

**МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ УДМУРТСКОЙ РЕСПУБЛИКИ**

Автономное профессиональное образовательное учреждение Удмуртской Республики  
«Техникум радиоэлектроники и информационных технологий  
имени А.В. Воскресенского»

**Практические работы  
по учебному предмету СГ.02 Английский язык**

Разработали  
преподаватели:

С.В.Фоминых

И.В.Фонарёва

Ижевск, 2023

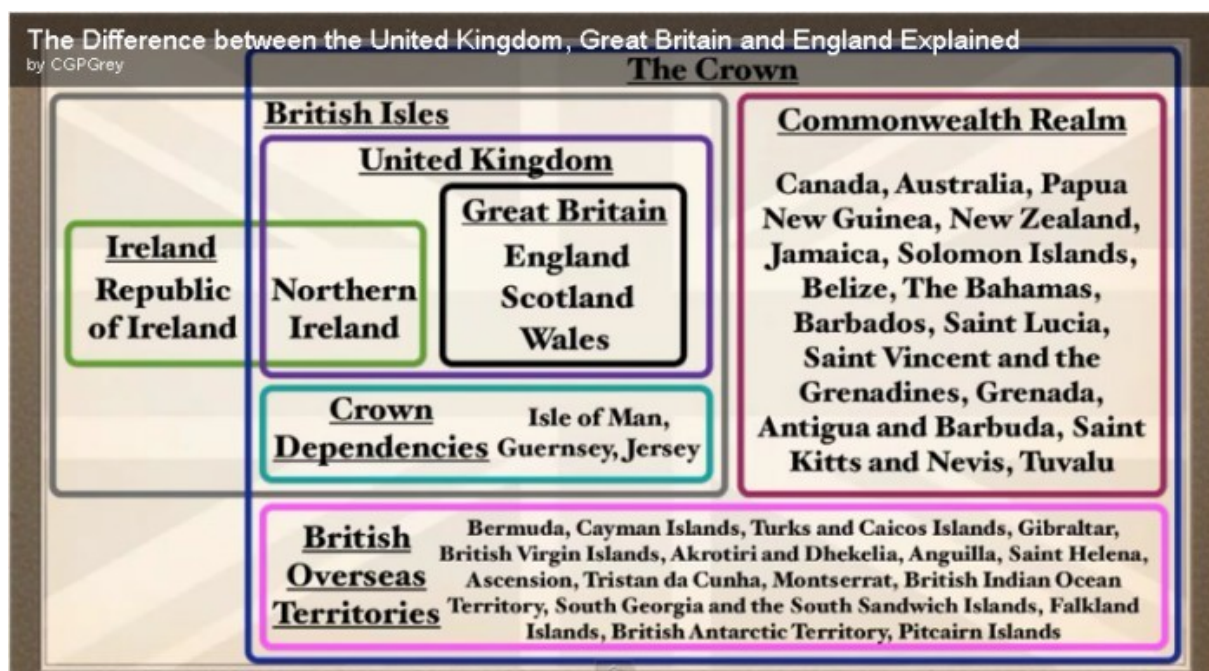
## Практическая работа № 1

### Раздел 1. Роль иностранного языка в профессиональной деятельности

#### Тема 1.1. Страна изучаемого языка, её культура и обычаи

Цель: 1. Введение новых лексических единиц по теме занятия. Фразы, речевые обороты и выражения. Фонетическая отработка и выполнение тренировочных лексических и лексико-грамматических упражнений на закрепление активной лексики и фразеологических оборотов

#### 1. Look and speak about the difference between the United Kingdom, Great Britain and England.



#### 2. Read and translate the text.

##### United Kingdom

England has existed as a unified entity since the 10th century. The Union between England and Wales was enacted under the Statute of Rhuddlan in 1284. In the Act of Union of 1707, England and Scotland agreed to permanent union as Great Britain; the legislative union of Great Britain and Ireland was implemented in 1801, with the adoption of the name the United Kingdom of Great Britain and Ireland, but in 1921, the Anglo-Irish treaty formalized a partition of Ireland, although six northern Irish counties remained part of the United Kingdom and became known as Northern Ireland and the current name of the country is the United Kingdom of Great Britain and Northern Ireland. It was adopted in 1927.

Great Britain was the dominant industrial and maritime power of the 19th century. It played a leading role in developing parliamentary democracy and in advancing literature and science. At its zenith, the British Empire stretched over one-fourth of the earth's surface.

United Kingdom is one of five permanent members of the UN Security Council, a founding member of NATO, and of the Commonwealth. The UK is the only sovereign country to have left the European Union (EU) and it remains outside the European Monetary Union. In 1999 the Scottish Parliament, the National Assembly of Wales, and the Northern Ireland Assembly were established. And it is a significant issue in the UK.

United Kingdom is located in the Western Europe, on the British Islands, including the northern one-sixth of the island of Ireland, between the North Atlantic Ocean and the North Sea, northwest of France. Total territory is 244,820 sq km. It has a border with Ireland. Its climate is temperate, moderated by prevailing southwest winds over the North Atlantic Current. The landscape of UK is mostly rugged hills

and low mountains. Nowadays United Kingdom lies near vital North Atlantic sea lanes, only 35 km from France and linked by tunnel under the English Channel.

The lowest point is Fenland — 4 m; the highest one is Ben Nevis 1,343 m. Its natural resources are coal, petroleum, natural gas, tin, limestone, iron ore, salt, clay, chalk, gypsum, lead.

Official languages are English, Welsh (about 26 % of the population of Wales) and Scottish, as a form of Gaelic (about 60,000 in Scotland).

Government type is constitutional monarchy. Administrative divisions of UK are the following:

England is divided into 47 boroughs, 36 counties, 10 districts;

North Ireland is divided into 24 districts, 2 cities, 6 counties;

Scotland is divided into 32 council areas;

Wales is divided into 11 county boroughs, 9 counties and dependent areas.

The Chief of the state is King Charles III since 8 September 2022. He was born on 14 November 1948.

The Head of government is Prime Minister Rishi Sunak.

### **Vocabulary:**

to exist — существовать; находиться в природе, жить

entity — сообщество; объект; организация

to enact — предписывать, определять, устанавливать; вводить закон; постановлять

permanent — постоянный, перманентный

to implement — выполнять, осуществлять; обеспечивать выполнение

adoption — принятие; усвоение

partition — деление, радел, разделение

county — графство (административно-территориальная единица в Англии)

to remain — оставаться

current — текущий, данный, современный; течение

maritime — морской

zenith — зенит

to stretch — иметь протяжение, простираться, тянуться

the Commonwealth — Содружество (свободное объединение независимых государств, не имеющее общего договора или конституции)

the European Monetary Union — Европейский монетарный Союз

issue — исход, результат (чего-л.); спорный вопрос, предмет спора, разногласие; проблема

border — граница

temperate — умеренный (о климате и т. п.)

to moderate — ослаблять, смягчать

to prevail — преобладать, господствовать, превалировать; доминировать

landscape — ландшафт, пейзаж

rugged — пересеченный, заваленный, труднопроходимый (о местности)

coal — уголь

petroleum — нефть

limestone — известняк

iron ore — железная руда

clay — глина, глинозем

chalk — мел

gypsum — гипс

lead — свинец

borough — район; городок, небольшой город

### **3. Answer the questions:**

1. How long has England existed as a unified entity?

2. When was the union between England and Wales enacted?

3. When was the legislative union of Great Britain and Ireland implemented?
4. When was the name the United Kingdom of Great Britain and Northern Ireland adapted?
5. What is Northern Ireland?
6. Was Great Britain the dominant industrial and maritime power of the 17th century?
7. Is there a connection between France and Great Britain today?
8. Is the United Kingdom a member of the European Monetary Union?
9. Where is the United Kingdom located?
10. What climate has the United Kingdom?
11. What landscape has Great Britain?
12. What are the lowest and the highest points of the country?
13. What are official languages in Great Britain?
14. What are the natural resources?

## **Практическое занятие № 2.**

### **«Иностранный язык как средство международного общения в современном мире»**

Цель: проведение диалога-дискуссии по теме.

Необходимо:

знать:-значения новых лексических единиц, связанных с тематикой данного этапа и с соответствующими ситуациями общения.

уметь:-читать аутентичные тексты разных стилей, используя основные виды чтения (ознакомительное, изучающее, просмотровое/поисковое);

-понимать относительно полно (общий смысл) высказывания на изучаемом иностранном языке в различных ситуациях общения.

Основные понятия и термины по теме: коммуникация/общение (communication), личностные качества (personal qualities), черты характера (traits of character), чувства (feelings), эмоции (emotions).

Программа деятельности:

1. Введение лексики по теме. Чтение текста «English Language is a World Language».
2. Обсуждение функциональных особенностей английского языка.
3. Повторение грамматического материала: употребление имен существительных во множественном числе; образование и употребление притяжательного падежа существительных.

Краткое изложение теоретических вопросов:

1. Английский язык – язык международного общения. В Разделе 1 используется языковой материал: идиоматические выражения, оценочная лексика, единицы речевого этикета, перечисленные в данном разделе и обслуживающие ситуации общения в рамках изучаемых тем.
2. В процессе изучения данной темы, обучающиеся должны научиться: рассказывать, рассуждать в связи с изученной тематикой, проблематикой.

Задание 1. Отработайте чтение следующих слов, запишите их транскрипцию:

competition, communication, knowledge, learning, listening, speaking, reading, writing, format, develop, universe, household, background, in-law.

Задание 2. Напишите следующие слова транскрипционными знаками:

childcare, extended family, caring, sharing, respect, security, comfort, privacy, trust, family, values, requirement, product, manageable, surface, flexibility, damage, contain, mixing, efficiently, appearance.

Задание 3. Прочитайте текст и ответьте на вопросы.

«English Language is a World Language»

1. English as a World language - Английский, как язык международного общения

Nowadays English has become the world's most important and most universal language. It is the official language in over forty countries and the most used language in international business, science, medicine, trade and cultural relations. Over 300 million people speak it as a mother tongue (1). The native speakers of English live in Great Britain, the USA, Australia and New Zealand. English is one of the official languages in the Irish Republic, Canada, the South Africa Republic.

It is one of the official languages of the United Nations Organisation and other political organisations. It is the language of world's scientific literature and computers technology.

England's history helps to understand the present condition of English. Many English words were borrowed (2) from the language of Angles and Saxons. Hundreds of French words came into English. Many new words were brought by traders and travellers.

To know the English language today is absolutely necessary for every educated person, for every good specialist. English is everywhere in our life. It is in signs, clothing, soft drinks (3), and household products (4) around the world. The names of pop groups, computers software (5), and magazines are often written in English.

English words are also used as elements of magic to be included on T-shirts (6), sweaters (7), caps etc. Some think English is chic (8), stylish (9), even when the language on these designed items (10) makes no sense (11).

That is why in order to understand ourselves and the world around us we have to study foreign languages and English in particular (12).

Vocabulary

1. mother tongue [tʌŋ] - родной язык
2. to be borrowed - быть заимствованными (слова)
3. soft drinks - безалкогольные напитки
4. products - предметы домашнего обихода
5. software ['sɒftweə] - программное обеспечение
6. T-shirt - футболка
7. sweater ['swetə] - свитер
8. chic [ʃi:k] - шикарно
9. stylish ['stɑɪlɪʃ] - современно, стильно
10. designed items - надписи на изделиях
11. to make no sense - не иметь смысла
12. in particular - особенно

Questions

1. Has become the English world's most important language? Why?
2. How many people speak it as a mother tongue?

3. In what countries do people use English as native language?
  4. Can you name any English words that have entered the Russian language?
  5. What is English to you?
- ## 2. English as a World Language

1). Today English is the language of the world. 2). It is only in the course of the last hundred years that English has become a world language. 3). In Shakespeare's time it was a «provincial» language of secondary importance with only 6 million native speakers. 4). Nowadays over 300 million people speak it as a mother tongue.

5). English is the official language of the United Kingdom of Great Britain and Northern Ireland, of the United States of America, of Australia and New Zealand. 6). It is used as one of the official languages in Canada, the Republic of South Africa and the Irish Republic.

7). English is also spoken as a second language in the former British and US colonies. 8). In a number of speakers (400 million) it is second only to Chinese.

9). English is the major international language of communication in such areas as science, technology and business. 10). It is the language of literature, education, modern music, and international tourism. 11). English is the major language of diplomacy, it is one of the official languages of the United Nations organization and other political organizations.

12). Russia is integrating into the world community and the problem of learning English for the purpose of communication is especially urgent today.

13). One should say that English is not an easy language to learn. 14). There is a big problem of spelling, of the large number of exceptions to any rule. 15). This language is very idiomatic and the prepositions are terrible. 16). English is one of those languages which may seem easy in the beginning, but then the bridge between basic knowledge and mastery takes a long time to cross. 17). But if you cross this bridge it will give you great satisfaction. 18). You will be able to speak to people from other countries, to read foreign authors in the original, which makes your outlook wider. 19). To know English today is absolutely necessary for every educated man, for every good specialist.

Questions:

1. It is easy to learn foreign languages?
2. Which language in the world is spoken by most people?
3. When did you begin learning English?
4. What was the process of learning?
5. Why is English not an easy language to learn?
6. Why is it necessary to learn English?
7. What advantages have the people who know foreign languages?

Proverbs - Пословицы

Live and learn. - Век живи, век учись.

No pains, no gains. - Меньше слов — больше дела.

It is never too late to learn. - Учиться никогда не поздно.

Industriousness is the mother of good luck. - Без труда нет плода.

Knowledge is power. - Знания — сила.

All things are difficult before they are easy - Терпение и труд всё перетрут.

Задание 4. Прочитать текст и обсудить функциональные особенности английского языка.

## English as a World Language

English belongs to the Teutonic or Germanic branch of the Indo-European family of the languages. It is only in the course of the last hundred years that English is become a world language. In Shakespeare's time it was a provincial language of secondary importance with only 6 million native speakers. Nowadays English has become the world's most important language in politics, science. In a number of speakers (400 million) it is second only to Chinese. It is the official language of the United Kingdom of Great Britain and Northern Ireland, of the United States of America, of Australia and New Zealand. English is used as one of the official languages in Canada, the Republic of South Africa and the Irish Republic. It is also spoken as a second language by many people in India, Pakistan. The number of second-language speakers may soon exceed the number of native speakers, if it has not done so already.

The working languages of the United Nations are English and French. All documents are written only in the working languages. English has become now the language of international communication. At present no other language on Earth is better suited to play the role of world language.

People who speak English fall into one of three groups: those who have learnt it as their native language, those who have learnt it as a second language in a society which is mainly bilingual and those who are forced to use it for a practical purpose - professional or educational.

Nowadays when science and technology are progressing so fast all kind of specialists need English in their work.

I am not confident with my English. I think it doesn't sound well. But I am a good English learner. I always attend my English classes and work hard.

## Практическая работа №3

### Тема 2.8. Культурные и национальные традиции, краеведение, обычаи и праздники

**Цель:** совершенствование и развитие навыков устной и письменной речи, навыков чтения и перевода текста со словарём по теме.

### Содержание работы Exercises to practice vocabulary

#### **1. Pronounce the following words correctly paying attention to the way of pronunciation of the vowels and combinations of vowels:**

[ʌ] public, Monday, buns, stuff, mussels, luck, pumpkin, southern, other, country

[ɔ] holiday, Boxing, cross, holly, property, costume, continent, crossway

[ou] rolling, folk, Shrove, ghost, flow

[æ] Valentine, candy, candle, fancy, magic, damage, pancake

[ei] day, date, exchange, Saint, paint, play, scrape

#### **2. Read the words paying attention to the way of reading of the consonant and combinations of consonants:**

[k] candle, trick, scrape, costume, mark, magic, kind, confess, ill-luck, queen

#### **3. Read and translate the following sentences using active vocabulary:**

1. The term “bank holiday” dates back to the 19<sup>th</sup> century.
2. Christmas Day and Boxing Day are observed on the 25<sup>th</sup> and 26<sup>th</sup> of December respectively.
3. Besides public holidays there are other days, which are marked by centuries-old traditions. These are different festivals and anniversaries.
4. February, 14 is St. Valentine’s Day, it is a day for choosing sweethearts and exchanging signs of love.
5. Valentine was a colourful card with a short love verse composed by the sender.
6. Shop-made valentines are cards with ready-made congratulations and decorations.
7. On Shrove Tuesday Christians confessed their sins to a priest.
8. The customs of Halloween, the eve of All Saints’ Day, date back to a time, when people believed in evil spirits.

**4. Fill in the blanks with the prepositions:**

1. There are several bank holidays ... the United Kingdom.
2. Most ... the holidays are of religious origin.
3. Certain customs and traditions are connected ...most bank holidays, because many ... them are part ... holiday seasons like Easter and Christmas seasons.
4. Public holidays do not fall ... the same date each year.
5. Only Christmas Day and Boxing Day are observed ... the 25<sup>th</sup> and 26<sup>th</sup> of December accordingly.
6. Good Friday and Easter Monday depend ... Easter Sunday which falls ... the first Monday .. May.

**5. Read the sentences, using the English phrases instead of the Russian ones:**

1. A bank holiday is (*официальный праздник*) when all banks and post offices are closed.
2. (*Рождество, 25 декабря*) is the day which the families traditionally spend together.
3. People usually give some small presents or money to postmen or servants (*в день подарков*).
5. (*В пятницу перед Пасхой*) people usually eat (*особые булочки с крестом наверху*).
6. (*Некоторые традиции и обычаи англичан*) are famous all over the world.
7. St. Valentine’s Day (*празднуется*) on the 14<sup>th</sup> of February.

**6. Read the words, guess the holiday and say the odd word:**

- 1) Fir tree, holly , Santa Claus, pumpkin, stockings, coloured lights and decorations, cards
- 2) Shrove Tuesday, Maundy Thursday, maypole, making pancakes, going to church, egg-rolling, an ancient symbol of new life
- 3) Trafalgar Square, first footing, Hogmanay, fir tree, Morris dance
- 4) “Penny for a guy”, “trick or treat”, jack-o’lanterns, ghosts, horrible faces, pumpkin



- 5) Joke, tricks, a pint of pigeon’s milk, laugh, autumn
- 6) Love, flowers, summer, cards, winter
- 7) Gunpowder Plot, bonfires, the Houses of Parliament, “Penny for a guy”, jack-o’lanterns

**7. Complete the sentences with words traditionally associated with Christmas:**

cards	charity	Eve	carols
pudding	presents/gifts	chimney	candles

- 1) The tradition of singing \_\_\_\_\_, or Christmas songs, at Christmas is older than Christmas itself.
- 2) Traditionally people decorate their trees on Christmas \_\_\_\_\_ — that's December 24.
- 3) A traditional Christmas \_\_\_\_\_ usually has a piece of holly on the top.
- 4) On Christmas Day everyone gives and receives \_\_\_\_\_.
- 5) Christmas trees are often decorated with \_\_\_\_\_ symbolizing Christ as “Light of the World”.
- 6) Christmas \_\_\_\_\_ often show the pictures of Nativity.
- 7) Santa Claus visits houses by climbing down the \_\_\_\_\_.
- 8) Carol-singers usually collect money for \_\_\_\_\_.

**Fill in the blanks with the appropriate words from the list:**

Festival, guess, sign, a joke, parties, was given, throw, the rest, failed, pudding, ghosts, blow up, dress up, burn, in love with, fireworks.
--

- 1) British people celebrate Christmas and Easter with \_\_\_\_\_ of Europe.
- 2) Guy Fawkes planned to the Houses of Parliament, but his plot \_\_\_\_\_, and he was executed.
- 3) Every November, 5 British people a model of Guy Fawkes, made of old clothes. There are lots of everywhere on this day.
- 4) During Pancake Races people must race and \_\_\_\_\_ pancakes in the air at the same time.
- 5) On the fourteen of February people send a card to someone they are \_\_\_\_\_, but they didn’t it.

- 6) You must know who it is from.
- 7) October the thirty-first is a festival of and witches, when children in unusual costumes.
- 8) Mr. Robinson four pairs of socks as a gift.
- 9) There is a little present, a paper hat and inside the crackers.
- 10) Silver coin in\_ will bring you good luck.
- 11) After Christmas there's the last of the old year - New Year's Eve.
- 12) All round the country people have \_\_\_\_\_ .

**Check your results with these ones:**

- 1) British people celebrate Christmas and Easter with **the rest** of Europe.
- 2) Guy Fawkes planned to **blow up** the Houses of Parliament, but his plot **failed**, and he was executed.
- 3) Every November, 5 British people **burn** a model of Guy Fawkes, made of old clothes. There are lots of **fireworks** everywhere on this day.
- 4) During Pancake Races people must race and **throw** pancakes in the air at the same time.
- 5) On the fourteen of February people send a card to someone they are **in love with**, but they didn't **sign it**.
- 6) You must **guess** who it is from.
- 7) October the thirty-first is a festival of **ghosts** and witches, when children **dress up** in unusual costumes.
- 8) Mr. Robinson **was given** four pairs of socks as a gift.
- 9) There is a little present, a paper hat and **a joke** inside the crackers.
- 10) Silver coin in **pudding** will bring you good luck.
- 11) After Christmas there's the last **festival** of the old year - New Year's Eve.
- 12) All round the country people have **parties**.

**1. Read and translate. Make up a cluster using this information.**

**Some special days in Britain**

**Saint Valentine's Day**

**14th February**, when traditionally people send a valentine (=special card) to someone they love, often without saying who the card is from. They may also send flowers or other presents as a sign of love.



Cupid



a daffodil



a leek

**Saint David's Day**

Saint David, the patron saint of Wales, is celebrated on **1st March** each year. This is the Welsh national holiday. Many Welsh people wear one or both of the national emblems of Wales. Boys usually wear leeks while girls wear daffodils.

### **Saint Patrick's Day**

The patron saint of Ireland, who helped to spread the Christian religion there and who people think got rid of snakes in Ireland. St Patrick's Day, **17th March**, is celebrated in Ireland where people drink Irish beer and often wear green clothes.



a shamrock



an Easter Bunny

### **Easter**

A Christian holiday in March or April when Christians remember the death of Christ and his return to life. People give each other chocolate eggs. Children believe the Easter bunny brings the chocolate eggs.

### **Saint George's Day**

This is the patron saint of England. The national holiday is celebrated on **23rd April**. This day is not celebrated as much in England as other National Days are around the world. People wear a rose or fly the St. George's Cross flag



St. George's Cross



a pumpkin

### **Hallowe'en**

The night of **31st October**, which is now celebrated by children, who dress in costumes and go from house to house asking for sweets. This is called trick-or-treating. In the past, people believed the souls of dead people appeared on Hallowe'en.

### **Guy Fawkes Night**

People celebrate this night on the 5th November. Guy Fawkes tried to blow up the Houses of Parliament in 1605. He didn't succeed. Now people celebrate this with fireworks, burning dolls and a song: remember, remember the fifth of November!



fireworks



a thistle

### **Saint Andrew's Day**

He is the patron saint of Scotland and St Andrew's Day, **30th November**, is celebrated as the Scottish national day. They wear a thistle on this special day.

### **Christmas**

Christmas Eve is celebrated on the **24th December**. Children leave socks and hope Father Christmas will bring some presents. Christmas Day, **25th December** is a family day. People usually have dinner and sit around the Christmas tree.



Father Christmas



a box

### **Boxing Day**

This name goes back to the tradition that richer people gave the poor a box, filled with all kinds of food. Even today some companies give their workers a kind of Christmas box. This bank holiday is celebrated on **26th December**.

### **New Year's Eve**

On 31st December, the last day of the year, many people go to parties. They also make some New Year's resolutions (a decision to do something better or to stop a party doing something bad in the new year).

## **Translate the text into Russian:**

### **Customs and traditions of Great Britain**

The British created a powerful Empire with a successful economy, culture, the preservation of their traditions. Traditions of Great Britain are the basis of their culture. Great Britain is considered to be one of the most democratic countries, but the British life continues to be determined by the old traditions. That's why even the most strange and old English traditions affect modern daily life. There is the long menu of traditional British food. There are many royal occasions. There are songs, saying and superstitions. English traditions can be classified into several groups: national holidays, religious holidays, Royal traditions and public festivals.

What about royal occasions? There are numerous of them in Britain. One of the most interesting royal traditions is, for example, the changing of the guard. This happens every day at Buckingham Palace, the Queen's home in London. Soldiers stand in front of the palace. Each morning these soldiers (the "guard") change. One group leaves and another arrives. In summer and winter tourists stand outside the palace at 11.30 every morning and watch the Changing of the Guard.

Traditionally the Queen opens Parliament every autumn. The Queen travels from Buckingham Palace to the Houses of Parliament in a gold carriage the Irish State Coach. At the Houses of Parliament the Queen sits on a "*throne*" in the House of Lords. Then she reads the "*Queen's Speech*". At the State Opening of Parliament the Queen wears a crown.

The Queen is the only person in Britain with two birthdays. Her real birthday is on April 21st, but she has an "official" birthday, too. That's on the second Saturday in June. And on the Queen's official birthday, there is a traditional ceremony called the Trooping of the Colour. It's a big parade with brass bands and hundreds of soldiers at Horse Guards' Parade in London. A "regiment" of the Queen's soldiers, the Guards, march in front of her. At the front of the parade is the regiment's flag or "colour". The Guards are trooping the colour. Thousands of Londoners and visitors watch in Horse Guards' Parade. And millions of people at home watch it on television.

Another interesting tradition is The Queen's telegram. This custom is not very old, but it's for very old people. On his or her one hundredth birthday, a British person gets a telegram from the Queen.

The registration for young Royal swans appeared in the 12th century. There is a very special royal tradition. Nine centuries, every year in July on the Thames there are special boats with the Royal emblem. The purpose of the expedition to count – how many new swans appeared in the property of Her Majesty. The name of this strange but interesting custom is Swan Upping.

There are also many different festivals in Britain. The Edinburgh international arts festival takes place in the Scottish capital every August and lasts almost a month. It also presents theatre, Opera, dance and music, concerts of classical, orchestral, vocal music, dance shows, ballets. This festival is listed in the Guinness book of records as the largest in the world. Another great festival, a truly Welsh event is the

Eisteddfod, a national festival of traditional poetry and music, with a competition for the best new poem in Welsh.

Traditions of everyday life of English people are also worth our attention. For example, talking about the weather. The British talk about the weather a lot because it changes so often. The British are also considered to be great tea lovers. Traditional tea time in England is late afternoon, when world-famous 5 o'clock tea is served. Five o'clock tea is a ceremony, a work of art. But tea is also drunk in the morning and during the day because the English believe it to be healthy and refreshing.

English people also have traditions in social life. They like to spend their free time in numerous pubs where they can have a glass of beer and talk about different things with their friends.

Thus Britain is full of traditions and customs. Some are funny and some are strange. But they are all interesting. They are all part of the British way of life.

### Vocabulary:

**custom** – обычай

**preservation** – сохранение

**to determine** – определять, обуславливать

**to affect** – влиять, оказывать влияние

**superstition** – суеверие, примета

**festival** – празднование, фестиваль

**occasion** – событие, мероприятие

**carriage** – карета, экипаж

**the Irish State Coach** – Ирландский парадный экипаж

**throne** – трон

**to wear** - (wore, worn) — одевать, носить

**the Trooping of the Colour** – вынос (пронос) знамени

**horse Guards' Parade** - парад конной гвардии

**regiment** ['redʒimənt] - полк

«colour» - здесь: знамя, флаг

**swans** - лебеди

**to count** – считать, подсчитывать

**property** - собственность

**Her Majesty** – Её Величество

**Swan Upping** – учет (маркировка) лебедей

**Edinburgh** ['edɪnbərə] - Эдинбург

**Eisteddfod** - [ais'tedvɒd] - ежегодный фестиваль бардов (в Уэльсе)

**ballet** - ['bæleɪ] - балет

**to list** – вносить (в список)

**the Guinness book of records** – Книга рекордов Гиннеса

**truly** – действительно, по-настоящему

**event** - событие

**Welsh** – валлийский язык

**a work of art** – произведение искусства

**refreshing** – освежающий

**Тема 1.2.**

Роль образования в современном мире

### Практическое занятие № 4

**Цель:** . Введение новых лексических единиц по теме занятия. Фразы, речевые обороты и выражения. Фонетическая отработка и выполнение тренировочных лексических и лексико-грамматических упражнений на закрепление активной лексики и фразеологических оборотов

**Задачи:**

**Практическая:**

- повторение, обобщение и систематизация знаний учащихся по данной теме.

- развитие речевых умений.
- совершенствование грамматических навыков (условные предложения)
- развитие умений аудировать с детальным пониманием содержания.
- развитие умения запрашивать информацию с помощью вопросов.

**Развивающая:**

- развитие способности к осмысленности восприятия и развитие способности к сравнению и сопоставлению фактов.

**Воспитательная:**

- способствовать формированию интереса к системам образования в англоязычных странах.

**Задание № 1.**

There is a saying about education. Let's read and translate it.

***The better a person is educated, the greater his/her chance for success and high living standard is.*** (How do you understand it? The more a man knows, the more opportunities he has. Knowledge gives a man great power. Everybody must try to increase his knowledge.)

Do you share this opinion? Why? (Do you agree?)

Knowledge is power, isn't it?

Where do you get knowledge? (from books, magazines, TV, the Internet)

Do you try to learn all subjects well?

Do you try to broaden your outlook?

**Задание № 2.**

**Развитие речевых навыков.**

*The more we learn – the more we know,*

*The more we know – the more we forget,*

*The more we forget – the less we know.*

*So why study?*

**Answer the questions: “Why do you study? Why do you go to the college?”, “Is education important?”**

**Choose any of these:**

*I go to the college, because we must get education school;*

*because secondary education is compulsory;*

*because we have exams this year;*

*because it is interesting to study;*

*because I like to take part in social life;*

*because knowledge is power;*

*because I want to get an interesting profession;*

*because I want to enter a University;*

*because I want to succeed in life.*

**Задание № 3. Phonetic practice.** Proverbs about learning. Match the proverbs and their Russian equivalents. Repeat it.

***Live and learn.*** - *Век живи, век учись.*

***It's never late to learn.*** - *Учиться никогда не поздно.*

***Practice makes perfect.*** - *Повторение – мать учения.*

***A little learning is a dangerous thing.*** - *Недоученный хуже ученого.*

***Learning is an eye in the mind.*** - *Учение – свет, а не ученье – тьма.*

***Never put off till tomorrow what you can do today.*** - *Никогда не откладывай на завтра то, что можешь сделать сегодня.*

**Задание № 4. Активизация лексических навыков.**

**Give the definition for the following (using active vocabulary from our theme):**

- the process of teaching or learning, usually in a school or college (*education*).
- to go to (school) (*attend*).
- a school for children between 3 and 6 years old that prepare them for school – *kindergarten (nursery school)*
- a school for children between the ages 7 to 10 – *primary school*
- a school for children between the ages of 11 to 18 – *secondary school*
- a set of clothes that school children wear so that they all look the same (*school uniform*).
- an organization for people who have the same interest or enjoy similar activities – *club*
- one of the twelve years you are at school in the USA – *grade*
- to get good results for exams – *to pass exams*

**Задание № 5.**

**Translate into Russian**

Education in Australia

Education in Australia is compulsory between the ages of 6 and 15. Most children (about 70 %) study at state schools where education is free.

Most Australians live in cities along the eastern and south-eastern coasts. But there are also many remote inland towns on the continent. So in several states of Australia there are “Schools of the Air”. These schools are situated in the areas far away from the big cities and towns. How do students attend the Schools of the Air? The easiest thing to get a classroom experience is to use a two-way radio or other means of communication. By listening to the radio, watching TV and video the students learn about the world around them though they stay in their own homes.

There is also “Schools Through the Mailbox” for children who live far away from any school in the area. Subjects are divided into one-or two-week units. Each unit including new material, illustrations, exercises and tests can be sent to pupils any time.

Schools in the USA

Speaking about schools in the USA I'd like to say that boys and girls start school when they are 6 years old. Most children attend public elementary and secondary schools. The parents do not have to pay for their children's education in such schools. If a child goes to a private school, his parents pay the school for the child's education.

Secondary education is compulsory in the USA between the age of 6 and 18. So most students are 18 years old when they graduate from secondary school. At elementary school a student spends 5 or 8 years in different types of schools. High schools provide secondary education.

Today about half of the high school graduates go on to colleges and universities. Some of them are free and a student at a state university does not have to pay very much if his parents live in that state. Private colleges and universities are expensive, however. Almost half of the college students in the United States work while they are studying. When a student's family is not rich, he has to earn money for the part of his college expenses.

Schooling in Great Britain.

Education in Britain reflects the country's social system: it is class-divided and selective. The first division is between those who pay and those who do not pay. The majority of schools in Britain are supported by public funds and the education is free there. But there are also public schools and if parents send their children to such schools they must pay for the education.

Another important feature of schooling in Britain is a variety of opportunities offered to schoolchildren. Education in England, Wales and Northern Ireland follows the National Curriculum.

The English school curriculum is divided into Arts (or Humanities) and Sciences. That's why secondary school pupils study in groups: a Science pupil will study Chemistry, Physics, Mathematics (Maths), Economics, Technical Drawing, Biology, Geography; an Art pupil will do the English language and Literature, History, foreign languages, Music, Art, Drama. Besides these subjects they must do some general education subjects like Physical Education (PE), Home Economics for girls, and Technical

subjects for boys, General Science.

### Oxford and Cambridge

Oxford and Cambridge are the oldest universities in Britain. Only very rich families can send their children to these universities. Many people think they are the best universities in Britain. Many prime ministers and politicians graduated from these universities. Oxford and Cambridge universities consist of a number of colleges. Each college offers teaching in a wide range of subjects. Oxford and Cambridge different, but in many ways they are alike. Each college has its name, its coat of arms. Oxford and Cambridge is governed by a master. Students study for 3 years and after it they take the Degree of Bachelor of Arts. Some courses, such as languages or medicine may be one or two years longer.

### Задание № 6.

#### Fill in the missing words.

1. State schools provide \_\_\_\_\_ (free) education in Great Britain.
2. There are no \_\_\_\_\_ (entrance exams) in comprehensive schools in Great Britain.
3. At the end of each stage pupils in Great Britain have \_\_\_\_\_ (national exams).
4. Secondary education in Great Britain and in Russia is \_\_\_\_\_ (compulsory).
5. If pupils wants to study at a grammar school, they have to \_\_\_\_\_ (pass 11+exams).
6. Kindergartens, nursery classes are \_\_\_\_\_ (optional) in many countries.
7. Parents pay for education in \_\_\_\_\_ (private schools).
8. All schools in Great Britain follow the same \_\_\_\_\_ (National curriculum).
9. After finishing school in Russia pupils get \_\_\_\_\_ (a certificate of complete secondary education).
10. To enter the University in the USA students have to take \_\_\_\_\_ (SAT Scholastic Aptitude Test).

### Задание № 7.

#### Read the text and put the verb into the correct form.

“How to choose a career”

Choosing a career depends upon your character, intellect, abilities and talent. Do you think someone (1) \_\_\_\_\_ (be) a good teacher if he (2) \_\_\_\_\_ (not love) children, or someone (3) \_\_\_\_\_ (be) a good vet if he (4) \_\_\_\_\_ (not like) animals?

You (5) \_\_\_\_\_ (be) never a respectable judge if you (6) \_\_\_\_\_ (not be) just and honest. Only he who (7) \_\_\_\_\_ (have) a creative mind (8) \_\_\_\_\_ (be) a successful businessman. Only those who (9) \_\_\_\_\_ (not be) afraid of being in the open sea during a storm (10) \_\_\_\_\_ (become) sailors.

There are a lot of interesting professions, and many roads are opened before school leavers. Nowadays most professions are offered only to educated people. So if you (11) \_\_\_\_\_ (want) to be a professional you (12) \_\_\_\_\_ (have to) enter an institute or university. You (13) \_\_\_\_\_ (enter) a university only if you (14) \_\_\_\_\_ (study) hard.

So, it is necessary to develop your strength of will. If you (15) \_\_\_\_\_ (have) this quality, your dreams (16) \_\_\_\_\_ (come) true soon.

### Практическое занятие № 5

Самостоятельное чтение и перевод (со словарем) текстов по теме «Система образования в России». Ответы на вопросы по тексту «**The System of Education in Russia**»

#### *Система образования в России*

#### *Цель работы:*

- ознакомление с системой образования в школах Российской Федерации;
- развитие навыков учащихся в чтении с извлечением детальной информации по теме «The System of Education in Russia».

#### 1. *Прочитайте и переведите текст " The System of Education in Russia".*

Education plays a very important role in our life. All Russian children have the right to education, but it is



not only a right, it is a duty, too. The citizens of Russia have a right to receive the education which is guaranteed in the Constitution of the Russian Federation.

Education is a key to a good future. And schools are the first step on the education-way. Schools help young people to choose their career, to prepare for their future life; they make pupils clever and well-educated. They give pupils the opportunity to fulfill their talent.

The system of education in Russia is very much the same as in other highly developed countries. Education in our country is compulsory and now lasts eleven years. School term has 3 stages: elementary (grades 1-4), middle (grades 5-9) and senior (grades 10-11) classes.

There are nurseries and kindergartens for little children aged from 2 to 6. Children play games, go for walks, and have regular meals there. But the lessons of reading, arithmetic, drawing and other subjects have become more complicated than they were in the kindergartens ten years ago. There are the kindergartens where children learn foreign languages.

At the age of 6 or 7 Russian children go to secondary schools. The level of education in Russian secondary schools is rather high. Children receive primary education during the first four years.

Then they enter the middle school. In the middle school pupils study: Russian and foreign languages, Russian literature, algebra, geometry, physics, chemistry and biology. They have their final examinations in the ninth form.

Then the pupils may leave school and enter some professional college or receive full-time secondary education in the tenth and eleventh forms. The program of the last two years is the most complicated one. Besides the subjects mentioned above it often includes trigonometry, organic chemistry and astronomy. Pupils get the necessary knowledge for entering the universities and institutes. There are some special schools where pupils have advanced programs in physics, mathematics or foreign languages.

Every city in Russia has at least one university and several institutes. The oldest Russian universities are the Moscow State University, the University of St. Petersburg and some others.

## **2. Запомните слова и выражения по теме "The System of Education in Russia":**

gradually - постепенно

creation - создание

nursery - ясли

considerably - значительно

full-time secondary education - полное среднее образование

trigonometry - тригонометрия

organic chemistry - органическая химия

entry - поступление

advanced - продвинутый, углубленный

at least - по меньшей мере

## **3. Ответьте на вопросы по содержанию текста:**

1. Is the system of education in Russia highly developed?
2. What establishments are organized for children from 2 to 6?
3. What do children do in the kindergartens?
4. What age is the compulsory school age in Russia?
5. How many years does the primary school include?
6. What subjects do pupils of the middle school study?
7. Can pupils leave school after the ninth form?
8. How many years do they attend school to receive full-time secondary education?
9. What subjects do they study during the final two years?
10. Are there many higher educational establishments in Russia?
11. Are there many universities in your native city?

**Тема 1.2. Роль образования в современном мире**

### **Практическое занятие № 6**

**Цель:** Самостоятельное чтение и перевод (со словарем) текста по теме «Система образования в

стране изучаемого языка». Ответы на вопросы по тексту Ответы на вопросы по тексту

## «Education in Britain»

### Задачи:

- Образовательная: отрабатывать полученные навыки на конкретном примере; учить понимать иноязычную речь на слух.
- Развивающая: развивать у студентов умение анализировать конкретные ситуации, объяснять факты и события, применять полученные знания в конкретной ситуации.
- Воспитательная: формировать интерес к предмету, знакомиться с традициями и обычаями страны изучаемого языка. Формировать положительное отношение к учебе, к самостоятельной работе

### *1. Повторение лексики по данной теме:*

#### **Vocabulary:**

compulsory — обязательная

nursery school — детский сад

exam — экзамен

subject — предмет

university — университет

private — частный

opportunity — возможность

to award — давать, присваивать

bachelor — бакалавр

master — магистр

### *2. Работа с текстом. «Education in Britain» (Read the text, answer the questions).*

#### **Education in Britain**

In England and Wales compulsory school begins at the age of five, but before that age children can go to a nursery school, also called play school. School is compulsory till the children are 16 years old.

In Primary School and First School children learn to read and write and the basis of arithmetic. In the higher classes of Primary School (or in Middle School) children learn geography, history, religion and, in some schools, a foreign language. Then children go to the Secondary School.

When students are 16 years old they may take an exam in various subjects in order to have a qualification. These qualifications can be either G.C.S.E. (General Certificate of Secondary Education) or "O level" (Ordinary level). After that students can either leave school and start working or continue their studies in the same school as before. If they continue, when they are 18, they have to take further examinations which are necessary for getting into university or college.

Some parents choose private schools for their children. They are very expensive but considered to provide a better education and good job opportunities.

In England there are 47 universities, including the Open University which teaches via TV and radio, about 400 colleges and institutes of higher education. The oldest universities in England are Oxford and Cambridge. Generally, universities award two kinds of degrees: the Bachelor's degree and the Master's degree.

In England and Wales compulsory school begins at the age of five, but before that age children can go to a nursery school, also called play school. School is compulsory till the children are 16 years old.

In Primary School and First School children learn to read and write and the basis of arithmetic. In the higher classes of Primary School (or in Middle School) children learn geography, history, religion and, in some schools, a foreign language. Then children go to the Secondary School.

When students are 16 years old they may take an exam in various subjects in order to have a qualification. These qualifications can be either G.C.S.E. (General Certificate of Secondary Education) or "O level"

(Ordinary level). After that students can either leave school and start working or continue their studies in the same school as before. If they continue, when they are 18, they have to take further examinations which are necessary for getting into university or college.

Some parents choose private schools for their children. They are very expensive but considered to provide a better education and good job opportunities.

In England there are 47 universities, including the Open University which teaches via TV and radio, about 400 colleges and institutes of higher education. The oldest universities in England are Oxford and Cambridge. Generally, universities award two kinds of degrees: the Bachelor's degree and the Master's degree.

### 3. Answer the questions:

#### Questions:

1. When does compulsory school begin?
2. How long does a child stay in compulsory school?
3. What subjects do children learn in Primary School?
4. What kind of exam do students have to take when they are 16?
5. Do students have to leave school at the age of 16 or to continue their studies?
6. How do private schools differ from the regular ones?
7. How many universities are there in England?
8. What is the Open University?
9. What kinds of degrees do universities award?

#### Практическое занятие № 7

Подготовка и пересказ монолога «Роль образования в моей жизни»

Задачи:

*Практическая:*

- повторение, обобщение и систематизация знаний учащихся по данной теме.
- развитие речевых умений.
- совершенствование грамматических навыков (условные предложения)
- развитие умения запрашивать информацию с помощью вопросов.

*Развивающая:*

- развитие способности к осмысленности восприятия и развитие способности к сравнению и сопоставлению фактов.

*Воспитательная:*

- способствовать формированию интереса к образованию.

Задание № 1.

There is a saying about education. Let's read and translate it.

*The better a person is educated, the greater his/her chance for success and high living standard is. (How do you understand it? The more a man knows, the more opportunities he has. Knowledge gives a man great power. Everybody must try to increase his knowledge.)*

Do you share this opinion? Why? (Do you agree?)

Knowledge is power, isn't it?

Where do you get knowledge? (from books, magazines, TV, the Internet)

Do you try to learn all subjects well?

Do you try to broaden your outlook?

Задание № 2.

Развитие речевых навыков.

*The more we learn – the more we know,*

*The more we know – the more we forget,*

*The more we forget – the less we know.*

*So why study?*

Answer the questions: "Why do you study? Why do you go to the college?", "Is education important?"

Choose any of these:

*I go to the college, because we must get education school;*

*because secondary education is compulsory;*

*because we have exams this year;*

*because it is interesting to study;*

*because I like to take part in social life;*

*because knowledge is power;*

*because I want to get an interesting profession;*

*because I want to enter a University;*

*because I want to succeed in life.*

Задание № 3. Phonetic practice. Proverbs about learning. Match the proverbs and their Russian equivalents. Repeat it.

Обсудите пословицы

*Knowledge is power.* Знание – сила.

To know everything is to know nothing. Знать всё – значит ничего не знать.

Soon learnt, soon forgotten. Выученное наспех быстро забывается.

Money spent on the brain is never spent in vain. Деньги, потраченное на образование, всегда окупаются.

Better untaught than ill taught. – Недоученный хуже неучёного.

Like teacher, like pupil. – Какой учитель, такой и ученик.

Live and learn. - Век живи, век учись.

It's never late to learn. - Учиться никогда не поздно.

Practice makes perfect. - Повторение – мать учения.

A little learning is a dangerous thing. - Недоученный хуже ученого.

Learning is an eye in the mind. - Учение – свет, а не ученье - тьма.

Never put off till tomorrow what you can do today.- Никогда не откладывай на завтра то, что можешь сделать сегодня.

Задание № 4.

Read the text and put the verb into the correct form.

"How to choose a career"

Choosing a career depends upon your character, intellect, abilities and talent. Do you think someone

(1) \_\_\_\_\_ (be) a good teacher if he (2) \_\_\_\_\_ (not love) children, or someone (3) \_\_\_\_\_ (be) a good vet if he (4) \_\_\_\_\_ (not like) animals?

You (5) \_\_\_\_\_ (be) never a respectable judge if you (6) \_\_\_\_\_ (not be) just and honest. Only he who (7) \_\_\_\_\_ (have) a creative mind (8) \_\_\_\_\_ (be) a successful businessman. Only those who (9) \_\_\_\_\_ (not be) afraid of being in the open sea during a storm (10) \_\_\_\_\_ (become) sailors.

There are a lot of interesting professions, and many roads are opened before school leavers. Nowadays most professions are offered only to educated people. So if you (11) \_\_\_\_\_ (want) to be a professional you (12) \_\_\_\_\_ (have to) enter an institute or university. You (13) \_\_\_\_\_ (enter) a university only if you (14) \_\_\_\_\_ (study) hard.

So, it is necessary to develop your strength of will. If you (15) \_\_\_\_\_ (have) this quality, your dreams (16) \_\_\_\_\_ (come) true soon.

Подготовка и пересказ монолога «Роль образования в моей жизни»

Education in my life

Let's try to imagine the world without education, without any schools, colleges and universities. What would that be like? No school means no knowledge and skills. No university means no doctors, no engineers and no scientists. Therefore, it means no development and no inventions. Would you like to live in the world that is deteriorating? The answer is quite obvious: it's vitally important to study and get an

education. Nowadays there're different kinds of education, but the most wide-spread is still the traditional one that includes the set of establishments providing education. For the vast majority of people, the first step is a primary school where students get the basic skills of reading, writing and counting. The next stage is secondary school which gives broad knowledge about various subjects and prepares students for future professional education. At the end of the last form school children take exams and after school graduation they have several options: to stop studying and get a job or get professional education in college or university. Students' life is not easy because they have to take exams every term and study hard to succeed. Nevertheless, most people remember students' years as the best time of their lives, full of fun and entertainment. However, modern world is full of new opportunities to get education. More and more schools and universities provide on-line courses and trainings. It has some advantages for sure, because you study in a comfortable place at comfortable time. Also, some alternative ways are becoming more and more popular, e.g. home education or some approaches connected with developing the mind without books and strict systems. As for me, I'm fully convinced that, no matter what kind of education you support, it's necessary to study and develop your skills, to use the experience of others to create your own ideas in order to implement them to life.

Давайте попробуем представить мир без образования, без школ, колледжей и университетов. Каким он будет? Отсутствие школ означает отсутствие знаний и навыков. Нет университетов — нет докторов, инженеров и ученых. Таким образом, отсутствие развития и изобретений. Вам бы хотелось жить в мире, который катится вниз? Ответ вполне очевиден: учиться и получать образование является жизненно необходимым. На сегодня существуют различные виды образования, но наиболее распространенным все еще является традиционный, который включает в себя ряд учреждений, предоставляющих обучение. Для большинства людей первым шагом является начальная школа, в которой учащиеся получают базовые навыки чтения, письма и вычисления. Следующая стадия — средняя школа, которая дает более широкие знания о различных предметах и готовит учеников к будущему профессиональному обучению. В завершении последнего класса ученики сдают экзамены и после окончания школы имеют несколько вариантов: закончить обучение и найти работу, или же получить профессиональное образование в колледже или университете. Студенческая жизнь нелегка, так как они вынуждены сдавать экзамены каждый семестр и усердно учиться, чтобы преуспеть. Тем не менее, большинство людей вспоминают свои студенческие годы, как лучшее время их жизни, полное веселья и развлечений. Однако, современный мир полон новых возможностей получения образования. Все больше и больше школ и университетов предлагают онлайн курсы и тренинги. В этом, конечно, также есть свои преимущества, так как обучение проходит в удобном месте, в удобное время. Также, некоторые альтернативные варианты становятся все более и более популярными, такие как домашнее обучение или различные подходы, направленные на развитие без использования книг и строгой системы. Что касается меня, я убеждена, что неважно, сторонником какого вида образования Вы являетесь, необходимо учиться и развивать свои способности, использовать опыт других специалистов для создания своих идей с целью воплотить их в реальность.

## **Практическое занятие № 8**

**Тема: Значение иностранного языка в освоении профессии**

**Цель:** Введение новых лексических единиц по теме занятия. Фразы, речевые обороты и выражения. Фонетическая отработка и выполнение тренировочных лексических и лексико-грамматических упражнений на закрепление активной лексики и фразеологических оборотов

**Задание:** 1) изучите полезную лексику «useful words and phrases from the IT world»

2) Прочитайте предложения с использованием полезной лексики в разделе III. What IT specialists are talking about: useful phrases for daily communication, обращая внимание на грамматические темы: Простое настоящее время (Present Simple), Пассивный залог (Passive Voice), Сравнительная и превосходная степень (Comparatives and Superlatives), Настоящее совершенное время (Present Perfect), Прошедшее время (Past Tense), “should” — «(Вам) Нужно...», “Why don't you...” — «Попробуйте...», Повелительное наклонение (Imperative).

## I. English for programmers and other computer specialties: useful words and phrases from the IT world

Компьютерные профессии на английском

Разработчик программного обеспечения, программист (Software Developer, Computer Programmer) — разрабатывает приложения для выполнения различных задач на компьютерах и других устройствах.

Исследователь в области вычислительной техники и информатики (Computer and Information Research Scientist) — придумывает новые технологии для решения сложных проблем в различных областях, таких как медицина, образование или бизнес.

Системный аналитик (Computer System Analyst) — анализирует бизнес-требования к создаваемому программному продукту и предлагает наилучшие пути их воплощения.

Сетевой архитектор (Computer Network Architect) — специализируется на создании корпоративных сетей для предприятий и организаций.

Веб-разработчик (Web Developer) — разрабатывает веб-сайты для предприятий и организаций.

Администратор баз данных (Database Administrator) — занимается организацией и хранением данных, а также их защитой от несанкционированного доступа.

Системный администратор (Network and Computer System Administrator) — занимается установкой и поддержкой компьютерных систем для различных организаций и учреждений (школы, больницы, банки).

Графический дизайнер (Graphic Designer) — создает компьютерную графику.

Тестировщик ПО (Software Tester, Quality Assurance Person или QA) — тестирует программное обеспечение.

Технический писатель (Technical Writer) — создает документацию к программному продукту.

Специалист техподдержки (Computer Support Specialist) — помогает пользователям решать проблемы с компьютером.

## II. Top 75 words every IT specialist should know

abbreviation — аббревиатура

Сокращенная форма слова или словосочетания из первых (нескольких первых) букв.

The abbreviation 'RAM' stands for Random Access Memory. — Аббревиатура ОЗУ обозначает «оперативное запоминающее устройство».

analysis — анализ

Критическое изучение, разбор чего-л.

A financial analysis was carried out in order to improve cost efficiency. — С целью повышения экономической эффективности был проведен финансовый анализ.

appliance — устройство

Приспособление или инструмент для выполнения определенной задачи.

They sell a wide range of virtual appliances. — Они продают целый ряд виртуальных устройств.

application (также software application) — программное приложение

Компьютерная программа, разработанная для выполнения определенных задач.

This database application lets you manage your contacts and organise your projects. — Это приложение для работы с базами данных позволяет управлять контактами и заниматься организацией проектов.

arise — возникнуть

Случиться, появиться (офиц.) — обычно о проблемах или непредвиденных обстоятельствах.  
Problems may arise when trying to request data from a remote web service. — При запросе данных от удаленного веб-сервиса могут возникнуть проблемы.

available — доступный, имеющийся

Такой, который можно найти/купить/арендовать/использовать и т. д.

Available memory refers to how much RAM is not being used by the computer. — Доступная память показывает, какой объем оперативной памяти не используется компьютером.

background — предыстория

События в прошлом человека или компании. Часто используется, когда говорят о профессиональном опыте человека (What is your professional background?).

It's always a good idea to research a company's background before doing business with them. — Всегда полезно изучить предысторию компании, прежде чем вести с ней дела.

carpal tunnel syndrome — «туннельный синдром»

Неврологическое заболевание, проявляющееся болью между локтем и ладонью или в пальцах. Если вы компьютерщик — увы, это выражение может вам когда-нибудь пригодиться...

The development of Carpal Tunnel Syndrome might be linked to computer use. — Развитие туннельного синдрома может быть связано с работой за компьютером.

certification — сертификат

Официальный документ, присуждаемый стандартизирующей организацией, который подтверждает компетентность в конкретной профессиональной области.

Earning the latest Microsoft certifications may help you further your career. — Получение последнего сертификата Microsoft может поспособствовать вашей карьере.

chief — главный; начальник, руководитель.

Chief Information Officer (CIO) is responsible for the computer systems of a company. — Начальник информационного управления отвечает за компьютерные системы в компании.

common — распространенный

One of the most common Internet crimes is drug trafficking. — Одно из самых распространенных киберпреступлений — незаконный оборот наркотиков.

compatible — совместимый

Допускающий совместное использование с другим оборудованием.

The parts I ordered weren't compatible with my PC. — Заказанные комплектующие оказались несовместимыми с моим ПК.

consultant — консультант

Сотрудник, который предоставляет компании информацию и дает профессиональную консультацию.

Do you think we should contact an IT consultant? — Думаете, стоит обратиться к ИТ-консультанту?

convenience — удобство

We provide outstanding products and 24/7 phone support for the convenience of our customers. — Мы предлагаем высококачественную продукцию и предоставляем круглосуточную телефонную поддержку для удобства наших клиентов.

customer — потребитель

Человек, приобретающий продукт или услугу.

Good customer care can improve customer loyalty. — Забота о потребителе повышает его лояльность.

database — база данных

Способ организации больших объемов информации.

This software creates a customer database to eliminate paperwork. — В этой программе формируется база данных клиентов, что позволяет избавиться от бумажной работы.

deal — сделка

Коммерческая операция; «продукт при полном непротивлении сторон».

To find out more about our deals, please visit our website. — За более подробной информацией о сделках, пожалуйста, обратитесь на наш веб-сайт.

demand — спрос

Потребность в продукте.

Online keyword selector tools may help you find out whether certain products are in high demand. —

Инструменты поиска по ключевым словам могут помочь выяснить, пользуется ли определенный продукт высоким спросом.

detailed — детальный, подробный

A more detailed description is available on our website. — Более детальное описание доступно на нашем веб-сайте.

develop — разрабатывать

To develop software — разрабатывать программное обеспечение.

We have decided to develop a new database app. — Мы решили разработать новое приложение для работы с базами данных.

drawback — недостаток

Изъян, отрицательная черта.

The main drawback of this product is the high cost. — Главный недостаток этого товара — высокая цена.

effective — эффективный (действенный)

Способный обеспечить планируемый результат.

Anti-virus software is not always effective against viruses. — Антивирусные программы не всегда эффективны против вирусов.

efficient — эффективный (с высоким КПД)

Продуктивный при минимальных затратах.

Energy efficient home appliances can save you a lot of money. — Энергоэффективные бытовые приборы могут помочь вам значительно сэкономить.

employ — нанимать

Брать кого-л. на работу. Employer — работодатель, employee — сотрудник.

The police often employ hackers. — Полиция часто нанимает хакеров.

enterprise — предприятие

Коммерческая организация.

He's the founder of an enterprise software company. — Он основатель компании по производству программного обеспечения для предприятий.

environment — среда

Обстановка, окружающие условия.

Our aim is to design effective computer-based learning environments. — Наша цель — создать эффективную среду обучения, основанную на компьютерных технологиях.

equipment — оборудование

Устройства и инструменты для определенной цели.

No recording equipment is allowed in the conference room. — В зале для совещаний запрещено пользоваться записывающим оборудованием.

expertise — компетентность

Углубленные знания в какой-л. области. Обратите внимание: ударение в этом слове падает на последний слог — [ˌɛkspɜː'tiːz].

We need someone with expertise in virtualized IT environments. — Нам нужен кто-то компетентный в области виртуализированных сред ИТ.

eyestrain — зрительное перенапряжение

Боль и усталость глаз.

Eyestrain has become a major health complaint among IT workers. — Зрительное перенапряжение стало главной жалобой на здоровье среди работников ИТ-сферы.

goal — цель

We can help you accomplish your goals. — Мы поможем вам добиться ваших целей.

gadget — гаджет

Небольшое цифровое устройство.



You can choose from the most popular high-tech gadgets in our shop. — В нашем магазине на ваш выбор представлены самые популярные высокотехнологичные гаджеты.

implement — реализовывать

I need to implement two interfaces. — Мне нужно реализовать два интерфейса.

increase — увеличивать(ся)

Сделать(ся) больше в размерах/числе.

You should try using more photographs to increase the conversion rate of your website. — Попробуйте использовать больше фотографий, чтобы увеличить посещаемость вашего веб-сайта.

install — устанавливать

to install software — устанавливать программное обеспечение

You'll have to install the latest version of Adobe Flash Player. — Вам придется установить последнюю версию Adobe Flash Player.

instruction — инструкция

Указания, которым нужно следовать.

Just follow the step-by-step instructions, which will guide you through the setup process. — В процессе установки просто следуйте пошаговой инструкции.

insurance — страхование

Финансовая защита собственности, жизни, здоровья и проч.

Nowadays, insurers offer insurance for cyber losses. — В наши дни страховщики предлагают страхование на случай виртуальных потерь.

integrate — интегрировать

Объединить два или более в одно целое.

The new features are tightly integrated with the existing service. — Новые функции тесно интегрированы с существующей платформой.

intranet — интранет

Локальная компьютерная сеть.

Our online library can be accessed on the college intranet. — Доступ к онлайн-библиотеке нашего колледжа можно осуществить через интранет.

latest — последний

Новейший, современный.

Download the latest updates on our company's website. — Загружайте последние обновления с веб-сайта нашей компании.

leadership — лидерство

Способность вести за собой группу людей (или соответствующая позиция в группе).

In a job interview, it's best to give concrete examples to demonstrate your leadership skills. — Во время интервью при приеме на работу лучше привести конкретные примеры, демонстрирующие ваши способности к лидерству.

level with someone — быть откровенным с кем-л.

Быть честным, говорить правду кому-л.

Do you think we can level with them and ask for more time? — Как думаете, мы можем быть с ними откровенны и попросить дополнительное время?

low — низкий

Low price may indicate low quality. — Низкая цена может свидетельствовать о низком качестве.

maintain — поддерживать

Содержать в рабочем состоянии.

A poorly maintained website may kill your business. — Веб-сайт, который практически не поддерживается, может нанести непоправимый ущерб вашему бизнесу.

matrix — матрица

Группа элементов, организованных в строки и столбцы.

Data Matrix Codes should appear on the outside packaging of medicinal products. — На упаковке медицинских препаратов должен присутствовать матричный штрих-код.

monitor — осуществлять мониторинг

Наблюдать, следить за чем(кем)-л.

Your website will be monitored 24/7. — Мониторинг вашего веб-сайта будет осуществляться круглосуточно.

negotiate — вести переговоры

Торговаться или обсуждать условия, пока не будет достигнуто соглашение.

Web designers often come across clients who want to negotiate prices. — Веб-дизайнеры часто сталкиваются с клиентами, которые начинают вести переговоры о цене.

occur — случаться, происходить

Why do errors occur? — Почему случаются ошибки?

order — заказывать

To order products, please fill out this form. — Чтобы заказать товар, пожалуйста, заполните эту форму.

outsource — осуществлять аутсорсинг

Пользоваться услугами сторонних компаний для реализации собственных проектов.

Packaging is often outsourced to Asia. — Сборка часто осуществляется путем аутсорсинга в Азию.

oversee — курировать

Осуществлять наблюдение и руководство.

Our Project Manager oversees the development of this new product. — Наш менеджер по проектам курирует разработку нового продукта.

plan — план

Последовательность шагов на пути к цели.

We need a plan for increasing our market share in the US. — Нам нужен план, чтобы увеличить нашу долю на рынке США.

prevail — превалировать, преобладать

Google prevails in book digitalization. — Гугл превалирует в сфере перевода книг в цифровой формат.

process — процесс

Ход создания чего-л.

All our employees will take part in the decision-making process. — Все наши сотрудники примут участие в процессе принятия решений.

promote — продвигать

Способствовать росту популярности чего-л.

I think you should start promoting your products online right now. — Думаю, вам стоит начать продвигать вашу продукцию онлайн уже сейчас.

prospect — перспектива

We are excited by the prospect of working with you. — Мы воодушевлены перспективой работы с вами.

provide — предоставлять

We provide excellent service. — Мы предоставляем превосходный сервис.

rapid — стремительный

The last decade saw rapid expansion of the service sector. — В последнюю декаду мы наблюдали стремительное разрастание сферы услуг.

reduce — снижать

The price of this product needs to be reduced. — Цену на этот товар нужно понизить.

remote — удаленный

This software provides secure remote access of computers from any location. — Эта программа обеспечивает безопасный удаленный доступ к компьютерам из любой точки.

replace — заменить

Занять место чего(кого)-л.

How can I replace my laptop fan? — Как мне заменить кулер в моем ноутбуке?

research — исследование

Изучение, поиск информации.

Market research was carried out to identify customer needs. — Для изучения нужд потребителей было проведено маркетинговое исследование.

resource — ресурс

This site provides useful links to resources on English language e-learning. — Этот сайт предоставляет полезные ссылки на ресурсы по обучению английскому языку для программистов.

respond — отвечать, реагировать

You must respond within ten days. — Вы должны дать ответ в течение десяти дней.

simultaneous — одновременный

The charger has a built-in USB power port and includes both a mini and a micro USB cable for simultaneous charging of your mobile devices. — Зарядное устройство имеет встроенный USB-порт и мини- и микрокабель USB для одновременной зарядки ваших мобильных устройств.

solve — решать

How do I solve a sound quality problem when uploading to Youtube? — Как мне решить проблему с качеством звука при загрузке на Youtube?

sophisticated — сложный, «продвинутый»

Our software makes the setup of sophisticated devices easy. — Наше программное обеспечение упрощает процесс установки продвинутых устройств.

specifications — спецификация

Детальное описание (продукта).

We reserve the right to change the specifications of our products without notice. — За нами остается право менять спецификацию наших продуктов без предупреждения.

substantial — существенный

Весомый, ощутимый.

There has been a substantial increase in buying power in our country. — В нашей стране наблюдается существенное увеличение покупательной способности.

sufficient — достаточный

The warehouse always has sufficient stock. — На складе всегда достаточный запас.

suitable — подходящий

Уместный, отвечающий потребностям.

The keyboard should be suitable to the user. — Клавиатура должна быть подходящей для пользователя.

task — задача

Have a look at our task manager. — Обратите внимание на наш диспетчер задач.

tool — инструмент

This is our most downloaded network tools software. — Это программное обеспечение для работы с сетевыми инструментами скачивают у нас чаще всего.

transfer — переводить, перемещать, пересылать

You can transfer money online with PayPal services. — PayPal позволяет переводить деньги онлайн.

vendor — поставщик

You can buy items from multiple vendors in one order. — Вы можете включить в один заказ товары от нескольких поставщиков.

webinar — вебинар

Интернет-семинар.

Join us next week for a free webinar on computer-based learning. — Приглашаем вас поучаствовать в бесплатном вебинаре по компьютерному обучению на следующей неделе.

### III. What IT specialists are talking about: useful phrases for daily communication

#### **Упражнения:**

Даем описание продукции:

**Простое настоящее время (Present Simple):** найдите грамматическую основу предложений.

- It costs fifty dollars. (How much does it cost?) — Оно стоит 50 долларов. (Сколько оно стоит?)
- It monitors employee activity. (What does it monitor?) — Оно отслеживает действия сотрудников. (Что оно отслеживает?)
- It is easy to use. (Is it easy to use?) — Им несложно пользоваться. (Сложно ли им пользоваться?)
- It is available in three colours. (Is it available in other colours?) — Оно есть в трех цветах. (Оно есть в других цветах?)
- It comes with a two-year guarantee. (Does it come with a guarantee?) — Оно идет с двухгодичной гарантией. (Оно идет с гарантией?)

**Пассивный залог (Passive Voice): найдите сказуемые в пассивном залоге.**

- This device is manufactured in India. (Where is this device manufactured?) — Это устройство произведено в Индии. (Где произведено это устройство?)
- It is designed for competent users. (Who is it designed for?) — Оно разработано для опытных пользователей. (Для кого оно разработано?)
- It can be used for internal communication. (What can it be used for?) — Оно может использоваться для внутренней связи. (Для чего оно может использоваться?)
- It is equipped with a signature recognition software. (What is it equipped with?) — Оно оборудовано программным обеспечением для распознавания подписи. (Чем оно оборудовано?)
- The cover is made of leather. (What is the cover made of?) — Обложка сделана из кожи. (Из чего сделана обложка?)

**Сравнительная и превосходная степень (Comparatives and Superlatives) : определите степень сравнения в предложениях (сравнительная или превосходная).**

- The new version is more reliable than the old one. (Is the new version more reliable than the old one?) — Новая версия надежнее, чем старая. (Новая версия надежнее старой?)
- It's smaller than a laptop. (Is it smaller than a laptop?) — Оно меньше, чем ноутбук. (Оно меньше, чем ноутбук?)
- It's not as expensive as a PC. (Is it cheaper than a PC?) — Оно не такое дорогое, как персональный компьютер. (Оно дешевле персонального компьютера?)
- It's the cheapest product on the market. — Это самый дешевый продукт на рынке.

**Настоящее совершенное время (Present Perfect): найдите грамматическую основу предложений.**

Устраняем неполадки

- Have you tried removing the program? — Вы пытались удалить программу?
- Have you checked your network settings? — Вы проверили настройки сети?
- Have you disabled the extensions? — Вы отключили расширения?

**Прошедшее время (Past Tense): найдите грамматическую основу предложений.**

- What were you doing when the error occurred? — Что вы делали в тот момент, когда произошла ошибка?
- Did you initialize the drive? — Вы подготовили диск к работе (инициализировали диск)?
- Did you verify software compatibility? — Вы проверили совместимость программного обеспечения?

**“should” — «(Вам) Нужно...»: найдите грамматическую основу предложений.**

- You should download a data recovery software. — Вам нужно скачать утилиту для восстановления данных.
- You should back up all the restored data. — Вам нужно создать копию всех восстановленных данных.

“Why don’t you...” — «Попробуйте...»: найдите грамматическую основу предложений.

- Why don’t you try using the default password? — Попробуйте использовать пароль по умолчанию.
- Why don’t you run some tests to make sure everything is stable? — Попробуйте провести несколько тестов, чтобы убедиться, что все в порядке.

**Повелительное наклонение (Imperative):** найдите глаголы в повелительном наклонении.

- Burn the ISO to a blank DVD. — Запишите образ ISO на чистый DVD-диск.
- Disable the internal GPU. — Отключите встроенный процессор.
- Don’t attempt to write anything on the hard drive. — Не пытайтесь записать что-либо на жесткий диск.
- Don’t click Yes to format the drive. — Не нажимайте «Да» на предложение отформатировать диск.

### Практическое занятие № 9

**Тема:** Значение иностранного языка в освоении профессии

**Цель:** Формирование знаний в области своей профессии.

Совершенствование диалогических навыков по теме.

Активизация лексики по теме в аргументированных высказываниях.

Самостоятельное чтение и перевод (со словарем) текста по теме

«Я и моя профессия». Ответы на вопросы по тексту

Задание 1. Прочитайте и переведите текст «My future career» (35 минут):

#### My future career

#### Opportunities

Opportunities are everywhere for skilled electricians! Imagine the places you can go:

Residential and commercial builders use electricians to wire buildings, install components and lighting, and interpret blueprints.

Specialty contractors and communications companies need electrical technicians to build and integrate networks and A/V systems.

Manufacturers hire electricians to install and maintain complex equipment that keeps their factories running.

Security and entertainment businesses, governments, healthcare, and companies of all sizes need electrical technicians to keep them humming.

#### Tasks

Maintain current electrician's license or identification card to meet governmental regulations.

Connect wires to circuit breakers, transformers, or other components.

Repair or replace wiring, equipment, or fixtures, using hand tools or power tools.

Assemble, install, test, or maintain electrical or electronic wiring, equipment, appliances, apparatus, or fixtures, using hand tools or power tools.

Test electrical systems or continuity of circuits in electrical wiring, equipment, or fixtures, using testing devices, such as ohmmeters, voltmeters, or oscilloscopes, to ensure compatibility and safety of system.

Use a variety of tools or equipment, such as power construction equipment, measuring devices, power tools, and testing equipment, such as oscilloscopes, ammeters, or test lamps.

Plan layout and installation of electrical wiring, equipment, or fixtures, based on job specifications and local codes.

Inspect electrical systems, equipment, or components to identify hazards, defects, or the need for adjustment or repair, and to ensure compliance with codes.

Direct or train workers to install, maintain, or repair electrical wiring, equipment, or fixtures.

Diagnose malfunctioning systems, apparatus, or components, using test equipment and hand tools to locate the cause of a breakdown and correct the problem.

#### Tools used in this occupation

Cable reels — Single reel cable trailers; Wheeled wire dispensers; Wire dollies; Wire hand caddies

Conduit benders — Cable benders; Electric conduit benders; Hydraulic conduit benders

Stripping tools — Cable jacket strippers; Self-adjusting insulation strippers; Universal stripping tools; Wire strippers

Voltage or current meters — Milliameters; Non-contact voltage detectors; Test lamps; Volt tick meters

Wire or cable cutters — Cable butt trimmers; High-leverage cable cutters; Insulated cable cutters; Utility cable cutters

### **Technology used in this occupation**

Analytical or scientific software — Electrosoft FlashWorks; Elite Software E-Coord; Elite Software Inpoint; SoftEmpire Electrical Calculations

Computer aided design CAD software — One Mile Up Panel Planner; SmartDraw software

Data base user interface and query software — Insight Direct ServiceCEO; Resolve service management software; Sage Timberline Office software; Shafer Service Systems software

Project management software — Construction Master Pro software; Craftsman CD Estimator

Word processing software — Socrates Contractor's Library

### **Knowledge**

Mechanical — Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Building and Construction — Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.

Mathematics — Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Design — Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.

Administration and Management — Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.

Customer and Personal Service — Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

Engineering and Technology — Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.

English Language — Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.

Physics — Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.

Telecommunications — Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.

### **Skills**

Troubleshooting — Determining causes of operating errors and deciding what to do about it.

Repairing — Repairing machines or systems using the needed tools.

Active Listening — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Critical Thinking — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Operation Monitoring — Watching gauges, dials, or other indicators to make sure a machine is working properly.

Quality Control Analysis — Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

Active Learning — Understanding the implications of new information for both current and future problem-solving and decision-making.

Complex Problem Solving — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.

Equipment Maintenance — Performing routine maintenance on equipment and determining when and

what kind of maintenance is needed.

Judgment and Decision Making — Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Задание 2. Составьте диалоги по следующим темам, используя текст, данный выше и собственную аргументацию (20 минут):

1. Возможности и перспективы профессии; 2. Задачи и технологии и инструменты, используемые людьми данной профессии; 4. Необходимые знания и умения

Задание 3. Инсценируйте диалоги (15 минут).

Задание 4. Составьте 10 вопросов по тексту (20 минут).

Контрольные вопросы:

1. Will you work on your specialty in the future? 2. Are all impacts of modern electrical technology useful? 3. What means an increase in the new technology? 4. What happens when an organization uses properly? 5. Are impacts of modern technologies always positive? 6. What problems may technology cause?

### **Практическая работа № 10** **Тема: «English for my profession»**

**Цель:** Формирование лексических навыков по теме.

Совершенствование диалогических навыков по теме.

**Оборудование:** 1. Учебники; 2. Раздаточный материал

**Задание 1.** Прочитайте и переведите текст «The role of foreign language in my future profession» (30 минут):

Language is the means of communication. The most common way of expressing an idea for people is to say out loud. Language enables people to understand each other. At the same moment language can be a major barrier to understanding because there are thousands of different languages on our planet. From the earliest time, with the development of trade and exchange of ideas and techniques people saw the necessity of learning foreign languages.

A language that is used as means of communication by people of different nations is called international. International language helps people of different nations to understand each other. Different epochs had different international languages. As a rule the existence of the language as an international one is determined by political, cultural and economic development of the country which language is spoken as international.

The leadership of English in the modern world can be explained by numerous factors. Over 300 million people who live in Great Britain, Australia, New Zealand and the United States of America speak English as native tongue. English is one of the official languages in the Irish Republic, Canada, the South African Republic. It is also the second official language used in the former British and U.S. colonies. English is one of the official languages of the United Nations Organization and other political organizations. It is the language of literature, education, modern music, international tourism.

Previously the reason for learning any foreign language was not well defined. Knowledge of foreign languages was regarded as a sign of a well-rounded education, but few had really questioned why it was necessary. The problem of learning languages is very important today. Foreign languages are socially demanded especially at the present time when the progress in science and technology has led to an explosion of knowledge. The total knowledge of mankind doubles every seven years. English is needed as the main and the most efficient means of information exchange. With the acceptance of English as the international language of technology and commerce appears a new generation of people who know why they are learning the language. Many students need English because their course of studies includes textbooks available only in English in order to be able to use Internet, communicate with their partners in other countries, understand films and songs. So, the dominance of English in the contemporary world is explained by the appearance of lots of people who want to learn English not for pleasure or prestige but

because English has become the key to the international scientific, technological and commercial innovations of today.

As far as Russia is integrating into the world community, the problem of learning professional and technical English is especially urgent today. Specialists have to know English will help them to solve their professional problems. With the help of foreign language they can also communicate with their colleagues at the conferences, through books and journals or the Internet. Specialists need English for specific purposes. First of all it promotes exchanging experiences with foreign specialists. Knowledge is the power and this power can help us to be familiar with the positive and negative tendencies of engineering technologies, their best using in different conditions in the world of new engineering materials. Secondly, scientists and engineers need knowing a foreign language to keep up with developments in their fields. That is why many young people who begin to think about their future early start learning several languages. For Russian specialists it is good to know not only English, but German and French as well. Undoubtedly, English is number one language that specialists should know.

**Задание 2.** Подготовьте краткий пересказ текста (20 минут).

**Задание 3.** Составьте 10 вопросов по тексту (20 минут).

**Задание 4.** Составьте диалог с использованием следующих пунктов (20 минут):

1. What professions he knows; what professions he likes most of all; what his father's (mother's, sister's, etc.) profession is; 2. Why he has chosen this profession; why he doesn't want to be a doctor or teacher. 3. Who influenced the choice of his profession; who his favourite engineer is; who his favourite teachers of speciality are. 4. Whether he knows much of his profession; whether he knows about the difficulties of his future profession; whether his parents are satisfied with his choice.

#### **Контрольные вопросы:**

1. Is there a great variety of jobs in our country? 2. Can our young people choose any profession they like? 3. Is it easy to choose a profession? 4. What profession can you get at the University? 5. When did you decide to become an engineer? 6. Who helped you to make your choice? 7. Do you know much about your future profession? 8. What quality must a good engineer possess? 9. Why do the employers closely inspect an applicant? 10. How must an applicant look like? 11. Is it necessary to have good Curriculum Vitae? 12. What points should a resume include?

#### **Практическое занятие №11**

Тема: Значение иностранного языка в освоении профессии

Цель: Проведение беседы/дискуссии на тему «Проблема выбора профессии и дальнейшее саморазвитие»

Задание: переведите текст на русский язык. Обсудите его со студентами своей группы, используя лексику данного текста. Ответьте на вопрос: *What are pros and cons of being an IT specialist?*

#### **My Future Job: a Computer Programmer**

Do you want to be a computer programmer?

In the future, I may enjoy being a computer programmer because I am keen on trying computer techniques and working with computers is always fun and exciting for me.

People with jobs in the career field of IT use computers, software, networks, servers, and other technology to manage and store data. There is growing demand in various jobs in the field of information technologies nowadays.

It is important to understand that the work of the programmer can be different: some of them work for a small agency, some for a huge company, others are freelance or have their own business. I'd like to work for a big company.

In order to be a successful IT specialist you must possess some skills and personal qualities. The most important ones are the following: being able to think logically, love to solve problems, persistence and patience. A computer programmer must be able to find the most efficient way to solve the problem.



I want my future job be interesting and well-paid. People say that money isn't everything, but it certainly does help because it gives independence and freedom. I'd like to combine a good satisfying job with a high paying salary.

**The advantages of being an IT specialist are the following:**

relatively high wage level

growing demand on the labor market

constant learning; companies often welcome professional growth of their employees and pay for trainings, conferences and courses

good working conditions; it is usually quiet and comfortable in an office

the work is often creative; solving non-standard tasks using wit is exactly what programmers are paid for

can work remotely; it allows to choose a comfortable place to live and work.

**The negative sides are:**

sedentary work in front of computer screen

the work can be boring

there is not much communication

in small projects, you have to be a jack-of-all-trades person

*Taking into consideration all pros and cons I came to the conclusion that the profession of a computer programmer offers great opportunities, because the future of our society is connected with the development of information technologies. I am sure I will reach my goal if I keep working hard.*

**Практическое занятие №12**

**Тема 1.4. Основы делового общения**

**Цель:** Введение новых лексических единиц по теме занятия. Фразы, речевые обороты и выражения. Фонетическая отработка и выполнение тренировочных лексических и лексико-грамматических упражнений на закрепление активной лексики и фразеологических оборотов

**Составление любого делового письма на английском языке подчиняется общим правилам:**

- Весь текст разделяется на абзацы без использования красной строки.
- В верхнем левом углу письма указывается полное имя отправителя или название компании с адресом.
- Далее указывается имя адресата и название компании, которой письмо предназначено, а также ее адрес (с новой строки).
- Дата отправления указывается тремя строками ниже или в верхнем правом углу письма.
- Основной текст должен быть помещен в центральной части письма.
- Главная мысль письма может начинаться с причины обращения: "I am writing to you to ..."
- Обычно письмо заканчивается высказыванием благодарности ("Thank you for your prompt help...") и приветствием "Yours sincerely," если автор знает имя адресата и 'Yours faithfully', если нет.
- Четырьмя строками ниже ставится полное имя автора и должность.
- Подпись автора ставится между приветствием и именем.

**Образец делового письма на английском:**

Mr Nikolay Roshin  
ABC-company  
Office 2002, Entrance 1B  
Tverskaya Street  
Moscow  
RUSSIA 20 June 2004

Dear Nikolay,

I'm writing to you in regard of your enquiry. Please find enclosed our information pack which contains our brochures and general details on our schools and summer centres.

In England we have two schools, Brighton and Bath, both beautiful locations which I am sure you and your

students will like. Our schools are located in attractive premises in convenient, central positions. Brighton is a clean and safe town with a beautiful bay and countryside nearby. Bath is one of the most famous historic cities in England, famous for its Georgian architecture and Roman Baths.

Accommodation is provided in host families chosen for the ability to provide comfortable homes, a friendly welcome and a suitable environment, in which students can practice English and enjoy their stay. We have full-time Activities Organisers responsible for sports, cultural activities and weekly excursions. Please complete and return the enclosed registration form in order to receive more brochures and other promotional materials.

I look forward to hearing from you and later hope to welcome your students to our schools and summer centres.

Yours sincerely,

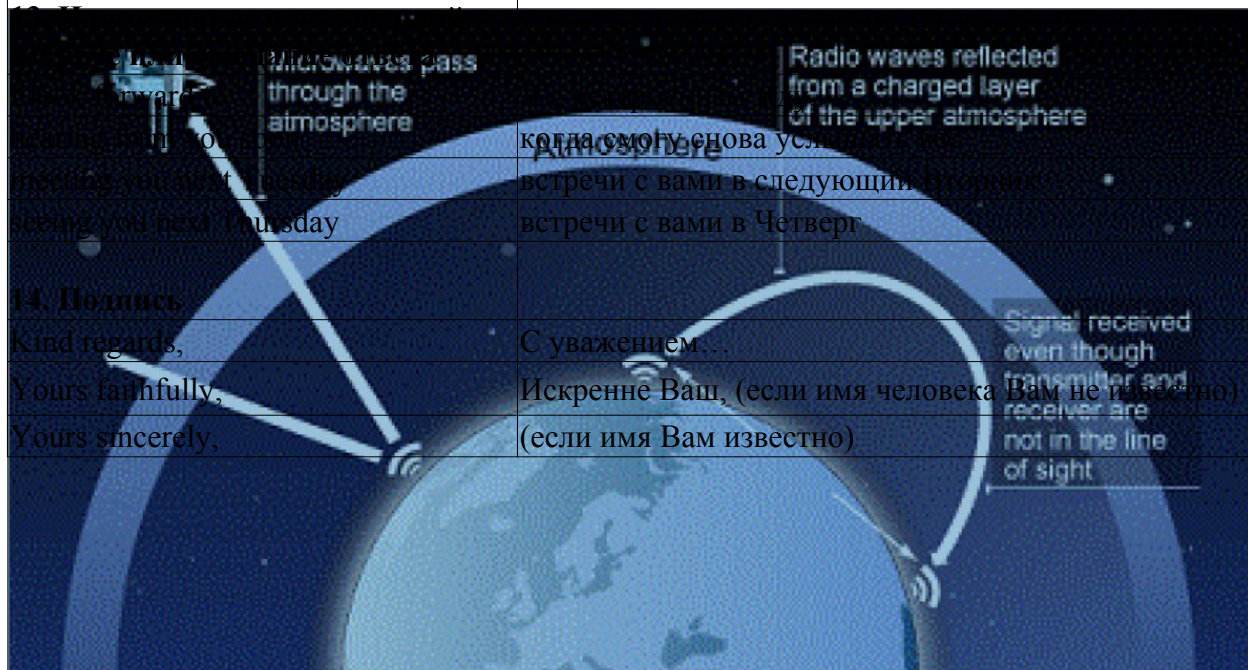
Tomas Green

Managing Director

Существуют стандартные выражения, часто употребляемые в **деловой переписке на английском языке**, использование которых придаст вежливый и официальный тон вашему посланию.

<b>1. Обращение</b>	
Dear Sirs, Dear Sir or Madam	(если вам не известно имя адресата)
Dear Mr, Mrs, Miss or Ms	(если вам известно имя адресата; в том случае когда вы не знаете семейное положение женщины следует писать Ms, грубой ошибкой является использование фразы “Mrs or Miss”)
Dear Frank,	(В обращении к знакомому человеку)
<b>2. Вступление, предыдущее общение.</b>	
Thank you for your e-mail of (date)...	Спасибо за ваше письмо от (числа)
Further to your last e-mail...	Отвечая на ваше письмо...
I apologise for not getting in contact with you before now...	Я прошу прощения, что до сих пор не написал вам...
Thank you for your letter of the 5th of March.	Спасибо за ваше письмо от 5 Марта
With reference to your letter of 23rd March	Относительно вашего письма от 23 Марта
With reference to your advertisement in «The Times»	Относительно вашей рекламы в Таймс
<b>3. Указание причин написания письма</b>	
I am writing to enquire about	Я пишу вам, чтобы узнать...
I am writing to apologise for	Я пишу вам, чтобы извиниться за...
I am writing to confirm	Я пишу вам, что бы подтвердить...
I am writing in connection with	Я пишу вам в связи с ...
We would like to point out that...	Мы хотели бы обратить ваше внимание на ...
<b>4. Просьба</b>	
Could you possibly...	Не могли бы вы...
I would be grateful if you could ...	Я был бы признателен вам, если бы вы ...
I would like to receive	Я бы хотел получить.....
Please could you send me...	Не могли бы вы выслать мне...
<b>5. Соглашение с условиями.</b>	
I would be delighted to ...	Я был бы рад ...
I would be happy to	Я был бы счастлив...
I would be glad to	Я был бы рад...
<b>6. Сообщение плохих новостей</b>	
Unfortunately ...	К сожалению...
I am afraid that ...	Боюсь, что...
I am sorry to inform you that	Мне тяжело сообщать вам, но ...
We regret to inform you that...	К сожалению, мы вынуждены сообщить вам о...
<b>7. Приложение к письму дополнительных материалов</b>	
We are pleased to enclose ...	Мы с удовольствием вкладываем...
Attached you will find ...	В прикрепленном файле вы найдете...
We enclose ...	Мы прилагаем...
Please find attached (for e-mails)	Вы найдете прикрепленный файл...
<b>8. Высказывание благодарности за проявленный интерес.</b>	
Thank you for your letter of	Спасибо за ваше письмо
Thank you for enquiring	Спасибо за проявленный интерес...
We would like to thank you for your letter of ...	Мы хотели бы поблагодарить вас за...
<b>9. Переход к другой теме.</b>	
We would also like to inform you ...	Мы так же хотели бы сообщить вам о...

In answer to your question (enquiry) about ...	В ответ на ваш вопрос о...
I also wonder if...	Меня также интересует...
<b>10. Дополнительные вопросы. Практическая работа № 20, 21, 22</b>	
I am a little unsure about...	Я немного не уверен в ...
I do not fully understand what...	Я не до конца понимаю...
Could you possibly explain...	Не могли бы вы объяснить...
Цель: тренировка чтения и монологовической речи с использованием профессиональной лексики	
<b>11. Передача информации</b>	
Task 1. You are going to read a text about the radio system and its components. Before you read it, try to predict what issues will be discussed in the text choosing the statements from those given below.	
I'm writing to let you know that we are able to confirm to you...	Я пишу, чтобы сообщить о Мы можем подтвердить ...
I am delighted to tell you that...	Мы с удовольствием сообщаем о ...
We regret to inform you that...	К сожалению, мы вынуждены сообщить вам о...
1. Radio and its purpose.	
<b>12. Предложение помощи</b>	
Would you like me to...?	Могу ли я (сделать)...?
If you wish, I would be happy to...	Если хотите, я с радостью...
Let me know whether you would like me to...	Сообщите, если вам понадобится моя помощь.
2. Types of modulation.	
3. Radio and its purpose.	
4. Radio applications	
5. An antenna and its importance.	
6. A transmitter and the principles of its operation.	
7. Wireless communications systems.	
8. The function of a receiver.	
9. Drawbacks of the technology.	

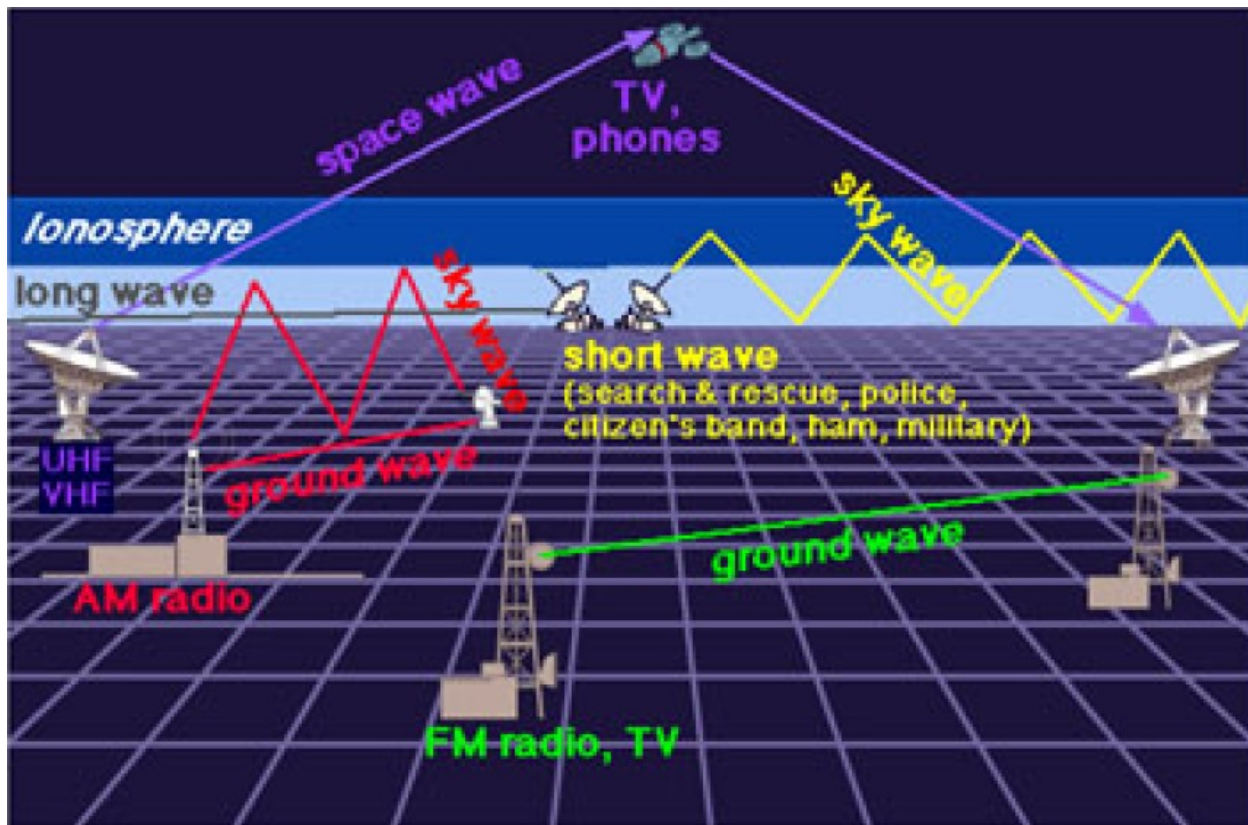


**Task 2. Read the text to check if your predictions were right. While reading match each statement with the paragraph in which it is discussed. Some statements do not fit.**

### Radio

A. Radio is the transmission of signals through free space by electromagnetic radiation of a frequency significantly below that of visible light, in the radio frequency range from 30 kHz to 300 GHz. These waves are known as radio waves. Electromagnetic radiation travels by means of oscillating electromagnetic fields that pass through the air and the vacuum of space. Information is carried by systematically changing (modulating) a particular property of the radiated waves, such as their amplitude, frequency, phase or pulse width. When radio waves strike an electrical conductor, the oscillating fields induce an alternating current in the conductor. The information in the waves can be extracted and converted back into its original form.

**B.** Radio systems used for communication include the following elements: a transmitter, an antenna, a receiver. A wide range of techniques can be applied for implementing each process, their use depending on the communications purpose.



**C.** A transmitter is one of the key components of the system. The transmitter contains a source of electrical energy producing alternating current of a required frequency and a system for modulating some property of the produced energy to impress a signal on it. This modulation might be as simple as turning the energy on and off, or altering more subtle properties such as amplitude, frequency, phase or combinations of these properties. The transmitter sends the modulated electrical energy to a tuned resonant antenna, which transforms the rapidly changing alternating current into an electromagnetic wave that moves through space.

**D.** Radio uses two basic modulation techniques: amplitude modulation and frequency modulation. Amplitude modulation of a carrier wave works by varying the strength of the transmitted signal in proportion to the information being sent. For example, changes in the signal strength can be used to specify the sounds reproduced by a speaker or the light intensity of television pixels. Frequency modulation, as its name suggests, varies the frequency of the carrier. The instantaneous carrier frequency is directly proportional to the instantaneous value of the input signal. Digital data can be sent by shifting the carrier's frequency among a set of discrete values. This technique is known as frequency-shift keying.

**E.** An antenna (or aerial) is an electric device, which converts electric current into radio waves, and vice versa. It is usually used with both a transmitter and receiver. In transmission, a radio transmitter applies an oscillating radio frequency current to the antenna terminals, and the antenna radiates this energy as electromagnetic waves. In reception, an antenna intercepts some of the electromagnetic wave power to generate a tiny voltage at its terminals that is applied to a receiver for amplifying. A tuned receiving antenna captures some of the electromagnetic wave energy and returns it to the form of oscillating electrical currents. At the receiver, these currents are demodulated, i.e. converted to a usable signal form by a detector. The receiver is "tuned" to respond preferentially to the desired signals and reject undesired ones.

**F.** A radio receiver picks up its input from an antenna, uses electronic filters to separate a required radio signal from all other signals captured by this antenna. Then, it amplifies the signal to a level suitable for further processing. Finally, the receiver converts the signal through demodulation and decoding into a form usable for the consumer, namely sound, pictures, digital data, measurement values, navigational position, etc.

**G.** Early radio systems relied entirely on the energy collected by an antenna to produce signals. Radio became more effective after the invention of the vacuum tube and later the transistor that allowed amplifying weak signals. The first uses of radio were maritime intended for sending telegraphic messages using Morse code between ships and land. Nowadays radio takes various forms, including wireless networks and mobile communications, as well as radio broadcasting. Radio plays a significant role in the modern world due to a great number of its applications ranging from walkie-talkie children's toys to controlling space vehicles.

**Task 3. Are the following statements true or false according to the text? If they are false, explain why.**

1. The transmission of signals by radio is feasible only through wires.
2. To carry information one of the features of radio waves is systematically changed or modulated.
3. The number of components the radio system contains is different depending on the communication purpose.
4. The transmitter sends signals without any processing.
5. Radio broadcasting is performed by two methods known as amplitude modulation and frequency modulation.
6. An aerial is an electronic device that is used for transmitting signals.
7. The major function of a receiver is to select a wanted radio signal and demodulate it into a usable form.
8. At present radio does not play any significant role since the technology is outdated.

**Task 4. Ask questions to the following answers.**

1. The transmission of signals through free space.
2. Through oscillating electromagnetic fields.
3. To generate alternating current of the required frequency.
4. To a tuned resonant antenna.
5. In case it is necessary to vary the strength of the transmitted signal or the carrier frequency.
6. To transform electric currents into radio waves.
7. Into a form suitable for the user.
8. When the vacuum tube and transistor were invented.
9. Wireless networks, mobile communications, radio broadcasting are.

**Task 5. Who invented radio? This is a very debatable topic since many prominent researchers have contributed to this breakthrough in the wireless technology.**

The question does not have a specific answer. There have been numerous theories and patents filed for credits. The theory behind each discovery led to the practical experiments in most cases made by another researcher. A single inventor could be hardly credited for inventing radio because investigations carried out by many researchers made this achievement possible. Therefore, radio is the greatest, yet the most controversial discovery in the history of science and technology.

**Task 6. Read the text to check your ideas and see if you find scientists and inventors whose achievements and discoveries you talked about.**

**Who Invented Radio?**

The roots of radio trace back to the 1800s when in 1819, Hans Ørsted, the Danish physicist, discovered relativity between magnetic energy and direct current. This theory later led to other important investigations by the physicist André-Marie Ampère who invented solenoid. This invention, in its turn,

urged other scientists and researchers to explore this theory further for practical use. In 1831, Michael Faraday developed the theory of electromagnetic inductance, which stated that changes in the magnetic field in an electric circuit could generate current or electromotive force in another wire or circuit.

The early 1860s witnessed another scientific breakthrough made by James Clerk Maxwell, the Scottish physicist, who extended Michael Faraday's theory. He contributed greatly to the research on electromagnetism by predicting the existence of electromagnetic waves and developing the mathematical theory of electromagnetic wave propagation.

In 1888, the German physicist Heinrich Hertz made the sensational discovery of electromagnetic waves confirming Maxwell's ideas experimentally. He devised an apparatus that transmitted radio waves and managed to detect them in his laboratory. Thus, Hertz was the first researcher to prove the existence of electromagnetic waves by demonstrating that these waves could be sent out into space and remotely detected.

The next successful leap in the development of radio was connected with the genius of Nikola Tesla, the Serbian and American inventor, who began his research into radio in 1891. In 1893, in St. Louis, Missouri, Tesla gave a public demonstration of "wireless" radio communication. Addressing the Franklin Institute in Philadelphia and the National Electric Light Association, he described in detail the principles of radio communication. The apparatus that Tesla used contained all the elements that radio systems incorporated before the development of the early vacuum tube. Tesla was the first to apply the mechanism of electrical conduction to wireless practices. He initially experimented with magnetic receivers, unlike the coherers (detecting devices consisting of tubes filled with iron filings) used by other early experimenters.

The first radio could not transmit sound or speech and was called the "wireless telegraph". The first public demonstration of wireless telegraphy took place in the lecture theater of the Oxford University Museum of Natural History on August 14, 1894, made by Professor Oliver Lodge and Alexander Muirhead. During the demonstration, a radio signal was sent from the neighboring laboratory building and received by apparatus in the lecture theater.

The Russian physicist Alexander Popov was the first to demonstrate the practical application of radio waves. In 1895, he built the first radio receiver containing a coherer. Further refined as a lightning detector, the device was presented to the Russian Physical and Chemical Society, on May 7, 1895. This day has since been celebrated in the Russian Federation as 'Radio Day'. In March 1896, Popov demonstrated in public transmission of radio waves between campus buildings in St. Petersburg. Later A. Popov experimented with ship-to-shore communication, but he never applied for a patent.

In 1895, Guglielmo Marconi, an electrical engineer, was also working on wireless communication. He managed to receive signals over a distance of 100 meters. By the end of 1895, he had extended the distance to over a mile. In 1896, he patented the discovery and carried out further research on practical and commercial use of the radio. In 1897, Marconi established the world's first radio station on the Isle of Wight, England. The effective operating distance of his transmitter increased as the equipment was improved, and in 1901, Marconi succeeded in transmitting a signal across the Atlantic Ocean. The letter 'S' was telegraphed from England to Newfoundland using Morse code.

Reginald Fessenden was a Canadian inventor recognized for his achievements in the early radio. The first audio transmission by radio in 1900, the first two-way transatlantic radio transmission in 1906, and the first radio broadcast in 1906, were his three significant milestones. Fessenden concluded that he could devise a better system than the spark-gap transmitter and coherer-receiver combination that had been developed by Lodge and Marconi. In 1906, he designed a high-frequency alternator and transmitted human voice over the radio.

From that moment, the development of radio for more practical use began. In 1904, John A. Fleming developed the first vacuum electron tube, which could detect radio waves electronically. Two years later, Lee de Forest invented the audion, a type of triode, which not only detected radio waves but also amplified them. Therefore, it became possible to transmit human voice instead of codes.

Soon the era of radio began and the technology gained recognition throughout the globe.

**Task 7. The text contains a number of important collocations (fixed expressions). Match words in A with words in B to make collocations and use them to complete the sentences given below.**

**A**  
Electromagnetic  
radio  
human  
electromagnetic  
ship-to-shore  
wireless  
scientific  
high-frequency

**B**  
communication  
wave  
breakthrough  
telegraphy  
inductance  
alternator  
communication  
voice

1. A.S. Popov performed many experiments to establish . . .
2. Heinrich Hertz was the first scientist to generate and detect . . .
3. Reginald Fessenden, a Canadian inventor, designed a . . . and transmitted . . . over the radio.
4. In 1831, Michael Faraday began a series of experiments in which he discovered...
5. The first public demonstration of . . . was implemented by Professor Oliver Lodge at Oxford University.
6. The 1860s began with another . . . made by James Clerk Maxwell who developed M. Faraday's ideas.
7. Nikola Tesla described in detail and demonstrated the principles of . . .

**Task 8. Complete the sentences below to summarize the text.**

1. The discovery of relativity between magnetic energy and direct current made by the Danish physicist Hans Orsted was of great significance to the development of radio because . . .
2. Developing Michael Faraday's theory James Clerk Maxwell could . . .
3. The German physicist Heinrich Hertz validated Maxwell's ideas experimentally by . . .
4. The research carried out by Nikola Tesla could be considered a vitally important contribution to the area because . . .
5. A.S. Popov is usually credited for . . .
6. G. Marconi's achievements in wireless communication involved . . .
7. Reginald Fessenden, a Canadian inventor, was recognized for . . .
8. Human voice transmission became possible owing to . . .

**Task 9. Make up a story «Advances in science and technology» / «visiting an industry exhibition».**

**Практическая работа №23, №24, №25, №26**

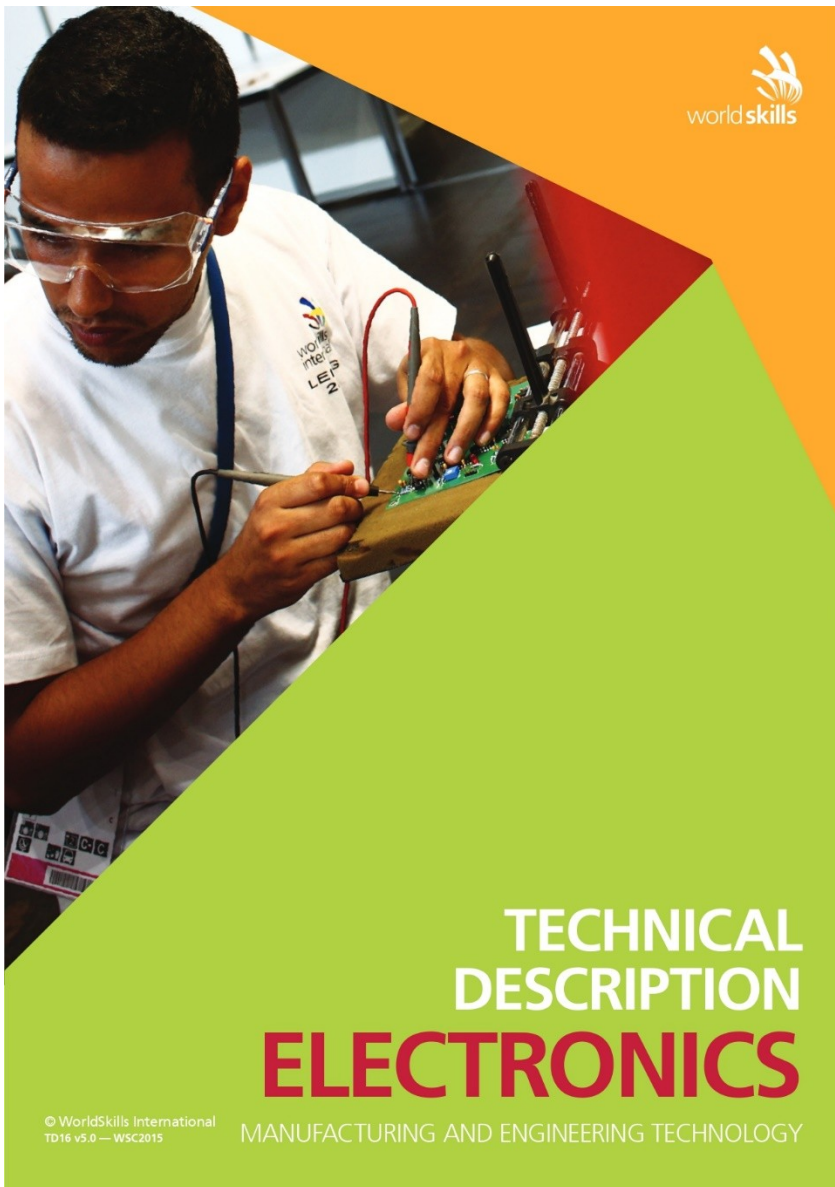
Тема 3.1. Мировой чемпионат профессионального мастерства (WorldSkills International).  
(Рассчитана на 12 аудиторных часов)

Цель: тренировка в употреблении профессиональной лексики.

Task 1. Read and translate.

TECHNICAL DESCRIPTION ELECTRONICS





## 1 INTRODUCTION

### 1.1 NAME AND DESCRIPTION OF THE SKILL COMPETITION

#### 1.1.1 The name of the skill competition is

Electronics

#### 1.1.2 Description of the associated work role(s) or occupation(s).

The electronics industry is very diverse and has evolved into several specialisms. Some technicians/engineers will work across many aspects of electronics, but increasing specialization and technical developments means that specialist technician/engineers are widely employed. The key areas of specialism which can be seen as careers in their own right include the assembly and wiring of electronic products; the designing of prototype circuits to specifications; the installation and commissioning of equipment including the provision of customer support; service and maintenance which include a service both in situ and remotely; and monitoring and testing to specifications sub-assemblies or systems and approving fit-for-purpose and simulating outcomes on computers.

Electronics specialists need to work in a wide range of industries by supporting highly technical specialist equipment. These industries include:

- Aerospace/aeronautics
- The military
- Robotics
- Audio/TV/entertainment
- Laboratories and hospitals

- Higher education research laboratories
- Communications and telecommunications
- Power
- Transport
- Security
- Manufacturing including instrumentation

Electronics technicians/engineers must work with a high degree of accuracy and precision, conforming to detailed specifications and international quality standards and demonstrating extensive technical ability. Due to the constant developments in technology, the electronics technician/engineer needs to be proactive in ensuring that his/her skills and knowledge are up-to-date and meet industry standards and expectations. The technician/engineer may work directly with clients and will therefore need to demonstrate excellent customer service and communication skills and work effectively to time schedules. When working with clients, the technician/engineer may have to explain elements of complex electronics principles to assist the client to use equipment correctly. Often the nature of the establishment in which the electronics expert works will require him/her to respect confidentiality with respect to highly commercially sensitive information and to demonstrate integrity, honesty and a strong ethical sense.

The electronics specialist will work with a wide range of tools, specialist hi-tech equipment and materials. Increasingly, computers and specialist software for communications technology is embedded into the work. In addition, tasks will also require the use of specialist hand tools for the assembly and maintenance of circuits and surface mounted technology.

## 2 THE WORLDSKILLS STANDARDS SPECIFICATION (WSSS)

### 2.1 GENERAL NOTES ON THE WSSS

The WSSS specifies the knowledge, understanding and specific skills that underpin international best practice in technical and vocational performance. It should reflect a shared global understanding of what the associated work role(s) or occupation(s) represent for industry and business ([www.worldskills.org/WSSS](http://www.worldskills.org/WSSS)).

The skill competition is intended to reflect international best practice as described by the WSSS, and to the extent that it is able to. The Standards Specification is therefore a guide to the required training and preparation for the skill competition.

In the skill competition the assessment of knowledge and understanding will take place through the assessment of performance. There will not be separate tests of knowledge and understanding.

The Standards Specification is divided into distinct sections with headings and reference numbers added.

Each section is assigned a percentage of the total marks to indicate its relative importance within the Standards Specification. The sum of all the percentage marks is 100.

The Marking Scheme and Test Project will assess only those skills that are set out in the Standards Specification. They will reflect the Standards Specification as comprehensively as possible within the constraints of the skill competition.

The Marking Scheme and Test Project will follow the allocation of marks within the Standards Specification to the extent practically possible. A variation of five percent is allowed, provided that this does not distort the weightings assigned by the Standards Specification.

SECTION		RELATIVE IMPORTANCE (%)
1	Work organization and management	15
	The individual needs to know and understand: <ul style="list-style-type: none"> <li>■ The importance of:               <ul style="list-style-type: none"> <li>■ Creativity</li> <li>■ Critical thinking</li> <li>■ Honesty and integrity</li> </ul> </li> </ul>	

- Self-motivation
- Problem-solving
- Effective working under pressure
- Health and safety legislation and best practice in relation to the skill
- Various electronics specialisms within specific industries
- Different international languages and symbols and the interpretation of expressions between English and international languages, electronic symbols and units of measurement
- The importance of continuous personal development
- Business environment of the client
- The company culture and procedures and potential variations dependent on national practice
- The application of electronic principles

The individual shall be able to:

- Conduct the work in an environmentally professional manner, respecting others' work space
- Work effectively with colleagues and teams both in the local environment and remotely
- Present ideas to teams and clients
- Exercise appropriate care in the workplace for personal and other's safety
- Take appropriate preventative action to minimize accidents and their impact
- Use materials and tools of the electronics industry in ordinary servicing, installation and repair tasks (hand tools, different soldering and desoldering tools)
- Use computers as a tool to effectively complete tasks for example;
- Creating networks
- Interconnection between computers and other devices
- Keep up to date with changes in technology
- Proactively engage in continuous professional development
- Develop a culture of effective record keeping to facilitate traceability for future development and maintenance and to comply with international standards
- Read blueprints, wiring diagrams, schematic drawings, technical manuals and

	<p>engineering instructions</p> <ul style="list-style-type: none"> <li>■ Interpret and recognize international symbols, diagrams and languages used by other International Standards Institutes (e.g. DIN, BS, ISO, MIL, UL)</li> <li>■ Source and purchase components and test equipment to meet specifications and be cost effective</li> <li>■ Write reports and record data about testing techniques, laboratory equipment and specifications to assist engineers</li> <li>■ Install equipment, a component, a unit, an upgrade or refurbishment into plant etc.</li> <li>■ Communicate effectively with the customer</li> <li>■ Train on the use of the installation</li> <li>■ Act professionally on clients' premises</li> <li>■ Initiate records for on-going maintenance policy</li> <li>■ Establish maintenance contract where appropriate</li> <li>■ Use computers as a tool to design test strategies, programme test routines and collect test data</li> </ul>	
2	Application of Electronics Principles in Practice	10
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> <li>■ Electronic Circuit Component Specifications <ul style="list-style-type: none"> <li>■ Analogue and digital logic circuit and sensor circuit</li> <li>■ AC and DC technology</li> <li>■ Power</li> <li>■ Wire and cables</li> <li>■ Connectors</li> <li>■ Displays</li> </ul> </li> <li>■ Circuit Design <ul style="list-style-type: none"> <li>■ Analysis, of electrical circuits, electronic circuits, digital logic circuit and sensor circuit</li> <li>■ Basics of AC and DC technology</li> <li>■ Two part LRC network, resistive networks with up to three meshes</li> <li>■ RC oscillators</li> </ul> </li> <li>■ Multistage and special amplifier circuits <ul style="list-style-type: none"> <li>■ Basic amplifier circuits (AC, DC and power amplifiers)</li> <li>■ Differential amplifiers/operational amplifiers</li> <li>■ Ideal operational amplifier: (infinite</li> </ul> </li> </ul>	

	<p>input resistance, zero output resistance and infinite open loop gain)</p> <ul style="list-style-type: none"> <li>■ Basic circuits with operational amplifier, analogue adder and sub-tractor, differentiator, comparator, impedance transducer</li> <li>■ Real operational amplifier: offset voltage and offset current, compensation, common mode gain and rejection, temperature drift, frequency response</li> <li>■ Generators and pulse shapers <ul style="list-style-type: none"> <li>■ Generators for sine wave voltage: RC, quartz, LC oscillators, Wien bridge generator, phase generator</li> <li>■ Pulse shaper: Schmitt trigger, differentiator and integrator</li> </ul> </li> <li>■ Digital electronics <ul style="list-style-type: none"> <li>■ Level switching function, function table, pulse, diagram, circuit symbols</li> <li>■ Properties of basic gates AND, OR, NOT, NAND, NOR, EXCLUSIVE OR EXCLUSIVE NOR</li> <li>■ Substituting basic NAND or NOR gates for basic gates</li> <li>■ Creating switching functions from given circuits and vice versa</li> <li>■ Simplifying switching networks using Karnaugh diagram or mathematical techniques</li> <li>■ Flip-flops, RS flip-flop, D flip-flop, JK Master slave flip-flop (especially counter circuits, shift register and frequency divider)</li> </ul> </li> </ul>	
	<p>The individual shall be able to:</p> <ul style="list-style-type: none"> <li>■ Identify and analyse the appropriate principle for the task</li> <li>■ Apply cognitive skills as appropriate to the task</li> </ul>	
3	<p>Fault Finding, Testing, Repair and Measuring</p>	15
	<p>The individual needs to know and understand:</p> <ul style="list-style-type: none"> <li>■ The application of electronic principles</li> <li>■ Contexts in which the function of fault finding, testing, repair and measurement takes place</li> <li>■ The limitations and applications of test equipment</li> <li>■ Implications of unreliable equipment on a business and preventative maintenance</li> </ul> <p>The individual shall be able to:</p>	

- Take measures on electronic circuits (with DVM, scope, data collection equipment etc.)
- Determine causes of operating errors and the required action
- Adjust and replace defective or improperly functioning circuitry and electronics components, using hand tools and soldering iron
- Test electronics units, using standard test equipment, and analyse results to evaluate performance and determine need for adjustment
- Locate, test and replace faulty electronic components in a printed circuit board, surface mounted board or mixed technology
- Use conventional measuring and testing equipment to test, set, adjust and measure electronic components, modules and equipment that are based in DC, AC, digital and analogue electronics.
- Record and analyse measured results and data
- Collect and analyse the evidence both manually and remotely
- Use specialist equipment effectively to measure, diagnose and repair faults
- Communicate effectively, especially with non-technical people
- Support the development of preventative maintenance schedules
- Perform preventative maintenance and calibration of equipment and systems
- Use automatic test equipment
- Effectively use digital documentation of measuring results
- Measure specific electrical parameters with precision or plotting variations over time to ascertain circuit
- Test device operations by validating input, output and processing

#### 4.2 ASSESSMENT CRITERIA

The main headings of the Marking Scheme are the Assessment Criteria. These headings are derived in conjunction with the Test Project. In some skill competitions the Assessment Criteria may be similar to the section headings in the Standards Specification; in others they may be totally different. There will normally be between five and nine Assessment Criteria. Whether or not the headings match, the Marking Scheme must reflect the weightings in the Standards Specification.

Assessment Criteria are created by the person(s) developing the Marking Scheme, who are free to define criteria that they consider most suited to the assessment and marking of the Test Project. Each Assessment Criterion is defined by a letter (A-I).

The Mark Summary Form generated by the CIS will comprise a list of the Assessment Criteria.

The marks allocated to each criterion will be calculated by the CIS. These will be the cumulative sum of marks given to each aspect of assessment within that Assessment Criterion.

Task 2. Make up your own story «Description of the task of WorldSkills Championship».

Task 3. Watch the video «What is WorldSkills» and give your opinion.

### **Практическая работа №27, №28, №29**

Тема 4.1.: Чертежи и техническая документация.

Цель: тренировка чтения текстов с профессиональной лексикой.

In the 20-th century vacuum tubes were replaced by semiconductors. What do you know about the development of this branch of electronics? Share your ideas with the class.

**Task 1. Use the words to complete the text below.**

Discrete, previously, containing, circuit, power, chip devices, components, silicon, reliability, surface, single.

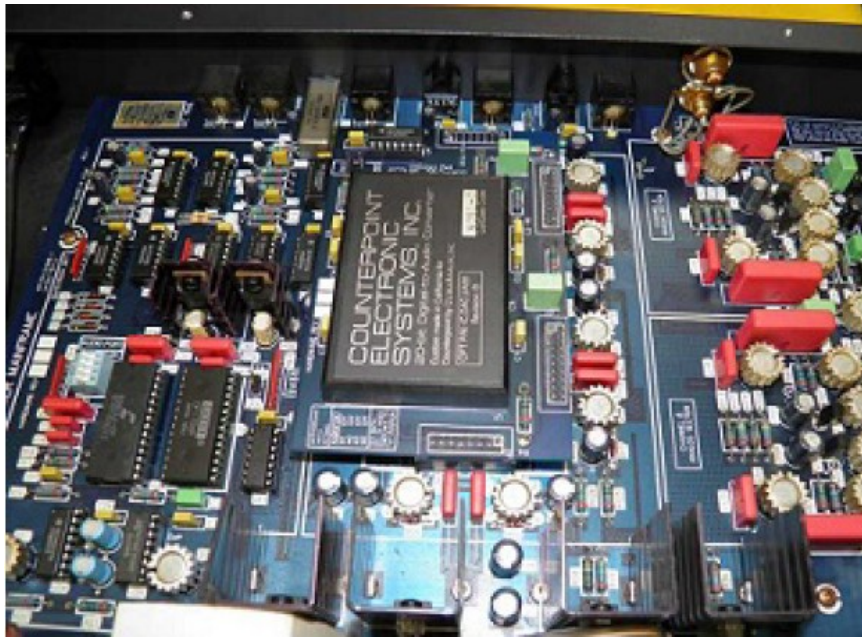
An integrated (1) . . . is a microscopic array of electronic circuits and (2) . . . that has been diffused or implanted onto the (3) . . . of a single crystal, or (4) . . ., of semiconducting material such as (5) . . . It is called an integrated circuit because the components, circuits and base material are all made together, or integrated, out of a (6) . . . piece of silicon, as opposed to a (7) . . . circuit in which the components are made separately from different materials and assembled later. ICs range in complexity from simple logic modules and amplifiers to complete microcomputers (8) . . . millions of elements.

The impact of integrated circuits on our lives has been enormous. ICs have become the principal components of almost all electronic (9) . . . . These miniature circuits have demonstrated low cost, high (10) . . . , low (11) . . . requirements, and high processing speeds compared to the vacuum tubes and transistors, which preceded them. Integrated circuit microcomputers are now used as controllers in equipment such as machine tools, vehicle operating systems and other applications where hydraulic, pneumatic, or mechanical controls were (12) . . . used.

**Task 2. Read and translate the text.**

#### **Integrated Circuit**

**A.** In electronics, an integrated circuit (also known as IC, microcircuit, microchip, silicon chip, or chip) is a miniaturized electronic circuit (consisting mainly of semiconductor devices, as well as passive components) that has been manufactured on the surface of a thin substrate of semiconductor material. Integrated circuits are used in almost all electronic equipment in use today and have revolutionized the world of electronics. A hybrid integrated circuit is a miniaturized electronic circuit constructed of individual semiconductor devices, as well as passive components, bonded to a substrate or circuit board.



**B.** Integrated circuits were made possible by experimental discoveries, which showed that semiconductor devices could perform the functions of vacuum tubes. The integration of large numbers of tiny transistors into a small chip was an enormous improvement over the manual assembly of circuits using discrete electronic components. There are two main advantages of ICs over discrete circuits: cost and performance. Cost is low because the chips, with all their components, are printed as a unit. Performance is high since the components switch quickly and consume little power (compared to their discrete counterparts), because the components are small and close together.

**C.** The integrated circuit was conceived by a radar scientist, Geoffrey W.A. Dummer (1909-2002). Dummer unsuccessfully attempted to build such a circuit in 1956. The integrated circuit was independently co-invented by Jack Kilby around the same time. Kilby recorded his initial ideas concerning the integrated circuit in July 1958 and successfully demonstrated the first working integrated circuit on September 12, 1958. Kilby won the 2000 Nobel Prize in Physics for his part of the invention of the integrated circuit. Robert Noyce also came up with his own idea of integrated circuit, half a year later than Kilby. Noyce's chip had solved many practical problems that the microchip developed by Kilby had not. Noyce's chip was made of silicon, whereas Kilby's chip was made of germanium. Early developments of the integrated circuit go back to 1949, when the German engineer Werner Jacobi filed a patent for an integrated-circuit-like semiconductor amplifying device. The idea to the IC was to create small ceramic squares (wafers), each one containing a single miniaturized component. Components could then be integrated and wired into a bi-dimensional or tridimensional compact grid. This idea, which looked very promising in 1957, was proposed to the US Army by Jack Kilby, and led to the very short-lived Micromodule Program.

**D.** The first integrated circuits contained only a few transistors. Called "Small-Scale Integration" (SSI), they used circuits containing transistors numbering in tens. SSI circuits were crucial to early aerospace projects. Both the Minuteman missile and Apollo program needed lightweight digital computers for their inertial guidance systems. These programs purchased almost all of the available integrated circuits from 1960 through 1963. The next step in the development of integrated circuits, taken in the late 1960s, introduced devices, which contained hundreds of transistors on each chip, called "Medium-Scale Integration" (MSI). They were attractive economically because while they cost little more to produce than SSI devices, they allowed more complex systems to be produced using smaller circuit boards, less assembly work (because of fewer separate components), and a number of other advantages. Further development, driven by the same factors, led to "Large-Scale Integration" (LSI) in the mid -1970s, with tens of thousands of transistors per chip. Integrated circuits, calculator chips, and the first microprocessors, that began to be manufactured in moderate quantities in the early 1970s had under 4000 transistors. True



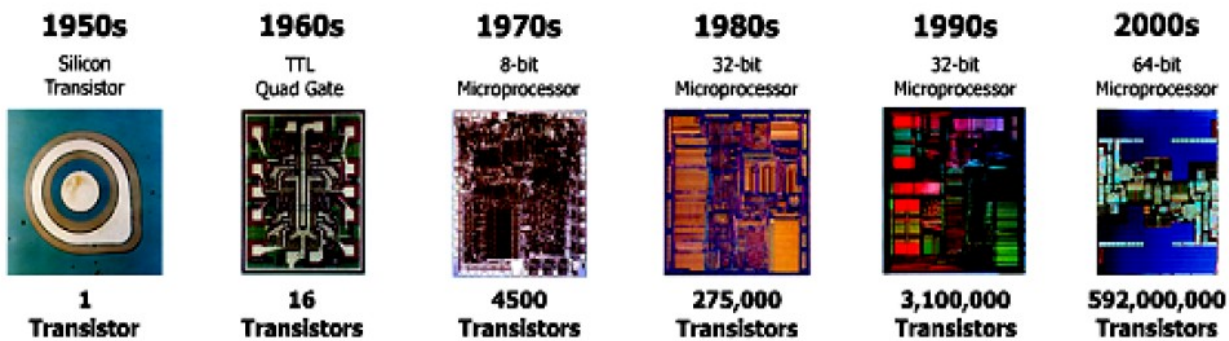
LSI circuits, approaching 10000 transistors began to be produced around 1974, for second-generation microprocessors.

E. The final step in the development process, starting in the 1980s and continuing through the present, was "Very Large-Scale Integration" (VLSI). This could be said to start with hundreds thousands of transistors in the early 1980s, and continues beyond several billion transistors as of 2007. There was no single breakthrough that allowed this increase in complexity, though many factors helped.

F. In 1986, the first one- megabit RAM chips were introduced, which contained more than one million transistors. Microprocessor chips passed the million transistor mark in 1989 and the billion transistor mark in 2005. The trend continues largely unabated, with chips introduced in 2007 containing tens of billions of memory.

G. Only a half century after their development was initiated, integrated circuits have become ubiquitous. Computers, cellular phones, and other digital appliances are now inextricable parts of the structure of modern societies. That is, modern computing, communications, manufacturing and transport systems, including the Internet, all depend on the existence of integrated circuits. Indeed, many scholars believe that the digital revolution, brought about by the microchip revolution, was one of the most significant occurrences in the history of humankind.

**MOORE'S LAW** "Transistor density on integrated circuits doubles about every two years." \*



**Task 3. According to the text, are the following statement true or false? Give some arguments for or against them.**

1. An integrated circuit is also referred to as IC, chip, or microchip.
2. Integrated circuits first appeared in early 2000s.
3. The cost of ICs is low because they are made of a very cheap material.
4. Integrated circuits were invented in the USA.
5. ICs offer high performance because the components switch quickly, consume little power due to the small size and close proximity of the components.
6. A hybrid integrated circuit is a single monolithic construction.
7. An integrated circuit can contain about a thousand transistors.
8. Integrated circuits have revolutionized the world of electronics.
9. Several scientists invented integrated circuits at about the same time.
10. In the early days of integrated circuits, only a few transistors could be placed on a chip.

**Task 4. Match the parts in A with the parts in B to complete a sentence.**

A	B
1. An integrated circuit is manufactured by	a) was successfully demonstrated in 1958.
2. A hybrid integrated circuit is constructed of	b) contained only a few transistors.
	c) pattern diffusion of trace

<p>3. The first working integrated circuit</p> <p>4. The idea of the integrated circuit</p> <p>5. The integration of large numbers of tiny transistors into a small chip</p> <p>6. The first integrated circuits called small scale integration</p> <p>7. In the late 1960s devices called medium-scale integration</p> <p>8. MSI devices allowed more complex system to be produced.</p>	<p>elements into the surface of a thin substrate of semiconductor material.</p> <p>d) were introduced that contained hundreds of transistors on each chip.</p> <p>e) individual semiconductor devices and passive components bonded to a substrate or circuit board.</p> <p>f) using smaller circuit boards and less assembly work.</p> <p>g) was a great improvement over the manual assembly of circuits.</p> <p>h) was conceived by a radar scientist working for the British Ministry of Defense.</p>
---	---

**Task 5. Read the passage about manufacturing integrated circuits. Use the words in the box to complete the passage.**

Gallium arsenide, capacitive structures, random access memory, chemical elements, solar cells, logic states, electron microscopes, solid-state vacuum tube, visible spectrum, light waves

### **Integrated Circuit Fabrication**

The semiconductors of the periodic table of the chemical elements were identified as the most likely materials for a solid-state vacuum tube. Starting with copper oxide, proceeding to germanium, then silicon, the materials were systematically studied in the 1940s and 1950s. Today, silicon monocrystals are the main substrate used for ICs although some III-V compounds of the periodic table such as gallium arsenide are used for specialized applications like LEDs, lasers, solar cells and the highest-speed integrated circuits. It took decades to perfect methods of creating crystals without defects in the crystalline structure of the semiconducting material.

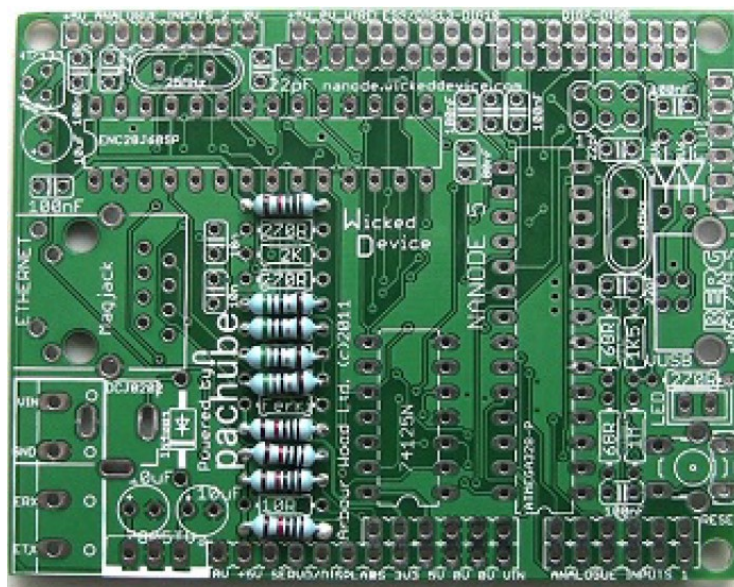
Semiconductor ICs are fabricated in a layer process, which includes these key process steps:

- Imaging
- Deposition
- Etching

The main process steps are supplemented by doping and cleaning.

Mono-crystals silicon wafers (or for special applications, silicon on sapphire or gallium arsenide wafers) are used as the substrate. Photolithography is used to mark different areas of the substrate to be doped or to have polysilicon, insulators or metal (typically aluminum) tracks deposited on them.

- Integrated circuits are composed of many overlapping layers, each defined by photolithography, and normally shown in different colors. Some layers mark where various dopants are diffused into the substrate (called diffusion layers), some define where additional ions are implanted (implant layers), some define the conductors (polysilicon or metal layers), and some define the connections between the conducting layers (via or contact layers). All components are constructed from a specific combination of these layers.
- In a self-aligned CMOS process, a transistor is formed wherever the gate layer (polysilicon or metal) crosses a diffusion layer.
- Capacitive structures, in form very much like the parallel conducting plates of a traditional electrical capacitor, are formed according to the area of the “plates”, with insulating material between the plates. Capacitors of a wide range of sizes are common on ICs.
- Meandering stripes of varying length are sometimes used to form on-chip resistors, though most logic circuits do not need any resistors. The ratio of the length of the resistive structure to its width, combined with its sheet resistivity, determines the resistance.
- More rarely, inductive structures can be built as tiny on-chip coils, or simulated by gyrators.



Since a CMOS device only draws current on the transition between logic states CMOS devices consume much less current than bipolar devices.

A random access memory is the most regular type of integrated circuits; the highest density devices are thus memories; but even a microprocessor will have memory on the chip. Although the structures are intricate - with widths which have been shrinking for decades – the layers remain much thinner than the device widths. The layers of material are fabricated much like a photographic process although light waves in the visible spectrum cannot be used to “expose” a layer of material, as they would be too large for the features. Thus, photons of higher frequencies (typically ultraviolet) are used to create the patterns for each layer. Because each feature is so small, electron microscopes are essential tools for a process engineer who might be debugging a fabrication process.

**Task 6. Complete the sentences to summarize the text.**

1. Semiconductors include such substances as ...
2. Substances like gallium arsenide are used in ...
3. The process of fabricating semiconductor ICs includes ...
4. Integrated circuits are composed of ...
5. Capacitive structures are formed ...
6. Bipolar devices consume ...
7. Light waves in the visible spectrum cannot be used to expose a layer of material because ...
8. Electron microscopes are used by ...

**Task 7. Make up and tell a story «Conformity of the product to the working drawing».**

**Практическая работа №30, №31, №32**

Тема 4.2. Инструменты, оборудование и станки. (Рассчитана на 8 аудиторных часов)

Цель: тренировка в употреблении профессиональной лексики.

I. Read and translate the text

**ELECTRICAL MEASURING INSTRUMENT AND UNITS**

Any instrument which measures electrical values is called a meter. An ammeter measures the current in amperes. The abbreviation for the ampere is amp. A voltmeter measures the voltage and the potential difference in volts.

The current in a conductor is determined by two things – the voltage across the conductor and the resistance of the conductor. The unit by which resistance is measured is called the ohm. The resistance in practice is measured with the ohmmeter. A wattmeter measures electrical power in watts. Very delicate ammeters are often used for measuring very small currents. A meter whose scale is calibrated to read a thousandth of an ampere is called a microammeter or galvanometer.

Whenever an ammeter or voltmeter is connected to a circuit to measure electric current or potential difference, the ammeter must be connected in series and the voltmeter in parallel. To prevent a change in the electric current when making such an insertion, all ammeters must have a low resistance. Hence, most ammeters have a low resistance wire, called a shunt, connected across the armature coil.

A voltmeter, on the other hand, is connected across that part of the circuit for which a measurement of the potential difference is required. In order that the connection of the voltmeter to the circuit does not change the electric current in the circuit, the voltmeter must have high resistance. If the armature coil does not have large resistance of its own, additional resistance is added in series.

The heating effect, electrostatic effect, magnetic and electromagnetic effects of electric current are used in order to produce the deflecting torque. The resulting measuring instruments are called: (a) hot wire, (b) electrostatic, (c) moving iron, (d) moving coil, and (e) induction. Various types are used with both d.c. and a.c., but the permanent – magnet moving coil instrument are used only with d.c., and the induction type instruments are limited to a.c.

All, except the electrostatic type instruments, are current measuring devices, fundamentally ammeters. Consequently, most voltmeters are ammeters designed also to measure small values of current directly proportional to voltage to be measured.

II. Guess the meaning of international words:

1) Instrument; 2) fact; 3) abbreviation; 4) voltmeter; 5) ohm; 6) ohmmeter; 7) wattmeter; 8) galvanometer; 9) shunt.

III. Give the Russian equivalents to the words below

1) resistance;  
2) to offer;  
3) scale;  
4) to prevent;  
5) armature;  
6) connection;  
7) heating effect.

IV. Give the English equivalents to the word and word-combinations:

1) амперметр;  
2) разность потенциалов;  
3) определяют;  
4) чувствительный;  
5) градуировать;  
6) вставка;  
7) катушка;  
8) переменный ток (второй термин).

V. Answer the questions:

1. How are electrical measuring instruments called?  
2. How must the ammeter and the voltmeter be connected?  
3. What resistance must the ammeter and voltmeter have?  
4. What resulting measuring instruments do you know?  
5. What types of instruments are used with both d.c. and a.c.?  
6. What instruments are used only with d.c. and limited to a.c.?

VI. Make up sentences corresponding to the contents of the text:

1.	A meter	the resistance
2.	An ammeter	very small currents
3.	An ohmmeter	measures electrical values
4.	A voltmeter	the current

- 5. A galvanometer the potential difference in volts
  - 6. The voltage in ohms
  - 7. The current is measured in volts
  - 8. The resistance in amperes
- VII. Describe different types of measuring instruments and units, using the table in Task V, VI.

VIII. Make up and translate into English your own dialogue (team work) «Подбор по технической документации оборудования для работы». Dramatize it.

### **Практическая работа №33, №34, №35, №36**

Тема 4.2. Техника безопасности и охрана труда. (Рассчитана на 13 аудиторных часов)

Цель: чтение текстов, содержащих профессиональную лексику.

Task 1. Read and translate.

#### INSTRUCTIONS

#### ON LABOR PROTECTION FOR THE CONTROLLER OF ELECTRONIC EQUIPMENT AND DEVICES

##### 1. General safety requirements

1.1. Persons who have reached the age of 18, are attested to the right to work, have knowledge of electrical engineering, know the rules of TE and TB of electrical installations, are able to use protective equipment against electric shock, are able to provide first aid in case of electric shock, as well as have passed a medical examination are allowed to the adjustment work.

1.2. All regulators must be trained and certified in electrical safety, have III when working with a voltage of up to 1000 V or IV when working with a voltage of over 1000 V qualification groups for electrical safety, have a certificate and pass a knowledge test at least once every twelve months.

1.3. The workplace of the controller must be located at a distance of 1m from the heating devices. At the workplace there should be technical documentation, a passport of electrical installations, certificates for measuring instruments, instructions for adjusting the device.

1.4. At the workplace, it should be possible to disconnect all power sources to common switching devices. Maintenance personnel should know the location of the switching device to relieve tension from the workplace.

1.5. All electrical outlets must have labels indicating the voltages

1.6. When adjusting, the adjuster must use a convenient and safe instrument with electrically insulating handles, covered with insulating material, as well as the necessary protective equipment (screens, gratings, special gloves, coveralls) with non-expired electrical strength tests.

1.7. Work should be carried out only on serviceable devices and equipment, using serviceable tools and devices.

1.8. Equipment and devices must be securely grounded.

1.9. The tool is used for its intended purpose.

1.10. There should be protective equipment provided by technical documentation at the workplaces of regulators: dielectric mats, gloves, safety glasses, voltage meters, spark arresters, etc.

1.11. The place where soldering and stripping of wires is carried out must be provided with a heavy, closed-type electrical outlet with a voltage of 36 V., a stand for soldering iron and firing wires, a container for storing solder and flux.

1.12. When adjusting devices in which devices emitting X-rays or high-power microwave energy are used, the protection of the service personnel from radiation must be ensured.

IOT-YARTRT-2.14/14

1.13. The room in which the equipment is located, which has continuous working dischargers, must have effective ventilation to remove ozone, which can cause poisoning of people in it.

1.14. When performing adjustment work, the following dangerous and harmful factors may occur:

- electric shock, which can occur through the human body when touching metal parts of equipment that is under voltage as a result of damage to the insulation of the current conductor, in case of unreliable grounding of the equipment;
- increased surface temperature of the equipment. The source of danger is drying plants and electric heating devices. Thermal burn can occur when loading drying cabinets, thermal chambers, when working with a soldering iron.
- Low (cryogenic) temperature of liquid nitrogen. Thermal burn can occur when liquid nitrogen gets on the skin of the worker.

1.15. Each employee is immediately obliged to inform his immediate supervisor about all noticed malfunctions of electrical installations and hazards to others that have arisen during work (violation of the insulation of wires, grounding of current-carrying parts of equipment, protective equipment, violation of the rules of TB for the operation of electrical installations), and in his absence - to a higher supervisor. In cases where the malfunction in the electrical installation, which poses a clear danger to the surrounding people or the installation itself, can be eliminated by the employee who discovered it, he is obliged to do so immediately, and then notify the supervisor directly. The elimination of illegality is carried out in strict compliance with the rules of TB.

Special requirements for students

1. Students should be familiar with this instruction and accept it for execution.
2. Trainees are allowed to perform training and production work after the safety instruction on the topic with the corresponding entry in the journal of industrial training.
3. Students under the age of 18 are allowed to perform educational and production work in the profession under the direct supervision of the master. Students are strictly forbidden to engage in work related to electricity over 42 volts in the absence of a master.
4. The work of students under the age of 18 with a voltage over 1000 volts is not allowed.
3. Upon reaching the age of 18, students are allowed to perform educational and production work if they have the II-th electrical safety group. The same requirement persists when they enter continuous production practice.
5. Students who have received a qualification category by profession and have the III group in electrical safety are allowed to work independently by profession.
6. In case of violation of the requirements of this instruction, the student is suspended from industrial training classes until the issue is resolved by the lyceum administration. Repeated malicious violations of safety regulations may be the basis for the expulsion of a student from a technical school.

2. Safety requirements before starting work

- 2.1. Put on work clothes and fasten it.
- 2.2. Prepare protective equipment. Check their serviceability and expiration date. Make sure that the alarm and locking devices are in good working order.
- 2.3. Check the completeness of the workplace according to the passport, the reliability of the grounding of the drives, the availability of certificates and seals on the devices. Make sure that the plugs, sockets, and power cables are working properly.
- 2.4. Put the workplace in order: remove unnecessary items, lay out the tool, prepare the necessary documentation.
- 2.5. Check the presence and serviceability of the grounding of electrical appliances.
- 2.5. Check the presence of a fire extinguisher, tarpaulin or cloth cover in the designated place.
- 2.6. Before the voltage is applied, the metal housing of the regulated device must be grounded (zeroed). If grounding distorts the accuracy of measurements, it is allowed not to ground the equipment and device, but it is necessary to protect them with temporary fences with warning posters and apply protective equipment.

3. Safety requirements during work

- 3.1. During work, do not allow persons who are not related to this work to be present at the workplace.
- 3.2. Before turning on the node, the block, set all the toggle switches and switches to the "Off" position and check the serviceability of the lock.

- 3.3. Switch the measuring equipment when the unit is de-energized (shka-fe, rack) and the discharge rod of the residual charge on the capacitances of the circuit is removed.
- 3.4. Connect any devices to the wall outlet only with the help of plugs and plugs with serviceable cords.
- 3.5. The adjustment of building elements placed inside the product with a voltage up to 1000V should be carried out using a custom or special tool with insulating handles that meets the requirements of the technological process and safety.
- 3.6. Replacement of lamps, fuses, other components and parts, connection and desoldering of wires, parts should be carried out only when the supply voltage is removed.
- 3.7. Before replacing the cathode ray tubes, lamps, assemblies and parts connected to high-capacity capacitors, disconnect the device from the mains, and then discharge these batteries (remove the residual charge) with the help of a special spark gap (discharge rod). Direct contact with them is allowed no earlier than after 15 seconds.
- 3.8. When working with electrolytic capacitors, position the adjustable unit in such a way as to exclude injury to the face, eyes in case of their possible explosion. If necessary, use a protective mask or special glasses.
- 3.9. When replacing large-volume electro-vacuum devices (kinescopes), in order to avoid injury in case of their possible explosion, use a protective mask.
- 3.10. When mounting soldering, to avoid the formation of splashes during soldering, apply a thin layer of flux. To remove excess solder from the electric soldering iron, use a cotton cloth or a special pad. It is forbidden to remove solder drops from the soldering iron by shaking, since this can damage the eyes.
- 3.11. When tinning short rigid conductors that can spring, as well as when dismantling and pulling out the conductors themselves, beware of splashing solder.
- 3.12. Soldered wires and parts should be supported with tweezers or pliers with insulated handles
- 3.13. To avoid burns to the hands: clean the core of the soldering iron after cooling the core. When stripping the core of the soldering iron, use a file. It is not allowed to work on an emery machine for persons who have not passed a special instruction.
- 3.14. Leave the soldering iron in the intervals between soldering on a metal or heat-resistant base.
- 3.15. When working with devices having a voltage of 1000 V and above:
- adjustment work should be carried out by at least two persons;
  - docking and undocking of high-voltage connectors should be performed with the power supply turned off;
  - turn on and off the load, make adjustments only in dielectric gloves, preferably with one hand. In no case, the second hand should not touch the grounded conductors at this time.
  - work with open blocks should be carried out after the residual voltage is removed by the rowers.
- 3.16. The adjustment and testing of medium and high power installations (over 10W) should be carried out when they are operating at an equivalent load.
- 3.17. Inclusion in the paths of microwave dischargers, waveguides with holes, slits, etc. produce only if the generators have attenuators in order to minimize the power of microwave radiation scattered in space.
- 3.18. To inspect the open flange of the waveguide or the opening of the antenna during the operation of the device only when the voltage is removed.
- 3.19. Make sure that the joints of the waveguides are tightly and securely fixed with serviceable gaskets in each joint.
- 3.20. Monitor the presence and level of microwave radiation in space using field sensors. If the safe level is exceeded, turn off the device and take measures to exclude dangerous radiation.

#### 4. Safety requirements in emergency situations

4.1. In case of fire (Act in accordance with the fire safety instructions).

4.1.1. Disconnect the voltage from the equipment with a common switch on the switchboard. Close the windows. Raise the fire alarm and inform the management and the fire department about the fire.

4.1.2. Immediately start extinguishing the fire source. Equipment under voltage (if disconnection is not possible) should be extinguished only with carbon dioxide or fire extinguishers, as well as using sand or cover with a tarpaulin.

4.1.3. First of all, take measures to save human lives. If a person's clothes are on fire, wrap him with a tarpaulin, blanket, cape to stop air access to the fire.

4.2. In case of electric shock

4.2.1. As quickly as possible, release the victim from the action of electric current in one of the following ways:

-remove the voltage with a switch, a switch,

-if it is impossible, cut the wire with an axe with a dielectric handle or bite the wiring with protected wire cutters: each wire is strictly separate,

-or pull the victim by the clothes if the latter is dry and lags behind the body for example, by the collar, avoiding touching the body and surrounding metal objects,

-or pull the body (arm, leg), after wearing dielectric gloves;

-pull off (pull off) the electrical wire lying on the body, and using a dry stick, a pole, a board of sufficient length.

4.2.2. After releasing the victim from the action of the current, call a doctor. Give the victim ammonia to smell, spray his face with cold water. If the victim is not breathing, artificial respiration must be performed.

4.2.3. In case of cardiac arrest (determined by the absence of a pulse) or its fibrillation (irregular contractions), simultaneously with artificial respiration, perform an external heart massage.

4.3. If the eyes are affected by various objects, refer the victim to a doctor or call an ambulance.

4.4. In case of burns of the body, close the affected area with sterile gauze and refer him to a doctor.

4.5. In case of injury, it is necessary to use an individual package to bandage the wound and stop blood circulation and consult a doctor.

4.6. In case of severe bleeding from the limb, apply a hemostatic tourniquet. At the same time, in order to avoid damage to the limb with a tourniquet, lay under it (screw on the limb) several layers of fabric. Insert a note under the tourniquet indicating the date and time of applying the tourniquet and consult a doctor.

4.7. In case of fractures, lay the victim on the floor, cover him with a blanket and ensure mobility until the doctor arrives.

Remark. The absence of signs of life does not mean the death of the victim. Only a doctor can constate death. We need to start providing assistance immediately. You can not go for a doctor, foreman, boss or to the phone, leaving the victim. First, if necessary, give him artificial respiration and, if necessary, indirect heart massage and call a doctor without interrupting these actions. Artificial respiration and heart massage are performed until the victim has independent breathing and heartbeat. In case of transportation of the victim to the hospital, artificial respiration and heart massage should be continued until the medical staff provides assistance.

It should be remembered that compliance with safety regulations will protect against an accident, and knowledge of first aid techniques can save the victim if an accident still occurred.

4.8. In case of illness or even minor injury, stop working, personally or through a friend inform the manager and contact the medical center.

4.9. General requirement in case of an emergency: stop work, inform the master (supervisor) and, if necessary, to the emergency services of the enterprise.

5. Safety requirements at the end of work

5.1. Disconnect (disconnect) electrical equipment, power tools, lifting machines from the network.

5.2. Hand over the tools and accessories to the designated place for storage.

5.3. Drain the remaining varnishes and solvents into a special tightly closed container.

5.4. Put the workplace in order, put it in a metal box with a lid or remove the rags used during work.

5.5. Wash your hands with warm water and soap.

5.6. Report all problems detected during operation to the master.

Task 2. Discussion on safety requirements at world championships.



### Практическая работа № 37, №38, №39

Тема 4.4.: Решение стандартных и нестандартных профессиональных ситуаций

Цель: Тренировка в использовании профессиональной лексики

Task 1. Read and translate the dialogue:

- Hello! I am looking for a digital camera. I am not a professional photographer. I need a camera to take pictures on trips and special occasions like birthdays or outing with friends.
- OK. I can recommend you two types of cameras: a point and shoot, or a hybrid video and still cam.
- Can I use a point and shoot camera in motion?
- No you can only use it to make pictures of still objects. We have a variety of such cameras available at discount prices. You can buy one for as little as fifty dollars.
- No. I think I need something more advanced.
- OK. In that case I can recommend this hybrid model by Nikon. You can take shots and make videos with it.
- The model gives ten megapixels.
- Exactly. It will give out larger prints with better quality. If you intend to print smaller pictures, do not set it to the highest resolution. It will save you more space on the memory card ... This camera has an optical zoom.
- What is the difference between an optical zoom and a digital zoom?
- Cameras with an optical zoom produce higher quality pictures. Also this model has a low-light focusing aid. This is great for taking indoor shots.
- Does it run on a chargeable battery?
- Yes, it has a charger.
- Does it have a warranty?
- It has a one-year warranty. It is a good idea to buy an extended warranty. If something malfunctions, we will replace your camera with a new one.

Notes to the text:

Gadgets – гаджеты (электронные приборы)

Camera – фотоаппарат, видеокамера часто сокращается до cam; handycam (ручная видеокамера)

Cell phone – мобильный телефон

Laptop – ноутбук, составное слово: lap (колени) top (верх), отсюда laptop – то, что ставится на колени, не путайте с notebook (записная книжка)

A point and shoot camera – point and shoot (нацель и снимай) имеет значение прилагательного, поэтому перед ним стоит артикль A, то же самое относится к a hybrid video and still camera, перевод таких конструкций обычно осуществляется по контексту;

On trips – в путешествиях

Take shots= take pictures – делать снимки;

Run on – работать на топливе, батарейках (фразовый глагол);

A one-year warranty – гарантия на один год

Task 2. Find English equivalents in the text:

- 1) Что-то более продвинутое
- 2) Высокое разрешение
- 3) Объем карты памяти
- 4) Оптический/ цифровой объектив
- 5) Более качественные фотографии
- 6) Коррекция фокуса при слабом освещении
- 7) Съемки внутри помещения
- 8) Зарядное устройство
- 9) Если что-то ломается

Task 3. Learn and dramatize the dialogue.

Task 4. Match the problems (1- 6) with the objects:

- |                                       |                |
|---------------------------------------|----------------|
| 1) The paper is jammed                | mobile phone   |
| 2) The signal is poor.                | Laptop         |
| 3) The viewfinder is cracked.         | MP3 player     |
| 4) The headphones are missing.        | Camcorder      |
| 5) There is a virus on my hard drive. | digital camera |
| 6) The lens is scratched.             | Printer        |

Task 5. The sentences (A-F) below are from a dialogue between two people. Where do you think the dialogue takes place? What is it about?

- A. Oh no ... I'm going on holiday in three weeks.
- B. No, it's fully charged.
- C. Oh, that's good. I've got my guarantee certificate here. How long do you think it will take?
- D. Well, when I press the "on" button, the LCD<sup>1</sup> screen comes on but the viewfinder doesn't open.
- E. Yes, I bought this digital camcorder from here a few months ago and now it's not working properly.
- F. Oh, right. How much will that cost?

<sup>1</sup> liquid crystal display

Task 6. Complete the dialogue with the sentences A-F. Listen, read and check. Explain the words in bold.

Task 7. Read the dialogue aloud.

- Good morning, can I help you?
- 1) .....
- Right. What seems to be the problem?
- 2) .....
- Hmm ... perhaps the battery is flat?
- 3) .....
- Well, let's try a new one, just in case. Maybe there's a problem with your charger. Just a moment, ... no, it still won't open. OK, well, we'll have to send it away to be repaired.
- 4) .....
- Well, the product is still under guarantee so provided you have your receipt it will be repaired free of charge.
- 5) .....
- Well, we have to send it away to the manufacturer so it could take anything up to three weeks.
- 6) .....
- Well, give us a call in two weeks and hopefully it will be ready by then!

### Практическая работа №40, №41

Тема: Саморазвитие в профессии.

Цель: Совершенствование навыков чтения.

**Задание 1. Прочитайте и переведите текст.**

#### Ten Attributes of a Good Employee

Here are 10 of the qualities Bill Gates finds in the "best and brightest" employees the companies should attract and retain.

First, it is important to have fundamental curiosity (1) about the product of your company or group. You have to use the product yourself.

Second, you need a genuine (настоящий, подлинный) interest in discussion with customers about how they use your product, what they like or don't like in order to know whether your company's product could be better.

Third, once you understand your customer's needs, you have to enjoy thinking through how this product can make work more interesting.

These first three points are related. Success comes from understanding and caring deeply about your products, your technology and your customers' needs.

Fourth, you as an individual employee should develop your own skills and those of the people you work with. If maximizing your next bonus (2) or salary increase is all that motivates you, you are likely to lose an opportunity to benefit from teamwork (3) that creates success in the long term.

Fifth, you need to have specialized knowledge or skills while maintaining a broad perspective. Big companies, in particular, need employees who can learn specialties (4) quickly, so a willingness to learn is critical.

Sixth, you have to be flexible enough to take advantage of opportunities that can give you perspective. At Microsoft Co., we try to offer a person lots of different jobs in the course of a career. Anyone interested in joining management is encouraged (поощрять) to work in different customer units, even if it means moving within the organization or re locating to a different part of the world. We have many employees working for our US subsidiaries in other countries. This helps us better understand world markets.

Seventh, a good employee will want to learn the economics of the business. Why does the company do what it does? What are its business models? How does it make money? And a company, in turn, should educate its employees in the fundamental financial realities of its industry.

Eighth, you must focus on competitors, i.e., you must think about what is going on in the marketplace. What are your company's competitors doing that is smart (5)? What can we learn from them? How can we avoid their mistakes?

Ninth, you've got to use your head. Analyze problems to understand the implications (скрытый смысл, последствия) of potential tradeoffs (6) of all kinds, including the tradeoff between acting sooner with less information and later with more. Use your head in practical ways. Prioritize your time effectively.

Finally, don't fail to see the obvious essentials, such as being honest, ethical (7) and hard working. These attributes are critical and go without saying.

**Задание 2. Подберите к выделенным в тексте словам соответствующие значения.**

1. combined effort
2. addition to usual payment
3. skillful, clever (= quick in learning and understanding things)
4. strong desire to learn
5. of moral principals
6. special activities, operations, products, etc.
7. compromise, compromising decision, choice

**Задание 3. Расскажите по-английски, какие качества необходимы профессионалу.**

**Задание 4. Подготовка и перевод на иностранный язык рассказа «Как я стану участником чемпионата «Молодые профессионалы» (WorldSkills International)**