МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ
РОССИЙСКОЙ ФЕДЕРАЦИИ

ФГБОУ ВО «Воронежский государственный технический
университет»

О.Г. Нехаева Е.В. Сарафанникова

IT in the Modern World

Учебное пособие

Воронеж 2017

В учебном пособии представлены аутентичные тексты, посвященные отдельным аспектам информационных технологий, и упражнения, направленные на активное усвоение терминологии по данной теме и развитие навыков говорения.

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Рецензенты: кафедра английского языка гуманитарных факультетов Воронежского государственного университета (зав. кафедрой д-р филол. наук, проф. А.П. Бабушкин);
канд. филол. наук, доц. О.Е. Сафонова

ПРЕДИСЛОВИЕ

Настоящее учебное пособие предназначено для студентов, обучающихся по направлениям 09.03.01 «Информатика и вычислительная техника» (направленность: Системы автоматизированного проектирования) и 09.03.02 «Информационные системы и технологии» (направленность: Информационные системы и технологии) очной формы обучения. Оно также может быть полезным для широкого круга учащихся, интересующихся сферой информационных технологий. Пособие имеет практическую направленность и призвано помочь студентам при чтении английских текстов по специальности и при изложении своих мыслей на английском языке.

Данное пособие состоит из 2 частей, первая из которых включает в себя 8 тематических разделов (юнитов), а вторая – это грамматический справочник, также состоящий из 8 юнитов. Кроме того в пособие включен список сокращений, встречающихся в текстах, и 6 приложений – сводных грамматических таблиц.

Следует сказать, что работа с разделом, посвященным грамматике, не предполагает непосредственной привязки к определенному тематическому разделу. Грамматический блок может использоваться как самостоятельно, так и по мере возникновения потребности проработать то или иное грамматическое явление. Грамматические таблицы являются обобщением, в них можно найти и те видовременные формы, которые не нашли отражения в части 2.

Отличительной особенностью данного учебного пособия является то, что в каждом тематическом разделе представлены два текста (A, B). Тексты A – это научные тексты по информационным технологиям, а тексты B, смежные по тематике, относятся к научно-публицистическому стилю. Аутентичные тексты разных жанров позволяют расширить

лексический запас студентов. Еще одним положительным моментом такой структуры является возможность выйти на интересные темы для обсуждения, что способствует развитию речевых навыков.

В целом, авторы придерживались определенного единообразия структуры изложения материала и последующих заданий. При этом в каждом разделе есть одно или два отличающихся задания. Они направлены на проработку разных лексико-грамматических явлений, а также мотивируют студентов мыслить и говорить на заданные темы.

Авторы надеются, что настоящее пособие поможет студентам развить навыки, необходимые для дальнейшей успешной профессиональной деятельности.

От авторов.

PART 1

UNIT 1

DIGITIZED WORLD

Task 1. Match the following English words and phrases from text A with their Russian equivalents:

1) generation	a) товары и услуги
2) to enrol for	b) потребление топлива
3) to dispense money	c) банкомат
4) to keep records of smth	d) позволять кому-либо что-то делать
5) fuel consumption	e) осуществлять операции
6) goods and services	f) поколение
7) to let someone do smth	g) выдавать деньги
8) to find out about smth	h) записаться
9) to carry out transactions	i) вести учет чего-либо
10) automatic teller machine	j) узнавать о чем-либо

Task 2. Read and translate text A.

THE DIGITAL AGE

We are now living in what some people call the digital age, meaning that computers have become an essential part of our lives. Young people who have grown up with PCs and mobile phones are called the digital generation. Computers help students to perform

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mathematical operations and improve their maths skills. They are used to access the Internet, to do basic research and to communicate with other students around the world. Teachers use projectors and interactive whiteboards to give presentations and teach sciences, history or language courses. PCs are also used for administrative purposes – schools use word processors to write letters, and databases to keep records of students and teachers. A school website allows teachers to publish exercises for students to complete online. Students can also enroll for courses via the website and parents can download official reports.

Mobiles let you make voice calls, send texts, email people and download logos, ringtones or games. With a built-in camera you can send pictures and make video calls in face-to-face mode. New smartphones combine a telephone with web access, video, a game console, an MP3 player, a personal digital assistant (PDA) and a GPS navigation system, all in one.

In banks, computers store information about the money held by each customer and enable staff to access large databases and to carry out financial transactions at high speed. They also control the cashpoints, or ATMs (automatic teller machines), which dispense money to customers by the use of a PIN-protected card. People use a Chip and PIN card to pay for goods and services. Instead of using a signature to verify payments, customers are asked to enter a four-digit personal identification number (PIN), the same number used at cashpoints; this system makes transactions more secure. With online banking, clients can easily pay bills and transfer money from the comfort of their homes.

Airline pilots 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. On the ground, airlines are connected to travel agencies by computer. Travel agents use computers to find out about the availability of flights, prices, times, stopovers and many other details.

Task 3. Answer the following questions:

1) What is digital age?
2) How are computers used for educational purposes?
3) What can you do with a built-in camera?
4) How are computers used in banking?
5) How can computers help us in the air?

Task 4. Find the words in the text that have the following meaning:

1) keep, save
2) execute, do
3) monetary
4) screen
5) integrated
6) connected to the Internet
7) collection of factors and figures
8) describes information that is recorded or broadcast using a computer
9) program used for text manipulation
10) copy files from a server to your PC or mobile

Task 5. Match the following words from the text with their definitions:

1) to grow up	a) people who work for an organization
2) to improve	b) someone who buys smth. especially from the shop
3) customer	c) to change from being a child into being an adult
4) cashpoint	d) a short stay in a place in between parts of a journey
5) to verify	e) a machine where you can take out money at

any time by using a special card
6) staff   f) to get better
7) stopover   g) to check that smth. is true by careful investigation

Task 6. Match the verbs with the nouns then complete the sentences using these collocations:
1. to send
2. to give
3. to do
4. to access
5. to store
6. to make
7. to transfer

   a. information
   b. money
   c. phone calls
   d. text
   e. databases
   f. presentation
   g. research

1) Thanks to Wi-Fi, it is now easy to……….from cafes, hotels, parks and many other public places.
2) Online banking lets you……….between your accounts easily and securely.
3) Skype is a technology that enables users to……….over the Internet for free.
4) In many universities, students are encouraged to……….using PowerPoint in order to make their talks more visual attractive.
5) The Web has revolutionized the way people ………. – with the sites such as Google and Wikipedia, you can find the information you need in seconds.
6) Cookies allow a website to ………. on a user's machine and later retrieve it; when you visit the website again, it remembers your preferences.
7) With the fastest mobile phones, you can ………. with multimedia attachments – pictures, audio, even video.

Task 7. Match the following English words and phrases from text B with their Russian equivalents:

1) to lie	a) содержание
2) software	b) подходить (к чему-л.), уместиться
3) reason	
4) to replace	c) заменять
5) to improve	d) редактор
6) content	e) лгать
7) digitized	f) программное обеспечение
8) to fit	g) слегка
9) editor	h) «отцифрованный»
10) slightly	i) улучшать
	j) причина

Task 8. Read and translate text B.

DO CAMERAS LIE?

People used to say that 'the camera never lies', but with modern computer software and digitized photographs, almost anyone can change the content of a photograph.

With the aid of a computer program, you can remove one person and replace them with the other one. You can move one person closer and put the other one at the background. You can replace a serious face with a much happier smiling face. If, for some reasons, it's impossible just to replace the smile (for example, the eyes were shut), the editor may decide to replace the whole head. Picture editors change photos of a famous person to make them look more/less glamorous, improve a photo in an advert to make the product look more attractive and change a war photo to make it look more or less violent than it is.

For years newspapers have used various techniques to improve the quality of their photographs, and have often moved people closer together to make them fit on the page of the paper. But now some editors feel that too many changes are being made. One former editor said: 'It's being untruthful with a picture, and we'd never agree to anyone telling a lie in words, so we shouldn't do it with pictures'. Another former editor agreed but took a slightly more relaxed view: 'There's nothing wrong with making the grass a bit greener, but if you start removing people because they aren't what you want, then where will it end?'

Task 9. Answer the following questions:

1. How are the picture editors able to change photos?
2. Why are photos changed in newspapers?
3. Do you think it's right to take pictures of celebrities on holiday?
4. Are there any situations when improving the photos can benefit?

Task 10. Find synonyms and antonyms for the following words in the text. The words are given in the same order as in the text:

SYNONYMS	ANTONYMS
- cheat	- always
- grave	- outdated
- lucky	- further
- to better	- foreground
- outrageous	- worsen
- false	- truthful
- a little	- begin

Task 11. Match the following words from the text with their definitions:

1) modern	a) information in a newspaper, on TV, on the Internet, etc. that makes people want to buy something or do something
2) war	b) to take somebody or something off or away from somebody or something
3) advert	c) to have the same opinion as another person about something
4) violent	d) fighting between countries or between groups of people
5) to remove	e) what you can see from a place
6) to agree	f) of present time
7) view	g) strong and dangerous; causing physical harm

Task 12. Complete the sentences using the words from the text in the correct form: **to look, years, reasons, used to say, words, to make, to remove.**

1. People … that 'the camera never lies'.
2. You can … one person and replace them with the other one.
3. Picture editors change photos of a famous person to make them … more/less glamorous.
4. For some …, it's impossible just to replace the smile.
5. For … newspapers have used various techniques to improve the quality of their photographs.
6. We'd never agree to anyone telling a lie in … .
7. Picture editors improve a photo in an advert … the product look more attractive.

Task 13. Read the quotes about technology and discuss them with a partner: What do these quotes say about the relationship between society and technology? Do you agree or disagree? Do you find any of them funny?

1. The factory of the future will only have two employees, a man and a dog. The man will be there to feed the dog. The dog will be there to keep the man from touching the equipment.

(Warren G. Bennis)

2. *The real danger is not that computers will begin to think like men, but that men will begin to think like computers.*

(Sydney J. Harris)

3. Computing is not about computers any more. It is about living.

(Nicholas Negraponte)

UNIT 2

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THE INTERNET AND ITS INFLUENCE

Task 1. Match the following English words and phrases from text A with their Russian equivalents:

1) research program	a) образовательное учреждение
2) to be known as	b) межсетевое взаимодействие
3) to be made up of	с)исследовательская программа
4)to allow someone to do smth.	d) быть известным как
5) to identify	e) (зд.) охватить пользователей
6) backbone	f) позволять кому-то что-то делать
7) education institution	g) основа
8) facility	h) состоять из
9) interconnectivity	i) определять
10) to reach users	j) (зд.) техническое средство

Task 2. Read and translate text A.

THE INTERNET AND THE WORLD WIDE WEB

The Internet is a worldwide system of interconnected computer networks that use the TCP/IP set of network protocols to reach billions of users. The Internet began as a U.S Department of Defense network to link scientists and university professors around the world. In 1973 the Defense Advanced Research Projects Agency (DARPA) initiated a research program to investigate techniques and technologies for interlinking packet networks of various kinds. The objective was to develop communication protocols which would allow networked computers to communicate transparently across multiple, linked packet networks. This was called the Internetting project and

system of networks which emerged from the research was known as the "Internet" (**Inter**continental **Net**work).

Today the system is made up of private networking facilities in education and research institutions, business and government organizations across the globe. A network of networks, the Internet serves as a global data communications system that links millions of private, public, academic and business networks via an international telecommunications backbone that consists of various electronic and optical networking technologies.

The terms "Internet" and "World Wide Web" are often used interchangeably; however, the Internet and World Wide Web are not one and the same.
The [World Wide Web](#) (sometimes abbreviated "www" or "W3") is an [information space](#) where documents and other [web resources](#) are identified by [URIs](#), interlinked by [hypertext](#) links, and can be accessed via the [Internet](#) using a [web browser](#) and (more recently) [web-based applications](#). It has become known simply as "the Web". As of the 2010s, the World Wide Web is the primary tool billions use to interact on the Internet, and it has changed people's lives immeasurably.
The Internet is a vast hardware and software infrastructure that enables computer interconnectivity. The Web, on the other hand, is a massive hypermedia database - a myriad collection of documents and other resources interconnected by hyperlinks. Imagine the World Wide Web as the platform which allows one to navigate the Internet with the use of a browser such as Google Chrome or Mozilla Firefox.

Task 3. Answer the following questions:

1. How did the Internet begin?
2. What does DARPA stand for?
3. What was called the Internetting project?

4. Why are the terms Internet and World Wide Web cannot be used interchangeably?

Task 4. Find synonyms for the following words in the text:
- personal
- by means of
- aim
- extremely
- a lot of
- main
- information

Task 5. Match the following words from their definitions:

1) to initiate	a) to communicate or work together
2) to emerge	b) to cause something to start
3) to interact	c) an application program that provides a way to look at and interact with all the information on the World Wide Web.
4) tool	d) a word or expression used in relation to a particular subject
5) to enable	e) to make something possible
6) browser	f) to come into existence
7) term	g) an instrument or piece of equipment used to help you do a particular kind of work

*Task 6. Find computer-related terms in text A and try to give their definitions in English. The term **browser** is defined in Task 5.*

Task 7. Make up sentences using the words given.

1. World/this/linked/the/scientists/network/around.
2. Personal/of/networking/system/the/consists/facilities.
3. The/millions/across/Internet/globe/the/of/networks/links.

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4. Used/the/Internet/on/WWW/interact/the/is/to.
5. Browser/us/a/the/Internet/the/allows/WWW/navigate/to/ using.

Task 8. Match the following English words and phrases from text B with their Russian equivalents:

1) addiction	a) влияние
2) to cause	b) противостоять
3) to borrow	c) азартные игры
4) treatment	d) зависимость
5) impact	e) заполучить, завербовать
6) housewife	f) обвинять
7) to resist	g) стать причиной
8) to hook	h) лечение
9) gambling	i) взять в долг
10) to blame	j) домохозяйка

Task 9. Read and translate text B.

THE IMPACT OF THE INTERNET

The latest addiction to trap thousands of people is the Internet, which has been blamed for broken relationships, job losses, financial ruin and even one suicide. Psychologists now recognize Internet Addiction Syndrome (IAS) as a new illness that could cause serious problems and ruin many lives. Special help groups have been set up to offer sufferers help and support.

Psychologists have described many worrying examples, including one man who took his own life after borrowing more than £14,000 to feed his addiction, and a teenager who had to receive psychiatric treatment for his 12-hour-a-day habit. "This illness is not fake, and it must be taken seriously," said an expert in behavioural addiction at Nottingham Trent University. "These are

not sad people with serious personality defects, they are people who were fine before they found the Internet."

IAS is similar to other problems like gambling, smoking and drinking: addicts have dreams about the Internet; they need to use it first thing in the 24 morning; they lie to their partners about how much time they spend online; they wish they could cut down, but are unable to do so. A recent study found that many users spend up to 40 hours a week on the Internet; although they felt guilty, they became depressed if they were made to stop using it.

Almost anyone can be at risk. Some of the addicts are teenagers who are already hooked on computer games and who find it very difficult to resist games on the Internet. Surprisingly, however, psychologists say that most victims are middle aged housewives who have never used a computer before.

Task 10. Answer the following questions:

1. Why do people get Internet addicted in your opinion?
2. Is it possible to cope with the addiction on your own or do you need professional help?
3. Does the Internet really expand our horizons?
4. What are the advantages and disadvantages of the Internet?

Task 11. Find synonyms and antonyms for the following words in the text. The words are given in the same order as in the text:

SYNONYMS	ANTONYMS
- disease	- first
- sorrowful	- recovery
- alike	- long ago
- difficulty	- excluding
- up-to-date	- cheerful
- blameworthy	- safe
- earlier	- yield

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Task 12. Match the following words from the text with their definitions:

1) to trap	a) the way you are; the way that you do and say things
2) fake	b) if you are guilty, you feel you have done something wrong
3) expert	c) to keep somebody in a place that they cannot escape from
4) behavior	d) a person who knows a lot about something
5) addict	e) a person or thing that is hurt, damaged or killed by someone or something
6) guilty	f) a person who cannot stop wanting something that is bad for them
7) victim	g) a copy of something that seems real but is not

Task 13. WWW stands for World Wide Web. What do the following abbreviations stand for? Look up in the abbreviations list at the end of the book.

TCP/IP
ICT
CPU
GPS
CCTV
LCD
IAS

UNIT 3

COMPUTERS AND BUSINESS EFFICIENCY

Task 1. Match the following English words and phrases from text A with their Russian equivalents:

1) computer literacy	a) удерживать, сохранять информацию
2) information-dependent society	b) (зд.) цифровое пространство
3) digital terrain	c) обрабатывать информацию
4) to distinguish smth. from smth.	d) решение задач и проблем
5) to retain information	e) (зд.) существенно упростить жизнь
6) to freeze out	f) информационно-зависимое общество
7) to be aware of smth.	g) отличать что-либо от чего-либо
8) to keep life streamlined	h) вытеснять, избавляться (от конкурента, напр.)
9) problem solving	i) компьютерная грамотность
10) to process information	j) отдавать отчет в чем-то, быть в курсе чего-либо

Task 2. Read and translate text A.

COMPUTER LITERACY

Computer literacy is the ability to use computers and related technology efficiently, with a range of skills covering levels from elementary use to programming and advanced problem solving. Computer literacy can also refer to the comfort level someone has with using computer programs and other applications that are associated with computers. Another valuable component is understanding how computers work and operate. Computer

literacy may be distinguished from computer programming which is design and coding of computer programs rather than familiarity and skill in their use.

Computer literacy is considered to be a very important skill to possess in our information-dependent society. Computers are just as common as pen and paper are for writing, especially among youth. For many applications - especially communicating - computers are preferred over pen, paper, and typewriters because of their ability to duplicate and retain information and ease of editing.

Employers want their workers to have basic computer skills because many companies try to use computers and other technology to improve business efficiency. As a result older workers who do not use the Internet at home and are computer illiterate may be frozen out of the job market even for relatively unskilled jobs such as clerking in an auto parts store.

We should be aware of the potential of computers to influence our everyday life. If you buy something with a bank credit card or pay a bill by check, computers help you process information. When you visit your doctor, your schedules and bills and special services such as laboratory tests, are prepared by computers. Computers have changed almost every aspect of daily life, and people can be sure that the use of computers will only become more prevalent.

While the world continues to advance with smarter, faster technology, the need to be computer literate becomes more imperative. Knowing how to properly use a computer and navigate the digital terrain helps to keep life organized and streamlined. Mobile media devices are becoming increasingly popular, reinforcing the need for being computer literate.

Task 3. Answer the following questions:

1. What does computer literacy refer to?

2. How could we distinguish computer literacy from computer programming?
3. Why are computers preferred in communication?
4. What kind of employees may be frozen out of the job market and why?
5. Why is it imperative to be computer literate today?

Task 4. Find in the text synonyms for the following words:

- precious
- to have
- capability
- usual
- shop
- prevailing
- employee

Task 5. Match the following words from the text with their definitions:

1) to influence	a) to move forward or to make progress
2) efficiency	b) the person or organization that you work for
3) skill	c) the ability to read and write
4) to reinforce	d) to have an effect on someone or something
5) employer	e) the knowledge and ability that enables you to do something well
6) to advance	f) to strengthen something or to provide more evidence or support for some idea or point of view

7) literacy	g) the quality of being able to do a task successfully and without wasting time or energy

Task 6. Use the following words to complete the sentences 1-5. Make up your own sentences with the words left.

employ employment employer employee unemployment literacy literate illiteracy illiterate

1) She told her ………… she was looking for another job

2) We engaged six new………….in the last quarter.

3) An……… agency is an organization that earns money by helping people to find work.

4) Mass……was only possible after the invention of printing.

5) At that time most of the country was…… They couldn't read or write.

6) …..

7) ……

8) …….

9) ……..

Task 7. Match the following English words and phrases from text B with their Russian equivalents:

1) chain	a) товар
2) supplier	b) покупательская корзина
3) goods	c) посетитель
4) to apply (for)	d) удар
5) shopping cart	e) производить
6) visitor	f) доставка
7) to generate	g) розничная продажа
8) hit	h) обращаться (за)

9) retail 10) delivery	i) сеть j) поставщик

*Task 8. Phrasal verbs are common in conversational English. They are made up of two words: a verb and a preposition. Look at the part of a sentence from text A: As a result older workers who … are computer illiterate may be **frozen out** of the job market…. In colloquial speech phrasal verb 'freeze out' means 'exclude a person from business, society, etc by competition, cold behavior, etc'. Match the following phrasal verbs with their meanings, then complete the sentences changing the form of the verbs if necessary:*

back up	to enter a symbol or instruction at the end of computing session to close all files and break the channel between the user's terminal and the main computer
plug in	to allow a machine to stand idle for a time after switching on, to reach optimum operating conditions
log off	to stop working because of mechanical failure
key in	to make an electrical connection by pushing a plug into a socket
warm up	to enter identification data, such as a password, to access a program or data

break down	to make a copy of a file or data or disk
log on	to enter text or commands via a keyboard

1. No wonder it isn't working: you haven't even ……. it ……!

2. They ….. the latest data.

3. You have to give your password in order to ….. to the system.

4. My computer's ….. again! I need a new machine.

5. Your printout will arrive in a couple of minutes: the laser's still ……..

6. When you've downloaded the information you need, then ….. from the system.

7. If you don't …… regularly you could lose data.

Task 9. Read and translate text B.

THE INTERNET AND THE E-COMMERCE

My name's John, and I own a chain of sports shops. Last year, I started an e-commerce operation, selling goods over the Internet. We've done well. Visitors don't have trouble finding what they want, adding items to their shopping cart and paying for them securely by credit card. Last year we had two million unique users (different individual visitors) who generated 35 million hits or page views. That means our web pages were viewed a total of 35 million times!

E-commerce or e-tailing has even acted as a form of advertising and increased level of business in our traditional bricks-and-mortar

shops! Pure Internet commerce operations are very difficult. To succeed, I think you need a combination of traditional retailing and e-commerce: click-and-mortar. In our case, this has also helped us solve the last mile problem, the physical delivery of goods to Internet customers: we just deliver from our local stores! Selling to the public on the Internet is business-to-consumer or B2C e-commerce. Some experts think that the real future of e-commerce is going to be business-to-business or B2B, with firms ordering from suppliers over the Internet. This is e-procurement.

Business can also use the Internet to communicate with government departments, apply for government contracts and pay taxes: business-to- government or B2G.

Task 10. Answer the following questions:

1. Do you shop on the Internet?
2. What are the advantages and disadvantages of shopping there?
3. Do you have any experience of B2B or B2G?
4. Would you set your own retailing business in the Internet?

Task 11. Find in the text synonyms and antonyms for the following words. The words are given in the same order as in the text:

SYNONYMS	**ANTONYMS**
- possess	- to finish
- wish	- to buy
- enlarge	- dangerously
- to do well	- reduced
- suppose	- easy
- connection	- to lose
- true	- past
- online	- delivery

Task 12.Match the following words from the text with their definitions:

1)bricks-and-mortar shops	a) money that you have to pay to the government
2) tax	b) where you put your items before you purchase them
3) item	c) selling on the Internet
4) shopping cart	d) one thing in a list or group of things
5)click-and-mortar	e) to ask a company to send or supply goods to you
6) to add	f) traditional shops
7) to order	g) to put something with something else

Task 13. Complete the sentences using the following words from the text in the correct form: **to sell, find, to have, to be, need, to sell, to be going to be, e-procurement, can, to own.**

1. I started an e-commerce operation, … goods over the Internet.
2 The real future of e-commerce … business-to-business or B2B.
3 Business … also use the Internet to communicate with government departments.
4. Our web pages … viewed a total of 35 million times.
5. To succeed, you … a combination of traditional retailing and e-commerce.
6. … to the public on the Internet is business-to-consumer or B2C e-commerce.
7. Visitors don't have trouble … what they want.
8. This is … ..
9. Last year we … two million unique users.
10. I … a chain of sports shops.

UNIT 4

PROS AND CONS OF COMPUTERS

Task 1. Match the following English words and phrases from text A with their Russian equivalents:

1) scientific breakthrough	a) спасательный отряд
2) to be capable of doing smth.	b) представлять собой угрозу для
3) critical system	c) вопрос жизни и смерти
4) rescue squad	d) неприкосновенность частной (личной) жизни
5) emergency response	e) сделать что-либо без чьего-то согласия
6) a matter of life and death	f) устранение аварийных ситуаций
7) digital trail	g) цифровой след (отпечаток)
8) personal privacy	h) научное достижение, открытие
9) to pose a threat to	i) особо важная система
10) to do smth. without someone's consent	j) быть способным что-либо делать

Task 2. Read and translate text A

COMPUTERS: ADVANTAGES AND DISADVANTAGES

Computers undoubtedly have changed our lifestyle. Their advent was a real scientific breakthrough. But just like any other invention, it has its advantages and disadvantages.

First, it can store large amounts of facts, instructions, and information as well as process data with accuracy at a very high speed. A computer can also repeat operations in exactly the same way over long period of time and check the accuracy of its work. This device is capable of executing instructions on its own after the data and program have been fed into its memory. Computers nowadays not only perform logical operations but also communicate with the operator.

It can be said that the positives are all around us. For example, a rescue squad has reduced its emergency response time by nearly 20 percent by using a custom-designed computer system that optimizes its operations. For some accident victims, the difference is literally a matter of life or death. Apart from that computers also ease your daily activities by brewing your coffee, printing your newspaper, and helping you write your letters and pay your bills.

A computer-literate person knows that the computer is a tool for creating useful information that can be printed, communicated to others, and stored for future use.

Computer literacy means not only recognizing the positive but also the negative consequences of computers in our society.

First, a computer can only perform operations programmed or instructed by a person. Therefore it cannot correct wrong instructions by itself and requires people to do this. Besides, its capability to perform logical operations depends on the choice prepared by the programmer. Just like any man-made machine, it is subject to occasional breakdown or malfunction. Computer failures do occur - and if they occur in a critical system, such as the air traffic control system, lives may be endangered.

 Another problem concerns our personal privacy. Everything that you do with modern communications equipment leaves a digital trail. Since so much of what we do daily is done using a computer, it can pose a serious threat to privacy. Though online shopping allows us to shop without standing in long lines, firms can easily accumulate a detailed picture of our buying habits.   This

information can be used to create detailed personal profiles and then distributed without our consent or even knowledge.

And last but not the least, computers may displace workers by automating tasks that people used to perform or by enabling fewer workers to perform tasks more efficiently. Displaced workers may find jobs that pay substantially less - if they can find jobs at all.

Like it or not, computers are part of our lives. A good grounding in computer concepts and applications can help you get the benefits and understand the negatives of the computer's massive penetration into society.

Task 3. Answer the following questions:
1. What makes today's computers valuable?
2. What computer advantages are mentioned in the text?
3. How do computers depend on people?
4. Why do occasional breakdowns or malfunctions occur?
5. How can computers affect people and their personal privacy?
6. What is a digital trail?

Task 4. Find in the text synonyms and antonyms for the following words.

SYNONYMS	**ANTONYMS**
- appearance	- benefit
- queue	- illiteracy
- implement (n.)	- success
- artificial	- to lose
- severe	- right (adj)

Task 5. Match the following words from the text with their definitions:

1) accuracy	a) a collapse of a system, plan or discussion

2) to endanger	b) to force someone out of their position and occupy it
3) malfunction	c) smth. that you do often or regularly
4) breakdown	d) when a machine fails to work properly
5) to displace	e) to succeed in getting into an area or through it
6) to penetrate	f) to cause someone or smth. to be in a dangerous situation in which they might be seriously harmed
7) habit	g) the quality of being true or correct; the ability to perform a task without making a mistake

Task 6. Match the words that go together to make collocations, then make up your own sentences with them:

1) computer		a)	privacy
2) process		b)	shopping
3) high		c)	data
4) personal		d)	information
5) online		e)	instructions
6) feed		f)	speed
7) execute		g)	literacy

Task 7. Read the statements and decide whether you agree or disagree with them. Say to what extent you agree or disagree and try to give your arguments:

-agree strongly
-agree
-not sure
-disagree

-disagree strongly

Big Brother is watching you…

1. It's OK for data about personal shopping habits to be collected and shared.

2. The government should have the right to record everyone's internet activities.

3. Biometric identity cards would be useful in the fight against terrorism.

4. We need more traffic cameras with number-plate recognition to make the roads safer.

5. I'm in favour of CCTV (close circuit television) cameras because they help to reduce crime.

Task 8. Match the following English words and phrases from text B with their Russian equivalents:

1) to require	a) способность
2) severe restriction	b) специальный, устроенный для данной цели
3) missing limb	c) система восприятия
4) implanted device	d) требовать
5) capability	e) неразличимый
6) ad hoc	f) недостающая конечность
7) volumetric video	g) вживленный прибор
8) indistinguishable	h) сетчатка глаза
9) perception system	i) серьезное ограничение
10) retina eye	j) объемное видение

Task 9. Read and translate text B.

ROBOTS IN MEDICINE

In modern medicine robots play an increasing role, which requires a new kind of training for the next generation of doctors. Usage of

robots reduces hospital stays and improves patients' prognosis and saves costs. Mechanical replacements for missing limbs and organs that can interact with the human organic system are a long-standing goal of the medical community. Research into replacement of hearts, limbs, eyes, ears and other organs offers hope for the development of effective implanted devices and replacement limbs that can function for long periods of time. Robotic devices can also provide assistance to people with severe restrictions on movement, in many cases allowing them at least some capability to move around or nearby their homes.

Robot NursyBoy intended to prevent or reduce medical errors by the patient. This robot is not just beeps when need to take medicines, but also delivers an additional notification to the patient on ad hoc bracelet on the arm. This allows the patient to know when need to take the necessary dose of medication, if the pills are still in the compartment, the device shows that the drug was not taken, and recalls that the reception was done. Patients will not be able to skip taking medications because this device is designed in such a way that will emit a loud noise and rattling on hand as long as the drugs will not be accepted. When an emergency occurs the robot will automatically connect by means of video voice communication with the medical center or family finding and viewing the patient (communication Wi-Fi or telephone). After receiving medicines on the LCD touch monitor is displaying the special directions of how it looks like and how it is necessary to take it – for example, before or after a meal, or diluted in water.

Artificial Eye could help the blind see again. Artificial Eye Gaze in the shape of the natural form of human eye. Artificial eye heralds the emergence of new small-footprint devices with a wide field of view and low distortion. The resulting picture is indistinguishable from the image seen by human eye. So it will be possible to transfer the images directly into the brain of blind people with help of electronic eyeball. This development will allow to solve the problem for blind people and to make a new

step in science, having opened a new direction in personal video perception systems in the field of volumetric video.

This is a completely new idea of developing a flat lens with a tiny camera that could revolutionize the eyeball. Curved glass can bend the light coming from many angles in such a way that it all ends up at the same focal point, an electric sensor.

The sensors and the lens only focus one wavelength of light that can handle normal color images. The camera would transmit images to a nerve-stimulating chip at the back of the eye, resulting in a complete electronic vision system, translate images from camera into electrical impulses that can be understand by the nerves inside the brain.

Chip to generate a signal which is as close as possible looks like a real retina eye. Wherever you change the input, the brain will adapt over time. The digital information picked up from the camera is sent to a thin film. This thin film is surgically implanted in the back of the patient's eye. The electrical signals stimulate the nerves in the retina and that make the patient able to see.

Task 10. Answer the following questions:

1. How do robots penetrate in medicine?
2. What is the main function of Robot NursyBoy?
3. How does Artificial Eye help blind people?
4. Have you heard about any other robots helping sick, elderly or disabled people?

Task 11. Find in the text synonyms and antonyms for the following words. The words are given in the same order as in the text.

SYNONYMS	ANTONYMS
- contemporary	- extinction
- to need	- ineffective
- to lower	- few

- aim	- enlarge
- expectation	- silence
- progress	- sighted
- to miss	- huge

Task 12. Match the following words from the text with their definitions:

1) to provide   a) to remember something
2) blind   b) a line that is not straight
3) to deliver   c) not able to see
4) to recall   d) to bring something out of shape,
something   to misshape.
5) to dilute   e) to give something to somebody who
                                  needs it
6) curve   f) to add water to another liquid
7) to distort   g) to take something to the place
                                  where it must go

Task 13. Complete the sentences using the following words or phrases from the text in the correct form: **to stimulate, to be, will be, digital, to look, to develop, to occur.**

1. Chip to generate a signal which is as close as possible … like a real retina eye.
2. This is a completely new idea … a flat lens with a tiny camera that could revolutionize the eyeball.
3. It … possible to transfer the images directly into the brain of blind people.
4. The … information picked up from the camera is sent to a thin film.
5. The electrical signals … the nerves in the retina.

6. The resulting picture … indistinguishable from the image seen by human eye.
7. When an emergency … the robot will automatically connect with the medical center or family.

Task 13. Choose one of the jobs from task 12, find some information on the Internet and prepare a short report.

UNIT 5

IT SPECIALIST IN IT INDUSTRY

Task 1. Match the following English words and phrases from text A with their Russian equivalents:

1) public institution	a) отдел технической поддержки клиентов
2) to be in demand	b) требования к образованию
3) technical expertise	c) быть востребованным
4) to work one's way up	d) быть в курсе, не отставать от
5) information assurance	e) техническая (профессиональная) компетенция
6) to be in charge of smth.	
7) to stay up to date	f) иметь диплом о высшем образовании (по какой-либо специальности)
8) customer-support division	
9) to have a degree in	g) государственное учреждение
10) education requirements	h) отвечать за что-либо
	i) двигаться вверх, продвигаться (по службе)
	j) обеспечение целостности и безопасности информации

Task 2. Read and translate text A.

WHO IS IT SPECIALIST?

An [Information Technology](#) (IT) specialist is a person who works with computers and other technologies such as telephones and fax machines. Many companies have someone on staff who helps with the maintenance of computers and computer networks within the organization. He or she may also work for an independent consulting company, a customer-support division of a computer or technology company, a private computer repair shop, or in any number of other settings where a person can come to him to pay him for help with a computer.

Although some IT specialists can handle any issues and problems relating to technology, it is most common for them to work within the field of computers. Because computers have become so pervasive, almost every workplace, school, public institution and private home has one. As such, there is a great number of potential problems that can arise for novice computer users, from how to set up a network to how to troubleshoot software that is not working properly. As such, IT specialists are much in demand within the computer industry.

An information technology specialist applies technical expertise to the implementation, monitoring, or maintenance of IT systems. Specialists typically focus on a specific computer network, database, or systems administration function. Specialty areas include network analysis, system administration, security and information assurance, IT audit, database administration, web administration. IT specialist is responsible for planning and coordinating the installation, testing, operation, troubleshooting, and maintenance of hardware and software systems; management of networked systems used for the transmission of information in

voice, data, and/or video formats. Specialists can be in charge of ensuring the confidentiality, integrity, and availability of systems, networks, and data etc.

Education requirements vary depending on the IT specialty. While some IT specialists work their way up with professional certifications, most experts begin their careers with an [information technology degree](#) at the bachelor level. IT certifications are useful for building specialist expertise and staying up to date on the latest advances in a specific area of information technology.

IT specialists typically have a degree in Computer and Information Science, or Information Systems Management or they may have a degree in a field such as Mathematics, Statistics, Operations Research or Engineering where there is a heavy concentration of computer science/information science coursework.

Task 3. Make up 5 questions to the text, using the question words given:
what, why, who, what kind of, where

Task 4. Find synonyms for the following words in the text:

- *employees*
- *newest*
- *widespread*
- *learner*
- *specialist*
- *unity*

Task 5. Match the following words from the text with their definitions:

1) issue	a) the process of keeping smth.

	in good condition by regularly checking it and doing necessary repairs
2) maintenance	b) the process of identifying, planning and resolving a problem, error or fault within a software or computer system
3) to focus on	c) the process of considering smth. in order to understand it or to find out what it consist of
4) to handle	d) to be different in size, amount or degree; to alter
5) analysis	e) an important problem or subject that people are discussing or arguing about
6) to vary	f) to pay special attention to smth.
7) troubleshooting	g) to deal successfully with a difficult situation or to have responsibility for a particular area of work

Task 6. Look at the box with the verbs and find corresponding nouns in the text. Then unscramble the sentences with some of the words from the box and translate them:

VERBS	NOUNS
troubleshoot	troubleshooting
implement	
install	
transmit	
maintain	
monitor	
administer	
manage	

analyze	

1. is of installation system the easy this.
2. maintenance repairs for pay to it necessary is.
3. visitors the analyzes of the our behavior website system the.
4. large for firm she a industrial troubleshoots .
5. was a implementation new successful of a very it software.

Task 7. Write the correct preposition for the following words (use the text to help you!), then complete the sentences changing the form if necessary:

To work…
To focus…
To depend…
To relate…
To be responsible…
To be in charge…

1. She has changed jobs. Do you know what company she ………. now?
2. Your salary will ………hours actually worked.
3. He …………..solving computer-related problems.
4. We have to ………the new program implementation.
5. Who …………..IT department before you?
6. Don't ask me questions ………programming.

Task 8. Match the following English words and phrases from text B with their Russian equivalents:

1) to take responsibility for smth.	a) быть способным что-либо делать
2) to be likely to	b) покупать в готовом виде
3) to buy off the shelf	c) скорее всего
4) in-house development team	d)компетентность

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5) to earn the trust of someone	e) брать ответственность за что-либо
6) tailored system	f) служба технической поддержки
7) potential applicant	
8) to be able to do smth.	g) (зд.) система под заказ
9) expertise	h) завоевать доверие кого-либо
10) help-desk	i) собственная команда разработчиков
	j) потенциальный кандидат

Task 9. Read and translate text B

HOW TO BECOME AN IT MANAGER

IT managers manage projects, technology and people. Any large organisation will have at least one IT manager responsible for ensuring that everyone who actually needs a PC has one and that it works properly. This means taking responsibility for the maintenance of servers and installation of new software, and for staffing a help-desk and a support group.

Medium to large companies are also likely to have an IT systems manager. They are responsible for developing and implementing computer software that supports the operations of the business. They're in charge of multiple development projects and oversee the implementation and support of the systems. Companies usually have two or three major systems that are probably bought off the shelf and then tailored by in-house development team.

Apart from basic hardware and software expertise, an IT manager should typically have over five years' experience in the industry. Most are between 30 and 45. Since IT managers have to take responsibility for budgets and for staff, employers look for both of these factors in any potential applicant.

Nearly all IT managers have at least a first degree if not a second one as well. Interestingly, many of them don't have degrees in computing science. In any case, the best qualification for becoming a manager is experience. If your personality is such that you are unlikely to be asked to take responsibility for a small team or a project, then you can forget being an IT manager. You need to be bright, communicative and be able to earn the trust of your teams. Most of this can't be taught, so if you don't have these skills then divert your career elsewhere.

Task 10. Find in the text synonyms and antonyms for the following words.

SYNONYMS	**ANTONYMS**
- to guarantee	- single
- clever	- badly
- to supervise	- irresponsible
- to search	- minor
- employees	- to remember

Task 11. **If you don't have these skills, divert your career elsewhere.**
This sentence is taken from the text and gives advice. Very often we use **should** (**If you don't have these skills, you should divert your career elsewhere**).
   a) *Match the following half-sentences and write down sentences with* **should**.
   b) *Think of some other problems you might have with a computer and write some advice to solve them.*

| 1) If you want to store more | a) ….network the computers |

information,	
2) If you want to speed up your computer,	b)….make a backup
3) If you want to share information through the company,	c) ...get a bigger hard disk
4) If you want to stop the computer when it hangs,	d) …buy a laptop
5) If you want to protect your data,	e) …use a non-interlaced monitor
6) If you want to take your work away with you,	f) …fit a faster microprocessor
7) If you want to reduce screen flicker,	g) …hit Control, Alt&Delet

Task 12. Match the following jobs in IT with their descriptions:

1. Webmaster	a) writes systems software
2. Help-desk troubleshooter	b) manages projects, technology and people
3. Applications programmer	c) maintains the link between PCs and workstations connected in a network
4. Security specialist	d) produces the programs which control the internal operations of computers; designs, tests and improve programs for a variety of purposes
5. Systems programmer	e) works as part of telephone service that helps users solve problems that occur on computer systems
6. IT support engineer	f) tests the security of networks systems and advises customers

	how to introduce and maintain security policies
7. IT manager	g) maintains, updates and modifies the software used by a company (a combination of systems analysis and computer programming)
8. Systems analyst	h) administers a Web server
9. Software engineer	i) installs, maintains, repairs computers and peripherals
10. Computer service engineering technician	j) studies systems in an organization and decides how to computerize them
11. Network support person (computer engineer)	k) writes programs designed to be used for a particular purpose (f.ex. spreadsheets)
12. Systems support person (analyst programmer)	l) provides help for computer users by designing, building and maintaining information technology systems

UNIT 6

SKILLS REQUIRED IN COMPUTER ENGINEERING

Task 1. Match the following English words and phrases from text A with their Russian equivalents:

1) to major in	a) сохранить превосходство
2) to attend training seminars	b) различаться
3) to excel in smth.	c) специализироваться в изучении предмета
4) background	
5) to stay on top	d) посещать учебные семинары

6) to bring advantage to smth.	e) путать, сбивать с толку
7) to confuse	f) преуспеть в чем-либо
8) to differ	g) технический прогресс
9) a perfect fit	h) в самый раз
10)technological advancement	i) (зд.) подготовка, образование
	j) (зд.) принести пользу чему-либо

Task 2. Read and translate text A

COMPUTER ENGINEERING

Computer engineering is the process of analyzing and designing all hardware, software, and operating systems for a computer system. It is the combination of two fields: computer science and electrical engineering. Computer science and engineering are often confused as being the same, but these two fields differ greatly. While the responsibilities of computer scientists consist more of electrical and software engineering, computer engineers are also trained in software design and the integration of hardware and software.

Computer engineers also focus on computer networking. They must utilize their knowledge and understanding of the design of logic and microprocessor systems, as well as computer architecture and computer interfacing. During their work, computer engineers may find themselves with answers to major computer dilemmas, creating the next big technological solution.

Case Western Reserve was the first university to offer a computer engineering program in 1971; however, now there over 100 accredited universities worldwide. Students who wish to major in this field must have a strong background and understanding of

mathematics and science. If a student excels in these subjects, computer engineering will most likely be a perfect fit for them. Computer engineers also must possess strong detail orientation, teamwork, and analytical skills. Good communication skills are also needed, because computer engineers often need to go outside the lab to deal with customers, and other professionals.

The field of computer engineering is broad, but there are many smaller areas that most students focus on. Sometimes a person studying to become a computer engineer will choose to major with an emphasis on computer architecture, or the way information is organized internally. Other possible areas of study are database systems, operating systems, or software engineering. If a student chooses to study any one of these, or a variety of other areas, they will bring a specialized advantage to the field of computer engineering.

This field is constantly growing and changing due to the rapid pace of technological advancements. It is important, therefore, that professionals are continuously improving and learning new things to stay on top of all new developments. Computer engineers are often required to attend training seminars created by vendors, hardware and software manufacturers, colleges and universities, or other private institutions.

Task 3. Answer the following questions:

1.   What is the difference between computer science and engineering?
2.   What are the requirements for a student who wants to study computer engineering?
3.   What skills should a computer engineer have?
4.   Why is the field of computer engineering constantly growing?
5.   Why is it important for computer engineers to improve and

learn new things?

Task 4. Find in the text synonyms for the following words.

- to have
- stress
- to handle
- to be unlike
- duty
- because of

Task 5. Match the following words from the text with their definitions:

1) integration	a) a way of dealing with a difficult situation so that the difficulty is removed
2) vendor	b) someone who does their work very skillfully
3) solution	c) incorporation into a group
4) to train	d) to go to a meeting or other event regularly
5) to focus on smth.	e) to teach someone how to do smth.
6) to attend	f) to concentrate on smth.
7) professional	g) someone who sells things

Task 6. Look at the verbs relating to computing matters. Do you know them? Complete the sentences using them.

configure launch disconnect undo save recover run expand

1. If you want to hold so much data, you will have to………..the disk capacity.
2. You only have to …….the PC once – when you first buy it.
3. Don't forget to…….the file before switching off.
4. You….the word processor by double clicking on this icon.
5. The new package will…… on my PC.
6. Don't forget to……..the cable before moving the printer.
7. It is possible to…..the data but it can take a lot of time.
8. You've just deleted the paragraph, but you can……it from the option in the Edit menu.

Task 7. Match the following English words and phrases from text B with their Russian equivalents:

1) to share	a) поделиться
2) to fit	b) прийти к заключению
3) knowledge gap	c) подходить (к делу)
4) to approach	d) соответствовать
5) to come to a conclusion	e) пробел в знаниях
6) stellar coding skills	f)основные навыки программирования
7) soft skills	g) коммуникативные навыки
8) overall	h) общий, полный
9) upcoming opening	i) открывающаяся вакансия
10) referral bonus	j) премия за рекомендацию

Task 8. Read and translate text B.

TECH PROS SHARE ADVICE FOR NEW COMPUTER SCIENCE GRADUATES

Computer science graduates are in demand. But as veterans in the tech world know, earning a degree is just the beginning of a new professional's education. To help this year's newcomers navigate the transition from academic life to the professional world, we asked tech pros to share their best advice for computer science graduates entering the workforce. Here's what they had to say.

Accept the knowledge gap and be ready to learn

"It's a myth that the knowledge gained from your degree will prepare you 100% for your role. Fitting into tech culture is all about knowledge. If you don't know how to perfectly manipulate a CSS or how to write a JS script, you will get laughed at. You WILL be an outsider. The key is to OWN it. The knowledge gap is just temporary. The best response to fitting in is to be curious and inquisitive. Asking questions goes a very long way. Trying to learn will garner you respectability. The more you try to fight the knowledge and technical gap, the worse it will be for you. Roll with the waves until you become an integral part of the team." – *Pierre Tremblay, director of human resources at*<u>*Dupray*</u>

Develop problem-solving skills

"Companies who know what they're doing will want to see how you think and problem solve. They may give you a problem or scenario and ask you to talk through how you would approach solving it. They want to know that you can think through the process, ask the right questions, and come to a conclusion. This may or may not involve writing code. … The specific language(s) you know are not as important as your ability to learn and to problem solve. Anyone can pick up a language. It's much harder to find someone who fully understands software development." – *Ann Gaffigan, CTO at* <u>National Land Realty</u>

Remember the users

"Staying mindful of User Interface (UI) and User Experience (UX) is crucial. Not all computer science professionals know how

a user actually engages with an interface, but job applicants who understand those nuances will rise above the pool of other candidates. At the end of the day, we don't create programs that are used by other computer scientists." – *Dane Pelfrey, vice president of product development at <u>Businessolver</u>*

Sharpen customer service skills

"We find that a lot of recent computer science graduates have very similar skills and experience, so when hiring, we look for other things. Any customer service experience is valued here (like retail or waiting tables), because that tells us the candidate knows how to communicate with others well. We look for humble candidates because there is always something to learn – even if someone comes to us with stellar coding skills, we need to know that he or she will be able to take criticism and also be open to learning other programs." – *Aryana Jaleh, social media manager at <u>Eboxlab</u>*

Work on communication skills

"One of the most critical items that I see missing from many new grads entering industry is a lack of proper communication skills. As helpful as it is to know technical concepts such as algorithm analysis, if your coworkers and management don't enjoy being around you, you are going to find it difficult to have sustained career success. I highly recommend computer science and software engineering graduates to deliberately work on soft skills such as communication and learning to get along with team members. It will lead to a more enjoyable career path and better overall work culture." – *Jordan Hudgens, CTO of <u>CronDose.com</u>, co-founder of devCamp, and graduate student in the computer science department at Texas Tech University*

Work your networks

"Referral networks are one of the strongest ways a company will grow. Generally people will recommend people they know to be competent and will fit well with the organization. Keep tabs with

all of your friends at different companies and ask them if there are upcoming openings. A lot of times companies will have referral bonuses for their employees so your friends will be incented to help!" – *Pablo Stern, CTO and senior vice president of engineering at <u>Radius</u>*

Task 9. Answer the following questions:

1. Are computer science graduates fully ready for work?
2. How can you develop your technical (hard) skills?
3. Why do you think your ability to solve problems is so important?
4. What else may raise you above the pool of other candidates?
5. Why is customer service experience important?
6. What are 'soft skills'?
7. How can keeping tabs with all your friends at different companies help*?*

Task 10. Find in the text synonyms and antonyms for the following verbs.

SYNONYMS	**ANTONYMS**
- to add	- inattentive
- to get on	- to sell
- correct	- question
- simple	- permanent
- to support	- unimportant
- to add to (value, price)	- same

Task 11. Match the following words from the text with their definitions:

1) graduate   a) to learn something without really

studying it

2) to earn   b) a person who has finished studying at a university or college and who has passed their last exams

3) myth   c) a story or belief that is not true

4) to garner   d) to influence somebody so that they do or think what you want

5) executive   e) wanting to find out as much as possible about things

6) to manipulate   f) to get

7) to pick up   g) to add, to gather

8) inquisitive   h) to be stimulated

9) to be incented   i) a person who has an important position in a business or organisation

10) to gain   j) to get money by working

*Task 12. **Anyone can pick up a language**.*
*This sentence is taken from the text and uses a phrasal verb **'pick up'** which means **'learn without taking lessons or studying'**. Can you find any other examples of using phrasal verbs in text B? Match the following phrasal verbs with their meanings, then complete the sentences changing the form of the verbs if necessary:*

1. put off	a. ring
2. go on	b. it is finished
3. give up	c. leave the ground
4. go off	d. perform, conduct
5. take off	e. continue
6. carry out	f. postpone
7. run out off	g. stop doing something

1. A continuous search for more perfect circuits … in laboratories throughout the world.

2. I've told them we can't … the meeting.

3. My alarm clock didn't … this morning.

4. The plane couldn't … because of the weather conditions.

5. I'm afraid this photocopier has … paper, but you can use the one in my office.

6. All my friends have … smoking this year. It's incredible.

7. Our department has to … the experiments by the end of the month.

UNIT 7

PRACTICAL APPLICATION OF IT

Task 1. Match the following English words and phrases from text A with their Russian equivalents:

1) to place an emphasis on	a) с одной стороны
2) aforementioned	b) схема
3) critical	c) акцентировать
4) on the one hand	d) называться, именоваться
5) ICT	e) средство, устройство ввода/вывода (данных)
6) circuitry	f) руководство по эксплуатации
7) to be referred to as	g) (зд.) решающий
8) input/output medium	h) устройство связи
9) communications device	i) информационно-коммуникационные технологии
10) manual	j) вышеупомянутый

Task 2. Read and translate text A.

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INFORMATION SYSTEMS AND COMPONENTS

Information systems is an academic study of systems with a specific reference to information and the complementary networks of hardware and software that people and organizations may use to collect, filter, process, create and also distribute data. An emphasis is to be placed on an Information System having a definitive Boundary, Users, Processors, Stores, Inputs, Outputs and the aforementioned communication networks.

Any specific information system aims to support operations, management and decision making. An information system is the information and communication technology (ICT) that an organization uses, and also the way in which people should interact with this technology in support of business processes. Information systems help to control the performance of business processes.

Information systems inter-relate with data systems on the one hand and activity systems on the other. An information system is a form of communication system in which data represent and are processed as a form of social memory. An information system can also be considered as a semi-formal language which supports human decision making and action.

There are various types of information systems, for example: transaction processing systems, decision support systems, knowledge management systems, learning management systems, database management systems, and office information systems. Critical to most information systems are information technologies, which are typically designed to enable humans to perform tasks for which the human brain is not well suited, such as: handling

large amounts of information, performing complex calculations, and controlling many simultaneous processes.

The 6 **components,** that must come together in order to produce an information system, are:

1. Hardware: The term hardware refers to machinery. This category includes the computer itself, which can be often referred to as the central processing unit (CPU), and all of its support equipments. Among the support equipments are input and output devices, storage devices and communications devices.
2. Software: The term software refers to computer programs and the manuals (if any) that support them. Computer programs are machine-readable instructions that direct the circuitry within the hardware parts of the system to function in ways that produce useful information from data. Programs should be stored on some input / output medium, often a disk or tape.
3. Data: Data are facts that are used by programs to produce useful information. Like programs, data are generally stored in machine-readable form on disk or tape until the computer needs them.
4. Procedures: Procedures are the policies that govern the operation of a computer system. "Procedures are to people what software is to hardware" is a common analogy that is used to illustrate the role of procedures in a system.
5. People: Every system needs people if it is to be useful. Often the most over-looked element of the system are the people, probably the component that most influence the success or failure of information systems. This includes "not only the users, but those who operate and service the computers, those who maintain the data, and those who support the network of computers."
6. Feedback: it is another component of the IS, that defines that an IS may be provided with a feedback (Although this component isn't necessary to function).

Data is the bridge between Hardware and People. This means that the data we collect is only data, until we involve people. At that point, data is now information.

Task 3. Answer the following questions:

1. What is any information system aimed at?
2. What does ICT stand for?
3. What do information technologies enable humans to do?
4. What does machinery include?
5. Where are data stored?
6. What do computer programs do?
7. What is the role of procedures in a system?
8. Why do you think "the people component" influences the IS the most?

Task 4. Match the following words from the text with their definitions:

1) memory	a) quantity of something
2) language	b) information and understanding about a subject which someone has in their mind
3) complex	c) lack of success in doing or achieving something
4) knowledge	d) the ability to use words in order to communicate
5) amount	e) a word or expression that is used in relation to a particular subject
6) simultaneous	f) similarity between two things
7) feedback	g) the ability to remember things
8) failure	h) having many different parts and therefore difficult to understand
9) analogy	i) comments about something that you have done or made

10) term   j) happening or existing at the same time

Task 5. Translate the following word combinations into Russian.

complementary networks, decision making, to be concerned with, to be suited, to enable someone to do smth., to handle information, storage device, machine-readable form, to govern the operation, to collect data, to influence smth., to direct the circuitry

Task 6. Fill in the gaps using the following words from the text in the correct form: **to involve, to support, to maintain, to govern, to illustrate, to direct, to interact, to include.**

1. The site is …. with bright colour pictures.
2. The peripherals … storage devices and input/output devices.
3. Minicomputer is a multi-user computer capable of …. up to hundreds of users simultaneously.
4. The work of computers is well ….. .
5. HCI (human-computer interaction) is the study of how people …. with computers and to what extent computers are or are not developed for successful interaction with human beings.
6. In addition to formal policies, regulations and laws which … your use of computers and networks, the Internet user community observes informal standards of conduct.
7. The control unit (CU) is a component of a central processing unit (CPU) that …. the operation of the processor.
8. Communication process … elements like sender, receiver, encoding, decoding, channel/media, voice and feedback.

Task 7. Match the following English words and phrases from text B with their Russian equivalents:

1) carbon emission	а) оборудование для

2) conversely	телеприсутствия
3) to make sure	b) углерод, связанный с путешествиями
4) telepresence equipment	
5) beneficial impact	c) солнечная энергия
6) digital technologies	d) центр базы данных
7) datacentre	e) выделение углерода
8) solar energy	f) связанные с чем-либо затраты
9) associated costs	
10) travel-related carbon	g) убедиться, удостовериться
	h) наоборот
	i) полезное влияние
	j) цифровые технологии

Task 8. Read and translate text B.

GREEN IT

The world's ICT carbon emissions are thought to be about equal to the emissions of the aviation industry, about 2% of the global total. A search on Google emits about 7g of CO_2. The amount of electricity required to send, read and delete all the spam email in the world could power 2.1 million homes instead. In the US alone 426,000 mobile phones are thrown away every day.

Conversely, using videoconferencing between London and Tokyo instead of flying for a meeting would stop you generating 4.2 tones of carbon. It's predicted that good use of telecommunications and IT could actually reduce other industries' carbon emissions by 7.8 billion tones. That's five times telecommunications' and IT's own carbon footprint.

So what does best practice look like if we are to make sure our telecommunications and IT usage is as green as possible? As in the example above, using video conferencing and telepresence equipment and services to reduce travelling to meetings, or teleworking from home, have a hugely beneficial impact on the travel-related carbon that we produce.

Allowing computers to run "smart" buildings, where the heating, cooling, ventilation and lighting are managed as economically as possible, is another positive application of digital technologies.

But our equipment itself needs to be as efficient as possible. Datacentres use huge amounts of electricity to power chips that generate lots of heat, and more power is needed to cool them down. Datacenters could be made greener in many ways, for example by being built in locations with lots of sunlight so they could be powered by solar energy. Alternatively, if datacenters are produce so much heat, perhaps it could be used to heat homes. At a user level there are other initiatives like Blackle, which highlights that black computer screens and white letters would use less power. Black screens use about 59 watts of power compared to white screens that use 74 watts.

Then we come to the end of a product's life and how we dispose of millions of tones of computers, screens, mobiles, smartphones and cables each year. Europe has had the WEEE Directive (Waste Electrical and Electronic Equipment Directive) since January 2007 to encourage everyone to reuse, recycle and recover electrical and electronic equipment. The directive places the responsibility, and associated costs, of disposal onto the manufacturer or the user. This result is that equipment is now being designed and made to last longer, when it is thrown away and replaced by the latest model, much of it can be recycled and sent to developing countries, where it can be used again.

Task 9. Answer the following questions:

1. In what ways is the telecoms and IT industry bad for the environment?
2. In what ways could the telecoms and IT industry be good for the environment?
3. How could user equipment be made greener?
4. In what two ways has the WEEE directive had positive results?
5. How green is your own use of Telecoms and IT?

6. Do you think digital technology has improved society?

7. How do you think technology could help society in the next 50 years?

Task 10.   Find in the text synonyms and antonyms for the following verbs.

SYNONYMS	**ANTONYMS**

<table>
<tr><td>

-   to let
-   to manage
-   to substitute
-   to demand
-   to originate
-   to continue

</td><td>

-   to create
-   to enlarge
-   to darken
-   to take in
-   to save
-   to start

</td></tr>
</table>

Task 11. Match the following words from the text with their definitions:

1) teleworking	a) to give somebody hope or help so that they do something or continue doing
2) to place	b) to emphasize
3) footprint	c) to throw something away or give something away because you do not want it
4) smart	d) to do something to materials like paper or glass so that they can be used again
5) efficient	e) to put something somewhere
6) to predict	f) clever
7) to encourage	g) working from home using a computer and the Internet
8) to dispose	h) a mark that your foot or shoe makes

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on the ground

9) to highlight	i) working well without making mistakes or wasting energy
10) to recycle	j) to say what you think will happen

*Task 12. Complete the sentences using the following words or phrases from the text in the correct form: **disposal, to highlight, to recover, to last, solar, to recycle, prediction.***

1. It is common for user agents to ……. standard controls in some way when they receive focus.
2. Fortunately, we've found ways to efficiently …… the different types of plastic.
3. How do you ….. plastic from discarded electrical and electronic equipment?
4. A …… cell is a device which converts the energy of sunlight into electric energy.
5. We can shred some waste products so that they can be washed away down the drains with the help of waste ….. unit.
6. How long did the word processor repair ….. ?

UNIT 8

ASPECTS OF INFORMATION SECURITY

Task 1. Match the following English words and phrases from text A with their Russian equivalents:

1) disruption	a) собирать, накапливать
2) perusal	b) несмотря на
3) to amass	c) проверка безопасности
4) consistency of data	d) разрушение; разрыв, подрыв
5) power outage	e) основной принцип
6) denial-of-service	f) внимательное чтение,

7) maintaining the privacy	прочтение
8) security testing	g) поддержка тайны, секретности
9) regardless	h) выход из строя электроприборов
10) core principal	i) отказ от обслуживания
	j) непротиворечивость данных

Task 2. Read and translate text A.

INFORMATION SECURITY

Information security, sometimes shortened to **InfoSec,** is the practice of defending information from unauthorized access, use, disclosure, disruption, modification, perusal, inspection, recording or destruction. It is a general term that can be used regardless of the form the data may take (electronic, physical, etc...)

Governments, military, corporations, financial institutions, hospitals, and private businesses amass a great deal of confidential information about their employees, customers, products, research and financial status. Most of this information is now collected, processed and stored on electronic computers and transmitted across networks to other computers.

Should confidential information about a business' customers or finances or new product line fall into the hands of a competitor or a black hat hacker, such a breach of security could lead to exploited data and/or information, exploited staff/personnel, fraud, theft, and information leaks. Also, irreparable data loss and system instability can result from malicious access to confidential data and systems. Protecting confidential information is a business requirement, and in many cases also an ethical and legal requirement.

For the individual, information security has a significant effect on privacy, which is viewed very differently in different cultures.

The field of information security has grown and evolved significantly in recent years. There are many ways of gaining entry into the field as a career. It offers many areas for specialization including: securing network(s) and allied infrastructure, securing applications and databases, security testing, information systems auditing, business continuity planning, etc.

The CIA triad (confidentiality, integrity and availability) is one of the core principles of information security.

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

Confidentiality is necessary for maintaining the privacy of the people whose personal information is held in the system.

Integrity. In information security, data integrity means maintaining and assuring the accuracy and consistency of data over its entire life-cycle. This means that data cannot be modified in an unauthorized or undetected manner. This is not the same thing as referential integrity in databases, although it can be viewed as a special case of Consistency as understood in the classic ACID (automated classification and interpretation of data) model of transaction processing. Integrity is violated when a message is actively modified in transit. Information security systems typically provide message integrity in addition to data confidentiality.

Availability. For any information system to serve its purpose, the information must be available when it is needed. This means that the computing systems used to store and process the

information, the security controls used to protect it. and the communication channels used to access it must be functioning correctly. High availability systems aim to remain available at all times, preventing service disruptions due to power outages, hardware failures, and system upgrades. Ensuring availability also involves preventing denial-of-service attacks.

Task 3. Answer the following questions:

1. What is the definition of Information security?
2. Which confidential information is stored on electronic computers?
3. What can the information leakage lead to?
4. Can you give an example of black hat hackers activities?
5. Could you briefly explain the meanings of CIA triad?
6. Do you think Information security is growing profession?
7. Do you think it is well-paid sphere for a young graduate?

Task 4. Match the following words from the text with their definitions:

1) black hat hacker   a) to scramble, to put into code
2) malicious   b) to take place, to happen
3) to breach   c) to make changes, to make different
4) to disclose   d) a hacker who "violates computer security for little reason beyond maliciousness or for personal gain"
5) to evolve   e) harmful
6) to enforce   f) that cannot be put right or restored
7) irreparable   g) to uncover, to allow to be seen, to make known
8) to encrypt   h) to develop
9) to occur   i) to break through, to make a gap in something
10) to modify   j) to make effective

Task 5. Find the equivalents in the text:

несанкционированный доступ; вредоносный доступ; финансовые организации; частный бизнес; финансовое положение; попасть в руки конкурента; используемые в собственных интересах данные; неустойчивость системы; иметь значительное влияние; распечатанная квитанция; запрет доступа; точность и непротиворечивость информации; сбой в работе оборудования; хакерская атака типа «отказ в обслуживании»

*Task 6. Insert the missing words and word combinations into the following sentences: **unauthorized access; information security; cyber attacks; confidential information; fraud, to restrict, disclosure, to prevent, requirement.** Sometimes you should change the form of the words.*

1. Your prompt action ….. a serious accident.
2. …. is a stable and growing profession.
3. They were sent to prison for ….. .
4. Our company conference room is very small, so we have to … the number of people we invite to the meeting.
5. If you disclose this … , you may lose your job.
6. The computer programs, and in many cases the computers that process the information, must be protected from ….. .
7. Educational and professional …. for IT specialists are really high in modern world.
8. A …. is deliberate exploitation of computer systems, technology-dependent enterprises and networks.
9. Information … enables an attacker to gain valuable information about a system.

Task 7. Match the following English words and phrases from text B with their Russian equivalents:

1) criminal	a) вред, ущерб
2) to dial a number	b) хаос
3) password	c) наказывать
4) damage	d) неспособный (сделать что-л.)
5) chaos	e) умный
6) clever	f) пароль
7) fault	g) набрать номер
8) sick	h) преступник
9) unable	i) больной
10) to punish	j) вина

Task 8. Read and translate text B.

NEW KIND OF CRIMES

Criminals in the past used to have guns, masks and escape cars. Now they have a computer, a telephone and a piece of computer equipment called a modem. They simply dial a telephone number to link their own computer with the others, and then, using a password (a secrete word or phrase), enter a company's computer system (for example, in a bank or a government office). In 1999 two American teenagers broke into a computer system and added rude messages to some information and made other important data disappear. The damage cost over two million dollars to correct. A 12-year old boy in Detroit used his own computer to enter the computer system of a large company and caused financial chaos.

In Britain, computer crime costs companies about 400 million pounds a year. Often, the computer criminals do not want to make money; they just want to show the world how clever they are.

They also like creating computer viruses. They program a computer disc with a special fault in it. When a computer copies the disc, the fault enters the computer's memory. That means it gets onto any other disc each time you put a new disc into your

computer. Some viruses are just silly messages. For example, one puts the message «peace and love» on your computer screen while you are working. Other viruses use all the 'memory on the computer', and the computer is sick and unable to work. A hospital in Britain recently lost all of its records about sick patients because of a computer virus.

Task 9. Answer the following questions:

1. What kind of people do you think write computer viruses? Why do they do it?
2. In what way should computer criminals be punished?
3. Have you ever faced the problem of computer viruses?
4. What influence can a virus have on your computer?

Task 10. Find synonyms and antonyms for the following words in the text. The words are given in the same order as in the text:

SYNONYMS	ANTONYMS
- merely	- present
- to connect	- another's
- loss	- small
- to improve	- stupid
- stupid	- hate

Task 11. Match the following words from the text with their definitions:

1) to escape   a) to show where the mistakes are in something and make it right
2) equipment   b) words that one person sends to another
3) to link   c) notes about things that have happened
4) to correct   d) special things that you need for doing

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something

5) to enter   e) to join one person or things to another

6) message   f) to manage to avoid something dangerous or unpleasant

7) records   g) to put information on paper or in a computer

Task 12. Read this article about a computer infection.
a) Fill in the gaps with the following words and word combinations putting them in the right place:

-BotNet
-spyware
-worm
-keylogger
-pharming
-zombies
-denial of service
-identity theft

Conficker has been in the news a lot recently. It is a (1)………, which unlike a virus does not need to be attached to an existing program to infect a machine, and which seems to receive regularly updated instructions from its controllers. It has created a (2)…….. – a network of infected machines. Once infected, these machines are known as (3)……. At this point no one knows what the purpose of Conficker is. At present it has infected ten million computers. These could be used for a (4)…….. attack where all the infected computers attempt to access one site simultaneously.
It is probably controlled by criminals who want to steal users' personal information, i.e (5)………… There are a number of ways of doing this: a (6)………………records information via a keyboard, (7)…………literally means harvesting users' information while they are online. We will probably soon see if Conficker consists of this type of passive monitoring (8)…… or

whether it will mount a more active attack once it receives a new set of instructions.

b)The information in the article is no longer news. So, retell it in the Past Tense.

NB! Conficker was first detected in November of 2008. The name Conficker is a combination of the words configuration and ficker.

PART 2

GRAMMAR REVISION

UNIT 1

Present Simple
1. The present simple form: **I/we/you/they work**
                                             He/she/it   works
The present simple negative form: I/we/you/ they **don't work**
                                             He/she/it **doesn't work**
We use **do/does** to make questions: **Do** I/we/you/they work?
                                             Does he/she/it work?
2. We use the present simple to talk about things in general. We are not thinking only about the present. We use it to say that something happens all the time or repeatedly, or that something is true in general. It is not important whether the action is happening at the time of speaking:
Output devices allow us to enter information into the computer.
 3. We use the present simple when we say how often we do things:
*People **often use** programming languages.*

Present Continuous
1. The present continuous form:

I **am** (=I'm) surf**ing** the Web
He/she/it is (=he's etc.) surf**ing** the Web
We/they/you are (=we're etc.) surf**ing** the Web
The negative form:
I am not (=I'm not) surf**ing** the Web
He/she/it is not (=he isn't etc.) surf**ing** the Web
We/they/you are not (=we aren't etc.) surf**ing** the Web
The question form: Am I surf**ing** the Web?
                              Is he/she/it surf**ing** the Web?
                              Are we/they/you surf**ing** the Web?
2. We use the present continuous when we talk about something which is happening at the time of speaking:
     -Where is James?
     -He **is installing** his new computer system at the moment.
3. We also use the present continuous when we talk about something which is happening around the time of speaking, but not necessarily exactly at the time of speaking:
Silvia is working hard this term because she has plans to enter the University.
Present Simple vs. Present Continuous
1.   Remember: we use the present continuous to talk about something which is happening at or around the time of speaking (*Tom is working on a new computer program*); we use the present simple to talk about things in general or things which happen repeatedly (*Tom works as a programmer*).
2.   The present continuous is used for temporary situations (*Mike is doing a two-year course in Computer Sciences*); the present simple is used for permanent situations (*Mike works for a big computer company. He lives in Boston.*)
3.   Some verbs are not normally used in continuous tenses: **want, need, prefer, like, love, hate, belong, see, hear, know, realize, believe, suppose, mean, understand, remember, forget, seem.** But there are exceptions: **have, think**. For example:
What do you think about WikiLeaks ? (=What is your opinion?)
What are you thinking about? (=What is going in your mind?)

Task 1. Choose the correct tense form: present simple or present continuous:

1. When I …………… (work) on a computer more than two hours, my eyes …………. (get) tired.
2. A computer system ………………….. (consist) of two parts: the software and the hardware.
3. At the moment the CPU …………………… (process) the instructions and data contained in the main memory.
4. The CPU ………………. (be) a microprocessor which ………………………… (execute) program instructions and ……………………………..(coordinate) the activities of all other components.
5. How do you see anything? Look! That lamp ………………….. (reflect) off the screen and this one …………………….. (shine) directly into your eyes?
6.Virus writers now……(look) for methods to create more complicated and more inconspicuous viruses.

Task 2. Use the verbs in brackets in the Present Simple tense:

1. John……..(browse) on the Internet and ……..(download) anything that looks interesting.
2. …..the company……(design) high specification workstations?
3. Call me on this number if your machine……(crash) again.
4. This utility…..(not/detect) and…..(not/eliminate) all viruses.
5. Using this procedure ……(ensure) that unauthorized users cannot enter the system.
6. When you…..(install) this program it automatically ……(check) the specifications of the PC and …….(adapt) to them.
7. …the program……(access) the information on the hard disk and ….(output) it to the screen?

Task 3. Use the verbs in brackets in the Present Continuous tense:

1. Listen to those people. What program.................................(they/ speak) about?
2. Excuse me, I....................(look) for a computer shop. Is there one near here?
3. Listen! Can you hear those students at the front desk? They...........................(discuss) a new make of plotters.
4. I....................................(not/ work) this week. Our computer network has been damaged by an unknown virus.
5. Liz wants to work as a sales manager, so she...............................(learn) how to deal with computers.

UNIT 2

Past simple

1. The past simple form often ends in –ed: to install- install**ed**
But many important verbs are irregular and the past simple does not end in -ed: to buy – bought
Remember: the past of the verb **to be** is **was/were**!
2. In past simple questions and negative forms we use did/didn't + the infinitive: it performed   Did it perform?   It didn't perform.
 3. We don't use **did** with the verb **to be**:
 it **was** out of order   **was** it out of order?   it **wasn't** out of order
4. We use the past simple to talk about actions or situations in the past. We often say **when** it happened (yesterday, a week ago, last month etc.):
 Chris phoned me yesterday. He wanted to discuss something with me.

Past Continuous

1. The past continuous form: I/he/she/it **was playing**
                    We/they/you **were playing**

The past continuous negative form:

I/he/she/it was not (wasn't) playing

We/they/you were not (weren't) playing

The past continuous question form: Was I/he/she/it playing?

Were we/they/you playing?

2.   We use the past continuous to say that someone was in the middle of doing something at a certain time. The action or situation had already started before this time but hadn't finished: *What were you doing at 10 o'clock last night?*

3.   The past continuous doesn't tell us whether an action was finished or not: *Margaret was playing computer games* . (We don't know whether she finished playing or not).

4.   The past continuous and the past simple are often used together to say that something happened in the middle of something else: *While I was surfing the Internet, I burnt my dinner.*

Past Continuous vs. Past Simple

1. We use the past continuous for incomplete or continuing actions in the past (I was writing e-mails for most of the morning); we use the past simple for a single and complete action in the past (I sent him an e-mail two hours ago).

2. We use the past continuous for an interrupted action in the past (When Sue came home, Sally was downloading the movie); we use the past simple to say that one thing happened one after another (When Sue came home, Sally downloaded the movie).

Task 1. Put the verbs in brackets in the Past Simple tense:

1. He……(reconfigure) the field structure in the file.
2. …. you……(download) any information about this subject?
3. I…….(find) the problem when I…….(launch) this program.

4. We…….(not/dump) the information onto the hard disk of the server.
5. She …..(type) the password but….(fail) to open the file.

Task 2. Use the following verbs in the Past Simple tense:

Upgrade   update   disable   contain   crash
1. The file that was lost…..important documents.
2. To prevent anyone changing the data he……the keyboard.
3. The electricity was cut off and the computers…….. .
4. We …….our printer.
5. He………his files.

Task 3. Choose the correct tense form: Past Simple or Past Continuous:

1. When   he…………………….(buy)   the   laptop,   he …………………..(leave) his driver's license on the counter.
2. When Alice …………………..(come) home, her husband ……………………(watch) online videos .
3. I ………………(work) in Photoshop when Alex …………… (call) me.
4. She …….(access) the employee's file stored on the computer without his consent.
5. Where .... you (repair) your scanner?
6. The technical staff……. (try) to correct a programming fault when the light ....(switch off).

UNIT 3

Present Perfect

1. We form the Present Perfect with **have/has** + **past participle**. The past participle often ends in –ed, if the verb is regular (installed, performed).

The negative form:
I (we, you, they) have not (haven't) lost the file.
She (he) has not (hasn't) got the message.
The question form:
Have I (we, you, they) lost the file?
Has she (he) got the message?

2. When we use the Present Perfect tense there is a connection with
 the present. This tense is used to relate the past to the present.

I (we, you, they) have lost the file! (= I have not got it now)

3. We often use the present perfect to give new information or to announce a recent happening. *She (he) has just got the message.*

4. We often use *just, already, never, ever, not yet, today, for, since, this (week, month)* with the present perfect.

5. *Remember:* we use the Past Simple for situations or actions during a period of time that **ended** in the past (He studied Computer Science for 3 years.= He finished his studies). We use the Present Perfect for situations or actions in a period of time **from the past until now** (He has studied Computer Science for two years. = He still studies it).

Past Perfect

1. We form the Past Perfect tense with **had + past participle**:
I had ('d) already gone out when you called the office. (positive form)
The negative form:
He had not (hadn't) finished the installation when I got to work.
The question form:
Had you made a mistake?

2. You use the Past Perfect tense when you are looking back from a point in past time, and you are concerned with the effects of something which happened at an earlier time in the past:
He had already had his own business when he turned 20.

*He felt much happier once he **had found** a new job.*

3. We use the following expressions with the Past Perfect tense: **after, already, as soon as, before, by the time, just, till/until, when, yet:**

*When he arrived at the office, the boss **had already left**.*

Remember: If **before or after** is used, the Past Perfect tense is optional:

***After** they **discussed** the current project, the train arrived, they **went on** to talk about future plans.*

*Compare the use of **Past Perfect** and **Past Simple**:*

- When Alex got home, Dylan installed a new program. (First Alex got home, then Dylan installed a new program).

- When Alex got home, Dylan had installed a new program. (Dylan did it before Alex got home)

Task 1. Put the verbs in brackets in the Present Perfect tense:

1. Jim........................... (detect/ just) a boot virus.
2. Many organizations...................................(lose/ already) a lot of time and money dealing with intruder activity in the past few years.
3. Computers and microchips....................... (become) part of our everyday life by now.
4. - (you/ visit) the computer exhibition yet?
   - No, I................... . But I'd like to. What about you?
   - I (be/ just) there.
6. He (not/ work) as a system administrator since last winter.

Task 2. Choose the correct tense form: Past Simple or Present Perfect:

1.   He .... (describe/ just) the way of compiling the program.
2.   Peter: ……you (play) this game before?
 Philip: Yes, I…… I……(play) it when I was a student.

3.   I ....(not/ see) our leading programmer today. I wonder where he is.
4.   Oh no! I………(delete) all the client records!.
5.   He .... (not work) in IT department since December.
6.   First, he …… (install) anti-virus software, then he …………(connect) to the Internet.

*Task 3. Make sentences with the Present Perfect and **for** or **since***

1. I / not / play / the World of Tanks / Sunday.
2. she / work / in this department / more than five years.
3. you / see / Jack / the meeting last week?
4. these machines / not / service / a year.
5. we / be / good friends / we studied at University.

Task 4. Choose the correct variant:

1. I *saw/had seen* her presentation before so I *didn't want/hadn't wanted* to see it again.
2. By the end of the week she *deleted/had deleted* some messages from the server.
3. I *received /had received* an e-mail from the boss and *sent/had sent* it to my colleague.
4. The teacher *wanted/had wanted* to know if I ever *had/had had* any problems with viruses.
5. He couldn't use the ISP as *he didn't pay/ hadn't paid* for his online time.

UNIT 4

Future Simple

1. We form the Future Simple Tense with the help of ***will***
In spoken English we normally use the short forms **I'll** and **we'll.**
We use it when we decide to do something at the time of speaking.

*Oh, I have left my computer on! I **will** go and switch it off.*
2. We also use it when we are making predictions about the future based on the general beliefs, opinions or attitudes.
*I am sure you **will** get that job!*
3.   Remember: for talking about the future we can also use **be going to.** We use it for actions that we decided to do *before* we speak (***I'm going to clean*** *my desktop*) and when there is something in the present situation that shows what will happen in the future (in a game: *Look at her! **She is going to kill** my soldier!).*

Task 1.Use will or be going to and the verbs in bracket:

1. Have you decided what to do with your old mobile? – Yes, I……… (give) it to my kid.
2. I know you are good at computers. …… you (help) me to install an antivirus program?
3. I've lost a very important file! – Oh, don't worry! I……(think of) something .
4. Make a back-up copy or…….(lose) all your information.
5. Have you checked the spelling in this document? – Not yet, I………..(do) it tonight.
6. I'm sure robots………..(do) the housework for people in the near future.
7. Do you think new technologies …….(allow) us to live longer?
8. Your son likes writing programs. …….he (be) a programmer?
9. Is it likely or unlikely that in ten years we……(work) in virtual offices?
10. Your Internet is working so slowly! – I know, I………(change) the provider.

Task 2. How likely is that these predictions will come true in the next 50 years? Make up your own sentences:

1. Scientists/build/factories/ in space.

2. People/learn/to control/the weather.
3. Newspapers / disappear.
4. Virtual reality/ change/ our lifestyles.
5. Ordinary people/travel/to Mars.
6. Humans/live/beyond 150 years.
7. Doctors/ use/ electronic instruments/in surgery.
8. Scientists/discover/cure for cancer.
9. Humans/marry/robots.
10. Writing skills/ be needed.

UNIT 5

Present and Past Simple Passive

1. The present simple passive form: am/is/are + past participle
Active: The device controls the copy flow.
Passive: The copy flow **is controlled** by the device.
2. We use the passive voice to describe an action when we don't know who does (or did) the action, when it is not important who does (or did) the action and when we are more interested in the action than in the person who does (or did) something:
*The "bold" attribute **is toggled** on and off by pressing this function key.*
3. The past simple passive form: was/were + past participle
Active: The traced the fault to a faulty cable.
Passive: The fault **was traced** to a faulty cable.
You may use **by** if you want to say who did or what caused the action.   This program was installed **by** our programmer.
4. When changing a sentence from the active to the passive:
• the object of the active sentence becomes the subject in the passive sentence.
• the active verb changes into a passive form.
• the subject of the active sentence becomes the agent and is either introduced with the preposition **by** or omitted.

• only transitive verbs (i.e. verbs which take an object) can be changed into the passive.

Active: *Steve **found some defects** in the equipment.*(transitive verb)

Passive: *Some defects in the equipment **were found** by Steve*.

But: All the customers come from the local area. (The verb "come" is intransitive so the sentence cannot be changed into the passive.)

*Task 1. Put the verbs in brackets into **the Present Simple (active or passive***):*

1. Hardware is the physical parts the computer … (to make).
2. Computer programs … computer programmers (to design).
3. Most programs …using a programming language like Java and Python (to write).
4. A few programmers … programs in the computer's own language called machine code (to write).
5. A computer is only useful if it … both hardware and software (to have).
6. Computers … billions of calculations per second (to do).

*Task 2. Put the verbs in brackets into the correct form **Past Simple (active or passive***):*

1. The earliest computer, the abacus, …….to perform basic arithmetic operations (to use).
2. First electronic computers … vacuum tubes (to use).
3. The second generation of computers … about thanks to the invention of the transistor (to come).
4. The first transistor computer … at the University of Manchester in 1953 (to create).
5. First microchips-based central processing units … of multiple microchips for different CPU components (to consist).
6. Lights and switches … by screens and keyboards (to replace).

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7. The nature of the underlying electronic components … (not to change).

8. Steve Jobs … what Xerox PARC team had developed (to show).

Task 3. Change the sentences below from active into passive:

1. The compiler automatically corrects the syntax errors.
Passive: ……………………………………………………
2. This company developed a new brand of screen cleaner.
Passive: ……………………………………………………
3. The operating system uses a metafile to hold data that defines where each file is stored on disk.
Passive:
……………………………………………………………..
4. They modified the keyboard for European users.
Passive: ……………………………………………………..
5. You launch the word processor by double clicking on this icon.
Passive: ……………………………………………………...
6. We checked the validity of the password.
Passive:……………………………………………………………
7. This procedure sorts all the files into alphabetical order.
Passive: ………………………………………………………….
8. The sales department keeps the information about the company's clients in a database.
Passive:
……………………………………………………………..
9. The machine monitors each signal as it is sent out.
Passive:
………………………………………………………………….
10. We completely computerized our stock control.
Passive: …………………………………………………………

UNIT 6

Modal verbs

1. Modal verbs (**can, could, may, might, must, ought to, should**) are used to talk about *ability, possibility, obligation, permission, necessity, advice* etc.

2. Modals are always the first word in a verb group. All modals except for "ought" are followed by the base form of the verb*: I must leave soon.* But: *She ought to go back to Russia.*

3. To make a clause negative, you put a negative word immediately after the modal: *You must not worry.* "Not" is often shortened to "n't": *We couldn't leave earlier.* The negative of **can** is **cannot (can't)**.

4. To make a question, you put the modal in front of the subject: *Could you give me an example*?

5. Instead of some modal verbs we can use other verbs and expressions: **be able to** instead of **can** (*They will be able to work from home*), **have to** instead of **must** (*I always have to do the checking)*

6. We use **can** to talk about ability in the present (*She can speak English*), to ask for smth. (*Can you pass me the documents, please?*), to talk about permission (*You cannot access these files!)*

7. We use **could** to talk about past ability (*He couldn't launch a program when he was child*), to ask for permission (*Could I use your laptop?*), to ask for smth. politely (*Could you say your name again, please?)*

8. We use **must** to talk about obligation and necessity in the present or future (*You must switch off computers before leaving*) . We use **mustn't** to talk about prohibition (*You mustn't touch this switch!*)

9. We use **should** or **ought to** to give advice and to ask for advice (*You should study harder if you want to pass the exam.*)

10. We use **may** or **might** to talk about things that are possible now or in the future (*I might not go to work tomorrow*)

*Task 1. Translate into Russian paying attention to **modal verbs and similar structures**.*

1. Psychologists now recognize Internet Addiction Syndrome (IAS) as a new illness that might cause serious problems.
2. This illness is not fake, and it must be taken seriously
3. Nowadays you can hardly find an office without a computer.
4. Computer addicts should consult specialists.
5. The problems may increase dramatically.
6. If your PC is infected with a virus, your data can be at risk.
7. I'll have to start again! – I've just erased the only clean copy.
8. The user cannot gain access to the confidential information in the file without a password.
9. Computers can be classified according to their size and complexity.
10. You can't decrypt the message because you don't know the key.

Task 2. Choose the correct variant:

1. You *don't have to/ mustn't* touch that. You'll get electrocuted.
2. You *have to/must* visit this website. It's really interesting.
3. You *have to/should* try this new version – it's much more reliable.
4. You *may/must* find all the documents by the time the meeting starts!
5. To be able to work with this new software you *can/should* learn more.

UNIT 7

Conditionals

1. Conditional sentences consist of **if-clause** (real or unreal condition) and the **main clause**. We use conditional clauses to talk about a situation and its results.

2. There are three basic types of conditionals:

Type 1 (real condition)

(If + present tense), [will+ bare infinitive]

If you **study** harder, you **will pass** the test.

We use this type to talk about things that may happen in the future.

Type 2 (unreal condition in the present or future)

(If + past tense), [would+ bare infinitive]

If you **studied** harder, you **would pass** the test.

We use this type to talk about things that are untrue in the present or unlikely to happen in the future.

Type 3 (unreal condition in the past)

(If+ past perfect), [would+ have+ past participle]

If you **had studied** harder, you **would have passed** the exam.

We use this type to talk about something in the past that could have happened, but did not or should not have happened, but did.

3. Conditionals can also be introduced by*: **unless, providing, provided (that), as long as, in case, on condition (that), otherwise, what if, supposing, even if***

4. Note the structure: **If I were you, I would(n't) do smth.** It has **were** instead of **was** and is used to give advice.

If I were you, I wouldn't buy the latest Apple model**.**

5. The conditional clause can come before or after the main clause.

When the clause with the conditional linking word (**if, unless,** etc.) is at the beginning of the sentence, there is a comma. When the main clause begins the sentence, there is no comma.

[You will get an electric shock] _(if you touch that)!

Task 1. Put the verbs into correct form:

1. If I had access to the Internet, I………(do) this work easily.

2. If something…… (go) wrong, the computer will signal you.
3. If I were you, I……..(not/choose) a complex password.
4. If we had known the results beforehand, we……..(not/start) out research.
5. He would have got access to the network if he……..(use) the right password.
6. If I don't finish this work by lunchtime, the boss ……(not/be) pleased.
7. If you press the "delete" key, you……(delete) the data.
8. If I…….(be) you, I would sent him an e-mail straight away.

Task 2. Make up your own sentences:

1. If I had to spend a week without any gadgets, ………….
2. If I have more time, ……………………
3. If he hadn't forgotten the password, ……………………..
4. If I had a well-paid job, ………………………………..
5. If my boss asks me to work overtime, ……………………
6. I would be very upset if………………………….
7. If I didn't live in Russia, ………………………..
8. If I didn't study English, ……………..
9. If the Internet hadn't been invented, ……………
10. If I were Bill Gates, ……………………………

UNIT 8

Parts of speech

Nouns

1**.** The plural of a noun is usually **–s** or**–es** (after o , ss, x, sh, ch).:
singular (=one) - plural (=two or more)
a flower – **some** flower**s**
a nice place – **many** nice place**s**

2.   Some plurals do not end in **-s**:
 this man – these men, one foot - two feet, that sheep - those sheep, a woman - some women, a tooth - all my teeth, a child - many children, a mouse - some mice, a person - some people
People is plural (=they), so we say **people are/people have** *etc*.
Police is plural: ***The police are*** *here*.
3. A noun can be **countable or uncountable**.
Countable nouns: a **car**   a **man**   a **key**   an **idea**   an **accident**
Countable nouns can be singular or plural: a car – cars, two cars, some cars, many cars.
You cannot use the singular (car/house/key) alone. You need
 a /an:
    We can't get in without **a** *key.*

Uncountable nouns: **water money music   electricity**

Uncountable nouns have only one form:

I've got some money.   Money isn't everything.

You cannot use **a /an** + uncountable nouns. But you can say **a piece of…/a glass of…** *etc*. + uncountable noun:

A glass of water, a can of oil, a bar of chocolate,   a piece of cheese, a bottle of milk, a piece of music   a game of tennis
4.   You can use **some** and **any** with plural countable nouns:
We played **some** *games. Did you play* **any** *games?*

We use **many** and a **few** with plural countable nouns:
     I have a few jobs to do. We didn't take many photos.

You can use **some, any, much, little** with uncountable nouns:
We listened to some music. We didn't do much shopping.

5.   Many nouns can be used as countable or uncountable nouns, usually with a difference in meaning. Compare:

I bought **a paper** to read.(= a newspaper) - I need **some paper** to write on.(= material)

Enjoy your holiday. Have **a** good **time**! - I can't wait. I haven't got **time.**

6.   There are some nouns that are usually uncountable in English but often countable in other languages: **information   advice weather   news   bread   hair   furniture   work   scenery accommodation luck luggage traffic permission progress damage behavior chaos knowledge education**

News is uncountable, not plural: *The **news was** very bad*.

Pronouns

SUBJECT PRONOUNS	OBJECT PRONOUNS	POSSESIVE PRONOUNS	REFLEXIVE PRONOUNS
I	*me*	*my*	*myself*
you(singular)	*you*	*your*	*yourself*
he	*him*	*his*	*himself*
she	*her*	*her*	*herself*
it	*it*	*its*	*itself*
we	*us*	*our*	*ourselves*
you (plural)	*you*	*your*	*yourselves*
they	*them*	*their*	*themselves*

Adjectives

1.   Adjectives describe nouns. They have the same form in both the singular and the plural and normally go *before* nouns. They also go without nouns after some verbs: appear, be, sound, become, feel, seem, smell, taste, look, get, etc.. Ex: It looks nice.

2. Most adjectives have three forms: **positive, comparative** and **superlative**

3. The **comparative** form is –**er** or **more**… .
- • We use - **er** for short words (one syllable): cheap – cheaper fast – faster large – larger
- • We also use -**er** for two-syllable words that end in –**y (-y→-ier):** lucky → luckier   early →earlier   easy →easier pretty →prettier
- • We use **more** … for longer words (two syllables or more):

   more modern   more serious   more expensive
- • You can use –er or more… with some two-syllable adjectives, especially: **quiet clever narrow simple**

It's too noisy here. Can we go somewhere quieter/more quiet?
- • In comparative sentences we often use **than**
     This question is easier **than** the last one

4. The **superlative** form is - **est** or **most** … .
- • In general we use –est for short words and most … for longer words. (the rules are the same as those for comparative)

   long → long**est**   **easy** → eas**iest** **hard** → hard**est**
   most famous   **most** boring   **most** difficult
- • We normally use **the** before a superlative (**the** long**est** / **the most** famous etc.):
- • After superlatives we use **in** with places (towns, buildings etc) and groups of people (a class / team / company etc.):

What is the longest river **in** the world? Who is the best student in the group?

We normally use **of** for a period of time:

What was the happiest day **of** your life?
- • We often use the Present Perfect (I have done) after a superlative:

What's **the best** film **you've ever seen**?

1. These adjectives have irregular comparative and superlative forms:

good – better – the best
bad – worse – the worst
far – further (or farther) – the furthest
many – more – the most
little – less – the least

Adverbs

1. We use adverbs to describe **how** someone or something does an action. Most adverbs are formed by adding –**ly** to the adjective
She answered all the questions **correctly**
2.If an adjective ends with –**y**, the adverb ends with -**ily**
They solved the problem **easily**
3.Some adverbs are irregular (they don't end with -ly)
  good - well
4. Some adjectives and adverbs have the same form: **hard, late, early, fast, far, much, little, high, low, near**
It's a hard day. (adjective) He works hard. (adverb)

Task 1.Use the correct pronoun instead of the words in italics:

1. *Jim and Ted* exchanged mobiles.
2. *Linda's* parents bought her a new laptop.
3. Computers allow *the disabled* to live more independently.
4. *Computer scientists* believe that *virtual reality* is a very promising area of research.
5. When we studied at University our teachers gave *me and my fellow students* a lot of assignments.

*Task 2. Complete the sentences using the comparative form of the adjective in brackets and **than** (if necessary) or the superlative form:*

1. This software is………… (expensive) that one.
2. A storage device has……….(great) capacity the main memory.

3. This company produces …….. (reliable) computers in the world.
4. Interacting with a computer is …….(good) way to understand it.
5. The latest computers use ……..(little) energy compared with the earliest models.
6. Mechanical devices ……(slow) electromagnetic devices.
7. We think that …..(bad) virus in the world hasn't been created.
8. This hackers' attack is justly considered …..(bad) attack of the year.
9. Who was………….(successful) creator of personal computer peripherals?
10. Do you agree that voiceprints' analysis …….(easy) fingerprints'?

Task 3. Use the following adjectives and adverbs in the right place:
good   the best easy carefully reliable efficiently logically

1. Using computers is really so …..that even small children can do it!
2. Integrated circuits can make computers more ……… .
3. With this technology tasks can be performed more………. .
4. Using cards with magnetic stripes is ……..method of identification.
5. The ability to think ……….is a very important skill for everyone.
6. Are you ………at compiling programs?
7. Before making any important decisions you should think ………… .

Task 4. Read the text and choose the correct variant:

 Robert Noyce was *(a/an/the)* risk-taker who was successful both as *(a/an/the)* engineer and as *(a/an/the)* entrepreneur. *(A/an/the)*

son of an Iowa minister, he was informal, genuine, and methodical. Even when he was running one of *(more/ the most)* successful businesses in the Silicon Valley, he dressed *(informal/informally)* and his office was an open cubicle that looked like everyone else's. A graduate of the Massachusetts Institute of Technology (MIT), he started working for one of the first computer-related businesses in 1955.

As *(a/an/the)* engineer, he co-invented the integrated circuit, which was the basis for *(late/later)* computer design. As *(a/an/the)* businessman, Noyce co-founded Intel, *(more/the most)* successful company in the Silicon Valley and the first company to introduce the microprocessor. *(A/an/the)* directors of Intel could not have anticipated the effects that the microprocessor would have on the world. It made *(possibly/possible)* the invention of the personal computer and eventually led to the birth of thousands of new *(business/businesses).* In fact, many *(persons/people)* consider his role to be one of *(more/the most)* significant in the Silicon Valley story.

ABBREVIATIONS LIST

ACID – Automated Classification and Interpretation of Data
ATM – Automatic Teller Machines
B2B – Business-to Business
B2C – Business-to-Consumer
B2G – Business-to-Government
CCTV – Close Circuit Television
CIA – Confidentiality, Integrity and Availability

CPU – Central Processing Unit
CSS – Cascading Style Sheets
CTO – Chief technical officer/Chief technology officer
CU – Control Unit
DARPA – Defense Advanced Research Projects Agency
GPS – Global Positioning System
IAS – Internet Addiction Syndrome
ICT – Information and Communication Technology
IS – Information System
IT – [Information Technology](#)
JS – JavaScript
LCD – Liquid-Crystal Display
PC – Personal Computer
PDA – Personal Digital Assistant
PIN – Personal Identification Number
TCP/IP – Transmission Control Protocol/Internet Protocol
UI – User Interface
URI – Universal Resource Identifier
UX – User Experience
WEEE – Waste Electrical and Electronic Equipment
Wi-Fi – Wireless Fidelity
WWW – World Wide Web

Appendix 1:

Grammar Revision

SIMPLE TENSES (Active Voice)

		Present Simple	Past Simple	Future Simple
FORM	**Affirmative**	V (V+s) she plans we plan	V+ *ed* V*2* she plann*ed* we *wrote*	Shall / will +v she will plan we will plan
	Negative	she does not (doesn't) plan we do not plan	she did not plan we didn't write	she will not / won't plan we will not / won't plan
	Interrogative	Do we plan? Does she plan?	Did we write? Did she plan?	Shall we plan? Will she plan?
USAGE		repeated or usual actions facts or generalizations	action(s) in the past, past habitual action, past facts or generalizations	a voluntary future action a promise a prediction
EXAMPLE		marketing "drives" many of the day-to-day decisions made by operating management	marketing "drove" many of the day-to-day decisions made by operating management	marketing will "drive" many of the day-to-day decisions made by operating management

Appendix 2:

Grammar Revision

PROGRESSIVE TENSES (Active Voice)

		Present Progressive	Past Progressive	Future Progressive
FORM	**Affirmative**	am is $+ V$ing are He is planning	was were $+ V$ing He was planning	will $+ V$ing He will be planning
	Negative	He is not planning	He was not planning	He will not / won't be planning
	Interrogative	Is he planning?	Was he planning?	Will he be planning?
USAGE		• action in progress "at this very moment" or around it. • near future, particularly plans	• an interrupted action in the past • two past events in parallel	• interrupted action in the future • two parallel actions in the future
EXAMPLE		*They <u>are having a</u> meeting about the catalogue.*	*We <u>were discussing</u> our expansion plans when he came.*	*I can't see you on the 12th because I <u>will be attending</u> a training course.*

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Appendix 3:

Grammar Revision
PERFECT TENSES (Active Voice)

		Present Perfect	**Past Perfect**	**Future Perfect**
FORM	**Affirmative**	have has + Ved/ 3 He has written	had + Ved/ 3 He had written	will have + Ved/ 3 He will have written
	Negative	He has not written	He had not / hadn't written	He will not / won't have written
	Interrogative	Has he written?	Had he written?	Will he have written?
USAGE		• unspecified time before now • duration before now	• completed action or duration before something in the past	• completed action or duration before something in the future
EXAMPLE		*They have already discussed this problem*	*He had completed his experiment by the time his chief came.*	*I will have taken part in many confer ences by 2020.*

Appendix 4:

Grammar Revision

PERFECT PROGRESSIVE TENSES (Active Voice)

		Present Perfect Progressive	Past Perfect Progressive	Future Perfect Progressive
FORM	**Affirmative**	He has been writing	He had been writing	He will have been writing
	Negative	He has not been writing	He had not been / hadn't been writing	He will not / won't have been writing
	Interrogative	Has he been writing?	Had he been writing?	Will he have been writing?
USAGE		• duration from the past until now	• duration before something in the past • cause of something in the past	• duration before something in the future • cause of something in the future
EXAMPLE		*We have been analyzing the results of the experiment since last week* (and still are).	*I had been solving this problem for a week when I realized I should use another approach.*	*They will have been testing this material until they get all the necessary data.*

Appendix 5:

Grammar Revision

PASSIVE VOICE

	Simple	Progressive	Perfect
Present	am is + V ❸ are	am being is being + V ❸ are being	have been + V ❸ has been

Past	was
	       + V ❸
	were
		was being
		                    + V
		❸
		were being
			had been + V
			❸

Future	will be + V ❸		will have been + V ❸

Appendix 6:

MODAL VERBS

Functions	ability possibility	obligation	no obligation	advice	speculation
Modal Verbs	can	must have to	needn't	should	may might could

Functions	asking for permission (more polite)	previously arranged plan; obligation resulting from previous arrangement
Modal Verbs	Could	be to

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