МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ
РОССИЙСКОЙ ФЕДЕРАЦИИ

ФГБОУ ВО «Воронежский государственный технический университет»

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ОСНОВЫ КОМПЬЮТЕРНЫХ ТЕХНОЛОГИЙ

Учебное пособие

Утверждено учебно-методическим советом в качестве учебного пособия для студентов, обучающихся по направлению 09.03.03 «Прикладная информатика»

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В пособии приводятся 12 тем, посвященных рассмотрению основ компьютерных технологий. Каждый урок состоит их трех разделов. В рамках урока авторами предложены современные аутентичные тексты, а также лексико-грамматические задания, направленные на усвоение компьютерной терминологии каждой отдельной темы.

Помимо работы с текстом осуществляется проработка базового грамматического материала, позволяющего обучающимся корректно сформулировать высказывания не только в пределах компьютерной области, но и в рамках других тем. Уделяется внимание разговорным выражениям, изучению которых посвящен отдельный раздел урока. Акцентируется внимание на освоении разговорных фраз, употребляемых в повседневном общении на английском языке в типичных ситуациях. После изучения каждого из двух блоков пособия (уроки 1-4 и 5-12) предлагаются контрольные задания, предназначенные для проверки качества усвоенного грамматического и лексического материала и повторения пройденного материала.

Для более углубленного изучения затрагиваемых тем авторами составлено Приложение, которое содержит тексты для дополнительного чтения, соотносящиеся с тематикой уроков. Для удобства и повышения оптимизации процесса обучения составлен специализированный терминологический тезаурус, содержащий перевод и транскрипцию компьютерных терминов, изучаемых в рамках каждого урока.

Пособие предназначено для студентов, обучающихся по направлению 09.03.03 «Прикладная информатика».

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ВВЕДЕНИЕ
(INTRODUCTION)

Учебное пособие предназначено для обучения английскому языку студентов специальности «Информационные технологии». Пособие позволяет сформировать у обучающихся профессиональные языковые компетенции, развить навыки чтения и перевода технических текстов, а также совершенствовать умение составлять высказывания на английском языке в рамках изучаемых тем.

Пособие состоит из двенадцати уроков, посвященных изучению таких областей компьютерных технологий как *применение компьютера, описание его комплектующих, особенности устройств ввода, вывода, хранения, типы компьютеров, специфика работы сети Интернет,* а также *развитие компьютеров будущего*. Для эффективного усвоения информации каждого текста студентам предлагается ряд заданий, направленных на запоминание базовых технических терминов и лексических конструкций.

Каждый урок содержит:

1. *Предтекстовые задания*, ориентированные на активизацию специальной лексики для более эффективной работы с материалом урока;
2. *Профильный текст по специальности*, на базе которого строятся все упражнения урока;
3. *Послетекстовые задания*, представляющие собой непосредственно профильный лексико-грамматический тренинг;
4. *Раздел, ориентированный на изучение грамматических тем*, необходимых для построения типовых высказываний на английском языке;
5. *Блок с разговорными фразами* на широкий круг тем каждодневного общения. Здесь авторы приводят диалогические модели общения, релевантные для различных социальных условий: для поиска местонахождения нужного объекта (магазина, станции, и пр.), для уточнения времени, информации о товаре, информации, необходимой в поездке, договоренности о деловой встрече и т.д.

Для контроля усвоения материала, а также для повторения технической терминологии, грамматического материала и разговорных фраз в пособии приводятся 2 блока упражнений (Revision): первый блок направлен на повторение материала 1–4 уроков, второй — для закрепления материала 5–12 уроков.

В конце учебника представлены тексты для *дополнительного чтения* по каждой из 12 тематических рубрик пособия. Тексты содержат актуальный материал и рассчитаны на более углубленное изучение технических тем каждого из уроков.

Пособие ориентировано на получение студентами знаний по английскому языку в профессиональной и бытовой областях, на закрепление изучаемого грамматического и лексического материала и может служить основой для более углубленного изучения английского языка по направлению «Информационные технологии» в будущем.

LESSON 1

APPLICATION OF COMPUTERS

Task 1. Answer the following questions:

1. How often do you use computer?
2. Can you name three things that you often do with the help of computer?
3. How do computers influence human`s life?

Task 2. **Read the following words that will help you understand the text below. Make sure you know what they mean:**

laser, effect, scan, price, clothes, generate, advertisement, bedside terminals, connect, allow, schedule, customer, library, possible.

Task 3. Read and memorize the following words:

1. items [ˈaɪtəm] – единица
2. groceries [ˈgrəusərɪz] – бакалея
3. barcode technology – технология считывания штрихкода
4. require [rɪˈkwaɪər] – требовать
5. generate [ˈdʒɛnəreɪt]– создавать
6. maintain the inventory – вести учет товара
7. digital [ˈdɪdʒɪtl] – цифровой
8. full-length [lɛŋθ] films – полнометражные фильмы
9. science [ˈsaɪəns] fiction – научная фантастика
10. advertisements [ədˈvəːtɪsmənt] – реклама
11. indispensible [ɪndɪˈspɛnsəb(ə)l] – незаменимый
12. patient [ˈpeɪʃnt] – пациент
13. financial transaction [faɪˈnænʃəl [trænˈzækʃən]] – перевод денежных средств
14. security [sɪˈkjuərɪtɪ] – безопасность
15. library [ˈlaɪbrərɪ] – библиотека
16. computer literate – быть компетентным в области компьютера

Task 4. Read the text briefly and answer the following questions:

1. What spheres of life are mentioned in the text and how are computers used in these spheres?
2. Can you name some more spheres of computer use?

COMPUTERS IN OUR LIFE

Computers are part of our everyday life. They have an effect on almost everything you do. When you buy groceries at a supermarket, a computer is used with laser and barcode technology to scan the price of each item and present a total. Barcoding items (clothes, food and books) require a computer to generate the barcode labels and maintain the inventory.

Computers are also used for digital video or audio composition. Graphic engineers can use computers to generate short or full-length films or even create 3D models. Special effects in science fiction and action movies are created using computers. Most television advertisements and many films use graphics produced by a computer.

Computers are indispensable in today`s medicine. Computer software is used for performing surgery. Computers are used to store valuable patient data, and other information that doctors need private access to.

Banks use computers to look after their customer`s money. All financial transactions are done by computer software. It provides security, speed and convenience.

Computers make it easier to learn from an E-learning software. These are available electronically online, and are accessible either freely or through a course that one pays for - much like what is taught in any college/university.

In libraries and bookshops computers can help you find the book you need as quick as possible.

Computers make it easier to travel. You can book air tickets or railway tickets using the internet, and make hotel reservations online.

As everyone can see, our life nowadays is hardly possible without computers, but you need to be computer literate to make good use of it.

Sources:
1. Glendinning Eric H. Basic English for computing. - Oxford University Press, 2005. - 128. c. стр. 7.
2. Buzzle. [Электронный ресурс]. – Режим доступа: URL: http://www.buzzle.com/articles/uses-of-computer.html (время обращения - 18.08.15).

Task 6. Read the text again and translate it thoroughly.

Task 7. Find the Russian equivalents to the following words and word combinations:

1) barcode technology	a) продовольственные товары
2) groceries	b) необходимый
3) present a total	c) персональный доступ
4) barcoding items	d) вести учет товара
5) require	e) финансовые операции
6) maintain the inventory	f) товары, маркированные штрих-кодом
7) indispensible	g) научная фантастика
8) science fiction	h) технологии, используемые штрих-код
9) financial transactions	i) требовать
10) private access	j) вычислять общую сумму

Task 8. Translate the following sentences into English:

1. В магазине с помощью компьютера подсчитывают общую стоимость товара.
2. Большинство фильмов и рекламных роликов создаются с использованием компьютерной графики.
3. В банках компьютеры помогают вести учет денежных операций.
4. Компьютеры – необходимый инструмент для создания современных полнометражных фильмов и рекламных роликов.
5. При помощи интернета легко можно забронировать авиа- или железнодорожный билет, гостиницу, экскурсии, и все, что необходимо для путешествия.

Task 9. Answer the following questions:

1. What`s a computer?
2. How are computers useful in different spheres?
3. What establishments mentioned in the text where computers can help to find the information quickly?
4. How can computers be used in banking?
5. In what way are computers used for e-learning?
6. Is it necessary to be computer literate? Why/why not?
7. Why are computers important (not important) for you?

Project Tips

Think of an activity/sphere of life which can be modernized/optimized with the help of computer. In what way can it be done? Present your ideas as a project (presentation).

GRAMMAR SECTION

Overview: the verbs «to be»; «to have»; constructions «there is/are».

Exercise 1. Complete the table for the verb «to be»:

Таблица 1

	Past		*Present*		*Future*	
Person (лицо)	*Singular (ед.ч)*	*Plural (мн. ч.)*	*Singular (ед.ч)*	*Plural (мн. ч.)*	*Singular (ед.ч)*	*Plural (мн. ч.)*
1 л.	I …	We…	I …	We…	I …	We…
2 л.	You …	You …	You …	You …	You …	You …
3 л.	He … She … It …	They …	He … She … It …	They …	He … She … It …	They …

Exercise 2. Fill in the gaps with the correct form of the verb «to be»:

My uncle … a director of the large company. He … often on a business trip. Yesterday he … in France. Tomorrow he … in England. Last week he … in Spain. Now he … at home with his family. His daughters … so much excited. The students … at the hostel now? My sister … not at work next month. Where … your mother now? He … not a pupil 20 years ago. We … at this place last week.

Source: AZ English.ru. [Электронный ресурс]. – Режим доступа: http://azenglish.ru/uprazhneniya-na-glagol-to-be/ (время обращения: 08.08.2016).

Exercise 3. Complete the table for the verb «to have»:

Таблица 2

	Past		*Present*		*Future*	
Person (лицо)	*Singular (ед.ч)*	*Plural (мн. ч.)*	*Singular (ед.ч)*	*Plural (мн. ч.)*	*Singular (ед.ч)*	*Plural (мн. ч.)*
1 л.	I …	We…	I …	We…	I …	We…
2 л.	You …	You …	You …	You …	You …	You …
3 л.	He … She … It …	They …	He … She … It …	They …	He … She … It …	They …

Exercise 4. Fill in the gaps with the correct form of the verb «to have»:

He ... a large family. He ... two pets at home. They ... a very nice flat in Bristol 5 years ago. Peter ... many friends here. You ... many books at home. Does she … any brothers? My mother ... three children. I ... two cousins. She ... two brothers and a sister.

Source: ВГУЭС, Сайт цифровых учебно-методических материалов. [Электронный ресурс]. – Режим доступа: http://abc.vvsu.ru/books/engl_gram_ex/page0003.asp (время обращения: 08.08.2016).

Exercise 5. Study the information and table below and fill in the gaps in the sentences with the proper form of *there be*:

- Оборот **there + be** употребляется для сообщения о наличии или отсутствии какого-либо предмета или явления, при этом место нахождения предмета может указываться, либо не указываться. Оборот THERE+ BE переводится словами "есть, имеется, существует".

Например:

✓ *There are* many computers in the room (В этой комнате много компьютеров)

✓ *There are* several types of computer memory (место нахождения не указано. Переводится как: *Существует, известно о …*).

Model

Таблица 3

THERE +	Are (singular) Is (plural)	+	-	?	
		There is/are a chip/chips in the panel.	*There isn`t/aren`t* a chip\chips in the panel.	*Is /Are there* a chip/chips in the panel?	Present
	Was (singular) were (plural)	*There was/were* a chip/chips in the panel.	*There wasn`t/weren`t* a chip/chips in the panel.	*Was/were there* a chip/chips in the panel?	Past
	Will be	There will be three chips in the panel.	There won`t be three chips in the panel.	Will there be three chips in the panel?	Future

Exercise 6. Fill in the gaps with the proper form of THERE BE:

1. Look!_____their telephone number in the letter.
2. Chester is a very old town. _____many old buildings there.
3. Excuse me,_____ a restaurant near here?
4. How many students_____in your group?
5. I was hungry but_____anything to eat.
6. _____ a football match on TV last night.
7. _____many people at the meeting?
8. Look!_____new exhibits in those stands! Let`s check it out!
9. _____24 hours in a day.
10. This box is empty._____nothing in it.
11. _____somebody at the airport to meet you when you arrive tomorrow.
12. When we arrived at the cinema _____a lot of people outside.

Source: The English Inn [Электронный ресурс]. – Режим доступа: http://englishinn.ru/there-is-there-are-uprazhneniya-bazovyiy-uroven.html (время обращения: 01.03.2018).

EVERYDAY ENGLISH

Let`s meet!

I. Read the expressions below. Practice saying and memorizing them:

- Hello! I am Jim Brown. – Здравствуйте! Меня зовут Джим Браун.
- How do you spell your name? – Как пишется ваше имя?

- Pretty good, thanks. – Все в порядке, спасибо.
- Where are you from? – Откуда вы (Откуда вы родом)?
- Pleased to meet you, Mrs. Mills. – Рад знакомству, госпожа Миллс.
- Have a nice day! – Хорошего дня!

II. Fill in the gaps in the dialogue below with the expressions from task 1:

Dialogue 1:

A: Hi, Mike. How are you?
B: Not bad. How are things with you?
A: ….

Dialogue 2:

A: … .
B: Hi! My name is Matthew Skinner, but, please, call me Matt.
A: Nice to meet you, Matt.

Dialogue 3:

A: Mum. this is Hilary. She is from the USA. Hilary, this is my mum.
B: … .
C: Nice to meet you too, Hilary.

Dialogue 4:

A: Good buy, mummy! See you later!
B: Buy, buy, Amy! … .

III. Talk to Your group mate. Make a dialogue to greet one another. Use the prompts below and the dialogue in task 2 as a model:

1. Introduce yourself to your partner.
2. Introduce your partner to your teacher.
3. Greet your partner.
4. Say goodbye to your partner.

Source: Evans V., Dooley J. Upstream Beginner A1. - Express Publishing, 2005. – 151 c., p. 12.

LESSON 2

WHAT`S A COMPUTER?

Task 1. Answer the following questions:

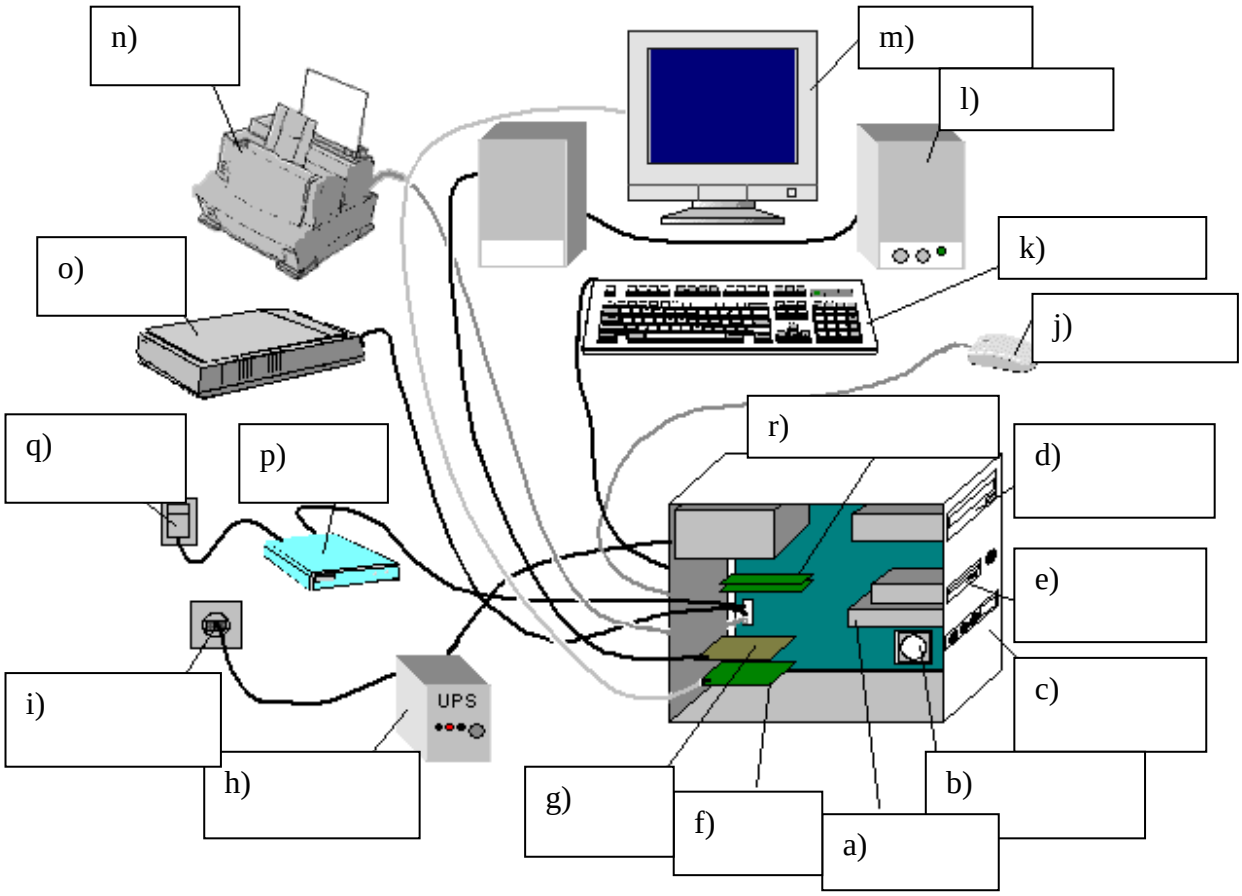
1. What elements of computer do you know?
2. Why do you think it is important to know the construction of computer?

Task 2. Choose the odd one out:

1. information data screen
2. touch find see feel
3. brain intellect mind unit
4. printer monitor mouse

Task 3. Label the parts of the computer above with the following words:

speaker, laser printer, power outlet, monitor, keyboard, mouse, ROM, central processor, uninterruptible power supply, RAM, CD-ROM drive, tower, hard disk, floppy disc drive, video card, sound card, modem, socket, telephone wall jack, scanner.



Task 4. Read and memorize the following words:

1. process [ˈprəʊsɛs] – обрабатывать
2. data [ˈdeɪtə] – данные
3. fed [fed] – прош. время от feed [fiːd] – заправлять, отправлять
4. run [rʌn] – запускать (программу)
5. consist [kənˈsɪst] – состоять
6. software [ˈsɒf(t)wɛː] – программное обеспечение
7. hardware [ˈhɑːdwɛː] – аппаратная часть
8. a set of instructions [ɪnˈstrʌkʃ(ə)nz] – перечень инструкций
9. peripherals [pəˈrɪfərəlz] – периферийные части
10. influential [ˌɪnflʊˈɛnʃ(ə)l] – влиятельный
11. central processing [ˈsɛntr(ə)l ˈprəʊsesɪŋ] unit – центральное обрабатывающее устройство, процессор
12. execute [ˈɛksɪkjuːt] – выполнять
13. RAM (Random Access Memory) – оперативная память
14. attach [əˈtatʃ] – прикреплять
15. storage devices [ˈstɔːrɪdʒ dɪˈvaɪsɪz] – устройства хранения
16. input/output devices [dɪˈvaɪsɪz] – устройства ввода/вывода
17. permanent [ˈpəːm(ə)nənt] – постоянный
18. extract [ˈekstrækt] – извлекать
19. by means of [baɪ miːnz ɒv] – с помощью
20. rear panel [rɪə ˈpan(ə)l] – задняя панель
21. plug [plʌg] – подключать, вставлять в разъём
22. a wide range of [waɪd reɪn(d)ʒ ɒv] – большое количество
23. USB ports (Universal Serial Bus) – универсальная последовательная шина
24. front panel [frʌnt ˈpan(ə)l] – передняя панель

Task 5. Read and translate the following text:

THE BASIC ELEMENTS OF COMPUTER

A computer is an electronic machine which can accept data in a certain form, process the data and give the results of the processing in a special format as information.

First data is fed into the computer`s memory. Then, when the program is run, the computer performs a set of instructions and processes the data. Finally, we can see the results (the output) on the screen or in printed form.

A computer system consists of two parts: hardware and software. Hardware is an electronic or mechanical part you can see or touch. Software is a set of instructions, called a program, which tells the computer what to do. There are three basic hardware sections: the central processing unit (CPU), main memory and peripherals.

Perhaps the most influential component is the central processing unit. Its function is to execute program instructions and coordinate the activities of all the other units. In a way, it is the «*brain*» of the computer. The main memory (a collection of RAM chips) holds the instructions and data which are being processed by the CPU. Peripherals are the physical units attached to the computer. They include storage devices and input/output devices.

Storage devices (hard drives, DVD drives or flash drives) provide a permanent storage of both data and programs. Disc drives are used to read and write data on discs.

Input devices enable data to go into the computer`s memory. The most common input devices are the mouse and the keyboard.

Output devices enable us to extract the finished product from the system. For example, the computer shows the output on the monitor or prints the results onto paper by means of a printer.

On the rear panel of a computer there are several ports into which we can plug a wide range of peripherals – a modem, a digital camera, a scanner, etc. They allow communication between the computer and the devices. Modern desktop PCs have USB ports and memory card readers on the front panel.

Task 6. Find the Russian equivalents to the following words and word combinations:

Таблица 4

1. accept data	a) загружать в компьютер
2. process data	b) выполнять
3. feed	c) центральное обрабатывающее устройство
4. perform instruction	d) воспринимать данные
5. hardware	a) периферийные устройства
6. software	b) выполнять инструкции
7. CPU	c) постоянный
8. peripherals	d) программное обеспечение
9. main memory	e) основная память
10. execute	f) обрабатывать данные
11. storage device	g) устройство хранения
12. permanent	h) аппаратная часть

Task 7. **Answer the following questions:**

1. What`s a computer?
2. What` hardware?
3. What do you know about software?
4. What`s the most influential component of a computer?
5. What`s the function of RAM?
6. What can be described as peripherals?
7. What is the function of input devices?
8. What are the main computer parts? What are their functions?

Task 8. Put the steps in the process of computer function in a correct order:

a) the program is run; b) computer processes data;
c) data is fed into the computer; d) the results are given on a computer screen.

Task 9. Mark the sentences as True (T) or False (F):

1. Basic hardware sections of a computer system comprise four parts.
2. Disc drives provide a storage of data and programs.
3. The function of input device is to feed data into computer memory.
4. The most common input device is monitor.

Project Tips

Do you know what is inside of your computer? Show the specific construction and features of your computer, their advantages and disadvantages in a form of presentation.

GRAMMAR SECTION

Overview: Question Words.

Exercise 1. Find answer for each question word:

Таблица 4

What?	Today.
Who?	My friend`s.
Whose?	Diana.
How?	A book.
Where?	At school.
When?	Because it`s late.
Why?	Slowly.

Source: Grammma-tei. com. [Электронный ресурс]. – Режим доступа:http://grammar-tei.com/voprositelnye-slova-v-anglijskom-uprazhneniya/ (время обращения: 11.08.2016.).

Exercise 2. Fill in the gaps with the proper question word *What, Where, When, Why, Who, Whose:*

1. … do I need antivirus program? – To keep your data in security.
2. … helped you to restore the data? – My friend did.
3. … did you reload the computer last time? – About an hour ago or so.
4. … makes computer a powerful tool for people? – Its ability to proceed a large amount of data at high speed.
5. … shall I connect a computer mouse? – At the back of the tower, to the serial port.
6. The scanner works well. … make it is? – It is Russian.

Exercise 3. Make questions so that the underlined word is the answer to it:

1. Jill phoned *Amanda*.
2. *Jane* likes spaghetti so much.
3. We can start working *on Monday*.
4. *The last test* was the easiest.
5. Janet met her friend *at a party*.

Source: Grammma-tei. com. [Электронный ресурс]. – Режим доступа: http://grammar-tei.com/voprositelnye-slova-v-anglijskom-uprazhneniya/ (время обращения: 11.08.2016.).

EVERYDAY ENGLISH

Can I help you?

I. Read the expressions below. Practice saying and memorizing them:

- Excuse me? – Извините (используется как просьба обратиться за помощью, т.е. *Можно у вас спросить?*)
- How can I help you? – Чем я могу вам помочь?
- Yes, please. I need to choose a computer. – Да, пожалуйста. Мне нужно выбрать компьютер.
- Can you show me these flowers, please? – Покажите, пожалуйста, эти цветы.
- Yes, of cause/Yes, sure. – Да, конечно.
- Could you please show me how this setting works? – Вы не могли бы показать мне как работает эта настройка?
- You are welcome – пожалуйста (Обращайтесь / Не за что.)

II. Read and translate the dialogues below. Where do the dialogues take place?:

a) A: Hello! How can I help you?
B: Hello! Yes, please, I am looking for web-cam for my laptop. Can you show me which ones you have?
A: Oh, yes, sure. Look here, please. We have a big choice of cameras here.

b) A: Excuse me?

B: Yes, how can I help you?

A: Could you please show me how this ATM works?

B: Yes, of cause. You just insert your card, enter pin code and choose the operation from the screen menu.

A: Thank you very much!

B: You are always welcome.

III. Act out similar dialogues. Choose the places for your situations below:

1) at the University: 2) in a café; 3) at the bus station.

LESSON 3

TYPES OF COMPUTERS

Task 1. Answer the following questions:

1) What types of computers do you know?
2) What type of computer is the most popular among students? Why?
3) Are you satisfied with the capabilities of your computer? What functions would you change?

Task 2. Read and memorize the following words:

1. mainframe [ˈmeɪnfreɪm] – большая вычислительная машина
2. bulk [bʌlk] data [ˈdeɪtə] processing – обработка большого объема данных
3. ERP (Enterprise Resource Planning) – планирование бизнес-ресурсов (программное обеспечение, объединяющее все ресурсы предприятия, необходимые для его работы, включая планирование заказов, финансы и пр.)
4. fit – соответствовать, подходить
5. power supply [ˈpaʊə səˈplaɪ] – источник [блок] питания
6. come packaged – зд. входить в комплект
7. household [ˈhaʊsˌhəʊld] – дом, быт
8. laptop [ˈlæpˌtɒp] – небольшой портативный компьютер
9. enable [ɪnˈeɪbəl] – давать возможность, позволять
10. feature [ˈfiːtʃə] set – перечень особенностей
11. palmtop – карманный компьютер
12. request [rɪˈkwɛst] – запрашивать, запрос, просьба
13. fail-safe [ˈfeɪlseɪf] – предохранительный
14. hierarchy [ˈhaɪəˌrɑːkɪ] – иерархия
15. behavior modeling [bɪˈheɪvjər ˈmɒdəlɪŋ] – моделирование поведения
16. tablet [ˈtæblɪt] – планшет

Task 3. Read the text and find the answers to some questions above:

THE VARIETY OF COMPUTERS

Mainframe Computers: Large organizations use mainframe computers for highly critical applications such as bulk data processing and ERP. Most of the mainframe computers have to host multiple operating systems and operate as a number of virtual machines. They can substitute for several small servers.

Microcomputers: A computer with a microprocessor and its central processing unit is known as a microcomputer. They do not occupy space as much as mainframes do. When supplemented with a keyboard and a mouse, microcomputers can be called personal computers. A monitor, a keyboard and other similar input-output devices,

computer memory in the form of RAM and a power supply unit come packaged in a microcomputer. These computers can fit on desks or tables and prove to be the best choice for single-user tasks.

Desktop Computers*:* A desktop computer is intended to be used on a single location. The spare parts of a desktop computer are readily available at relatively lower costs. Power consumption is not as critical as that in laptops. Desktop computers are widely popular for daily use in the workplace and households.

Laptops*:* Similar in operation to desktop computers, laptop computers are miniaturized and optimized for mobile use. Laptops run on a single battery or an external adapter that charges the computer batteries. They are enabled with an inbuilt keyboard, touch pad acting as a mouse and a liquid crystal display. Their portability and capacity to operate on battery power have proven to be of great help to mobile users.

Netbooks*:* They fall in the category of laptops, but are inexpensive and relatively smaller in size. They had a smaller feature set and lesser capacities in comparison to regular laptops, at the time they came into the market. But with passing time, netbooks too began featuring almost everything that notebooks had. By the end of 2008, netbooks had begun to overtake notebooks in terms of market share and sales.

Personal Digital Assistants (PDAs): It is a handheld computer and popularly known as a palmtop. It has a touch screen and a memory card for storage of data. PDAs can also be used as portable audio players, web browsers and smartphones. Most of them can access the Internet by means of Bluetooth or Wi-Fi communication.

Minicomputers*:* In terms of size and processing capacity, minicomputers lie in between mainframes and microcomputers. Minicomputers are also called mid-range systems or workstations. The term began to be popularly used in the 1960s to refer to relatively smaller third generation computers. They took up the space that would be needed for a refrigerator or two and used transistor and core memory technologies. The 12-bit PDP-8 minicomputer of the Digital Equipment Corporation was the first successful minicomputer.

Servers*:* They are computers designed to provide services to client machines in a computer network. They have larger storage capacities and powerful processors. Running on them are programs that serve client requests and allocate resources like memory and time to client machines. Usually they are very large in size, as they have large processors and many hard drives. They are designed to be fail-safe and resistant to crash.

Supercomputers*:* The highly calculation-intensive tasks can be effectively performed by means of supercomputers. Quantum physics, mechanics, weather forecasting, molecular theory are best studied by means of supercomputers. Their ability of parallel processing and their well-designed memory hierarchy give the supercomputers, large transaction processing powers.

Wearable Computers: A record-setting step in the evolution of computers was the creation of wearable computers. These computers can be worn on the body and are often used in the study of behavior modeling and human health. Military and health professionals have incorporated wearable computers into their daily routine, as

a part of such studies. When the users' hands and sensory organs are engaged in other activities, wearable computers are of great help in tracking human actions. Wearable computers do not have to be turned on and off and remain in operation without user intervention.

Tablets: Tablets are mobile computers that are very handy to use. They use the touch screen technology. Tablets come with an onscreen keyboard or use a stylus or a digital pen.

Source: Buzzle. [Электронный ресурс]. – Режим доступа: http://www.buzzle.com/articles/different-types-of-computers.html (время обращения - 23.08.2016).

Task 4. Find the Russian equivalents to the following words and word combinations:

Таблица 5

1. bulk data processing	a. замещать
2. to host	b. входить в комплект
3. supplement	c. потребление энергии
4. come packaged	d. выполнять роль ведущего узла
5. location	e. заряжать
6. power consumption	f. обработка большого объема данных
7. inbuilt	g. дополнять
8. charge	h. месторасположение
9. substitute	i. встроенный

Task 5. Fill in the gaps with the words below:

ERP, feature, workstations, market share, fit, fail-safe, engage, memory , hierarchy, RAM, intervention.

1. One distinctive … of this phone is a high quality camera.
2. The … of the removable hard disk is much more than the flash card.
3. … is memory in which all storage locations can be rapidly accessed in the same amount of time.
4. … is a special resource planning program packages used for business.
5. Palmtops can easily … into man`s hand.
6. Human …. in nature has lead to ambiguous results: deforestation, floods and pollution.
7. Like personal computers, most … are single-user computers.
8. … means that a device will not endanger lives or property when it fails.
9. Tablet computers occupy a great amount of … in present.
10. All the levels of … were ….ed in a processing procedure.

Task 6. Answer the questions:

1. What comes packaged in a microcomputer?
2. What features make computers a perfect choice for mobile usage?
3. What computers can also be called mid-range systems or workstations?
4. When were netbooks popular?
5. What types of computers provide safety on the net?
6. What was a significant step in the evolution of computers?
7. What devices are used together with tablet computers?

Task 7. Translate the following:

1. Большинство компьютеров удобны в обращении, переносные, мощные, имеют большую скорость обработки информации.
2. Не могли бы вы подобрать мне недорогой компьютер относительно небольшого размера?
3. Зарядка для батареи входит в комплект переносного компьютера.
4. Питание компьютера возможно из встроенной батареи или внешнего адаптера.
5. Для сложных вычислительных операции используется суперкомпьютер.
6. Современные ноутбуки заменяют персональные компьютеры во многих операциях.
7. Переносные компьютеры всегда остаются в рабочем режиме.

Project Tips

a) Do you know what there is inside of your computer? Show the specific construction and features of your computer, their advantages and disadvantages in a form of presentation.
b) Describe the most brand-new computer you know. What advantages or disadvantages has it got? What can be a comparative advantage of a modern computer in the market?

GRAMMAR SECTION

Overview: Simple Tenses (Active Voice).

Exercise 1. Study the information given below.

These are common names of the sentence members in an English sentence:

SUBJECT – подлежащее *(I, you, my teacher, drivers, cat, notebook, etc.).*
PREDICATE – сказуемое *(am, is, are, will be, were, was, have, do go, invite, like, etc.).*
OBJECT – дополнение *(I, you, my teacher, drivers, cat, notebook, etc.).*
AUXILIARY VERB – вспомогательный глагол *(do, does, did, will, have, etc.).*

ADVERBIAL MODIFIER – обстоятельство (*today, yesterday, tomorrow, in the evening, quickly, gladly etc.).*
QUESTION WORD – вопросительное слово *(What? Where? When? Why? How? Who?).*

Exercise 2. Study the table of Simple Tenses below.

Таблица 6

	Past Simple	**Present Simple**	**Future Simple**
Утвердительные предложения +	I, You, We, They, He, She, It } V+ed/ 2- form (for irregular V)	I, You, We, They } V He, She, It } V+s/es	I, You, We, They, He, She, It } will+ V
Example	I worked/ I ate	I work/ She work**s**	I will work
Отрицательные предложения -	I, You, We, They, He, She, It } **did** not+ V	I, You, We, They } **do not** V He, She, It } **does not** V	I, You, We, They, He, She, It } **will** not+ V
Example	I didn`t work	I do not work/She does not work	I will not work
Вопросительные предложения ?	**Did** I, you, we, they, he, she, it } V?	**Do/ Does** I, you, we, they, he, she, it } V?	Will I, you, we, they, he, she, it } V?
Example	Did I work?	Do you work? Does she work?	Will you work?
Adverbs	*yesterday, last month, two days ago, in 1890.*	*every day, always, usually, sometimes, never, at weekends*	*tomorrow, tonight, next week, in a month, soon*

Exercise 3. Put the verbs in Past, Present and Future Simple, negative and interrogative:
play, say, study, like, teach, translate, see.

Exercise 4. Put the verbs in brackets in Past, Present or Future Simple:

1. Julia is very good at languages. She … (speak) four languages very well.
2. ’’ … … … (you/listen) to the radio every day?’’ – “No, just occasionally.”
3. The river Nile … (flow) into the Mediterranean
4. We usually … (grow) vegetables in our garden.
5. Ron is at the Park Hotel at the moment. He … (always/stay) there when he is in London.
6. Normally Della … (finish) work at 5 o` clock.
7. My parents … (live) in Bristol. They were born there and have never lived anywhere else. Where … (your parents/live)?
8. “What … (your father / do)?” – “He `s an architect.”
9. The train is never late. It … (always/ leave) on time.
10. Jim is very untidy. He … (always/leave) his things all over the place.
11. Most people … (learn) to swim when they are children.
12. It … (not/rain) very much in summer.

EVERYDAY ENGLISH

Really?

I. Read the expressions below. Practice saying and memorizing them:

- Really? I didn`t know that! – Правда? Я и не знал!
- You must be joking! – Ты шутишь? Не может быть.
- Never! No way! – Не может такого быть!
- I don`t believe it! – Не могу в это поверить!
- Are you sure? – Правда? Ты в этом уверен?

II. Read the exchange below and make similar exchanges on the topics 1-5.

A: Yuri Gagarin was the first man to travel in space!
B: Really? I didn`t know that!

1) Vincent Van Gogh/paint pictures every day/the last 70 days in his life.
2) Alexander Graham Bell/ invent/phone/ but never/call his wife/because/deaf.
3) Leonardo da Vinci/write/one hand/draw/other /same time.
4) Mozart/start/composing music/age of 3.
5) William Shakespeare/mention roses/in his plays/ more than 50 times.

Source: Livejournal. Language-skills. [Электронный ресурс]. – Режим доступа: language-skills.livejournal.com (время обращения – 13.08.2016).

LESSON 4

THE MAIN PARTS OF COMPUTER

Task 1. Answer the following questions:

1. Have you ever replaced some detail of computer? What was it?
2. What element of computer is the most responsible for its functioning?
3. What function of computer elements can you describe?

Task 2. Read and memorize the following words:

1. complex [ˈkɒmplɛks] – сложный
2. huge computations [hjuːdʒ ˌkɒmpjʊˈteɪʃənz] – объемные вычисления
3. undoubted [ʌnˈdaʊtɪd] winner – бесспорный лидер
4. capability [ˌkeɪpəˈbɪlɪtɪ] – способность
5. underestimate [ˈʌndərˈɛstɪmeɪt] – недооценивать
6. computer storage [ˈstɔːrɪdʒ] – устройство хранения
7. processing [ˈprəusɛsɪŋ] unit – обрабатывающее устройство
8. peripherals [pəˈrɪfərəlz] – периферийный устройства
9. electronic circuit [ɪlɛkˈtrɔnɪk ˈsɜːkɪt] – электронная цепь
10. execute [ˈɛksɪkjuːt] – выполнять
11. primary responsibility [praɪmərɪ lɪˌspɒnsəˈbɪlɪtɪ] – зд. основная функция
12. sequential [sɪˈkwɛnʃəl] – последовательный
13. constitute [ˈkɔnstɪtjuːt] – составлять
14. fetch [fɛtʃ] – извлекать, захватывать
15. decode [ˈdiːˈkəud] – декодировать, расшифровывать
16. writeback – обратная запись
17. retrieve [rɪˈtriːv] – восстанавливать
18. define [dɪˈfaɪn] – определять
19. imply [ɪmˈplaɪ] – предполагать, подразумевать
20. socket [ˈsɒkɪt] – гнездо, розетка
21. chipset [tʃɪpsɛt] – набор [комплект] микросхем
22. bus [bʌs] – шина
23. volatile [ˈvɒləˌtaɪl] – энергозависимый, не сохраняющий информацию
24. при выключении (электро-)питания
25. firmware [ˈfɜːmˌwɛə] – программно-аппаратные средства; встроенные программы; "зашитые программы"
26. charge [tʃɑːdʒd] – заряжать
27. head [hɛd] – магнитная головка
28. capable of [ˈkeɪpəbl ɒv] – способный
29. in collaboration [kəlæbəˈreɪʃən] with – совместно с
30. delay line [dɪˈleɪ laɪnz] – линия задержки

31. magnetic drum [mægˈnɛtɪk drʌm] – магнитный барабан
32. thereby [ðɛəˈbaɪ] – таким образом
33. bootstrapping – начальная загрузка
34. punch card [pʌntʃ kɑːd] – перфокарта
35. zip drives [zɪp draɪv] – Zip-накопитель популярный в конце прошлого века сменный накопитель для архивирования данных на относительно дешевых дисках ёмкостью от 100 до 250 Мбайт. Разработан фирмой Iomega.

Task 3. Read the text below and answer the questions 2-3 in the Task 1.

THE COMPONENTS OF COMPUTER

A computer is a complex machine that is capable of performing huge computations at an extraordinary speed. Its processing power is often compared to that of a human brain. Although, human intellect is the undoubted winner in this competition, the capabilities of a computer cannot be underestimated.

This complex machine, influenced from the design of a human brain, mainly consists of a processing unit, an arithmetic/logic unit, computer storage, input and output devices along with its peripherals. It is these 'parts' that make the 'whole' system. So, let's take a look at the important parts of a computer.

Also known as the computer processor, the **CPU** is an electronic circuit that executes computer programs. The primary responsibility of a computer processor is to execute a sequential set of instructions that constitute a program. CPU operation can be divided into four basic steps, namely, fetch, decode, execute and writeback. During the 'fetch' step, the processor retrieves program instructions from memory. In the decode step, the instruction is broken down into parts. The instruction set architecture of the CPU defines the way in which an instruction is decoded. In the 'execute' step, CPU performs the operation implied by the program instruction. During the 'writeback' step, the CPU writes back the results of execution, to the computer's memory.

A computer **motherboard** consists of sockets in which microprocessors are installed, memory slots, a chipset that acts as an interface between the CPU bus and the peripheral buses, non-volatile memory chips housing the system's firmware and a clock generator, which helps in the synchronization of various system components. Some motherboards also include logic and connectors to support input devices like PS/2 connectors for a mouse and keyboard.

A **hard disk** is described as a part of the computer disk drive, which stores data and provides computer users with quick access to large amounts of data. A hard disk is an electromagnetically charged surface or set of disks that record data in concentric circles known as tracks. It is a non-volatile storage device that stores digitally encoded data. A head, resembling a phonograph arm, is used to read and write data onto a hard disk. The hard disks of desktops are generally capable of storing 120 GB to 2 TB of data. Laptop hard disk drives are smaller and have lower data storage capacities.

Computer memory refers to those components of a computer, which retain digital data. It forms the core of a computer and makes up the basic computer model in

collaboration with the CPU. Magnetic drums and delay lines used as primary storage by computers of the early days, have metamorphosed into a miniature silicon chip, which can achieve efficient storage of large volumes of data. Random Access Memory, popularly known as RAM, is a small-sized light and volatile form of computer memory. It is capable of temporary storage of data. Registers located in a computer processor are the fastest forms of computer storage. The most frequently used information is duplicated in the processor cache of a computer, thereby improving its performance. Computers require a non-volatile primary storage to read large programs. This non-volatile memory is known as ROM or Read-only memory. It also contains the startup programs used for bootstrapping a computer. Secondary storage media such as flash memory, magnetic tape, punch cards and zip drives and tertiary storage media like tape libraries are also a part of computer memory.

Source: Buzzle. [Электронный ресурс]. – Режим доступа: http://www.buzzle.com/articles/what-are-the-main-parts-of-the-computer.html (время обращения: 13.08.2016).

Task 4. Find the Russian equivalents to the following words and word combinations:

Таблица 7

huge computations	энергонезависимая память
the capabilities of a computer	Захватывать, выбирать
storage	Большие вычисления
electronic circuit	розетка
a sequential set	восстанавливать
fetch	Электронная сеть
retrieve	Способности компьютера
socket	хранение
non-volatile memory	Последовательный набор

Task 5. Mark the sentences as True or False:

1. Hard disc is a volatile storage device.
2. Most computers nowadays use magnetic drums and delay lines.
3. RAM can store data temporary.
4. Primarily storage include: flash memory, magnetic tape, punch cards.
5. Computer program consists of f our basic steps of instruction.

Task 6. Answer the following questions:

1. What are the main parts of a computer?
2. What is processing power of computer compared with?
3. What are the basic steps in the work of CPU?
4. What do non-volatile memory chips house?
5. What is also known as tracks?
6. Name the main types of computer memory.

7. What function does each memory type perform?

Task 7. Speak about the components of computer.

Project Tips

What part of computer has been perfected mostly recently? Describe its most striking changes in a form of presentation.

GRAMMAR SECTION

Overview: Modal verbs.

Exercise 1. Analyze the Table below and try to memorize the forms of modal verbs.

Таблица 8

Modal verbs	**Meaning**	**Present**	**Past**	**Future**
Can **Be able to**	Возможность совершения действия	Can Am Is able Are to	Could Was\were able to	___ Will be able to
May **Be allowed to**	Возможность совершить действие (с разрешения)	May Am Is Are to } allowed	Might Was\allowed to	_____ Will be allowed to
Must **Have to**	Долженствование	Must Have to Has to	_____ Had to	Will have to
Should **Ought to**	Долженствование	Should Ought to	_____ _____	_____ _____

Exercise 2. Fill in the gaps with the proper form of the modal verbs *can, be able to, may, must, be allowed to, have to, should, ought to*. Sometimes more than one variant is possible.

1. He … open the window as it was stuck.
2. Interpreters … translate without dictionaries.
3. … I use me your bike for today?
4. … you give me the recipe for this cake?
5. Take an umbrella. It … rain.
6. You …stop smoking. You know you … buy health.
7. You … finish the article as soon as possible.
8. Liz doesn't … keep to a diet anymore.
9. Lara … get a playstation for her birthday.
10. You … read in the dark.
11. My grandfather is retired, so he …go to work.
12. Our employees … sign this agreement.
13. We … reserve a table in advance if we want to have dinner there.
14. I … believe it! You … be joking.
15. … you, please, pass me the mustard?

Source: English. [Электронный ресурс]. – Режим доступа: http://s-english.ru/uprazhneniya/modal-verbs (время обращения: 13.08.2016).

Exercise 3. Translate the following sentences into English:

1. Тебе стоит попробовать заменить жесткий диск. Компьютер сможет работать быстрее.
2. Программист сможет внести изменения в системный код?
3. Мы должны использовать личный пароль для доступа в сеть.
4. Вам разрешают пользоваться установочными программами?
5. Я не могу самостоятельно протестировать процессор. Поможешь мне?
6. На экзамене студенты должны будут показать проект собственной программы.
7. Нужно хорошо знать основные части компьютерной системы, чтобы разобраться в задаче.

EVERYDAY ENGLISH

Where am I?

I. Read the expressions below. Practice saying and memorizing them:

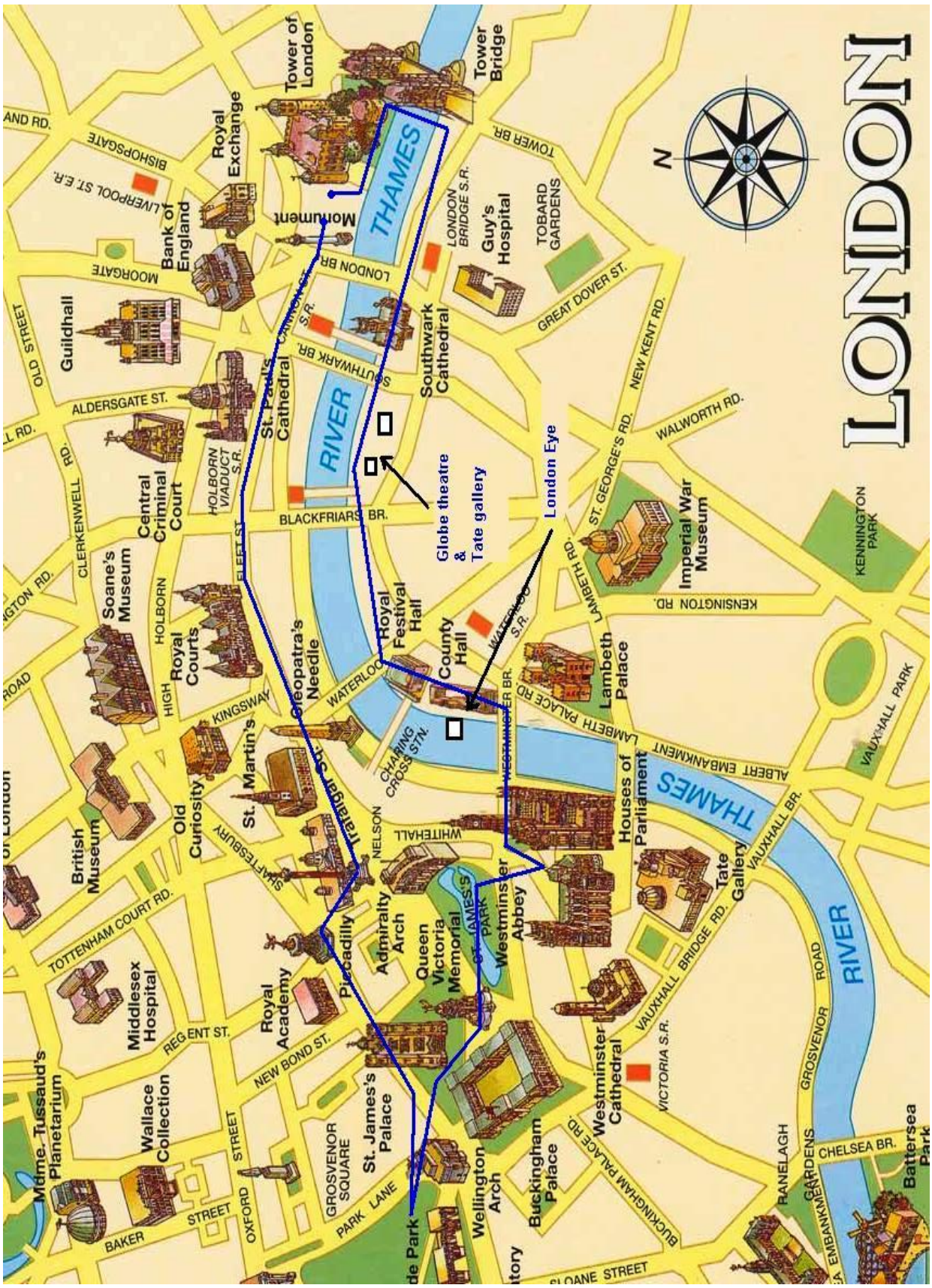
- Is there a bus station near here? - Здесь есть поблизости автобусная станция?
- How can I get to the library? – Как я могу пройти в библиотеку?
- Can you tell me the way to the post office, please? – Вы не подскажете, как дойти до почты?
- Turn left/right to the petrol station. – Поверните налево/направо к почте.
- Go straight ahead. – Идите прямо.
- Walk along the Mall. – Пройдите вдоль торгового центра.
- It is on your left/right. – Он находится слева/справа.

- ❖ It is opposite the theatre. – Он находится напротив театра.
- ❖ It is on the corner of Queens Street. – Он находится на углу Квин Стрит.

II. Fill in the gaps in the dialogue below with the proper expression from the Task 1:

A: Excuse me? Is the a takeaway café 1)…?
B:Yes, it is on Baker Street.
A: How 2)… to Baker Street from here?
B: Go along Oxford Street and 3)… left.
A: Thank you.
B:The café is on 4)… left, 5)… the park. You can` miss it.
A: Thank you very much!
B: You are always welcome.

III. Act out similar dialogue. Use the map of London for your convenience:



Source: Yandex. [Электронный ресурс]. – Режим доступа: https://yandex.ru/images/search?img_url=http%3A%2F%2Fwww.mintytrips.cz%2Fpict%2Flondon_map.jpg&p=1&text=Map%20of%20London&noreask=1&pos=79&rpt=simage&lr=193 (время обращения – 18.06.2017).

Revision (Units 1-4)

1. Match Russian and English equivalents:

1. digital	a) данные
2. computer literate	b) захватывать
3. generate	c) аппаратная часть
4. process	d) обработка большого объема данных
5. data	e) особенность
6. hardware	f) цифровой
7. date	g) задняя панель
8. attach	h) блок питания
9. rear panel	i) создавать
10. bulk data processing	j) предохранительный
11. power supply	k) осведомленный в сфере компьютеров
12. feature	l) дата
13. fail-safe	m) прикреплять
14. fetch	n) обрабатывать

2.What does the following abbreviation stand for?

3D, CPU, PC, DVD, RAM, ROM, USB, ATM, PDA, Wi-Fi, TB, ERP.

3. Match the halves of the sentences below:

a) Special effects in science fiction and action movies	1. provides security, speed and convenience.
b) Computerized financial transactions	2. are to execute program instructions and coordinate the activities of all the other units.
c) The functions of the CPU	3. are on the front panel of the computer
d) Laptops	4. are created using computers.
e) USB ports and memory card readers	5. are portable and capable to operate on battery power.

4. Fill in the gaps in the sentences below:

clock generator, CPU, processing power, RAM, servers, peripherals, ROM.

1) … of the modern notebooks can be compared to that of personal computers.

2) The primary responsibility of a … is to execute a sequential set of instructions that constitute a program.

3) … is a component of the motherboard that helps in the synchronization of various system components.

4) … is a small-sized light and volatile form of computer memory.

5) … contains the startup programs used for bootstrapping a computer.

6) The function of … is to provide various functionalities, such as sharing data or resources among multiple clients, or performing computation for a client.

7) … are the physical units that include storage devices and input/output devices.

5. Are the sentences True or False?:

1. Hardware is a set of instructions, called a program.
2. Peripherals are connected to the computer by means of several ports.
3. Recently netbooks have obtained the similar features of modern notebooks.
4. CPU operation can be divided into three basic steps, namely, fetch, decode and writeback.
5. Non-volatile memory is known as RAM and contains the startup programs.

6. Translate the following sentences into English:

1. Традиционно компьютер состоит из процессора, арифметико-логического устройства, устройства хранения, устройств ввода и вывода, а также периферийных устройств.
2. В кэш памяти процессора дублируется наиболее часто используемая информация.
3. Внутри жесткий диск представляет собой несколько дисков, данные на которых записываются в концентрических окружностях – треках.
4. Планшетные компьютеры – портативные устройства, относительно мощные, обладающие большим объемом памяти и удобные в использовании.
5. Носимыми компьютерами можно управлять и без непосредственного прикосновения к ним пользователя.
6. Для работы со сложными приложениями и для обработки большого объема данных используются большие ЭВМ.
7. При запуске программы компьютер выполняет перечень инструкций и воспроизводит результат работы на экран.
8. Компьютер используется во всех сферах жизни, поэтому быть образованным в области компьютерных технологий очень важно.

7. Answer the following questions:

1. What are the most important applications of computers nowadays?
2. Name the basic components of computers and their functions.
3. Describe the features of portable computers.
4. What is the function of server?
5. Name and describe the basic steps in the CPU operation.

6. What are the components of motherboard?
7. What can you say about the types of memory of computer?

GRAMMAR SECTION

Choose the correct variant to fill in the gaps:

1. The first mechanical computer … created by Charles Babbage in 1822.
a) are b) was c) were
2. In future computers … more capacity and … less expensive.
a) will be, have b) were, will be c) will have, will be.
3. … created the first punched card for the system of data processing?
a) Why b) How c) Who
4. CPU .... a great number of functions.
a) perform b) performs c) doesn`t perform
5. You … plug out the computer before the program is finished.
a) mustn`t b) should c) can

EVERYDAY ENGLISH

Match Russian and English equivalents:

1. You are welcome	a) Как пройти к … ?
2. Go straight ahead	b) Этого не может быть!
3. Yes, sure.	c) Рад помочь!
4. Excuse me?	d) Можно к вам обратиться?
5. You must be joking	e) Как это пишется (произнесите по буквам)?
6. How can I get to …	f) идите прямо
7. How do you spell it?	g) Спасибо, все хорошо!
8. Pretty good, thanks!	h) Да, конечно!

LESSON 5

INPUT DEVICES

Task 1. Answer the following questions:

a) What input devices do you know?
b) Match the names of the input devices below to the pictures.

Webcamera, lightpen, barcode reader, touchscreen, cardreader, joystick.

a) …

b) …

c) …

d) …

e) …

f) …

c) What of the devices mentioned above do you use most often? What for?
d) What device do you consider the most indispensable? Why?

Task 2. Find the Russian equivalents to the words given below:

dozens, possible, press, command, open, type, drag, perform, typewriter, buttons, characters, symbol, mice, motion.

Task 3. Read and memorize the following words that will help you to understand the text below:

1. primarily [ˈpraɪmərɪlɪ] – изначально
2. useless [ˈjuːslɪs] – бесполезный
3. vital [ˈvaɪtl] – важный
4. allow [əˈlau] – позволять
5. arrangement of keys [əˈreɪndʒmənt əv kiːz] – расположение клавиш
6. regard [rɪˈgɑːd] – рассматривать, считать
7. similar to [ˈsɪmɪlər tə] – подобный, похожий

8. electronic [ɪlɛkˈtrɔnɪk] – электронный
9. switch [swɪʧ] – переключатель
10. mechanical [mɪˈkænɪkəl] – механический
11. lever [ˈliːvə] – рычаг
12. keypress [kiːprɛs] – сочетание клавиш
13. circuitry [ˈsɜːkɪtrɪ] – схема
14. two-dimensional motion [ˈtudaɪˈmenʃənl ˈməʊʃən] – движение по плоскости

Task 4. Read the text below and do the exercises that follow:

THE BASIC INPUT DEVICES

An input device is any device that provides input to a computer. Since the job of a computer is primarily to process input, computers are pretty useless without input devices. Therefore, input devices are a vital part of every computer system.

There are dozens of possible input devices, but the two most common ones are a *keyboard* and *mouse*. Every key you press on the keyboard and every movement or click you make with the mouse sends a specific input signal to the computer. These commands allow you to open programs, type messages, drag objects, and perform many other functions.

A *keyboard* is regarded as an input device for a computer. With respect to the arrangement of keys, a computer keyboard is similar to a typewriter. The keys or buttons act as electronic switches or mechanical levers with characters printed on them, with each keypress corresponding to a written symbol. A keyboard has its own processor and circuitry, which consists of a key matrix, which helps to bring about the keyboard operation.

A computer *mouse* is a pointing device that detects two-dimensional motion. It was introduced by Apple Macintosh in 1984. A mouse translates the motion of your hand into signals that a computer can recognize and respond to. There are three basic types of mice, namely, mechanical, optomechanical and optical. Mechanical mice have a rubber or metal ball that can roll in all directions. Mechanical sensors in the mouse detect the direction of motion of the ball. Optomechanical mice differ from mechanical mice, in that they use optical sensors to detect motion. Optical mice, popularly used today, have a laser to detect movement of the mouse. They do not have mechanical moving parts and possess higher performance speeds.

One more common input device is *monitor* - a visual display unit, as it is called. It is an electrical equipment that displays images generated by the video output of a computer. Monitors of the early years used CRT technology for imaging, while modern computer monitors use LCD or even plasma screens. The display provides computer users with an instant feedback in the form of text and graphic images. Monitors are the most-used output devices of a computer.

Other input devices may also be used to send information to the computer. Some examples include joysticks, MIDI keyboards, microphones, scanners, digital cameras, webcams, card readers, UPC scanners, and scientific measuring equipment. All these

devices send information to the computer and therefore are categorized as input devices. Peripherals that output data from the computer are called output devices.

Sources:
1. Techterms. [Электронный ресурс]. – Режим доступа: http://www.techterms.com/definition/inputdevice (время обращения - 11.06.2017).
2. Buzzle. [Электронный ресурс]. – Режим доступа: http://www.buzzle.com/articles/what-are-the-main-parts-of-the-computer.html (время обращения - 11.06.2017).

Task 5. Match Russian and English equivalents:

Таблица 9

1. primarily	a. нажатия клавиш, сочетания клавиш
2. useless	b. первоначльно
3. vital	c. похожий
4. allow	d. движение по плоскости
5. arrangement of keys	e. схема
6. regard	f. позволять
7. similar to	g. механические рычаги
8. electronic switches	h. важный
9. mechanical levers	i. рассматривать
10. keypress	j. бесполезный
11. circuitry	k. электронные переключатели
12. two-dimensional motion	l. расположение клавиш

Task 6. Fill in the gaps with the words and word combinations below:
characters, detect, mice, rubber ball, movement, higher performance, electrical equipment, scientific measuring equipment.

1. The old models of mice have … inside them.
2. Modern … have very high accuracy.
3. The managers want their staff to have … by using special strategies.
4. … usually consists of an enclosure, a variety of electrical components, and often a power switch.
5. The … of a cursor is controlled by the user.
6. In binary system … are represented by the arrangement of ones and zeroes.
7. Can you give me two …: optical and mechanical?
8. Barcode reader … the distance between the light and dark stripes.

Task 7. Mark the sentences below as True (T) or False (F):
1) The keyboard is much similar to the typewriter.
2) Keypress is a special arrangement of keys on the board.
3) There are five basic types of mice.
4) Mechanical mice use optical sensors to detect motion.

5) The most popular input device used today is monitor.

Task 8. Match the parts of sentences so that they make sense:

Таблица 10

1. Optical mice	a) have a rubber or metal ball that can roll in all directions.
2. Mechanical mice	b) provides users with an instant feedback in the form of text and images.
3. Modern computer monitor	c) computers are useless.
4. Every click or movement of the mouse	d) do not have mechanical moving parts.
5. Without input devices	e) sends a specific input signal to the computer.

Task 9. Answer the following questions:

1. Why are input devices important?
2. What can you do when you press some key in the keyboard?
3. What helps to bring about keyboard operations?
4. How does computer mouse operate?
5. Can you name the types of mice mentioned in the text?
6. In what way do the computer mice differ?
7. What is CRT?
8. What technology do the modern monitors use?
9. What are advantages of modern displays?
10. What are other input devices mentioned in the text?

Project Tips

Imagine you work in an enterprise producing input devices. Recently you developed a brand-new device. Present it to your colleagues. Speak about its application, specifications, maintenance, etc.

GRAMMAR SECTION

Overview: Singular and plural forms of nouns. Participle 1, 2.

Exercise 1. Put the nouns below in the Plural form. Fill in the table according to the sound formed in the ending of plural:

dot, tube, device, presentation, monitor, flash, stop, technology, lever, switch, back, interface, screen, movement, circuit.

Таблица 11

[-s]	[-z]	[-iz]

Exercise 2. Correct the mistakes in the sentences:

1. The mans standing in the lobby were very familiar to me.
2. There is three navigation joysticks for flight simulation.
3. Webcams is used in its original sense for a video cameras connected to the Web.
4. There were not a new model of the monitor we were looking for.
5. Do these model of computer mouse apply laser technology?

Exercise 3. Form Participle 1, 2 from the verbs below and translate them into English:

Example: provide – providing (предоставляющий), provided (предоставленный).

Process, press, be, click, point, believe, play, trust, go, understand, teach, put, divide, stand, have, underline, select, highlight.

Exercise 4. Choose the necessary form of the Participle in the following sentences:

1. Input devices, primarily *using/used* to input information are a vital part of every computer system.
2. *Made/making* of silicon, the chips are very hard and strong.
3. *Looking/looked* through the newspaper, she noticed a photograph of her boss.
4. CPU, *known/knowing* as the computer processor, is an electronic circuit that executes computer programs.
5. The device *put/putting in* operation was programmed by highly qualified specialists.

EVERYDAY ENGLISH

Congratulations!

I. Analyze the phrases used for congratulations:

Таблица 12

Formal	*Neutral*
May I congratulate you upon your success … - Разрешите поздравить вас с успехом.	Congratulations on your success. – Поздравляем с твоим успехом!
Let me congratulate you on your anniversary – Позвольте поздравить вас с юбилеем.	My congratulations on your anniversary! – Поздравляем с юбилеем!
Please accept my congratulations on/upon … – Пожалуйста, примите наши поздравления…	You are a student now. Congratulations! Well done! – Ты теперь студент. Поздравляем! Молодец!
Thank you so much! Thanks ever so much! I did my best! – Я старался!	

Source: Englishelp. [Электронный ресурс]. – Режим доступа: http://www.englishelp.ru/topics/208.html (время обращения 16.08.2016).

II. Read and translate the dialogues below:

Formal:

A: Mr. Bowing, let me congratulate you on launching a new company!

B: Thank you very much!

A: We hope it will be successful!

B: So do we!

Neutral:

A: I heard you won the thirst prize in rowing competitions! My Congratulations! Well done!

B: Thank you! I tried to do my best.

A: Congratulations on your success!

III. Make similar dialogues with your group mate on the occasions 1-5:

1. birthday; 2. winning sport competition; 3. passing exam; 4. defending diploma project; 5. passing driving test.

LESSON 6

OUTPUT DEVICES

Task 1. Answer the following questions:

a) What output devices do you know?

b) Match the output device with the function it performs:

Таблица 13

speakers	an electronic receiver that detects and demodulates and amplifies transmitted signals
headphones	a stripe on which data can be recorded in the form of punched holes
wireless	electro-acoustic transducer that is held over or inserted into the ear
plotter	an output device that prints the results of data processing
punched tape	electro-acoustic transducer that converts electrical signals
monitor	an instrument for drawing graphs or pictures
printer	display consisting of a device that takes signals from a computer and displays them on a CRT screen

Task 2. Read and memorize the following words that will help you to understand the text below:

1. deliver [dɪˈlɪvə] – доставлять, предоставлять
2. visual [ˈvɪʒʊəl] copy – зрительная копия
3. hard [hɑːd] copy – печатный или машинописный текст
4. common [ˈkɒmən] – частый, распространенный
5. variety [vəˈraɪɪtɪ] – разнообразие
6. cathode [ˈkæθəʊd] ray tube [tjuːb] – катодно-лучевая трубка
7. flat panel screen [flæt ˈpænəl skriːn] – плоский экран
8. phosphorescent [ˌfɒsfəˈresnt] dots – фосфоресцирующиеся, светящиеся точки
9. make up - создавать
10. liquid crystal [ˈlɪkwɪd ˈkrɪstl] – жидкий кристалл
11. rely on [rɪˈlaɪ on] – зд. функционируют непосредственно совместно с
12. expansion slot [ɪkˈspænʃən] – слот расширения
13. headphones – наушники
14. view [vjuː] – просматривать
15. digitally rendered design [ˈdɪdʒɪtlɪ ˈrɛnded dɪˈzaɪn] – цифровой дизайн
16. via [ˈvaɪə] – через, при помощи
17. application [ˌæplɪˈkeɪʃən] – зд. приложение

Task 3. Read and translate the text below:

THE OUTPUT DEVICES OF COMPUTER

Computer output devices get information out of the computer, delivering data that has been processed by the computer to you, the user. Output devices produce data in different forms including audio, visual and hard copy. Computer output devices are all peripheral hardware connected to a computer using cables or wireless networking.

Monitor. The most common computer output device is the monitor or computer screen. Monitors create a visual display for you to view from processed data. They come in a variety of screen sizes and visual resolutions. There are two common types of modern computer monitors, cathode ray tube (CRT) and flat panel screens. CRT monitors use phosphorescent dots to create the pixels that make up displayed images. Flat panel monitors usually use liquid crystals or plasma to create output. Light is passed through liquid crystals to create the pixels. All monitors rely on a video card that is located on the computer motherboard or in a special expansion slot. The video card processes the computer data into image details that the monitors can display.

Audio Output. Computers produce audio data that requires output devices such as speakers and headphones to deliver the sound to you. Audio data is created by the computer and then sent to the audio card, which is located in an expansion slot. The card translates the data into audio signals, which are sent to the audio output device.

Projectors are display devices that project a computer-created image. The computer sends the image data to its video card, which then sends the video image to the projector. They are typically used for presentations or for viewing videos.

Plotters create a hard copy of a digitally rendered design. The design is sent to the plotter via a graphics card and creates the design using a pen. Generally used with engineering applications, plotters basically draw an image using a series of straight lines.

Source: Techwalla. [Электронный ресурс]. – Режим доступа: http://www.ehow.com/about_5300348_examples-output-devices-computer.html (время обращения - 18.06.2017).

Task 4. Match the Russian and English equivalents:

Таблица 14

1. deliver	a. обработанный
2. hard copy	b. представлять
3. wireless	c. жидкие кристаллы
4. processed	d. печатная копия
5. resolution	e. плоский
6. flat	f. беспроводной
7. cathode ray tube	g. расширение
8. liquid crystals	h. разрешение
9. render	i. катодно-лучевая трубка
10. expansion	j. доставлять

Task 5. Fill in the gaps with the word combinations below:

hard copy, peripherals, a variety of, phosphorescent dots, pass (2), expansion slots.

1. … are connected to your PC by means of cables and wires.
2. The rays of light … the projector and are reflected on wall screen.
3. The image in CRT monitors is created by means of … .
4. Nowadays there is …. of audio input: you can choose whatever you like.
5. Special signals … from the mouse to your screen.
6. After approval the editors will need both electronic and … of your diploma.
7. …. allow adding some capabilities to your computer such as video or sound cards.

Task 6. What of the output devices is described? Match the sentences as:

M for Monitor, P for Plotter PR for Projector.

1. It represents video image.
2. They come in variety of screen sizes.
3. It is used with engineering application to create a hard copy image.
4. Phosphorescent dots of this device make up dots.
5. It is useful to present information for a large audience.

Task 7. Answer the questions:

1. What forms do output devices represent the information in?
2. What types of monitors can you name?
3. Where is video card located?
4. What is the function of video card?
5. Where is audio card located?
6. What is the function of audio card?
7. By means of what is image sent from computer to plotter?

Task 8. Translate the sentences into English:

1. Чтобы перенести данные от компьютера к проектору используется видеокарта.
2. Плоские мониторы используют плазму или жидкие кристаллы для создания изображении.
3. Информация в аудиоформате доставляется при помощи наушников и колонок.
4. Плоттеры обычно используются инженерами для создания крупномасштабных проектов.
5. Проекторы бывают разной формы и с разным набором настроек.

Project Tips

Imagine your supervisor asked you to choose some output device for the office. Overview the websites of some local stores, compare the devices and represent the devices you chose. Prove your choice. Make it in a form of presentation.

GRAMMAR SECTION

Overview: Simple Tenses (Passive Voice).

Exercise 1. Study the table given below. Try to memorize the forms of the Passive Voice.

Таблица 15

	Past Simple Passive	**Present Simple Passive**	**Future Simple Passive**
+	I was You were We were They were He was She was It was } +V3	I am You are We are They are He is She is It is } V3	I You We They He She It } will be V3
Example	The text was translated	The text is translated	The text will be translated
-	I wasn`t You weren`t We weren`t They weren`t He wasn`t She wasn`t It wasn`t } + V3	I am not You aren`t We aren`t They aren`t He isn`t She isn`t It isn`t } + V3	I You We They won`t be He She It } + V3
Example	The text wasn`t translated	The text isn`t translated	The text won`t be translated

	Past Simple Passive	**Present Simple Passive**	**Future Simple Passive**
?	Was I Were You Were We Were They Was He Was she Was it } +V3	Am I Are you Are we Are they Is he Is she Is it } + V3?	I you we Will they he, she it } be + V3
Example	Was the text translated?	Is the text translated?	Will the text be translated?
Adverbs	*yesterday, last month, two days ago, in 1890*	*every day, always, usually, sometimes, never, at weekends*	*tomorrow, tonight, next week, in a month, soon*

Exercise 2. Put the verbs below to all the possible forms of the Passive Voice:
clean, see, explain, hear, build, make, right, carry, compile, compare., teach, buy.

Exercise 3. Put the verbs in brackets in Past, Present or Future Passive.

1. A decision … (take) the next morning.
2. The meeting … (postpone) yesterday evening.
3. The conversation … (record) usually to check the staff competency.
4. If it is foggy tomorrow the game … (cancel).
5. The room … (clean) when I arrived.
6. A new supermarket … (build) next year.
7. Are you going to the party? – No, I … (not/ invite)
8. The room looks so nice. It … (clean).
9. The tree … (blow down) in the storm last night.
10. Ann can`t use her office at the moment. It … (decorate).
11. Tom gets a higher salary now. He … (promote).
12. Where … (these photographs/take)? In London?

EVERYDAY ENGLISH

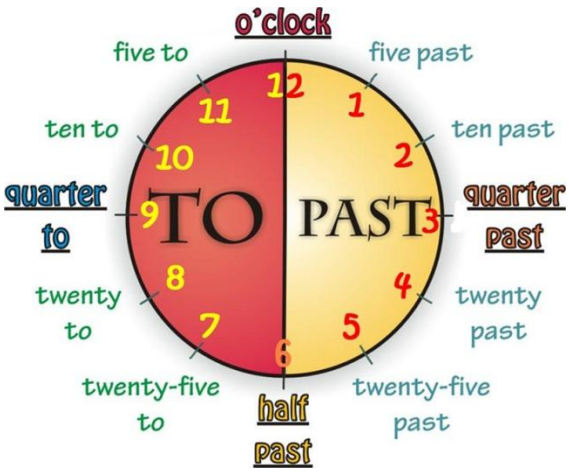
What is the time?

I. Learn the phrases used to ask the time:

What time is it (now)? – Который час?
What's the time? – Сколько сейчас времени?
Could you tell me the time please? – Вы не подскажете, который час? (вежл.)
What time does the flight to Brookline leave?
When does the bus arrive from Liverpool?

Saying the time:
3.00 – It`s three o`clock.
3.05 – It`s three o-five/It`s five past three.
3.15 – It`s three fifteen/It`s a quarter past three.
3.30 – It`s three thirty/It`s half past three.
3.35 – It is three thirty five
3.45 – It`s three forty five/It is a quarter to four
3.50 – It is three fifty/It is five to four.

a.m.- (лат. ante meridiem) - до полудня
p.m.- (лат. post meridiem) - после полудня
midnight 00.00 – полночь
at midnight - в полночь
after midnight - за полночь
in the morning – утром
in the evening – вечером
It's (a) quarter past seven – Пятнадцать минут восьмого



Принцип сообщения о времени изображен на рисунке 1.

Для сообщения о времени определенного события используется предлог **at**:
The bus arrives **at** midday. – Автобус приезжает в полдень.

Выражения, связанные со временем:
hurry up – спешить
you needn't hurry – можно не спешить
keep somebody waiting – заставлять кого-то ждать
to have plenty of time – иметь много времени
take your time – не спеши

II. Fill in the gaps in the dialogues below with the proper expressions:

Dialogue 1 *(in a hostel):*
(*what is the time? - I have got to go then! - going to the lecture on - I am serious! - It is ten to two!*)

A: Harry, are you in?
B: Yes! Hello, is that you, Mandy! Come in!
A: Are you 1) … programming today?
B: Yes, sure! Why?
A: You should hurry up!
B: 2) …
A: 3) …
B: You must be joking!
A: 4) … It is nearly two!
B: 5) … Mr. Thomson won`t be pleased if I am late again…
A: No, he won`t, third time on end…

Dialogue 2 *(at the airport)*:
(No, not too long - Sorry for keeping you waiting! - We have plenty of time! - Could you tell me the time please? - Take your time! - Shall we have some coffee? - Good idea!)

A: Good day, Alex!
B: Hello, Chris!
A: Have you been waiting long?
B: 1) … No, not too long, I came at a quarter past seven.
A: 2) … There is a big traffic jam just near the airport!
B: It is all right! 3) …
A: Really? 4) …
B: It`s half past seven.
A: What time does the flight to Belfast take off?
B: At nine! 5) … We needn`t hurry!
A: Uph…. All right! Travelling always makes me nervous.
B: 6) … There is a good cafe on the territory of the waiting room.
A: 7) …

III. Taking the dialogues 1 and 2 as example make 2 dialogues using the prompts below:

a) *A*: you hurry up to a job interview. *B:* remind *A* about the time.
b) *A*: you are nearly late for train to Brussels. *B*: you are waiting *A* at the train station.

LESSON 7

COMPUTER STORAGE

Task 1. Answer the following questions:

a) Where do you store the information you need for work or entertainment?
b) What is the safest storage device you can think of?
c) What is the tendency of storage devices development in future?

Task 2. Read and memorize the following words that will help you to understand the text below:

1. tertiary [tɜːʃərɪ] – третичный
2. particular [pəˈtɪkjʊlə] – особенный, конкретный
3. volatile [ˈvɒləˌtaɪl] – энергозависимый
4. actually [ˈæktʃʊəlɪ] – в действительности
5. Random Access Memory (RAM) [ˈrændəm ˈæksɛs] – оперативная память
6. Read Only Memory (ROM) [riːd] – постоянное запоминающее устройство
7. temporarily [ˈtempərərɪlɪ] – временно
8. wipe off [waɪp ɒf] – стирать
9. hence [hɛns] – поэтому, следовательно
10. permanently [pɜːmənəntlɪ] – постоянно
11. be acquainted [əˈkweɪntɪd] – быть знакомым с чем-либо
12. increase [ɪnˈkriːs] – увеличивать
13. square [skwɛə] – квадратный
14. shell [ʃɛl] – пластина
15. previously [ˈpriːvɪəslɪ] – предварительный
16. a means of [miːnz] – средство
17. get overshadowed [əuvəˈʃædəud] – отойти на второй план
18. versatile [ˈvɜːsəˌtaɪl] – разносторонний
19. times – разы
20. in a matter of [ˈmætə] – в течение
21. semiconductor [sɛmɪkənˈdʌktə] – полупроводник
22. transfer-rates [trænsˈfɜː reɪt] – скорость передачи
23. high-definition [haɪ dɛfɪˈnɪʃən] – высокое разрешение

Task 3. Read and translate the text below:

TYPES OF COMPUTER STORAGE DEVICES

Data storage devices are mainly classified into three types - primary data storage devices, secondary storage devices, and tertiary storage devices. This classification is

made on the basis of the particular task performed by these different devices. The amount of data stored on primary storage devices is less, and this memory is volatile in nature, while secondary storage devices have larger storage space, and this type of memory is non-volatile in nature.

Primary Computer Storage

Primary storage devices for computers are actually a part of the computer's main memory. They are the Random Access Memory (RAM) and Read Only Memory (ROM).

Random Access Memory

Random Access Memory is used for storing information temporarily. When the computer is switched off, the information on the RAM is wiped off and hence it is said to be a volatile form of memory. The access rate of RAM is much higher and it is more wiped off than the other types of primary storage devices.

Read Only Memory

ROM is used to store data permanently. Data is typically stored on it at the time of manufacture or later by the computer user. The main disadvantage of this type of memory is that the data stored on ROM cannot be changed. Also the data access rate of ROM is much lesser as compared to that of the RAM. On the positive side of things, a ROM costs much less compared to RAM.

Secondary Computer Storage

Most storage devices that we are acquainted with come under this category. These devices are not a part of the processor, and are typically used to increase the storage capacity of the computer. Like the ROM, the secondary computer storage is also a type of memory. The information stored on these devices is retained, even if the computer is switched off.

Hard Drives

The hard drives are one of the most important secondary storage devices. In the initial days of computers, hard disks were available in the form of removable mass storage devices. However, with time, they evolved to be a part of the central processing unit of the computer. Presently there are external hard drives available as well, which connect to the computers via USB or similar interfaces.

Floppy Discs

These are magnetic storage devices, which are set inside square plastic shells. They are available in different sizes, including 8 inches, 5 ¼ inches and 3 ½ inches. Previously floppy discs were very popular as a means of portable storage, however, with technological advancements, they got overshadowed by the other devices, which provided greater storage capacities and higher data transfer speeds.

Digital Versatile Disc

The digital versatile discs (DVD) employs a similar format to that of a compact disc, for storing data. The difference between them lies in the storage capacities, as there is nearly six times more storage space in a DVD as compared to a CD. Like the CDs, DVDs are also used as backup devices and also for distributing high quality video files and movies, and large software and games.

Flash Memory

These storage devices are similar to the read only memory, with the main difference that data from a flash memory can be erased in a matter of few seconds, which is not possible in a ROM. Also with improvements in semiconductor technology, flash memories having greater storage capacities and higher transfer-rates are being developed.

Blu-ray Discs

Blu-rays discs, abbreviated as BD, are mainly used for high-definition video storage and also for distributing games. Blu-ray discs appear similar to the CDs and DVDs and also store data optically. However, they possess much larger storage capacities than both.

Source: Buzzle. [Электронный ресурс]. – Режим доступа: http://www.buzzle.com/articles/computer-storage-devices.html (время обращения - 18.06.2017).

Task 4. Match the words in two columns:

1. primary	a) Стирать, удалять
2. temporarily	b) дрогой
3. wipe off	c) первичный
4. wiped off	d) переносной
5. permanently	e) многоцелевой
6. non-volatile	f) временный
7. removable	g) энергозависимый (постоянный)
8. advancements	h) постоянный
9. versatile	i) улучшение, усовершенствование
10. semiconductor	j) Резервное копирование
11. possess	k) полупроводник
12. backup	l) обладать

Task 5. What do these abbreviations stand for?

RAM, ROM, USB, DVD, CD, BD.

Task 6. Find the opposites in the text and translate them.

For example: *non-volatile (постоянный) – volatile (непостоянный).*

Task 7. Mark the sentences below as True or False:

1. There are typically two classes of storage devices.
2. The amount of data in secondary storage devices is less than that of primary.
3. RAM is not permanent.
4. ROM can be changed.
5.Hard drive is a part of the CPU.
6. The data in ROM can be erased in a few seconds.

7. In BD data is stored optically.

Task 8. Make 10 possible questions to the text. Take turns to ask these questions your partner.

Task 9. Find the second part of the sentences:

1. Classification of storage devices is made	a) cannot be changed.
2. The data stored on ROM	b) can be erased in a matter of few seconds
3. RAM and ROM	c) on the basis of the particular task performed.
4. The information stored on secondary storage devices	d) can be external and internal.
5. Hard Drives	e) are used as backup devices and also for distributing high quality video.
6. Nowadays the devices with greater storage capacities and higher data transfer speeds	f) are actually a part of the computer's main memory.
7. Data from a flash memory	g) are used instead of floppy discs.
8. Digital Versatile Discs	h) is retained, even if the computer is switched off.

Project Tips

a) What computer storage is the most reliable? Prove your choice.
b) Analyze the principle of cloud storage: its pros and cons.
Make a report in a form of presentation.

GRAMMAR SECTION

Overview: Adjectives; Degrees of Comparison.
Exercise 1. Study the table given below.

Таблица 16

	Basic form	**Comparative Degree**	**Superlative Degree**
One-syllable adjectives	*quick (быстрый)*	Basic form +**er** *quick (быстрый) – quick**er (быстрее)***	Basic form+**est** *quick (быстрый) – quick**est (самый быстрый)***
	Basic form	**Comparative Degree**	**Superlative Degree**
Two-syllable Adjectives and Adjectives with more syllables	*Beautiful (красивый)*	**more** + Basic form ***more** beautiful*	**the most** + Basic form ***the most** beautiful*
Exceptions	good (хороший)	better (лучший)	the best (самый лучший)
	well (хорошо)	better (лучше)	the best (наилучший образом)
	bad (плохой)	worse (худший)	the worst (наихудший)
	many (много, с исчисл.)	more (больше)	the most (наибольшее количество)
	much (много, с неисчисл.)	more (больше)	the most (наибольшее количество)
	little (маленький)	less (меньше)	the least (наименьшее количество)
	far (далекий)	farther (further) (дальше)	farthest (the furthest) (самый далекий)

Exercise 2. Put the adjectives in a correct degree: comparative or superlative:

1. The hotel was very cheap. I expected it to be …(expansive).
2. Your work isn`t very good. You can find something …(good).
3. It is so easy to use the computer. I thought it would be …(difficult).
4. You came here so quickly. I thought you would come …(late).
5. You were depressed yesterday. Today you look…(calm).
6. Everest is … than any other mountain. (high)
7. We had a great holiday. It was … holidays we've ever had. (enjoyable)
8. I prefer this chair to the other one. It is … . (comfortable)
9. What is … way of getting from here to the station? (quick)
10. What is … sport in your country? (popular)

Exercise 3. Correct the mistakes in the sentences below. Some sentences are correct. Translate the sentences into Russian.

1. Nick is happier boy that I know.
2. Of the six cars, I like the silver one better.
3. Jane's notebook is cheaper than mine. .
4. This is more delicious cheese-cake I have ever had!
5. His bookcase is more beautiful than that one.

Source: English. [Электронный ресурс]. – Режим доступа: http://s-english.ru/uprazhneniya/stepeni-sravneniya-prilagatelnykh. (время обращения - 20.08.2016).

EVERYDAY ENGLISH

How much is it?

I. Read and learn the phrases used when going shopping:

- ✓ Excuse me – Извините (можно к вам обратиться?).
- ✓ Where can I find ….? – Где продаются…?
- ✓ Where is fitting room? – Где находится примерочная?
- ✓ Can I help you? – Могу ли я вам помочь?
- ✓ There is a lift on your right. – Лифт расположен справа от вас.
- ✓ I need to buy a flash card. Have you got some Hi-Fi department? - Мне нужно купить флешку. У вас есть отдел техники?
- ✓ We have got tech-shop on the first floor – У нас есть отдел техники на первом этаже.
- ✓ I am looking for a coat. Can you help me? – Я ищу пальто. Помогите, пожалуйста, с выбором.

Source: Interactive-english. [Электронный ресурс]. – Режим доступа: http://www.interactive-english.ru/dialogi/331-v-magazine/ (время обращения – 23.04.2017).

II. Fill in the gaps with the words and phrases below:

Can I try them on? - How can I help me? - You`ve been very helpful! - skirt suit - checked looks all right - Will you pay cash or by credit card? - What is your size? - Where is the fitting room?

(in a clothes shop)

A (Customer): Excuse me?

B (Shop Assistant): Yes? 1) … .

A: I need a smart suit.

B: Do you prefer pantsuit or 2) … ?

A: A pantsuit, I suppose… I am not sure, though…

B: Ok, let me show the suits we have… Here there is a wide choice of linen pantsuits. They are of different colours and textures. On the rail below there are skirt suits, the checked ones and the plain ones.

A: Oh, great! I like that! 3) …

B: Yes, you can choose several models. 4) … .

A: *Medium.*

B: Ok, fine. What colour and texture would you like?

A: Well, 5) … , and as for the colour… well. I will probably take the green one.

B: OK, this colour is very trendy, but I would also advice you to take the one with the tints of blue, they match your eyes.

A: Thank you very much, I`ll try these two on. 6) …

B: It`s over there, just round the tills. Come on, I`ll show you the way.

***

A: Both the suits fit well, I `ll take them.

B: All right. That`s fine. 7) …

A: Cash.

B: … Ok, that is your check. We will be glad to see you in our shop again!

A: Thank you very much! 8) … .

III. Imagine you go shopping in a Hi-Fi shop /food shop/ clothes shop. Make your own dialogue using the dialogue from Task 2 as an example.

LESSON 8

INTERNET CONNECTIONS

Task 1. Answer the following questions:

1. What is the most important use of the Internet connection?
2. What could replace the Internet in the modern world?
3. How much time a day do you usually spend using the Internet?
4. How has the Internet changed over the last years?

Task 2. Read the words that can help you understand the text below:

1. via [ˈvaɪə] – при помощи
2. drastically [ˈdræstɪkəlɪ] – радикально
3. to center [ˈsɛntə] – выравнивать слова по центру
4. to bold [bəʊld] – выделять жирным шрифтом
5. streaming video [ˈstriːmɪŋ] – потоковое видео
6. options [ˈɔpʃən] – возможности
7. snapshot [ˈsnæpˌʃɒt] – краткая характеристика
8. Internet Service Provider [prəˈvaɪdə] – поставщик услуг интернета
9. dial-up access [ˈdaɪəl ʌp æksɛs] – доступ по [коммутируемой] телефонной линии
10. public-switched [ˈpʌblɪk swɪtʃt] – служба с коммутируемым доступом
11. vice versa [vaɪs versa] – наоборот
12. Integrated services digital network [ˈɪntɪgreɪtɪd ˈsɜːvɪsɪz ˈdɪdʒɪtəl ˈnɛtˌwɜːk] – цифровая сеть с интегрированными услугами
13. Digital Subscriber Line [ˈdɪdʒɪtəl səbˈskraɪbəʳ laɪn] – цифровая абонентская линия
14. copper [ˈkɒpə] – медь
15. simultaneously [ˌsɪməlˈteɪnɪəslɪ] – одновременно
16. tie up [taɪ ʌp] – занимать, загружать
17. Broadband Internet Connection [ˈbrɔːdˌbænd] – широкополосная связь Интернет
18. downstream [ˈdaʊnˈstriːm] – нисходящий
19. upstream [ˈʌpˈstriːm] – восходящий
20. coaxial cable [kəʊˈæksɪəl ˈkeɪbəl] – коаксиальный кабель
21. bandwidth [bændˌwɪdθ] – полоса пропускания, диапазон частот
22. cap [kæp] – предел, ограничение
23. wireless [ˈwaɪəlɪs] – беспроводной

Task 3. Read and translate the text below and do the exercise that follow:

THE FEATURES OF INTERNET CONNECTION

As technology grows, so does our need for bigger, better and faster Internet connections. Over the years the way content is presented via the Web has also changed drastically. Ten years ago being able to center, bold, and produce text in different colors on a webpage was something to admire. Today, flash, animations, online gaming, streaming video, database-driven websites, e-commerce and mobile applications (to name but a few) are standards.

The need for speed has changed the options available to consumers and businesses alike in terms of how and how fast we can connect to the Internet. The connection speeds listed below represent a snapshot of general average to maximum speeds at the time of publication. This is no doubt will change over time and Internet connection speeds also vary between Internet Service Providers (ISP).

Analog: Dial-up Internet Access

Also called dial-up access, an analog Internet connection is both economical and slow. Using a modem connected to your PC, users connect to the Internet when the computer dials a phone number (which is provided by your ISP) and connects to the network. Dial-up is an analog connection because data is sent over an analog, public-switched telephone network. The modem converts received analog data to digital and vice versa. Because dial-up access uses normal telephone lines the quality of the connection is not always good and data rates are limited.

ISDN - Integrated Services Digital Network

Integrated services digital network (ISDN) is an international communications standard for sending voice, video, and data over digital telephone lines or normal telephone wires. Typical ISDN speeds range from 64 Kbps to 128 Kbps.

DSL – Digital Subscriber Line

DSL is frequently referred to as an "always on" connection because it uses existing 2-wire copper telephone line connected to the premise so service is delivered simultaneously with wired telephone service - it will not tie up your phone line as an analog dial-up connection does. The two main categories of DSL for home subscribers are called ADSL and SDSL.

Cable - Broadband Internet Connection

Through the use of a cable modem you can have a broadband Internet connection that is designed to operate over cable TV lines. Cable Internet works by using TV channel space for data transmission, with certain channels used for downstream transmission, and other channels for upstream transmission. Because the coaxial cable used by cable TV provides much greater bandwidth than telephone lines, a cable modem can be used to achieve extremely fast access. Cable providers typically implement a cap to limit capacity and accommodate more customers. Cable speeds range from 512 Kbps to 20 Mbps.

Wireless Internet Connections

Wireless Internet, or wireless broadband is one of the newest Internet connection types. Instead of using telephone or cable networks for your Internet connection, you use radio frequency bands. Wireless Internet provides an always-on connection which can be accessed from anywhere — as long as you geographically within a network coverage area. Wireless access is still considered to be relatively new, and it may be difficult to find a wireless service provider in some areas. It is typically more expensive and mainly available in metropolitan areas.

Source: Webopedia. [Электронный ресурс]. – Режим доступа: http://www.webopedia.com/quick_ref/internet_connection_types.asp (время обращения: 08.08.2016).

Task 4. Match English and Russian equivalents:

dial	при помощи, через, посредством
Web	поставщик услуг Интернет
metropolitan area	классифицироваться, ранжироваться
via	помещение
premise	набирать номер, звонить
ISP	зд. подключение
range	сеть, всемирная паутина
subscriber	столичный район

Task 5. Put the word combination below to an appropriate sentence so that it makes sense:

dial-up access, broadband, vice versa, extremely, range, converts, limited.

1) Voice recognition systems transform analogue signals to digital ones and ….
2) We used to use … and the quality of connection was really poor. Now as we use Wi-Fi the speed and the quality of signal have changes a lot.
3) If you don`t pay for your Internet connection on time its speed will be … .
4) What is the price … of your internet provider?
5) When you encode the information you … a message from plain text into code.
6) Wireless Internet has … fast access.
7) … connection uses coaxial cable, optical fiber, radio or twisted pair.

Task 6. Mark the sentences as T (True) or F (False):

1) Broadband Internet Connection is economical but rather slow.
2) In the modern life the need for speed in the Internet connections has grown.
3) Digital subscriber line will not need your telephone line.
4) Telephone line provides much more speed than broadband connection.
5) Wireless Internet can be accessed absolutely at any place where you are.

Task 7. Answer the following questions:

1. How has the attitude to speed of Web connections has changes over the last years?

2. In what way will the Internet connection change in future?
3. What is the most economical, but slow internet connection?
4. What connection is called dial-up? Why so?
5. What is the function of modem?
6. What does ISDN stand for?
7. Why is DSL called “always on” connection?
8. What type of connection uses radio frequency bands?
9. How can Internet be connected with TV lines?
10. What are advantages and disadvantages of Wi-Fi connection?

Project Tips

What type of Internet connection do you use and why?

Prove your choice analyzing advantages and disadvantages of the Internet connection of your choice.

Make a report in a form of presentation.

GRAMMAR SECTION

Overview: Past, Present, Future Continuous (Active and Passive Voice).
Exercise 1. Study the table given below.

Таблица 17

	Past Continuous	**Present Continuous**	**Future Continuous**
Active Voice	Was\were+V ing	Am/is/are +V ing	Will be + V ing
-	Wasn`t\weren`t+V ing	Isn`t/aren`t +V ing	Won`t be +V ing
?	Was\Were+ подлежащее + V ing	Am/ Is/Are + подлежащее +V ing	Will + подлежащее + be +V ing

	Past Continuous	**Present Continuous**	**Future Continuous**
Example	*I **was making** dinner.* *I **wasn`t making** dinner.* ***Was** I **making** dinner?* *We **were making** dinner.* *We **weren`t making** dinner.* ***Were** we **making** dinner?*	*I **am making** dinner.* *I **am not making** dinner.* *We **are making** dinner.* *We **aren`t making** dinner.* ***Are** we **making** dinner?*	*I **will be making** dinner.* *I **won`t be making** dinner.* ***Will** I **be making** dinner?*
Passive Voice	Was\were+being+V3	Am/is/are+being+V3	Will be +being+V3
-	Wasn`t\weren`t+being+V3	Am not/isn`t/aren`t+being+V3	Won`t be +being+V3
?	Was\were+подлежащее+being+V3	Am/is/are+подлежащее +being+V3	Will+ подлежащее +be +being+V3
Example	*The dinner **was being made.*** *The dinner **wasn`t being made.*** ***Was t**he dinner **being made?*** *The scorns **were being baked.*** *The scorns **weren`t being baked.*** ***Were** the scorns **being baked?***	*The dinner **is being made.*** *The dinner **isn`t being made.*** ***Is t**he dinner **being made?*** *The scorns **are being baked.*** *The scorns **aren`t being baked.*** ***Are** the scorns **being baked?***	*The dinner **will be being made.*** *The dinner **won`t be being made.*** ***Will** the dinner **be being made?***
Adverbs	*at that time, at 2 o'clock yesterday, at noon, at midnight, the whole evening (month, year, day), all day long, from 9 till 11 yesterday.*	*now, at the moment, right now, just now, these days, tonight.*	*at 2 o'clock tomorrow, at noon, at midnight, the whole evening (month, year, day), all day long, from 9 till 11 tomorrow.*

Exercise 2. Practice putting the verbs below in all the forms: Past, Present, Future Continuous (Active and Passive Voice). Make sentences with all these verbs: *connect, paint, translate, convert, make, deliver, cook, understand, start.*

Exercise 3. Put the verbs in the sentences below in Past, Present or Future Continuous Active Voice.

1. I … (study) Japanese online from 5 till 6 tomorrow evening.
2. Listen! Why the dogs … (bark)?
3. She … (wear) a yellow coat when I saw her.
4. I dropped my wallet when I … (get) on the bus.
5. What you … (do) in my office yesterday?
6. Bob … (feel) much better today.
7. The kids … (watch) cartoons in their room now.
8. I'm afraid she … (sleep) in ten minutes.
9. We … (have) tea soon?

Source: English. [Электронный ресурс]. – Режим доступа: http://s-english.ru/uprazhneniya/continuous-tenses (время обращения - 20.08.2016).

Exercise 4. Put the verbs in the sentences below in Past, Present or Future Continuous Passive Voice.

1. What is that man outside? – It is our postman. Now you see that the mail … (delivered) now.
2. You shouldn`t disturb them tomorrow. Their driving test … (take) tomorrow just after lunch.
3. Now, as you can see, the dinner … (hold) to celebrate the occasion.
4. When the code … (enter) the system halted and the entry was delivered for a few seconds.
5. The program … (write) now, so that tomorrow we will be able to hand test it.

EVERYDAY ENGLISH

Have a good journey!

I. Read and learn the phrases used at registration desk at the airport:

1. I would like to confirm… — Я бы хотел подтвердить;
2. ticket number — номер билета;
3. Can I …? — Можно мне…?
4. schedule — расписание;
5. depart — отправляться, уезжать;
6. You are scheduled to depart… — Ваш полет запланирован…;
7. Correct — правильный;

8. Here you go, here it is — Возьмите (ответ на просьбу предъявить документы);
9. flight — полет;
10. arrive — приезжать;
11. sure — конечно;
12. May I see your passport? — Пожалуйста, покажите ваш паспорт;
13. May I see your visa? — Пожалуйста, покажите вашу визу;
14. What's the purpose of your visit? — Какова цель вашего визита?
15. How long will you be staying in the united kingdom? — Как долго вы будете находиться на территории соединенного королевства?
16. Please proceed to customs. — Пожалуйста, проходите на таможенный контроль;
17. Please open your bags. — Пожалуйста, откройте ваш багаж;
18. Do you have any items to declare? — У вас есть вещи, которые нужно декларировать?
19. Delay on the flight is due to adverse weather conditions — Задержка рейса вызвана неблагоприятными погодными условиями;
20. Flight is boarding - Производится посадка на рейс.

Source: Language Guru. [Электронный ресурс]. – Режим доступа: http://languru.biz/News/help.html (время обращения – 25.04.2017).

II. Read the dialogue and fill in the missing phrases in *italics*:

ticket number - Is this correct - travelling - Can I help you - flight - confirmed - calling

(*on the phone*)

Airport Call center worker (A): Bengamines Airport Call center 1) … ?
You (B): Yes, please, "I would like to confirm my 2) ….
A: Your name, Sir?
B: Nicolas Mc Douglas.
A:Can I get your 3) …?
B: Yes, sure. It is 15-67-49.
A: Your flight is scheduled to depart on June 30-th at 3.00 pm. 4) …. ?:
B:Yes it is.
A: Are you 5) … alone?
B: My colleague is going with me.
A: Can you give me the other ticket number?
B: Yes, sure, let me see… It is 19-68-50.
A: Thank you! Your tickets have been 6) …. Make sure you arrive at the airport 3 hours before your flight departs. Thank you for 7) … .

III. Match Russian and English equivalent phrases:

1. I would like to confirm my flight.
2. You are scheduled to depart on November, 15th at 5 p.m.
3. Is anybody else traveling with you?
4. Can I have the ticket number?
5. Is this correct?
6. Thank you for calling.

а) Какой ваш номер билета?
б) Правильно?
в) Мне бы хотелось подтвердить информацию о моем вылете.
г) Спасибо за звонок.
д) Время вашего вылета согласно расписанию 15 ноября, 17.00.
е) С вами путешествует еще кто-либо?

IV. Put the words below in a correct order:

1. have your been confirmed tickets.
2. like I would to my flight confirm
3. with is else anybody traveling you?

V. Work in pairs and act out a dialogue between a tourist and airport officer. Use the dialogue in Task 2 as a model.

LESSON 9

COMPUTER`S FIRMWARE

Task 1. Answer the following questions.

a) Give some examples of software and hardware. What is the main difference between them?

b) How often do you upgrade your hardware of software components?

c) What types of memory do you know?

Task 2. Read and memorize the words that will help you understand the text:

1. firmware [ˈfɜːmˌwɛə] – программно-аппаратные средства; встроенные программы; "зашитые программы" (в ПЗУ)
2. boot up [buːt ʌp] – производить начальную загрузку
3. non-volatile [ˌnɒn ˈvɒləˌtaɪl] – энергонезависимый
4. roll out [rəʊl aʊt] – откачивать (из оперативной памяти), зд. производить первоначальную обкатку.
5. take over [teɪk ˈəʊvə] – зд. активировать
6. outdated [ˌaʊtˈdeɪtɪd] – устаревшая
7. legacy technologies [ˈlɛgəsɪ tɛkˈnɒlədʒɪ] – устаревшие, снятые с производства технологии
8. feature [ˈfiːtʃə] – обладать конструктивной особенностью
9. flash [flæʃ] – зд. перепрограммировать

Task 3. Read and translate the text below:

WHAT IS FIRMWARE?

Firmware refers to read-only memory (ROM) chips that store permanent instructions. It boots up computerized or digital devices, as ROM chips are non-volatile, meaning that they do not require a power source to hold their contents. This differentiates it from random access memory (RAM), for example, which loses stored data at shutdown. Perhaps the most familiar example is the basic input-output system (BIOS) chip. The BIOS chip on a computer motherboard holds instructions that, on powering up, initialize the hardware, ensure the components are working, and finally roll out the operating system to take over.

In the past, firmware chips could not be rewritten. When the BIOS became outdated, the only option was to buy a new motherboard. The new chips would understand the latest hardware so that the user would not be limited to older drives and other legacy technologies when facing inevitable upgrades.

It became clear that firmware that could be updated would be extremely beneficial. This became possible with flash memory chips. With the BIOS written to this type of chip, a user could connect to the manufacturer's website, download an upgrade and *flash* the BIOS chip during boot-up to install a new set of instructions. All quality motherboards today feature a flash BIOS.

Firmware is at the heart of virtually every popular digital device. Portable audio players, cell phones, personal digital assistants, digital cameras and gaming consoles are just some of the devices that use it. When shopping for electronic items, consumers should take note that, if the chip can be flashed, the product is usually advertised as being "upgradeable." This is accomplished online by connecting the device to a universal serial bus (USB) or FireWire port on a computer system and following instructions from the manufacturer's website.

Upgradeable firmware has extended the life of countless electronic devices, adding new functionality. Flashing the chips can be risky, however, as the device will not boot if the flashing process is interrupted or becomes corrupted. When upgrading, users should be sure to follow instructions carefully and back up any important data beforehand.

You can usually find firmware updates by going to the "Support" or "Downloads" area of a manufacturer's website. Keeping your firmware up-to-date is often not necessary, but it is still a good idea. Just make sure that once you start a firmware updater, you let the update finish, because most devices will not function if their firmware is not recognized.

Sources:
1.Wisegeek. [Электронный ресурс]. – Режим доступа: http://www.wisegeek.org/what-is-firmware.htm (время обращения -24.08.2016).
2. TechTerms. [Электронный ресурс]. – Режим доступа: http://techterms.com/definition/firmware (время обращения -24.08.2016).

Task 4. Match the English and Russian equivalents:

1. non-volatile	a) переносной
2. shutdown	b) быть запрограммированным заново
3. outdated	c) современный
4. inevitable	d) завершение программы
5. beneficial	e) устаревший
6. to be flashed	f) энергонезависимый
7. portable	g) неизбежный
8. up-to-date	h) выгодный

Task 5. Choose the odd one out:

a) RAM, BIOS, ROM, ISP;
b) monitor, OHP, plotter, scanner.
c) DSL, mainframe, servers, desktop, PDAs,

d) transfer, flash, move, convey;
e) fetch, decode, restore, writeback, execute.

Task 6. Match the sentences so that they make sense:

1. RAM	a) is firmware that could be updated
2. BIOS	b) stands for is the basic input-output system
3. Flash memory chips	c) is the product that can be flashed
4.ROM chips	d) loses stored data at shutdown
5."Upgradeable"	e) are non-volatile

Task 7. Fill in the gaps with the verbs below, sometimes you need to change the form of the verbs: *store, require, ensure, boot up, take over, install, roll out.*

1. The new hardware … the upgraded drives, or it won`t work.
2. Blue-rays … much more data than the usual CDs.
3. If you … your system without the scanner or printer that are plugged in, you will see an error message.
4. To … this program make sure you have enough space on your disc.
5. Before printing the document … that printer is on and there is enough paper.
6. Microsoft Corporation began … its new operating Windows 10 system in Japan on Wednesday, the Tomes of India informs.
7. When you upgrade the firmware the new operating system will … the old one.

Task 8. Answer the following questions:

1. What does firmware refer to?
2. What is the difference between ROM and RAM?
3. What is the function of BIOS?
4. What are the advantages of new chips?
5. What are “upgradable” devices?
6. How do you accomplish upgrade?
7. Is there any risk in upgrading process?
8. Have you ever made upgrading? Describe it.

Task 9. Translate the following sentences into English:

1. Встроенные программы относятся к части ПЗУ и являются энергонезависимыми.
2. Современные чипы BIOS позволяют обновлять операционную систему, что очень выгодно для пользователя.
3. Для обновления встроенных программ необходимо посетить сайт производителя, найти обновленные программы и перезапустить чипы BIOS.
4. При перезагрузке устанавливается новый перечень инструкций.

5. Обновляемые встроенные программы продлевают время использования вашего устройства, поэтому необходимо регулярно проводить обновления.

Project Tips

Choose any popular Input/output device. Make a report on its firmware features.
Make a review on its functionality of upgrading.

GRAMMAR SECTION

Overview: Past, Present, Future Perfect (Active and Passive Voice).
Exercise 1. Study the table given below.

Таблица 18

Active Voice	**Past Perfect**	**Present Perfect**	**Future Perfect**
	Had +Ved/V3	Have/has+ Ved/V3	Will+have Ved/V3
-	hadn`t+ Ved/V3	Haven`t/hasn`t+ Ved/V3	Won`t have+ Ved/V3
?	had+ Subject+ Ved/V3	Have/has + Subject + Ved/V3	Will + Subject + have + Ved/V3
Example	*I **had finished** downloading.* *I **hadn`t finished** downloading.* ***Had** I **finished** downloading?* *We **had met** before.* *We **hadn`t met** before.* ***Had** we **met** before?*	*I **have finished** downloading.* *I **haven`t finished** downloading.* ***Have** I **finished** downloading?* *We **have met** before.* *We **haven`t met** before.* ***Have** we **met** before?*	*I will **have finished** downloading.* *I won`t **have finished** downloading.* ***Will I have finished** downloading?*

Passive Voice	Had +been+Ved/V3	Have/has+been+ Ved/V3	Will+have+been + Ved/V3
	Past Perfect	**Present Perfect**	**Future Perfect**
-	hadn`t+been+Ved/V3	Haven`t/hasn`t+ been+Ved/V3	Won`t have+been+ Ved/V3
?	had+ Subject +been+ Ved/V3	Have/has + Subject +been+ Ved/V3	Will + Subject + have +been+ Ved/V3
Example	*The program **had been downloaded**.* *The program **hadn`t been downloaded**.* ***Had** the program **been downloaded**?*  *He **had been met** in the airport.* *He **hadn`t been met** in the airport.* ***Had** he **been met** in the airport?*	*The program **has been downloaded**.* *The program **has`t been downloaded**.* ***Has** the program **been downloaded**?*	*The program will **have been downloaded**.* *The program won`t have **been downloaded**.* ***Will** the program **have been downloaded**?*
Adverbs	*at that time, at 2 o'clock yesterday, at noon, at midnight, the whole evening (month, year, day), all day long, from 9 till 11 yesterday.*	*now, at the moment, right now, just now, these days, tonight.*	*at 2 o'clock tomorrow, at noon, at midnight, the whole evening (month, year, day), all day long, from 9 till 11 tomorrow.*

Exercise 2. Put the verbs below to: 1) Past, Present, Future Perfect (Active Voice); 2) Past, Present, Future Perfect (Passive Voice).
play, eat, boot up, reload, answer, teach, eat, translate, insure, install, visit, understand.

Exercise 3. Put the verbs in brackets to any suitable tense, positive or negative form: Past, Present, Future Perfect (Active Voice):

1. Do you ever eat in restaurants? – I … (eat) in the restaurants for ages.

2. He … (lose) his keys so he couldn`t enter the office yesterday and the meeting was canceled.

3. "The course is really complicated, Mrs. Justice. … we (finish) our course books by the end of this semester?" – "Actually, if we do well, we … ."

4. Bob grew beard, but he … (shave off) it by now.

5. Be careful! Somebody ... (split) some water on the floor!

6. I am a post-graduate student and I … (read) a lot of scientific magazines. Hopefully, I … write my own article by the end of this month.

7. Your computer looks so new. … you (update) the operating system?

8. Susan didn`t go to the cinema yesterday as she … (see) the film.

9. Call me tomorrow at 10 a.m., I hope I …. (complete) the project and will be able to send you via net.

10. … you (have) holidays recently?

Exercise 4. Put the verbs in brackets to any suitable tense: Past, Present, Future Perfect (Passive Voice):

1. The room looks so clean! … it (wash)?

2. We came home earlier yesterday as the concert …(cancel).

3. If you don`t put on alarm your car … (steal).

4. Mike gets much greater salary since he … (promote).

5. Your office is much comfortable now. … it (decorate)?

6. Yesterday the computer froze, but now it works all right. – Probably, it … (reload).

7. Tomorrow the important conference will be held. Please, come earlier, or no empty seat … (leave).

8. The road was blocked as the road works … (carry out).

9. I don`t know what happened. When I came to the office all the system … (halt).

10. … the downloading (start) already? - Yes, and it is doing quite quickly.

EVERYDAY ENGLISH

Telephoning: Confirming Appointments.

I. Read and memorize the expressions used for confirming appointments on the phone:

✓ Hello! This is Tony Tailor from Queensfield Co. — *Здравствуйте! Это Тони Тейлор из компании Квинсфильд Ко.*

✓ I am ringing to confirm our appointment on Wednesday at 14:00. — *Я бы хотел уточнить, что наша встреча состоится в среду в 14:00.*

✓ I am looking forward to it. — *С нетерпением жду нашей встречи. Буду рад видеть Вас.*

✓ Can I just check the address? — *Позвольте уточнить адрес?*

✓ Could you spell it for me? — *Вы не могли бы произнести это название по буквам?*
✓ I am afraid I will have to cancel our meeting on Tuesday. — *Боюсь, я вынужден буду отменить нашу встречу во вторник.*
✓ Would next Monday be more convenient for you? — *Вам будет удобно, если мы перенесем встречу на понедельник?*
✓ Would you like to arrange a video conversation instead? — *Может быть мы могли бы организовать видеоконференцию вместо этого?*
✓ That is great idea! — *Это замечательно!*
✓ Would you like me to send some documents via e-mail? — *Я бы мог выслать Вам некоторые документы по почте?*

II. Read the conversations below and translate them:

Conversation 1:

Sabine G.: Sabine Gerland.

Robbie T.: Hello, Ms Gerland. This is Robbie Tailor from Queensfield LTD. How are you?

SG: Fine, thanks, and you?

RT: Very well. I am just ringing to confirm our appointment for Tuesday afternoon at 3 p.m. to discuss our project management services for Potsdam project.

SG: Yes, that is right. I am looking forward to it.

RT: Can I just check the address? That is Quiddestrasse, 14, isn't it?

SG:Er…, No, Quiddestrasse, 40.

RT: Right, 40. OK. And could you spell Quidde for me?

SG: Of cause, that is Q-U-I-D-D-E. If you go you our website you will find all directions.

RT: Right. Thanks. So, I look forward to seeing you then.

Conversation 2:

RT: Queensfield LTD. Robbie Tailor

SG: Oh, hi! This is Gerhard Schmidt calling from Hipax in Berlin.

RT: Oh, hello, Mr Schmidt. How are you?

SG: I am fine, thank you. And you?

RT: I am well, thanks.

SG: OK, I am afraid I `ll have to cancel our meeting next Tuesday morning. I am going to be away visiting one of our key customers.

RT: No problem. Would Wednesday afternoon be more convenient?

SG: Unfortunately not. One colleague I wanted to come to our meeting will be in Paris and I will be in Munich.

RT: I see. Would you like me to arrange a telephone conversation instead?

SG: Oh, that is a good idea! We are both free at 2 p.m. on Wednesday. Will you e-mail me the details?

RT: Of course. Actually, I wanted to call you anyway, Mr Schmidt. Would you or your colleagues be interested in any of our other project management services, like logistics, for example?

Source: Schofield James, Osborn Anna. Collins English for Business Speaking. – London W6 8JB: HarperCollins Publishers, 2011, – 123 p., p. 24-25.

III. Complete the sentences with the words below:

spell, confirm, forward, teleconference, check, better

1. I am just ringing to … our appointment for Friday morning at 9 a.m.
2. Can I just … the address?
3. Could you … that for me?
4. That is not a problem. Would Tuesday afternoon be … for you?
5. Would it help if I arranged a …?
6. I look ... to seeing you then.

Source: Schofield James, Osborn Anna. Collins English for Business Speaking. – London W6 8JB: HarperCollins Publishers, 2011, – 123 p., p. 25.

IV. Make conversations with your group mate to confirm appointments.

Partner A needs to introduce yourself, explain the reason for your call, check the address, sound politely.

Partner B needs to introduce yourself, respond to A`s questions, suggest alternative time for meeting, sound politely.

Use the conversations from I as examples.

LESSON 10

FUTURE COMPUTERS

Task 1. Answer the following questions.

a) In what areas of life does computing develop more progressively?

b) Compare the computers 20 years ago and the modern ones. What features have changed mostly?

c) What is the most efficient computing achievement for today?

Task 2. Read and memorize the words that will help you understand the text:

1. forefront [ˈfɔːfrʌnt] – передовая позиция, передний план
2. mainstream [ˈmeɪnstriːm] – основное течение
3. silicon chips [sɪlɪk(ə)n tʃɪps] – кремниевая микросхема
4. irrelevant [ɪˈrɛlɪv(ə)nt] – неуместный
5. quantum [ˈkwɒntəm] – квантумный
6. pegs and balls [peg ænd bɔːlz] – колья и шары
7. shrink [ʃrɪŋk] – сжать
8. hit a wall [wɔːl] – столкнуться с препятствием
9. will step – зд. дальнейший шаг
10. qubit [kjuːbɪt] – квантовый бит
11. subatomic scale [sʌbəˈtɒmɪk skeɪl] – субатомный масштаб
12. unleash [ʌnˈliːʃ] – высвободить
13. neural networks [ˈnjʊər(ə)l ˈnetwɜːks] – нейронный сети
14. artificial intelligence [ɑːtɪˈfɪʃ(ə)l ɪnˈtɛlɪdʒ(ə)ns] – искусственный
15. интеллект
16. limitation [lɪmɪˈteɪʃ(ə)n] – ограничение
17. unprecedented rate [ʌnˈprɛsɪdɛntɪd reɪt] – беспрецедентная скорость
18. pull off [pʊl] – справиться с задачей
19. decrypt [diːˈkrɪpt] – расшифровать
20. complicated [ˈkɒmplɪkeɪtɪd] – сложный
21. aid [eɪd] – поддерживать
22. magnetoresistive [məgnetɛrɪˈzɪstɪv] – магниторезистивный
23. barrier [ˈbarɪə] – барьер
24. bionic [bʌɪˈɒnɪk] – электронный, механический
25. exponentially [ˌɛkspəˈnɛnʃ(ə)li] – в геометрической прогрессии
26. gigaflop – гигафлоп (флоп – внесистемная единица, используемая для измерения производительности компьютеров).
27. entanglement [ɪnˈtaŋg(ə)lm(ə)nt] – средство
28. coup [kuː] – государственный переворот
29. instantaneous [ˌɪnst(ə)nˈteɪnɪəs] – мгновенный

Source: Wooordhunt. [Электронный ресурс]. – Режим доступа: http://wooordhunt.ru/word/forefront (время обращения: 29.08.2016).

Task 3. Read and translate the text below:

FUTURE DEVELOPMENT OF COMPUTER INDUSTRY

Future computers are on the forefront of becoming mainstream. If you think computing is all about silicon chips and bandwidth then you may want to think again in a few years as this will be.

Future quantum computers will make today's desktops and laptops seem like wooden pegs and balls at tached to sticks by strings. In the near future, computers will use nanotechnology to shrink the size of silicon chips, increasing speed and power with parallel processing.

But, this can go on only so long before we hit a wall. In will step the quantum future computers that are not based upon digital 1's and 0's. Instead these future computers are based upon qubits (quantum bits). The power of magnetic forces at a subatomic scale will unleash the exponential power of future computers.

Scientists and researchers have always dreamed of artificial intelligence and computational neural networks and in the near future this will be so. Right now, there is a limitation that silicon chips provide that will be overcome with the use of quantum mechanics in computing.

By manipulating the rotation of atoms, data can be transmitted and stored at an unprecedented rate. Qubits and kets are what future computers will be measured in not gigabits or terabytes. Currently there is not enough computational power to pull off true artificial intelligence. There is also not enough computational power to decrypt complicated encryption methodologies.

But, with the exponential power of future quantum computers aided by nanotechnology and artificial intelligence there will be. Future computers will no longer have RAM or DRAM but rather MRAM (Magnetoresistive Random Access Memory) which is a present reality.

In today's world, disabled people are being trained to work computers using only their minds. When DARPA meets Sony and the brain-computer barriers come tumbling down, everyone will be able to command computers, robots, bionics and other quantum based electronics using only our minds. Future computers will interact with us on a neural level.

With the help of the qubit and the qubyte that can process 0's and 1's simultaneously in a process known as superposition, processing power will increase exponen-

tially. Today's gigaflops will be replaced by tomorrow's teraflops, petaflops, exaflops all the way to lumaflops and beyond to words that haven't even been created yet.

Future computers will allow us to communicate with others from a distance just by thinking. Researchers at IBM, UC Santa Barbara, Yale, Sony and many other companies are working on this now.

Because of the properties of quantum entanglement, communications around the world will become instantaneous and without geopolitical boundaries. Coups and revolts will be settled quickly as problems will be resolved with instantaneous communication globally.

Future computers will aid in space travel, communications, medical technology and practically every level of our day to day lives. And this future is not as far away as you may now think.

Credits: Delft University of Technology, Yale, UC Santa Barbara, DARPA.

Source: Future Technology 500. [Электронный ресурс]. – Режим доступа: http://www.futuretechnology500.com/index.php/future-computers/ (время обращения – 28.08.2016).

Task 4. Match Russian and English equivalents:

1. unleash	a) сложный
2. complicated	b) ширина полосы
3. neural level	c) показательная способность
4. forefront	d) высвободить
5. bandwidth	e) свойства
6. exponentially	f) нейронный уровень
7. exponential power	g) передний план
8. properties	h) в геометрической прогрессии

Task 5. Put the words below in the gaps in the sentences:

neural networks, irrelevant, mainstream, unprecedented rate, shrink

1. The increasing computer capacity by using silicon chips is … tendency in the modern computing technology.
2. The modern world is changing so quickly that the information about modern features becomes … very quickly.
3. Nanotechnology aims to …the size of silicon chips, increasing speed and power with parallel processing.
4. … refer to the interconnections between the neurons in the different layers of each system.
5. LCD technology has become modern so quickly and continues to work up a market at … .

Task 6. Put the sentences below in the order they are mentioned in the text.

a. The computers of the future will become part of our life very soon.
b. In the nearest future computers will become quicker and more powerful.

c. Future computers will use power of magnetic forces at a subatomic scale.
d. Quantum mechanics in computing will be used in future.
e. Nowadays computers don`t have enough computational power for complicated operations.
f. No RAM or DRAM will be used.
g. Future computers will interact with us on a neural level.
h. The process of "superposition" will be implemented.
i. We will coordinate the work of computers by thinking.
j. The communication by computing will become easier and quicker.

Task 7. Translate the following sentences:

1. В ближайшем будущем при помощи параллельной обработки можно будет увеличить мощность и скорость работы компьютера.
2. Работа квантовых компьютеров будет основываться не на двоичной системе нулей и единиц, а на квантовых битах.
3. В будущем компьютерами можно будет управлять при помощи мыслительного процесса.
4. Проблемы социальных возмущений (восстаний и бунтов) можно будет решить быстрее при помощи мгновенных коммуникационных возможностей по всему миру.
5. Будущие квантовые компьютеры буду развиваться на основе нанотехнологий и искусственного интеллекта.

Task 8. Answer the following questions:

1. Why will nanotechnology be used?
2. What is qubit? In what way does it differ from bits?
3. How will the exponential power of future computers be unleashed?
4. How can data be transmitted and stored at an unprecedented rate?
5. Currently there is enough computational power to pull off true artificial intelligence, isn`t it?
6. What types of quantum based electronics can you name?
7. What is the name of the process that can process 0's and 1's simultaneously?
8. What companies are working on to communicate with others from a distance just by thinking?
9. How can communication in future be characterized?
10. What are the areas that future computers may help to develop?

Project Tips

a) Choose the most useful and modern use of computer technology of today. Present this information to the class.

b) Choose the way computer technology can be improved in some area of life. Present your ideas to your groupmates.

GRAMMAR SECTION

Overview: Conditionals 0, 1, 2 and 3.
Exercise 1. Study the table given below.

Таблица 19

Type of Conditional	**If-Clause**	**Main Clause**	**Example**
"0" (условия «универсальной истины»)	If + Present Simple	… Present Simple	If you *press* "restart" button the computer *restarts*. – При нажатии на кнопку «restart» компьютер перезагружается.
"1"(реальные условия, направленные на будущее)	If + Present Simple	… will +V	If you *press* this button, the computer *will restart*. – Если та нажмешь эту кнопку, компьютер перезагрузится.
"2" (условия, предполагающие изменение настоящего)	If +Past Simple	… would/should + V	If you *pressed* this button, the computer *would restart*. – Если бы ты нажал эту кнопку, компьютер бы перезагрузился.
"3" (условия, предполагающие изменение прошлого)	If + Past Perfect	… would/should + have+ V3	If you *had pressed* this button, the computer *would have restarted*. – Если бы ты *раньше* нажал эту кнопку, компьютер бы *тогда* перезагрузился.

Exercise 2. Fill in the gaps with the suitable form of the verb in brackets. Determine the type of conditional used:

1. If it … (to rain), we shall have to stay, at home. 2. If he … (to work) hard, he would have achieved great progress. 3. If she … (to ask) me yesterday, I should certainly have told her all about it. 4. If he … (not to read) so much, he would not be so clever. 5. Will you be very angry if we … (not/come)? 6. If you … (not to get) tickets to Philadelphia, we shall stay at home. 7. If you were not so careless about your health, you … (to consult) the doctor. 8. If you heat ice it … (melt). 9. If I … (not to be) present at the lesson, I should not have under stood this difficult rule. 10. If it … (to snow), the children will play snowballs.

Exercise 3.

a) Continue the sentence using Conditional Type 1.

Example: If I **study** well during semester *I will pass all exams successfully.* If I **pass** all exams successfully *I will get scholarship., etc.*

If I **study** well during semester …

b) Continue the sentence using Conditional Type 2.

Example: If I **had** magic wand, *I would ban all factories to exhaust harmful gases in the atmosphere.* If all the factories **didn`t exhaust** harmful gases in the atmosphere *our planet would be healthier place to live, etc.*

If I **had** magic wand …

Exercise 4. Match the two halves of Conditional sentences, type 1, and fill in the gaps:

1. if you … (not/pass) your exams
2. we … (not/have) a barbecue
3. if he … (invite) me to the party
4. if they … (leave) now
5. I … (not/be) angry
6. if I … (buy) a new MP 3 player

a. I … (accept).
b. they … (get) home before eight o`clock.
c. if you …(not/study).
d. I … (give) you my old one.
e. if you … (forget) my birthday.
f. if it … (rain).

Source: Falla Tim, Davies Paul A. Solutions, Pre-Intermediate Student`s Book. – Oxford University Press, 2007. - 133. p. 82.

Exercise 5. Complete the second conditional sentences:

1. If I … (have) the money, I … (buy) a new phone.
2. She … (have) friends if she … (not/be) so rude.
3. You … (be) healthier if you … (do) more exercises.
4. I … (not/do) that if I … (be) you.
5. If they … (speak) Italian, they … (be able) to ask for directions.

Source: Falla Tim, Davies Paul A. Solutions, Pre-Intermediate Student`s Book. – Oxford University Press, 2007. – 133 p. p. 82.

EVERYDAY ENGLISH

I understand …

I. Read and memorize the expressions used for showing interest to what people are saying:

- I know what you mean – Понимаю.
- Do you find it interesting/difficult? – Вы думаете это интересно/трудно?
- Really? So, you mean that … - Правда? Итак, ты имеешь в виду, что …
- How amazing! – Как интересно!
- That`s terrible! – Это ужасно!
- What a pity! – Как жаль!
- I see what you mean – Понимаю, что ты имеешь в виду.
- I see – Понятно.
- That`s right – Правильно.
- Really? – Правда?
- So, what you are saying is … - Итак, ты говоришь о том, что …

II. Read and translate the following dialogue:

Casper: It is a very different way to do business here in Singapore, compared to Germany.

Emily: I know what you mean. Do you find it difficult?

C: No, not at all. It is interesting.

E: Interesting?

C: Yes, for example, in Singapore you discuss prices much earlier in negotiation than we do in Germany.

E: Really? So, you mean that you leave price negotiations till the end of the discussions?

C: Oh, yes, in Singapore you start talking about prices for products when in Germany we are still trying to define exactly what is wanted.

E: How amazing! I didn`t realize! I suppose we think it is a waste of time discussing something if the price is always going to be unrealistic.

C: I see.

E: Whereas in Germany you feel you can`t begin to think about price until you know all the details.

C: That`s right.

E: So, do you like Singapore?

C: Oh, yes, very much, especially the food. But I need to do some sport. I`ve put on two kilos already. Back in Berlin I play center forward for the company football team.

E: Really?

C: Yes, um …, anyway, um … .

E: Do you notice any other differences between business life here and in Germany?

C: Well, another difference is the flexibility that manager has here.

E: Flexibility?

C: Yes. In Germany it is very difficult to be a manager because every time you want to introduce a change in the organization or in communication process, you have to ask the Workers` Council for permission. This makes innovation very slow, which isn`t good for the employees at all.

E: So, what you are saying is that the Workers` Council in Germany makes things more difficult for employees, not easier?

C: Sometimes, yes.

E: That`s terrible!

Source: Schofield James, Osborn Anna. Collins English for Business Speaking. – London W6 8JB: HarperCollins Publishers, 2011, – 123 p., p. 12.

III. Complete phrases with words from the words below:

saying, that`s, mean, how, really, other, know, terrible

To show empathy:

1. I … what you mean.
2. …?
3. That`s …!
4. … so true.
5. … amazing!

To paraphrase:

6. So in …words …
7. So what you are … is …
8. So you …that …

Source: Schofield James, Osborn Anna. Collins English for Business Speaking. – London W6 8JB: HarperCollins Publishers, 2011, – 123p., p. 13.

IV. Group the expressions that show empathy under the correct heading, following the example:

1. That`s wonderful!
2. How terrible!
3. Fantastic!
4. That`s unbelievable!
5. That1s awful!
6. How amazing!
7. Great!
8. Oh, no!
9. How incredible!
10. That`s dreadful!

To show empathy about something good: *1*

To show empathy about something bad:

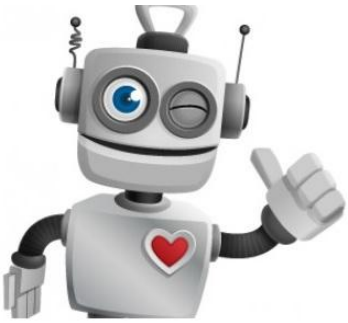
To show disbelief:

Source: Schofield James, Osborn Anna. Collins English for Business Speaking. – London W6 8JB: HarperCollins Publishers, 2011, – 123 p., p. 13.

V. Make the dialogue with your group mate, similar the ones represented in I. The topics of discussions can be different: university life, business, sport, entertainment, etc.

LESSON 11

ARTIFICIAL INTELLIGENCE



Task 1. Answer the following questions:

1. What do you know about artificial intelligence?
2. Where is artificial intelligence applied?
3. What technologies are subsidiary to the artificial intelligence sphere?

Task 2. Read and memorize the words that will help you understand the text:

1. artificial [ˌɑːtɪˈfɪʃəl] - искусственный
2. regard [rɪˈgɑːd] – считать, расценивать
3. exercise [ˈɛksəˌsaɪz] – работа
4. apply [əˈplaɪ] - применять
5. ancient [ˈeɪnʃənt] - древний
6. replicate [rɛplɪˌkeɪt] – повторять, копировать
7. appear [əˈpɪə] - появляться
8. neural [ˈnjʊərəl] - нейронный
9. probability [ˌprɒbəˈbɪlɪtɪ] - вероятность
10. mining information [ˈmaɪnɪŋ] – зд. поиск информации
11. value [ˈvæljuː] - оценивать
12. compare [kəmˈpɛə] - сравнивать
13. patterns emerging [ˈpætən ɪˈmɜːdʒɪŋ] – зд. возникающие совпадения
14. favorable [ˈfeɪvrəbl] - благоприятный
15. performance [pəˈfɔːməns] – зд. применение
16. bottleneck [ˈbɒtəlˌnɛk] – узкое место
17. genetic makeup [dʒɪˈnɛtɪk] – генетическая структура
18. nil [nɪl] - ноль
19. precision [prɪˈsɪʒən] - точность
20. hence [hɛns] – таким образом
21. endure [ɪnˈdjʊə] – выдерживать, противостоять
22. nadir [ˈneɪdɪə] – низшая точка

Task 3. Read and translate the text below:

WHAT IS ARTIFICIAL INTELLIGENCE?

Artificial intelligence (AI) is regarded as the possession of intelligence, or the exercise of thought, by machines such as computers. The term "artificial intelligence" is applied when a machine mimics "cognitive" functions that humans associate with other human minds, such as "learning" and "problem solving".

Since ancient times, people have been thinking of designing machines that will replicate human intelligence. The concept of *thinking machines* appears in Greek myths like the 'Talos of Crete'. *Artificial intelligence* was founded as an academic discipline in 1956.

Many tools are used in AI, including versions of search and mathematical optimization, neural networks and methods based on statistics, probability and economics.

AI is widely used for mining information. AI technologies make intelligent guesses, learn by example and use deductive reasoning. Some of the most popular methods used in **data mining** include: *neural networks, clustering and decision trees.*

Neural networks looks at the rules of using data. As a result it continually analyses values and compares it to the other factors. It continues comparison repeatedly until it finds patterns emerging. Clustering divides data into groups based on similar features. Clusters are used when data isn`t labeled in a way that is favorable to mining. Decision tree like clusters separate the data into subsets and then analyze the subsets to divide them into the further subsets.

One the data is mined it is cleansed, freed from the duplicate information and errors and stores in a uniform format.

The performance of data mining is being used for many purposes, such as analyzing different commissions decisions, resolving bottleneck in production process, pulling stories about competitors in newswires, analyzing sequences in human genetic makeup. There is no limit in the sphere where the process of data mining can be beneficial.

With artificial intelligence, the chances of error are almost nil and greater precision and accuracy is achieved. Artificial intelligence finds applications in space exploration. They are machines and hence have the ability to endure the hostile environment of the interplanetary space. They can be made to adapt in such a way that planetary atmospheres do not affect their physical state and functioning.

Intelligent robots can be programmed to reach the Earth's nadirs. They can be used to dig for.

Artificial intelligence can be utilized in carrying out repetitive and time-consuming tasks efficiently.

The advantages of AI are obvious, but it has its disadvantages as well. One of the main disadvantages of artificial intelligence is the cost incurred in the maintenance and repair. An important concern regarding the application of artificial intelligence is about ethics and moral values. Is it ethically correct to create replicas of hu-

man beings? Do our moral values allow us to recreate intelligence? Intelligence is a gift of nature. It may not be right to install it into a machine to make it work for our benefit.

Task 4. Match Russian and English equivalents:

1. exercise of thought	a. мыслительный
2. cognitive	b. природный дар
3. replicate	c. топливо
4. guesses	d. работа мысли
5. neural networks	e. дерево решений
6. repeatedly	f. дублировать
7. favorable	g. благоприятный
8. competitors	h. предположения
9. beneficial	i. межпланетное пространство
10.accuracy	j. конкуренты
11.interplanetary space	k. нейронные сети
12.fuels	l. точность
13.gift of nature	m. многократно
14.decision tree	n. благотворный, выгодный

Task 5. Make derivatives from the following words that are used in the text in Task 3:

design, possess, compute, think, cluster, apply, explore, be, maintain, form, precise, compete, differ, repeat, include.

Task 6. Mark the sentences as True or False:

1. Artificial intellect is human`s ability to learning and problem solving.
2. The official recognition of AL took place in the middle of the 20-th century.
3. There are five popular methods used in data mining.
4. Neural networks work is based on the principle of evaluating data.
5. The performance of data mining is limited.
6. AL technology is used both on the Earth and space.
7. The application of AL performs only positive results.

Task 7. Answer the following questions:

1. When did the idea of thinking machines appear?
2. What methods is AL based on?
3. What is the difference between *clustering* and *decision tree* methods?
4. What happens when data is mined?
5. Where is AL applied? How is its work characterized?
6. What are the disadvantages of AL idea?
7. What is your attitude to the AL application in general?

Sources: Internet Encyclopedia of Philosophy [Электронный ресурс]. – Режим доступа: http://www.iep.utm.edu/art-inte/ (время обращения: 08.03.2018).
Buzzle: [Электронный ресурс]. – Режим доступа: https://www.buzzle.com/articles/pros-and-cons-of-artificial-intelligence.html (время обращения: 08.03.2018).
Glendinning Eric H. Joun McEwan. Information Technology .- Oxford University Press, 2002. – 223 p. p. 22-23.

Project Tips

List pros and cons of using artificial intelligence. What list is longer?

What is your attitude to the computerization of society?

What are the prospects of its development?

GRAMMAR SECTION

Overview: Types of questions. *Used to / would* constructions.

Exercise 1. Make sure you remember the common names of the members in English sentence:

Таблица 20

QUESTION WORD (*What? Where? When? Why? How? Who?*)	**AUXILIARY VERB** (*do, does, did, will, have, etc.)*	**ADVERBIAL MODIFIER** (*today, yesterday, tomorrow, in the evening, quickly, gladly etc.*)
SUBJECT (*I, you, my teacher, drivers, etc.*)	**PREDICATE** (*am, is, are, will be, were, was, have, do go,*)	**OBJECT** (*I, you, cat, notebook,* etc.)

Consider the types of questions below:

1. General question (общий вопрос):

Таблица 21

Auxiliary verb	Subject	Predicate (main verb)	Object	Adverbial Modifier?

Examples:
Do you play tennis?
Did he offer you to sit?
Have you seen Cindy recently?

2. Special question (специальный вопрос):

Таблица 22

Question word	Auxiliary verb	Subject	Predicate (main verb)	Object	Adverbial Modifier?

Examples:
Who did you meet with?
Why did you meet Jane?
Where did you see this computer model?

3. Alternative question (разделительный вопрос):

Таблица 23

Auxiliary verb	Subject	Predicate (main verb)	Object	OR	Adverbial Modifier?

Examples:
Do you like tea or coffee?
Will you come at 7 or 8?
Are they producing mainstream or budget core models?

4. Subject question (вопрос к подлежащему):

Таблица 24

Who (Whom) What	Predicate (main verb)	Object	Adverbial Modifier?

Examples:
Who makes the best coffee in this restaurant?
What is the most essential part of the computer?
Whom was the first computer invented by?

5. Tag question (вопрос-переспрос):

Таблица 25

Subject	Predicate (main verb) *positive*	Object	Adverbial Modifier	,	Auxiliary Verb *negative*	Pronoun?

Examples:
You like web-design, don`t you?
The program installed well, didn`t it?
You won`t change the settings before I learn them, will you?

Exercise 2.

a) Read the sentences below. Determine the grammatical tense used. Choose the appropriate auxiliary verb for each sentences` tense. There are two extra auxiliary verbs you don`t need to use:

can	**are**	**did**	**had**
does	**has**	**should**	**do**
have	**will**	**were**	**is**

1. Decision trees are commonly used in operations research and operations management.
2. In Artificial intelligence symbols represent intelligent thought.
3. The practice of data mining helped to achieve good results in archiving and databases organizing.
4. Flexible electronic paper (e-paper) based displays were the first flexible displays conceptualized and prototyped.
5. The carbon copy of this document will be kept in a safe place.
6. Throughout history, it has been frequently assumed that robots will one day be able to mimic human behavior.
7. Topology can be formally defined as "the study of qualitative properties of certain objects (called topological spaces) that are invariant under a certain kind of transformation.
8. By early 2010 the term "3D printing" had referred to a process that deposits a binder material onto a powder bed with inkjet printer heads layer by layer.

9. Virtual reality (VR) uses virtual reality headsets or multi-projected environments.
10. You should study computer graphics if you want to work as a web designer.

b) Make all types of questions to these sentences.

Exercise 3. Put the words in a correct order:

1) you what computer do make prefer of?
2) printer can by install you the yourself all?
3) update often you how do you system operating?
4) do of you prefer printer laser ink-jet?
5) did for 2020 you when register Technology next the on IT conference?
6) texting like to you friends, your don`t you?
7) you know do best who?
8) you who best knows?

Exercise 4. Study the information about the use of *USED TO* and *WOULD* given below:

Таблица 26

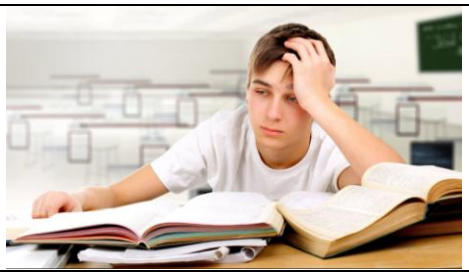
Use	**Examples**		
	+	**-**	**?**
USED TO is used for regular or repeated past actions, states or situations that are not true now.	In the past people **used to** keep information on diskettes.	In the past people **didn`t use to** keep information on in clouds.	Where did people **use to** keep information?
WOULD is used for regular or repeated past actions or situations (NOT STATES) that are not true now.	Some years ago students **would enter** the IT lesson wearing special uniform to prevent the electronic equipment from extra dust.	*WOULD in this sense is rarely used in the negative form*	*WOULD in this sense is rarely used in the questionform*

Exercise 5. Read the story of Charlie.

Charlie Thompson was the student of our University in 2005. He studied computing. He graduated from the University in 2010. He works as an IT manager and now planning to expand his business.

Compare his life in 2015 and now. Make the sentences from the prompts below using *used to* structures and *Present Simple* structures:

Таблица 27

in 2005	**now**
	
get up at 10.00	get up at 7.00
wear skinny jeans and T-Shirts.	wear linen suit and a luxury tie
go to the University by trolleybus	drive brand Mitsubishi car
reserved and stand-offish	communicative and friendly
spend holidays working as a waiter in the nearest pub	spend holidays on Caribbean sea
have much free time	have little spare time
his girlfriend/not understand	happily married, has 2 children
have a small scholarship	have a good salary
dreams about passing the exams successfully and fell asleep for 2 weeks.	dreams about making a new deal with Microsoft and inventing a new eco protective computer.

Example:
Charlie Thompson ***used to*** get up at 10.00. Now he ***gets up*** at 7.00.

Exercise 6.

a) Answer the questions below as: *Yes, I do; No, I don`t, No, but I used to***:**

1. Do you like junk food?
2. Do you plat sport regularly?
3. Do you study some other language?
4. Do you like computer games?
5. Do you like reading?
6. Do you often use social nets?
7. Do you watch video blogs?

b) Think of the time when you were younger. Finish up the sentences below:

I used to …_____.
I didn`t used to _____.
I would _____.

EVERYDAY ENGLISH

Is everything all right?

I. Read expressions below that are used to react on other people`s unsatisfactory conditions:

Oh, dear, you poor thing! – Бедняга!
Oh! It`s horrible when it happens. – Как это ужасно!
It serves you right than, doesn't it? – Я же тебе говорила, что так и будет!
That must be awful! – Это ужасно!
You only have yourself to blame, haven`t you? – Ты сам виноват!
Oh, I know what you mean! – Я тебя так понимаю!

II. Fill in the gaps in the dialogues below using the expressions from I. More than one answer is possible.

1.

A: Oh, dear, you are so pale! Did you have an early morning today? Late night last night?

B: Oh, yes, I didn`t sleep a wink and now I feel absolutely exhausted!

A: …. …. …… You should try to take milk with honey in the evening! It helps to sleep well.

B: Thank you darling, I will!

2.

A: Ugh! I can`t swallow anything! I have a sour throat!.

B: …….. You shouldn't have eaten that much ice-cream!

A: I know, I know! But what am I to do now?

B: You`d better take some pills and put a warm scarf on!

3.

A: Is everything all right?

B: Actually not. I have been playing computer games for few hours nonstop and now my neck is stiff!

A: …. … …. How can one be so thoughtless! Try warming the neck up! Stand up and do some exercises!

B: OK! Ouch! My leg is cramped! Never in my life will I play so much!!!

Source: Sue Kay, Vaughan Jones. Inside Out Upper Intermediate. – Macmillan, - 2009. - 157 p. p.44.

III. Act out a dialogue with you group mate.

Student A: You have one of the states: toothache/feel dizzy/got sunburn.

Student B: Express your feelings, give A advice.

LESSON 12

PROFESSIONALS IN COMPUTING

Task 1. Answer the following questions:

1. What are the names of professions in Computing world?
2. Which of these is the most/least difficult?
3. What profession in computing sounds the most appealing to you? Why?

Task 2. Read and memorize the words that will help you understand the text:

1. seek [siːk] - искать
2. sought [sɔːt] after – востребованный, популярный
3. stand out - выделяться
4. pursue [pəˈsjuː] – стремиться, преследовать
5. attain – достичь, добиться
6. a bachelor's [ˈbætʃələ] degree – степень бакалавра
7. engage [ɪnˈgeɪdʒ] – вовлекать
8. significant [sɪgˈnɪfɪkənt] – значительный
9. maintenance [ˈmeɪntɪnəns] – техническое обслуживание
10. smoothen [ˈsmuːðən] – сглаживать
11. associate [əˈsəʊʃɪˌeɪt] – соответствующий, соотносящийся
12. concern [kənˈsɜːn] - интерес
13. entry [ˈɛntrɪ] level– начальный уровень
14. possess [pəˈzɛs] – обладать
15. interrelate [ˌɪntərɪˈleɪt] – иметь взаимосвязь, пересекаться
16. highly beneficial [ˌbɛnɪˈfɪʃəl] – высоко престижный
17. overall [ˈəʊvərˌɔːl] – общий
18. vital [ˈvaɪtəl] – жизненно важно
19. lucrative [ˈluːkrətɪv] – прибыльный, выгодный

Task 3. Read and translate the text below:

WHAT DO COMPUTER PROFESSIONALS DO?

Today, the computer industry is one of the most sought after industries in the job market around the world. Further it also offers one of the widest ranges of jobs. The excellent growth potential in many of its career paths allows the computer profession to stand out from many of the other professions.

As a result, millions of students pursue computer education today, in order to attain a better future. So let's look at different career paths these students will be pursuing in a few years time. In other words let's have an idea of "what do computer professionals do?"

Computer professionals are engaged in various careers with significant differences among them. That is the list of some of them: Computer Engineer, Network Administrator, Database Administrator, Software Support Associate, Software Engineer, Interface Designer, Systems Analyst, Computer Programmer.

The individual workload of each role is totally different to another. Some provide day to day support and maintenance, some offer information security and networking, while some build software platforms to smoothen the activities of a business. However in the broad organizational context, all of them are involved in planning, coordinating and controlling the various uses of Information Technology to ensure efficient operation of an organization.

Many of the roles mentioned above require at least an associate degree in computer studies, with special focus in the area of concern, as the entry level qualification. Whatever your specialization is, you should also posses the fundamental knowledge in most of the above areas to be an effective computer professional. The reason is, it's all interrelated and the knowledge you have on other areas will be highly beneficial to provide effective solutions when you deal with problems in your selected specialization. For instance, a Computer Technician employed in a business organization is responsible for monitoring requirements of the firm and then designing, installing, and maintaining the company's computer systems including software and hardware. However in order to perform effectively as a Computer Technician, the overall understanding he/she has on other areas such as Database Administration, Information Systems Security is also vital.

In summary, a career in the computer field is highly lucrative and offers you potential to grow. There are so many career choices available in the computer field, so you have a range of options to select from, based on your diverse needs.

Source: Computers and Technology. [Электронный ресурс]. – Режим доступа: http://www.bizymoms.com/computers-and-technology/computer-professional.html (время обращения – 09.10.2017).

Task 4. Match Russian and English equivalents:

a. career path	1. выделяться, выигрышно смотреться
b. stand out	2. значительные отличия
c. pursue	3. обрести
d. attain	4. быть связанной
e. significant differences	5. объем работы
f. workload	6. направление профессионального развития
g. ensure	7. стремиться
h. interrelate	8. обеспечить
i. associate degree	9. требование
j. solution	10. решение
k. requirement	11. соответствующая степень

Task 5. What are these words are related to in the text above:

a) *Software Engineering;* ***b)*** *$50000;* ***c)*** *a Computer Technician;* ***d)*** *Information Systems Security;* ***e)*** *Network Administrator.*

Task 6. Match the computing jobs to their responsibilities:

1. Computer Engineer	is responsible for deals with	a) making sure that data analysts can easily use the database to find the information they need and that the system performs as it should
2. Network Administrator		b) physical characteristics of the interface: its colour, outline, style, etc.
3. Database Administrator		c) analysis of a company's current computer systems and procedures and figuring out a way the company can operate in a more efficient and effective way
4. Systems Analyst		d) creation of customized computer software for individual clients (analyzing the client's needs, designing, test, and developing

		the computer software).
5. Computer Programmer		e) the installation and updates to any software as well as install and maintain any hardware needed to operate the network.
6. Interface Designer		f) writing computer software (doing coding, programming).
7. Software Engineer		g) the design of logic and microprocessor systems, as well as computer architecture and computer interfacing.

Task 7. Mark the sentences as True or False:

1. Computer industry is less developed now than it was some years ago.
2. All the carriers in computing differ a lot.
3. The jobs mentioned in the text need a highly tailored degree in computer studies.
4. Carriers in computing is very prestigious.
5. Carriers in computing allows a wide range of carrier development.

Task 8. Answer the following questions:

1. What allows the computer profession to stand out from many of the other professions?
2. What do computer professionals exactly do?
3. What is the main aim of the computer professionals within organization?
4. What is necessary to be an effective computer professional?
5. Why is it important to possess the fundamental knowledge in most of the areas involved computing?
6. What is a Computer Technician responsible for?
7. In what way is Computer Technician connected with the other computing jobs?

Task 9. Read the text *How to Become an IT Manager* and fill in the missing nouns: *people, hardware, team, companies, maintenance, experience, software.*

HOW TO BECOME AN IT MANAGER

IT managers *manage* projects, technology and a) … . Any large *organization* will have at least one IT manager responsible for ensuring that everyone who actually needs a PC has one and that it works *properly*. That means taking responsibility for

the b) … of services and the *installation* of the new *software* and for staffing the help-desk and support group.

Medium to large c) … are also likely to have an IT system manager. They are responsible for developing and implementing computer d) … that supports the *operation* of the business. They are responsible for multiple development projects and oversee the implementation and support of the systems. Companies will have two of three *major* systems that are probably bought off the shelf and then tailored by in-house development e) … .

Apart from basic f) … and software expertise an IT manager will typically have over five years` experience in industry. Since IT manager have to take responsibility for budgets and for *staff*, employers look for both of these factors in any potential recruit.

Nearly all IT managers have at least a first degree. Interestingly, many of them don`t have degrees in computing science. In any case, the best qualification to become an IT specialist is g) … .

Task 10. Find the synonyms to the *italicized and underlined* words in the text.

Task 11.
a) Sort out the phrases below to fill in the gaps in the table below.

Profession	Scope of work
Interface Designer	
Network Administrator	
System Analyst	

- *consider all aspects of the user experience, the site's target customers;*
- *evaluate code, review scripting;*
- *control and monitor computer hardware and network infrastructure;*
- *check for security breaches;*
- *know "user workflow";*
- *create a specific experience of texts and images;*
- *developing cost analysis, design considerations, staff impact amelioration;*
- *design Web-based interfaces such as sites, applications, and games;*
- *make sure licenses for the programs are paid;*
- *learn the intricacies of new networking and server software packages;*
- *assess and design techniques to solve business problems;*
- *identify the organizational improvements needed.*

b) Use the prompts below to write descriptions of the following IT specialist professions: *Interface designer, Network Administrator, System Analyst.*

Interface designer is responsible for …
He deals with …
He needs ….

Project Tips

Imagine your position in 5 years. What would you do? What will you be responsible for? What will you future scope of work include? What aspects of job would you enjoy the most? Why? Present your ideas in the class.

GRAMMAR SECTION

Overview: Imperatives. Relative Clauses.

Exercise 1. Study the information about Imperative Mood given below.

Imperatives are commonly used to give instructions, orders, to worn or to encourage a person.

Below are the common forms of imperative:

Person	Affirmative	Negative
Second person (you)	Read	Don`t read
First person (I, We)	Let me read. Let`s read.	Don`t let me read. Let`s not read.
Third person (He, she, it, they)	Let them read.	Don`t let them read.

Exercise 2. Make these sentences negative:

1. Write this program.
2. Back up the information.
3. Translate the text.
4. Reload the computer.
5. Open the window.
6. Explain the issue.
7. Make the presentation.

Exercise 3. Make the requests using Imperative.
For example: Ask Tom to close the door. – Tom, close the door, please.

a) Ask Nick not to talk so loudly.
b) Ask your mother not to get up early tomorrow.
c) Ask Ann not to read at lunch.
d) Tell not to send him the order.
e) Tell Susie not to be so late.
f) Ask Jane not to waste money on sweets.
g) Ask your son to go to bed earlier.

Source: The Imperative Mood. URL: http://zdamsam.ru/a72660.html (время обращения - 10.01.18).

Exercise 4. Study this instruction for using the microwave oven and fill in the gaps with the suitable verb in a correct form: positive or negative imperative:
press, plug, choose, close, leave, put, place, skip, set, open.

How to choose a microwave oven:

1) a) … a microwave oven to fit your needs.
2) b) … in on a place: simple c) … out of the box and d)… it in.
3) e)… reading the manual: it contains much useful information.
4) f) … the front door.
5) g) … any plastic or styrofoam on an exterior surface of the microwave.
6) h) … a microwave-safe container on the rotating glass plate within.
7) i) … the door, j) … the Start button and let your meal heat until the microwave beeps.

✓ Relative clause – это придаточное определительное предложение. Оно входит в состав сложносочиненного предложения. Функция придаточных предложений – нести дополнительную информацию в предложение.

Example: Modem is a peripheral device. It is connected to the computer to provide the Internet connection. - Modem is a peripheral device **which** *is connected to the computer to provide the Internet connection.*

✓ Relative clause может присоединяться к главному предложению при помощи следующих местоимений:

Which - который, who - кто, that - что, whose - чей, who - кто,
when - когда, where -где, why – по причине чего

✓ Иногда местоимения **w**hich - который, who - кто, that - что могут опускаться. Если в придаточном предложении есть собственное подлежащее, которое не совпадает с главным, то местоимение может опускаться:

*Example: I found the site (that) you told me about. – «**that**» является местоимением, может опускаться.*

Если подлежащее придаточного предложения совпадает с подлежащим главного, то местоимение остается в предложении:

*Example: I found the site that was really useful. - «**that**» является подлежащим в придаточном предложении, оно обязательно остается.*

Если в придаточном предложении содержится информации, которая важна и значима для главного (defining relative clause), то такое придаточное предложение выделяется в запятые. Если придаточное предложение содержит не значимую, но дополнительную информацию? то такое придаточное в запятые не выделяется (non- defining relative clause).

Example: *The first computers, that were made in early 80-s, didn`t have agronomical design* (defining relative clause).

The first computers, that were a luxury, didn`t have agronomical design (non-defining relative clause).

Exercise 6. Fill in the gaps with the proper relative pronoun: *when, which, who, that, whose, where or why.*

1) Stephen Wozniak was a close friend of Steve Jobs … helped him to make first Apple computers.

2) BASIC is the language …/… was designed to demonstrate that not only professionals, but usual users can use computers, too.

3) You shouldn`t switch off the computer … updating of programs hasn`t been finished yet.

4) The search function will quickly show you … the document in computer is located.

5) The staff … portfolio is submitted in time will take part in professional training program.

6) The main reason … Messengers are used is that you can exchange short messages for free.

7) Excel tables is an electronic resource …/… greatly helps to work with numerical data.

Exercise 7. Rewrite the following sentences forming relative clause. Use the verbs in brackets.

1) My operating system is quite modern. It was updated 5 days ago (updated).

2) The button is used for setting the sound. It is located at the bottom of the screen (located).

3) Every morning the office is checked by the security system. It switches on automatically (switched on).

4) My bedroom is full of souvenirs. I have collected them on my business trips (collected).

5) My colleagues are very noisy. He works in the same office cubicle as me (working).

Exercise 8. Analyze the sentences below and put the punctuation where necessary.

a) My colleague sitting on my left is a talented analyst.

b) The operating system that was installed in our office computers was designed especially for corporate use.

c) The notebook case that I bought in a Hi-Fi department some months ago weighs around a kilo.

d) The walls colored beige by our designers make you calm and balanced.

e) The OHP set by our mechanic last week projects a crisp image.

EVERYDAY ENGLISH

Welcome Aboard!
Job Interview

I. Read expressions below that are typically used in Job interviews. Do people in Russia ask the same ranges of questions?

✓ ***The interviewer`s possible questions*:**

- Can you tell me a little about yourself? - Расскажите немного о себе.
- Why would you like to have this job? – Почему бы вы хотели работать здесь?
- Why do you think you are the right candidate for this job? – Вы считаете себя подходящим кандидатом на эту должность?
- What is your biggest accomplishment to date? – Какое ваше наиболее значительное достижение на сегодня?
- Why do you want to leave your current job/why did you leave your last job? – Почему вы оставили предыдущее место работы?
- Where else have you applied? – Куда еще вы отправляли резюме?
- Do you have any questions? – У вас есть вопросы?
- What are you future goals in this position? – Какие цели вы бы хотели достичь, работая на этой должности?
- Why should we hire you? – Почему мы должны взять вас на эту должность?
- How would your co-workers describe you? - Как бы вас описали ваши коллеги?

✓ ***The candidate`s possible answers:***

- I was born in Cleveland, I studied … in… - Я родился в Кливленде, учился в …
- This job offers interesting and challenging career in the sphere of IT. – Эта должность предлагает интересную и перспективную карьеру в сфере IT.
- I am skilled enough and have a good experience in this sphere. – Я обладаю достаточными навыками и опытом в этой сфере.
- I have participated in many international projects, like… - Я принимал участие во многих международных проектах, например, …
- I have completed my own research in the sphere of… - Я выполнил собственное исследование в сфере…
- I have good working knowledge in … - У меня приличные практические навыки работы в …
- As for my previous job, I believe … - Что касается моей предыдущей работы, я считаю…
- I don't feel I'm going anywhere in my current job. – Я не вижу перспективы работать на предыдущей должности
- I have got enough experience to move further on a career ladder. – У меня есть достаточный опыт, чтобы продвигаться дальше по карьерной лестнице.
- I have already applied in … - Я уже рассылал резюме в …
- Could you describe a typical day for me? – Опишите, пожалуйста, мой типичный рабочий день.
- What are the company's plans for future change and growth? – Каковы планы компании для будущего роста?
- I was reading about your training program and I was wondering whether the employee has any say in the training programs taken. – Я читал о вашей программе повышения квалификации и хотел бы узнать, могут ли сотрудники влиять на выбор программы обучения?
- What are the company's strengths? – Каковы сильные стороны компании?
- What happened to the previous person who held this position? – Что произошло с сотрудником, который работал на предлагаемой должности ранее?
- How many people have held this position in the past 2 years? – Сколько сотрудников сменилось на этой должности за последние 2 года?
- My hope is that I will have contributed to the success of the company and grown both personally and professionally within my position – Я надеюсь, что я внесу значительный вклад в успех этой компании как лично, так и в профессиональном плане, работая на предлагаемой должности.
- I have what it takes to solve problems and do the job. – У меня есть все необходимое для работы на этой должности и для решения возникающих вопросов.

- ❖ My colleagues have told me that I am extremely organized and excellent at time management. – Мои коллеги говорили, что я очень организованный и прекрасно разбираюсь в тайм-менеджменте.

Source: Best-Job-Interview. com, URL: https://www.best-job-interview.com/online-interview-questions.html (время обращения - 09.01.18).

II. Consider the features below. Which of them are desirable for the future employee? Which ones are considered less suitable for success at work? Prove your opinion. Use the examples below:

Example: I believe that to be self-motivating is really important for an employee, as he/she is always ready to work enthusiastically, does the best at work and doesn`t need to be stimulated.

hardworking, communicative, self-motivating, adaptable, pushy, helpful, reserved, honest, ethical, humorous, polite, indecisive, punctual, talkative, avoid gossips, egocentric, energetic, down-to-earth, sensitive, sensible, trustworthy, positive, loyal, deep thinker, creative, sluggish.

III. Below are the most common questions asked on job interviews. Choose the most appropriate answer. Explain your choice:

1) Why would you like to have this job?

a) I` ve been dreaming about this position for all my life! I am sure I will be terrific at this job!!!

b) As far as I can see from the history of your company`s success, I think I have enough skills and experience to contribute to its development.

c) The salary is very high! Where else can I earn so much!

2) Why did you leave your last job?

a) Actually, I have been making some mistakes, and generally, I believe my boss was annoyed with me.

b) I think I`ve had good experience on my job and now I would like to try myself in a bigger team and more challenging position. Anyway, my company is undergoing some management changes at the moment.

c) To say the truth, it is my dream job! I liked my former position, but when I say this vacancy, I couldn`t miss the chance.

3) Where else have you applied?

a) I is the first position I`ve applied.

b) I`ve applied for some other jobs with the similar requirements, but the post in your company is number one in my list.

c) I`ve found many vacancies in different spheres. I would like to have a big list to choose from.

4) Do you have any questions?

a) Why is this position open? Is it a new role?

b) When can I expect to hear from you?

c) When will I have my vacation?

5) What are you future goals in this position?

a) To take up your post!

b) I would like to learn something new and useful!

c) I feel that I will help your company to achieve new heights.

IV. Read the interview below. Fill in the gaps with the sentences that follow:

how long did you work there? how long have you been out of work; what have you been doing since you left your job? how many jobs have you applied for?
there are some points we would like to discuss; when can I start? I started off as a machine operator; will I have to work in an office all day?

Interviewer: Hello, Greg! Come in, take a seat, please.

Greg: Hello!

Interviewer: How are you?

Greg: Fine, thank you, and you?

Interviewer: I`m all right. OK, Greg. We have looked through your CV and a) … .

Greg: Yes, sure!

Interviewer: b) …?

Greg: Well, for about a month. 600 people were laid off at once.

Interviewer: And what exactly did you do before?

Greg: Well, c) … and then I became a chief foreman in charge of 100 people.

Interviewer: Really? d) …?

Greg: Actually, for three years.

Interviewer: And what did you do before that?

Greg: I was in the navy, I joined when I left school. Then I Computer Training Program in Leeds University and worked in Engineering Workshop for a year as a trainee consultant.

Interviewer: e) … ?

Greg: I`ve been trying to apply for a job I need, visiting interviews, feeling the forms. I have also been working as a freelance taxi driver.

Interviewer: f) …?

Greg: Around 10, but there are not so many opportunities.

Interviewer: Well, your qualifications are quite good, and you have good job experience. Have you ever thought about working in a computer service center?

Greg: Well, I am not sure that I am cut out for that. g) …?

Interviewer: Not necessarily, sometimes you will work outside, on a plant, office or building site.

Greg: Well, it sounds good. Tell me more about the vacancy.

Interviewer: Greg, you will have a probation period for a week and then hopefully we will hire you.

Greg: OK, h) … ?

Interviewer: Ok, Welcome aboard! The job concerns the following…

Revision (Units 5-12)

1. Match Russian and English equivalents:

1. switch	a. стремиться
2. wireless	b. третичный
3. deliver	c. сочетание клавиш
4. pursue	d. наушники
5. keypress	e. разнообразие
6. variety	f. выделять жирным шрифтом
7. headphones	g. обладать конструктивной особенностью
8. application	h. разнообразный
9. tertiary	i. переключатель
10. versatile	j. взаимодействовать
11. volatile	k. искусственный
12. semiconductor	l. точность
13. high-definition	m. восходящий
14. precision	n. диапазон частот
15. bold	o. приложение
16. upstream	p. беспроводной
17. artificial	q. Высокое разрешение
18. bandwidth	r. энергозависимый
19. interrelate	s. полупроводник
20. feature	t. доставлять

2. **What do these abbreviations stand for? Give their Russian equivalents:**
vice versa, etc., i.e., AI, a.m., p.m.

3. Fill in the gaps with the words in italics below:
outdated shrink forefront high-definition artificial intelligence silicon chips simultaneously firmware

1. Disk drives and flash drives are … elements of the tower, so you can rarely see them on the modern makes of PCs.
2. …. , usually called a computer program is normally embedded in a hardware device, for example a microcontroller.
3. Bionics nowadays is on the … of engineering systems and modern technology development.
4. This one small flat piece of semiconductor material, that integrates a number of tiny transistors and make the work of computer cheaper and faster are called … .
5. To remove unused pages and recover disk space specialists advise to … Database and database files.
6. The possibilities of … are so huge that it can outperform humans at such tasks like playing chess or solving equations.
7. Modern computers can perform millions of operations … .
8. … resolution means the picture has the pixel density and, theoretically, the sharper image depiction.

4. Match the beginnings and the endings of the sentences:

1. Digital Subscriber Line connection	a) if the flashing process is interrupted
2. Coaxial Cable used by cable TV	b) nanotechnology to shrink the size of silicon chips increasing speed and power
3. The device will not boot up	c) differs from mechanical ones
4. The modem	d) that will allow people to communicate from a distance by thinking
5. In the near future, computers will use	e) improves thanks to development of semiconductors technology
6. Scientists conduct researches	f) provides much greater bandwidth than telephone lines
7. The storage capacity of flash cards	g) converts analogue to digital signals and vice versa
8. Optomechanical mice	h) will not tie up your phone line

5. Mark the sentences as True or False. Find the information in the Units 5-12 to prove your choice:

1. The mouse was introduced to the marked in the middle of the 20^{th} century.
2. The most popular and widespread input device is a monitor.
3. Flat panel monitors usually use cathode ray tube technology.
4. Expansion slot contains audio card that helps to produce audio signals.
5. Based on the performance there are three types of storage devices.
6. When computer is switched off the information in RAM retains.
7. RAM is non-volatile form of memory.
8. DVD drives have much more capacity than CDs.
9. Dial-up access internet connection obligatory uses telephone line.
10. The main advantage of upgradable firmware is that it enhances the functionality of digital devices.
11. Clustering deals with continual analyses of values and comparison it to the other factors.
12. To be a highly qualified specialist in Computing you need to have fundamental knowledge in many areas and be deeply interested in the scope of specific your work.

6. Translate the following sentences into English.

1. Самые важные устройства ввода - это клавиатура и мышь.
2. Клавиши клавиатуры выполняют функцию электронных переключателей.
3. Существуют два основных типа мониторов: мониторы с катодно-лучевой трубкой и мониторы с плоским экраном.
4. На сегодняшний день жесткие диски являются частью процессора компьютера.
5. Wi-Fi соединение использует полосы радиочастот.
6. Кабельный интернет использует разные каналы для нисходящей и восходящей передачи сигнала.
7. С помощью использования технологий квантовой механики можно будет значительно увеличить возможности компьютеров.

7. Answer the following questions:

1. What influences the improvement of internet connection within the last decade?
2. Can input device function as output device? Can you give example?
3. What can refer to primary/secondary storage devices? Give examples.
4. What is the main advantage of Blue-ray discs?

5. What is firmware? What prospects does it give to a user?

6.What kind of technology are the future computers based on?

7. What improvements do you thing are of prime importance in today`s world of computer technology?

8. Name the professions in computing that ate usually involved in the operation of any company.

9. What are the methods used in data mining?

GRAMMAR SECTION

1. Choose the correct variant of the words in bold:

1. I was **interested/interesting** by the new prospects of TeamVeiwer technology.
2. The check up **conducting/conducted** by our research team didn`t reveal any defaults.
3. You should use the instructions **giving/given** on page 5 of this manual.
4. The photos of the new robotics **showed/showing** in the slide depict the power of human intellect.
5. This program **compressing/compressed** the data was proved to be up market today.
6. My computer has **more/much** capacity that yours.
7. The computers with touch screen technology are much **more popular/ popularer** today.
8. Ten years ago you needed **more/less** time to complete this computation than you do today.
9. What is the **most/more powerful** computer on the market today?
10. I need to work on the program a bit **longer/longest** to work out the algorithm.

2. Put the verbs in brackets into appropriate tense of Active Voice:

1. Where you (to go)? — I (to go) to the stadium to see the match which (to take) place there today.
2. You (to know) that a very interesting match (to take) place last Sunday?
3. He (to go) to the south a week ago.
4. When I (to be) about fifteen years old, I (to enjoy) playing football.
5. Our football team (to win) many games last year.
6. Where Boris (to be)? — He (to play) chess with his friend.
7. I (to be) sorry I (to miss) the match yesterday. But I (to know) the score. It (to be) 4 to 2 in favour of the Russian team. I (to be) absolutely happy.
8. I (to think) Nellie (to leave) for Moscow tomorrow.
9. I (to be) in a hurry. My friends (to wait) for me.
10. You (to be) at the theatre yesterday. You (to like) the opera? — Oh yes, I (to enjoy) it greatly.
11. We (to expect) you (to go) to London next summer.
12. Her English (not to be) excellent, but she (to work) on it.
13. A week ago they (not to know) what to think.
14. She (to worry) a lot at the moment, but the problems (not to be) very great.
15. Last Tuesday he (to be) upset and (to have) no idea where to go.
16. Could you tell me the way to Trafalgar Square? I (to go) the right way?

Source: The English Fun. [Электронный ресурс]. – Режим доступа: http://englishinn.ru/bazovyie-vremena-v-angliyskom-yazyike-uprazhneniya-dlya-nachinayushhih.html (время обращения - 09.05.2017).

3. Choose the correct variant of the verb forms:

1. The last time the computer _____ was an hour ago.
   a) was being reloaded

b) has been reloaded
c) was reloaded

2. The management is planning that the upgraded antivirus program _____ next year.
   a) is launched
   b) will be launched
   c) will have been launched.
3. This application _____ for three times already and now I guess what is wrong with it!
   a) has been restarted
   b) is restarting
   c) was restarted
4. Did you take part in the conference yesterday?- Yes, my report _____to with attention.
   a) was been listened
   b) has been listened
   c) was listened
5. Can you show me how the system _____?
   a) will be being debug
   b) is debugged
   c) debug
6. IBM is a well-known company _____ in 1911, far before the first computer____.
   a) was creating, was made
   b) had been created, was made
   c) was created, was made
7. Before my system files _____ I made a reserve copy of them.
   a) had been deleted
   b) is deleted
   c) will be deleted
8. Make sure your computer system _____ before using it.
   a) will be being protect
   b) have been protected
   c) is protected

4. Match the beginnings and the endings of the sentences:

1. If I go on a diet	a. we'll make a snowman.
2. If it's sunny tomorrow	b. I'll buy you some sweets.
3. If John doesn't hurry	c she'll have to take a taxi.
4. If it snows	d. I'll lose weight.
5. If there are no buses	e. he'll be late.
6. If you are a good girl	f. we'll go for a picnic.

Source: The English Fun. [Электронный ресурс]. – Режим доступа: http:// englishinn.ru/ conditionals-uprazhneniya .html (время обращения - 09.05.2017).

5. Finish up the sentences using your own ideas and the proper form of the conditional:

1. If it doesn't rain soon … .
2. I'll stay at home if … .
3. I wouldn't have come to the theatre on time if …

4. If I left home for work earlier ….
5. If I won a prize … .
6. If I told my parents the truth ….
7. If I were you ….
8. If I were rich ….

Source: The English Fun. [Электронный ресурс]. – Режим доступа: http:/ /englishinn.ru /conditionals - uprazhneniya.html (время обращения - 09.05.2017).

6. Complete the text with the correct participle form of the verb in brackets.

1) … (sit) in my penthouse suit on the 76-th floor I have a wonderful view of the city and of the ships 2)… (go) up and down the river. My company headquarters, 3) … (occupy) the other 75 floors, are conventionally placed under my feet, and the whole building is the landmark of the city, 4) … (admire) by architects around the world. 5) … (fit) with all the latest energy-saving devices, the building has won many awards. As I am the owner of a company 6) … (specialize) in green forms of energy and 7) … (know) for its interest in the environment, I am naturally very happy with my home.

Source: Sue Kay, Vaughan Jones. Inside Out Upper Intermediate Workbook, – Macmillan, - 2009. 96 p.p. 68.

7. Put the words in a correct order to make questions:

1. was when invented the computer first ?
2. the are friendly modern ecologically computers more ?
3. input is screen or touch device output ?
4. instead what diskettes used was early in days?
5. you study don`t you hard ?
6. write you can yourself programs ?
7. the what of is first language name compute the ?

Answer the questions above.

EVERYDAY ENGLISH

Match the Russian and English equivalents:

1. My congratulations on your anniversary	a. Я старался
2. Well done	b. Понимаю
3. I did my best	c. Почему мы должны принять вас?
4. I have got to go	d. Подтверждать встречу
5. Take your time	e. Возьмите
6. Will you pay cash	f. Не спеши
7. Here you go	g. Это невероятно
8. Flight is boarding	h. Молодец
9. to confirm our appointment	i. Поздравляю с юбилеем
10. I am looking forward to it.	j. Я же говорила, что так и будет.
11. That`s unbelievable	k. Производится посадка на рейс
12. I see what you mean	l. Мне пора идти
13. Why should we hire you? –	m. Вы будете оплачивать наличными
14. It serves you right	n. Жду с нетерпением встречи

TEXTS
FOR SUPPLEMENTARY READING

LESSON 1
TEXT 1

HEALTH TIPS FOR COMPUTER USERS

If you are a regular computer user then you are prone to several health risks which can prove to be dangerous. Various computer related jobs like *data-entry, programming, animation, DTP, blogging etc.* requires you to sit in front of computer for a long period of time.

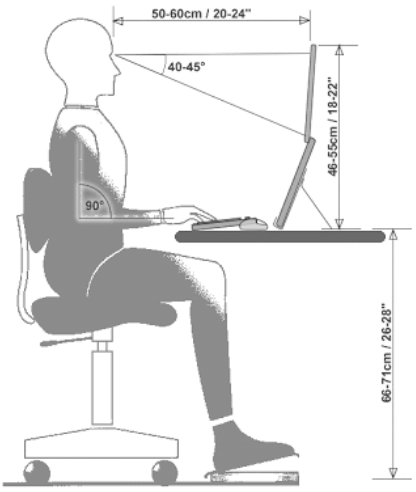
Even if you don't fall in above categories but use computer for a considerable amount of time, *we* strongly advice you to consider the following health tips which are really important if you want to avoid health problem later on in your life. If you don't know how a computer can affect your health, these are some of the common health problems which you can face if you use computer for a longer period.

Computer related illness:

1. Backbone(spine) problems
2. Eye related problems
3. Neck pain and neck related headaches
4. Spinal cord damage

Important health tips for regular computer users.
Improve your body posture.

Wrong body posture can lead to back pain and back bone problems. Moreover a poor posture can lead to loss of shoulder motion, leg related problems, chronic pain, inability to exercise and more.



The following are important considerations when attempting to maintain a proper body posture while working on computer:

1. Always use an *ergonomic* computer chair;
2. Always try to sit in an erect position;
3. Make sure that your back is fully supported with the backrest. Adjust the backrest so that it supports the pelvis, vertebral disk in the lumbar region and the upper body and provides balance for spinal column, relaxation to back muscles and relief to vertebral disks;
4. Shoulders should be relaxed, upper arms should hang normally at the side of the body and elbows should stay close to the body and should be bent around 90 degrees to create a good body posture;
5. Adjust your computer monitor such that it is directly in front of you with your head, neck, and torso facing the screen;
6. Set keyboard, mouse and other frequently used devices at a comfortable position.

Maintaining a good posture helps in decreasing abnormal wearing of joints, lessens stress on ligaments of the spine, prevents the spine from becoming fixed in abnormal positions, prevents muscular pain, neck pain and backache.

Source: Jabroo. [Электронный ресурс]. – Режим доступа: https://jabroo.blogspot.ru/2011/11/health-tips-for-computer-users.html (время обращения - 11.06.2017).

LESSON 1
TEXT 2

COMPUTER LITERACY

Computer Literacy is a person's ability to use computers, programs, and other technology in an efficient manner. A person's comfort level with specific technology or programs is also a part of computer literacy. Understanding how a computer or technology work is also a key part of computer literacy. The exact definition of computer literacy varies depending on who it is referring to. Someone who is a professional computer user may be considered computer literate because they have had extensive exposure to the technology and have learned how to use it effectively.

Computer Literacy Skills:

Computer skills can be broken down into three different categories. These categories are:

1. Computer Fundamentals;
2. Intermediate Computer Literacy Skills;
3. Advanced Computer Literacy Skills.

Fundamental skills are usually those that relate to the computer itself and the basic skills needed to operate programs. Fundamental skills include turning the com-

puter on and off, knowing the different parts of a computer, being able to print documents, use of e-mail and the Internet, and accessing files saved to the computer.

At the intermediate level, users are considered "functional." The actions that fall into this category include knowing the difference between different types of computers, backing up data, use of social networking sites. Users in this level also know how to install and remove software on the computer.

Finally, at the advanced level users are considered literate. At this stage users are able to troubleshoot computer problems, write computer programs, and use computer coding.

As technological advances continues to change it is important that people are computer literate. Many schools have started exposing children to computers and software at a very early age. It is important that people are computer literate not only because they can use the technologies in their personal lives with personal computers, but also those with computer literacy will have greater opportunities in the work force as more and more careers require the use of these different technologies.

Source: Paper Masters. [Электронный ресурс]. – Режим доступа: https://www.papermasters.com/computer-literacy.html (время обращения - 15.05.17).

LESSON 2
TEXT 1

GRAPHICAL USER INTERFACE

A graphical user interface is a human-computer interface that is graphical (rather than purely textual) user interface. GUI uses images, window, icons, buttons, menus etc. which can be manipulated by a mouse.

GUI is more user friendly than command line interface (CLI) as user interacts by using a mouse rather than by having to type in commands. Also users don't have to remember lot of commands and thus it becomes easier for the user to learn and use the system. GUI is often pronounced as "Gooey".

GUI definition:

Graphical user interface is a type of user interface that allows users to interact with electronic devices with images rather than typing text commands.

Today's major operating systems provide a graphical user interface. Although GUI are more user friendly, they are not as flexible and robust as CLI. For example, multiple CLI commands can be combined using pipes to perform tasks that would be much more cumbersome to perform with GUI programs and no GUI tool can replace file attribute-matching schemes of find command (a UNIX command) to locate files.

Source: IT Definitions. [Электронный ресурс]. – Режим доступа: https://www.defit.org/gui/(время обращения - 15.05.17).

LESSON 2
TEXT 2

DATA AND INFORMATION

Data is a raw fact. Data is the plural of datum, however people prefer to use the term ‘data’ for both singular and plural form. Data can be converted into information by performing various operations on it as per the requirement. Computer programs are used to analyze and process data.

Data definition:

Data are facts or statistics which can be of qualitative or quantitative nature. In other words, data means values or set of values. There can be various types of data. The way in which the data are stored and organized in a computer is called data structure.

Data type refers to the kind of data. The data type in programming refers to what kind of data a variable or a programming element can hold and how that data is stored. Data type is used for classification and differentiation of various types of data.

Data type definition:

Data type is the data storage format that contains similar type of values or set of values.

Almost all programming languages have the concept of data type, though different languages may use different terminology for it.

Common built-in data types may include:

1. integers;
2. characters;
3. booleans;
4. floating-point, etc.

Various categories of data types are:

1. built-in data type;
2. user defined data type;
3. derived data types.

Information is processed data. Information is the message or expression being conveyed. Information is data presented in way which conveys a specific meaning and is relevant.

Technology related with information is called information technology. Information is the data that has been transformed into output (that is valuable to users) by performing some operation on it.

In other words, information is data with its attributes. Data can be converted into useful information by processing it as per the requirements.

Source: IT Definitions. [Электронный ресурс]. – Режим доступа: https://www.defit.org/data-type/ (время обращения - 15.05.17).

LESSON 2
TEXT 3

SHELL AND COMMAND LINE INTERFACE (AS ONE OF SHELL TYPES)

The shell or *command shell* is a software program that provides direct communication between the user and the operating system. The term shell is also rarely applied to a software that is built around a particular component or for a software that provides a user interface for another program.

Shell definition:

A shell is software that provides an interface between users and operating system of a computer to access the services of a kernel.

There are two types of shell:

1. Command-line shell (eg. Bash (sh), Command Prompt (cmd), C shell, Bourne shell, Korn shell (ksh) etc.);
2. GUI Shell (eg. Windows Explorer or Windows Shell).

A third type of shell is recently developed — a GCLI (Graphical Command Line Interface) shell. A GCLI shell combines the features of both CLI and GUI shell and provides an interface which is both user-friendly and powerful.

A command-line interface (CLI) is an interface between the user and a program. GUI was not supported by early operating system and text-based commands were used for communication between user and the computer.

CLI system does not have mouse as an input device and generally keyboard is used for input where the messages are sent by typing a command and then by pressing the enter (return) key. After a command is processed, a new prompt is issued for accepting next instruction from the user.

CLI definition:

Command line interface is an interface between user and computer where a line of text (called command line) is passed between the two for communication.

The image represents cmd.exe which provides command-line interface in Microsoft Windows OS. *Unix* and *Linux* has a command interpreter called *Shell for CLI.*

CLI operating systems are not used (or less used) now as GUI operating systems have gained popularity for its user friendly environment. In a GUI operating system, the user responds to graphic images and controls like buttons, text-box, radio-button etc. on the screen instead of typing in commands in response to a prompt.

Source: IT Definitions. [Электронный ресурс]. – Режим доступа: https://www.defit.org/command-line-interface/ (время обращения – 28.05.2017).

LESSON 3
TEXT 1

DESKTOP COMPUTER OR A LAPTOP (PALMTOP)?

A palmtop or PDA *(Personal Digital Assistant)* is a very small computer that can be hand-held and carried in the pocket. Palmtops feature a small LCD screen and a compresses keyboard. But compared to a desktop computer, palmtop has a limited scope.

Palmtops can be used to perform basic tasks. It offers personal organizer, diary, address list and calculator. Some models are programmable and can support file transfer to larger host computers.

Because of the small size, most palmtop computers do not include disk drives. However, many contain PCMCIA slots in which we can insert disk drives, modems, memory and other devices.

Major disadvantages of the palmtop computers are as follows:

1. it has a very small screen, less memory and limited features compared to a desktop computer;
2. they have less functionality than desktop computers;
3. it's a small version of the desktop computers which can't run a full size operating system nor use a fast chip due to battery constraints.

Advantages of desktop computers over laptops are as follows:

1. a desktop computer tends to be cheaper than a laptop computer of similar specification;
2. a desktop computer usually has bigger monitor;
3. a desktop computer is more easy to upgrade. there's more space for new pci cards and ide disks to fit into;
4. faulty accessories and components on a desktop are easy to replace, sometimes without even opening the case;
5. the desktop computer has a more comfortable keyboard than a laptop;
6. the desktop computer has a nice mouse. though we can add such mouse in laptop too using usb port;
7. a desktop computer doesn't get stolen very much compared to a laptop computer;
8. laptop is smaller and therefore more prone to damage;
9. replacement parts for laptops of some companies are not generic. you must get parts from the original manufacturer.

So the conclusion is: Desktop computer for Power and Laptop for Portability.

Source**:** Jabroo. [Электронный ресурс]. – Режим доступа: https://jabroo.blogspot.ru/2013/06/desktop-computer-advantages-over-laptop.html (время обращения - 15.05.17).

LESSON 3
TEXT 2

MODULE AND MODULARITY

In software engineering, a module is a part of a program. Programs are composed of one or more independently developed modules that are combined when the program is linked.

Module is an independent separable component or part of a system (software or hardware).

Few fundamental features of a module are as follows:

1. self-contained;
2. highly cohesive;
3. loose coupling.

Modularity is a frequently used term in information technology and computer science. Modularity refers to the concept of making multiple modules first and then linking and combining them to form a complete system. Modularity enables re-usability and minimizes duplication.

In addition to re-usability, modularity also makes it easier to fix problems as bugs can be traced to specific system modules, thus limiting the scope of detailed error searching. Modular programming is an extensively used concept based on modularity. Modularity is also a feature of object oriented programming.

Modularity is the degree to which a system's components are made up of relatively independent components or parts which can be combined.

The figure shows modules of a puzzle which can form different shapes when they are placed at different places. The modules can be moved freely without affecting the functionality of other modules but it changes the system's shape (functionality).

Source: IT Definitions. [Электронный ресурс]. – Режим доступа: https://www.defit.org/modularity/ (время обращения - 15.05.17).

LESSON 4
TEXT 1

READ ONLY MEMORY (ROM) AND RANDOM ACCESS MEMORY (RAM)

ROM (Read-Only Memory) is a computer memory on which data can be recorded only once. Once data has been written on ROM, it cannot be deleted but can be read as many times as required.

ROM mainly contains firmware software which is generally prerecorded by the manufacturing company.

ROM definition:

Read Only Memory (ROM) is computer memory that permanently stores data and programs. These programs are mostly of critical nature such as the program that boots the computer.

Unlike RAM, ROM retains its contents even if the power is turned off and thus it is a non-volatile memory.

Various types of ROM are:

1. PROM (Programmable ROM);
2. EPROM (Erasable ROM);
3. EEPROM (Electrically Erasable ROM).

Note: ROM is often used in other devices such as calculators.

RAM is a type of computer memory. It stands for Random Access Memory. It is often called primary memory or main memory of a computer. It is the most common type of memory found in computers and other electronic gadgets and devices like smart-phones, printers, tablets etc.

It is a type of memory which can be accessed randomly and thus is known as random access memory.

RAM definition:

RAM is a volatile memory which stores the data, instructions and results of the program currently being executed by the processor and the temporary data which is frequently used.

RAM is often called a volatile or temporary memory because the information stored in RAM is lost if the power supply is turned off.

The two main types of RAM:

1. Static RAM (SRAM);
2. Dynamic RAM (DRAM).

Note: While the term ‘main memory’ is mostly referred to RAM, sometimes the term can also be used to collectively describe RAM, cache memory and ROM.

Source: IT Definitions, [Электронный ресурс]. – Режим доступа: https://www.defit.org/ram/ (время обращение – 11.06.2017).

LESSON 4
TEXT 2

ENCRYPTION

Encryption is a process in which information is converted into a form which cannot be understood by unauthorized user. Encrypted data cannot be read or understood by anyone except those possessing special key which works like password.

The result of the encryption process i. e. encrypted information is referred to as cipher-text in cryptography. Generally encryption is used to make confidential or personal data safe and secure from other persons.

Encryption definition:

Encryption is the process of encoding information so that is cannot be accessed by other unauthorized users unless they have the secret key.

Example of encryption:

Consider a person XYZ who keeps on forgetting his email account password. Now XYZ decides to store his password in a password.txt file on his computer so that whenever he forgets his password he can open password.txt and get his password. But problem arises now because he is not the only person who uses his computer. If some other user finds his password then that user will easily get access to XYZ's account. To solve this problem person XYZ stores his password by replacing each alphabet and number of his password by its successive alphabet and number.

Original password: abc123
<---Encryption Process--->
Encrypted password: bcd234
<---Decryption Process--->
Original password: abc123

Now even if other user finds the file password.txt, they cannot access XYZ's account because only XYZ knows the method of getting back the original password from the encrypted password. This was just a simple example, in fact various algorithms are used in industry to carry out encryption process.

The process of converting an encrypted data back to its original state is called decryption. Encryption is extensively used in computer science field and many software are available for encryption.

Source**:** IT Definitions. [Электронный ресурс]. – Режим доступа: https://www.defit.org/encryption/ (время обращение – 11.06.2017).

LESSON 4
TEXT 3

SOFTWARE TYPES

What is computer application software, and how does it differ from other categories of software? Let's consider some examples of application software and how they are used.

The term 'software' refers to the set of electronic program instructions or data a computer processor reads in order to perform a task or operation. In contrast, the term 'hardware' refers to the physical components that you can see and touch, such as the computer hard drive, mouse, and keyboard.

Software can be categorized according to what it is designed to accomplish. There are two main types of software: systems software and application software.

Systems Software:

Systems software includes the programs that are dedicated to managing the computer itself, such as the operating system, file management utilities, and disk operating system (or DOS). The operating system manages the computer hardware resources in addition to applications and data. Without systems software installed in our computers we would have to type the instructions for everything we wanted the computer to do!

Applications Software:

Application software, or simply applications, are often called productivity programs or end-user programs because they enable the user to complete tasks, such as creating documents, spreadsheets, databases and publications, doing online research, sending email, designing graphics, running businesses, and even playing games! Application software is specific to the task it is designed for and can be as simple as a calculator application or as complex as a word processing application. When you begin creating a document, the word processing software has already set the margins, font style and size, and the line spacing for you. But you can change these settings, and you have many more formatting options available. For example, the word processor application makes it easy to add color, headings, and pictures or delete, copy, move, and change the document's appearance to suit your needs.

Microsoft Word is a popular word-processing application that is included in the software suite of applications called Microsoft Office. A software suite is a group of software applications with related functionality. For example, office software suites might include word processing, spreadsheet, database, presentation, and email applications. Graphics suites such as Adobe Creative Suite include applications for creating and editing images, while Sony Audio Master Suite is used for audio production.

A Web browser, or simply browser, is an application specifically designed to locate, retrieve, and display content found on the Internet. By clicking a hyperlink or by typing the URL of a website, the user is able to view Web sites consisting of one or more Web pages. Browsers such as Internet Explorer, Mozilla Firefox, Google Chrome, and Safari are just a few of the many available to choose from.

Source: Study.com. [Электронный ресурс]. – Режим доступа: http://study.com/academy/lesson/what-is-application-software-definition-examples-types.html (врем обращения - 28.05.2017).

LESSON 5
TEXT 1

INPUT CABINET OF CURIOSITIES

Designers have been playfully creative in finding ways for humans to talk to machines. They've given us keyboards, mice, trackballs, joysticks, tablets, switches, gloves, light pens, microphones, cameras, and more. Each is best for a particular application.

It is still an active area for innovation, so watch for even more creative ideas in the future. Brain wave analysis, maybe?

Below are the presentations of unusual input devices that where the predecessors of the modern ones:

The RAND Tablet (Puc.1)

This was among the earliest devices for capturing handwriting and drawings. A grid of wires under the surface transmitted coordinates to the stylus above.

Fig. 1

MyTobii P10 non-target eye tracking system (Puc. 2)

The MyTobii P10, made for people with physical disabilities, is a computer that receives input by tracking the user's eye movements.

Рис. 2

Focusing light pen *(Puc. 3)*

Early light pens were not accurate enough for graphics. John Ward designed a pen with a focusing lens for the ESL Display Console ("The Kludge"). It was used for some of the earliest computer graphics research.

Fig. 3

Joystick for gaming applications (Puc. 4)

TG Products, founded in 1980, claimed to have 70 percent of the joystick market for Apple computers by 1983.

Рис. 4

Scanman II rolling scanner (Puc. 5)

This portable scanner produced an image of any surface over which it was rolled. Documents wider than the device had to be scanned in consecutive bands.

Fig. 5

Spaceball controller (Puc.6)

The Spaceball controller allows you to move and rotate a simulated object as if you were holding it in your hand.

Рис. 6

Altair 8800 (Puc. 7)

The basic Altair 8800 had only toggle switches and binary lights for input/output. Yet it was the first microcomputer to sell in large numbers: more than 5,000 in the first year. Most customers were hobbyists, who tolerated a primitive interface.

Fig. 7

Source: Computer History Museum. [Электронный ресурс]. – Режим доступа: http://www.computerhistory.org/revolution/input-output/14/352 (время обращения - 28.05.2017).

LESSON 5
TEXT 2

THE BASICS OF TOUCHPAD TECHNOLOGY

The first *touchpads* made their debut in the early 1990s, and were one of several responses to the problem of providing an portable input solution with a portable computer (trackpointers and trackballs were also common). The first laptop to have a touchpad –or trackpad, as it was officially called at the time – was the Apple PowerBook 500.

However, capacitive touch does have one minor disadvantage, and that's the inability to detect inanimate objects or gloved human hands. Special touchpads, like the tablets from Wacom, are required for use with a stylus. Fortunately, only artists and Eskimos routinely bump into this problem.

While virtually all touchpads use the same basic technology to detect input, there are a wide variety of ways to use this technology, and a wide variety of touchpad sizes and textures.

The most important feature to look for in a touchpad is multitouch gesture support. Although this has become a common extra, it's not ubiquitous. For example, I recently tested a MSI GT680R gaming laptop, priced at about $1,500, which did not have multitouch. Determining if a laptop supports this feature is easy if you can use it hands-on. Just try scrolling down a webpage with your middle and index fingers.

If a laptop doesn't have multi-touch, it should at least have scroll space available. This is a small vertical area, usually on the right side of the touchpad, that's exclusively designed to translate finger movement into an up/down scrolling motion.

Material quality, although low-tech, is critical. Most inexpensive laptops will simply construct the touchpad out of the same plastic as the surrounding laptop, and that works alright, but it doesn't result in the smoothest feel. More expensive laptops, like the MacBooks, use a glass surface because it provides less resistance to finger movement. You'll occasionally find other materials used, as well.

Source: MUO. [Электронный ресурс]. – Режим доступа: http://www.makeuseof.com/tag/touchpads-buying-laptop-technology-explained/ (время обращения - 28.05.2017).

LESSON 6
TEXT 1

LCD VS LED MONITOR. WHICH IS BETTER?

Days of CRT (Cathode Ray Tube) monitors are almost gone with the arrival of LCD, TFT, Plasma and LED monitors in the market. But very few people exactly know the difference between all these monitor technologies. This article compares LED (Light Emitting Diode) and LCD (Liquid Crystal Display) monitors and suggests which one is better for use.

Difference between LED and LCD monitors

In fact, LED monitor is a type of LCD monitor. Before knowing their difference, first understand what is LCD and LED.

What is LCD?

A liquid crystal display (LCD) is a flat video display that uses the light modulating properties of liquid crystals (LCs). Liquid crystals can not emit light directly and thus require a light source (back-light).

What is LED?

LED is a lighting technology while LCD is specially a display technology. A LED is a semiconductor light source which are widely used as indicator lamps in many devices. You can think LED as very small bulbs.

Difference

LED monitors are nothing but the LCD monitors with LED as a back-light. The major difference between LED and LCD monitors is the kind of backlighting used. While cold cathode fluorescent lamps (CCFL) are used in LCD monitors for back-lighting, LED monitors use light emitting diodes.

Which is better?

LED monitors are preferred over LCD monitors because of the amazingly rich quality and colors. Advantages of LED monitors are as follows:

Benefits of LED over LCD monitors

1. Improved brightness and contrast levels.
2. LED monitors provides a better overall picture clarity, resolution and finer colors.
3. In LCD you have to maintain a viewing angle of 30^{o} to see the picture properly, while in LED you get the same picture quality even when viewed from different angles.
4. LED monitors offer more intense lighting than cold cathode fluorescent lamps.
5. They save up to 30%-40% power than a LCD monitor of same size.
6. Edge-LED monitors are thinner than standard LCD.
7. LED monitors are softer on the eyes compared to LCD monitors which makes them the right choice for people who work for long hours on their computers.

Thus, a comparison of LCD and LED monitors brings out the conclusion that LED monitors are a better choice than LCD monitors.

Source: Jabroo. [Электронный ресурс]. – Режим доступа: https://jabroo.blogspot.ru/2011/12/lcd-vs-led-monitor.html (время обращения - 28.05.2017).

LESSON 6
TEXT 2

3D PRINTERS

Created by Charles Hull in 1984, the *3D printer* is a printing device that creates a physical object from a digital model using materials such as metal alloys, polymers, or plastics.

An object's design typically begins in a computer aided design (CAD) software system, where its blueprint is created. The blueprint is then sent from the CAD sys-

tem to the printer in a file format known as a Stereolithography (STL), which is typically used in CAD systems to design 3D objects. The printer then reads the blueprint in cross-sections and begin the process of recreating the object just as it appears in the computer aided design. In the picture below is an example of a 3D printer called the *FlashForge.*

Application of 3D printers

3D printers are used in many disciplines--aerospace engineering, dentistry, archaeology, biotechnology, and information systems are a few examples of industries that utilize them. As an example, a 3D printer might be used in the field of archaeology to physically reconstruct ancient artifacts that have been damaged over time, thus eliminating the need of a mold.

Source: Computer Hope. [Электронный ресурс]. – Режим доступа: https://www.computerhope.com/jargon/num/3d-printer.htm (время обращения - 28.05.2017).

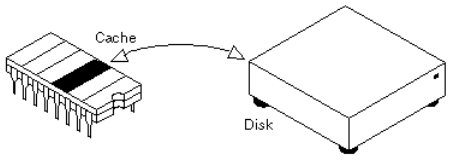
LESSON 7
TEXT 1

DISC CASH

Disc Cash is a portion of RAM used to speed up access to data on a disk. The RAM can be part of the disk drive itself (sometimes called a hard disk *cache* or *buffer*) or it can be general-purpose RAM in the computer that is reserved for use by the disk drive (sometimes called a *soft disk cache*). *Hard disk caches* are more effective, but they are also much more expensive, and therefore smaller. Nearly all modern disk drives include a small amount of internal cache.

A soft disk cache works by storing the most recently accessed data in the RAM cache. When a program needs to access new data, the operating system first checks to see if the data is in the cache before reading it from the disk. Because computers can access data from RAM much faster than from a disk, disk caching can significantly increase performance. Many cache systems also attempt to predict what data will be requested next so they can place that data in the cache ahead of time.

Although caching improves performance, there is some risk involved. If the computer crashes (due to a power failure, for example), the system may not have time to copy the cache back to the disk. In this case, whatever changes you made to the data will be lost. Usually, however, the cache system updates the disk frequently so that even if you lose some data, it will not be much. Caches that work in this manner are called *write-back caches.* Another type of disk cache, called a *write-thru cache*, removes the risk of losing data because it only caches data for read operations; writeoperations are always sent directly to the disk.



Source: Webopedia. [Электронный ресурс]. – Режим доступа: http://www.webopedia.com/TERM/D/disk_cache.html (время обращения - 28.05.2017).

LESSON 7
TEXT 2

CLOUD STORAGE

Website builders and the cloud.

When you start building a new website, integrating cloud storage is probably not something you've considered, but the truth of the matter is that cloud storage services are useful for everyone. There are plenty of options when it comes to web builder hosting plans, and cloud storage is something you should take into consideration when deciding which plan to choose. The primary goal here at Best 10 is to make it easier and less stressful for website builders to find exactly what plan works best for their project.

What is cloud storage.

Cloud storage is an alternative option for storing documents, photos, and other files. Cloud storage allows you to save and access your files from nearly any location, as long as you can access the internet. From this standpoint that you no longer have to worry about losing files from your computer if you encounter a virus, natural disaster, or damaged hard drive. By using remote servers outfitted with the best encryption software, your files will always be safe and secure.

How Can a Website Builder and Cloud Storage Work Together?

Let's face it; cloud storage was not originally developed with website building in mind, but it can be one of the best tools website builders can take advantage of for the additional piece of mind. For instance, owning a server doesn't necessarily guarantee that you'll be optimally set up or provided with all of the services. For example, the server company that you may be using may not provide backup capabilities for your server. By using cloud storage, you can create the redundancies you need as well as backups for your server and any projects you are working. By choosing a cloud storage company that fits your needs, you can ensure that you are getting the security and safety features that are necessary to keep your business running as smoothly as possible. It also makes it much faster and easier to access any and all of your files from virtually anywhere, as long as you're able to connect to the internet.

Source: Best10websitebuilders. [Электронный ресурс]. – Режим доступа: https://www.best10websitebuilders.com/cloud-storage/ (время обращения– 11.06.2017).

LESSON 8
TEXT 1

HOW TO MAKE AN EFFECTIVE BLOG OR WEBSITE

You want more traffic on your blog. You want to be famous in this blogging world. You want a higher page rank. You want to monetize from blogging. But have you ever asked yourself whether your blog is effective and it deserves all this?

In this article I am going to discuss about **Blog or Website Effectiveness**. To improve website's or blog's effectiveness or performance is not a rocket science. You just need to look from your audience's perspective. I assure you that implementing these tips will surely help you in every aspect, whether it is SEO (Search Engine Optimization), Internet Marketing or you want to make bucks from your site. These all are highly interrelated. So let's get on our main point.

Before I start I would like to ask "**What is a Website?**" Website or Blog is a means of mass communication. Communication is the exchange of information, ideas and knowledge between sender and receiver. On a website or blog mostly one directional communication takes place. That is we bloggers or web designers give information to the mass. So to make an effective website, it is necessary to give importance to **effective communication** and I have kept that point in mind while writing the following tips:

Tips to make a website or blog effective:

1. First of all, you need to make sure that your audience can understand your writing and the meaning that you are trying to convey. You must write easy-to-read sentences by avoiding complicated words. Don't write something boring. Write about things which will grab your visitor's attention.

2. Even if your content is very good, people won't like to read it if your website or blog is not visually appealing. Use colors and images which are aesthetically pleasing.

3. Make sure you don't copy contents from other websites. Research on your niche and write in your own words. If you follow this Google will surely like it. Also don't allow your content to be copied by others.

4. Learn how to optimize your website/blog speed. Improve your website loading speed.

5. Social media allows you to communicate with your prospects, and it allows them to communicate with each other. Include links to your blog, Facebook, Twitter and other social media accounts. Make it easy for everyone to find you on social media.

6. Give your website or blog a professional look. Compare your site with your competitors and analyze what your site or blog is missing.

7. If possible try to give your audience things (I mean in respect to your content) that nobody other would be able to give. Think about how you can position yourself so that you're the market leader with no or very less competition.

I assure you that if you do follow these tips in a right way, you'll be able to increase conversion rates, attract more customers, and build your audience (which is surely going to help you earn more money).

Source: Jabroo. [Электронный ресурс]. – Режим доступа: https://jabroo.blogspot.ru/2011/10/how-to-make-your-blog-effective.html (время обращения - 28.05.2017).

LESSON 8
TEXT 2

HOW TO PREVENT EMAIL HACKING

We know that day by day cybercrime is getting worse. Increasing cybercrimes and frauds has led to a high demand for computer forensics field. We often hear from friends that their email account got compromised. You can also become a prey of email hacking. So let us see how a hacker can hack your email a/c & how you can prevent your email account from getting hacked.

Prevent your Email from being hacked

You have to remain conscious to protect your email accounts from the latest internet threats. Hackers, phishing scams, insecure internet connections, using untrustworthy computers or software etc. can lead to your accounts getting hacked. Whether you are using **Yahoo mail**, **Gmail** (from Google), **Hotmail** or newly introduced email service from **Facebook**, this tips applies to any email provider you are using. The tips to secure your email account from different ways used by hackers to hack your email are as follows:

Prevention from Brute Force and Dictionary attacks

Note that there is no software available in which a hacker can just enter your username & he will get the password. Though a software for brute force is available which tries all the possible key combinations on the keyboard as a password. In a dictionary attack, the software tries all the words in a dictionary to match with your password.

Preventive Measure

This technique does not work now as most of the popular mail service providers have increased security & blocks an internet protocol (IP) address after three password trials. If you use a less popular mail service provider, just use a **long password**. This technique becomes useless to find passwords such as 10-15 characters long as it would take months to find the password! Also make sure that you don't use a word which is common and in dictionary.

Prevention from Shoulder Surfing

Even a kid can hack your email using shoulder surfing. So let’s see how it works:

Shoulder Surfing or Guessing: If you use very weak passwords your family member or friends can guess your password easily if they are observing from behind while you were logging in your account. They might have seen some of the keys you are pressing while typing password & then they can make a guess of complete password.

Source: Jabroo. [Электронный ресурс]. – Режим доступа: https://jabroo.blogspot.ru/2010/09/email-hacking.html (время обращения - 28.05.2017).

LESSON 9
TEXT 1

ENCAPSULATION AND CLASS

Encapsulation is packing or combining two or more items in one unit. The concept of encapsulation is used in *object oriented programming*. Encapsulation is closely related to information hiding.

Encapsulation *definition:*

The bundling of data and procedures (functions) into a single unit (called class) is known as encapsulation.

Class is an example of encapsulation, where various data elements and member functions are wrapped up together.

Classes in programming languages are user defined data types. But they behave like built-in data types. Classes are used in object oriented programming paradigm.

Class *definition:*

Class is a collection of objects of similar type ***or*** *Class is a construct which can be used as a template to create instances of itself known as class objects*.

Example of a class in C++ :

```
class person
{
 private:
 string name;
 int age;
 public:
 void getdata();
 void display
 {
 cout<<"Name: "<<name<<endl;
 cout<<"Age: "<<age<<endl;
 }
};
```

Here name and age are data-members of the data-type string and integer respectively. Keywords private and public are the access specifiers and get data and display are the member-functions. A function can be defined inside or outside a class.

The term **encapsulation** and is closely related with **class**.

Source: IT Definitions. [Электронный ресурс]. – Режим доступа: https://www.defit.org/data-type/ (время обращения – 28.05.2017).

LESSON 10
TEXT 1

CHAPPIE ROBOT: IS SUCH AI POSSIBLE?

Is it possible to bring an A.I. robot like Chappie to life? *Chappie* is a sci-fi movie directed by Neill Blomkamp of the *District 9* fame which stars stalwarts Sigourney

Weaver, Hugh Jackman and Dev Patel (star of *Slumdog Millionaire.*) The movie is based on the hot trending topics of sentient robots and artificial intelligence. Machines can mimic many aspects of human consciousness but they lack the essential feelings. Can machines think, learn and feel like humans?

Well, yes and no. Whether a robot or computer software can think like a human brain is still a controversial question. What we do know somewhat is that the human brain is a masterpiece and an enormously complex structure. It contains about 100 billion neurons making about 100 trillion connections in all! By one research, the total information content of the brain can be to 10^{42} bits. But on the other hand we have seen many sci-fi things becoming a reality. Yes, with the advancement in AI technology, quantum computing and processing speed it is possible to create a program that can think and learn. But what about the feelings part? May be we can program a machine to react in a specific way with the occurrence of certain events. For e.g., we can program to make a Robot act as it is happy when it receives some kind of reward. But won't that be a pseudo feeling? The main thing is such AI machine may exhibit human level or even superior intelligence in future but they will lack the soul.

When will the real Strong-AI like Chappie arrive?

Well, it is a difficult question to answer but it will take at least another 20 years for humans to create a general Strong-AI system like Chappie or like the one seen in Her movie (Samantha).

Source: Jabroo. [Электронный ресурс]. – Режим доступа: https://jabroo.blogspot.ru/2015/03/chappie-robot-is-such-ai-possible.html(время обращения - 28.05.2017).

LESSON 10
TEXT 2

DISCONNECTED — LIVING WITHOUT INTERNET!

by Carrie Brummer

Our society has become quite accustomed to being connected. I definitely speak for myself when it comes to this. I can remember a life without internet, where you had to use landlines to call friends (that's what I did in high school, gasp), where cell phones were so big you could barely carry them with you anywhere. My university experience included a cell phone free life. Eventually I got one towards the end but only to use in emergencies, I just kept it in my car. I didn't want one. I was probably one of the last people to get a mobile phone. I hated the idea of always being available to people, to always be at the beck and call of someone or something. Of course, I didn't consider the notion you don't *have* to answer your phone.

Funny how I was so against buying into the cell phone and yet I feel like as soon as the internet was available to me (and I was aware of it) I was obsessed. I loved that I could communicate with friends while doing other things via AOL and then AIM. I could be in my room painting or watching a movie and chat with friends at the same time. Multiple friends, even! This novelty of connection with friends was refreshing. I moved a bit growing up so I had friends and family in multiple states in the US. This afforded me the connection to maintain those friendships and continue to devel-

op them if I wanted. Why didn't I see the cell phone in the same light? I don't know. But I can tell you I love my phone now. But not for its calling capability, for its internet connectivity!

There is so much power at our fingertips now I think we already take it for granted. I have. And I know it because I have been without any kind of internet connection since October. I had no clue how much it had become an easy everyday tool of my life. And yet I did know, I just didn't realize how much I would miss it. The internet has made living life so easy, especially when living in a new place, be it a new neighborhood, new town, or new country. All of a sudden there are maps where we can readily find everything we want. There are websites dedicated to learning about new doctors, new schools, new clubs to help us join and adjust in a new place. There are tools like FaceTime or Skype that let us maintain face to face connection with loved ones all over the place. I could keep going. I know I find living outside of my home country much easier because of these things. The world truly is smaller in scale. I interview people in the UK and Australia while sitting in a coffee shop in Muscat, Oman. How cool is that?! But it also makes me wonder, could we survive without the internet? And you?...

Source: Artist Strong. [Электронный ресурс]. – Режим доступа: https://www.artiststrong.com/disconnected-living-without-internet/ (обращения – 28.05.2017).

LESSON 11
TEXT 1

THE EXISTING POSSIBILITIES OF ARTIFICIAL INTELLIGENCE

AI is an umbrella term encompassing a great variety of disciplines surrounding the mimicry or apparent mimicry of intelligence in technology, for various purposes and on various levels. AI is useful not only for games, but it is used as an extension of ourselves.

AI and NPC robots (Non-Player-Characters, which are used in games or virtual worlds), represent both physical and now increasingly virtual, have stepped into our world. They are used across a huge spectrum of applications, such as home educational tutoring, home assistants, and even simulated therapeutic models of emotion for autistic children. Many AI robots have, over recent years, become upright like humans, with multiple sensors and ability to balance on two legs. There are robots that can play soccer, create drawings, assemble, battle, hunt, and perform surveillance activities. They also can be willing virtual agents and communicators that talk and record to users on Web sites.

Applications in emotional intelligence (EI) is another more recent field in AI, although theories of multiple types of intelligence suggest that verbalisation alone cannot constitutes full intelligence. Still, robots, chat-bots, drawing bots, fighting bots, and others are becoming increasingly real to people. People appreciate them for

what they are, but also what they could be. They teach us that reality is often a thing that we create ourselves, and those we care about.

One kind of AI, the virtual agent, often appears on Web sites as a talking avatar, and frequently appears as a person's face. This manifestation of apparent reality gives the mind a similar impression to the idea they could be talking to a real human, and before they know it, empathize with the agent and become fascinated by it. Human face simulations are a huge part of the appeal of virtual agents. There are other virtual agents that work on the user's computer as well, and many can be reprogrammed to say and make fresh remarks. These agents also frequently appear in instant messagers (IM), but usually without an avatar. One of the best and most convincing AIs in history is A.L.I.C.E (Artificial Linguistic Internet Computer Entity) by Richard Wallace. To this day, many works spin from this open-source chatterbot, a sundry which use avatars. The ALICE-based bots search for keywords in a sentence and respond in a full preset sentence to that keyword. It also exhibits behaviors of remembering the sentence in the previous exchange of the current conversation. Some potential downfalls, which are surely getting ironed out, is that it can stumble when given a question regarding what a random object might be. Included in these pitfalls are other potential pronoun confusions. In spite of these issues, ALICE continues to be a work in progress to this day.

Source: Your e-learning hub, URL: https://www.onlinecultus.com/the-exciting-possibilities-of-artificial-intelligence/ (время обращения – 13.01.2018).

LESSON 11
TEXT 2

WHY BEES COULD BE THE SECRET TO SUPERHUMAN INTELLIGENCE?

Louis Rosenberg thinks he has found a way to make us all a lot smarter. The secret to this superhuman intelligence? Bees.

Rosenberg runs a Silicon Valley startup called Unanimous AI, which has built a tool to support human decision-making by crowdsourcing opinions online. It lets hundreds of participants respond to a question all at once, pooling their collective insight, biases and varying expertise into a single answer.

Since launching in June, Unanimous AI has registered around 50,000 users and answered 230,000 questions. Rosenberg thinks this hybrid human-computer decision-making machine – once dubbed an 'artificial' artificial intelligence – could help us tackle some of the world's toughest questions. What's more,

with advances in AI coming thick and fast, he sees it as a way to put humans back into the loop.

"We can't stop the development of smarter and smarter artificial intelligences," he says. "So our alternative is to make ourselves smarter so that we always stay one step ahead."

Which is where the bees come in. "If you look at social species like bees they work together to make better decisions," he says. "That's also why birds flock and fish school — it allows them to react in optimal ways by combining the information that they have. The question for us was, can people do that?"

It turns out that they can. Rosenberg's hiveminds have had remarkable success at predicting a string of events: the winners of the 2015 Oscars; the winners of the 2016 National Hockey League's Stanley Cup; and — at 542 to one odds — the first four winning horses in order of the 2016 Kentucky Derby, converting a $20 bet into $11,800 (£9,300).

Crowd wisdom is more usually harnessed via polls or voting. This does have an amplification effect, says Rosenberg – we tend to make better decisions as a group than as individuals. But Rosenberg's approach is designed to go one better. "Swarms will outperform votes and polls and surveys because it's allowing the group to converge on the best answer, rather than simply finding the average sentiment," he says.

So Rosenberg, who cut his teeth building augmented reality systems at the US Air Force's Armstrong Labs in the early 1990s, turned to bees. When a swarm of bees wants to set up a new colony it must come to a collective decision about where to build it.

Picking an answer all at once is important because it stops those who get in first from swaying others. In public votes, people who vote first can influence a group, for example. And in prediction markets, those with more money have greater sway on the final outcome. Such forces can distort the real picture.

Experiments have shown that the approach outperforms existing crowd-based prediction using polls. In another study, Rosenberg and colleagues asked a crowd of 469 American Football fans to predict the outcomes of 20 bets in the 2016 Super Bowl. They then gave the same task to a swarm of just 29 fans. Despite being 16 times smaller – and no better informed - the swarm was correct for 68% of its predictions compared to 48% for the crowd.

[…]

Rosenberg is not perturbed. "Swarms are one very simple way of keeping ourselves ahead of the machines," he says. And with polling failing to predict the political outcomes of Brexit and the US presidential election, the time may be right for a better way to tap our collective intelligence.

Source: BBC, Future now, URL: http://www.bbc.com/future/story/20161215-why-bees-could-be-the-secret-to-superhuman-intelligence (время обращения – 13.01.2018).

LESSON 12
TEXT 1

A DAY IN THE LIFE OF A PROGRAMMER

No one will deny that creating, adapting, and maintaining computer software is an industry all by itself, and a growing one. Whether it is an online game, a suite of productivity software like MS Office, or proprietary programs for specific businesses, the worldwide demand for software and the people who build it is higher than ever before.

Who actually designs and builds computer programs? Usually, a software development team – consisting of experts in the areas of software architecture, interface design, programming, and testing – works with the company executives or clients to come up with an application. Ideally, this process ensures a program that is easy to use, bug-free, and well-designed.

Computer programmers are a vital part to any software development team. It is the programmers who write instructions to the computer itself. In other words, they are the ones who make the program work. An average job in programming consists of three major parts: understanding the needs of the software's users; writing the code; and fixing any mistakes or making alterations. Although the job description is simple, it's hard to say what a usual day in the life of a computer programmer would be. In some companies, a programmer might strictly code the programs; in others, he or she might help identify user needs, test software, and share in the design process. Let's look at each of these steps individually.

Understanding the Needs of the Users. This step includes talking with potential users or reading reports and other material related to the function of the projected program. Gathering this information could be done in meetings or on phone conferences. For some programmers, this is not a crucial part of their jobs; others in the development team compile the information, design the program, and pass along the instructions to the programmers. In whatever way the information is received, the programmer must use it to thoroughly understand three things: the function of the application, who will be using it, and how it will be used. Once this is accomplished, the programmers or the software engineers will draw up a set of plans.

Writing the Code. Once the plans have been finalized, the programmer will write the program using a computer programming language. This is a process called coding, and it is similar to translating one spoken language to another. The programmer types in a series of commands, and the software he or she is using translates that in a way that the computer will understand. There are numerous programming languages

in use today; whichever one the programmer uses depends on the type of application being built and his or her own knowledge.

Testing the Software. Often, this step is done by another individual, a software tester. Parts of the software testing process are also automated. The main function of testing is to make sure the program works, that it is easy to use, and that there are no "bugs", or flaws.

Making Alterations or Fixing Mistakes. It is very rare that a program is perfectly designed and written the first time around. Based on suggestions made by the software testers or the programmer's own results, changes may need to be made. The programmer rewrites and/or modifies the problem sections and submits them for another round of testing. This happens until the application is free of major problems and ready to be used.

On any given day, a programmer could be doing one aspect of the work listed above or all of them. It depends on where he or she works and the job at hand. Either way, the routine and the challenging are both part of the everyday work of a computer programmer.

Source: Computercertificationcenters http://www.computercertificationcenters.com/a/a-day-in-the-life-of-a-programmer.html (время обращения - 11.01.18).

LESSON 12
TEXT 2

BILL GATES – A SUCCESS STORY

Bill Gates was born on October 28, 1955 in Seattle in a family having rich business, political and community service background. His great-grandfather was a state legislator and a mayor, his grandfather was vice president of national bank and his father was a lawyer.

Bill believed in achieving his goals through hard work. He also believes that if you are intelligent and know how to use your intelligence, you can reach your goals and targets.

From his early days Bill was ambitious, competitive and intelligent. These qualities helped him to attain great position in the profession he chose. Also Bill was deemed by his peers and his teachers as the smartest kid on campus; Bill's parents came to know their son's intelligence and decided to enroll him in a private school, known for its intense academic environment. That was the most important decision in Bill Gate's life where he was first introduced to computers. Bill Gates and his friends were very much interested in computer and formed "Programmers Group" in late 1968. Being in this group, they found a new way to apply their computer skill in uni-

versity of Washington. In the next year, they got their first opportunity in Information Sciences Inc. in which they were selected as programmers. ISI (Information Sciences Inc.) agreed to give them royalties, whenever it made money from any of the group's program. As a result of the business deal signed with Information Sciences Inc., the group also became a legal business.

Bill Gates and his close friend Allen formed a new company of their own, Traf-O-Data. They developed a small computer to measure traffic flow. From this project they earned around $20,000. The era of Traf-O-Data came to an end when Gates left the college. Upon graduating from Lakeside Bill enrolled in Harvard University in 1973, one of the best universities in the country, he didn't know what to do, so he enrolled his name for pre-law. He took the standard freshman courses with the exception of signing up for one of Harvard's toughest mathematics courses. He did well over there, but he couldn't find it interesting too. He spent many long nights in front of the school's computer and the next day asleep in class.

Gates and his friend Paul Allen remained in close contact even though they were away from school. They would often discuss new ideas for future projects and the possibility of starting a business one fine day. At the end of Bill's first year, Allen came close to him so that they could follow some of their ideas. That summer they got job in Honeywell during the summer of 1974. Allen kept on pushing Bill for opening a new software company. The MITS Altair 8800 was released the following year. The new computer was based on the Intel 8080 CPU, and Gates and Allen saw this as the opportunity to start their own computer software company.

Within a year, Bill Gates dropped out from Harvard. Then he formed Microsoft. Microsoft's vision is "A computer on every desk and Microsoft software on every computer". Bill is a visionary person and works very hard to achieve his vision.

Bill Gates is not a greedy person. In fact, he is quite giving person when it comes to computers, internet and any kind of funding. Some years back, he visited Chicago's Einstein Elementary School and announced grants benefiting Chicago's schools and museums where he donated a total of $110,000, a bunch of computers, and provided internet connectivity to number of schools. Secondly, Bill Gates donated 38 million dollars for the building of a computer institute at Stanford University.

Source: Ted`s Blog, URL: https://tedteddi22.wordpress.com/2014/12/05/bill-gates-a-success-story/ (время обращения - 13.01.18),
Wikipedia, URL: https://en.wikipedia.org/wiki/Bill_Gates(время обращения - 13.01.18).

Заключение
Conclusion

Учебное пособие по английскому языку «Основы компьютерных технологий» авторов И.Ю. Лавриненко и В.В. Козловой позволяет сформировать у обучающихся общекультурные и общепрофессиональные компетенции, соответствующие Федеральному государственному образовательному стандарту дисциплины «Иностранный язык» по специальности 09.03.03. «Прикладная информатика».

В процессе изучения материала пособия обучающийся овладевает понятийным аппаратом технической направленности на английском языке для решения профессиональных задач, знакомится с основными фонетическими, лексическими, грамматическими, словообразовательными явлениями и закономерностями функционирования английского языка. В результате обучения студент умеет пользоваться необходимыми языковыми средствами для построения высказывания в зависимости от особенностей текущего коммуникативного контекста (время, место, цели и условия взаимодействия) и др.

Данное учебное пособие способствует углублению и закреплению знаний в сфере информационных технологий. Освоенный материал позволяет студентам самостоятельно анализировать профессиональную литературу в области компьютерных наук на английском языке, систематизировать полученную информацию, оценивать полученные знания в ходе выполнения заданий для самопроверки. Пособие может служить опорным материалом для повторения и закрепления грамматических навыков всех, интересующихся изучением английского языка. Таким образом, изучение предложенных в пособии тем помогает студентам применять полученные в процессе обучения знания, умения и навыки на практике.

Надеемся, что учебное пособие будет полезным и интересным для большого числа обучающихся.

Глоссарий
Glossary

Aa

actually [ˈæktʃʊəlɪ] – в действительности
advertisements [ədˈvəːtɪsmənt] - реклама
aid [eɪd] – поддерживать
allow [əˈlau] - позволять
ancient [ˈeɪnʃənt] - древний
appear [əˈpɪə] - появляться
application [ˌæplɪˈkeɪʃən] – зд. приложение
apply [əˈplaɪ] - применять
arrangement of keys [əˈreɪndʒmənt əv kiːz] – расположение клавиш
artificial [ˌɑːtɪˈfɪʃəl] - искусственный
artificial intelligence [ɑːtɪˈfɪʃ(ə)l ɪnˈtɛlɪdʒ(ə)ns] – искусственный интеллект
associate [əˈsəʊʃɪˌeɪt] – соответствующий, соотносящийся
attach [əˈtatʃ] – прикреплять
attain – достичь, добиться

Bb

bachelor's [ˈbætʃələ] degree – степень бакалавра
bandwidth [bændˌwɪdθ] – полоса пропускания, диапазон частот
barcode technology – технология считывания штрихкода
barrier [ˈbarɪə] - барьер
be acquainted [əˈkweɪntɪd] – быть знакомым с чем-либо
behavior modeling [bɪˈheɪvjər ˈmɒdəli ŋ] – моделирование поведения
bionic [bʌɪˈɒnɪk] - электронный, механический
boot up [buːt ʌp] – производить начальную загрузку
bootstrapping - начальная загрузка
bottleneck [ˈbɒtəlˌnɛk] – узкое место
broadband Internet Connection [ˈbrɔːdˌbænd] – широкополосная связь Интернет
bulk [bʌlk] data [ˈdeɪtə] processing – обработка большого объема данных
bus [bʌs] - шина
by means of [baɪ miːnz ɒv] – с помощью

Cc

capability [ˌkeɪpəˈbɪlɪtɪ] - способность
capable of [ˈkeɪpəbl ɒv] – способный
cathode [ˈkæθəʊd] ray tube [tjuːb] – катодно-лучевая трубка
central processing [ˈsɛntr(ə)l ˈprəʊsesɪŋ] unit – центральное обрабатывающее устройство, процессор
charge [tʃɑːdʒd] - заряжать
chipset [tʃɪpsɛt] - набор [комплект] микросхем
circuitry [ˈsɜːkɪtrɪ] -безопасность
coaxial cable [kəʊˈæksɪəl ˈkeɪbəl] – коаксиальный кабель
come packaged – зд. входить в комплект

common [ˈkɒmən] – частый, распространенный
compare [kəmˈpɛə] - сравнивать
complex [ˈkɒmplɛks] - сложный
complicated [ˈkɒmplɪkeɪtɪd] – сложный
computer literate – быть компетентным в области компьютера
computer storage [ˈstɔːrɪdʒ]- устройство хранения
concern [kənˈsɜːn] - интерес
consist [kənˈsɪst] – состоять
constitute [ˈkɔnstɪtjuːt] - составлять
copper [ˈkɒpə] – медь
coup [kuː] – государственный переворот
cap [kæp] – предел, ограничение

Dd

data [ˈdeɪtə] - данные
decode [ˈdiːˈkəud] – декодировать, расшифровывать
decrypt [diːˈkrɪpt] – расшифровать
define [dɪˈfaɪn] - определять
delay line [dɪˈleɪ laɪnz] - линия задержки
deliver [dɪˈlɪvə] – доставлять, предоставлять
dial-up access [ˈdaɪəl ʌp æksɛs] – доступ по [коммутируемой] телефонной линии
digital [ˈdɪdʒɪtl] - цифровой
digital Subscriber Line [ˈdɪdʒɪtəl səbˈskraɪbəʳ laɪn] – цифровая абонентская линия
digitally rendered design [ˈdɪdʒɪtlɪ ˈrɛnded dɪˈzaɪn] – цифровой дизайн
downstream [ˈdaʊnˈstriːm] – нисходящий
drastically [ˈdræstɪkəlɪ] – радикально

Ee

electronic [ɪlɛkˈtrɔnɪk] -электронный
electronic circuit [ɪlɛkˈtrɔnɪk ˈsɜːkɪt] – электронная цепь
enable [ɪnˈeɪbəl] – давать возможность, позволять
endure [ɪnˈdjʊə] – выдерживать, противостоять
engage [ɪnˈgeɪdʒ] – вовлекать
entanglement [ɪnˈtaŋg(ə)lm(ə)nt] – средство
entry [ˈɛntrɪ] level– начальный уровень
ERP - Enterprise Resource Planning - планирование бизнес-ресурсов (программное обеспечение, объединяющее все ресурсы предприятия, необходимые для его работы, включая планирование заказов, финансы и пр.)
execute [ˈɛksɪkjuːt] - выполнять
execute [ˈɛksɪkjuːt] – выполнять
exercise [ˈɛksəˌsaɪz] – работа
expansion slot [ɪkˈspænʃən] – слот расширения
exponentially [ˌɛkspəˈnɛnʃ(ə)li] - в геометрической прогрессии
extract [ˈekstrækt] - извлекать

Ff

fail-safe [ˈfeɪlseɪf]- предохрани́тельный

favorable [ˈfeɪvrəbl] - благоприятный
feature [ˈfiːtʃə] set – перечень особенностей
feature [ˈfiːtʃə] – обладать конструктивной особенностью
fed [fed] – прош. время от feed [fiːd] – заправлять, отправлять
fetch [fɛtʃ] – извлекать, захватывать
financial transaction [faɪˈnænʃəl [trænˈzækʃən]] - перевод денежных средств
firmware [ˈfɜːmˌwɛə] - программно-аппаратные средства; встроенные программы; "зашитые программы"
firmware[ˈfɜːmˌwɛə] - программно-аппаратные средства; встроенные программы; "зашитые программы" (в ПЗУ)
fit - соответствовать, подходить
flash [flæʃ] – зд. перепрограммировать
flat panel screen [flæt ˈpænəl skriːn] - плоский экран
forefront [ˈfɔːfrʌnt] – передовая позиция, передний план
front panel [frʌnt ˈpan(ə)l] – передняя панель
full-length [lɛŋθ] films – полнометражные фильмы

Gg

generate [ˈdʒɛnəreɪt] - создавать
genetic makeup [dʒɪˈnɛtɪk] – генетическая структура
get overshadowed [əuvəˈʃædəud] – отойти на второй план
gigaflop – гигафлоп (флоп – внесистемная единица, используемая для измерения производительности компьютеров).
groceries [ˈgrəusərɪz] - бакалея

Hh

hard [hɑːd] copy - печатный или машинописный текст
hardware [ˈhɑːdwɛː] – аппаратная часть
head [hɛd] – магнитная головка
headphones - наушники
hence [hɛns] – поэтому, следовательно
hence [hɛns] – таким образом
hierarchy [ˈhaɪəˌrɑːkɪ] - иерархия
high-definition [haɪ dɛfɪˈnɪʃən] – высокое разрешение
highly beneficial [ˌbɛnɪˈfɪʃəl] – высоко престижный
hit a wall [wɔːl]– столкнуться с препятствием
household [ˈhaʊsˌhəʊld] – дом, быт
huge computations [hjuːdʒ ˌkɒmpjʊˈteɪʃənz] – объемные вычисления

Ii

imply [ɪmˈplaɪ] – предполагать, подразумевать
in a matter of [ˈmætə] – в течение
in collaboration [kəlæbəˈreɪʃən] with – совместно с
increase [ɪnˈkriːs] - увеличивать
indispensible [ɪndɪˈspɛnsəb(ə)l] - незаменимый
influential [ˌɪnflʊˈɛnʃ(ə)l] – влиятельный
input/output devices [dɪˈvaɪsɪz] – устройства ввода/вывода

instantaneous [ˌɪnst(ə)nˈteɪnɪəs] – мгновенный
Integrated services digital network [ˈɪntɪgreɪtɪd ˈsɜːvɪsɪz ˈdɪdʒɪtəl ˈnɛtˌwɜːk] – цифровая сеть с интегрированными услугами
Internet Service Provider [prəˈvaɪdə] – поставщик услуг интернета
interrelate [ˌɪntərɪˈleɪt] – иметь взаимосвязь, пересекаться
irrelevant [ɪˈrɛlɪv(ə)nt]- неуместный
items [ˈaɪtəm] - единица

Kk

keypress [kiːprɛs] – сочетание клавиш

Ll

laptop [ˈlæpˌtɒp] - небольшой портативный компьютер
legacy technologies [ˈlɛgəsɪ tɛkˈnɒlədʒɪ] – устаревшие, снятые с производства технологии
lever [ˈliːvə] -рычаг
library [ˈlaɪbrərɪ] - библиотека
limitation [lɪmɪˈteɪʃ(ə)n] – ограничение
liquid crystal [ˈlɪkwɪd ˈkrɪstl] - жидкий кристалл
lucrative [ˈluːkrətɪv] – прибыльный, выгодный

Mm

magnetic drum [mægˈnɛtɪk drʌm] - магнитный барабан
magnetoresistive [məgnetɛrɪˈzɪstɪv] – магниторезистивный
mainframe [ˈmeɪnfreɪm] – большая вычислительная машина
mainstream [ˈmeɪnstriːm]- основное течение
maintain the inventory – вести учет товара
maintenance [ˈmeɪntɪnəns] – техническое обслуживание
make up - создавать
means of [miːnz] - средство
mechanical [mɪˈkænɪkəl] - механический
mining information [ˈmaɪnɪŋ] – зд. поиск информации

Nn

nadir [ˈneɪdɪə] – низшая точка
neural [ˈnjʊərəl] - нейронный
neural networks [ˈnjʊər(ə)l ˈnetwɜːks] – нейронный сети
nil [nɪl] - ноль
non-volatile [ˌnɒn ˈvɒləˌtaɪl] – энергонезависимый

Oo

options [ˈɔpʃən] – возможности
outdated [ˌaʊtˈdeɪtɪd] - устаревшая
overall [ˈəʊvərˌɔːl] – общий

Pp

palmtop - карманный компьютер
particular [pəˈtɪkjʊlə] – особенный, конкретный
patient [ˈpeɪʃnt] - пациент
patterns emerging [ˈpætən ɪˈmɜːdʒɪŋ] – зд. возникающие совпадения
pegs and balls [peg ænd bɔːlz] – колья и шары
performance [pəˈfɔːməns] – зд. применение
peripherals [pəˈrɪfərəlz] – периферийные части
peripherals [pəˈrɪfərəlz] – периферийный устройства
permanent [ˈpəːm(ə)nənt] - постоянный
permanently [p3ːmənəntlɪ] - постоянно
phosphorescent [ˌfɒsfəˈresnt] dots - фосфоресцирующиеся, светящиеся точки
plug [plʌg] - подключать, вставлять в разъём
possess [pəˈzɛs] – обладать
power supply [ˈpaʊə səˈplaɪ] - источник [блок] питания
precision [prɪˈsɪʒən] - точность
previously [ˈpriːvɪəslɪ] - предварительный
primarily [ˈpraɪmərɪlɪ] - изначально
primary responsibility [praɪmərɪ lɪˌspɒnsəˈbɪlɪtɪ] – зд. основная функция
probability [ˌprɒbəˈbɪlɪtɪ] - вероятность
process [ˈprəʊsɛs] - обрабатывать
processing [ˈprəusɛsɪŋ] unit – обрабатывающее устройство
public-switched [ˈpʌblɪk swɪʧt] – служба с коммутируемым доступом
pull off [pʊl] – справиться с задачей
punch card [pʌnʧ kɑːd] - перфокарта
pursue [pəˈsjuː] – стремиться, преследовать

Qq

quantum [ˈkwɒntəm]- квантумный
qubit [kjuːbɪt] – квантовый бит

Rr

RAM - Random Access Memory - оперативная память
Random Access Memory (RAM) [ˈrændəm ˈæksɛs] – оперативная память
Read Only Memory (ROM) [riːd] - постоянное запоминающее устройство
rear panel [rɪə ˈpan(ə)l] - задняя панель
regard [rɪˈgɑːd] – рассматривать, считать
regard [rɪˈgɑːd] – считать, расценивать
rely on [rɪˈlaɪ on] – зд. функционируют непосредственно совместно с
replicate [rɛplɪˌkeɪt] – повторять, копировать
request [rɪˈkwɛst] – запрашивать, запрос, просьба
require [rɪˈkwaɪər] - требовать
retrieve [rɪˈtriːv] - восстанавливать
roll out [rəʊl aʊt] - откачивать (из оперативной памяти), зд. производить первоначальную обкатку.
run [rʌn] – запускать (программу)

Ss

science [ˈsaɪəns] fiction – научная фантастика
security [sɪˈkjuərɪtɪ] - безопасность
seek [si:k] - искать
semiconductor [sɛmɪkənˈdʌktə] - полупроводник
sequential [sɪˈkwɛnʃəl] - последовательный
set of instructions [ɪnˈstrʌkʃ(ə)nz]–перечень инструкций
shell [ʃɛl] - пластина
shrink [ʃrɪŋk] – сжать
significant [sɪgˈnɪfɪkənt] – значительный
silicon chips [sɪlɪk(ə)n tʃɪps] – кремниевая микросхема
similar to [ˈsɪmɪlər tə] – подобный, похожий
simultaneously [ˌsɪməlˈteɪnɪəslɪ] – одновременно
smoothen [ˈsmu:ðən] – сглаживать
snapshot [ˈsnæpˌʃɒt] – краткая характеристика
socket [ˈsɒkɪt] – гнездо, розетка
software [ˈsɒf(t)wɛ:] – программное обеспечение
sought [sɔ:t] after – востребованный, популярный
square [skwɛə] – квадратный
stand out - выделяться
storage devices [ˈstɔ:rɪdʒ dɪˈvaɪsɪz]– устройства хранения
streaming video [ˈstri:mɪŋ] – потоковое видео
subatomic scale [sʌbəˈtɒmɪk skeɪl] – субатомный масштаб
switch [swɪtʃ] - переключатель

Tt

tablet [ˈtæblɪt] – планшет
take over [teɪk ˈəʊvə] – зд. активировать
temporarily [ˈtempərərɪlɪ] - временно
tertiary [tɜ:ʃərɪ] - третичный
thereby [ðɛəˈbaɪ] – таким образом
tie up [taɪ ʌp] – занимать, загружать
times - разы
to bold [bəʊld] – выделять жирным шрифтом
to center [ˈsɛntə] – выравнивать слова по центру
transfer-rates [trænsˈfɜ: reɪt] – скорость передачи
two-dimensional motion [ˈtudaɪˈmenʃənl ˈməʊʃən] – движение по плоскости

Uu

underestimate [ˈʌndərˈɛstɪmeɪt] - недооценивать
undoubted [ʌnˈdaʊtɪd] winner – бесспорный лидер
unleash [ʌnˈli:ʃ] – высвободить
unprecedented rate [ʌnˈprɛsɪdɛntɪd reɪt] – беспрецедентная скорость
upstream [ˈʌpˈstri:m] – восходящий
USB ports - Universal Serial Bus - универсальная последовательная шина
useless [ˈju:slɪs] - бесполезный

Vv

value [ˈvælju:] - оценивать
variety [vəˈraıtı] - разнообразие
versatile [ˈvɜ:səˌtaıl] - разносторонний
via [ˈvaıə] – через, при помощи
via [ˈvaıə] – при помощи
vice versa [vaıs versa] – наоборот
view [vju:] - просматривать
visual [ˈvıʒʊəl] copy – зрительная копия
vital [ˈvaıtəl] – жизненно важно
vital [ˈvaıtl] - важный
volatile [ˈvɒləˌtaıl] – энергозависимый
volatile [ˈvɒləˌtaıl] - энергозависимый, не сохраняющий информацию при выключении (электро-)питания

Ww

wide range of [waıd reın(d)ʒ ɒv] – большое количество
will step – зд. дальнейший шаг
wipe off [waıp ɒf] - стирать
wireless [ˈwaıəlıs] – беспроводной
writeback – обратная запись

Zz

zip drives [zıp draıv] - Zip -накопитель популярный в конце прошлого века сменный накопитель для архивирования данных на относительно дешевых дисках ёмкостью от 100 до 250 Мбайт. Разработан фирмой Iomega.

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