Temporary Storage is a visible clipboard, where the user stores temporary items during editing.
2. Primary storage, also known as main storage or memory, is the main area in a computer in which data is stored for quick access by the computer's processor.

3. A digital computer represents each datum using the binary numeral system.
4. A von Neumann machine is able to move over interstellar or interplanetary distances and to utilize local materials to build new copies of itself.
5. A string of bits or bytes, for example, may be used to represent data retrieved from a communications medium.

## LISTENING

### Exercise 4 T.S 3 Listen and decide whether the statements are true or false

1. Computer data storage, often called storage or memory, refers to computer components, devices, and recording media that retain digital data used for computing for some interval of time.
2. Computer data storage provides one of the core functions of the modern calculator, that of information retention.
3. It is one of the fundamental components of all modern computers, and coupled with a central processing unit (CPU, a processor), implements the basic computer model used since the 1940s.
4. In contemporary usage, memory usually refers to a form of semiconductor storage known as random access memory (RAM) and sometimes other forms of fast but temporary storage.
5. Similarly, storage today more commonly refers to mass storage - optical discs, forms of magnetic storage like hard disks, and other types slower than RAM, but of a more permanent nature.
6. Historically, memory and storage were respectively called primary storage and secondary storage.
7. The contemporary distinctions are helpful, because they are also fundamental to the architecture of computers in particular.
8. As well, they reflect an important and significant technical similarities between memory and mass storage devices, which has been blurred by the historical usage of the term storage.

## READING

### Exercise 5: Choose a suitable word in the box to fill in the gap.

Von Neumann machines	storage	string	hierarchy
Processor	computer	versatile	system

## PURPOSE OF STORAGE

Various forms of .....(1) , based on various natural phenomena, have been invented. So far, no practical universal storage medium exists, and all forms of storage have some drawbacks. Therefore a computer ..... (2) usually contains several kinds of storage, each with an individual purpose.

A digital computer represents each datum using the binary numeral system. Text, numbers, pictures, audio, and nearly any other form of information can be converted into a .....(3) of bits, or binary digits, each of which has a value of 1 or 0. The most common unit of storage is the byte, equal to 8 bits. A piece of information can be handled by any computer whose storage space is large enough to accommodate the binary representation of the piece of information, or simply data. For example, using eight million bits, or about one megabyte, a typical computer could store a small novel.

Traditionally the most important part of every computer is the central processing unit (CPU, or simply a .....(4) ), because it actually operates on data, performs any calculations, and controls all the other components.

Without significant amount of memory, a .....(5) would merely be able to perform fixed operations and immediately output the result. It would have to be reconfigured to change its behaviour. This is acceptable for devices such as desk calculators or simple digital signal processors. .....(6) differ in that they have a memory in which they store their operating instructions and data. Such computers are more .....(7) in that they do not need to have their hardware reconfigured for each new program, but can simply be reprogrammed with new in-memory instructions; they also tend to be simpler to design, in that a relatively simple processor may keep state between successive computations to build up complex procedural results. Most modern computers are von Neumann machines.

In practice, almost all computers use a variety of memory types, organized in a storage .....(8) around the CPU, as a tradeoff between performance and cost. Generally, the lower a storage is in the hierarchy, the lesser its bandwidth and the greater its access latency is from the CPU. This traditional division of storage to primary, secondary, tertiary and off-line storage is also guided by cost per bit.

## LANGUAGE WORK

### Exercise 6 Complete the sentences by finding the missing letters

1. In computing, m.....s storage refers to the storage of large amounts of information in a persisting and machine-readable fashion.

2. An o.....l disc is an electronic data storage medium that can be written to and read using a low-powered laser beam.
3. In computer engineering, computer a.....e is a blueprint and functional description of requirements (especially speeds and interconnections) and design implementations for the various parts of a computer.
4. The b.....y numeral system, or base-2 number system, is a numeral system that represents numeric values using two symbols, usually 0 and 1.
5. A h.....y is an arrangement of objects, people, elements, values, grades, orders, classes, etc., in a ranked or graduated series.
6. O.....e storage, also known as disconnected storage, is a computer data storage on a medium or a device that is not under the control of a processing unit
7. A t.....f is a situation that involves losing one quality or aspect of something in return for gaining another quality or aspect.

## UNIT 5

## COMPUTER SOFTWARE

### VOCABULARY AND PRONUNCIATION

#### Exercise 1 Match English terms and Vietnamese translations

English	Vietnamese
1. accessory device	a. phần mềm ứng dụng
2. application software	b. phần mềm
3. compiler	c. tài liệu, tư liệu
4. debugger	d. ngôn ngữ lập trình
5. diagnostic tool	e. môi trường phát triển tích hợp
6. distributed system	f. trình biên dịch
7. documentation	g. phần mềm hệ thống
8. industrial automation	h. phần mềm lập trình
9. integrated development environment (IDE)	i. Tự động hóa công nghiệp
10. programming language	j. hệ thống phân tán
11. programming software	k. trình soạn văn bản
12. software	l. công cụ chuẩn đoán lỗi
13. system software	m. bộ xử lý từ
14. text editor	n. bộ gỡ lỗi, trình gỡ rối
15. word processor	o. thiết bị phụ

#### Exercise 2 T.S 1 Listen and practice

- |                         |                                       |                          |
|-------------------------|---------------------------------------|--------------------------|
| 1. accessory device     | 6. distributed system                 | 11. programming software |
| 2. application software | 7. documentation                      | 12. software             |
| 3. compiler             | 8. industrial automation              | 13. system software      |
| 4. debugger             | 9. integrated development environment | 14. text editor          |
| 5. diagnostic tool      | 10. programming language              | 15. word processor       |

**Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap.**

compiler	industrial automation	system software
Debugger	integrated development environment	text editor
diagnostic tool	programming language	word processor

1. A ..... is any word processing program that you can use to type and edit text.
2. ..... is a program designed to help detect, locate, and correct errors in another program.
3. A ..... is a language made up of instructions.
4. A ..... is a computer application used for the production of any sort of printable material.
5. A ..... is a computer program that translates text written in a computer language into another computer language.

**TS2**

1. A text editor is any word processing program that you can use to type and edit text.
2. Debugger is a program designed to help detect, locate, and correct errors in another program.
3. A programming language is a language made up of instructions.
4. A word processor is a computer application used for the production of any sort of printable material.
5. A compiler is a computer program that translates text written in a computer language into another computer language.

**LISTENING****Exercise 4 Listen to T.S3 and fill in the blanks with the words given**

Application	broader	services	documentation	distributed
Users	software	interface	used	processors

**Computer software**

Computer software, or just (1) ..... is a general term used to describe a collection of computer programs, procedures and (2) ..... that perform some tasks on a computer system. The term includes (3) ..... software such as word (4) ..... which perform productive tasks for (5) ..... , system software

such as operating systems, which (6) ..... with hardware to provide the necessary (7) ..... for application software, and middleware which controls and co-ordinates (8) ..... systems. "Software" is sometimes used in a (9) ..... context to mean anything which is not hardware but which is (10) ..... with hardware, such as film, tapes and records.

## READING

### Types of computer software

Practical computer systems divide software systems into three major classes: system software, programming software and application software, although the distinction is arbitrary, and often blurred.

- a. **System software** helps run the computer hardware and computer system. It includes operating systems, device drivers, diagnostic tools, servers, windowing systems, utilities and more. The purpose of systems software is to insulate the applications programmer as much as possible from the details of the particular computer complex being used, especially memory and other hardware features, and such as accessory devices as communications, printers, readers, displays, keyboards, etc.
- b. **Programming software** usually provides tools to assist a programmer in writing computer programs, and software using different programming languages in a more convenient way. The tools include text editors, compilers, interpreters, linkers, debuggers, and so on. An Integrated development environment (IDE) merges those tools into a software bundle, and a programmer may not need to type multiple commands for compiling, interpreting, debugging, tracing, and etc., because the IDE usually has an advanced graphical user interface, or GUI.
- c. **Application software** allows end users to accomplish one or more specific (non-computer related) tasks. Typical applications include industrial automation, business software, educational software, medical software, databases, and computer games. Businesses are probably the biggest users of application software, but almost every field of human activity now uses some form of application software

#### Exercise 5 Read the following sentences and write the name for each type of software next to the sentence.

S = System software

P = Programming software

A = Application software

1. It is used in industry, business, education, medicine, databases, and computer games.
2. It provides tools to assist a programmer in writing computer programs.
3. It insulates the applications programmer from the details of the particular computer complex being used.
4. It includes operating systems, device drivers, diagnostic tools . . . .
5. It is used in almost every field of human activity.
6. It allows a programmer to use an advanced graphical user interface.
7. It allows end users to accomplish one or more specific non-computer related tasks.
8. It helps run the computer hardware and computer system.

## LANGUAGE WORK

### IN/ FROM/ THROUGH WHICH

Sometimes WHICH can be preceded by a preposition such as in, from, through  
.....

E.g

An anode is an *electrode* electric current flows *through the electrode* into a polarized electrical device.

→ An anode is an electrode **through which** electric current flows into a polarized electrical device.

### Exercise 6 Join the following pair of clauses to make longer sentences

1. A cathode is an *electrode*. Electric current flows *through the electrode* out of a polarized electrical device.
2. Ring network is a *system*. All stations are linked to form a continuous loop or circle *in the system*.
3. Hierarchical network is a telecommunications network. In this telecommunications network a message is passed through nodes or different classes.
4. Computer networks may be classified according to *the network topology*. The network is based *upon the network topology*.
5. Inside the bulb is a filament of tungsten wire. An electric current is passed *through the filament*.

**UNIT 6****OPERATING SYSTEM****VOCABULARY AND PRONUNCIATION****Exercise 1 Match English terms and Vietnamese translations**

<b>English</b>	<b>Vietnamese</b>
1. application program	a. bộ xử lý lệnh
2. command	b. thực hiện, tiến hành
3. command line interpreter	c. thư mục
4. command processor	d. hệ điều hành
5. directory	e. đa xử lý
6. disk drive	f. chương trình ứng dụng
7. display screen	g. lệnh
8. execute	h. đa luồng
9. multiprocessing	i. thời gian thực
10. multitasking	j. bộ diễn dịch dòng lệnh
11. multithreading	k. người dùng không được phép
12. multi-user	l. đa nhiệm vụ
13. operating system	m. đa người dùng
14. real time	n. màn hiển thị, màn hình
15. unauthorized user	o. ố đĩa

**Exercise 2 T.S 1 Listen and practice**

- |                             |                    |                       |
|-----------------------------|--------------------|-----------------------|
| 1. application program      | 6. disk drive      | 11. multithreading    |
| 2. command                  | 7. display screen  | 12. multi-user        |
| 3. command line interpreter | 8. execute         | 13. operating system  |
| 4. command processor        | 9. multiprocessing | 14. real time         |
| 5. directory                | 10. multitasking   | 15. unauthorized user |

### Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap.

disk drive	display screens	multi-user
command	multiprocessing	real time
directories	multitasking	unauthorized user

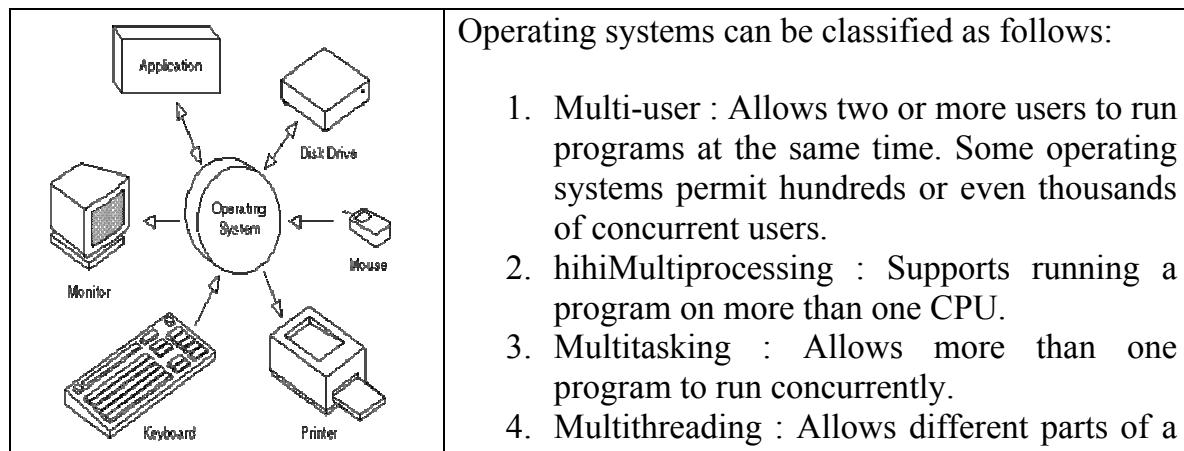
1. A ..... is used to read data from and write data to a disk.
2. Most ..... work under the same principle as a television, using a cathode ray tube.
3. Operating systems use ..... to organize data.
4. A ..... is an instruction given by a user telling a computer to do something.
5. ..... is an application in which information is received and immediately responded to without any time delay.

## READING

### Operating system

Operating system is the most important program that runs on a computer. Every general-purpose computer must have an operating system to run other programs. Operating systems perform basic tasks, such as recognizing input from the keyboard, sending output to the display screen, keeping track of files and directories on the disk, and controlling peripheral devices such as disk drives and printers.

For large systems, the operating system has even greater responsibilities and powers. It is like a traffic cop -- it makes sure that different programs and users running at the same time do not interfere with each other. The operating system is also responsible for *security*, ensuring that unauthorized users do not access the system.



	single program to run concurrently. 5. Real time: Responds to input instantly. General-purpose operating systems, such as DOS and UNIX, are not real-time.
--	---

#### Exercise 4 Are the following sentences true (T) or false (F)?

1. Operating systems recognize input from the keyboard.
2. Operating systems send output to the monitor.
3. Operating systems keep track of files and directories on the peripherals.
4. Operating systems do not control peripheral devices.
5. The operating system has greater responsibilities and powers for small systems.
6. The security function of the operating system ensures that unauthorized users do not access the system.
7. Multi-user allows more than one user to run programs at the same time.
8. Multiprocessing allows more than one program to run concurrently.
9. Multithreading responds to input instantly.
10. Real time allows different parts of a single program to run concurrently.

#### LISTENING

##### Exercise 5: Listen to T.S3 and fill in the blanks with the words given

popular	Files	commands	operating	copying
run	Interfaces	application	clicking	processor

Operating systems provide a software platform on top of which other programs, called (1) ..... programs, can run. The application programs must be written to run on top of a particular (2) ..... system. Your choice of operating system, therefore, determines to a great extent the applications you can (3) ..... For PCs, the most (4) ..... operating systems are DOS, OS/2, and Windows, but others are available, such as Linux.

As a user, you normally interact with the operating system through a set of (5) ..... . For example, the DOS operating system contains commands such as COPY and RENAME for (6) ..... and changing the names of (7) ..... files, respectively. The commands are accepted and executed by a part of the operating system called the command (8) ..... or command line interpreter. Graphical user (9) ..... allow you to enter commands by pointing and (10) ..... at objects that appear on the screen.

## LANGUAGE WORK

### **before/ after/ while + Ving**

We can use **before/ after/ while + Ving** if two clauses have the same subject.

E.g

I cannot play the game even after I insert the DVD.

→ I cannot play the game even after inserting the DVD.

#### **Exercise 6**

Now join the following pairs of clauses

1. Secondary batteries can be charged and discharged many times before they wear out.
2. Before you charge the capacitor, move the switch to the position labeled "dis".
3. some batteries can be recycled after they wear out
4. 3G technologies enable network operators to offer users a wider range of more advanced services while they achieve greater network capacity.
5. The signals are transmitted via a dedicated cable after they are modulated.

**UNIT 7****PROGRAMMING LANGUAGE****VOCABULARY AND PRONUNCIATION****Exercise 1 Match English terms and Vietnamese translations**

<b>English</b>	<b>Vietnamese</b>
1. computation	a. cấu tạo
2. algorithm	b. cấu trúc dữ liệu
3. Target	c. có sử dụng máy điện toán
4. interaction	d. điều khiển
5. PostScript	e. đối tượng
6. construct	f. gắn vào
7. manipulate	g. giải thuật
8. data structure	h. khối vi điều khiển
9. Turing language	i. mối tương tác
10. computational	j. ngôn ngữ biên tập
11. markup language	k. ngôn ngữ chính
12. formal grammar	l. ngôn ngữ đánh dấu
13. embed	m. ngôn ngữ Turing
14. host language	n. ngữ pháp hình thức
15. domain	o. người chưa có kinh nghiệm
16. batch process	p. phần tương tác
17. interactive session	q. postScript
18. scripting language	r. quy trình sản xuất theo đợt
19. expertise	s. siêu máy tính
20. novices	t. sự tinh thông về kỹ năng

- |                      |                 |
|----------------------|-----------------|
| 21. microcontrollers | u. sự tính toán |
| 22. supercomputers   | v. trải qua     |
| 23. undergo          | w. vùng         |

**Exercise 2 T.S 1 Listen and practice**

- |                   |                     |                         |
|-------------------|---------------------|-------------------------|
| 1. computation    | 9. turing languages | 17. interactive session |
| 2. algorithm      | 10. computational   | 18. scripting language  |
| 3. target         | 11. markup language | 19. expertise           |
| 4. interaction    | 12. formal grammars | 20. novices             |
| 5. PostScript     | 13. embed           | 21. microcontrollers    |
| 6. constructs     | 14. host language   | 22. supercomputers      |
| 7. manipulate     | 15. domain          | 23. undergo             |
| 8. data structure | 16. batch process   |                         |

**Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap**

- |                  |                 |                  |
|------------------|-----------------|------------------|
| Turing languages | formal grammars | microcontrollers |
| host language    | computation     | supercomputers   |
| algorithms       | data structures | markup language  |

1. Core libraries typically include definitions for commonly used ..... , data structures, and mechanisms for input and output.
2. The theory of ..... is the branch of computer science that deals with whether and how efficiently problems can be solved on a model of computation.
3. It is difficult to find examples of non-..... , as these languages are usually very limited.
4. By ..... we mean a set of markup conventions used together for encoding texts.
5. Resources for the embedded systems developer include..... , DSP hardware and software, database, online tutorials, suppliers, and designs.

## READING

**Exercise 4** Read the description of four traits of programming language and match them with the right traits.

- A. Expressive power
- B. Target
- C. Function
- D. Constructs

### **Definitions**

Traits often considered important for constituting a programming language:

1. ....: A programming language is a language used to write computer programs, which involve a computer performing some kind of computation or algorithm and possibly control external devices such as printers, robots, and so on.
2. ....: Programming languages differ from natural languages in that natural languages are only used for interaction between people, while programming languages also allow humans to communicate instructions to machines. Some programming languages are used by one device to control another. For example PostScript programs are frequently created by another program to control a computer printer or display.
3. ....: Programming languages may contain constructs for defining and manipulating data structures or controlling the flow of execution.
4. ....: The theory of computation classifies languages by the computations they are capable of expressing. All Turing complete languages can implement the same set of algorithms. ANSI/ISO SQL and Charity are examples of languages that are not Turing complete yet often called programming languages.

Non-computational languages, such as markup languages like HTML or formal grammars like BNF, are usually not considered programming languages. A programming language (which may or may not be Turing complete) may be embedded in these non-computational (host) languages.

## LISTENING

**Exercise 5 T.S 3**

Listen to a short introduction about the usage of Programming language and fill in each gap with ONE suitable word.

### **Usage**

Programming languages differ from most other forms of human expression in that they require a greater .....(1) of precision and completeness. When using

a natural language to communicate with other people, human authors and speakers can be ambiguous and make small errors, and still expect their intent to be .....(2). However, figuratively speaking, computers "do exactly what they are told to do", and cannot "understand" what code the programmer intended to .....(3). The combination of the language definition, a program, and the program's inputs must fully specify the external behavior that occurs when the program is executed, within the .....(4) of control of that program.

Programs for a computer might be executed in a batch process without human interaction, or a user might type commands in an interactive session of an interpreter. In this case the "commands" are simply programs, whose execution is chained together. When a language is used to give commands to a software application (such as a shell) it's called a .....(5) language.

**Exercise 6 T.S 4 Listen to the following passage and decide whether the statements are true or fasle.**

1. Many languages have been designed from scratch, altered to meet new needs, combined with other languages, and eventually fallen into disuse.
2. Although there have been attempts to design one "universal" computer language that serves all purposes, all of them have succeeded to be generally accepted as filling this role.
3. The need for diverse computer languages arises from the diversity of contexts in which languages are used.
4. Programs range from tiny scripts written by individual hobbyists to huge systems written by millions of programmers.
5. Programmers range in expertise from novices who need simplicity above all else, to experts who may be comfortable with considerable simplicity.
6. Programs must balance speed, size, and simplicity on systems ranging from microcontrollers to supercomputers.
7. Programs may be written once and not change for generations, or they may undergo nearly constant modification.
8. Finally, programmers may simply differ in their tastes: they may be accustomed to discussing problems and expressing them in a particular tool.

## LANGUAGE WORK

**Exercise 7 Complete the sentences by finding the missing letters**

1. C.....n is a general term for any type of information processing.
2. I.....n is a kind of action that occurs as two or more objects have an effect upon one another.

3. P.....t (PS) is a dynamically typed concatenative programming language created by John Warnock and Charles Geschke in 1982.
4. In computer science, a data s.....e is a way of storing data in a computer so that it can be used efficiently.
5. In formal semantics, computer science and linguistics, a f.....l grammar (also called formation rules) is a precise description of a formal language – that is, of a set of strings over some alphabet.
6. An e.....d system is a special-purpose computer system designed to perform one or a few dedicated functions,<sup>[1]</sup> often with real-time computing constraints.
7. D.....n is the distinguished part of an abstract or physical space where something exists, is performed, or is valid.
8. B.....h processing is execution of a series of programs ("jobs") on a computer without human interaction.

**UNIT 8****NETWORKS****VOCABULARY AND PRONUNCIATION****Exercise 1 Match English terms and Vietnamese translations**

English	Vietnamese
1. address registry	a. phân cấp
2. administrative entity	b. địa chỉ internet
3. Border Gateway Protocol (BGP)	c. quan điểm, lập trường
4. File Transfer Protocol (FTP)	d. cơ quan quản lý/ quản trị
5. hierarchical	e. giao thức cổng biên
6. Internet Protocol	f. giao thức truyền tập tin
7. intranet	g. mạng sao
8. IP Address	h. biển thẻ
9. mesh network	i. giao thức mạng
10. network topology	j. mạng nội bộ
11. ring network	k. mạng kiểu lưới
12. security	l. an ninh, an toàn
13. standpoint	m. mạng vòng lặp
14. star network	n. nơi đăng ký địa chỉ
15. variant	o. cấu trúc liên kết mạng, tô-pô mạng

**Exercise 2 T.S 1 Listen and practice**

- |                            |                      |                  |
|----------------------------|----------------------|------------------|
| 1. address registry        | 6. Internet Protocol | 11. ring network |
| 2. administrative entity   | 7. intranet          | 12. security     |
| 3. Border Gateway Protocol | 8. IP Address        | 13. standpoint   |
| 4. File Transfer Protocol  | 9. mesh network      | 14. star network |
| 5. hierarchical            | 10. network topology | 15. variant      |

**Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap.**

Border Gateway Protocol

IP Address

Standpoint

File Transfer Protocol

mesh network

star networks

hierarchical

network topology

ring network

1. .... is the arrangement of computers to form a network.
2. .... is a system in which all stations are linked to form a continuous loop or circle.
3. .... is a set of numbers used for a computer or device to acknowledge a website address.
4. .... network is a telecommunications network in which a message is passed through nodes or different classes.
5. .... are one of the most common computer network topologies.

## READING

### **Internet**

Any interconnection among or between public, private, commercial, industrial, or governmental networks may be defined as an internetwork. In modern practice, the interconnected networks use the Internet Protocol. There are at least three variants of internetwork, depending on who administers and who participates in them: intranet, extranet and internet.

### **Intranet**

An **intranet** is a set of interconnected networks, using the Internet Protocol and uses IP-based tools such as web browsers and ftp tools, that is under the control of a single administrative entity. That administrative entity closes the intranet to the rest of the world, and allows only specific users. Most commonly, an intranet is the internal network of a company or other enterprise. A large intranet will typically have its own web server to provide users with browseable information.

### **Extranet**

An **extranet** is a network or internetwork that is limited in scope to a single organization or entity but which also has limited connections to the networks of one or more other usually, but not necessarily, trusted organizations or entities; for example, a company's customers may be given access to some part of its intranet creating in this

way an extranet, while at the same time the customers may not be considered 'trusted' from a security standpoint.

### Internet

A specific internetwork, consisting of a worldwide interconnection of governmental, academic, public, and private networks based upon the Advanced Research Projects Agency Network (ARPANET) developed by ARPA of the U.S. Department of Defense. Participants in the Internet, or their service providers, use IP Addresses obtained from address registries that control assignments. Service providers and large enterprises also exchange information on the reachability of their address ranges through the Border Gateway Protocol (BGP).

#### Exercise 4 Are the following sentences true (T) or false (F)?

1. An internetwork is any interconnection among or between public, private, commercial, industrial, or governmental networks.
2. There may be more than three variants of internetwork.
3. An intranet uses web browsers and ftp tools under the control of many administrative entities.
4. The administrative entity closes the intranet to only specific users.
5. An extranet is limited in scope to a single organization or entity without any connections to other networks.
6. A company's intranet becomes an extranet when its customers are given access to some part of its.
7. With the internet, governmental, academic, public, and private networks all over the world can be interconnected.
8. Address registries provides IP Addresses to participants in the Internet, or their service providers.

### LISTENING

#### Exercise 5: Listen to T.S3 and fill in the blanks with the words given

hierarchical Layout	bus devices	relations topology	term operational	placed star
------------------------	----------------	-----------------------	---------------------	----------------

### Network topology

Computer networks may be classified according to the network (1) ..... upon which the network is based, such as Bus network, (2) ..... network, Ring network, Mesh network, Star-bus network, Tree or (3) ..... topology network, etc.

Network Topology signifies the way in which (4) ..... in the network see their logical (5) ..... to one another. The use of the (6). ..... "logical" here is significant. That is, network topology is independent of the "physical" (7) ..... of the network. Even if networked computers are physically (8) ..... in a linear arrangement, if they are connected via a hub, the network has a Star topology, rather than a (9) ..... Topology. In this regard the visual and (10) ..... characteristics of a network are distinct; the logical network topology is not necessarily the same as the physical layout.

## LANGUAGE WORK

### By + Ving

We use **by + doing** to express method of doing something.

E.g: Secondary batteries can be recharged **by applying** electrical current.

#### Exercise 6 Now choose one of the phrases in the box to complete each sentence.

by taking    by encapsulating    By blocking    by using    by exchanging  
by storing    by loading              By placing    by looking    by running

1. Network providers can offer market-focused service trials ..... service logic in an SCP and triggering capabilities in one or more switching systems.
2. The value of any resistor can easily be told ..... at the coloured bands around its cylindrical body.
3. One diode can be used to rectify AC ..... the negative or positive portion of the waveform.
4. Real capacitors are made ..... thin strips of metal foil and the appropriate dielectric material and sandwiching them together.
5. The voltage-current equations of the two devices can be transformed into one another ..... the voltage and current terms.
6. The general idea behind NGN is that one network transports all information and services ..... these into packets.
7. Secondary batteries can be recharged ..... a charging current through the battery.
8. A p-n junction may be produced ..... a piece of donor-impurity material against the surface of a p-type crystal.
9. An electrical signal can be amplified ..... a device that allows a small current or voltage to control the flow of a much larger current.
10. Battery life can be extended ..... the batteries at a low temperature.

**UNIT 9****INFORMATION SECURITY****VOCABULARY AND PRONUNCIATION****Exercise 1 Match English terms and Vietnamese translations**

<b>English</b>	<b>Vietnamese</b>
1. unauthorized	a. An ninh máy tính
2. disclosure	b. An toàn thông tin
3. disruption	c. Có chủ ý phá hoại
4. modification	d. Có quan hệ với nhau
5. destruction	e. Sự chia rẽ
6. information security	f. Sự giao dịch
7. computer security	g. Sự phá hoại
8. interchangeably	h. Sự phá hoại an ninh
9. interrelated	i. Sự phá sản
10. confidentiality	j. Sự sửa đổi
11. integrity	k. Sự tiết lộ, sự phơi bày
12. availability	l. Thay thế lẫn nhau
13. breach of security	m. Tính bảo mật
14. suit	n. Tính sẵn dùng
15. bankruptcy	o. Tính toàn vẹn
16. transaction	p. Tính toàn vẹn tham chiếu
17. referential integrity	q. Trái phép, không chính đáng
18. malicious intent	r. Vụ kiện
19. vandalize	s. Ý định làm hại

**Exercise 2 T.S 1 Listen and practice**

- |                         |                        |                           |
|-------------------------|------------------------|---------------------------|
| 1. unauthorized         | 8 . interchangeably    | 14. suit                  |
| 2. disclosure           | 9. interrelated        | 15. bankruptcy            |
| 3. disruption           | 10. confidentiality    | 16. transaction           |
| 4. modification         | 11. integrity          | 17. referential integrity |
| 5. destruction          | 12. availability       | 18. malicious intent      |
| 6. information security | 13. breach of security | 19. vandalize             |
| 7. computer security    |                        |                           |

**Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap**

- |              |                      |              |
|--------------|----------------------|--------------|
| unauthorized | information security | bankruptcy   |
| disclosure   | disruption           | availability |
| modification | confidentiality      | integrity    |

1. World War II brought about many advancements in ..... and mark the beginning of the professional field of information security.
2. The design should use "defense in depth", where more than one subsystem needs to be violated to compromise the ..... of the system and the information it holds.
3. Full ..... helps to ensure that when bugs are found the "window of vulnerability" is kept as short as possible.
4. If an unauthorized party obtains the card number in any way, a breach of ..... has occurred.
5. The objective of computer security varies and can include protection of information from theft or corruption, or the preservation of ....., as defined in the security policy.

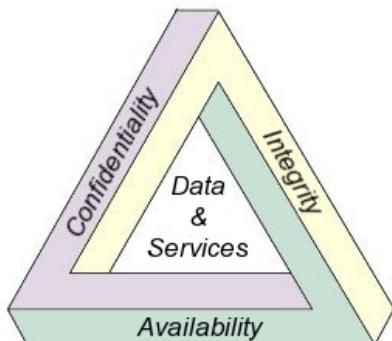
## LISTENING

**Exercise 4 T.S 3 Listen to a short introduction about Information Security and decide whether the following statements are true or false**

1. Information security means protecting information and information systems from authorized access, use, disclosure, disruption, modification, or destruction.
2. The terms information security, computer security and information assurance are not frequently used interchangeably.
3. These fields are interrelated and share the common goals of protecting the confidentiality, integrity and availability of information; however, there are some subtle differences between them.
4. These differences lie primarily in the approach to the subject, the methodologies used, and the areas of concentration. Information security is concerned with the confidentiality, integrity and availability of data regardless of the form the data may take: electronic, print, or other forms.
5. Governments, military, financial institutions, hospitals, and private businesses amass a small amount of confidential information about their employees, customers, products, research, and financial status.
6. Most of this information is now collected, processed and stored on electronic computers and transmitted across networks to other computers.
7. If confidential information about a business's customers or finances or new product line fall into the hands of a competitor, such a breach of security could hardly lead to lost business, law suits or even bankruptcy of the business.
8. Protecting confidential information is a business requirement, and in many cases also an ethical and legal requirement.
9. For the individual, information security has a significant effect on privacy, which is viewed very differently in different cultures.
10. The field of information security has grown and evolved significantly in the last 20 years.
11. As a hobby there are many ways of gaining entry into the field.
12. It offers many areas for specialization including Information Systems Auditing, Business Continuity Planning and Digital Forensics Science, to name a few.

## READING

**Exercise 5 Choose ONE suitable word from the box to fill in the gap**



***Basic principles***

failures

authorization principles

available

confidentiality

disclosure

vandalizes

For over twenty years information security has held that confidentiality, integrity and availability (known as the CIA Triad) are the core .....(1) of information security.

### Confidentiality

Confidentiality is the property of preventing .....(2) of information to unauthorized individuals or systems. For example, a credit card transaction on the Internet requires the credit card number to be transmitted from the buyer to the merchant and from the merchant to a transaction processing network. The system attempts to enforce .....(3) by encrypting the card number during transmission, by limiting the places where it might appear (in databases, log files, backups, printed receipts, and so on), and by restricting access to the places where it is stored. If an unauthorized party obtains the card number in any way, a breach of confidentiality has occurred.

### Integrity

In information security, integrity means that data cannot be modified without .....(4). (This is not the same thing as referential integrity in databases.) Integrity is violated when an employee (accidentally or with malicious intent) deletes important data files, when a computer virus infects a computer, when an employee is able to modify his own salary in a payroll database, when an unauthorized user .....(5) a web site , when someone is able to cast a very large number of votes in an online poll, and so on.

### Availability

For any information system to serve its purpose, the information must be .....(6) when it is needed. This means that the computing systems used to store and process the information, the security controls used to protect it, and the communication channels used to access it must be functioning correctly. High availability systems aim to remain available at all times, preventing service disruptions due to power outages, hardware .....(7), and system upgrades. Ensuring availability also involves preventing denial-of-service attacks.

## LANGUAGE WORK

### Exercise 6 Complete the sentences by finding the missing letters

1. Information security specialists also may refer to a disaster as a d.....n when an event interrupts normal business or technical processes.
2. C.....y has been defined by the International Organization for Standardization (ISO) as "ensuring that information is accessible only to those authorized to have access".
3. I.....y is the concept of basing of one's actions on an internally consistent framework of principles.
4. Due to bad management, the company went b.....t after few months of operation.
5. A database t.....n is a unit of work performed against a database management system or similar system that is treated in a coherent and reliable way independent of others.
6. Referential i.....y in a relational database is consistency between coupled tables.

**UNIT 10****IBM****VOCABULARY AND PRONUNCIATION****Exercise 1 Match English terms and Vietnamese translations**

<b>English</b>	<b>Vietnamese</b>
1. found	a. Bao quanh bằng vòng đai
2. incorporated	b. Chống lại độc quyền
3. dominant	c. có ưu thế hơn, vượt trội
4. mainframe	d. Công nhận
5. pronounced	e. Công ty con
6. antitrust	f. Hậu duệ
7. version	g. Hợp chất hữu cơ dễ bay hơi
8. progenitor	h. Hợp nhất
9. compatible	i. Liên doanh
10. Descendant	j. Máy tính chính
11. announce	k. Người khởi xướng
12. purchase	l. Phát thải
13. joint venture	m. Phiên bản, thế hệ
14. subsidiary	n. rõ ràng
15. environmental problem	o. Sự mua sắm
16. comprehensive	p. Sự năng động
17. dispose	q. Thành lập
18. environmental-friendly material	r. Toàn diện, tổng thể
19. recognize	s. Tương thích
20. <del>guide</del> organic compound	t. Vật liệu môi trường

22. dynamism

v. Vật liệu thân thiện với môi trường

**Exercise 2 T.S 1 Listen and practice**

- |                 |                           |                                     |
|-----------------|---------------------------|-------------------------------------|
| 1. found        | 9. compatible             | 17. dispose                         |
| 2. incorporated | 10. descendant            | 18. environmental-friendly material |
| 3. dominant     | 11. announce              | 19. recognize                       |
| 4. mainframe    | 12. purchase              | 20. volatile organic compound       |
| 5. pronounced   | 13. joint venture         | 21. girdle                          |
| 6. antitrust    | 14. subsidiary            | 22. dynamism                        |
| 7. version      | 15. environmental problem |                                     |
| 8. progenitor   | 16. comprehensive         |                                     |

**Exercise 3 T.S 2 Listen and complete the sentences by selecting the correct word from the box to fill in the gap**

environmental problems	purchase	progenitor
subsidiary	founded	mainframe
antitrust	announce	descendants

1. This company was ..... in 1956.
2. News and background from government bureau responsible for ..... enforcement.
3. IBM has a long history of dealing with its .....
4. ..... of the IBM PC compatibles make up the majority of microcomputers on the market today.
5. ..... International Research GmbH is a niche provider of drug development services in emerging market regions.

**READING**

**Exercise 4 Read the passage about the History of IBM company and decide whether the following statements are true or false*****History***

The company which became IBM was founded in 1896 as the Tabulating Machine Company by Herman Hollerith, in Broome County, New York. It was incorporated as Computing Tabulating Recording Corporation (CTR) on June 16, 1911, and was listed on the New York Stock Exchange in 1916. IBM adopted its current name in 1924, when it became a Fortune 500 company.

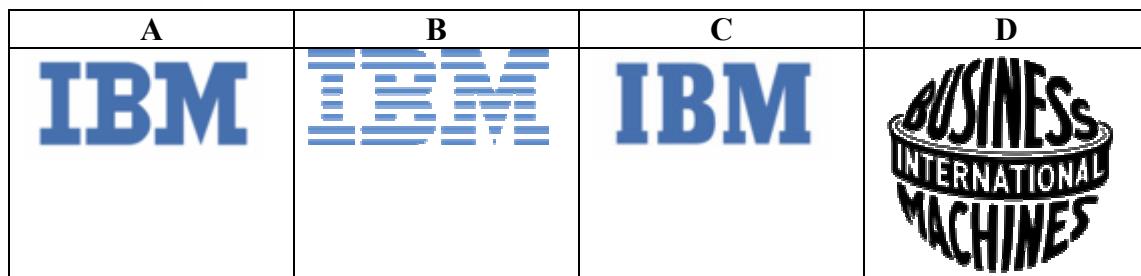
In the 1950s, IBM became the dominant vendor in the emerging computer industry with the release of the IBM 701 and other models in the IBM 700/7000 series of mainframes. The company's dominance became even more pronounced in the 1960s and 1970s with the IBM System/360 and IBM System/370 mainframes, however antitrust actions by the United States Department of Justice, the rise of minicomputer companies like Digital Equipment Corporation and Data General, and the introduction of the microprocessor all contributed to dilution of IBM's position in the industry, eventually leading the company to diversify into other areas including personal computers, software, and services.

In 1981 IBM introduced the IBM Personal Computer which is the original version and progenitor of the IBM PC compatible hardware platform. Descendants of the IBM PC compatibles make up the majority of microcomputers on the market today. IBM sold its PC division to the Chinese company Lenovo on May 1, 2005 for \$655 million in cash and \$600 million in Lenovo stock.

On January 25, 2007, Ricoh announced purchase of IBM Printing Systems Division for \$725 million and investment in 3-year joint venture to form a new Ricoh subsidiary, InfoPrint Solutions Company; Ricoh will own a 51% share, and IBM will own a 49% share in *InfoPrint*.

1. IBM was founded in the 18<sup>th</sup> century.
2. IBM got its present name in 1911.
3. IBM introduced the IBM 701 to the market in mid-twentieth century.
4. IBM was established with the initial plan to do business on personal computers, software, and services.
5. IBM set the ground for the PC compatible platform on the market today.

**Exercise 5 Match the description and the logos**



1	2	3	4
The logo that was used from 1924 to 1946. The logo is in a form intended to suggest a globe, girdled by the word "International".	The logo that was used from 1947 to 1956. The familiar "globe" was replaced with the simple letters "IBM" in a typeface called "Beton Bold."	The logo that was used from 1956 to 1972. The letters "IBM" took on a more solid, grounded and balanced appearance.	In 1972, the horizontal stripes now replaced the solid letters to suggest "speed and dynamism." This logo (in two versions, 8-bar and 13-bar), as well as the previous one, was designed by graphic designer Paul Rand.

## LISTENING

**Exercise 6 T.S 3** Listen to a short talk about Environment record of IBM and fill in each gap with ONE suitable word

### *Environmental record*

IBM has a long history of dealing with its .....(1) problems. It established a corporate policy on environmental protection in 1971, with the support of a comprehensive global environmental management .....(2). IBM's total hazardous waste calculation consists of waste from both non-manufacturing and manufacturing operations. Waste from manufacturing .....(3) includes waste recycled in closed-loop systems where process chemicals are recovered and for subsequent reuse, rather than just disposing and using new chemical materials. Over the years, IBM has redesigned processes to eliminate almost all closed loop recycling and now uses more environmental-friendly .....(4) in their place.

IBM was recognized as one of the "Top 20 Best Workplaces for Commuters" by the U.S. Environmental Protection Agency (EPA) in 2005. This was to

.....(5) the Fortune 500 companies that provided their employees with excellent commuter benefits that helped reduce traffic and air pollution.

However, the birthplace of IBM, Endicott, suffered IBM's .....(6) for decades. IBM used liquid cleaning agents in its circuit board assembly operation for more than two decades, and six spills and leaks incidents were recorded, including one 1979 leak of 4,100 gallons from an underground tank. These left behind volatile .....(7) compounds in the town's soil and aquifer. Also, from 1980, IBM has pumped out 78,000 gallons of chemicals, including trichloroethane, Freon, benzene and perchloroethene to the air and allegedly caused several cancer cases among the villagers. IBM Endicott has been identified by the Department of Environmental Conservation as the major .....(8) of pollution, though traces of contaminants from a local dry cleaner and other polluters were also found. Despite the amount of pollutant, state health officials cannot say whether air or water pollution in Endicott has actually caused any health .....(9). Village officials say tests show that the water is safe to drink.

## LANGUAGE WORK

### Exercise 7 Complete the sentences by finding the missing letters

1. M.....s are computers used mainly by large organizations for critical applications.
2. A v.....n can mean a particular form or variant of something.
3. A family of computer models is said to be c.....e if certain software that runs on one of the models can also be run on all other models of the family.
4. The term d.....t may refer to a type of object that developed from another object existing before it.
5. A joint v.....e (often abbreviated JV) is an entity formed between two or more parties to undertake economic activity together.
6. A s.....y, in business matters, is an entity that is controlled by a bigger and more powerful entity.

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