MODULE 3 COMPUTING

A. THE AGE OF COMPUTERS

Nowadays we cannot imagine our life without computers and the fact is that they have become so important that nothing can replace them. They seem to be everywhere today.

First computers were so huge that they occupied whole rooms or buildings, being relatively slow. Nowadays, in addition to the PC's, laptops, notebooks and palmtops owned by almost everyone, they are also used by scientists and they may also be as huge as the old ones but they are million times faster. They can perform many complex operations simultaneously and scientists practically can't do without them. Thanks to them, people have access to an enormous amount of information. Gathering data has never been simpler than now. They are not only used in laboratories but also in factories to control production; sometimes computers manufacture other computers.

But computers are being used not only in science and industry. Thanks to them, modern medicine can diagnose diseases faster and more thoroughly. Also in the banking system computers have become irreplaceable. They control ATMs, all data is stored on special hard disks and paper isn't used in accountancy any more. Furthermore, architects, designers and engineers can't imagine their work without computers. These machines are really everywhere and we depend on them also in such fields as criminology. They help police to solve crimes and collect evidence.

Moreover, computers are wide-spread in education as they are used in the process of learning. Firstly, they store an enormous amount of data which helps students to gain information. Secondly, thanks to special teaching techniques and programs, they improve our skills of concentration and assimilation of knowledge. They have become so popular that not knowing how to use them means to be illiterate.

However, like all technological machines, beside the bright side, computer technology also has its dark side.

ADVANTAGES

1. **Computers save storage place.** Imagine how much paper would have to be used, how many trees would have to be cut just to store information which is today on hard disks. Data stored on just one CD in paper form would use room of dozen square meters and would weigh thousands of kilos. Today, techniques for converting data from paper to digital form have also tremendously developed. You can simply rewrite the text using a keyboard. If you are not good at it, you can use a scanner to scan necessary documents. There are even special ▶

devices which can transfer our voice into text. Thanks to computers, banks, private and government companies, libraries and many other institutions can save millions of square meters and lot of money. Nowadays, we have access to billions of information and, due to the computer's capabilities, we actually don't need to worry not only about how to store them but also how to process them.

2. **Computers can calculate and process information faster and more accurately than humans.** Sometimes you can read in newspapers that, due to a computer's mistake, something has failed. But that's not true because machines cannot make mistakes of their own. Sometimes it's a short circuit, other times it's a hardware problem, but most often it is a human mistake, someone who designed and wrote the computer program.

3. **Computers improve our lives.** They are very useful in office work, we can write texts such as reports and analyses. Compared with old typewriters, when using computers, we don't have to worry about making mistakes in typewriting because special programs help us to avoid them and we can change them any time. When the text is finished, we can print it in as many copies as we want. Last but not least, we can communicate with the whole world very fast and cheap using the Internet.

4. **Computers are user-friendly.** We can watch videos and listen to music only having a PC. We don't need video players, TVs and hi-fi's any more. Furthermore, we don't have to buy PC's which can take room due to their other necessary components and wires. We can buy laptop or palmtop computers – which are even smaller – and use them anywhere we want.

DISADVANTAGES

1. **Computers are dangerous to our health.** Monitors used to be dangerous for our eyesight. Nowadays, thanks to technological development, they are very safe. But there are other threats to our health than damaging our sight. Working with computers and permanently looking on the monitor can cause epilepsy, especially with children. Parents often want to have a rest and don't pay enough attention to how long their children use computers. These negative effects also concern TV screens.

2. **Computers sometimes break down.** The biggest problem is when our hard disk breaks down because of the data stored on it, while other hardware is easily replaceable. But there are many ways to avoid the consequences of losing our data, for example, by saving it on CDs. Beside hardware failures, there are also software ones.

3. **Computers sometimes have "diseases".** If you have an Internet connection, you have to be particularly careful and download an anti-virus program. Fortunately, there are many of them and most of them are freeware. But you have to remember to download updates.

4. **Violence and sex.** The main threats to younger users of computers are pornography and violent games. The presence of sexual content or level of violence should be properly marked and parents should pay close attention to this issue.

5. **Computer addiction.** The other threat is that you can be a computer addict. If you spend most of your free time using a computer, you should go and see a psychologist.

1 *Read the text and choose the best options.*

1. What is the purpose of the text?
   a. To inform how important computers are in our life.
   b. To inform how dangerous computers are in our life.
   c. To consider advantages and drawbacks of computers in our life.
   d. To warn about the use of computers.

2. According to the text, how have computers changed, since the first ones appeared?
   a. They have become faster.
   b. They have become faster and smaller.
   c. They are used by scientists.
   d. They have become bigger.

3. The writer thinks that
   a. it is essential to be able to use a computer in modern society.
   b. there's no point in being able to use a computer in modern society.
   c. being able to use a computer has to be considered as an essential part of everyone's education.
   d. everybody is able to use a computer in modern society.

4. The information given in the text is meant to be ....
   a. funny
   b. historic
   c. scientific
   d. interesting

5. The best title for the text would be:
   a. We couldn't live without computers
   b. The computer evolution
   c. Computers and people
   d. Computers in our lives: pros and cons

2 *Choose words from the list to complete the following sentences.*

CD-ROM	Data-logging	ROM	Data
Hard Disk	Information	Document	Simulation
Printer	Encryption	CPU	Spreadsheet
Sensor	RAM	MICR	Justification
Modem	Scanner	Back up	Analysis

a. ………………................… is ……………………… given meaning by putting it in a context.

b. A ……………………………………… can hold more data than a ………………….…..

c. ………………… is memory that keeps its content when the computer is switched off.

d. ………………… is memory that loses its content when the computer is switched off.

e. A …………………………… allows data from a computer to be transmitted along an ordinary phone line.

3 *For each of the following, state whether the device is an input device, an output device or a storage device.*

a. Laser printer: ....

b. Scanner: ....

c. CD: ....

d. Bar code reader: ....

e. Mouse: ....

f. Speaker: ....

4 *Which three of the following are tasks carried out by the operating system of a computer?*

a. Transferring data from the keyboard to the computer

b. Finding a record in a database

c. Allocating CPU (processor) time to a task

d. Finding a website about African animals

e. Editing a word-processed document

f. Managing the memory of the computer

5 *It is important that data stored in computer systems is kept safe. One way data can be damaged is by viruses.*

a. Describe two other threats to data stored on a hard disk.

1. ....

2. ....

b. How can a virus attack be prevented?

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