GIÁO TRÌNH

Anh văn chuyên ngành

Nghề: Kỹ thuật sửa chữa, lắp ráp máy tính

TRÌNH ĐỘ TRUNG CẤP

LỜI GIỚI THIỆU

Để đáp ứng yêu cầu giảng dạy chương trình đào tạo nghề "Kỹ thuật sửa chữa, lắp ráp máy tính" cũng như việc cung cấp tài liệu giúp cho sinh viên học tập, khoa Điện tử chúng tôi đã tiến hành biên soạn giáo trình "Anh văn chuyên ngành"

Giáo trình này giúp các bạn có thêm kỹ năng:

- Thiết kế sơ đồ nguyên lý mạch điện theo các yêu cầu kỹ thuật

- Thiết kế sơ đồ mạch in theo sơ đồ nguyên lý

- Mô phỏng các mạch điện cơ bản và nâng cao

Đây là công trình được viết bởi đội ngũ giáo viên đã và đang công tác tại trường TCN KTCN Hùng Vương cùng với sự góp ý và phản biện của các doanh nghiệp trong lĩnh vực liên quan, tuy vậy, cuốn sách chắc chắn vẫn không tránh khỏi những khiếm khuyết. Chúng tôi mong nhận được ý kiến đóng góp của bạn đọc để cuốn sách được hoàn thiện hơn trong lần tái bản.

Xin trân trọng giới thiệu cùng bạn đọc!

Quận 5, ngày   tháng   năm 20 13
Biên soạn
Đoàn Thị Thanh Trân

MỤC LỤC

GIỚI THIỆU VỀ MÔ ĐUN

Vị trí, tính chất của mô đun

* Vị trí môn học: Là môn học cơ sở; được bố trí ở học kỳ II; học sau môn Ngoại ngữ.

* Tính chất môn học: Kiểm tra.

Mục tiêu của mô đun

** Kiến thức chuyên môn:

* Hiểu biết cấu trúc của máy tính và các chức năng của nó để có thể mua máy tính tại cửa hàng kinh doanh máy tính.

* Nắm được vốn từ vựng và ngữ pháp cơ bản của chuyên ngành.

** Kỹ năng nghề:

* Đọc hiểu, dịch các tài liệu tiếng Anh chuyên ngành.

* Trình bày và thảo luận các chủ đề chuyên ngành của mình.

** Thái độ lao động:

* Nghiêm túc và tự giác trong học tập.

** Các kỹ năng cần thiết khác:

* Học sinh biết tự nghiên cứu thêm nội dung có liên quan nội dung môn học này.

Nội dung của mô đun

1. Section 1: Computers today computer
2. Section 2: Input/output device
3. Section 3: Storage devices
4. Section 4: Basic software
5. Section 5: Creative oftware graphics and design
6. Section 6: Programing
7. Section 7: Computer tomorrow lans and wans

Section 1: Computers today computer applications

(Điền tên chương/bài):............... Mã chương/ bài:.........................

Topic 1.1: Computer Applications

Vocabulary:

Computer- aided design (CAD)(n):	Phần mềm thiết kế và vẽ bằng máy tính
Workstation (n):	Máy trạm, trạm làm việc
Timing system	Hệ thống tính giờ
(n): Real time(n):	Thời gian thực
Drug- detecting test	Kiểm tra dopping
(n): Transaction(n):	Giao dịch
Automatic cash	Máy rút tiền tự động
dispenser(n): Inventory(n):	Bảng kiểm kê
Interact(n)	Tương tác
:	Vật dụng
Gadget(n):	Phần mềm sản xuất hỗ trợ bằng máy

I. Match the pictures

A. Computers have many applications in a great variety of fields. Look at these photographs of different situations and match them with texts 1 to 4 below.

1. Airline pilot use computers to help them control the plane. For example, monitors display data about fuel consumption, and weather conditions. In airport control towers, computers are used to manage radar systems, and regulate air traffic.

2. Computers can help students perform mathematical operations and solve difficult questions. They can be used to teach courses such as computer-aided design, language learning, programming, mathematics, etc.

3. Computer is used with laser and barcode technology to scan the price of each item and present total at a supermarket.

4. Banks use computers to look after their customers' money. They also control the automatic cash dispensers which, by the use of a personal coded card, dispense money to clients.

B. Match these titles with the pictures

Using an automatic cash dispenser

In education, computers can make all the difference

Scanning the price of each item and present total at a supermarket

Controlling the plane

C. Match the places in column A with the computer uses in column B

A	B
Banks	Provide information and entertainment
Factories	Look after,patient records and medicines
Homes	Calculate the bill
Hospitals	Control machines
Shops	Control our money

Now use the above words and phrases to fill the gaps in this paragraph about computer uses.

Computer are now part of our everyday life. In shop, they ….. In factories, they…….. In …….., they look after, patient records and medicines. When we have bank account, a computer………. In our homes computers……..

D. Look at text 1 again and discuss these questions.

1. How are/were computers used in your school?

2. What other areas of study would benefit from the introduction of computers?

For example:

In my school, computers are used to speed up the process of looking for references in the library.

II.   Language work: The passive

Passives are very common in technical writing where we are more interested in facts, processes, and events than in people. We form the passive by using the appropriate tense of the verb 'to be' followed by the past participle of the verb we are using.

For example:

Active:

1. We sell computers. (simple present)
2. Babbage invented "The Analytical Engine". (Simple past)

Passive

1. Computers **are sold**. (simple present)
2. "The Analytical Engine" **was invented** in 1830. (Simple past)

Facts and processes

When we write or talk about facts or processes that occur regularly, we use the present passive.

Examples:

1. Data is transferred from the internal memory to the arithmetic-logical unit along channels known as buses.
2. The other users are automatically denied access to that record.
3. Distributed systems are built using networked computers.

A. Read the text below, which describes the insurance company's procedure of dealing with PC-user' problems. Fill in the gaps using the correct form of the verb in brackets.

All car[1]...........(register) by the Help Desk staff. Each call [2] ....(evaluate) and then [3].........(allocate) to the relevant suppurt group. If a visit [4].........(require), the user [5] (contact) by telephone, and an appointment [6]..............(arrange). Most calls [7]............(deal with) within one working day. In the event of a major problem requiring the removal of a user's PC, a replacement can usually [8].........(supply).

B. Fill in the gaps in the following sentences using the appropriate form of the verb in brackets.

1. The part of the processor which controls data transfers between the various input and output devices.............(call) the control unit.
2. An operating system............(store) on disk.
3. Instructions written in a high-level language.............(transform).
4. In the star configuration, all processing and control functions............ (perform) by the central computer.
5. When a document arrives in the mail room, the envelope.............(open) by a machine.

Events

When we write or talk about past events, we use the past passive. Let us look at some examples.

Example:

1. COBOL was first introduced in 1959.
2. Microsoft was founded on the basis of the development of MS/DOS.
3. The organization was created to promote the use of computers in education.

C. Fill in the gaps in the following sentences using the appropriate form of the verb in brackets.

1. Microsoft ....(found) by Bill Gate.
2. C language ....(develop) in the 1970s.
3. In the 1980s, at least 100,000 LANs ....(set up) in laboratories and offices around the world.
4. The first digital computer...............(build) by the University of Pennsylvania in 1946.
5. IBM's decision not to continue manufacturing mainframes...........(reverse) the year after it ....(take).

III. Reading

A. **Write a list of as many uses of the computer, or computer applications, as you can think of.**

B. **Now read the text below and underline any applications that are not in your list.**

What can computers do?

Computers and microchips have become part of our everyday lives: we visit shops and offices which have been designed with the help of computers, we read magazines which have been produced on computer, and we pay bills prepared by computers.

What makes your computer such a miraculous device? Each time you turn it on, with appropriate hardware and software, it is capable of doing anything you ask. It is a calculationg machine that speeds up financial calculations. It is an electronic filing cabinet which manages large collections of data such as customers' list, account, or inventories. It is a magical typewriter that allows you to type and print any kind of document- letters, memos, or legal documents. It is a personal communicator that enables you to interact with other computers and with people around the world. IF you like gadgets and electronic entertainment, you can even use your PC to relax with computer games.

IV. Other applications

A. **In small groups, choose one of the areas in the diagram below anddiscuss what computers can do in this area. Useful words:**

Formula 1: *racing car, car body, design, mechanical parts, electronic components, engine speed*

Entertainment: game, music, animated image, multimedia, encyclopedia Factories:*machinery, robot, production line, computer-aided manufacturing software.*

Hopital*: patients, medical personel, database program, records, scanner, diagnose, disease, robot, surgery.*

Useful constructions

Computer are used to...A PC can also be used for... Computers can help...make...control...store...keep...provide...manage...give...perform... measure...provide access to...

B. *Now write a short paragraph summarizing your discusstion. Then ask one person from your group to give a summary of the group's ideas to the rest of the class.*

Examples

In business, computers are used for financial planning, accounting, and specific calculations.

In the office, computer are used to write leetter and keep records of clients, suppliers, and employees

Topic1.2 : Configuration

Vocabulary	
Accept(v)	Chấp nhận, tiếp nhận
Process(v)	Xư lý
Instruction(n)	Lệnh, chỉ dẫn,
Main memory(n)	Bộ nhớ chính
Peripheral device (n)	Thiết bị ngoại vi
Central processing unit(n) Storage device(n)	Bộ xử lý trung tâm Thiết bị lưu trữ
Input device(n)	Thiết bị đầu vào
Monitor(n)	Màn hình
Modem(n)	Bộ điều chế, mô đem

I.Warm- up

In pairs, label the elements of this computer system. Then read match the number with the suitable name below.

II. Reading

A. Read the text and study the diagram below

What is a computer?

Computer is an electronic device that store, retrieves, and processes data, and can be programmed with instruction. A computer is composed of hardware and software, and can exist in a variety of sizes and configurations.

Information in the form of data and programs is known as **software**, and the electronic and mechanical parts that make up a computer system are called **hardware** . A standard computer system consists of three main sections: the central processing unit(CPU) , the main memory, and the peripherals.

Perhaps the most influential; component is the **central processing unit** . Its function is to execute program instructions and coordinate the activities of all the other units. In a way, it is the brain ò the computer.

The **main memory** holds the instructions and data which are currently being processed by the CPU.

The **peripherals** are the physical; units attached to the computer. They include attached to the computer. They include storage devices and input/output devices.

Storage devices (floppy, hard or optical disks) provide a permanent storage of both data and programs. **Disk drives** are used to handle one or more floppy disks. **Input devices** enable data to go into the computer's

memory. The most common input devices are the **mouse** and the keyboard. **Output devices** enable us to extract the finished product from the system. For example, the computer shows the output on the **monitor** or prints the results onto paper by means of a **printer.**

These are the main physical units of a computer system, generally known as the **configuration.**

B. Use the information in the text and the diagram to help you match the terms in the box with the appropriate explanation or definition below.

A software   B. peripheral devices   C. monitor   D. floppy disk

E hardware   F. input   G. port   H. output

1. The brain of the computer.
2. Physical parts that make up a computer system
3. Programs which can be used on a particular computer system. 4. The information which is presented to the computer.
5. Results produced by a computer.
6. Hardware equipment attached to the CPU. 7. Visual display unit.
8. Small device used to store information
9. Any socket or channel in a computer system into which an input/output device may be connected.

III. Language work: Contextual reference

Transitional markers are words used to link ideas together so that the text is easier to read. When pronouns such *as it, they, them, I, he, she, which, who, whose, that, such, one,* and demonstrative adjectives such as *this, that, these, and those* are used as transitional markers, they refer to a word, or words mentioned earlier in the sentence or paragraph. Their function is to take your thoughts back to something that has already been mentioned. Other words which are often used to refer backwards are *the former, the latter, the first, second, etc., the last.*

Sample paragraph:

A computer like any other machine is used because it does certain jobs better and more efficiently than any human. The speed at which a computer works means it can replace weeks or even months of pencil-and – paper work. Therefore, computers are used when the time saved offsets their cost, which is one of the many reasons they are used so much in business, industry, and research.

Using the sample paragraph as a model, draw a circle around he word, or words, that the words in rectangles refer to. Then, join the ⭘ and ☐ the with arrow.

Modern accounting firms use spreadsheet software to do complicated calculations. They can provide their clients with an up-to-date report whenever it is needed. This software has many functions and can be integrated with other software. The spreadsheet's basic component is a cell. This may contain a formula which performs a mathematical operation. It could also contain a label or data. The former describes the information on the worksheet. The latter is the information itself.

The worksheet is the basic work area of a spreadsheet program. It is made up of cells arranged in rows and columns. The number of these varies depending on the software you are using. You can change the width and format of cells. Such parameters are usually quite easy to changes with just a few keystrokes.

IV. Read and guess
1. A 'Point and click here for power'
   B 'Obeys every impulse as if it were an extension of your hand'
2. A 'Displays your ideas with perfect brilliance'
   B 'See the difference-sharp images and a fantastic range of colors'
3. A 'I love this drive. It's quite and fast'
   B 'With this, it's easy to back up your data before it's too late.'
4. A 'Power and speed on the inside'
   B ' Let your computer's brain do the work '
5. A '...a big impact on the production of text and graphics' B ' Your choice: a laser powerhouse '

V. Follow –up: Minis and Micros

Complete the text below with the words in the box.

System	memory	terminal	desktop	CAD	applications	task

The first microcomputers, also known as (1)............... PCs, were for single users only, and this clearly distinguished them from minicomputers. Another important difference was that 'minis' were much more powerful than 'micro': they could execute more than one (2) .... and workstations. However, modern microcomputers have operation (4)............. and network facilities that can support many simultaneous users. Today, most personal computers have enough (5)......... to be used for word processing and business (6) .... Some PCs can even handle multitasking and (7) .... applications. As a result, the division between 'minis' and 'micro' is now disappearing.

Topic 1.3: Inside the system.

Integrated	Mạch tích hợp,
circuit(n)	IC
Execute(v)	Xử lý, thực thi
Control unit (n)	Đơn vị điều
Arithmetic logic unit	khiển
(ALU)(n) Register(n)	Đơn vị logic số
Keep track of(v)	học
Internal memory	Thanh ghi
Expansion	Theo dõi
slot(n) Pulse(n)	Bộ nhớ trong
Emit(v)	Khe cắm mở
Platform(n)	rộng
Sequential(adj	Xung
) Location(n)	Bức xạ
Capacity(n)	Một kiểu hệ
Single in-line memory	thống máy tính
module (SIMM)(n)	(nền)
Designate	Trình tự

I. **Warm-up**

   A. **Read the advertisement and translate the technical specifications into your own language**

   B.**Try to answer these questions. (If necessary look at the Glossary)** 1. What is the main function of a microprocessor? 2. What unit of frequency is used to measure processor speed? 3. What does 'RAM' stand for?

II. **Reading:**

   A. **Read the text below and then sentences 1 to 8 that follow. Decide if the sentences are the true (T) or false (F), and rewrite the false ones to make them true.**

   What's inside a microcomputer?

   The nerve centre of a microcomputer is the central processing unit or CPU. This unit is built into a single microprocessor chip – an integrated circuit – **Which** executes program instructions and supervise the computer's overall operation. The unit consists of three main parts:

   i. The **control unit,** which examines the instructions in the user's program, interprets each instruction and causes the circuits and the rest of the components- disk drives, monitor, etc. – to be activated to execute the functions specified;

   ii. **The arithmetic logic unit** (ALU), which performs mathematical calculations (+,-, etc) and logical operations (and, or, etc);

   iii. **the registers,** which are high-speed units of memory used to store and control information. One of these registers is the program counter (PC)

which keeps track of the next instruction to be performed in the main memory. Another is the instruction register (IR) which holds the instruction **that is** currently being executed.

One area where microprocessors differ is in the amount of data- the number of bits- **they** can work with at a time. There are 8, 16, 32 and 64- bit processors are able to address 4 billion times more information than a 32 –bit system (see Fig.1)

The programs and data which pass through the central processor must be loaded into the **main memory**(also called the **internal memory**) in order to be processed

Thus, when the user runs an application, the microprocessor looks for it on secondary storage devices (disks) and transfers a copy of the application into the RAM area. RAM (random access memory) is temporary, i.e. Its information is lost when the computer is turned off. However, the ROM section (read only memory) is permanent and contains instructions needed by the processor.

Most of today's computers have internal **expansion slots that** allow users to install adapters or expansion boards. Popular adapters include high-resolution graphics boards, memory expansion boards and internal modems .

The power and performance of a computer is partly determined by the speed of its microprocessor. A clock provides pulses at fixed intervals to measured in MHz (megahertz) and refers to the frequency at which pulses are emitted.

For example, a CPU running at 500 MHz (500 million cycles per second) is likely to provide a very fast processing rate and will enable the computer to handle the most demanding applications.

The new generation of processors. Figure 1 shows the 600 MHz Alpha microprocessor from Digital, with a 64- bit RISC implementation (Reduced Instruction Set Computing) architecture, providing lightning-	*Figure1*	Other popular platforms are: ❑ Intel's Pentium ❑ Apple, IBM, and Motorola's Power PC ❑ Sun' Super SPARC Silicon Graphics/Mips R10000 and R5000
fastperformance.		

1.The CPU directs and coordinates the activities taking place within the computer system

2. The arithmetic logic unit performs calculations on the data.

3. 32 –bit processors can handle more information than 64- bit processors.

4. A chip is an electronic device composed of silicon elements containing a set of integrated circuits.

5. RAM, ROM , and secondary storage are the components of the main memory.

6. Information cannot be processed by the microprocessor if it is not loaded into the main memory.

7. 'Permanent' storage of information is provided by RAM (random access memory).

8. The speed of the microprocessor is measured in megahertz. One MHz is equivalent to one million cycles per second.

B. **Contextual reference. What do the words in bold and *italics* print refer to?**

1. .. **Which** executes program instructions and supervises...

2. ... the instruction **that** is currently being executed.

3. ... the amount of data – the number of bits – **they** can work with at a time.

4. ... the microprocessor looks for **it** on.

5. ... **Its** information is lost when the computer is turned off.

6. ... expansion slots **that** allow users to install adapters or expansion boards.

III. **Language work: relative clauses A.**
Study these sentences:

1. The microprocessor is a chip.

2. The chip processes the information provided by the software. Both these sentences refer to chip . We can link them by making sentence 2 becomes **'Which'**. Study these other pairs of sentences and note how they are linked

3. The teacher has just arrived.

4. The teacher is responsible for the computer centre.

3+4: The teacher *who is responsible for the computer centre* has just arrived.

B. Now link these sentences. Make the second sentence is each pair a relative clause.

1. The microprocessor coordinates the activities. These activities take place in the computer system.

2. Last night I met someone. He works for GM as a computer programmer.

3. A co-processor is silicon chip. The chip carries out mathematical operation at a very high speed.

4. A megahertz is a unit of frequency. The unit is used to measure processor speed.

5. A password is a secret word. The word must be entered before access is given to a computer system.

6. A gateway is a device. The device is used to interconnect different types of networks.

7. Here's the floppy disk. You lent me the disk.

8. A USB port is a gateway. The gateway is used to connect all kind of external devices to your computer.

9. Virus is a destructive software. This software cause damage to the data, the information or the hardware of the computer.

IV. Reading

A. Read the text and complete it with the phrases in the box.

a. All the information stored in the RAM is temporary.
b. Microcomputers make use of two types of main memory.
c. ROM chips have 'constant' information
d. The size of RAM is very important

Main memory: RAM and ROM

The main memory of a computer is also called the 'immediate access store', as distinct from any storage memory available on disks. (1).......: RAM and ROM, both contained in electronic chips connected to the main board of the computer.

RAM stands for 'random access memory' and is the working area of the computer, that is, the basic location where the microprocessor stores the required information. It is called 'random access' because the processor can find information in any cell or memory address with equal speed, instead of looking for the data in sequential order.

(2)··.........., so it is lost when the machine is turned off. Therefore, if we want to use this information later on, we have to save it and store it on a disk. When running an application, the microprocessor finds its location in the storage device (the floppy or hard disk) and transfers a temporary copy of the application to the RAM area. Consequently,(3)........... If we want to increase the performance of a computer when several applications are open at the same time or when a document is very complex.

The RAM capacity can sometimes be expanded by adding extra chips. These are usually contained in single in-line memory modules or SIMMs, which are installed in the motherboard of the computer.

We can designate a certain amount of RAM space as a cache in order to store information that an application uses repeatedly. A RAM cache may speed up our work, but it means that we need enough internal memory or a special cache card.

ROM is an acronym for 'read only memory', which implies that the

processor can read and use the information stored in the ROM chip, but cannot put information into it. (4)................including instructions and routines for the basic operations of the CPU. These instructions are used to start up the computer, to read the information from the keyboard, to send characters to the screen, etc. They cannot changed and are not erased when the power is turned off. For this reason, the ROM section is also referred to as **firmware.**

B. As we have seen, there are three types of memory used by computers: RAM, ROM and secondary storage. Look through this list of features and decide which type of memory they refer to.

1. Any section of the main memory can be read with equal speed and ease.
2. It is available in magnetic, optical and video disks.
3. A certain amount of this memory can be designated as 'cache' memory to store information in applications that are used very frequently.
4. It stores basic operating instructions, needed by the CPU to function correctly.
5. Memory which can be expanded by adding SIMMs of 8 MB, 16 MB, 32MB, or other major increments.
6. Information is permanent and cannot be deleted.
7. You can save and store your documents and applications.

V. **Vocabulary quiz**

In groups of three, write answers to these questions. The winners are the ground that answers the most questions correctly in four minutes.

1. What are the main parts of the CPU? 2. What is RAM?
3. What memory section is also known as 'firmware'?
4. What information is lost when the computer is switched off?
5. What is the typical unit used to measure RAM memory and storage memory?
6. What is the meaning of the acronym SIMM?
7. What is a megahertz?
8. What is the ALU? What does it do?
9. What is the abbreviation for 'binary digit'?
10. How can we store data and programs permanently?

VI. **Your ideal computer system.**

A. Make notes about the features of the computer that you would like to have

CPU: .... Speed: .... Optical drives:............
Minimum/ maximum RAM: ....Monitor:............... Hard disk:................... Software:..................

B. Now describe it to your partner. Useful expressions:

It has got.......
It's very fast. It runs at...
The standard RAM memory

.... And it is expandable.

The hard disk can hold ....

I need a Super VGA monitor because.... As for the Internet....

Topic 1.4: Bits and bytes

Vocabulary	
Binary notation(n)	Biểu diễn nhị phân
Representation(n)	Diễn đạt, biểu thị
) Figure (n)	Số liệu, biểu thị
Equivalent(adj)	Tương đương
Pixel(n)	Điểm ảnh
Refresh(v)	Làm tươi
Buffer(n)	Bộ đệm
Monochrome(n)	Đơn sắc
Color palette (n)	Bảng màu
Graphics	Bộ thích ứng đồ hoạ

I. Reading

A. With a partner, try to answer these questions.

1. How many digits does a binary system use? What is a 'bit'?

2. What is the difference between binary notation and the decimal system? Give some examples.

3. What is a collection of eight bits called?

4. One kilobyte (1K) equals 1,024 bytes. Can you work out the value of these units?

1 megabyte = ...bytes/1,024 kilobytes   1 gigabyte = ...bytes/1,024 megabytes (kilo- : one thousand)

(mega- : one million)

(giga- : one thousand million)

5. What does the acronym ' ASCII' stand for?

What is the purpose of this code?

B. Now read the text to check your answers or to find the correct answer. Units of memory

Bits- basic units of memory

Information is processed and stored in computers as electrical signals. A computer contains thousands of electronic circuits connected by swiches that can only be in one of two possible states: ON (the current is flowing though the wire) or OFF (the current is not flowing through the wire). To represent these two conditions we use **binary notation** in which 1 means ON and 0 means OFF. This is the only way a computer can 'understand'

anything. Everything about computers is based upon this binary process. Each 1 or 0 is called a **binary digit or bit.**

Bytes and characters

1s and 0s are grouped into eight- digit codes that typically represent characters (letter, numbers, and symbols). Eight bits together are called a **byte.** Thus, each character in a keyboard has its own arrangement of eight bits. For example, 01000001 for the letter A, 01000010 for B and 01000011 for C.

The ASCII code

The majority of computers use a standard system of the binary represent characters (letters, numbers, and symbols). This is the American Standard Code for information Interchange, known popularly as 'ASCII' (pronounced 'ask-key'). There are 256 different ways of combining 0 and 1 in a byte. Therefore, they can give us 256 different signals. However, the ASCII code only uses 128 bytes to representations. What makes this system powerful is that these codes are standard.

Kilobytes, megabytes, and gigabytes.

In order to avoid astronomical figures and sums in the calculation of bytes, we use units such as kilobytes, megabytes, gigabytes. One kilobyte is 1,024 bytes (2^{10}) and it is represented as KB, or more informally as K. One megabyte is equivalent to 1,024 KB, and one gigabyte is 1,024 MB.

We use these units (KB, MB and GB) to describe the RAM memory, the storage capacity of disks and the size of any application or document.

C. **Look at the illustrations and the captions below. Then fill in the blanks with the correct unit of memory.**

1. One ……….. represents one character.	2. One…………. Represents 1,024 characters (about a small page of text)	3. One……….. represents 1,000,000 characters (about the text	4. one …………. Represents 1,000,000,000 characters (about 1000

II. Language Work

Word formation: Prefixes

When you are reading, you will come across unfamiliar words. It is often possible to guess the meaning of these words if you understand the way words in English are generally formed.

An English word can be divided into three parts: a prefix, a stem, and a suffix. Pre –mean 'before'. A prefix, therefore, is what comes before the stem. Consider, as an example, the prefix de-(meaning 'reduce' or 'reverse') in a word like 'demagnetize' (meaning 'to deprive of magnetism'). A suffix is

what is attached to the end of the stem. Consider, as an example, the suffix –er (meaning 'someone who') in 'programmer' (' a person who programs'). Suffixes change the word from one part of speech to another. For example , -ly added to the adjective 'quick' gives the adverb 'quickly'. Prefixes, on the other hand, usually change the meaning of the word. For example, un-changes a word to the negative. 'Unmagnetizable' means 'not capable of being magnetized'.

A. **Study these tables. Try to find additional examples, using your dictionary if necessary.**

1. **Negative and positive prefixes:**

	Prefix	Meaning	Example
Negative	Un - In- Im -il- ir-		Unmagnetize d Incomplete Impossible Illegal Irregular, irrelevant Non-
	mi s- dis - ant	Bad, wrong Opposite feeling Opposite action Against Reduce, reverse Too little	Misdirect Disagree Disconnect Antiglare Demagnetize, decode

2. **Prefixes of size**

	Prefix	Meaning	Example
	Semi- Equi- Mini- Micro - Macro	Half, partly Equal Small Very small Large	Semiconductor Equidistant Minicomputer Microcomputer Macroeconomic s Megabyte

3. **Prefixes of time and order**

	Prefix	Meaning	Example
	Ante- Pre- Prime -Post- Retro	Before First After	Anteceden t Prefix Primary, primitive Postdated

4. Prefixes of location

	Prefix	Meaning	Example
	Inter-	Between,	Interface,
	Super	among Over	interactive
	-	Across	Supersonic
	Trans	Out	Transmit, transfer
	-Ex-	Beyond	Exclude, extrinsic
	Extra	Under	Extraordinary
	-Sub-	Below	Subschema
	Infra	Around	Infra-red

5. Prefixes of

	Prefix	Meaning	Example
	Semi-	Half	Semicircle
	mono	One	Monochromati

	Bi-	Two	Binary
	Tri-	Three	Triangle
	Quad-	Four	Quadruple
	Penta-	Five	Pentagon
	Hex-	Six	Hexadecima
	Sept(em)-	Seven	1 September
	Oct-	Eight	Octal
	Dec-	Ten	Decimal
	Multi-	Many	Multiplexor

6. Other prefix

	Prefix	Meaning	Example
	Pro-	Before, in advance Forward	Program Progress
	Auto	Self	Automatic
	-Co-		Co-
	Con-	Together, with	ordinate Connect

B. Read the following sentences and circle the prefixes. For each word that has a prefix, try to decide what the prefix means. Refer back to the table if you need help.

1. Floppy disks are inexpensive and reusable.
2. If a printer malfunctions, you should check the interface cable.
3. The multiplexor was not working because someone had disconnected it by mistake.
4. Improper installation of the antiglare shield will make it impossible to read what is on the screen.

5. After you transfer text using the 'cut and paste' feature, you may have to reformat the text you have inserted.
6. You can maximize your chances of finding a job if you are bilingual or even trilingual.
7. Peripheral devices can be eight input devices(such as keyboards) or output devices (such as printers).
8. Your pay rise is retroactive to the beginning of June and you will receive a biannual bonus.
9. The octal and hexadecimal systems are number systems used as a form of shorthand in reading groups of four binary digits.
10. As the results are irregular, the program will have to be written 11.------------

III. Bits for pictures
A. Read the questions and text and study the diagrams.
Did you know that...?
1. Bits can also be used to code pictures?
2. The information displayed on the computer screen corresponds, dot by dot, with bits held in the main memory?
3. On color systems, if you have 8 bits per primary color, the palette of your computer can obtain 16.7 million colors?
Each tiny dot on the screen of a computer is called a picture element or pixel. Images and text are formed by combining a large number of pixels.
In a bit –mapped display, tho dots displayed on the screen correspond, pixel by pixel, with bits in the main memory of the computer. The bits are held in an area of the memory called the 'refresh buffer' and are stored in groups that represent the horizontal and vertical position of the pixels on the screen and whether the pixels are on or off.
On monochrome system, one bit in this 'map' represents one pixel on the screen and can be eigher 'on' or 'off' (black or white)
On color systems, each pixel is certain combination of three primary colors: red, green, and blue. The total number of colors which can be shown on the screen is called the color palette. The size of this palette depends on the graphics adaptor, a separate video card that converts the bits into visual signals. A graphics adaptor with 1 bit per primary color can generate up to 8 or 2^3 colors as you can see from the following table. A graphics adaptor with 8 bits per primary color can generate 16.7 million or $(2^3)^8$ colors.

Color	Red	Green	blue
Black	0	0	0
Blue	0	0	1
Green	0	1	0
Cyan	0	1	1
Red	1	0	0
Magent	1	0	1
a	1	1	0
Yellow	1	1	1

One bit per primary color

B. Using the information in the passage and the illustrations, match the terms in the box with the appropriate explanation or definition

a.pixel   b. bit   c. bit- mapped display d. primary colors   e. palette

1. The menu of colors available on a graphics system; its size depends on the hardware.
2. Red, green, and blue (RGB) in computers.
3. The smallest element of a display surface.
4. A display on the screen which corresponds, pixel by pixel, with bits stored in memory cells.
5. The acronym for 'binary digit'; one of the digits (o and 1) used in binary notation.

C. Translate the last paragraph (starting from 'On color systems...') into your language.

Do you understand the calculations made to obtain a palette of 16.7 million colors? (If you don't ask a partner to explain them to you)

IV. Writing

A friend has written to you asking you to recommend a computer that suits their needs. Write a letter in reply, describing its technical features and saying why you recommend it.

Topic 1.5: Buying a computer

Vocabulary	
Compiler(n)	Chương trình dịch
Accumulator(n)	Thanh tổng, bộ tích lũy, bộ cộng
Conversion (n)	Sự chuyển đổi
Magnetion(n)	Từ tính
Computerize(v)	Máy tính hóa
Operating	Hệ điều hành
system(n) Graphic	Hệ thống đồ họa
work(n) Word	Soạn thảo văn bản
processing(n)	Bán sỉ, bán buôn
Dealer(n)	Vận dụng

Buying a Home Computer

Buying a home computer can be a bit like buying a car- it's a major purchase decision. There are many makes and models, and many people willing to give advice about what to buy and where to buy it. To make the most of your shopping experience, and sense of the variety of choices facing you, you'll want to do your homework before heading out. And, whether buying new or used, know what you want the computer to do for you and how much you can afford to spend.

Deciding On An Operating System

Computers can be categorized into two basic operating systems or types-those designed primarily for graphics work and those primarily intended for
word processing. Although both are capable of either function. To help you decide between the two operating systems, determine whether you will use the computer more for graphics or mainly for producing text, the type of software you want to run and which type of computer it runs on(although most software has versions for both operating systems). If you're buying the computer for your child's use, see what kind of computer is used in his or her classroom. If you want to send files back or forth with your sister, check out her system. Both systems are great- one is not better than the other – but it helps to know what you want to do with your computer before you commit to either type.

Buying from a Reputable Dealer

Buying your computer from a reputable electronics dealer means you're more likely to get a better warranty and better service. The computers they carry have succeeded because of the high- quality of their machines and their service. **What do Consider Before Buying a Computer**

How will you use the computer? Do you plan to write papers for a

class using word processing software, keep tract of your finances or bussiness on a spreadsheet, send electronic mail (e- mail) to relatives across the country, surf the World Wide Web, or just play computer games? Knowing how you'll use your computer will help you determine what type of minimum requirements the computer needs to have.

Bigger Programs Require More Memory

Keep in mind that the size of the software you plan to run will dictate how much memory your computer should have. Consider how you will use your computer, then ask about the software you'll need. A sales associate should be able to tell you how many megabytes of memory you'll need based on your planned computer use. Typically, you'll need a minimum of 64 megabytes of memory to adequately run most programs. Most computer systems come with preloaded software. Be sure to check the inventory of what's on the computer, so you'll know what you're getting.

Keep in mind that the size of the software you plan to run will dictate how much memory your computer should have

How much should you spend?

With computers, it's a good rule of thumb to buy as much as you can afford. Depending on your needs, be prepared to spend between $1,000 for an entry- level computer to $3,000 and up for a higher- end computer. You don't have to buy the biggest, fastest or most powerful computer on the market, but you should buy the best system you can- that includes monitor, microprocessor, memory, hard drive, keyboard, printer, etc. You might want to hold off buying any software until you're had a chance to take a look at the software which should come with your new computer

With computers, it's a good rule of thumb to buy as much as you can afford...

Laptop vs. Desktop Models

After you've made all the decisions about what you want in a computer, you also can choose what type of model you'd like: laptop or desktop. Laptop models are portable, and if you travel a lot and need to bring

Computer Terminology Glossary

If you don't know a mouse fro a RAM, then you need to brush up on the language of computers. Here's a crash course.

Cache: cache is another type of memory kindred to RAM. Cache is used by the computer to quickly move data between the RAM and the CPU.

CD-ROM Drive: Most new computers now come with a CD-ROM drive as like a music CD, but hold data instead of music. CD-ROMs also contain games, dictionaries, recipe files... the list is endless/

CPU: the CPU, or central processing unit, is the brains of the computer. Most new Windows based programs use a Pentium processor. New Macs use a

different type of CPU called Power PC.

The cpu, or central processing unit, is the brains of the computer...

Disk Drive: Virtually all computers come with a disk drive that can read and save information on portable diskettes, also called floppy disks. You can use floppy disks to save information or to load new software onto your computer.

Hard Drive: The hard drive also is called the hard disk. You'll probably never see it because it is nestled inside your computer. It's the computer's electronic filling cabinet, and it stores the computer's operating system, file, programs and documents.

Keyboard: Just like a typewriter keyboard, and this device is the primary way of inputting data into many programs.

Read and talk

A. **Read the descriptions of the four people and the four computers below. With a partner, choose the most suitable computer for each person. Give reasons for your choices.**

1. Daniel is a history student. He needs a computer to write essays, assignment, and letters.

2. Sarah is the manager of an advertising company. She needs a powerful system which will work with optical disks and multimedia applications, integrating text and pictures with animation and voice annotations. Digitized images and sound occupy a lot of disk space.

3. Andy is a CAD engineer. His job involves computer- aided design, simulations, and three dimensional modeling. These applications require a lot of memory and a large drive.

4. Tanya is a sales representative. She needs a lightweight machine with which she can process orders and communicate with head office while she is on the road.

HP vectra
- Pentium processor running at 333 MHz
- 32 MB of RAM
- High desity 3.5'', 1.44 MB floppy disk drive
- 32x CD-Rom drive
- 3.22 GB hard disk
- Network care
- Standard keyboard and Microsoft mouse
- Windows
- £709

Digital Alpha workstation
- 600 MHz 64-bit Alpha microprocessor
- 128 MB RAM expandable up to 1.5 GB
- Hard disk capacity: 9GB
- Supports several graphics formats

- Lets you attact any peripherals and link up to any network
- Allows you to handle your toughest technical, scientific and business-critical applications
- Supports digital UNIX, open VMS and Windows operating systems
- £4,049

Compact Notebook
- 300 MHz Pentium processor with MMX technology.
- 64 MB RAM
- 6GB hard drive
- 3.5'' floppy disk drive and CD-ROM drive
- Internal 56k modern
- 12.1 ' 'color TFT display with high resolution
- Compaq trackball mouse
- Extended life NiMH battery
- Weighs only 6 lbs
- Windows comes pre-installed
- £2,399

Power macintosh
- PowerPC processor at 400MHz
- 128 MB of RAM expandable to 1 GB
- 1 MB of in-line cache on the processor card
- 16 MB of video RAM
- 12 GB hard disk
- 3.5'' floppy disk drive, 24x CD-ROM and Zip unit
- Optional DVD-ROM drive
- Comes with AppleVision monitor, sound board, built-in microphone, and strereo speakers.
- Mac OS with QuickTime (an extension that lets you play video and animation on the computer)
- £2,999

B. Look back at the notes you made for Task 6 in Topic 3 about your ideal computer system. What did you want?
   Read the descriptions of these computers again and choose the one that is closest to your ideal. Explain the reason for your choice.

Section 2: Input/ output devices

(Điền tên chương/bài):..............   Mã chương/ bài:.......................

Topic 2.1: Type and click!

Vocabulary	
Mimic(v)	Bắt chước
Leap(n)	Nhảy,
Issue(v)	trượt
Click(v)	Ra (lệnh), phát hành
Drag(v)	Nháy,
Release(v)	click
Grab(v)	Kéo
Stretch(v)	Thả
Double-	Nắm
click(v)	Kéo căng
Succession(n)	Nháy đúp
Lightpen (n)	Chuỗi, lien tục
Trackball(n)	Bút chỉ
Scanner(n)	Bi/ bóng xoay
Input device(n)	Máy quét
Pieces(n)	Thiết bị đầu vào
Hand-operated	Bộ phận
device(n) Location(n)	Thiết bị thao tác bằng tay
Pointer(n)	Vị trí
Rubber-coated	Con trỏ
ball(n) Surface(n)	Bong phủ cao su
Mousemat(n)	Bề mặt
Roll(v)	Miếng đệm chuột
Axle(n)	Lăn
Detector(n	Trục
)	Thiết bị dò
Register(v)	Ghi lại
Integrated	Mạch tích hợp

I. Interacting with your computer

Input devices are the pieces of hardware which allow us to enter information into the computer; the most common are the keyboard and the mouse. We can also interact with a computer by using one of these: a lightpen, a scanner, a trackball, a graphics tablet, a joystick or a voice recognition device.

Look at the illustrations and see if you can name them.

II. Speaking: Work in pairs. Student A: turn to page 162 and student B: turn to page 166

III. About the keyboard

A. Look at the picture of a PC- compatible keyboard below and identify these groups of keys.

1.Alphanumeric keys: arranged in the same order as a typewriter

2.Function: used by various programs to instruct the PC to perform specific tasks such as Save, Copy, Cut, Paste, Help, etc.

3.Numeric: Set of numeric or editing keys. The Num Lock key is used to switch from numbers to editing functions.

4.Editing keys: cursor and other keys usually used within word processors to page up and down in a long document or to edit text (using Insert or Delete keys)

5.Special keys: used is to issue commands or to produce alternative characters in key combinations, for example, the alt key.

B. Match these keys abbreviations with their full names.

        1. Esc

        2. Alt

        3. Ctrl

        4. Pgdn

        5. Pgup

        6. Ins

        7. Del

            a. Alternate

            b. Page up

            c. Escape

            d. Control

            e. Delete

            f. Page down

            g. Insert

C. **Computers system may have different keyboard options. Here is an example. If we enter the Key Caps menu on a Macintosh in Courier and then press the Option key, we obtain the following symbols on the screen.**

Identify these symbol on the keyboard

1 slash   3. Plus and minus   5. Yen sign   7. Number

2. not equal to 4. Trademark 6. Copyright 8. Registered trademark IV. Reading

A. Try to answer these question.
  1. How is the mouse connected to the computer?
  2. What does the mouse pointer look like on the screen?
  3. What are the functions of the mouse buttons?
  4. What are the advantages of a computer mouse over a keyboard?

Read the text to check your answer or to find the right
<div align="center">**answer.** The mouse!</div>

The computer mouse is a hand –operated device that lets you control more easily the location of the pointer on your screen. You can make selections and choices with the mouse button.
The mouse contains a rubber- coated ball that rests on the surface of your working area or a mousemat. When the mouse is moved on that surface, the ball rolls.

The ball's movements up and down, and left and right, turn the two axles inside the mouse. As they turn, detectors register the changing position. A small integrated circuit inside the mouse sends signals to the operating system, which instructs it to move the pointer on your screen.

B. Here are some basic mouse actions. Match the terms in the box with the explanations below
  a. Click   b. Double- click   c. Drag
  1. Position the pointer on something, then rapidly press and release the mouse button twice. (You do this to load a program, open a document, or select text or graphics)

  2. Position the pointer on something, hold down the mouse button, and move the mouse to the desired position, then release the button. (You do this to move an image to a new location on the screen)

  3. Position the pointer on something, then press, and release the button. (You do this to place the insertion point, to choose an option, or to close a window)

V. Language work: Describing function

We can describe the function of an item in a number of ways. Study these examples. **Using the Present simple** 1. ROM holds instructions which are needed to start up the computer. **Used to – infinitive, used for+ "-ing" form** 2. ROM is used to hold instructions which are	3. ROM is used for holding instructions which are needed to start up the computer **Emphasizing the function** 4. The function of ROM is to hold instructions which are needed to start up the computer

Now, match each item in Column A with its function in Column B. Then describe its function in two waysA. Item	**B. Function**
1. RAM 2. Processor 3. Mouse 4. Clock 5. 3.5" floppy drive 6. Monitor 7. Keyboard 8. DVD-ROM drive 9. Cache	a. Controls the cursor. b. Inputs data through keys like a typewriter c. Displays the output from a computer on a screen. d. Reads DVD-ROMs e. Reads and writes to removeable magnetic disks. f. Holds instructions which are needed to start up the computer/ g. Holds data read or written to it by the processor h. Provides extremely fast access to sections of a program and its data i. Controls the timing of signals in the computer j. Controls all the operations in

Topic 2.2 : Capture your favorite image

Vocabulary	
Manipulate(v)	Xử lý, vận dụng, chế tác
Flatbed(n)	Máy quét hình phẳng
Digitize(v)	Số hóa
Treat(v)	Xử lý, đối xử
Rotate(v)	Quay
Color filter (n)	Bộ lọc màu
Resolution (n)	Độ phân giải
Scanning area(n)	Vùng quet
Crisp(adj)	Sinh động
Animation (n)	Hoạt hình
Image- capture software(n)	Phần mềm nắm bắt hình ảnh
Retouch(n)	Tô màu
Self- calibrate(v)	Tự chỉnh
Accelerator(n)	Máy gia tốc
	Giải nén
	Nén

I. Scanners: The eyes of your computer

Use the information in the text and the illustration to answer these question

1. What is a scanner? Give a definition in your own words
2. How does a color scanner work?

What does a scanner do?

A scanner converts texts or pictures into electronic codes that can be manipulated by the computer.

In a flatbed scanner , the paper with the image is placed face down on a glass screen similar to a photocopier. Beneath the glass are the lighting and measurement devices. Once the scanner in activated, it reads the image as a series of dots and then generates a digitized image that is sent to the computer and stored as a file. The manufacturer usually includes software which offers different ways of treating the scanned image.

A color scanner operates by using three rotating lamps, each of which has a different colored filter: red, green, and blue. The resulting three separate images are combined into one by appropriate software.

What do you think are the benefits of using scanners in business?

II. Facts and opinions

A. Read the advertisements on the following page and underline what you think are facts and circle the opinions.Then write them in the table below

Facts are 'real' objective information. Opinions usually include emotive words, positive/ negative phrases, and subjective (persuasive) statements.

Note:

*Dpi: dots per inch

*9" x15" : scanning area measured in inches

*JPEG: joint photographic experts' group - a standard format in image compression. With jpeg, your images can be compressed to $1/50^{th}$ of normal size, resulting in a substandtial saving of disk space and time.

ColorScan XR from sunrise

The colorScan XR from sunrise is a flatbed scanner with 600dpi of resolution and 9" x15" of scanning area.Think of the possibilities. You can enter data and graphic images directly into your applications- word processors or database. You can get crisp, clean scans for color compositions, video, and animation work. It comes complete with its own image-capture software which Package includes a hardware accelerator for jpeg compression and decompression. Jpeg technology saves disk space by compressing images up to 50 to 1. In creating ScanPress 800,the manufacturers have chosen the highest technology to give you the best scans with the least effort. It allows for color and grey retouching. And it's easy to use. What more could you want for only £616 ? It couldn't be cheaper. In the field of flatbeds, the ColorScan XR is a clear winner.

ScanPress 800

The scanPress 800 is a self -calibrating , flatbed scanner with 800 dpi of resolution. You can scan from black and white to 24- bit color. The produces images with high color definition and sharpness. And it comes with OCR software and adobe Photoshop, so you can manipulate all the images you capture.This is fantastic machine you will love working with. And at only £1,037 it is an excellent investment.

B. In small groups, compare your answers and decide:
1. Which text has got more persuasive language?
2. Which text is more factual or objective?

III. Language work: Making comparisons
A. Formation

The regular comparative and superlative forms of descriptive words (adjectives and adverbs) are shown below.

1. Words of one syllable add the ending –er and –est

	Absolute	Comparative	superlative
Adjective	New	Newer	Newest
	Old	Older	Oldest
	Big	Bigger	Biggest
adverb	Soon	Sooner	Soonest

2. Words with three or more syllables are preceded by more and most

	Absolute	Comparative	superlative
Adjective	Interesting	More interesting	Most interesting
	Convenient	More convenient	Most convenient
adverb	Easily	More easily	Most easily
	carefully	More carefully	Most carefully

3. Adjectives with two syllables may be like 1 or 2 above in that they will add the ending –er and –est if they end in –y or –ly, -ow, -le, and –er.

	Absolute	Comparative	superlative
-y	Tiny	Tiner	Tiniest
	Speedy	Speedier	Speediest
-ly	Early	Earlier	Earliest
	Friendly	Friendlier	Friendliest
-ow	Shallow	Shallower	Shallowest

4. Most of the remaining two –syllable adjectives take more and most in front of them.

	Absolute	Comparative	superlative
	Careful	More carefully	Most carefully
	Boring	More boring	Most boring
	awful	More awful	Most awful

5. Some common two- syllable adjectives can have either type of formation.

	Absolute	Comparative	superlative
	Common	Commoner	Commonest
		More common	Most common
	Gentle	Gentler	Gentlest
		More gentle	Most gentle
	quite	Quiter	Quitest

6. Two –syllable adverbs ending in –ly take more and most

	Absolute	Comparative	superlative
	Quickly	More quickly	Most quickly
	slowly	More slowly	Most slowly

7. A small number of adjectives and adverbs have an irregular comparative and superlative form

	Absolute	Comparative	superlative
Adjectives	Bad	Worse	Worst
	Far	Further/ farther	Furthest/ farthest
	Good	Better	Best
	Many	More	Most
adverbs	Badly	Worse	Worst
	Much	More	Most

B. Use in sentences

Comparison may show equivalence, non –equivalence, the highest degree of something, and parallet increase.

1. **Equivalence: the following words and constructions are used to show that things or people are similar in some way.**

As… as	The same	Similar/ ly	Either
As many… as	Are similar	Equal/ ly	All
As much .. as	Equal to	Compared to/ ly	Both
Similar to	Is like	Each	alike

Examples:

1. Here, the term 'processor' is equivalent to the central processing unit.

2. Laptops are as powerful as microcomputers

2. **Non- equivalence: the following words and contructions are used to compare or contrast things or people that are separate from each other.**

Not as.. as	Greater than	Unequal (ly)	Less… than
… -er than	Not as many.. as	Unlike	Not equal to
More … than	Not as much.. as	Not the same as	Fewer… than

Examples:

1. A mainframe is larger and more expensive than a microcomputer.
2. Learning to use a computer is not as difficult as learning to program

3. The highest degree: the following words and constructions are used to compare one member of a group with the whole group (superlative)

The ...-est	The most...	The least...

Examples:

1. This is the most popular package on the market today.
2. Basic is probably the least difficult programming language to learn

4. Parallel increase: the following words and constructions are used to show parallel increase (two comparatives)

The ...-er; The more...; The more...; the ...-er; the ...-er; The less...;
Examples:

1. The more memory your computer has, the more data it can store.
2. The bigger your computer system is, the less time you spend waiting
3. The more training you give to your employees, the better they will perform

C. The following sentences express computer capabilities and limitations. Decide whether the sentences express equivalence, non –equivalence, or the superlative, then underline the words expressing the comparison. The first one has been done for you.

1. *Equivalence* Speeds for performing decision- making operations are *comparable* to those for arithmetic operations.
2. ....Even the most sophisticated computer, no matter how good it is, must be told what to do.
3. ....A computer can perform similar operations thousands of times without becoming bored, tired, or careless.
4. ....For example, modern computers can solve certain classes of arithmetic problems millions of times faster than a skilled mathematician.
5. ....One of the most important reasons why computers are used so widely today is that almost every big problem can be solved by solving a number of little problems.
6. ....Finally, a computer, unlike a human being , has no intuition.

IV. Further reading

Advertisment: A scanner

Some of the adjectives have been left out of this persuasive advertisement.
Read it and complete it with words from the box

Stunning   affordable wide   excellent   complete   easy- to – use

The GT-7000 provides amazing quality with powerful, (1).........
software and hardware at a very(2).............. price. Using a
combination of EPSON Advanced Scanning Technologies, the GT-
7000 provides (3) .... Quality whether scanning text documents,
photos, or films.

The EPSON START Button takes the complexity out of scanning. Simply press
this button once and your photo or document is scanned and inserted
into the software package of your choice ready for editing, printing, or
publishing.

Included with the GT-700 is a(4)......... range of bonus software to
help with home and business scanning, printing, and publishing,
allowing you to create(5).............posters, letters, flyers, and web pages.

The GT-700 is also avaiable as the GT -700 Photo
scanner(6)............. with advanced film adaper unit.

Topic 2.3 Viewing the output

Vocubulary	
Sharp(adj)	Sắc nét, nhọn
Density(n)	Mật độ
Cathode ray tube(n)	ống tia âm cực, đèn hình
Electron beam(n)	chùm tia điện tử
Continuous sequence(n)	trình tự liên tục
Flicker(v)	nhấp nháy
Eliminate(v)	khử, loại bỏ
Bit- mapped(adj)	ánh xạ bit

Electron gun(n)	súng điện tử
Intensity(n)	cường độ
Display adator(n)	bộ thích ứng hình ảnh
Liquid- crytal display(n)	màn hình tinh thể lỏng
Video graphics array(VGA)	bộ điều hợp VGA
Polarizing filter(n)	bộ lọc cực
Block(v)	phong tỏa, ngăn chặn
Aperture grill pitch(n)	độ giãn khuôn mở
Diagonal(adj)	chéo
Distance(n)	khoảng cách
Image(n)	hình ảnh

I.Reading and think

Describe the screen of our computer to another student. Use these question to help you.

- What size is it?
- Does it produce a high quality image?
- Which is the common size of a

monitor

II. Reading

A. Reading the text and try to guess the meaning of any new words in the box below. Refer to the Glossary if necessary

Dot	Pixel	Display	Resolution	visualize
Scan(verb)	Hertz	Flicker	Bit-mappe	

The monitor

The quality of the display depends on the number of dots which make up the image. The more dots the better display.

Typical resolutions are 640x480 or 1,024x768 pixels. The diagrams above show how pixel density affects the image: a larger number of pixels gives a much clearer image.

The monitor refreshes the image on the screen all the time. The faster this happens, the less the screen flickers. This sequence is repeated 50,60, or 75 times per second, depending on the system. If the rate of this repetition is low, we can perceive a flickering, unsteady screen, which can cause eye fatigue. However, a fast- moving 75 hz "refresh rate" eliminates this annoying flicker.

The size of the screen is the diagonal distance from one corner to another. The actual area for images is smaller than this.

The price mainly depends on the screen size. Common monitor size are 14- inch, 17- inch, and 21- inch. The price also depends on aperture grill pitch, resolution and number of controls.

Aperture grill pitch controls the space between the dots which make up the image. The less space between the dots, the better the display. Most monitors offer 0.28 mm dot pitch but some go as high as 0.31mm or as low as 0.25mm.

The monitor is controlled by a separate circuit board, known as the display adator, which plugs into the motherboard of the computer. Different boards drive different type of displays. For example, the VGA (video graphics array) card has become a standard for color monitor.

B. Read the text again and answer these question
1. According to the writer, what is the importance of 'pixel resolution?'
2. Which unit of frequency is used to measure the refresh rate of a monitor? 3. In the writer's opinion, why can a low refresh rate produce eye fatigue? 4. Is a dot pitch of 0.31mm is better than one of 0.25mm ? Why?
5. Does the price of a monitor depend only on the size?
6. Is a maximum resolution of 1600x1200 better than 1280x1024? Why?

III. Writting
   A. Tables often include abbreviations and technical words that are not easy to understand. Look at this table and the explanation of Monitor A's specifications.

	CRT size	CRT face	Pixel res	Visual display	Refresh rate	Tilt-and-swivel	Other features
Monitor A Supervie	16"	Flat	870x640	256 shades of grey	60Hz	V	Anti-glar
Monitor B	19"	Flat	1,024x768	32,000 colors	75Hz	V	Video card
paintview							

The specifications of superview (monitor A) may be explained like this:

1. This monochrome monitor has a 16 –inch screen
2. This displays system has a resolution of 870x640 pixels that gives you enough quality for graphics.
3. It offers 256 shades of grey.
4. It has a 60 hertz refresh rate. (This is quite low, so it will probably produce a flickering, unsteady image)
5. A tilt- and – swivel stand is used to move the monitor up, down and around so that the angel can be adjusted for each user.
6. The anti- glare filter helps eliminate eye fatigue and electromagnetic radiation.

B. Use this example to help you describe Monitor B IV. Language work: Instructions and advice

Stydy these ways of giving instructions and advice and then rewrite the sentences below about what you should do to protect your eyes. Use modal auxiliary verbs in your sentences

❒ ❒ Using imperatives
Position your keyboard at the same height as your elbows Don't use a monitor that is fuzzy or distorts the image.

❒ ❒ Using should/ ought to
You should position your keyboard at the same height as your elbows. =You ought to position......
You shouldn't use a monitor that is fuzzy or distorts the image. =
You ought not (oughtn't) to use.....

1. Do not stare at the screen for long periods of time.
2. Avoid placing the monitor so that it reflects a source of bright light, such as a window.

3. Keep the screen clean to prevent distoring shadows.
4. If you work in an office with a large number of computers, don't sit too close to the sides or backs of the monitors.
5. Buy a protective filter that cuts down the ELF (extremely low frequency) emissions.

Topic 2.4: Choosing a printer

Vocabulary	
Compatibility	Sự tương thích
Evolve(v)	Phát triển, tiến hóa
Dot- matrix printer(n)	Máy in ma trận điểm
Preliminary draft(n)	Bản in thử, bản nháp đầu
Ink- jet printer	Máy in phun mực
Bubble- jet printer(n) Laser	Máy in phun bọt
printer(n)	Máy in lazer
Emulate(v)	Bắt chước
Thermal	Máy in nhiệt
printer(n) Plotter	Máy vẽ
printer(n)	Thiết bị tạo ảnh
	Vi phim
	Nhược điểm
Photosetter(n)	Minh hoa

I. Reading

A. How many kinds of printers can you think of? Make a list. B. Read the text below and label these types of printers

Types of printers

Printing is the final stage in creating a document. That is the purpose of the printers joined to your computing equitment. Since the results you can obtain with different types of printers will vary substantially, here is a guide to help you decide which one is most suitable for your needs.

Dot- matrix printers use pins to print the dots required to shape a character. They print text and graphics and nowadays some of them can print up to 450 output- 72 or 144 dots per inch. This level of quality, while suitable for preliminary drafts, is not recommended for reports of books that have a wide audience. They are slower than laser printers but much cheaper.

One common type of non- impact printer is an ink- jet printer. It operates by projecting small ink droplets onto paper to form the required image. This type of printer is quite fast, silent, and not so expensive as a

laser printer. Nevertheless, you can expect high quality results because there are some ink- jet printers on the market with a resolution of 720 dpi. Bubble –jet printers work the same way.

Laser printers produce output at great speed and with a very high resolution of 600/1200 dpi. They scan the image with a laser beam and transfer it to paper with a special ink power. They are constantly being improved. In terms of speed and image quality they are preferred by experts for different reasons: they have a wider range of scalable fonts, they can emulate different language systems, they can produce graphics, and they have many other advantages. It goes without saying that they are still expensive.

C. Reading the text again and complete this table with the most relevant information. Then compare your notes with a partner.

Type of printer	Technical specifications and other features
Dot- matrix	....
Ink- jet	....
Laser	.....

II. Discourse cohesion

Reference signals: Read the text and say what the underlined words refer to

Printing is the final stage in creating a document. That is the purpose of the printers joined to your computing equipment. Since the results you can obtain with different types of printers will vary substantially, here is a guide to help you decide which one is most suitable for your needs.

Dot- matrix printers pins to print the dots required to share a character. They print text and graphics and nowadays some of them can print up to 450 characters per second (cps)

III. Scan reading: Quiz

Read the advertisements for printers below, and then with your partner, answer the questions. See who in your group/ class can finish first.

1. How many laser printers are advertised here?
2. Is there a printer that operates by spraying ink droplets onto paper? 3. Which laser printer offers the highest resolution or output quality? 4. Which printer is the most expensive?
5. Which one would you recommend to a friend who does not have

much money?
6. Which one has more internal fonts?
7. A printer language is software that tells printers how to print a document. Can you find two types of laser printer languages?
8. What connectivity features are offered by the Turbo Laser Writer QR?
9. A very common feature in advertisements is the use of abbreviations. Find the abbreviations for these expressions: dots per inch, characters per second, pages per minute, small computer system interface, and liquid-crystal display.

TURBO LASERWRITER QR Workgroup laser printer. 15 pages per minute. 600 dpi for graphics. 36 MB of RAM. Includes Adobe PostScript and Hewlett Packard PCS printer languages. 75 resident fonts.	STYLUS DOT- MATRIX PRINTER Dot- matrix printer with 24 pins. Prints text and graphics. 450 cps. Compatible special interface. Free unlimited hotline support for our customers. One year on-site

COLOR POSTSCRIPT PRINTER Color printer. 40 Adobe PostScript fonts. 36 MB RAM with a SCSI interface for an optional 20 MB hard disk. Parallel, serial and AppleTalk interfaces. HP plotter emulation. Thermal printing system. 30- day money-back guarantee and 1 year's on-	Crystal laser Printer
	JJ 14 pages per minute.
	                            6MB
	Two 200 sheet selectable input trays.
	LCD display.
	             80 internal scalable fonts. A resolution of 1,200 dpi Comes with PostScript language

COLOR INK JET Color : up to 18 ppm Resolution: Up to 4800x 1200 optimized dpi on premium photo paper. Paper input capacity: up to 150 sheets Duplex printing: Automatic(optional) Reliable color printer with cost-effective	Micro Laser XT Personal laser printer, 5 pages per minute. 4 MB RAM expandable to 64 MB. Parallel interface. 200 sheet input tray. 35 resident fonts. One – year on-site maintenance. Prints on a wide range of materials and sizes £649

IV. Language work: Revision of comparison

A. Study the sentences below and do the following:

- Draw a circle aroung comparatives and a rectangle around superlatives - Identify two special cases

1. Dot- matrix printers are cheaper than laser printers. 2. A photosetter is the fastest output device.

3. A thermal wax printer is more expensive than a monochrome laser printer.

4. The Micro Laser XT is the most reliable of all.

5. Personal laser printer cost less than ordinary laser printers. They also weigh less and require less space.

6. My printer has more resident fonts than yours.

7. This printer offers laser quality at a lower price.

8. Monochrome printers operate faster than color ones.

9. Dot- matrix printers are too slow

10. Dot- matrix printers are not quick enough.

B. Write your own comparison of printer types

Type	Speed quality	Test capabilit	Graphics quality	Color	cost
Dot- matrix	Slow to medium	Fair to good	Limited	Fair if you add a color	Low
Ink- jet	Medium to fast	Good to excellent	Good to excellent	Good to very good	Low to high
Laser	Medium to very fast	Excellent	Good to excellent	Good in color laser	Medium to high
Thermal	Medium to fast	Excellent	Good to excellent	Good to superior	Medium to high
Solid ink	Medium to fast	Excellent	Good to excellent	Good	Medium to high
Electro -static	Slow to fast	Fair to good	Fair to good	Fair to good	Low to high

V. Describing your ideal printer

Describe to your partner the characteristics of the printer you would like to use. Give reasons. (Does your ideal printer look like the one below)

Topic 2.5: I/O devices for the disabled

Vocabulary	
Telemarketer(n)	Nhân viên tiếp thị qua điện thoại
Office correspondence(n)	Thư tín văn phòng
Adapt(V)	Thích ứng
Subject to (adj)	Phụ thuộc vào
Cost- effective(adj)	Tiết kiệm, có lợi
Adaptive technology (n) Blind user(n)	Công nghệ thích ứng Người khiếm thị
Speech- synthesis system (n) Verbalize(v)	Hệ thống tổng hợp tiếng nói' Âm thanh hóa Phóng đại Chạm nổi

I. Adaptive technology

Working in pairs or small groups, look at the pictures and discuss these questions. Use the phrases in the box to help you.

1. What sort of difficulties do you think are experienced by computer user with limitations of vision or mobility?
2. What types of devices could be helpful to blind user?
3. How can a person with mobility limitations communicate with a computer? Think of possible tools or solutions.

Key words:

Blind person	adapted keyboard
Magnification	on- screen keyboard
Software	voice recognition
Braille printer	system
Adaptive switch	screen –pointing device
Motor- impaired	speech synthesis system
Person	optical head pointer

II. Reading

A. Read the text below and find:
1. Two examples of speech synthesis systems.
2. The kind of software which is recommended for someone with partial vision.
3. The speed of the Juliet Braille printer
4. The ways adaptive switches can be activated 5. The function of voice recognition devices.

6. The devices used by the disabled person at the Center for the Handicapped in Seattle.

7. How the blind student interacts with the machine.

Computer for the disabled

Sal has all the necessary qualities for becoming a good telemarketer*. He's bright, outgoing, and persistent. He is also blind. Phillis wants to hire him, but she has some concerns. How will he be able to use the company's database if he can't see the monitor? How will he read office correspondence? And more important, what will it cost the company to adapt the workplace to accommodate him?

Phillis must accommodate him, since her company is in the US, and therefore subject to the Americans with Disabilities Act or ADA #. But she needn't worry. The latest adaptive technology for personal computers provides a cost- effective way to allow Sal and workers with other disabilities to do their job with independence.

The first task in adding adaptive technology to a computer is to determine the specific needs of the disabled worker in question. To work effectively, most **blind users** need to have their computers adapted with technologies such as speech synthesis, magnification, Braille and OCR. One example of a speech-synthesis system is VertPro from TeleSensory.

This product can read MS-DOS- based word processors, databases, spreadsheets, and other text- based software. Window Bridge from Syntha – Voice can verbalize both MS-DOS and Windows- based applications.

For someone with limited but usable vision, a software magnification package may be appropriate. Magnification software can enlarge text appearing on the screen by up to 16 times.

For Braille output, the Julie printer from Enabling Technologies interfaces to any standard serial or parallel port. This printer can emboss Braille on both sides of a page at a speed of 40 characters per second. The reading Edge OCR from Xeros Imaging Systems and the Arkenstone Open Book Unbound from Arkenstone can read printed material to blind people and send the text to a PC.

To adapt equipment for **motor- impaired workers** unable to type on standard keyboard, you can employ adapted keyboards, head pointers, and Morse code systems.

The user can also have an external adaptive switch to select menu choices or virtual keys from an on- screen keyboard. Adaptive switches come in a variety of forms that can be activated by eye movements, breath control, or any other reliable muscle movement.

Another way of controlling computers is via a Morse code system. Such a system consists of adaptive switches and software for people who

can't type on a full keyboard, but have the ability to physically push at least one key.

Voice- recognition systems permit people to issue verbal commands to a computer to perform data entry.

(Adapted from 'Computers for the disabled', Joseph J. Lazzaro, BYTE Magazine, june 1993)

* Someone who markets product by phone.

This makes it illegal for employers to discriminate againt people with disabilities.

B. Match the terms in the box with the explanations
below a. Disability
b.
Braille c.
Port
d. Interface
e. Morse code
f. Speech synthesizer

1. A system of writing and reading (using raised dots) for blind people , to enable them to read by touch.
2. A socket to connect I/O devices 3. Incapacity
4. A system of dots and dashes, or short and long sounds, representing letters of the alphabet and numbers.
5. A hardware device used in conjunction with a screen reader program to convert screen contents into spoken words.
6. Channels and control circuits which allow different parts of a computer to communicate with one another. It also refers to the part of the system that allows a user to interact with programs.

III. Writing
Write a letter to Mike Hartley- the director of the Adaptive Technology Project for the Blind in Washington, DC. –asking for information about computers for the disabled. Make sure you include the following points.
- Begin by saying why you're writing: *I'm writing to....*

- Ask for information about specific I/O equipment for deaf, blind, and motor- disabled workers: *I would like to know..*
- Ask for a free handbook about how to add adaptive technology to personal computers: *I would be very grateful if...*
- End the letter appropriately: *I look forward to hearing from you soon. Yours sincerely,*

IV. Language work: Compound nouns A. Formation and use

The language of computing in English contains an ever-increasing number of compound nouns, that is, a group of two or more nouns which
act as a single noun.

Examples:

Memory capacity   an address bus   an arithmetic unit
Information systems   a bar code scanner   a computer keyboard

It is import to be able to recognize how such compounds are formed in
order to understand what they mean.

The exact relationship between the words depends on the particular expression, but all these expressions have one thing in common: the last word in the chain says what the thing is, while the preceding word or group of words describes the thing. So when we read compound nouns, we have to start with the last word and work backwards.

Examples:

An address bus is a bus dedicated to address information.

The memory capacity of a computer is the capacity of its memory.

A large number of possible meanings can be expressed by compound nouns. For instance, the first noun or group of nouns can tell us what the second noun is made of, what it is for, or what it is part of.

1. **Material:** the first noun tells us what the second noun consists of.
   Example:

   A silicon chip (a chip made of silicon) A ferrite ring (a ring made of ferrite)

2. **Function:** the first noun tells us what the second nound is
   for. Example:
   An address bus(a bus dedicated to address
   information) An arithmentic unit (a ring made of
   ferrite)

3. **Part:** the second noun refers to a part of the first
   noun. Example:
   A computer keyboard (the keyboard of a
   computer) A monitor screen (the screen of a
   computer)
   A program feature (a feature of a
   program) **4. Activity or person**
   Example:
   Computer programming (the programming of computer)
   A computer programmer (a person who programs computers) System
   analysis (the analysis of organizational system)

A systems analyst (a person who analyses organizational systems)

5. **Multiple nouns:** sometimes a compound noun will join together with one or more other nouns to give an expression that has three or four words. In such cases, it is important to examine the expression very carefully to break it into its constituent parts. The secret, as always, is to read the expression from the back towards the front.

Example:

4   3   2   1

A document- image- processing program (a program which processes images of documents)

Note: some expressions are written separately, while others are joined by hyphens. There are no clear rules for this. Sometimes you will see the same expression written in different ways in different texts.

Example:

    Document-image- processing program

    Document image- processing

    program Document image

    processing program

However, it is important to be consistent within a single text

B. Exercises:

1. A device that scans bar codes is called a bar code scanner What name is given to:

1) A unit that gives a visual display of information on a screen? 2) A device that reads magnetic cards?

3) A device that plots graphs?

4) A device that prints using a laser as the light source? 5) A unit that holds magnetic disks?

6) A device that prints using a jet of ink? 7) The rate of transmission of data?

8) A package for making presentations using multimedia? 9) A program which processes data in batches?

10) The process for the conversion of disks for computers?

2. Using the explanations in Execise 1 as models, write short simple explanations of the following items:

    1) An input device

    2) An optical character

reader 3) A graphics stylus

4) A document sorter

5) A fibre optics transmission
system 6) A sequence control
register

7) A liquid crystal display

8) Network configuration
information 9) A desktop document
manager

10) A multimedia editing software package

<u>**Section 3**</u>: **Storage devices**

(Điền tên chương/bài):...............   Mã chương/ bài:.........................

Topic 3.1: Hard drives

Vocabulary	
Spin(v)	Quay tròn
Retrieve(v)	Truy lục, tìm kiếm
Vast(v)	Lớn, khổng lồ
Bear(v)	Mang, chịu đựng
Vital(adj)	Thiết yếu
Access	Thời gian truy cập
time(n) Seek	Thời gian tìm kiếm
time(n)	Phân biệt
Distinguish(v)	Tốc độ truyền dữ liệu
Data transfer	Truyền
rate(n) Transmit(v)	Cơ cấu ổ đĩa
Drive	Cứng
mechanism(n)	Gắn, bọc
Rigid(adj)	Mạng tính di động, có thể tháo rời
Seal(v)	Cuộn, hộp
Removable(adj	An ninh
) Cartridge(n)	Công nghệ quang học
Security(n)	Thực tế, thực tiễn
Optical	Bách khoa toàn thư
technology(n)	Bảo hành
Reality(n)	Sự tối ưu hóa

I. **Before you read**
   Try to answer these question.
   1. What is the main function of a hard disk?
   2. Which unit is used to measure hard disk
   capacity?
   3. Can you think of one advantage that hard disks have over
floppies? II. **Reading**
   A. **Read the text quickly to find out if you were right in task1**
   B. **Read the text again and make list of the technical aspects that
      you should consider when buying a hard disk.**

When buying a hard disk....

Hard disks have important advantages over floppy disks: they spin at a higher speed, so you can store, and retrieve information much faster than with floppies. They can also hold vast amounts of information, from 500 MB up to several gigabytes. Apart from this, both types of disks work in the same way. To directly access the necessary information, the read/ write heads of rigid disks seek the required tracks and sectors, and then transfer the information to the main memory of the computer of to another form of storage, all of which is done in a few milliseconds(ms).

Bearing in mind that you always need disk storage, it is good sense to ask yourself some vital questions: What size capacity do I need? What speed can I use? What kind of storage device is the most suitable for my requirements? If you only use word-processing programs, you will need less storage capacity than if you use CAD, sound and animation programs. For most users, 2 GB on the hard disk is enough.

Now let's turn our attention to speed. Access times vary from 8 ms to 20 ms. 'Access time' – or seek time- in the time it takes your read/ write heads to find any particular record. You have to distinguish clearly between seek time (e.g. 20ms) and 'data transfer rate' (the average speed required to transmit data from a disk system to the RAM, e.g. 20 megabits per second). Remember that the transfer rate also depends on the power of your computer.

When buying a hard disk you should consider the kinds of drive mechanisms and products available. There are 'internal' and 'external' drives which are both fixed hard drives, i.e. rigid disks sealed into the drive unit, either within or attached to the computer. A third type of hard drive, known as 'removable', allows information to be recorded on 'cartridges', which can be removed and stored off-line for security purposes. Popular removable hard disks include Jaz and Zip drives. A Jaz cartridge can store up to 2 GB of data, whereas a Zip drive can store up to 250 MB of data.

Finally, a few words about 'optical' technology: CD-ROMS and CD-Recordable drives have become a reality. However, magnetic hard disks are still preferred for personal data storage, whereas optical discs are used for recording large amounts of information such as a dictionary or encyclopedia.

Note:

- Ms: milliseconds(thousandths of a second)

- CAD: computer aided design
- CD-ROM: acronym for compact Disk- read only memory.

C.Now read these sentences and decide if they are true(T) or false(F)

1. Hard disks use rigid rotating disks.
2. 'Seek time' refers to the average time required for the recording heads to move and access data.
3. If you use multimedia applications, you need the same storage capacity as required for word processors.
4. 'Access time' and 'data transfer rate' mean the same. 5. Optical disks are magnetic
6. Each Jaz cartridge can hold up to 1,000 MB of data.
7. CD-ROM disks are used for storage of massive amounts of information.

III. Work in group

Work in group of three. Read two texts each and complete your sections of the table.

Medium	Advantages	Disadvantages
Floppy disk		
Fixed hard disk		
Removable hard disk		
CD-ROM disk		
Magneto – optical disk		
Magnetic tape		

A. Most computer use floppy disks. Floppies conform to a standard and you can use them to carry data from one place to another. They are also very cheap, but they are slow and have limited capacity.

B.Almost all desktop computers have hard disk. They are fast and store much greater amounts of data than floppies, but they are fixed inside the computer and you cannot use them to transfer data.

C.You can move data from place to place using removable hard disks. They are almost as fast as fixed hard disks and also have high capacities, but they are relatively expensive. They do not all conform to one standard and they are not very common.

D. CD-ROM disks are very common and conform to a standart. They are removable and can hold large amounts of data. They are also cheap to
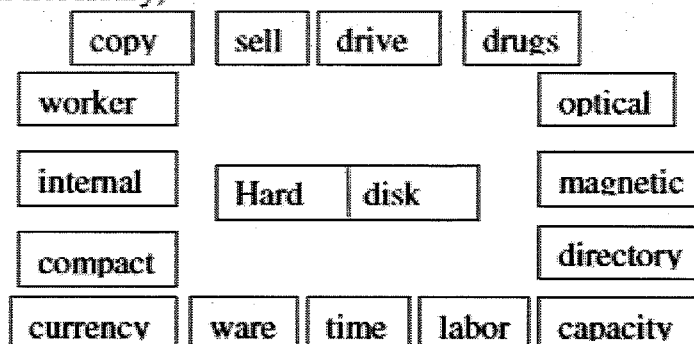
make. However, they are usually read- only. You can not change the information on them. They are also slow compared to hard disks.

E. Magneto – optical disks are like CD-ROMs, but you can write data on to them, they are removable, have large capacities, and last for a long time, but they are expensive and do not all conform to one standard. For this reason they are not common.

F. Magnetic tape is a cheap medium. You can use it to store very large amounts of data, but it does not allow randow access. Every time you read or write a piece of data, you start at the beginning of the tape. Tape drives are slow. Therefore, it is only suitable for doing backups.

IV. Vocabulary

The phrase hard disk consists of the adjective hard and the noun disk. Make other phrases or words by combining hard and disk with these words. Give the meaning of each phrase or word in your own language.(use your dictionary if necessary)

copy	sell	drive	drugs

worker			optical

internal	Hard	disk	magnetic

compact			directory

currency	ware	time	labor	capacity

V. Language work: Revision of prefixes

Fill in the gaps with the correct prefix from the following list.

Auto	De	Dec	Inter
Maxi	Mega	Micro	
	Mini Mono	Multi	
	Semi	sub	

1. Most people prefers a color screen to a .... chrome screen
2. ....script is a character or symbol written below and to the right of a number or letter, often used in science.
3. A......... byte equals approximately one million bytes.
4. Once you finish your program, you will have to test it and.......... Bug it to remove all mistakes.
5. The introduction of........ conductor technology revolutionized

the computer industry.

6. If a computer system has two or more central processors which are under common control, it is called a ......processor system.
7. The........... imal system is a number system with a base of 10.
8. When the user and the computer are in active communication on a graphics system, we refer to this as..... active graphics.

Topic 3.2: Optical breakthough

Vocabulary	
Occupy(v)	Chiếm
Affect(v)	Tác động, ảnh hưởng
Stable(adj)	ổn định
Metal	thiết bị dò kim loại
detector(n)	đĩa quang
Optical drive(n)	phần mềm cổ đông
Shareware(n)	nhân bản, sao y
Diplicate(v)	phiên bản
Version(n)	hạn chế
Limitation(n)	ổ ghi
Rewritable	tẩy, xóa

I. Warm –up

Before reading, try to answer these
questions 1. What is this a picture of?
2. What kind of technology is used by CS-ROM disks and drives?
3. What is CD- ROM stand for?
4. How do you say these expressions in your language?

Compact disk   CD-ROM disk drive

Laser   erasable optical disk

technology

II. Reading

A. What are the advantages and disadvantages of optical disks? Read the text to check your answer.

Disks and drives

Optical disks can store information at much higher densities than magnetic disks. Thus, they are ideal for multimedia applications where images, animation and sound occupy a lot of disk space. Besides, they are not affected by magnetic fields. This means that they are secure

and stable, e.g. they can be transported through airport metal detectors without damaging the data.

However, optical drives are slower than hard drives. While there are hard drives with an average access time of 8 ms, most CD-ROM drives have an access time of 150 to 200 ms.

There are various types of optical drives:

_ **CD-ROM** systems offer everything, from shareware programs to dictionaries and encyclopedias, from multimedia databases to 3-D games. A lot of institutions have discovered that CD-ROM is the most economical way of sharing information. In fact, one CD-Rom disk (650) can replace 300,000 pages of text (about 500 floppies), **which** represents lot of savings in distributing materials and corporate databases. *In addition,* CD-ROM drives can play music CDs while you work. Yet CD-Rom technology has one disadvantage: **you** cannot write anything onto a CD-ROM disk. You can only 'read' **it**, like a book.

_ CD- recorders come in two different forms: **CD-R** and **CD-RW**. CD-R machines record on CD-R (write- once disks), allowing you to create and duplicate CDs. They are used to back up hard disks or to distribute and archive information. In fact, these systems are the modern version of old WORM (write once, read many) disks. CD-RW machines hold CD-RW (rewritable) disks **that** you can erase and re-use, just as you would do with a hard disk.

_ The future of optical storage is called **DVD** (digital versatile disk). A DVD –ROM can hold 17 GB, about 25 times an ordinary CD-ROM. *For this reason,* it can store a large amount of multimedia software and complete Hollywood movies in different languages. They can also play music CDs and CD-ROMs. However, DVD-ROMs are 'read only' devices. To avoid this limitation, companies also produce DVD rewritable drives.

_ **Magneto- optical (MO)** drives use both a laser and an electromagnet to record information. Consequently, MO disks are rewritable, i.e. they can be written to, erased, and then written again. They usually come in two formats: (i) 5.25" cartridges can hold more than 2 GB; (ii) 3.5" floptical disks have capacity of 230 to 640 MB. They are ideal for back-up and portable mass storage.

B. **Read the text again and summarize in the table the most relevant information**

	Technical specifications	Use
CD-ROM		
CD-Recorder		
DVD		
Magneto- optical		

III. Discourse cohesion

A. **Reference signals. Read these sentences and clauses and look back at the text in Task 2 to find out what the words in bold italics refer to:**

1. ... **They** are secure and stable...

2. ... **Which** represents a lot of savings in distributing materials. 3. ...**you** cannot write anything onto a CD-ROM disk.

4. You can only 'read' **it**...

5. CD-RW (rewritable) disks **that** you can erase and re-use...

B. **Connectors and modifiers. Look at the expressions in italics in these sentences and clauses.**

1. Thus, they are ideal for multimedia applications.

2. Beside, they are not affected by magnetic fields.

3. However, optical drives are slower than hard drives.

4. In addition, CD-ROM drives can play music CDs while you work. *5. Yet, CD-ROM* technology has one disadvantage:..

6. For this reason, it can store a large amount of multimedia software.

Put each expression (1to 6) into the right category: a, b, or c a. To show contrast

b. To explain cause and

results c. To add new ideas

IV. Speaking

Which of the products in the following box would be most suitable for the purposes below? Discuss the pros and cons with a partner. 1. To store data and programs at home.

2. To hold large amounts of information in a big company. 3. To store an illustrated encyclopedia for children

4. To hold historical records in the National Library.

5. To store high- quality audio and video, and hold several movies in different languages.

Useful expressions

For personal use, I would recommend...
with In a big company, it would be a good idea
to...
However, ... is good for   an
*   encyclopedi*
a because...

I agree/ disagree you. CD-ROMs...
Besides, ...
Well, that depends on...

Section 4: Basic software

(Điền tên chương/bài):..............   Mã chương/ bài:........................

Topic 4.1: Openrating systems

Vocabulary	
Compatible	Tương thích
(adj) Clone(v)	Nhái, bắt chước
Bootable(adj)	Có thể khởi
Scroll bar(n)	động
Three- dimensional	Thanh cuộn
(adj) Conferencing	(không gian) ba chiều
software(n) Routines(n)	Phần mềm hội thảo
Multitasking(adj)	Chương trình
Thread (n)	con
Simultaneously	Xử lý đa nhiệm
(adv) Numerous	Chuỗi, mạch, dòng
(adj)	Một cách đồng thời
Voice recognition technology	Vô số, nhiều
(n) Supercomputer(n)	Công nghệ nhận dạng giọng nói
General public	Siêu máy tính
license(n) Open source(	Bản quyền dùng
n) Interface (n)	chung (mở)
Navigate(v)	Nguồn mở
Mainframe(n	Giao diện
) Version (n)	Tìm kiếm
	Máy tính lớn
Maverick (n)	Phiên bản
	Người không chịu theo những qui
Predecessor	tắc
(n)	của tổ chức
Challenger(n)	Ông tổ, bậc tiền bối
Kernel(n)	Nhà thách thức
Facility (n)	Nhân(trong 1 hệ điều hành)

I. **Warm –up**

   A. Look at the diagram. What is the function of the operating

   system? B. Read the text below and complete it with the phrase in

   the box

Operating systems

   An operating system is a piece of software that presents an interface
between the computer and the user. One of the first operating systems was
the GM OS or General Motors Operating System created in 1955.

There are two major kinds of operating systems, Command Line Interfaces

(CLI), and more recently, Graphical User Interfaces (GUI). CLIs use only text and no graphics to display information and the user navigates by means of the shell.

Examples of popular CLI operating systems still in use today are MS-DOS and Linux. Examples of popular GUI operating systems are Windows, [X-Window], and Macintosh OS.

Perhaps the most popular OS up until the 1990's was Unix on the mainframe and [MS-DOS] on the PC. Unix was created by mavericks Dennis Ritchey and Ken Thompson in 1970 from an older MULTICS system which they both used but did not like very much. All versions of Linux and Mac OS X can trace their roots to directly back to the original Unix. MS- DOS was Microsoft Corporation's predecessor to Windows. Bill Gates liked the Unix – like functionality of a program designed by Tim Paterson of Seattle Computer Products called QDOS, and he boughtit, rebranded it MS-DOS, and licensed it to IBM. MS-DOS became the underlying CLI for all of Microsoft's GUI operating systems up to and including Windows XP.

The main operating system today on PCs is of course Microsoft Windows operating system is a collection of programs called the kernel. The kernel is the most basic layer which controls the hardware and the file system. Other programs which help the kernel interface with the components and peripherals are called device drivers. Another main task for an operating system is to control which users have access to specific parts of a computer's resources. Most operatings systems have a facility to require users to authenticate with a username and password before being permitted to use the system resources. For example, the OS will allow a system administrator to set permissions on a file or a directory.

Modern operating systems also offer many utilities and conveniences including the ability to easily install and uninstall software applications, monitor hardware, upgrade itself through a network connection, and more. Even basic productivity applications such as web browsers and text editors are now included as standard on most operating system releases.

II.Reading

Reading the text and answer these
   questions: 1. What is an operating
   system?
   2. What are two major kinds of operating
   systems? **3.** Name one of popular GUI
   operating systems?
   4. What was the most popular OS up until the
   1990's? **5.** Whom was Unix created by ?

6. Which is the main operating system today on PCs? **7.** What exactly is an operating system composed of? **8.** What is the kernel?

9. What is another main task for an operating system? **10.**What do modern operating systems offer?

III Basic DOS commands

Match the DOS commands on the left with the explanations on the right. Some commands are abbreviations of English words.

1	FORMAT	A	Erases files and programs from your disk
2	CD (or CHDIR)	b	Copies all files from one floppy disk to another
3	DIR	C	Changes your current directory
4	MA(or MKDIR	D	Initializes a floppy disk and prepares it for use
5	DISKCOPY	E	Displays a list of the files of a disk or directory
6	BACKUP	F	Changes names of your files
7	REN(RENAME)	G	Creates a subdirectory
8	DEL	H	Saves the contents of the hard disk on floppy disk for security purposes.

VI. Language work: Revision of the passive A. The present simple passive

We form the present simple passive with am/is/are+ past participle. Example:
-   This program **is written** in a special computer language. -   Programs and data **are** usually **stored** on disks.

Remember that the word data takes a singular verb (3rd person

singular) when it refers to the information operated on in a computer program.
- The data is ready for procesing

B. Fill in the blank with the correct form of the verbs in brackets

1. Various terminals (connect)............... to this workstation.
2. Microcomputers (know).....................as 'PCs'
3. Magazines (typeset) ....by computers.
4. When a particular program is run, the data (process) .... by the computer very rapidly.
5. Hard disks (use) .... for the permanent storage of information.
6. The drug- detecting test in the Tour de France (support)................. by computers.
7. All the activities of the computer system (coordinate) ....by the central processing unit.
8. In some modern systems information (hold).......... in optical disks.

V. Quiz

Work with a partner. Try to answer as many questions as possible(use the glossary if you need to)

1. What name is given to the set of programs that interface between the user, the applications programs, and the computer.
2. What types of programs are designed for particular situations and specific purposes?
3. What does 'MS-DOS' stand for?
4. What is the basic DOS command for copying a file?
5. The Macintosh operating system is kept in various locations. Where exactly are these?
6. Can you give synonym for the term 'routine'?
7. What is the abbreviation for 'International Business Machines'?
8. Which company developed UNIX?
9. Which programming language allows you to play animations on the Web?
10. What are the effects of computer viruses?

Topic 4.2: Databases

Vocabulary	
Database(n)	Cơ sở dữ liệu
Index (n)	Bảng chỉ mục
Record(n)	Bản ghi, mẫu
File (n)	tin
Updated	Tệp
(adj)	Cập nhật
Market trend (n)	Xu hướng thị
Look up (v)	trường
Dimension (n)	Tra cứu
Productivity (n)	Chiều
User –	Năng suất
definded(adj)	(do) người dùng định nghĩa

I. Warm –up

Companies often use databases to store information about customers, suppliers and their own personal. Study the illustrations and then try to answer these question.

1. What is a database?
2. Which task can be performed by using a database? Make a list of possible applications.
3. What do the terms mean in your language: file, record, field? **II. Reading**

A. Here is a part of an article about databases. First, read all the way through and underline the basic features of a database

Basic features of database programs

With a database, you can store, organize, and retrieve a large collection of related information on computer. If you like, it is the electronic equivalent of an indexed filing cabinet. Let us look at some features and applications.

Information is entered on a database via fields. Each field holds a separate piece of information, and the fields are collected together into records. For example, a record about an employee might consist of several fields which give their name, address, telephone number, age, salary, and length of employment with the company. Records are grouped together into files which hold large amounts of information. Files can easily be updated: you can always change are able to keep track of stock, sales, market trends, orders, invoices, and many more details that can make our company successful.

Another feature of database programs is that you can automatically look up and find records containing particular information. You can

also search on more than one fields at a time. For example, if a managing director wanted to know all the customers that spend more than £7,000 per month, the program would search on the name field and the money field simultaneously.

A computer database is much faster to consult and update than a card index system. It occupies a lot less space, and record can be automatically sorted into numberical or alphabetical order using any field.

The best packages also include networking facilities, which add a new dimension of productivity to businesses. For example, managers of different departments can have direct access to a common database, which represents an enormous advantage. Thanks to security devices, you can share part of your files on a network and control who sees the information. Most aspects of the program can be protected by user-defined passwords. For example, if you wanted to share an employee's personal details, but not their commission, you could protect the commission field.

In short, a database manager helps you control the data you have at home, in the library or in you business.

B. Now make a list of the words you don't understand. Can you guess their meaning? Compare your ideas with other students

C. Using the information in the text, complete these statements.

1. A database is used to... 2. Information is entered on a database via... 3. Each field holds.. 4. 'Updating' a file means..

5. The advantages of a database program over a manual filing system are. 6. Access to a common database can be protected by using....................

III. Puzzle

Complete the sentences by using a term from the list. Then write the words in the crossword to find the hidden message.

Database   field   layout   merging   record   sorted
Udated

1. In order to personalize a standard letter, you can use 'mail..........'
   (a technique which consists of combining a database with a
   document made with a word processor)
2. Records can be automatically.................. into any order.
3. You can decide how many fields you want to have on a ....
4. Files can easily be................... By adding new information or deleting
   the old one.

5. A............. program can be used to store, organize and retrieve information of any kind.
6. The .... of the records can be designed by the user.
7. Each piece of information is given in a separate.................

IV. Language work

Requirements: Need to, have to, must, be+ essential, critical

Note how we describe requirements of particular jobs:	We can also treat need as a modal verb and use the negative form needn't:
1. You need to be able to empathise with the person at the other end of the phone.	7. You needn't have a degree in computing science
2. IT managers have to take responsibility for budgets.	**Have to is an ordinary verb. Its negative form is made in the usual way:**
3. You must be interested in your subject.	8. You don't have to be an expert in everything
4. You must have worked for at least two years in systems analysis.	**Mustn't has a quite different meaning. It means it is important not to do something. It is used for warning, rules, and strong advice. For example:**
5. Experience with mainframes is essential/ critical.	9. You mustn't make

A. Now fill in the blanks with the appropriate form of the verbs, need to, have to, and must, to make sensible statements. More than one answer is possible in some examples.
1. technical qualifications............. To be renewed at intervals to ensure they do not go out of date.
2. You............ become an expert in to narrow a field.
3. You .... to have good communication skills to become a programmer.
4. You .... be an expert in hardware to become a programmer.
5. You .... have worked with IBM mainframes for at least two years. 6. You .... be able to show leadership
7. You .... have a degree but it .... be in computing science.
8. You .... to have experience in Javascript
9. You .... be able to use C++ 10.These days you .... study BASIC
B. Study these requirements for different jobs in computing advertised on the Internet. Then describe the requirements using the methods studied in this unit

1 Systems Manager/	2 Support Analyst: IMB Mainframe MVS	3 Programmer
- technical specialist - min. 2 yrs work in systems programming plus exp.of netview/automation design & support	- IBM MVS support technician - 1 yr exp. Of VTAM, NCP, SSp, NPM, IBM 3745- 900 hardware - authorized to work in the EU	- 3 yrs exp. SAP Basic technical Environment - Team player with strong analytical and problem-solving skills - Ability to communicate issues and solutions
4 webmaster	5 cisco technician	6 IS manager
- strong unix experience - able to use HTML, DHTML, and javascript	- CCNA qualifield - Excellent skills in the surrounding technologies Min. 2yrs	- knowledge of NT and Netware - experience of ERP systems implementation very strong

V. Writing

Imagine that you are Barry Stephens, the sales manager of Sunrise Computer. Write a standard letter to your clients about 'New software products on the market', and offer them a free demonstration disk.

Section 5: Creative software

(Điền tên chương/bài):...............   Mã chương/ bài:........................

Topic 5.1: Multimedia

Vocabulary	
Presentation package(n)	Gói phần mềm thuyết trình
Multimedia(n)	Đa phương tiện
Built- in(adj)	Gắn liền
Stereo synthesizer	Bộ tổng hợp âm
(n) Audio	Bộ khuyech đại âm thanh

I.   Multimedia is here!

Look at the cover for Encarta '05. What types of data are intergrated in multimedia applications?

II.   Reading

A. Read the texts and match them with the headings in the box below Sound, music, MIDI

CD-ROM titles full of pictures, action and sound! The potential of using multimedia

~~CD-ROM is more than just heavy metal Multimedia magic!~~

1. .... Until now, multimedia applications have been used mainly in the fields of information, training, and entertainment. For example, some museums, banks, and estate agents have information kiosks that use multimedia. Sereral companies producee training programs on optical disks, and marketing managers use presentation packages (like Microsoft Powerpoint or Lotus Freelance Graphics for windows) to make business presentations. They have all found that moving images, sound, and music involve viewers emotionally as well as inform them, and make their message more memorable.

2. ....Sound is an important component of the multimedia approach. The effective use of sound can be used to grab the attention of the participant, set the mood, or underscore a point. The most popular way of delivering sound is the hardware soundboard. Such boards offer two important capabilities. The first of these is a built- in stereo synthesizer complete with built- in audio amplifier. Just connect a set of speakers and you've got instant sound, music and speech capabilities. The second capability is the musical instrument digital interface, or MIDI. This is a specialized serial interface that allows an electronic musical instrument to communicate with other MIDI- equipped instruments or PCs.

3. ....Between 80 and 90 percent of all multimedia applications are distributed on CD-ROM, some just on CD, some on several media (as with autodesk's Multimedia Explore, which comes with both a CD- ROM and diskettes). The reason for CD-ROM's popularity in multimedia is simple- a single CD can contain 650 MB of data. That's over 500 floppy disk's worth of programs, sound, and graphics. The newest CD-ROM standard, CD-ROM XA (for eXtended Architecture) uses data compression to fit even more on these shiny discs. Many XA drives are also compatible with Kodak's PhotoCD technology, which digitizes photographs and places them on a CD-ROM

4. .... Electronic encyclopedias integrate text, pictures, and sound, and usually have a video section with a full motion video window. The Compton's Encyclopedia enables you to read about whales, look at photos of whales, listen to whale songs, and view an animated sequence showing whale movements through the ocean. Similarly, the Groliew Encyclopedia lets you read about birds, view pictures of birds, and listen to recordings of their songs.

Other CD-ROMs include dictionaries, guides, and courses about history, science, the human body, cinema, literature, foreign languages, etc. For example, Cinemania from Microsoft has information on thousands of films and photographs, reviews, biographies and dialogues from films.

B. Read the texts again and correct these statements. There is a technical mistake in each of them.

1. Multimedia applications do not use huge amounts of data.
2. You don't need to have a soundboard on your PC to hear speech and music
3. Most multimedia software is distributed on magnetic disks.
4. Kodak's photoCD technology is not compatible with many CD-ROM drives
5. There are no language course available on CD-

ROM **C. Match these terms in the box with the explanations**

a. computer animation   d. CD-ROM player
b. video computing   e. Multimedia control
panels c. MIDI interface

1. Small programs inside the OS designed to work with audio and video files.
2. A code for the exchange of information between OCs and musical instruments.
3. A drive used to handle CD-Roms disks

4. Manipulating and showing moving images recorded with a video camera or captured from a TV or video recorder.
5. Images which move on the screen

III. Language work: IF- clause
A. Conditional clauses
When you want to talk about a possible situation and its consequences, you use a conditional sentence. Here , we examine two types of conditionals.
- First conditional (possible situation) If A happens, B will happen
(present+ simple), (will+ verb)
E.g. If you click on the speaker icon, you'll get a piece of dialogue from the movie. In the main clause, we can also have modal (can), an imperative, or a present tense verb.
- Second conditional (unlikely situation) If A happened, B would happen.
(past simple), (would+ verb)
E.g. If I had the money, I would (I'd) invest in a multimedia upgrade kit. Other modals (could, should, might) may appear in the main clause

Read these sentences, then indentify the tenses used in the if-clause and in the main clause

1. If you upgrade your PC, you'll be able to run multimedia applications.
2. If the marketing manager had a multimedia system, she could make more effective presentations.
B. Put the verbs in brackets into the correct form
1. If I (get)....... A sound card, I'll be able to create my own music with a MIDI.
2. If the system (have)............a superVGA card, we would obtain a better resolution.
3. You won't be able to play CD-ROM disks if you (not have)....... a CD-ROM drive.
4. If you (come).......... To the annual computer exhibition, you could see the new Macs.
5. If I could afford it, I (buy)...........a Multimedia PC
C. Match the sentences in Column A with appropriate sentences from column B. Then join each action and effect using an if-sentence

Column A	Column B
1. you press Print Screen	a. you can drag it across the screen
2. You press Ctrl+ Alt+ del in windows 98	b. it would speed up the computer
3. you added more memory 4. you installed a modem	c. you may lose data
	d. you would have more space at your desk
5. you used a better search engine	e. you would be able to connect to a telephone line
6. you forget to save regulary	f. you can make a copy of the screen
7. you hold down the mouse	g. it displays a list of active programs

D. Describe the consequences of these actions using an if- sentence
1. You don't virus- check floppies.
2. there was a power cut while you were using your computer
3. you install a faster processor
4. you forgot your password
5. you press the delete key
6. you use search engine
7. you double- click on an icon
8. You use power- saving options

IV. Multimedia on the web

Read the text and find:
1. the function of the extension that is usually added to a file name.
2. the language used to create the majority of the text files on the web 3. the graphics interchange format created by CompuSever to compress
    images.
4. the small program (plug- in) that lets you hear audio recordings on the net. 5. the most popular video formats
6. the format created by the Moving Picture Experts' Group to capture, store and play back movies.
7. the extension for the files that can be decompressed with a program like winzip

Recognizing file formats

Web pages can contain different multimedia elements: text, graphics, sounds, video and animation. To identify the format or type of file, an extension (a three letter suffix) is usually added to the

file name when it's saved on disk.

Text

The most common text extensions are .txt, .pdf, .doc and .htm(or html). Most of the text files that you find on the web have the extension. .htm, created with the hypertext markup language.

Graphics

Graphics on the web can include pictures, photos, paintings, image-maps and buttons. The most common formats are .gif (a standard image format developed by CompuServer) and .jpg or .jpeg (create by the Joint Photographic Expert's Group)

The internet is a great place to find and hear hit songs, movie soundstracks, and recorded interviews. The most common formats are these: - .wav: wave files can be played with sound Recorder included with

windows.

- .ra or .ram: files generated by RealAudio, a plug in you can download from the web

Video and animation

You can see cartoons and movie clips on the web, but you need the appropriate software. Video files are usually stored in: .avi, .mov, and .mpg (or .mpge) formats.

To view MPEG videos, you just need video for Windows. However, to create high- quality movie clips, you need a dedicated MPEG expansion card. You can also find animation and 3-D worlds. The two standard tools to manipulate animated worlds are VRML and Java. To view a virtual animatin, you need a program like quickTime VR.

Compressed files

When you download files, they're probably compressed. Windows files have a .zip extension. Macintosh files usually have a .sit extension and are opened with *StuffIt*

Section 6: Programming

(Điền tên chương/bài):...............   Mã chương/ bài:........................

Topic 6.1: Program design

I. Warm –up:

A. In pairs, try to think of an answer for the question. What is programming?

Look at the definition in the Glossary. Is it similar to yours?

B. Complete the following definitions with the words and phrases in the box.

The various parts of the program	may occur in
programs language	binary numbers a
given problem	

1. Algorithm

   The step- by- step specification of how to reach the solution to............

2. Flow chart

   A diagram representing the logical sequence between................ 3. Coding

   The translation of the logical steps into a programming............... 4. Machine

   The basic instructions understood by computers. The processor operates on codes which consist of.

5. Debugging

   The techniques of detecting, diagnosing and correcting errors (or bugs) which............................

II. Reading

Read the text and find answers to these questions. 1. Do computers understand human languages?

2. What are the differences between low- level and high- level languages?
3. What is an assembler?
4. What is the function of compilers?
5. What do you understand by the terms source program and object program?
6. In the future, could computers be programmed in Spainish, French, or Japanese?

   Programming languages

Unfortunately, computers cannot understand ordinary spoken English or any other natural language. The only language they can understand directly is called machine code. This consists of the 1s and 0s (binary code) that are processed by the CPU.

However, machine code as a means of communication is very difficult to write. For this reason, we use symbolic languages that are easier to understand. Then, by using a special program, these languages can be translated into machine code. For example, the so-called assembly languages use abbreviations such as ADD, SUB, MPY to represent instructions. These mnemonic codes are like labels easily associated with the items to which they refer.

Basic languages, where the program is similar to the machine code version, are known as low- level languages. In these languages, each instruction is equivalent to a single machine code instruction, and the program is converted into machine code by a special program called as assembler. These languages are still quite complex and restricted to particular machines.

To make the programs easier to write and to overcome the problem of intercommunication between different types of machines, higher-level languages were designed such as BASIC, COBOL, FORTRAN, or Pascal. There are all problem-oriented rather than machine-oriented. Programs written in one of these languages (known as source programs) are converted into a lower- level language by means of a compiler (generating the object_ program). On compilation, each statement in a high- level language is generally translated into many machine code instructions.

People communicate instructions to the computer in symbolic languages and the easier this communication can be made, the wider the application of computers will be. Scientists are already working or Artificial Intelligence and the next generation of computers may be able to understand human languages.

III.   Language work: infinitive constructions A. The infinitive is used:

  ▯ □ After adjectives
      - It is difficult to use machine code

  ▯ □ After modal verbs with to: ought to, used to -   I ought to make a back –up copy

- Using a computer is much easier than it used to be.

☐ ☐ After modal and auxiliary verbs without to: can, could, may, might, shall, should, will, would, would rather, would sooner

- Unfortunately, computers can't understand English - I'd rather buy a game than a spreadsheet

B. Make sentences as in the example. Example:

Not easy/ write instructions in Pascal

It is not easy to write instructions in Pascal

1. Advisable/ test the program under different conditions. 2. Expensive/ set up a data – processing area.

3. Unusual for a program/ work correctly the first time it is tested. 4. Difficult for students/ learn FORTRAN

5. Important/ consider the capabilities of the programming language. 6. Quite easy/ write instructions in BASIC

C. Now look again at the reading passage in Task 2. Underline the infinitive constructions after modal verbs

Example: unfortunately, computers <u>cannot understand</u> ordinary spoken English.

D. Look at these pairs of examples and decide where there is an 'important' change in meaning.

1. A I remember shutting down the computer before I left the room. B Please, remember to buy the new program.

2. A They stopped to look at the flowchart B They stopped looking at the flowchart

3. A I like studying C language

   B I like to study C language in the evenings.

4. A It has started to rain

   B It has started raining

5. A He needs to work harder

   B This hard disk needs repairing

Topic 6.2 Languages

Vocabular y Applet(n) Source language statements(n) System command(n) Logical sequence of statement(n)	Chương trình ứng dụng của java Câu lệnh bằng ngôn ngữ nguồn Lệnh hệ thống Trật tự logic của câu lệnh

I. Warm- up

A.Make a list of as many computer languages as you can think of.
B.Study this table about Java and answer the questions below

Language	Date	Characteristics	Uses
Java invented by Sun Microsyst em	1995	Cross- platfor m language that can run on any machine. Small java programs, called 'applet', let you watch animated characters	Designed to create Internet applications. When you see a Web page containing Java links, a java program is executed automatically

1. Who invented Java?
2. When was java developed?
3. Can java run on any computer (Mac, PC, or Unix workstation)?
4. What are java's small programs called? What can you do with them **II. Language work: Would , revision of time clauses**

A.The use of 'would'

We use 'would' in conditional sentences. For example:

If you spilled coffee on the keyboard, you would

damage it. **Often the condition is implied, not stated.**

For example: (If I had time) I'd like to build in new

links.

(If I had to make a choice) my favorite site would have to be the

Internet Movie Database.

What is the implied condition in this extract? I would look at other sites too for good ideas.

B. Complete the gaps in this dialogue with 'will' or 'would' or the reduced forms ' 'll' and ' 'd' where appropriate.

A What.......... ^{1}You do when you finish your diploma? B I..........^{2}like to take a course in multimedia. A How long.............^{3}that take?

B If I choose the certificate, it .... ^{4}take 6 months but if I chose the master's, it ....^{5}take a full year. A What .... ^{6}be the advantage of the master's? B I guess I..............^{7}have better job prospects.
A When............. ^{8}You decide?

B It depends on my finals. If I do well, I ....^{9}go for the master's

C. Link these statements using an appropriate time clause
1. A You click the mouse pointer on the file B It is highlighted
2. A You cannot save a file B You name it
3. A The files are transferred
B The transfer is graphically displayed
4. A Remove any floppies
B You close down the computer
5. A The OK button is clicked
B The copying process begins
6. A The percentage of file transferred is displayed B Your browser downloads from the Internet
7. A The virus is not activated B You open the infected file
8. A You repair a PC
B Ensure the machine is disconnected
9. A Don't open an email attactment B You have virus- checked it
10. A You add memory
B Change the BIOS settings.

III. **Speaking: Work in pairs. Student A: Turn to page 160 and student B: turn to page 162**
IV. **A short description of BASIC**
Read the passage and complete it with verbs inbrackets in the correct form.

BASIC is a general purpose high- level programming language, originally designed (develop)............ [1]program in conversational mode. The name BASIC (stand) .... [2]for Beginner's All – purpose Symbolic Instruction Code. This language is (find)...........[3]on most microcomputers because it (be)..............[4]user-friendly and easy to learn.

BASIC (consist)..........[5] of two main parts: the source language statements- the instructions which form the program- and the system commands which (allow).......[6]us to control and edit a program

BASIC enables the user(interact)...... [7]with the program while it is being (excute)........[8], which means that data can be (input)...........[9] while the program is running. Each instructionis (give).............[10] a line number which defines the logical sequence of statements within the program. Some well- known system commands in BASIC ar: RUN, which executed a program (hold)...........[11] in a BASIC file, LIST, which prints a listing of a program on the screen; and DELETE, which (remove)...............[12]a program from a file.

A large number of PC manufacturers adopted BASIC. At present, however, there(be)........ [13]so many versions and extensions that programs written for one type of PC are not directly porable to another.

Section 7: Computers tomorrow

(Điền tên chương/bài):...............   Mã chương/ bài:........................

Topic 7.1 LANs and WANs

Vocabular	
y Node(n)	Nút
Protocol(n)	Giao thức, nghi thức
Transceiver(n	Máy thu phát
) Adapter(n)	Bộ điều hợp, bộ thích ứng
Token(n)	Mã thong báo
Network	Kiến trúc mạng
architecture(n)	Cổng kết nối
Gateway(n)	Mạng cục bộ
Local area	Kết cấu vật thể
network(LAN)(n) Physical	Băng thong
structure(n) Bandwidth(n)	Xung
Pulse(n)	Ăng ten chảo
Aerial (n)/	Đường dây diện thoại
antenna	Mạng toàn cầu

I. Warm- up
Try to answer these questions. 1. What is a computer network?

2. What are the benefits of connecting computers and peripherals in a network?

II. Reading
Read the text below, then match the technical terms on the left with the explanations on the right

Network configurations

A network is a group of devices (PCs, printers, etc.) or 'nodes' connected by communicatons circuits so that users can share data, programs and hardware resources. A network has two main elements: the physical structure that links the equipment and the software that allows communication.

The physical distribution of nodes and their circuits is known as network 'topology' or 'architecture'. The software sonsists of the protocols, i.e. the rules which determine the formats by which information may be exchanged between different systems. We could say that cables ans transceivers (the architecture) allow computers to

'hear' one another, while the software is the 'language' that they use to 'talk' to one another over the network.

As regards the cables, they consist essentially of the transceiver- the hardware that sends and receives network signals. At present, the most widely used transceivers are Token Ring, Ethernet and Local Talk. Token Ring is the most common method of connectiong PCs and IBM mainframes. Most Token Ring adapters transmit data at a speed of 16 megabits per second. With Ethernet, data is transmitted at 100 Mbits/ sec. Ethernet provides a very robust, trouble- free architecture with good levels of performance. In this regard, Ethernet is the best solution for fast and intensive activity.

LocalTalk transceive are the cheapest of all because they are directly included in each Macintosh. Howere, they're a bit slow, which is why most Macs come with built- in Ethernet.

As for protocols, there are rules which describe things like transmission speed and physical interfaces. The Token Ring protocol avoids the possibility of collisions. To transmit data, a workstation needs a **token**, and as there is only one token per network, holding one guarantees sole use of the network. With Ethernet, there are other options, of which TCP/IP (transmission Control Protocol/ Internet Protocol) is perhaps the most useful since it allows different operation systems to communicate with each other. *With regard* to Local Talk networks, they use AppleTalk protocols. The Macintosh operating system includes the AppleTalk manager and a set of drivers that let programs on different Macs exchange information.

LANs can be interconnected by gateways. These devices help manage communications and control traffic on large networks. They change the data to make it compatible with the protocols of different networks.

1. Lan 2. Network architectur e 3. Nodes 4. Protocol 5. Transceiver 6. Token	a. the hardware that emits and receives signals in a computer network. b. A network contained in a relatively small area. c. The arrangement of nodes in a communication system (i.e. the distribution of elements in a network) d. A device that translates protocols between different types of networks (e.g. it can link networks of PCs and Macs to mainframes
	Token Ring network; only the machine in prossession of this piece of software can transmit on the network. f. A set of rules that allows the exchange of information over a network. g. Computer devices interconnected in a network.

III. Language work: Prepositional phrase of 'reference'

In the sentence As for protocols, these are rules...., the expression *as for* marks the theme of the sentence.

Look at the words in the box below and combine them to make nine similar phrases of reference meaning 'connectiong'. You can use words more than once. Look back at the text to find some of them.

With	To	In	For	As	On	The
Regard	This	Regards	Matter	Reference	Respect	of

IV. WANs and worldwide communications Try to answer these questions.

1. What is a WAN?
2. How can computers be linked up over a long distance?
3. What are the advantages of optical- fibre cables over telephone lines? 4. What is the function of communications satelliets?

Now read the passage and find out if your answers were correct

For long- distance or worldwide communications, computers and LANs are usually connected into a wide area network (WAN) to form

a single, intergrated network. Two good examples of wide area networks are internet and Arpanet. They transfer data and email for university researchers and academics, commercial groups, military installations and ordinary people.

Networks can be linked together by either telephone lines or fibre-optic cables. For exampl, ISDN (intergrated services digital network) is an international standard for transmitting digital text, sound, voice and video data over telephone lines. On the other hand, FDDI (fibre distributed data interface) is an optical- fibre network. This new standard transmits data at great speed -100 megabits per second.

Mordern telecommunications use fibre- optic cables because data can be transmitted at a very high speed through the extremely wide bandwidths of glass fibres. The fibre system operates by transmitting light pulses at high frequencies along the glass fibre. This offers considerable advantages: (i) the cables require little physical space; (ii) they are safe because they don't carry electricity; (iii) they avoid electromagnetic interference.

Networks on different continets can also be connected via satellite. Computers are connected by a modern either to ordinary telephone wires or fibre- optic cables, which are linked to a dish aerial. This aerial has a large concave reflector for the reception and sending of signals. Then, when signals are received by the satellite, they are amplified and sent onto workstations in another part of the world.

V. Speaking

In small groups, study and discuss the illustration below. Then prepare a description and give an oral report to the class.

▯ □ This diagram represents a wide area network or WAN. Two networks are linked via satellite. One network is in .... And consists of ....The other LAN is in .... and contains......................................

▯ □ In Los Angeles, the computers are connected to the telephone lines by ....

However, in Barcelona........................

▯ □ The satellite receives signals from.. Then the signals are retransmitted to...

▯ □ The purpose of this integrated network may be............................ It allows large companies and institutions to...............................

VI. Writing

The diagram below illustrates the computer connections in three areas of a large company. Read the description of the office area network. Then write similar descriptions of the other areas.

Notes for Student A

Topic 2.1 Task 2: Speaking

Read these notes about two input devices. Then describe them to your partner. They have to guess what you are describing

1

   ☐ ☐ Scans text and pictures

   ☐ ☐ Sends digitized image to computer

2

   ☐ ☐ Allows you to control computer vocally

   ☐ ☐ Spoken commands do what is normally done with keyboard/ mouse

Topic 7.2: Task 4: Speaking

Complete the table on the next page by asking for information, like this:

   ☐ ☐ What does 'COBOL' mean?

   ☐ ☐ 'COBOL' stands for...

   ☐ ☐ When was it developed?

   ☐ ☐ In.

   ☐ ☐ What's it used for?

   ☐ ☐ It's used for.......

   ☐ ☐ What features has it got?

   ☐ ☐ It is easy to use and it's written in English. It can handle very large data files.

Answer your partner's questions too.

Computer language	Date	Characteristics	Uses
COBOL (common Business	1958-1959	Easy to read. Able to handle very large files. Written in	Mainly used for business applications.
BASIC...................	....	....	General purpose language. Used to teach

Pascal (named after.................. ....)	1970-1973	Structured language with algorithmic features designed for fast execution of the object program. A fast compiler called Turbo Pascal was ~~crated in 1093~~	....
LOGO	1969-	....	Designed for use in schools to encourage children to experiment ~~with~~
HTML(..................... .. ..)	1990-	HTML codes control the use of fonts and images on a web page and specify the links to other Internet sites. HTML filea are viewed with a client ~~program called a~~	....

Notes for Student B

Topic 2.1 Task 2: Speaking

Listen to your partner and guess which input devices they are describing.

Now use these notes to describe two input devices to Student A. 1

◻ ◻ Stationary device

Controls the cursor and selects items on the screen

◻ ◻ Works like upside- down mouse

◻ ◻ Ball on top turned round with fingers

2

◻ ◻ Graphics tool

◻ ◻ Lets you interact with computer

◻ ◻ You move presure – stylus accross the surface of a table

◻ ◻ Creates graphics

Topic 5.1 Task 4: Speaking

    Complete the table on the next page by asking for information, like this:

    ▯ ▢ What does 'COBOL' mean?

    ▯ ▢ 'COBOL' stands for...

    ▯ ▢ When was it developed?

    ▯ ▢ In....

    ▯ ▢ What's it used for?

    ▯ ▢ It's used for.......

    ▯ ▢ What features has it got?

    ▯ ▢ It is easy to use and it's written in English. It can handle very large data files.

Answer your partner's questions too.

Computer	Date	Characteristics	Uses
COBOL (common Business Oriented Language	1958-1959	Easy to read. Able to handle very large files. Written in English	Mainly used for business applications.
.... (Beginner's All purpose Symbolic Instruction	1964-1965	High –level programming language. Interactive. Easy to learn. Displays error messages that help users to correct mistakes. Has a large number of dialects	....
Pascal (named after the famous scientist Blaise	1970-1973		General purpose. Often used in colleges and universities to each programming
LOGO	....	Easy to learn. Flexible – It can do maths, make lists, construct graphs, etc. Its drawing capabilities allow children to construct simple graphics	....

	1990-	....	Used to crate hypertext documents that can be displayed on the Web
. (Hyper Text Markup Language)			

Kiến thức cần thiết để thực hiện công việc:

- Chỉ cung cấp kiến thức thực sự cần thiết và vừa đủ để thực hiện công việc;

- Trình bày bối cảnh, tình huống xuất hiện hoặc áp dụng kiến thức trong hoạt động nghề nghiệp;

- Các câu hỏi trắc nghiệm tự kiểm tra mức độ nhận thức, câu hỏi mở rộng, nâng cao;

- Các bài tập xử lý và củng cố thông tin đã thu nhận hoặc phát hiện được;

Các bước và cách thức thực hiện công việc:

- Quy trình và các tiêu chuẩn thực hiện công việc;

- Hướng dẫn cách thức thực hiện công việc, những lỗi thường gặp và cách khắc phục;

Bài tập thực hành của học viên

- Các bài tập áp dụng, ứng dụng kiến thức;

- Bài thực hành giao cho cá nhân, nhóm nhỏ;

- Nguồn lực và thời gian cần thiết để thực hiện công việc;

- Kết quả và sản phẩm phải đạt được;

- Hình thức trình bày được tiêu chuẩn của sản phẩm.

Yêu cầu về đánh giá kết quả học tập:

- Đưa ra các nội dung, sản phẩm chính...;

- Cách thức và phương pháp đánh giá...;

- Gợi ý tài liệu học tập..;

Ghi nhớ

- ......

- ......

(Kết thúc bài dạy, chuyển sang trang mới)

(font chữ Times New Roman, cỡ chữ 14)

CÁC BÀI TẬP MỞ RỘNG, NÂNG CAO VÀ GIẢI QUYẾT VẤN ĐỀ

(Mục này sẽ chung cho cả môn học/mô đun, nếu có thì đưa vào, nếu không bỏ cả tiêu đề này đi)

Trong mục này có thể đưa ra một số bài tập có liên quan tới hoạt động nghề nghiệp, cộng đồng, xã hội. Ví dụ: Nghiên cứu thị trường cung cấp vật tư trong ngành; tìm giải pháp trong việc chống đi muộn về sớm trong Tổ kiểm tra chất lượng sản phẩm; tìm kiếm vật liệu thay thế cao su chịu nhiệt dùng cho các nồi nấu cơm điện... hoặc thông báo cho học viên biết trước tính chất, chủng loại, quy cách một số bài tập theo nội dung của bài mà các học viên phải thực hiện. Loại này sẽ được giáo viên chuẩn bị là tài liệu phát tay cụ thể về: tên bài tập, thời gian thực hiện, phương pháp tiếp cận giải quyết vấn đề, cách tổ chức thực hiện, yêu cầu cần đạt...)

Trong mục này cần chú ý: Trong giáo trình chỉ đưa những bài có liên quan tới chủ đề của môn học/mô đun. Tuy nhiên, để tránh tình trạng học viên năm sau sao chép đáp án của những năm trước, nên cần soạn đề khác nhau. Khi tiến hành ra bài, giáo viên của khóa nào đó sẽ chỉ chọn một bài theo yêu cầu.

Cần soạn trước mẫu giấy làm bài, trong bài cần thiết nêu cho học viên biết trước cách thức họ sẽ đánh giá như thế nào. Chú ý với loại bài tập kiểu này có thể có 3 dạng khác nhau:

1. Dạng thứ nhất là các bài tập được soạn thảo trong Giáo trình này gồm: Các bài mang bản chất khoa học/kỹ thuật, ít bị biến động theo thời gian; trong mục đích, nội dung, môi trường, điều kiện liên quan gần như không thay đổi trong nhiều năm.

Ví dụ: Hãy xác định thành phần Phốt pho tối ưu cần thiết cho cây Mía (đây là bài tập nâng cao trong mô đun: Yêu cầu môi trường cho sự phát triển của cây trồng, tính nâng cao/giải quyết vấn đề ở đây chính là bài tập chỉ hướng vào cây mía)

2. Dạng thứ hai là những bài được biên soạn dùng làm tài liệu phát tay; gồm các bài mang tính thời sự, luôn biến động theo từng thời kỳ; Nó có thể là bài phục vụ sản xuất hiện hành, hoặc do vật liệu trang bị thiếu cần thay thế cái khác, hoặc lợi dụng cơ hội cho học viên thực hiện tại 1 cơ sở khác...Dạng này sẽ do giáo viên trực tiếp đứng lớp chịu trách nhiệm biên soạn, nhưng phải cónhững gợi ý ghi trong sách HDGV để giúp và nhắc nhở giáo viên thực hiện

Ví dụ: Xác định loại phân bón có tỷ lệ Phốt pho thích hợp để bón cho

vùng Mía tại Hà Bắc. (Đây là bài tập có tính giải quyết vấn đề cho vùng nguyên liệu Hà Bắc năm nay, sang năm có thể Hà Bắc không còn vùng trồng mía nữa...)

3. Dạng thứ ba là những bài soạn trong sách HDGV gồm: Những bài có

tính ổn định tương đối, phần khác biệt đã giao cho giáo viên đứng lớp hiệu chỉnh sau đối với từng khóa, quan trọng nhất ở đây là những bài kiểm tra/đánh giá cuối

TÀI LIỆU THAM KHẢO

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