**Переведите текст со словарем на русский язык.**

**ELECTRICITY.**

It is impossible to **imagine** our civilization without electricity: economic and social progress will be turned to the past and our daily lives **completely** transformed. Electrical **power** has become universal. Thousands of applications of electricity such as lighting, electrochemistry and electrometallurgy are longstanding and unquestionable.

With the **appearance** of the electrical motor, power cables replaced transmission shafts, gear wheels, belts and pulleys in the 19th century workshops. And in the home a whole range of various time and labour saving appliances have become a part of our everyday lives.

Other **devices** are based on specific **properties** of electricity: electrostatics **in** **the** **case** **of** photocopying machine and electromagnetism in the case of radar and television. These applications have made electricity most widely used.

The first industrial **appliccompleteation** was in the silver workshops in Paris.

The **generator** – a new compact **source** of electricity – was also developed there. The generator **replaced** the batteries and other devices that had been used before.

Electric lighting came into wide use at the end of the last century with the development of the electric lamp by Thomas Edison. Then the **transformer** was **invented**, the first electric lines and networks were **set** **up**, dynamos and induction motors were **designed**.

Since the beginning of the 20th century the successful development of electricity has begun throughout the industrial world. The **consumption** of electricity has doubled every ten years.

Today consumption of electricity per capita is an indicator of the **state** of development and economic health of a nation. Electricity has replaced other sources of energy as it has been realized that it offers improved service and **reduced** cost.

One of the greatest **advantages** of electricity is that it is clean, easily-regulated and generates no by-products. Applications of electricity now **cover** all fields of human activity from house washing machines to the latest laser devices. Electricity is the **efficient** source of some of the most recent technological advances such as the laser and electron beams. Truly electricity provides mankind with the energy of the future.

***Notes to the text***

1. ***Transmission shafts, gear wheels, belts and pulleys*** – трансмиссионные

валы, зубчатые колеса, ремни и блоки

2. ***Time and labour saving appliances*** – электроприборы, экономящие время и

труд

3. ***Induction motors*** – индукционные моторы

4. ***Per capita*** – на человека, на душу населения

5. ***by-products*** – побочные продукты

6. ***truly*** – поистине

**Exercise 3. Ответьте на вопросы к тексту.**

1. What is this text about?

2. What industrial applications of electricity do you know?

3. What home applications of electricity do you know?

4. Where was the generator developed?

5. Who invented the electric lamp?

6. Do you know who invented the dynamo?

7. Can you imagine our life without electricity? Why?

**Exercise 4. Определите части речи следующих слов, переведите их.**

invent – inventor, inventive, invention;

transform – transformer, transformation;

generate – generator, generation, generative;

pollute – polluter, pollutant, pollution;

effect – effective, effectively;

vary – variety, various;

possible – impossible, possibly, possibility;

complete – completely;

recent – recently;

replace – replacement;

economic – economical, economically.

**Exercise 5. Составьте предложения**

1. Electricity 1. have already become universal.

2. The applications of electricity 2. has completely transformed our

in the home and industry everyday life.

3. Electricity was used for the 3. per capita is an indicator of the

first time state of development of a nation.

4. The generator, a new source 4. the wide industrial use of

of electricity electricity has begun throughout

the world.

5. Since the beginning of the 20th 5. was also developed in Paris.

century

6. Today consumption of 6. for industrial purposes in the

electricity silver workshops in Paris

**Электрический ток**

**Exercise 1. Прочитайте слова и переведите их без помощи словаря.**

*Nouns:* theory, pole,electron, minute, effect, gas, cycle, distance.

*Verbs:* pass, generate.

*Adjectives:* static, positive, negative, opposite, industrial.

**Exercise 2.** **Запишите и выучите слова и словосочетания.**

determined **-** находящийся

direction - направление

the flow – поток

solids –тело(твердый)

liquids –жидкость

requirements – условия

the direct current –направление тока

the negatively charged terminal – отрицательно заряженный полюс

the positively charged terminal – положительно заряженный полюс

purposes is assumed – принятая цель

advantage - преимущество

vice versa - наоборот

Hence - следовательно

**Exercise 3. Переведите текст со словарем на русский язык.**

**ELECTRIC CURRENT**

Ever since Volta first produced a source of continuous current, men of science have been forming theories on this subject. For some time they could see no real difference between the newly-discovered phenomenon and the former understanding of static charges. Then the famous French scientist Ampere (after whom the unit of current was named) **determined** the difference between the current and the static charges. In addition to it, Ampere gave the current **direction**: he supposed the current to flow from the positive pole of the source round the circuit and back again to the negative pole.

We consider Ampere to be right in his first statement but he was certainly wrong in the second, as to the direction of the current. The student is certain to remember that **the** **flow** of current is in a direction opposite to what he thought. Let us turn our attention now to the electric current itself. The current which flows along wires consists of moving electrons. What can we say about the electron?

We know the electron to be a minute particle having an electric charge. We also know that that charge is negative. As these minute charges travel along a wire, that wire is said to carry an electric current.

In addition to travelling through **solids**, however, the electric current can flowthrough **liquids** as well and even through gases. In both cases it produces some most important effects to meet industrial **requirements**.

Some liquids, such as melted metals for example, conduct current without any change to themselves. Others, called electrolytes, are found to change greatly when the current passes through them.

When the electrons flow in one direction only, the current is known to be d. c., that is, direct current. The simplest source of power for **the** **direct** **current** is a battery, for a battery pushes the electrons in the same direction all the time (i.e., from the **negatively** **charged** **terminal** to **the** **positively** **charged** **terminal**).

The letters a.c. stand for alternating current. The current under consideration flows first in one direction and then in the opposite one, The a.c. used for power and lighting **purposes** **is** **assumed** to go through 50 cycles in one second. One of the great **advantages** of a.c. is the ease with which power at low voltage can be changed into an almost similar amount of power at high voltage and **vice** **versa**. **Hence**, on the one hand alternating voltage is increased when it is necessary for long-distance transmission and, on the other hand, one can decrease it to meet industrial requirements as well as to operate various devices at home.

Although there are numerous cases when d.c. is required, at least 90 per cent of electrical energy to be generated at present is a.c. In fact, it finds wide application for lighting, heating, industrial, and some other purposes. One cannot help mentioning here that Yablochkov, Russian scientist and inventor, was the first to apply a.c. in practice.

 **Exercise 4. Ответьте на вопросы по тексту.**

1. Who **determined** the difference between the current and the static charges?
2. What can you say about the electron?
3. What is the simplest source of power for **the** **direct** **current**?
4. What is the great **advantages** of a.c.?
5. Where does electrical energy apply?

**Exercise 5. Переведите на русский язык словосочетания:**

the newly-discovered phenomenon, the static charges, the positive pole, the direction of the current, the negative pole, the direct current, the negatively charged terminal, the positively charged terminal, low voltage, 50 cycles in one second, high voltage.