

**O'ZBEKISTON RESPUBLIKASI OLIY VA O'RTA MAXSUS TA'LIM
VAZIRLIGI
JIZZAX POLITEXNIKA INSTITUTI**

H. Mustafqulova

**ENGLISH
INGLIZ TILI
FANIDAN
O'QUV QO'LLANMA**

Ingliz tili fanidan

**3 bosqich talabalari uchun
mutaxassislikka oid
matn va mashqlar to'plami**



Bakalavriat ta'lim yo'nalishi talabalari uchun

- 5310100 Energetika (Tarmoqlar bo'yicha)**
- 5310200 Elektr energetikasi (Tarmoqlar va yo'nalishlar bo'yicha)**
- 5310700 Elektr texnikasi, elektr mexanikasi va elektr texnologiyalari (Tarmoqlar va yo'nalishlar bo'yicha)**
- 5310800 Elektronika va asbobsozlik (Tarmoqlar va yo'nalishlar bo'yicha)**
- 5350700 Radioelektron qurilmalar va tizimlar (Tarmoqlar bo'yicha)**

Jizzax - 2020

Ingliz tili. O'quv qo'llanma

H. Mustafoqulova.

Mazkur o'quv qo'llanma chet tili asosiy mutaxassislik bo'lmagan ingliz tili dasturi asosida tuzilgan bo'lib, talabalarni mutaxassislik doirasida bo'lgan ilmiy adabiyotni o'qishi, tushunishi, ingliz tilida o'rganilayotgan mavzu bo'yicha o'zaro suhbat qila olishlarini ko'zda tutadi.

O'quv qo'llanma 5310200 - Elektr energetikasi (Tarmoqlar va yo'nalishlar bo'yicha), 5310700 - Elektr texnikasi, elektr mexanikasi va elektr texnologiyalari (Tarmoqlar va yo'nalishlar bo'yicha), 5310800 - Elektronika va asbobshunoslik, elektr mexanikasi va elektr texnologiyalari (Tarmoqlar va yo'nalishlar bo'yicha), 5350700 - Radioelektron qurilmalar va tizimlar (Tarmoqlar bo'yicha), 5310100 - Energetika (Tarmoqlar bo'yicha) yo'nalishlari talabalari uchun mo'ljallangan.

Mazkur o'quv qo'llanmada chet tilini o'rganishdagi xalqaro standartlarda ko'zda tutilgan O'qish (Reading), Tinglab tushunish (Listening), Gapirish (Speaking), Yozuv (Writing) ko'nikmalariga ham o'rin berilgan.

O'quv qo'llanma texnika oliy o'quv yurtlarida tahsil oluvchi 3 bosqich talabalariga mo'ljallangan bo'lib, mazkur o'quv materiallari talabalar bilim, tafakkur doiralarini kengaytirishda, malaka hamda ko'nikmalarini oshirishda, pirovardida ingliz tilini chuqurroq o'zlashtirishlarida qo'l keladi.

Taqrizchilar:

Abdug'affor Boymatov - Jizzax Davlat Pedagogika Instituti "Xorijiy tillar" kafedrasi dotsenti, filologiya fanlari nomzodi;

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So'zboshi

Milliy dasturning eng muhim xususiyatlaridan biri, xorijiy tillarni puxta egallaydigan, O'zbekistonimizning xalqaro andozalardagi taraqqiyotini ta'minlay oladigan, dadil, mustaqil fikrlaydigan, malakali, bilimli va ma'nan boy kadrlarni tayyorlashdan iborat.

Mazkur o'quv qo'llanma chet tili asosiy mutaxassislik bo'lmagan ingliz tili dasturi asosida tuzilgan bo'lib, talabalarni mutaxassislik doirasida bo'lgan ilmiy adabiyotni o'qishi, tushunishi, ingliz tilida o'rganilayotgan mavzu bo'yicha o'zaro suhbat qila olishlarini ko'zda tutadi.

So'nggi yillarda mamlakatimizda ta'lim sohasini rivojlantirish, ayniqsa, chet tillarni o'rganish va o'qitishning kompleks tizimini shakllantirish borasida ko'plab chora-tadbirlar amalga oshirilmoqda.

Jahonga yuz tutayotgan hamda jahon hamjamiyatida o'z o'rniga ega bo'lib borayotgan mamlakatimiz yoshlari kelgusida mamlakatimiz nufuzini yanada oshirishlari, shuningdek, ilm-fan sohasidagi yutuqlardan samarali foydalana olishlari hamda jahon intellektual mulkidan doimiy ravishda boxabar bo'lib turishlari uchun ham chet tillardan birini, ayniqsa ingliz tilini yanada yaxshiroq va puxta egallashlari lozim.

Shuningdek, "Chet tillar bo'yicha ta'limning barcha bosqichlari bitiruvchilarining tayyorgarlik darajasiga qo'yiladigan talablar"ga muvofiq oliy ta'lim muassasalarining ixtisosligi chet tili bo'lmagan fakultetlari bitiruvchilari chet tili bo'yicha B2 darajasini egallashlari O'zbekiston Respublikasi oily va o'rta maxsus ta'lim vazirligining 2018 yil 14.06 dagi 531-sonli buyrug'ining 1-ilovasi bilan tasdiqlangan "Xorijiy fan dasturi"da ham alohida tasdiqlangan.

Ma'lumki, dastur "Xorijiy til" fanini oqitish davrida talabalarning umumiy, akademik va kasbga yo'naltirilgan til ko'nikma va malakalarini rivojlantirishga qaratilgan.

Xorijiy tilni o'rgatishdan asosiy maqsad – bo'lg'usi mutaxassislarda kundalik hayotlari, ilmiy va kasbiy faoloyatlarida chet tili yoki bir necha mutaxassislarni tayyorlashdan iborat.

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Muallif

Unit-1(8)

SPECIALTY: FIELDS OF STUDY- SOHA YO'NALISHLARI

Text-A: What do you know about Energy?

Text-B: Electricity

Text-C: Electric power

Text-D: Electrical energy consumption

Doing exercises

Additional materials for the self study work



Word history

Energy – power from coal, electricity, or other sources that makes machines work and produces heat;

Hydroelectric – to do with the production of electricity by water power that is used to turn a generator;

Hydroelectricity - electricity made from energy produced by running water;

Generator – a machine that produces electricity by turning a magnet inside a coil of wire;

Reading:

Ex-1: Read the text and discuss it

Text A: What do you know about Energy?

The world runs on energy. Energy lights and heats homes and business: it powers computers, factories and farm equipments. It runs cars, trucks, ships and planes. As the world's populations grows and as nations develop industry, the demand for energy increases. Demand is highest of all in the United States, which uses more energy than any other country.

The most using energy comes from fossil fuels – coal, natural gas, oil, gasoline. These fuels are burned to produce energy directly. Cars run on gasoline, and many people cook or heat their homes with natural gas. Power plants also

fossil fuels, especially coal, to produce electricity. Some electricity is also produced by nuclear power plants, which unlock (ochmoq) energy inside atoms. Hydroelectric plants harness (biror narsadan tok olish uchun foydalanish) the energy of fast-moving water.

There are problems with each of these energy sources. Supplies of fossil fuels are limited. They will eventually (oxirida, natijada, nihoyat) run out. In addition, fossil fuels create pollution and other environmental problems. Nuclear power carries risks. So far, scientists haven't found a safe way to dispose of the dangerous radioactive wastes it produces. Hydroelectric power is clean, but rivers must be dammed to produce it.

Solar energy and wind power show promise as alternative energy sources. But so far, people haven't found ways to obtain enough low-cost energy from hem. Until people come up with safe, clean and abundant (ko'p, serob, mo'l) sources, the best solution to the energy problem is conservation –using less.

New words and word expressions:

demand - talab

harness - biror narsadan tok olish uchun foydalanish

eventually - oxirida, natijada, nihoyat

abundant -ko'p, serob, mo'l

Ex- 2: Answer the questions from the text

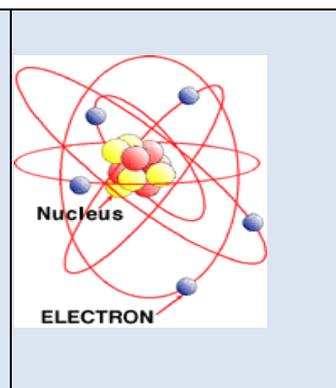
1. What is this text about?
2. What is Energy?
3. Can you imagine our life without electro energy? Why?

Word history

Electricity – 1. A form of energy caused by the motion of electrons and protons. It can be produced by rotating (aylanish) a magnet within coil of wire;

2. Electric power or an electric current;

Electron – a tiny particle that moves around the nucleus of an atom. Electrons carry a negative electrical charge;



<p>Proton – one of the very small parts in the nucleus of in atom. A proton carries a positive electrical charge;</p>	
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<p>Atom – the tiniest part of an element that has all the properties of that element. Everything is made up of atoms. E.g. the diagram shows the main parts of an atom.</p>	
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Reading:

Ex-1: Read the text and discuss it

Text B: 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 19-th century workshops. And in the home a whole range of various time and labor 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 application 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 motors³ 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-products⁵. 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. Truly⁶ electricity provides mankind with the energy of the future.

New words and word expressions:

Transmission shafts-uzatish vallari

gearwheels – tishli g'ildiraklar

belts and pulleys – tasmalar va shkivlar

time and labor saving appliances – vaqt va mehnatni tejovchi elektr asboblari

induction motors – induksion motorlar

per capita – inson omil

products - mahsulotlar

truly - haqiqatdan

Ex- 2: Answer the questions from the text

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?

Ex- 3: Translate the sentences into Uzbek

1. That electricity is clean and easily-regulated is its great advantage.
2. The important fact is that electricity offers improved service at reduced cost.
3. That the two scientists Lodygyn and Yablochkov were the first in Russia to work in the field of electrical engineering is well-known.
4. One of the main advantages of electricity is that it does not pollute the environment.
5. The indicator of nation development is how much electricity is consumed per capita.
6. What has been and is being done in environment protection cannot be measured by yesterday's standards.

Ex- 4: Translate the words into Uzbek (Russian)

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.

Ex- 5: Put the verb *to be* in correct form:

I ... at my English class. I ... reading a story about Thomas A. Edison. I ... learning that his laboratories are in Orange, New Jersey. I... glad to read about such a man as Th.A. Edison. A young inventor ... in Thomas Edison's laboratory. He ... looking at an invention that ... in a glass case. It ... an electrical invention. The young inventor's pencil ... in his hand. He ... drawing the part of the invention which he came there to study. An Englishman and his young son ... in Edison's laboratory. They ... looking at hundreds of

inventions. Many of them ... in glass cases. The man and his son ... interested in all Mr. Edison's inventions, they ... most interested in the electrical ones. Many of those ... in one room. Several tourists ... in this room, and among them ... the Englishman and his son. The man says to one tourist, «We ... interested in electrical ones».

Ex- 6: Put the right prepositions *to, with, about, at, for, on, in.*

This morning father spoke ... my brother and me ... going to see our aunt this evening. It is our aunt's birthday. We wanted to surprise her family. Our mother was going to go ... us. We had to be ready... seven o'clock. We wanted to be ... our aunt's house ... seven thirty. We left... my aunt's house... seven... our mother and father. But the aunt was not... home. Her children had taken her and the uncle... the theater. We laughed: we had a surprise party, but it was on us. We left the presents and went... a show ourselves.

We went... Tashkent yesterday. I went... my mother and father. We took our lunch ... us. Father went ... a parking station, but it was full. He went to another and then ... another. Every parking station was crowded. Father drove for a while... one o'clock he found a place ... a car.... two o'clock our friends came, we sat down... grass and ate our lunch. We didn't see much because too many people were there ... Samarkand. Next time we have a day to spend we shall go ... some other place.

Word history

Electric power – an electric current;
Power – electricity or other forms of energy;



Reading:

Ex-1: Read the text and discuss it

Text-C: Electric power

Electric power is the main factor and the basis of modern manufacture. It is difficult to imagine modern life without electric power. In September 1994 the electric power engineering celebrated its 60th anniversary.

The most part of electric power is produced at a number of big thermal power stations, among these are following: the Syrdarya, Tashkent, Navoi, Angren and Tahiatash. A number of hydroelectric power stations contribute into the development of electric power: the Charvak, Khojkent, as well as 19 stations of the cascades of hydroelectric power stations that were constructed at different periods on the Chirchik river. The energy system of Uzbekistan fully supplies the needs of the Republic in electric and thermal power.

Conception of the development of electric power complex till 2010 was elaborated in Uzbekistan. There have been created numerous machines, mechanisms and instruments in the plants and enterprises of this industry. Among them are cotton harvesters of various modifications, cotton-seeding-machines that can provide accurate sowing of cotton seeds, spinning and throwing frames, dump-body trailers for open cotton transportation, pick up balers, machines for mechanization of irrigation, machines with computer control and others.

Doing exercises

Ex-1: Translate the sentences and explain perfect tenses

1. This is a very good book; I have just read it with pleasure.
2. He has been absent this week. He has been ill.
3. I haven't seen you for a long time. Where have you been all this time?
4. We haven't heard about her since 1989.
5. By the beginning of the lecture the laboratory assistant had brought all the necessary diagrams.
6. Before we came to the next lecture we had studied the material of the first one.
7. Have you already finished your diploma work? No, I shall have finished it by

the end of June.

8. They will not have passed their exams by the time you return.

9. Many students have been enrolled into universities this year.

10. The translation has not been finished yet. It will have been finished by the end of the month.

11. Have you brought these journals with you? No, these journals had been brought by my sister before I returned from St. Petersburg. Don't you know that?

Ex-2: Translate the sentences:

1. The electronic industry produces several types of minicomputers. 2. The air in many cities has been polluted by traffic and industry. 3. The lecture on environment protection was very interesting. 4. Mankind has never experienced changes in life and work on such a scale. 5. The task of the world community is to improve the ecological situation in the world. 6. In six years we shall become engineers. 7. It is possible to take measures to protect environment on a global level by the joint efforts of all countries. 8. Professor N. is the dean of our faculty. 9. The important feature of our education is that it combines theory with practical training. 10. The main tendency of our life is that computers are being used in all spheres of technology, science and everyday life. 11. The essential feature in environment protection is that most of it is done by public initiative. 12. What is necessary today is that the protection of global natural resources must be planned. 13. Today one of the most important problems is that big cities are polluted.

Ex-3: Read and translate international words.

Electricity, civilization, economic and social progress, transformer, universal, electrometallurgy, cable, specific, machine, photocopying machine, radar, Paris, generator, battery, lamp, dynamo, indicator, nation, energy, service, laser, compact.

Reading:

Ex-1: Read the text and discuss it

Text-D: Electrical energy consumption

Energy is the basis of all activity. It's known that, energy is the basis of all activity. Without energy, nothing moves nor transforms; and so a sustainable society can only exist based on a sustainable energy system.

Electric energy consumption is the form of energy consumption that uses electric energy. Electric energy consumption is the actual energy demand made on existing electricity supply.

Electric energy is most often measured either in joules (J), or in watt hours (W·h) representing a constant power over a period of time.

$$\mathbf{1\ W\cdot s = 1\ J}$$

$$\mathbf{1\ W\cdot h = 3600\ W\cdot s = 3600\ J}$$

Electric and electronic devices consume electric energy to generate desired output (i.e., light, heat, motion, etc.). During operation, some part of the energy—depending on the electrical efficiency - is consumed in unintended output, such as waste heat.

Electricity has been generated in power stations since 1882. The invention of the steam turbine in 1883 to drive the electric generator started a strong increase of world electricity consumption.

In 2008, the world total of electricity production was 20.279 pet watt-hours (PWh). This number corresponds to an average power of 2.31 TW continuously during the year. The total energy needed to produce this power is roughly a factor 2 to 3 higher because a power plant's efficiency of generating electricity is roughly 30–50%. The generated power is thus in the order of 5 TW. This is approximately a third of the total energy consumption of 15 TW.

Writing:

Ex-2: Write down special terms from the text, which belong to the Physics

Additional materials for the self study work

Speaking:

Do you know that?

1. Thomas Alva Edison (1847-1931) – American inventor and businessman, who patented more than 1.000 inventions, including the incandescent electric light bulb;
2. Hydroelectric power – electricity produced with waterpower;
3. Nuclear power – energy that is produced from a nuclear reaction, usually by splitting atoms;
4. Horsepower – a unit power equal in the United States to 746 watts;
5. Turbine – water, steam, or gas passes through the wheel blades of an engine, forcing it to turn;
6. Watt – a unit for measuring electrical power;

Ex-1: Read the passage and translate into English.

Elektr energiyasi

Hozirgi zamon ishlab chiqarishida energetika muhim rol o'ynaydi. Bugungi davrni elektr quvvatisiz tasavvur qilish qiyin. Sanoatning bu tarmog'i 1994 yil sentyabrda o'zining 60 yilligini nishonladi.

O'zbekiston elektr quvvati ishlab chiqarish va uni iste'mol qilish bo'yicha hamdo'stlik mamlakatlari orasida to'rtinchi o'rinda turadi. O'zbekistonda ishlab chiqariladigan elektr quvvatining asosiy qismi issiqlik bilan ishlaydigan (GRES)lar va qator stansiyalarga to'g'ri keladi.

Ana shunday stansiyalar qatoriga Sirdaryo, Toshkent, Navoiy, Angren, Taxiatosh GRES larini kiritish mumkin. Suv yordamida ishlaydigan GES lar Chorvoq, Xo'jakent va Chirchiq daryosida o'tgan yillar davomida qad ko'targan 19 ta stansiya ham elektr quvvati ishlab chiqarishga o'z hissasini qo'shmoqda.

O'zbekistonda mavjud bo'lgan energetika tizimi respublikaning elektr quvvatiga bo'lgan talab-ehtiyojni to'la qondirmoqda.

Ex-3: Read the passage and translate into English.

Radio va televidenie

Rus olimi Aleksandr Popov tomondan radio kashf etilganiga ham 100 yildan ortiq vaqt o'tdi. Bu vaqt mobaynida radio-texnika muhandisligida qanchadan-qancha kashfiyotlar, jumladan televidenie kashf qilindi.

Biz ulardan shu qadar ko'p foydalanamizki, hatto ularsiz hozirgi hayotimizni tasavvur ham qila olmaymiz. Hozirgi zamonaviy texnika taraqqiyoti davrida radio va televidenie, ommaviy axborot vositalari insonlarning siyosiy va madaniy hayotida juda katta ahamiyatga ega. Zamonaviy radio muhandisligi kun sayin rivojlanib, taraqqiy etib bormoqda. Yangidan-yangi radio stansiyalar bunyod etilib, ular zamonaviy uskunalar bilan jihozlanmoqda.

Unit-2(10)

ACTUAL THEMES OF THE FIELD OF STUDY – SOHANING DOLZARB MAVZULARI

Text A: History of Television

Text B: Radio and TV today

Text C: Telegraph

Text D: Radio and TV today

Text E: Telescope

Additional materials for the self study work

Doing exercises

Word history

Telegram – a message that is sent by telegraph.

Telegraph – a device or system for sending messages over long distances. It uses a code of electrical signals sent by wire or radio.

The telegraph was invented by Samuel Morse in 1837.

Telephone – a system for sending sounds over distances by changing them into electrical signals. The signals are sent by wires or radio waves and then changed back into sounds.

A device for sending and receiving sounds, especially speech, in this way. The telephone was invented By Alexander Graham Bell in 1876.

Telescope – an instrument that makes distant objective seem larger and closer. Telescopes are used especially for studying the stars and other heavenly bodies.

Radio – 1. A way of communicating using electromagnetic waves broadcast from a central antenna;

2. A device that sends or receives these broadcasts and converts them into sound;

Television – 1. A piece of equipment with a screen that receives and shows moving pictures with sound.

2. The sending of sounds and moving pictures along radio waves to be picked up by a television set;

Reading:

Ex-1: Read the text and discuss it

Text A: History of Television

The television set is evidently the most important and popular electronic product of all time. All homes in developed countries have one or more TV sets and in many countries there are considerably more TV sets than telephones.

But in 1939 at the World's Fair in New York a tiny nine-by-twelve inch box was the centre of attention for hundreds of people. They were the first to see a television set in action. Compared to today's TV shows of underwater and outer-space research, those first black-white pictures were not very good. The pictures were only transmitted from one side of the Fair territory to the other. But in 1939 they were of historical importance.

Within a few days the news of television spread throughout the world. A lot of people wanted to have a look¹ at the new invention. Everyone was interested in it. But only few people owned television sets in the next few years. When World War II broke out electronic factories that began the TV production stopped making them and started making war materials instead. When the war was over, TV sets began coming off factory assembly lines. By 1958 there were millions of them.

In a surprisingly short time people watched fewer films and turned from newspapers and magazines to TV. In its short history television has had great influence on people's life and way of thinking. Rocket-launching, concerts and football and tennis matches can be seen direct as they occur. The boundaries of time and space have disappeared.

At present TV communication is provided with the help of a system of artificial earth satellites so that people living in different parts of the country and all over the world and in different time zones are able to watch the central TV programs at the most convenient hours.

Nowadays many countries also have cable TV, a system using wires for the transmission of television programs (like telephone calls). Cable television first appeared in 1949 as a means of transmitting TV signals to rural and mountain

areas far from big cities. Cable television's next big step forward was made by the mid — 1980s. Scientists announced that many technical problems had been solved and in the future it would be possible via satellite and cable TV to use more channels on a TV set at every home in the world.

Then we saw how a new technical invention, color television, was rapidly replacing black-and-white television. Recently it was reported that the first pocket-size color television set had been developed. It was stated that a liquid-crystal display was used similar to those on calculators and watches and that it weighed less than a pound.

A few years ago it became evident that the next major advance for TV would be digital television. In a digital system the usual continuous signal is replaced by a digital code containing detailed information on brightness, color, etc. A digital TV set hangs on the wall like a picture. Essentially, it is a minicomputer with a visual display. Once a week you put the programs you like into the memory, and the TV set will automatically switch on the desired channel at the right time. You can watch several programs simultaneously on mini-screens and then produce one of them in full format. Also, the TV set can automatically video-record the programs when you are absent or occupied.

By the end of 1980s television has moved to a new and the most important stage in its development since the appearance of color television. Technically it is called high-definition television (HDTV) or Hi-Vision. This is the much higher resolution television of the 21st century. This revolution was started by Japanese manufacturers when they developed a new video system with a picture resembling a wide-screen film more than traditional television. The new system increases the screen's width-to-height ratio (16:9). The result is a picture several times sharper than in the existing TV sets. Besides, recent developments in plasma display panel technology make HDTV commercially practicable. The plasma display makes it possible to produce a large, bright, color, flat TV screen so thin and light that it can also be hung on a wall like a framed picture. The engineering problem that has existed almost since the first days of television may be solved now.

New words and word expressions:

to have a look - qaramoq, ko'zdan kechirmoq

to break out - boshlamoq

pocket-size - cho'ntakbop

liquid-crystal display - suyuq kristallarni o'zida aks ettiruvchi asbob

once a week - haftada bir marta

high-definition television (HDTV) - yuqori aniqlikdagi televideniye

high resolution television – qat'iy aniqlikdagi televideniye

width-to-height ratio – balandlikka nisbatan kenglikning aloqasi

plasma display panel technology – plazmali panel ishlab chiqarish texnologiyasi

Speaking:

Ex-2: Read the text and answer the questions

1. When did the first TV set appear?
2. Were people interested in the new invention?
3. Why was the TV production stopped in 1940?
4. What is cable television?
5. What is digital television?
6. What is high-definition television?

Writing:

Ex-3: Which is true to the text?

1. A lot of people owned television sets in the first years after its invention.
2. First television black-and-white pictures were excellent.
3. Only few people owned television sets in the next few years after their appearance.
4. Black-and-white television was rapidly replacing color television.
5. First television black-and-white pictures were not very good.
6. Only a few years ago color television was rapidly replacing black-and-white television.
7. When the war was over, TV sets stopped coming off factory assembly lines.

8. After World War II TV sets began coming off factory assembly lines.

Exercises for self study

Ex-4: Choose the right translation

attention – diqqat bilan, diqqatga sazovor, diqqat;

surprisingly – hayratlanarli, hayrat, hayratomuz;

recorder – yozuv apparati, yozuv, magnitafon;

convenient – qulay, qulaylik, qulaylik yaratmoq;

numerous – bir qancha, son sanoqsiz, ko'p sonli;

Ex-5: First write synonyms then antonyms.

tiny - small; to disappear - to appear; a lot of - many; different - various;
next - following; short - long; to watch - to see; program - show; commonly -
usually; less - more; possible— impossible; true - untrue; small - large; nowadays
- at present, now; large - tremendous; advance - progress; to - to begin; major -
main; to report - to announce; to occur - to take place; convenient - suitable.

Ex-6: Write the words in alphabetical order

True, picture, telephone, communication; world, research, assembly,
invention; own, beginning, telegraph, central; satellite, first, artificial, convenient;
turn, videotape, transmit, size.

Ex-7: Which words in pairs come first in alphabetical order?

Concept/concert; complete/compare; invention/invasion; avail-
able/availability; commonly/commonless; commune/commit; com-
pulsory/compunction.

Word history

Radio – 1. A way of communicating using electromagnetic waves broadcast from a central antenna;

2. A device that sends or receives these broadcasts and converts them into sound;

3. To send a message using radio;

Antenna – A wire that receives radio and television;

Television – a piece of equipment with a screen that receives and shows moving pictures with sound;

Broadcast – to send out program on television or radio;

Reading:

Ex-1: Read the text and discuss it

Text-B: Radio and TV today

More than ninety years passed since the day when the Russian scientist Alexander Popov demonstrated his “storm indicator” which was the prototype of modern radio receivers.

Great progress has been made in radio engineering, radio communications, radio broadcastings and television since that time. We have become so used to these means of communication that we can't imagine our life without all this.

In the modern world, radio and television play an important role as a mass media of information and as a means of people's political and cultural education.

Modern means of radio engineering cover the greater part of the globe with long, medium and ultra-short radio waves. New radio stations are being built and equipped with the most modern instruments.

Television is also developing rapidly in our country. There is regular international exchange of TV programmes as well. Our television is linked up with Intevision and Eurovision international systems.

Work on the improvement of space television and broadcasting is of great interest. The application of powerful outerpase relays makes possible televising programmes directly to huge territories.

Much has been done to develop radio broadcasting and television in our country but still more remains to be done in the future.

New words and word expressions:

aim - maqsad

application - talab

broadcast –radioga tarmoq

conduct – o'tkazmoq

engineering – texnika

link – boglamoq

rapedly – tez

receiver – radiopriyomnik

transmit – jo'natmoq

Ex-2: Answer the questions

1. When did Alexander Popov demonstrate his “storm indicator”?
2. What was the “storm indicator”?
3. Why can't we imagine our life without radio and television?
4. How many radio broadcasting stations work in our country?
5. Where is the central television centre housed?
6. What is the aim of radio and TV?

Ex-3: Translate the following word combinations

1. radio, radio wave, radio wave length;
2. electricity generation, electricity generation methods;
3. power, power station, atomic power station capacity;
4. space, space television, space television application;
5. Television, television studio television studio equipment;

Grammar – Prefix: tele

The prefix tele – means “far away” in Greek. You can see this form in many words, including **telegraph** (a device that lets you send messages far away), **telephone** (a machine that lets you talk to someone far away), and **telescope** (an instrument that allows you to see images that are far away);

Word history

Telegraph – a device or system for sending messages over long distances. It uses a code of electrical signals sent by wire or radio. The telegraph was invented by Samuel Morse in 1837.

Morse code – a way of signaling that uses light or sound in a pattern of dots and dashes to represent letters.

This picture shows the word “**MORSE**” in Morse code:

--	---	.-.
M	O	R	S	E

Message – information sent to someone;

Reading:

Ex-1: Read the text and discuss it

Text C: Telegraph

Benjamin Franklin, an American who is famous for his interesting and useful inventions, published his ideas about electricity in 1752. Scientists in many countries became interested in this wonderful form of energy. They wanted to find the answer to a very important question: could the electricity be used to develop a fast, efficient system of long-distance communication?

Experiments proved that electricity could travel instantly over a very long piece of wire. But a note that was written on a piece of paper couldn't be put into a wire. How could electricity be used to send a message? A Danish scientist discovered that electricity could move a needle from left to right and that the needle could be pointed at letters on a piece of paper. Then a German government worker made up a code system that could be used with an electric needle. In 1837 two English scientists sent a message by electric telegraph for a distance of more than 1.6 kilometers.

Samuel Morse, an American portrait painter, was experimenting with an electric telegraph too. At first he connected a pencil to an electric wire. When the electricity came through the wire the pencil made wavy lines. Then Morse invented a code that used dots and dashes for the letters of the alphabet. Finally, he discovered that telegraph messages did not have to be written, they could be sent in sound.

On May 24, 1844, the first long-distance message was sent by telegraph for 64 kilometers. Telegraph companies were formed in many cities. By 1861 telegraph wires stretched from the Atlantic to the Pacific. In Europe too, Samuel Morse's system became popular.

But telegraph wires couldn't be hung over an ocean. Messages to and from Europe had to be sent by ship — a journey of two or three weeks. A new method was needed.

The Atlantic Telegraph Company which was organized in 1856 wanted to try to lay a cable on the floor of the Atlantic Ocean. The 4,000-kilometer cable broke three times. Each time a new cable had to be made. Finally, on July 27, 1866, the first transatlantic message was sent from Newfoundland to Ireland.

Later cables were laid to Central and South America. After 1900 transpacific cables were laid to Asia and Australia. At last news and business information could be sent instantly to almost every country in the world.

Word history

Telephone – 1. A system for sending sounds over distances by changing them into electrical signals. The signals are sent by wires or radio waves and then changed back into sounds.

2. A device for sending and receiving sounds, especially speech, in this way. The telephone was invented by Alexander Grahaam Bell in 1876.

Reading:

Ex-1: Read and translate the text

Text D: Telephone

Alexander Graham Bell never planned to be an inventor; he wanted to be a musician or a teacher of deaf people (глухих). The subjects that he studied at school included music, art, literature, Latin and Greek. They did not include German which all scientists used in their books. Alexander's mother was a painter and a musician. His father was a well-known teacher of deaf people.

When Alexander was only sixteen, he became a teacher in boy's school in Scotland. He liked teaching there, but he still wanted to become a teacher of deaf

people as his father.

He read all the books about sound that he could find and started to work on some of his own experiments.

At twenty five Alexander became interested in finding a way to send human voice through an electric wire. The parents of his pupils contributed money for the equipment. He found an assistant, Tom Watson, who worked in an electrical shop. For two years Tom and Alexander were working together to build a machine that people could use to talk to one another over long distances. After two years, the two young men were becoming discouraged (опустились руки). Then, one day, when they were working on a new transmitter Alexander spilled some acid (пролить кислоту) on himself. Tom Watson, who was alone in another room, heard a voice. The voice was coming through a wire to a receiver on the table! The voice was Alexander Bell's! It was saying: "Come here, Mr. Watson. I need you!"

The first telephone line was built in Germany in 1877. By 1915 a telephone line was opened in the United States - 5,440 kilometers from New York to San Francisco. Now design bureaus all over the world are conducting experiments to develop video-phone or picture phone. A young man in Moscow wants to speak to his friend in Vladivostok. He lifts his telephone receiver, dials a number. After a very short time his friend answers. As he picks up his receiver, his picture appears on the screen. They can speak to each other face to face because they are using a new kind of telephone which may be called "a video-phone".

In addition to the usual telephone, the equipment includes a small television screen (14 cm by 13 cm) and, combined with the screen, a television camera. The camera tube will allow the user to switch from a wide view of the room to the face of the person speaking. The focus can be changed to give clear pictures of objects 0.3, 0.9 and 6.0 meters away from the camera. There is also a mirror attachment, which allows the camera to scan documents which may be lying on the table. The camera adjusts itself automatically to different lighting conditions.

New words and word expressions:

deaf – kar

voice – tovush, ovoz

through an electric wire – elektr simi orqali

Ex-2: Answer the questions:

1. How do you think the invention of the telephone changed people's lives?
2. How do you think the telephone will change in the future?
3. What kind of invention would you like to work?
4. Do you have a telephone? If not, where do you go to make telephone call?
5. If so, what kind of telephone have you got?
6. What is your telephone number?
7. What is your telephone number of your institute/dean office/dormitory?
8. Do you use the telephone often?
9. Do you ever speak in English on the telephone?
10. If so, what words or phrases do you use?

Word history

Telescope – an instrument that makes distant objects seem larger and closer.

Telescopes are used especially for studying the stars and other heavenly bodies.

Universe – the earth, the planets, stars, and all things that exist in space.

Astronomy – the study of stars, planets, space;

Near word- Astronomer.

Reading:

Ex-1: Read and translate the text

Text E: The Telescope

For more than four centuries telescopes have been the Earth's window on the Universe. Now scientists in many countries are developing bigger telescopes that will enable astronomers to look deeper into the corners of the Universe. The main principle of a telescope is the larger the mirror the clearer and brighter the reflected image will be.

The world's largest optical telescope is in the North Caucasus at 2100 meters above the sea level. Many countries have developed large size optical telescopes in the recent 40 years but this telescope is the most powerful.

With this telescope astronomers can investigate the most remote bodies in the Universe; it will help to solve many important scientific problems to make a great contribution to the mankind's knowledge. Astronomers have used the telescope to take several unique photographs of stars. The development of this unique telescope is a great achievement of science and technology.

New words and word expressions:

century-asr

the Earth-yer

Universe-samo

view-ko'rinish, nazar

deeper-chuqurroq

corner-burchak

main- asosiy

mirror-oynak, ro'zgu

reflected-aks etgan

sea level-dengiz sathi

size-o'lcham

recent-oxirgi

to solve-hal qilmoq

contribution-foйда, natija

image-tasavvur

unique-antiqa

mankind-insoniyat

achievement-yangiliklar, yutuqlar

investigate-yangilik kiritish

remote-uzoqlashgan

Speaking:

Ex-2: Choose the right answer

1. What is the main principle of a telescope?

a) the smaller mirror, the brighter the reflected image

- b) the lighter the mirror, the brighter the reflected image
 - c) the larger the mirror the clearer and brighter the reflected image
2. What can astronomers investigate with this telescope?
- a) our star-the Sun
 - b) man made satellites
 - c) the most remote bodies in the Universe

Additional materials for the self study work

Speaking:

Ex-1: Work in pair: Sit back to back. Take turns to phone each other:

Phone your friend. Wish him/her "Happy New Year".

Phone your friend. Ask him/her to go to shopping with him.

Phone your friend. Ask him/her to go to a concert with him.

Phone your friend. Ask him/her to help you with your homework.

Ex-2: Complete the conversation:

E.g. - Hello!

- Hello. Its Saodat here.

Ex-3: Speak about:

1. Your favorite TV programs at the moment.
2. Do you often watch football match live (as it happens) on TV or do you watch recorded **highlights** (parts of the game after it has been played)?
3. Do you enjoy watching **the commercials** (the advertisements in programmes)?
4. Do you watch satellite TV and/or cable TV?

Ex-4: Read the text and discuss it

Text: TV in our life

Television now plays an important role in our life. It is difficult to say if it is good or bad for us. It is clear, that television has advantages and disadvantages. But are there more advantages than disadvantages? In the first place, television is

an entertainment. But it is not only a convenient entertainment. For a family of three, four or five, for example, it is more convenient and less expensive to sit comfortably at home than to go out to find entertainment in other places.

They don't have to pay for expensive seats at the theatre or cinema. They turn on the TV-set and can see interesting films, concerts, football matches. But some people think that it's bad to watch TV. Those who watch TV need do nothing. We are passive when we watch TV. Television shows us many interesting programmes. But again there is a disadvantage here: we watch TV every evening, and it begins to dominate our lives.

My friend told me that when his TV-set broke down, he and his family found that they had more time to do things and to talk to each other. There are other arguments for and against television.

WRITING

Ex-5: Write down advantages and disadvantages of Television:

Advantages	Disadvantages

Ex-6: Translate the passage into English

Televizorning hayotimizdagi o'rni

Televizor hammamizning hayotimizda muhim ahamiyatga ega. Uni bir og'iz so'z bilan uningg yahshi yoki yomon tomonlarini aytib bo'lmaydi.

Chunki, uning o'ziga hos afzalliklari va noqulayliklari mavjud. Televizor orqali juda maroqli va qiziqarli bo'lgan konsert, filmlarni, futbol matchini tomosh qilish mumkin. Ikkinchi tomondan olib qaraganda u bizning qimmatli bo'lgan vaqtimizni o'g'iraydi.

Shuningdek, biz yalqov odamlarga aylanib qolishimiz mumkin deb ham hisoblaydilar. Hatto odamlar uning qarshisida o'tirib, atrofidagi odamlarni unutib qo'yishlari mumkin deb ham o'ylovchilar bor. Nima bo'lganda ham biz odamlar televizordan oqilona foydalanishimiz lozim.

Unit-3(6)

RESPONSIBILITY AND DOCUMENTARY IN THE FIELD OF STUDY- SOHA BO'YICHA MAS'ULIYAT VA HUJJAT YURITISH

Text-A: Physics

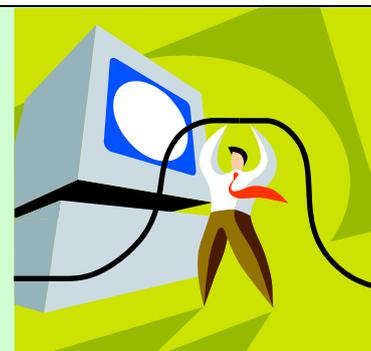
Text-B: A Great Citizen of the World

Text-C: J.C.Maxwell

Grammar: Direct and indirect speech

Doing exercises

Additional materials for the self study work



Word history

Physics – the science that deals with matter and energy. It includes the study of light, heat, sound, electricity, motion and force.

Electrical bulb – the glass part of an electric light or flashlight that lights up when you switch on. When you switch on a light, an electric current travels along the connecting wires, inside the bulb and makes the filament white-hot;

Ex-1: Read and translate the text

Text A: Physics

Physics is the science studying various phenomena in nature. Its object is to determine exact relations between physical phenomena. Physics is divided very naturally into two great branches, experimental and theoretical physics.

The task of the former is to make observations and carry out experiments on the basis of the experimental facts. Theoretical physics is to formulate laws and predict the behavior of natural phenomena. Every law is based on experiments; therefore it is important that experiments be done very accurately.

It was the study of natural phenomena that made it possible to formulate various laws. There are still a lot of problems to be solved. Scientists all over the world are doing their best to find answers to numerous yet unknown phenomena.

New words and word expressions:

various – turli xil

phenomena – voqea, hodisa, ko'rinish

nature – tabiat

to determine – aniqlashtirmoq

exact – aniq

relation – aloqa, qarindosh

task – vazifa

observation – kuzatish

to carry out – o'tkazmoq

to formulate – formulalashtirmoq

predict – oldindan aytmoq

behavior – rejim, bir xillik

therefore – shuning uchun

important – muhim

to solve – hal qilmoq

scientist – olim

yet – hali

Speaking

Ex-3: Translate the sentences into English:

1. Fizika fani tabiat hodisalarini o'rganadigan fandır.
2. Bu fan tabiat hodisalarining fizik xossalarini o'rganadi.
3. Fizik hodisalar ikki usulda nazariy va eksperimental usullarda tadqiq qilinadi.
4. Nazariy fizika tabiat hodisalarining qonuniyatlarini o'rganadi.
5. Bunda har bir qonuniyat tajribaga asoslanadi.
6. Tabiatda hali yechilishi lozim bo'lgan juda ko'plab muammolar mavjud.
7. Dunyo tadqiqotchilari fanga noma'lum bo'lgan bunday fizik hodisalarni to'g'ri va mukammal yechimi ustida izlanmoqdalar.

Word history

Laboratory – a room, building, or institute containing special equipment for people to use in scientific experiments;

Citizen – 1. A member of a particular country who has the right to live there.

2. A resident of a particular town or city.

Ex-1: Read the text

Text B: A Great Citizen of the World

Every day many people visited Thomas A. Edison's laboratories in Orange, New Jersey. Some of them were young inventors who went to study, but many more of them were tourists. They came from all parts of the US and from other countries as well.

One day a very important citizen from England visited Edison's factories, taking with him his young son, eight years old. They spent many hours in great workshops, looking at hundreds of useful inventions.

Before leaving the laboratories the man went to the office of the main building. Giving his card to the person in charge, he asked: "May I speak to Mr. Edison, please?". The man looked at the card and then answered: «Wait a minute, I'll see». Soon he returned and said: «Come this way, please. Mr. Edison will see you». The father and his son went into the great inventor's workroom. "Mr. Edison", said the Englishman, "I brought my young son here to see what the world's greatest citizen has done. I want this day to help him all his life. Will you please shake hands with him and say something that he will remember?"

Mr. Edison took the boy's hand. He laid his other hand on the child's shoulder and looked into his eyes. "My boy", he said: "Don't watch the clock". In 1928 Mr. Edison was eighty-one years old, but he still worked sixteen hours a day.

Ex-2: Read and discuss the text. Answer the question why did Edison say: "Don't watch the clock".

Word history

University – a school for higher learning after high school where people can study

for degrees, do research, or learn a profession such as law or medicine. A university is usually made up of colleges.

College – a place of higher learning where students can continue to study after they have finished high school.

Professor – a teacher of the highest teaching rank at a college or university.

Matter – anything that has weight and takes up space, as a solid, liquid, or gas.

Motion – movement. E.g. The motion of the boat made me feel sick.

Ex-1: Read the text and discuss it

Text C: J.C.Maxwell

James Clerk Maxwell, the greatest physicist and mathematician, was born in Edinburgh Scotland, on November 13, 1831. After school he entered the University of that City. Then he attended the University of Cambridge and graduated from it in 1854.

When at the University Maxwell took great interest in mathematics and optics. For two years after University he lectured, made experiments in optics at Trinity College and studied much himself.

In 1856 he became professor of natural philosophy and in 1860 professor of physics and astronomy at King's college, London. In London he lived for 5 years. Here he saw Faraday for the first time.

In 1871 Maxwell became professor of experimental physics at Cambridge. At that time students could not even have such subjects as electricity or magnetism as there was no laboratory for the study of these subjects. Maxwell organized such laboratory which made Cambridge world-known. This was a very fruitful period of Maxwell's life. He studied the problems of electromagnetism, molecular physics, optics, mechanics and others.

Maxwell wrote his first scientific work when he was fifteen. Since that time he wrote a great number of works which were the results of his experiments and calculations. His most outstanding investigations are in the field of the kinetic theory of gases and electricity. Maxwell is the founder of the electromagnetic field

and the electromagnetic theory of light. In 1873 he published his famous work on electricity and magnetism.

During these years he also wrote his classic “Matter and motion”, a small book on great subject, and many articles on various subjects (“Atoms”, “Attraction”, “Faraday”), and others. His works are monuments to his great genius.

New words and word expressions:

to be born – tug’ilgan

enter – kirmoq

to attend – qatnashmoq

to graduate – tamomlamoq, bitirmoq

to lecture – ma’ruza o’qimoq

to make experiments – tajriba o’qimoq

natural philosophy – tabiiy falsafa

a subject - fan

a scientist – olim, tadqiqotchi

a very greatful period – serhosil davr, jo’shqin davr

a great number of works – talay ishlar

a founder – asoschi

light - yorug’lik, nur

to publish – nashr etmoq

Speaking

Ex-2: Answer the questions using the text

1. When was J.Maxwell born?
2. When did he attend the University of Cambridge?
3. Did he take great interest in mathematics and optics?
4. When did he become professor of Natural philosophy?
5. When did he become professor experimental physics?
6. What problems did he study?
7. When did he write his first scientific work?

8. When did he publish his famous work on electricity and magnetism?

Ex-3: Translate the following sentences into English

1. J.K.Maksvell Edinburgda tug'ilgan.
2. Universitetda Maksvell matematika va optikaga qiziqdi.
3. Ikki yil davomida u universitetda ma'ruzalar o'qidi.
4. Maksvell tashkil etgan laboratoriya Kembridj Universitetini dunyoga tanitdi.

Writing

Ex-4: Complete the sentences using the following words

Well-known, physics, optics, laboratory, molecular physics, a great number of works, theory of light, a small book, the theory of electricity

Ex-5: Put the prepositions:

1. Maxwell was bornEdinburgh. (on, under, in)
2. Whenthe University Maxwell took great interest.... mathematics and optics. (at, in, on, near)
3. Maxwell made experiments... optics.....Trinity College. (on, in, at)
4. I see a student.He is ... the tree.(at, under, in, on.)
5. The teacher isthe table.(on, in, near, at.)

Ex-6: Use the verbs in The Past Indefinite Tense

To be born, to graduate from, to collect, to read lecture, to become, to organize, to study, to publish, to make experiments.

Additional materials for the self study work

Ex-1: Write down the following sentences in the Interrogative form

E.g. I can translate this text. I can not translate this text.

1. I am an engineer.
2. Maxwell lectured for two years.
3. His first book was published.
4. Maxwell was the great physicist and mathematician.
5. My girl-friend is a nice girl.
6. I have many English, Russian books.
7. They are in the park.

8. My parents are in Tashkent now.

Listening

Ex-2: Write after spelling.

Land, lamp, fact, space, made, gave, state, came, same, park, card, care, stare, got, job, spot, stop, note, role, whole, force, form, more, store, best, rest, mete, term, here, such, much, mute, cube, turn, burn, cure, pure, rich, time, wine, first, bird, fire, wire.

Writing

Ex-3: Put the prepositions “with, from, in, on, into, at, to”

1. Please take the book ... the table.
2. Put your book ... your bag.
3. The black pen is ... the exercise book and the brown pen is ... that book.
4. My friend is ... hospital.
5. Take this cup and fill it ... water.
6. The teacher is ... the table.
7. Come home ... 5 o'clock.
8. Go ... the blackboard.

Speaking

Ex-4: Make up sentence using the prepositions “out of, from, by, on, at, into”

Ex-5: Translate into English

1. Ko'chada biz studentlarni ko'ryapmiz.
2. Oshxonada ko'p stollar bor.
3. Men universitetga har kuni boraman.
4. Student ingliz tilini kitobdan o'rganadi.
5. U yerga men ertalab boraman.
6. Kembrijda men fizikani yaxshi o'qidim.
7. U laboratoriyada ko'p ishlaydi.
8. Do'stim kanikulni ota-onasi bilan birga o'tkazadi.

Ex-6: Translate the sentences:

1. I think you have much time to read.
2. I think they go home.
3. I think you are right.
4. I think Olim is ill.
5. I think she is absent.
6. I think everybody come in time.

Ex-7: Translate into English

1. O'ylashimcha bu yaxshi kino.
2. Yaxshi so'zlarni yod olgansiz deb o'ylayman.
3. Fikrimcha ular nohaq.
4. Meni o'ylashimcha bu matn juda qiyin.
5. Siz fizika qonunlarini yaxshi bilasiz deb o'ylayman.
6. Manimcha, ular bugun keladilar.

GRAMMAR:

Direct and indirect speech-Ko'chirma va o'zlashtirma gap

Bir odamning gapini boshqa birovga o'zgartirmasdan yetkazish ko'chirma gap deyiladi (Direct Spech).

Bir odamning gapini to'ldiruvchi ergash gap yordamida faqat mazmunini yetkazish o'zlashtirma gap deyiladi.

Example:

Ko'chirma gap	O'zlashtirma gap
He has said: "The ship will arrive at the end of the week". "Kema haftaning oxirida keladi" dedi u.	He has said that the ship will arrive at the end of the week. U kemaning haftaning oxirida kelishini aytdi.

1. Ko'chirma gapdagi: *The ship will arrive at the end of the week* gapi mustaqil, alohida bir gapdir. O'zlashtirma gapdagi *that the ship will arrive at the*

end of the week gapi to'ldiruvchi ergash gap bo'lib, alohida ishlatilmaydi. *He has said* bosh gap.

2. Ko'chirma gaplardan oldin, odatda, vergul qo'yiladi. Ammo uzun matnlardan oldin ikki nuqta qo'yiladi. Ingliz tilida qo'shtirnoq ko'chirma gapning boshida ham, oxirida ham qatorning yuqorisiga qo'yiladi.

3. Ko'chirma gaplar darak, so'roq va buyruq gaplarga bo'linadi.

Ko'chirma gapni o'zlashtirma gapga aylantirganda ko'rsatish olmoshlari, payt va o'rin-joy ravishlari quyidagicha o'zgaradi:

Ko'chirma gap	O'zlashtirma gap
This – bu, shu	That – o'sha
These – bular, shular	Those – o'shalar
Now - hozir	Then – o'shanda
Today - bugun	That day – o'sha kuni
Tomorrow - ertaga	The next day- keyingi kuni
The day after tomorrow – ertadan keyin	Two days later – ikki kundan keyin
Yesterday - kecha	The day before – bir kun oldin
Nex year – kelasi yili	The next year, the following year – keyingi yili
Here – bu yerda	There – shu yerda
Ko'chirma gap	O'zlashtirma gap
He said, “I can't translate this article”	He said that he couldn't translate that article
U dedi: “Men bu maqolani tarjima qila olmayman”	U o'sha maqolani tarjima qila olmasligini aytdi.
He said, “I shall write the letter tomorrow”.	He said that he would write the letter the next day.
U dedi: “Men xatni ertaga yozaman”.	U xatni keyingi kuni yozishini aytdi.
He said, “I was here yesterday”.	He said that he had been there the day

	before.
U dedi: “Men kecha bu yerda edim”.	U bir kun oldin o’sha yerda bo’lganligini aytdi.

1. Ingliz tilida ko’chirma gapni o’zlashtirma gapga aylantirganda quyidagicha o’zgarishlar bo’ladi: Ko’chirma gapdagi egalik va keshilik olmoshlari o’zlashtirma gapda ma’nosiga qarab o’zgaradi.

Example:

Ko’chirma gap	O’zlashtirma gap
He said “I write my letter” (ko’chirma)	He said he wrote his letter

2. Zamonlar moslashuviga binoan ko’chirma gap o’zlashtirma gapga aylantirilganda fe’lda ayrim o’zgarishlar bo’ladi.

Example:

Ko’chirma gap	O’zlashtirma gap
My father says “I go and see a doctor”.	My father said that he went and saw a doctor.

3. Gapning turiga qarab quyidagi bog’lovchilar ishlatiladi: Agar darak gap bo’lsa “that”. Maxsus so’roq gap bo’lsa tegishli so’roq so’zlar bog’lovchi vazifasiga o’tadi. Umumiy so’roq gap bo’lsa “If” yoki “whether” ishlatiladi.

Example:

Ko’chirma gap	O’zlashtirma gap
You asked me “Do you go?”	You asked me “If I went”

4. Agar avtor gapida “to say” fe’lidan keyin to’ldiruvchi “to” yuklamasi kelsa o’zlashtirma gapda “to say” fe’li o’rniga “to tell” fe’li, to’ldiruvchi esa “to” yuklamasisiz ishlatiladi.

Example:

Ko'chirma gap	O'zlashtirma gap
The doctor says to me "I will see you tomorrow".	The doctor told me that she would see me the next day.

5. Agar ko'chirma gap buyruq shaklida bo'lsa, avtor gapida "order" fe'li ishlatiladi, ko'chirma gapdagi fe'l "to" yuklamasi bilan, agar gap inkor bo'lsa "not to" yuklamasi bilan ishlatiladi.

Example:

Ko'chirma gap	O'zlashtirma gap
My mother said "Go to bed".	My mother ordered to go to bed.
My mother said "Don't go to bed".	My mother ordered not to go to bed.

Additional materials for the self study work

Doing exercises

Ex-1: Tell or ask somebody to do something

Remember!

We also use the infinitive (to do/to stay etc.) in reported speech, especially with tell and ask (for orders and requests):

Direct: 'Stay in bed for a few days,' the doctor said to me.

Reported: _____.

Direct: 'Don't shout,' I said to Jim.

Reported: _____.

Direct: 'Please don't tell anybody what happened,' Ann said to me.

Reported: _____.



Keys

Ex-2: Tell or ask somebody to do something

Direct: 'Stay in bed for a few days,' the doctor said to me.

Reported: The doctor told me to stay in bed for a few days.

Direct: 'Don't shout,' I said to Jim.

Reported: I told Jim not to shout.

Direct: 'Please don't tell anybody what happened,' Ann said to me.

Reported: Ann asked me not to tell anybody what (had) happened.

Ex-2: It is not always necessary to change the verb when you use reported speech. If you report something and it is still true, you do not need to change the verb:

Direct: Tom said 'New York is more lively than London.'

Reported: _____.

Direct: Ann said 'I want to go to New York next year.'

Reported: _____.



Keys

Ex-2: It is not always necessary to change the verb when you use reported speech. If you report something and it is still true, you do not need to change the verb:

Direct: Tom said 'New York is more lively than London.'

Reported: Tom said that New York is more lively than London.

Direct: Ann said 'I want to go to New York next year.'

Reported: Ann said that she wants to go to New York next year.

-3: Translate into English.

1. “Mening ota-onam Toshkentda”. Nasiba ota-onasi Toshkentdaligini aytdi.
2. Men Anvarni kecha tug’ilgan kunda ko`rdim. U Anvarni kecha tug’ilgan kunda ko`rganligini aytdi.
3. Men ertaga kechqurun ishlamoqchiman. U ertaga kechqurun ishlamoqchiligini aytdi.
4. Bir necha kun yoting! Vrach menga bir necha kun yotishim kerakligini aytdi.
5. Derazani ochib yubora olmaysizmi? Men do`stimdan derazani ochib yuborishligini so`radim.

Unit-4 (10)

THE ESTHETICS OF PROFESSIONAL ACTIVITY – KASBIY ETIKA

Text-A: The father of the creations of XIX century

Text-B: The working day of an engineer

Text-C: Isaac Newton

Grammar: Compound sentences

Doing exercises

Additional materials for the self study work

“If we knew what it was we were doing, it would not be called research”.

Albert Einstein

“Genius is one percent inspiration and ninety nine percent perspiration”.

Thomas Edison

Word history

Creation – 1. Something that has been made; 2. The act of making something;

Experiment – a scientific test to try out a theory or to see the effect of something;

Invent – to think up and create something new; (*Syn.* discovery)

Contribute – 1. To give help or money to a person or an organization;

2. To write for a magazine or newspaper.

Near words:

Contributing, contributed, contribution, contributor.

Text A: The father of the creations of XIX century

Ex- 1: Read the text and decide what the following numbers stand for

1. 1876 _____

2. 1847 _____

3. 1,093 _____

4. 9000 _____

5. 1882 _____

Thomas Edison is considered to be one of history's most well-known inventors, whose contributions to the modern era transformed the lives of people all over the world. He is the one who is the author of creations like electric light bulb, typewriter, electric pen, phonograph, motion picture camera and alkaline storage battery — to the talking doll.

Moreover, in 1876 he built his famous laboratory in Menlo Park, New Jersey to conduct experimentations. Edison and his wife Mary had a house which was near his work place, Edison often became so involved in his work that he stayed overnight in the lab as he considered “Genius is one percent inspiration and ninety nine percent perspiration”.

The father of the creations of XIX century was born in Milan, Ohio on February 11, 1847. He attended a formal school for only a short time when he was seven years old. His mother was a tutor and taught him to be fond of reading. Love for experimenting and mechanical things developed when Edison received his first chemistry set.

Edison was mostly deaf. He lost most of his hearing at the age of twelve when a conductor pulled him onto a train by his ears. But, he did not let his disability stop his love of learning. Creating experiments was Thomas Edison's passion.

Astonishingly, in all he held 1,093 patents for his inventions. It took him 9,000 experiments to perfect the light bulb. He believed that people's greatest weakness lies in giving up and the most certain way to succeed is always to try just one more time. He never quit. After inventing a lighting bulb in September 4, 1882, he kept working on the idea of lightening the world, as he believed there is always a way to do the work better and he tried to find it.

As a result, Edison's Pearl Street Station delivered power to a one square mile section of Manhattan for the first time Edison continued to work on several projects and experiments till the end of his life. In 1928, he was awarded with the Congressional Gold Medal, presented to him at the Edison Laboratory.

Ex- 2: Read the statements and decide whether the statements are true, false or not given:

1. Edison created a television _____
2. Edison thought that a person wouldn't achieve anything until he worked enough. _____
3. Edison couldn't hear at all. _____
4. He usually broke down the investigation if he confronted with challenges. _____
5. He is the one due to whom we have chandeliers (lustra) full of lighting bulbs. _____
6. His last words were "it is beautiful over there" _____

Ex- 3: Match the words and their definitions. Match the words and their definitions

1. Analyse	A) Information gathered in an invention
2. Conclusion	B) The factor that changes in response to the independent variable in an experiment
3. Data	C) A chart that organizes data in rows and columns
4. Data table	D) To study something carefully to look for patterns of trends
5. Dependent variable	E) A carefully controlled test of a hypothesis
6. Independent variable	F) A scientific investigation that is carried out in a natural setting
7. Experiment	G) Connection between things
8. Field study	H) A statement explaining the results of an investigation and what they mean
9. Correlation	I) The factor that an investigator manipulates or changes in an experiment

Word history

Engineer – someone who is trained to design and build machines, vehicles, bridges, roads or other structures;

Office – a room or building in which people work, usually sitting at desks;

Factory – a building where products, such as cars or chemical, are made in large numbers, often using machines. A factory is also called plant.

Text B: The working day of an engineer

Ex- 1: Read the text and discuss it

Mr. Komilov works at an office. He lives near the office. He usually walks there. He only works five days a week. He works on Monday, Tuesday, Wednesday, Thursday and Friday.

He doesn't work at the weekend. His working day lasts eight hours. He receives very many letters and telegrams in the morning and always answers them. He sometimes translates articles from foreign newspapers and journals. He usually finishes works at six o'clock in the evening.

Mr. Komilov learns English. He works hard at his English. He sometimes stays in the office after work for his English lessons. After classes he returns home.

Ex- 2: Answer the questions:

1. Does he walk to the office (factory)?
2. (On) Which days does he work?
3. How long does his working day last?
4. How many hours does he work a day?

Word history

Newton – a unit used by physicists for measuring force;

Force – 1. Strength or power. E.g. The batter hit the ball with great force.

2. In physics, a force is any action that changes the shape or the movement of an object.

Gravity – the force that pulls things down toward the surface of the earth and keeps

them from floatinmg away into space;

Near word: Gravitation;

Ex- 1: Read the text and discuss it

Text C: Isaac Newton

Newton one of the greatest scientists of all times was born on 25-th of December, 1642 at the village at Wools-thorpe in Lincoln shire. His father was a farmer and had died before Newton was born. Newton studied mathematics at Cambridge and took his degree there in 1665.

Then the University was closed because of danger of plague and Newton went home for a period of eighteen months, which was a most important period, for during that time Newton between the ages of 22 and 24, made his three great discoveries: The discovery of the differential calculus, of the nature of white light, and of the low of gravitation.

Those three great discoveries, which changed the course of thought, have also influenced the course of science from that day until our days. It is interesting how the idea which led to the discovery of the lows governing the forces of gravitation first came to him. Once, as he sat in his garden the fall of the apple always descend perpendicularly on the ground: Why must it not go side wards or upwards, but usually to the earth's center.

Certainly, the reason is that the earth draws it. Later he began to apply this property of gravitation to the motion of the earth and the heavenly bodies round the sun. Newton died when he was 84 and was buried in Westminster Abbey where his monument is today.

New words and word expressions:

scientist-olim,

degree-daraja,

plague-vabo,

discovery-kashfiyot,

differential calculus-differentsial hisob,
law of gravitation-gravitatsiya qonuni,
influence-ta'sir
be made of-tuzilgan,
idea came to him-miyasiga fikr keldi,
descend-yiqilmoq,tushmoq,
sideward-tomonga,
upward-yuqoriga,
draw-tortmok,
unusual-odatdan tashqari,
event-hodisa,
apply-qo'llamoq,
property-xususiyati,
motion-harakat,
the heavenly bodies-osmon jismlari.

Ex- 2: Answer the following questions

1. What was Newton?
2. What do you know about his parents?
3. What did he study?
4. Why did go home for a period of eighteen months?
5. What were his three great discoveries?
6. When did Newton die?
7. Where was he buried?

Additional materials for the self study work

Ex-1: Read the text and discuss it

Text: I want to be a programmer

I want to become a computer programmer. I am interested in computers. It is a whole new world. Many people continue careers of their parents or grandparents but it is not the case with me.

My mother is a teacher and my father is a doctor. But I don't want to be neither a teacher nor a doctor. My favorite subjects in school are mathematics, physics, and, of course, computer science. I am not interested in such subjects as geography, biology or chemistry.

My hobby is computer games and computer programming. I have a computer at home and can spend hours working at it. It is much easier to do things on computer, for example to write a composition.

You can change the text as many times as you want and you don't need to rewrite everything if you changed something. I think that the profession of programmer can give many opportunities.

Computers are the most rapidly changing sphere of modern technology. We are living in the age of information. And I think that the future is just filled with computers. Today, in England or in the US people can work, go shopping or even go on dates sitting at their computers. In our country, computers have been used just for a short time. So after I finish school I want to enter the university and study computer science.

Speaking

Ex-2: Answer the questions:

1. Are you going to continue your parents' careers?
2. What are your favorite subjects in school?
3. What subjects don't you like?
4. What is your hobby?
5. Why do you think your job will give you many opportunities?
6. Are you going to continue your education after school?

Listening

Ex-3: Learn the new words

Programmer – dasturlovchi, programmist

computer science – computer dasturlari

rapidly – tezlik bilan, jadal

to change – o'zgartirmoq

Grammar material: Compound sentence (Qo'shma gaplar)

Ingliz tilida qo'shma gaplar (compound sentence) ikkiga, bog'langan qo'shma gaplar va ergashgan qo'shma gaplarga bo'linadi. O'zbek tilidagidek ingliz tilida ham qo'shma gaplar ikki yoki undan ortiq sodda gaplarni ma'no jihatdan bog'lovchilar orqali bog'lanishidan hosil bo'ladi.

I. Bog'langan qo'shma gaplar **and, but, or** bog'lovchilari bilan bog'lanadi.

Example:

1. My sister came and we went to our parents.
2. Our teacher explained the rule but I didn't understand.
3. Please come in time or everybody will upset.

II. Ergashgan qo'shma gaplar bitta bosh gap va ikki yoki undan ortiq ergashgan gaplarning ma'no jihatidan bog'lovchilar yordamida bog'lanishidan hosil bo'ladi. Ergashgan qo'shma gaplar quyidagilarga bo'linadi:

III. Ega ergash gapli qo'shma gaplar (The Subject Clause).

Ushbu turdagi qo'shma gaplarda **that, what, who, where** bog'lovchilari ishlatiladi va ergash gap bosh gapning egasiga qaratilgan bo'ladi.

Example: What is translated is sighed at once.

1. Kesim ergash gapli qo'shma gaplar (The Predicative Clause) **that, what, who** bog'lovchilari bu qo'shma gap turida ishlatiladi.

Example: The difficulty of this translation is that it has many unknown words.

2. To'ldiruvchi ergash gapli qo'shma gaplarda (The object Clause) zamonlar moslashuvini unutmaslik kerak, chunki ergash gapni kesimi bosh gapni kesimiga ingliz tilida doimo moslashib keladi. Bu zamonda **that, if, whether** bog'lovchilari ishlatiladi.

Example: My friend said that he wanted to become an engineer.

3. Aniqlovchi ergash gapli qo'shma gaplar (The Attributive Clause) **who, whom, whose, which, that, when, where, why** bog'lovchilari bilan va bog'lovchisiz bosh gapga bog'lanadi.

Example: The text, which the student is reading, is about our cosmonauts.

4. Hol ergash gapli qo'shma gaplar *joy, vaqt, sabab, maqsad, shart* qo'shma gap turlariga bo'linadi. Bu qo'shma gapda, **if, in case, provided, providing, unless, but for** bog'lovchilari ishlatiladi.

Example: Our students always took part in the discussions unless they were busy.

Doing exercises

Ex-1: Translate the sentences. Pay attention to the conjunction.

1. He knows that we'll be back at 5.
2. Our new comer told us which cities she had been
3. I'm going to tell you tomorrow about a girl who he is going to India
4. Can you tell us what you have decided to do?
5. I recently went back to the town where I was born.
6. What's the name of the man whose car you borrowed?
7. I'll never forget the time when I see you the first.
8. The woman whom I wanted to see was away on holiday.

Ex-2: Complete the sentences

1. I didn't get the job which _____
2. Who was that man whom _____
3. I gave her the money that _____
4. A days ago I not someone whose _____
5. I want to go to a place where _____
6. At live o'clock when _____
7. My mother called me _____

Unit-5(6)

DISCUSSION ISSUES – SOHAGA OID MUZOKARALAR OLIB BORISH

Text-A: Garret Morgan's traffic light

Text-B: Stop and look!

Text-C: What is communication?

Text-D: Communication

Grammar: The Gerund

Doing exercises

Additional materials for the self study work

Discussion issue: - Fax, Internet, e-mail ... what next?

Word history

Traffic light – a set of lights that control traffic. Traffic lights are usually placed where streets intersect.

Speaking

Ex-1: Questions for discussion:

1. What inventions make life easier and safer?
2. What is your favorite invention? Why?
3. Imagine you can invent a machine. What does it do?

Reading

Ex-2: Read the text and discuss it:

Text-A: Garret Morgan's traffic light

Think about driving without traffic lights. What a nightmare! The next time you stop for a red light, think the inventor, Garret A. Morgan.

Garret A. Morgan is born in 1875. He is from a poor African-American family. When he is 14 he leaves school and goes to work. He does not have much education. But he is very imaginative. He teaches himself.

Morgan works in a sewing machine shop. He gets interested in machines. He always looks for a better ways to do things. In 1901 he invents a special belt for sewing machines. He sells the idea for \$150. But this is only the beginning. Morgan invents many things. In 1914, he invents a helmet to protect miners and firefighters from smoke and gas. He wins gold medal for this invention.

Morgan looks for other problems to solve. Cars are very popular in the United States. The streets re crowded with cars. There are many accidents. Morgan has an idea. What about a light at each corner? The light tells the cars to stop or go. In 1916 he invents a timer that automatically changes the light.

Cities all over the country want to have Morgan’s traffic lights. He cannot enough traffic lights. He sells his invention to the General Electric Company in the 1920s. He gets \$40 000. This is a large amount of money for that time. Morgan has a great success.

Writing

Ex-3: Write the correct word in the blanks:

- | |
|-------------------------------------------------------------------------------|
| a) timer; b) helmet; c) imaginative;
d) produce; e) nightmare; f) crowded; |
|-------------------------------------------------------------------------------|

1. At first, there are only few cars on the roads. But more people drive cars. After a while the roads are _____.
2. Garret Morgan cannot make enough traffic lights. But the General Electric Company can _____ many lights.
3. Morgan’s street light has a _____ that makes light change every minute or two.
4. Morgan always has new ideas. He is very _____.
5. Fireffights put Morgan’s special _____ on their heads.
6. Imagine streets without traffic lights. There are many accidents. People are hurt. This idea is a _____.

Ex-4: Choose the correct variant:

1. Firefighters put Morgan's special _____ on their heads.
A) helmet; B) cap; C) head-dress; D) hat;
2. At first, there are only few cars on the roads. But more people drive cars. After a while the roads are _____.
to crow; B) crowded; C) crowding; D) crow;
3. Garret Morgan cannot make enough traffic lights. But the General Electric Company can _____ many lights.
A) produce; B) produced; C) to produce; D) will be produce;
4. Morgan's street light has a _____ that makes light change every minute or two.
A) clock; B) timer; C) automatic instrument; D) equipment;
5. Morgan always has new ideas. He is very _____.
A) imagination; B) to imagine; C) imaginative; D) imagine;

	Keys: 1. A; 2. B; 3. C; 4. B; 5. C;
-------------------------------------------------------------------------------------	-------------------------------------

Ex-5: One word in each sentence is not correct. Write the correct word or words:

1. Garret Morgan is born in....	1975/1875
1. 2. Morgan is from a	rich/poor
2. 3. In 1901 Morgan invents a	special belt/helmet
3. 4. Morgan ...his idea for \$150.	buys/sells
4. 5. Morgan wins a goldfor his helmet invention.	watch/medal
5. 6. Morgan cannot produce enough	helmet/traffic light

Speaking:

Ex-6: Pair work: Do you think these inventions are good or bad? Why?

Computer games, microwave oven, robots, television, spaceships

Talk with a partner. Which invention does your partner think is good? Which does your partner think is bad? Why?

Speaking

Ex-1: Questions for discussion:

1. What do you know about traffic light?
2. Think about driving without traffic lights. What do you do?

Reading

Stop and look!

Do you know traffic light rules?

Ex-2: Read the text using dictionary and translate into Uzbek:

Text-B: Stop and look!

Many of you know that the traffic light is very heavy in the streets of big cities. When, you cross the street wait till the traffic lights show green.

Never cross the street when the light is red.

When you want to cross first, look to the left and then to the right;

By the way, do you know that in England you must look to the right first and then to the left? The cars move from right to left.

In our country they move from left to right.

It is very difficult for people who come to England from other countries to remember that they must keep to the left.

Speaking

Ex-1: Questions for discussion:

1. What do you know about ancient communication?

2. Imagine we have not any communications.

Word history

Communicate (v) – to share information, ideas, feelings with another person by talking, writing, etc.

Community – a group of people who live in the same area or who have something in common with each other.

Courier – someone who carries messages or parcels for somebody else.

Reading

Ex-2: Read the text and discuss it:

Text-B: What is communication?

Communication... What is communication? The dictionary defines it: "giving or exchanging information or news by speaking or writing".

In today's world, long-distance communication is easy. We can call people on the telephone, send those telegrams, faxes, electronic messages or write them letters. We receive news and other information on radio or television every day. Our modern inventions allow us to communicate with people in every part of our planet. In early times, how did people communicate over long distances? How did they tell other people about a storm that was coming or an enemy who was planning to attack?

At first, people probably used their feet. When the people lived in one village wanted to send a message to someone who was far away, they gave the news to a runner. This messenger ran to the nearest village and gave the message to another runner. Then the second runner took it to a third runner, and so on. This was a very slow method of communication and the message didn't always reach its destination.

The messengers had to run through forests and fields, cross rivers, and climb mountains. Sometimes they met wild animals and never arrived at the next village. And the messages frequently became mixed up, because each person who received

the information changed it a little.

People used their methods of communication too. Cyrus the Great, who founded the Persian Empire, built a series of towers. A man with a very strong voice stood on each tower. When the King wanted to send a message, he gave it to the man on the first tower, who shouted it to the man on the second tower, who relayed it to the man on the third tower. These messengers usually used megaphones, which made their voices louder.

The use of the fire and smoke was another primitive way of communication. People used blankets or leafy brunches to control the puffs (tutun) of smoke that came from a fire. The number and size of the puffs made a kind of code. This method wasn't very efficient on rainy days or at night, and little wind could mix up a message very badly.

A few old methods of communication are still in use today. One of these methods is the use of drums (baraban, nog'ora). Some drums are made of hollow logs and animal skins. When the drummer hits the drum, it makes a noise that sounds a little like human speech. Drumbeats travel quickly, but they can travel only a little way.

In 1790, a man in France invented the semaphore, which was a tall pole with "arms" at the top. Ropes(arqonm arg'amchi, chilvir) moved the arms up and down to form letters of the alphabet. Semaphore operators were able to relay messages very quickly. A kind of semaphore is still in use on railroads. But efficient long-distance communication had to wait for the discovery of electricity.

Reading

Ex-1: Read the text using dictionary and translate into Uzbek:

Text-D: Communication

When people began to live together in small communities, they saw that it was necessary to find ways of sending messages from one community to another.

There were several different ways of communications in ancient time. Some societies used fire and smoke signals. One of the most common ways was to use

couriers. A courier was a man to run or ride very quickly between towns and villages.

Really rapid communication became possible after putting electricity to work. Experiments with electricity were carried on during the eighteenth century.

After constructing the first electric telegraph in the middle of the 19th century, telegraph systems were established in many countries of the world. The invention of the telegraph system was followed by inventing the telephone.

New words and word expressions:

communities – qabilalar

send - jo'natmoq

message – xabar

ancient – qadim

couriers - kur'yer, chopar

chopar - ride otda yurmoq

middle - o'rta

century – asr

invention – kashfiyot

system – tizim

Discussion issue: - Fax, Internet, e-mail ...

what next?

Ex-1: Work in groups, ask and answer:

1. Which of the ways is the quickest way to send a message? - A notebook, a computer, fax, internet, copy machine-xerox...
2. Which of the ways is the cheapest way to send a message?
3. Which of the ways is the easiest way to send a message?
4. Which ways have you used?
5. When did the idea of the Internet begin?
6. Which year did we begin to use the Internet in Uzbekistan?

Grammar material: The Gerund - Gerundiy

Qoida:

The Gerund – Gerundiy - felning shaxssiz shakli bo'lib, ham ot ham fe'l xususiyatiga egadir. Fe'llarning bu shakli o'zbek tilidagi fe'l negiziga –sh (-ish) qo'shimchasini qo'shib yasalgan harakat nomiga o'xshaydi.

Gerundiy shu harakat yoki jarayonning nomini ifodalaydi. Gerundiy xuddi sifatdash I kabi fe'l negiziga **-ing** qo'shimchasini qo'shish orqali yasaladi. Gerundiy ot singari o'zidan oldin egalik olmoshi yoki qaratqich yoki umum kelishikdagi ot orqali ifodalangan aniqlovchi, ega bo'lishi mumkin.

Example:

I know of your working much - Men sizning ko'p ishlashingizni bilaman.

Gerundiy predlog bilan ham qo'llanish mumkin:

Example:

He insisted on doing it quickly - U bu ishni tez bajarishda turib oldi.

Gerundiyning gapdagi vazifalari:

1. Ega:

Example:

Reading is useful – O'qish foydalidir.

2. Qo'shma kesimning ot qismi:

Example:

Speaking without thinking is shooting without aim – O'ylamasdan gapirish maqsadsiz otishdir.

3. Vosytali to'ldiruvchi:

Example:

We think of compiling a dictionary – Biz lug'at tuzish haqida o'ylayapmiz.

4. Aniqlovchi vazifasida kelganda gerundiy odatda of yoki for predlogi bilan qo'llaniladi:

Example:

He likes this way of living – Unga shunday hayot tarsi yoqadi.

5. Predlogli hol bo'lib kelishi mumkin

Example:

After having my breakfast, I'll go to the institute – Nonushta qilgach, men institutga boraman.

6. Gerundiy qo'shma ot tarkibiga kirishi mumkin:

Example:

Writing table – yozuv stoli

Reading room – o'quv zali

Remember! -Eslab qoling:

Gerundiy oldida artikl ishlatilmaydi, uning ko'plik shakli ham yo'q.

Additional materials for the self study work**Doing exercises****Ex-1: Translate the following sentences into English:**

1. U kasb-hunar kollejiga o'qishga kirganidan afsuslanmaydi.
2. Men kollejga borolmasdan tura olmayman.
3. Talabalar o'quv yilining boshlanishini sabrsizlik bilan kutdilar.
4. Gapirishni to'xtating.
5. O'qituvchi talabalarga savollarga javob yozib kelishni eslatdi.

Ex-2: Translate the sentences into English:

1. Qadim zamonlardayoq aloqa vositalarining turli usullari mavjud bo'lgan. Jumladan bir zamonlar odamlar olovdan va tutundan signal sifatida foydalanishgan.
2. Keyinchalik bir-birlari bilan habarlashish uchun ular turli usullardan foydalanishgan.
3. Eng sinalgan usullardan biri xabarchi yoki choparlardan foydalanish bo'lgan.
4. Chopar - bu shahar va mamlakatlar o'rtasida juda tez chopib xabarni etkazuvchi odamlar bo'lishgan.
5. Keyinchalik, elektr kashf qilingach aloqa qilish, xabar yetkazish jadal rivojlandi.
6. Elektr vositasida aloqa qilish bo'yicha tajribalar 18 asrlarda amalga oshirila

boshlandi.

7. 19 asrlarda birinchi telegraf ishga tushgandan so'ng boshqa mamlakatlarda ham telegraf yordamida aloqa qilish yo'lga qo'yila boshlandi.

8. Keyinchalik telegraf tizimi asosida telefon ham kashf etildi.

Ex-3: Translate the sentences into English:

2. Ko'prik qurilishi tamom bo'layotir.

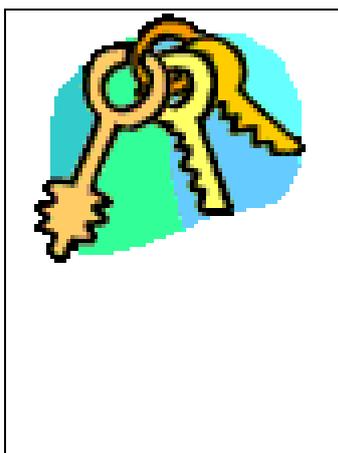
3. U o'sha erga ko'prik qurishni talab qilayapti.

4. Mening tez tushunishim uni osonlashtirdi.

5. Uni tez tushunib olishim quvonchli bo'ldi.

6. Ularning u erda shunga uzoq o'tirishlarini yomon ko'raman.

7. Men uning bu she'rni tushunishiga ishonmayman.



Keys to the sentences:

1. The building of the bridge is coming to the end.

2. He insists on building the bridge in that place.

3. My quick understanding made it easy.

4. My understanding it quickly was very pleasant.

5. I don't like their sitting there so late.

6. I don't believe in her understanding this poem.

Ex-4: Read the following sentences and translate the Gerund.

1. Listen to the teacher and stop talking.

2. We always enjoy dancing.

3. After finishing school I shall go to work on a farm.

4. My friend dreams of becoming a scientist.

Ex-5: Define the Gerund and translate the sentences into Uzbek(Russian):

1. She is interested in playing chess.

2. He is fond of reading.

3. After reading the text we usually translate it.

4. We are sure of getting only good marks at the exams.

5. On coming home he looked through the newspaper.
6. Before using the machine examine it.

Unit-6(10)

SCIENTIFIC AND PRACTICAL ACHIEVEMENTS IN THE FIELDS OF STUDY- MUTAXASSISLIK SOHASIDAGI ILMIY VA AMALIY YUTUQLAR

Text-A: Computer

Text-B: The Internet

Text-C: What is the Internet?

Text-D: The Internet in our life Grammar:

Grammar: The Participle

Doing exercises

Additional materials for the self study work



Knowledge isn't power until it is applied. Dale Carnegie

Word history



Computer – an electronic machine that can store and retrieve large amounts of information and do very quickly and do complicated calculations.

Computer graphics - the pictures or images that can be made on computer;

Computer language – the words and symbols that used in computer programs tell the computer how to perform certain processes. **BASIC** – is a popular computer language.

File – a box or folder for papers or documents;

Ex-1: Read the text and discuss it

Text-A: Computer

Computer is an electronic device that can receive a set of instructions called program and then carry out them. The modern world of high technology couldn't

be possible without computers. Different types and sizes of computers find uses throughout our society.

They are used for the storage and handling of data, secret governmental files, information about banking transactions and so on. Computers have opened up a new era in manufacturing and they have enhanced modern communication systems. They are essential tools in almost every field of research, from constructing models of the universe to producing tomorrow's weather reports. Using of different databases and computer networks make available a great variety of information sources.

They are 2 main types of computers, analog and digital, although the term computer is often used to mean only the digital type, because this type of computer is widely used today.

New words and word expressions:

device – moslama, qurilma, asbob

storage – saqlash

enhance – oshirmoq, sifatini ko'tarmoq

essential – muhim, ahamiyatli

available – yaroqli

source – manbaa, asos

digital – raqamli

Ex-2: Questions for discussion:

1. Do you have computers at home/ institute?
2. Can you work with a computer?
3. Do you use e-mal?
4. Do you use the internet? If yes, what for?

Word history

Mail – letters, cards, and packages sent through a post office. Today we think mail as being the letters and packages delivered to us. But originally the word referred to the bag the mail delivered in. The word comes from the old French word mail,

which referred to a leather sack.

1. **Mailbox** – a box in which letters are put so that they can be picked up by a mail carrier.

2. **Mailbox** – a private box for letters and packages delivered to a home or business.

E-mail: – electronic messages that are sent between computer terminals linked by phone lines.

Fax: – a copy of letter, document etc. sent along a telephone line using a special machine. Fax is short for facsimile.

Ex-1: Read the text and discuss it

Text –B: The Internet

The Internet was invented in the late 1960s by the US Defense Department's Research Projects Agency. In 1969, there was a network of just four mainframe computers. A mainframe computer is a large, powerful computer, shared by many users. The idea of the electronic **mailbox** was born when users looked for a way to talk to each other electronically. By 1984, the Internet had begun to develop into the form we know today.

Electronic mail is much faster than traditional mail, because once the message is typed out; it arrives in the electronic mail box of the recipient with minutes. It's better to use e-mail to contact friends rather than phone them, because e-mail is cheaper for long distances than the phone. People can share their interests through the Internet and it makes it very easy to exchange ideas and information. Internet access in Uzbekistan began around 1997.

The fax machine is very convenient aid to contact companies and friends because messages are transmitted immediately. Fax machines work like photocopiers. They make a copy of a document and then send it down a telephone line to another fax machine. In this way they can send and receive information from each other. You can send any kind of things by fax, but it is more expensive than e-mail.

New words and word expressions:

message – xabar, ma'lumot

recipient – qabl qilib oluvch, mijoz

cheap – arzon

to exchange – almashish, ayirboshlash

access – biror narsadan foydalanishga bo'lgan huquq

convenient – qulay, o'ng'ay

immediately – darhol, kechiktirib bo'lmaydigan

expensive – qimmat

Ex-2: Answer the questions:

1. When did the idea of the Internet begin?
2. Which year did we begin we begin to use the Internet in Uzbekistan?
3. How do you think the Internet can make our life easier?

Word history

Internet is the electronic network that allows millions of computers around the world to connect together. We can access the internet on the school computers.

Data: information, or facts. E.g.: The scientists examined all the data.

Data is used with a singular verb to mean “information”: The data was put into computer.

Database: the information is organized and stored in a computer.

Ex-1: Read the text and discuss it



**What do know aboutr the
Internet?**

Text –C: What is the Internet?

The **Internet** is a huge network of computers spanning this planet and is now started to bring in the surrounding area like space. Some computers like servers share data, others just surf the web as clients downloading the **data**.

Public Internet began in the late 70's. In the 70's web users used as interface called telnet, but now that program is mainly obsolete. Telnet is most widely deployed in accessing college email accounts. The Internet is very helpful, because it's a huge **database** of knowledge, from the pictures of family trips to an analysis of quantum mechanics.

Everyone should have the Internet because of its near instantaneous communication and huge wealth of knowledge. But how to go on the Internet and do a search for information we need. There are two ways to do it.

The first is when you know an internet address of data you need and the second one is when you try to find information you need using a search program. In the beginning we have got to enter any browser you like. It could be an Internet Explore, Netscape Navigator or Opera, etc.

If we have a broad-band connection, we connect to the Internet at once. If not, we have to set up and connect to our dial-up service. Finally, if we want to find some information in the Internet, we are to type an address of this data in the browser we use or simply use the existing search-programs such as the **google** search program, **rambler** search program, **yandex** search program or **yahoo** search program.

They are very simple and popular **networks** of sites. In these programs we can just type the word or name of thing, we would like to find and then press enter. A search program solves this problem. We get our results in the same window. After we get our results, we simply choose whatever site best matches our query or keep searching.

Besides data, one can get from the Internet; we can also send and receive **e-mail or electronic mail**. This internet service is cheaper than ordinary mail and much quicker. It is becoming popular day by day. We can get some news from the

Internet, because there are many informational servers in the web.

New words and word expressions:

huge – ulkan, juda katta

to span – chulg'ab olmoq

surrounding – tevarak, atrof

an area – hudud

quantum – hajm, miqdor

obsolete – eski, urfdan qolgan, iste'moldan chiqqan

instantaneous – darhol, kechiktirib bo'lmaydigan

search – qidirmoq

browser – axtaruvchi

solve – yechmoq, hal qilmoq

Discussion

Ex- 2: Answer the questions from the text

1. What is this text about?
2. What is the Internet?
3. Can you imagine your life without the Internet? Why?

Ex-1: Read the text and discuss it:

Text –D: The Internet in our life

Modern life is easy and fun. We have all the amenities (qulayliklar). We do not need to go to the movies, because we have big TVs at home. The children have cell phones with large displays. Modern technology is useful and convenient. In my opinion, Internet is the most comfortable thing. Computers are also an important invention, but Internet is better than any other type of information. Originally, Internet was a military experiment in the USA of 60-s. But soon it became clear that everyone in the world can use it.

Everybody knows that the Internet is a global computer network, which embraces hundreds of millions of users all over the world. The Internet has already

entered our ordinary life. It's hard to imagine our lives without Internet nowadays. It has become an important part of every person's life. It is clear that the accurate number of users can be counted fairly approximately, nobody knows exactly how many people use the Internet today, because there are hundreds of millions of users and their number is growing.

Nowadays, no one can deny the importance of the Internet. Sitting in front of a computer, clicking a mouse, you can shop, download many interesting films, books, read news about subject which is interesting for you, play computer games with other players, chat and send mails to your friends.

New words and word expressions:

amenity – qulaylik

important – muhim

military – harbiy

ordinary – odatdagi, odatiy

approximately – deyarli

deny – rad etmoq, tan olmaslik

Grammar: The Participle – Sifatdosh

Sifatdosh ya'ni Participle ham fe'lilik, sifatlik va ravishlik belgilari bo'lgan shahssiz fe'llarga sifatdosh deyiladi.

1. Sifatdosh gapda sifat bajaradigan quyidagi vazifalarda ishlatiladi:

a) aniqlovchi bo'lib keladi:

Example: A *fading* flower lay on the table.

b) Qo'shma kesimning ot qismi sifatida:

Example: My pencil is broken.

2) Sifatdosh gapda ravish vazifasini bajaradi:

Example: He sat at the table reading a newspaper.

3) Sifatdosh shahssiz fe'l bo'lgani uchun, zamon va fe'l darajalari shakllariga ega.

Example: The story was well written.

Doing exercises

Additional materials for the self study work

Ex- 1: Read the following sentences and translate the Present Participle.

1. The boy standing near the window is my friends.
2. We sat talking until late at night.
3. Opening the window, he looked out into the street.
4. When I came into the room I met him laughing loudly.

Ex- 2: Read the sentences and translate them:

1. Seeing is believing.
2. Reading is my hobby.
3. Saying is good but is better.
4. Better means to give somebody knowledge.

Unit-7(8)

INNOVATIONAL IDEAS IN THE FIELD OF STUDY- SOHADAGI INNOVATION G'OYALAR

Text-A: Solar energy

Text-B: Laser

Text-C: A new microcomputer

Text-D: Batteries

Grammar: Adverbial constructions -

Ravishdoshli qurilmalar:

Adverbs of measure and quantity –

Miqdor va o'lchov ravishlari

Doing exercises

**Additional materials for the self study
work**



Word history

Solar energy – energy from the sun that can be used for heating and generating electricity.

Solar heating – heating powered energy from the sun.

Solar system – the sun and the bodies that move in orbit around it. In our solar system there are nine planets, many moons, and also asteroids and comets.

Lense – a piece of curved glass or plastic in a pair of glasses or in camera, telescope, etc. lenses bend light rays so that you can focus a camera or see things magnified through a telescope or microscope.

Mirror – a metal or glass surface that reflects the image of whatever is in front of it.

Ex-1: Read the text and discuss it

Text-A: Solar energy

Solar power is the conversion of energy from sunlight into electricity, either

directly using photovoltaic (PV), indirectly using concentrated solar power or a combination. Concentrated solar power systems use lenses or mirror and tracking systems to focus a large area of sunlight into a small beam. Photovoltaic cells convert light into an electric current using the photovoltaic effect.

The early development of solar technologies starting in the 1860s was driven by an expectation that coal would soon become scarce.

Charles Fritts installed the world's first rooftop photovoltaic solar array, using 1%-efficient selenium cells, on a New York City roof in 1884. However, development of solar technologies stagnated in the early 20th century in the face of the increasing availability, economy, and utility of coal and petroleum.

In 1974 it was estimated that only six private homes in all of North America were entirely heated or cooled by functional solar power systems. The 1973 oil embargo and 1979 energy crisis caused a reorganization of energy policies around the world and brought renewed attention to developing solar technologies.

Between 1970 and 1983 installations of photovoltaic systems grew rapidly, but falling oil prices in the early 1980s moderated the growth of photovoltaic from 1984 to 1996. For several years, worldwide growth of solar PV was driven by European deployment, but has since shifted to Asia, especially China and Japan, and to a growing number of countries and regions all over the world, including, but not limited to, Australia, Canada, Chile, India, Israel Mexico, South Africa, South Korea, Thailand, and the United States.

New words and word expressions:

conversion – o'zgarish, aylanish

sunlight – quyosh nuri

concentrate – to'yingan

lense - linza

mirror – oyna, ko'zgu

array – to'plam, dasta

stagnated – harakatsiz bo'lmoq

embargo – ta'qiq qo'ymoq

deployment – tayyor holga kelgan

Ex-2: Answer the questions from the text

1. What is this text about?
2. What is solar energy?
3. Can you count the advantages of solar energy?

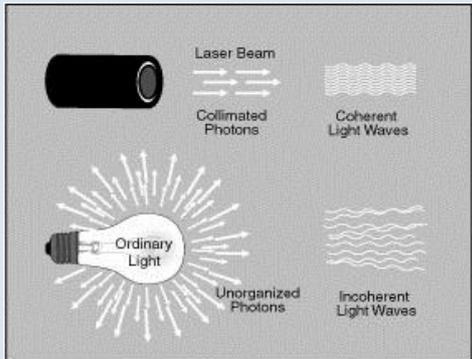
Word history

Laser – a device that makes a very narrow, powerful beam of light that can be used for light shows, for cutting things, or for medical operations.

Laser beam – a concentrated beam of light made by laser. Laser beams are used to read compact disks.

Laser printer – a computer printer that reproduces high-quality images using laser.

Ex-1: Read the text and discuss it

	<p>What is the Laser?</p>
-------------------------------------------------------------------------------------	----------------------------------

Text-B: Laser

Laser, one of the most sophisticated inventions of man, produces an intensive beam of light of a very pure single colour. It represents the fulfilment of one of the mankind’s oldest dreams of technology to provide a light beam intensive enough to vaporize the hardest and most heat-resistant materials. It can indeed make lead run like water, or, when focused, it can vaporize any substance on the earth. There is no material unamenable to laser treatment and laser will become one of the main technological tools quite soon.

Scientists in many countries are working at a very interesting problem: combining the two big technological discoveries of the second half of the 20th century — laser and thermonuclear reaction — to produce a practically limitless source of energy.

Physicists of this country have developed large laser installations to conduct physical experiments in heating thermonuclear fuel with laser beams. There also exists an idea to use laser for solving the problem of controlled thermonuclear reaction. The laser beam must heat the fuel to the required temperature so quickly that the plasma does not have time to disintegrate. According to current estimates, the duration of the pulse has to be approximately a billionth of a second. The light capacity of this pulse would be dozens of times greater than the capacity of all the world's power plants. To meet such demands in practice, scientists and engineers must work hard as it is clear that a lot of difficulties are to be encountered on route⁴.

The laser's most important potential may be its use in communications. The intensity of a laser can be rapidly changed to encode very complex signals. In principle, one laser beam, vibrating a billion times faster than ordinary radio waves, could carry the radio, TV and telephone messages of the world simultaneously. In just a fraction of a second, for example, one laser beam could transmit the entire text of the Encyclopaedia Britannica.

Besides, there are projects to use lasers for long distance communication and for transmission of energy to space stations, to the surface of the Moon or to planets in the Solar system. Projects have also been suggested to place lasers aboard Earth satellites nearer to the Sun in order to transform the solar radiation into laser beams, with this transformed energy subsequently transmitted to the Earth or to other space bodies. These projects have not yet been put into effect⁵, because of the great technological difficulties to be overcome and, therefore, the great cost involved. But there is no doubt that in time⁶ these projects will be realized and the laser beam will begin operating in outer space as well.

New words and word expressions:

sophisticated – takomillashgan, mukammal
beam – shu’la, yorug’lik
fulfil – ta’minlamoq, qanoat qilmoq
mankind – insoniyat
to vaporize – bug’lantirmoq
unamenable – noodatiy, noqulay
to provide – olmoq, ta’minlamoq
as to suggest magic – sehrlidek qabul qilmoq
on route – yo’lda
put into effect – amalgam oshirmoq
in time – o’z vaqtida
emit – nur tarqatmoq
ray – nur
length – uzunlik
prevent – xalaqit qilmoq
intense – tezkor, intensiv
therefore – shuning uchun
helium – geliy (gaz nuri)
neon – neon (gaz nuri)
tube – truba
power supply – quvvat manbai
luminescent – yaraqlovchi
semiconductor – yarimo’tkazgich
transform – aylantirmoq
extensive – keng miqyosda

Ex- 2: Answer the questions from the text

1. What is this text about?
2. What does the word «laser» mean?
3. What is the laser, is it a device or some phenomenon?

4. Who was the first to write about lasers?
5. What writer from this country wrote a book about a laser?
6. What can a laser do?
7. Where can it be used?
8. What other uses do you know?

Ex-3: Complete the sentences

1. its atoms to emit rays.
2. The most common laser
3. are able to energy.
4. The first laser
5. its most extensive

Ex-4: Which is true to the text?

1. Laser means “light amplification by simulated emission of radiation.
2. Laser produces an intensive beam of light.
3. In the next few years laser will become one of the main technological tools.
4. Martians almost invaded the Earth before the turn of the last century.
5. Laser and thermonuclear reaction can produce a limited source of energy.
6. The laser beam heats the fuel so quickly that the plasma disintegrates.
7. There are projects to transform lunar radiation into beams.
8. The laser beam will begin operating in outer space.

Word history

Microcomputer - a computer that sits on a desk or can be carried in a case;
Information – facts and knowledge;
Information technology – the use of computers and other electronic equipment to find, create, store or communicate information;
Programm – 1. A television show;
 2. A theater or concert program is a booklet that gives you information about the performance;
 3. A schedule or plan for doing something; E.g. the citizens’ group proposed a new program to help homeless in our city;

4. A series of instructions, written in a computer language, that control the way a computer works;

5. To give a computer or other machine instructions to make it work in a certain way;

Near words: programming, programmed;

Ex-1: Read the text and discuss it

Text-C: A new microcomputer

An entirely new microcomputer has been developed in our country . The microcomputer is equipped with an ariphmetical logical device which carry pre-set programmes. Because of this the microcomputer can perform various functions.

It is easy to change commands or add new ones. The new computer is very small in size and weight is resistant to temperature fluctuation does not require special ventilatuon and easy to operate.

It can be used in computer control complexes as an information-processing unit and also as abuilt-in computer in various analysing and display devices. It receives data, calculates the optimum conditions and supplies signals for the control of tecnologecal processes.

For example, in pressure-die casting the microcomputer receives information about the temperature in the furnase, the speed of the liquid metal movements, location of the various devices. The programme is written by technicians, and the operator inserts the required data.

The field of application of the new computer appears to be vast. It can analyse various substances in oil, gas, chemical and food industries, as well as soil and plants. It can also be used for processing information about conditions in the environment, for control of conveyors and other equipment.

New words and word expressions:

add - qo'shimcha qilmoq

entirely - butunlay

the environment - atrof-muhit
fluctuation - silkinish
ventilation – havo aylanishi
display devices -ko'rsatish mosklamasi
pressure-die casting – bosim ostida olingan
the furnase - pechka
liquid metal – mustaxkam bo'lmagan metal
vast - keng
soil - turpoq
inserts - kirish

Ex- 2: Working on the text-Testing:

1. The new computer equipped with _____
 - A) various commands;
 - B) an arithmetical logical device;
 - C) special ventilation;

2. The program means _____
 - A) a television show;
 2. a theater or concert program is a booklet that gives you information about the performance;

3. the programme is written by technicians, and the operator inserts the required data;

Word history

Battery - a container filled with chemicals that produce electrical power.

Electrodes – a point through which an electric current can flow into or out of device or substance;

Electrolyte – a soluble substance that conducts electricity;

Positive- having one of two opposite kinds of electrical charge; e.g. a magnet has a positive pole and a negative pole.

Negative – having one of two opposite kinds of electrical charge.

Ex-1: Read the text and discuss it

What do you see in this picture?

Do you use the batteries?



Text-D: Batteries

Batteries as sources of electrical energy are the result of a long series of experiments which started with the discoveries of Alessandro Volta, an Italian scientist, more than one hundred years ago.

Today battery cells are manufactured in two common forms:

- 1) Dry cells, used in flash-light, portable radios, etc.
- 2) Wet cells, used in automobiles, airplanes, boats, etc.

The voltaic cell is composed of three parts, a pair of dissimilar metal plates called electrodes, a dilute acid solution called the electrolyte, and a nonconducting container called the cell.

In a glass container filled with sulphuric acid there are two plates: one copper and the other zinc. If the two plates are connected by a copper wire, electricity will flow through it from the copper plate to the zinc plate.

This may be shown by the wire becoming hot. If an ammeter is connected between the plates of electrodes, as they are now called, it will indicate that an electric current is flowing.

The electrode from which electricity flows is termed the positive electrode and the receiving electrode is termed the negative electrode. Thus, for the voltaic cell the copper plate is the positive electrode and the zinc plate is the negative electrode.

A copper wire will convey electricity and is called an electrical conductor. Copper, aluminum and silver are outstandingly good conductors. Conductors must be surrounded by protective material, which does not conduct electricity and prevent it to leak away. Materials which do not conduct electricity are called electrical insulators; there are many common examples - glass, wood, rubber, some plastics, «insulation» tape.

Remember that faulty insulation is dangerous and leads to unwanted electrical flow and probably to local overheating.

New words and word expressions:

battery – batariya

cell – element

flash-light – signal bildiradigan belgi

portable radio – portative radio

manufacture – ishlab chiqarmoq

dry – quruq

wet – ho'l, nam

copper – mis

dissimilar – o'xshamaydigan, farqli

dilute – suyultirilgan, konsentratsiyalangan

solution – eritma, qorishma

positive - musbat

negative – manfiy

Ex-2: Write down the chemical and physical terms from the text and translate into Uzbek (Russian):

E.g. Copper, zinc.....

Ex-3: Translate the following words into English (Russian):

Elektr energiya manbai –

Uch qismdan iborat –

Sulfat kislotasi bilan to'ldirilgan –

Elektrod musbat deb ataladi –

Elektr tokini o'tkazmaydigan matreiallar izolyatsion materiallar deb ataladi –

Element qancha katta bo'lsa, elektr toki shuncha ko'p bo'ladi –

Ketma-ket bog'langan elementlar –

Ex-4: Fill the sentences:

1. A battery is a source of _____.
2. Battery cells are manufactured in _____.
3. The voltaic cell is composed of _____.
4. Dissimilar metal plates _____.
5. A dilute acid solution _____.
6. If an ammeter is connected _____.
7. The positive electrode is _____.
8. The negative electrode is _____.
9. _____ are good conductors.
10. _____ are called electrical insulators.

Grammar: Adverbial constructions - Ravishdoshli qurilmalar

Adverbs of measure and quantity – Miqdor va o'lchov ravishlari

Many (ko'p), few (kam) ravishlari sanaladigan otlar oldidan much, little ravishlari sanalmaydigan otlar oldidan ishlatilib, how many? (necha?), how much (qancha?) savollariga javob bo'ladi.

Remember – Eslatma: Sodda bo'lishli gaplarda **many** va ayniqsa **much** o'rniga a **lot of (ko'p, ancha, bir qancha)** birikmasi ishlatiladi.

Examples:

A few	pens rooms magazines gifts boxes spoons
--------------	--------------------------------------------------------------------------------------------------

A little	time bread tea
-----------------	-------------------------------------------

Ex-1: Read the sentences and translate into Uzbek (Russian):

1. There is a lot of bread on plate.
2. There are a lot of books on the shelf.
3. We have got a few chairs in the house.
4. Is there much bread on the plate?
5. Are there many books on the shelf?
6. Have you got few chairs in the house?
7. There isn't much bread on the plate.
8. I haven't got much bread.
9. There aren't many books on the shelf.
10. We haven't got many chairs in the house.

Doing exercises

Additional materials for the self study work

Ex-2: Read the text and translate into Uzbek (Russian):

Text: An electric battery

An electric battery is a device consisting of one or more electrochemical

cells with external connections provided to power electrical devices such as flashlights, smart phones, and electric cars.

When a battery is supplying electric power, its positive terminal is the cathode and its negative terminal is the anode. The terminal marked negative is the source of electrons that when connected to an external circuit will flow and deliver energy to an external device.

When a battery is connected to an external circuit, electrolytes are able to move as ions within, allowing the chemical reactions to be completed at the separate terminals and so deliver energy to the external circuit.

It is the movement of those ions within the battery which allows current to flow out of the battery to perform work. Historically the term "battery" specifically referred to a device composed of multiple cells, however the usage has evolved additionally to include devices composed of a single cell.

Ex-3: Copy the scientific (special) terms and translate them into Uzbek

Ex-4: Put the Adverbs of measure and quantity:

1. There is _____ chalk on the table. Please, fetch some chalk.
2. Uzbekistan has _____ gas.
3. Have you got _____ friends in Tashkent?
4. Is there _____ work today?
5. Open the door, please. There is _____ fresh air in the room.
6. They have _____ children.
7. She has _____ butter in the refrigerator.
8. He has _____ chairs in the sitting room.
9. I have _____ bread on the kitchen table.
10. Ben is very busy. He has _____ work.

Unit-8(10)

NOVELTIES IN THE FIELD OF STUDY- SOHAGA OID YANGILIKLAR

Text-A: Non-traditional Renewable Sources of Energy

Text-B: The Discovery of the X-ray

Text-C: New Hope for Energy

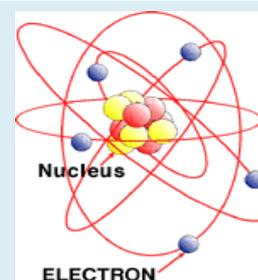
Text-D: What is the Nuclear Energy?

Grammar: Using of used to and would - Used to va would

iborasining ishlatilishi

Doing exercises

Additional materials for the self study work



Prefix

The prefix non – adds one of the following meaning to a root word:

Not, as in nontoxic (not toxic).

Non-traditional (not traditional)

Word history

Tradition – a custom, an idea, or belief that is handed down in this way.

Renewable energy – power from sources that can never be used up, such as wind, waves, and the sun.

Source – 1. The place, person or thing from which comes, as in the source of the problem.

2. The place where a stream or river starts.

3. Someone or something that provides information. E.g. an encyclopedia is useful reference source.

Geothermal - to do with the intense heat of the internal part of the earth and its commercial use, as in geothermal steam or geothermal electricity.

Reactor – a large machine in which nuclear energy is produced by splitting atoms under controlled conditions.

Text-A: Non-traditional Renewable Sources of Energy

It is known that much is being done in the world today for the development of non-traditional sources of energy. Without them the Earth cannot support its present population of 5 billion people and probably 8 billion people in the 21st century.

Now we are using traditional power sources, that is, oil, natural gas, and coal and water power with the consumption of more than 50 billion barrels per year. It is evident that these sources are not unlimited. That is why it is so important to use such renewable sources of energy as the sun, wind, geothermal energy and others. Research is being carried out in these fields.

One of the most promising (перспективный) researches is the development of power stations with direct transformation of solar energy into electricity on the basis of photo-effect.

It was Russia that was the first in the world to develop and test a photoelectric battery of 32,000 volts and effective area of only 0.5 sq.m., which made it possible to concentrate solar radiation. This idea is now being intensively developed in many countries.

However, the efficiency of a solar power station is considerably reduced because of the limited time of its work during the year. But it is possible to improve the efficiency of solar power stations by developing different combinations of solar power stations and traditional ones- thermal, atomic and hydraulic. Today some engineers are working at the problem of developing electric power stations with the use of a thermal-chemical cycle.

It will operate on products of the transformation of solar energy, whereas the «solar» chemical reactor uses CO₂ and water steam of the thermal power station. The result is that we have a closed cycle.

In Kamchatka there are geothermal power stations operating on hot water-steam mixture from the depths of about a kilometre. In some projects water will be heated by the warmth of mountains at a depth of four-five km.

It is planned that plants working on the energy of the solar heat provided by

the sun will be built on a larger scale. That different wind energy plants are being developed is also well-known. These energy plants can be small (of several kilowatts) and large powerful systems.

It is important that all these advances in developing new sources of energy and improving the old ones help to solve the energy problem as a whole and they do not have negative effects on the environment.

New words and word expressions:

non-traditional sources of energy – energiyaning noan'anaviy manbaalari

traditional power source - energiyaning an'anaviy manbaalari

unlimited – chegaralanmagan

consumption – iste'mol

renewable sources of energy - energiyaning alternative manbaalari

promising - istiqbolli

wind energy – shamol energiyasi

environment – atrof-muhit

powerful systems – stansiya tizimlari

Ex- 2: Answer the questions from the text

1. What is this text about?
2. What are the non-traditional renewable sources of energy?

Word history

X-ray – an invisible high energy beam of light that can pass through solid objects.

X-rays are used to take pictures of teeth, bones, and organs inside the body.

Wilhelm Conrad Roentgen (1845-1923) was a German mechanical engineer and physicist, who produced and detected electromagnetic radiation in a wavelength range known as X-rays or Roentgen Rays, an achievement that earned him the first Nobel Prize in Physics in 1901.

Ex-1: Read the text and discuss it



**Do you know X-rays?
Have you been used with X-rays?**

Text-B: The Discovery of the X-ray

Scientists working on a problem do not know and sometimes can't even guess what the final result will be; Professor Roentgen was a physicist at the University of Wersburg in Germany.

Late on Friday, 8 November, 1895, he was doing an experiment in his laboratory when he noticed something extraordinary. He had covered an electric bulb with black cardboard, and when he switched on the current he saw little dancing lights on his table. Now the bulb was completely covered; how then could any ray penetrate?

On the table there were some pieces of paper which had been covered with metal salts. It was on this paper that the lights were shining. Professor Roentgen took a piece of paper and held it at a distance from the lamp. Between it and the lamp he placed a number of objects, a book, a pack of cards, a piece of wood and a doorkey.

The ray penetrated every one of them except the key. This mysterious ray could shine through everything except the metal. He called his wife into the laboratory and asked her to hold her hand between the lamp and the photographic plate.

She was very surprised by his request, but he obediently held up her hand for a quarter of an hour, and when the plate was developed there was a picture of the bones of her hand and of the ring on one finger. The ray could pass through the flesh and not through the bone or the ring.

At the scientific meeting where he described what was happened Professor Roentgen called this new ray "the Unknown", the X-ray. Doctors quickly saw how this could be used, and soon there were X-ray machines in all the big hospitals.

At first the doctors did not understand how powerful the rays were and many of them were injured, losing a finger an arm through the exposure to X-ray when they were using the machines. The most obvious use for this discovery was to make it possible for doctors and surgeons to see exactly how a bone was fractured.

Other uses came later. It was found that these rays could be used to destroy cancer cells, just as they destroyed the healthy cells of the doctors who first used the machine.

Methods were found later by which ulcers in the stomach could be located, the lungs could be X-rayed to show if there was any tuberculosis present. "Mass X-ray" units are sent round to factories and detect early signs of trouble in the lungs.

Unfortunately for Professor Roentgen, whose discovery did so much for medical science; envious colleagues spread the story that he had stolen his discovery from a laboratory assistant who worked for him. He died, poor and forgotten, in 1923.

New words and word expressions:

electric bulb –elektr lampochkasi

cardboard – karton, qalin qog'oz

penetrade – yorib o'tmoq, teshib chiqmoq

mysterious – sirli, g'alati

bone – suyak

the Unknown – noma'lum

obvious – aniq-ravshan, ochiq-oydin

obediently bo'ysinuvchan

fracture – singan joy, sinish

Ex- 2: Answer the questions from the text

1. What is this text about?
2. What do you know about X-ray?

Word history

Ceramic – the craft of making objects out of clay.

Super – very excellent, excellent.

Conductor – a substance that allows heat, electricity, or sound to travel through it.

E.g. Metal is a good conductor of heat.

Ex-1: Read the text and discuss it

Text-C: New Hope for Energy

Recently some ceramic materials have been found to be superconductors. Superconducting ceramics are substances which can transmit electric currents with no loss of energy at temperatures much higher than conventional superconductors (that is, at the temperature of liquid nitrogen).

One use for the new superconductors would be to replace those that need the extreme cold of liquid helium - huge superconducting electromagnets used in nuclear magnetic resonance research, atomic particle acceleration and research reactors.

Other types of electromagnets made with superconductors could be used to lower the cost of electric generation and storage. Such uses may take 10 years of research; a quicker use will probably be in electronics.

Researchers now estimate that tiny but immensely powerful highspeed computers using superconductors may be three to five years away. Further off are 300 m.p.h. trains that float on magnetic cushions which now exist as prototypes but

may take at least a decade to perfect. Power lines that can meet a city's electric needs with superconductor cables may be even further in the future.

Meanwhile, scientists around the world are trying to turn the new materials into useful products. Among the most notable is a micron-thin film to transmit useful amounts of electric current without losing superconductivity. The film could be used in the microscopic circuitry of advanced computers as high-speed pathway (маршрут, соединение) between computer chips.

Several nations are known to be very active in superconductor research. For example, the United States is spending millions of dollars on such research, much of it for military uses: projectile accelerators, lasers, ship and submarine propulsion.

New words and word expressions:

ceramic materials – spool buyumlar

superconductors – o'ta yuqori o'tkazgichlar

tiny – juda mayda, kichkina

liquid - suyuq

helium – geliy

estimate- baholamoq, taxminan hisoblamoq

meanwhile – shu kunlarda, shu pautda

military uses – harbiy maqsadlar

submarine – suv osti kemasi

Ex- 2: Answer the questions from the text

1. What is this text about?
2. What do you know about superconductors?

Word history

Nucleus – the central part of an atom, made up neutrons and protons.

Nuclear – to do with the energy created by splitting atoms.

Nuclear power – power created by splitting atoms.

Nuclear reactor – a large machine that produces nuclear power in a

power station.

Ex-1: Read the text and discuss it

Text-D: What is the Nuclear Energy?

Nuclear power gives us about 17 % of the world’s electricity. Some countries produce more nuclear power than others. France, for example, gets about 75 % of its energy from nuclear power plants, the USA only 15 %. Many countries, like Austria, don’t have any nuclear energy at all.

The energy of atoms

Nuclear energy comes from the energy inside each atom. Atoms are made up of a **nucleus** with protons and neutrons—and electrons which **revolve** around the nucleus like the earth goes around the sun.

Ex- 2: Answer the questions from the text

1. What is this text about?
2. What do you know about the Nuclear Energy?

Grammar: Using of used to and would - Used to va would iborasining ishlatilishi

Qoida: O’tgan zamonda takrorlanib turgan ish harakatni yoki holatni ifodalash uchun ingliz tilida “Used to va would” iboralari ishlatiladi.

1. Agar o’tgan zamondagi takrorlanib turgan ish harakat yoki holat hozirgi zamonga ifodalansa “**Used to va would**” iborasi ishlatiladi. So’roq va inkor shakllari deyarli kam uchraydi.

Example:

People used to think that the earth wasn’t round	Avvallari odamlar yerni aylana emas deb o’ylar edilar.
Life is not difficult now in the North as it used to be.	Hozirda shimolda hayot avvalgidek qiyin emas.

2. Agar o'tgan zamonda vaqti-vaqti bilan takrorlanib turgan ish harakatni yoki holatni hozirgi zamonga qiyoslamay ifodalash uchun **would** fe`li infinitivsiz ishlatiladi.

Example:

She would walk to the station when the weather was fine.	Ob-havo yaxshi bo'lganda u stantsiyaga piyoda borar edi.
They would sit before the open windows watching the busy life of the street.	Ular ochiq deraza oldida tirband ko'chaga tikilib o'tirishga odatlangan edilar.

Doing exercises

Additional materials for the self study work

Ex - 1: Translate into Uzbek.

1. This is the town I used to live in.
2. In the evenings Mr. Brown would come to their place and they would play a game or two of chess.
3. She would sit before the open window watching with interest the busy life of the street.
4. The two sisters are no longer as much alike as they used to be.
5. It is pity she can't sing as she used to any longer.

Ex - 2: Complete the sentences using "used to" or "would". Use the verb in brackets.

1. I haven't been to the cinema for ages. We ... a lot. (go)
2. I asked the driver to slow down. She ... too fast. (drive)
3. When I was a child, a lot bad dreams. (have)
4. "Do you do any sports?" "Not these days. I ... (play) volleyball"
5. The children always came to see their grandmother on Sundays. She ...them delicious pastries. (give)
6. When people met him in the street they ... and pretend not to know him. (turn away)

Ex - 3: Translate the sentence into English.

1. U samolyotda borishga odatlangan edi.
2. Men uni bilardim.
3. Mening oyim barcha uy ishlarini o'zi bajarishga odatlangan edi.
4. Dadam bunday savolni so'raganda kulib turardi va hech nima demasdi.
5. Futbolchalik sport o'yini yo'q der edi.
6. Qanchalik tez-tez diktant yozib turardinglar, maktabda?

Ex - 4: Translate the text into Uzbek and write down the special terms.

Text: Chain Reaction

In a **nuclear reactor** free neutrons hit a uranium atom and split it. New neutrons are set free and when they run into other uranium atoms they split them again. When this continues over and over again, you call it a **chain reaction**.

Control rods are put into the reactor so that the chain reaction doesn't go on so fast. The chain reaction also gives off **heat** energy. This heat is used to make water hot and produce **steam**. The steam turns a turbine to **generate** electricity.

When parts of atoms hit each other they also become **radioactive**, which is very dangerous if it doesn't stay in the reactor.

FAMOUS PEOPLE OF ENGINEERING – MUHANDISLIKNING

MASHHUR KISHILARI

ACTIVITY 1

Ex - 1: Translate the text into Uzbek and write down the special terms.

Text - 1: Isaac Newton

Newton one of the greatest scientists of all times was born on 25-th of December, 1642 at the village at Wools-thorpe in Lincoln shire. His father was a farmer and had died before Newton was born. Newton studied mathematics at Cambridge and took his degree there in 1665.

Then the University was closed because of danger of plague and Newton went home for a period of eighteen months, which was a most important period, for during that time Newton between the ages of 22 and 24, made his three great discoveries: The discovery of the differential calculus, of the nature of white light, and of the law of gravitation.

Those three great discoveries, which changed the course of thought, have also influenced the course of science from that day until our days.

It is interesting how the idea which led to the discovery of the laws governing the forces of gravitation first came to him.

Once, as he sat in his garden the fall of the apple always descend perpendicularly on the ground. Why must it not go side wards or upwards, but usually to the earth's center.

Certainly, the reason is that the earth draws it. Later he began to apply this property of gravitation to the motion of the earth and the heavenly bodies round the sun. Newton died when he was 84 and was buried in Westminster Abbey where his monument is today.

New words and word expressions:

scientist-olim,

degree-daraja,

plague-vabo,

discovery-kashfiyot,

differential calculus-differentsial hisob,
law of gravitation-gravitatsiya qonuni,
influence-ta'sir
be made of-tuzilgan,
idea came to him-miyasiga fikr keldi,
descend-yiqilmoq,tushmoq,
sideward-tomonga,
upward-yuqoriga,
draw-tortmok,
unusual-odatdan tashqari,
event-hodisa,
apply-qo'llamoq,
property-xususiyati,
motion-harakat,
the heavenly bodies-osmon jismlari.

Ex-2: Answer the questions:

1. What was Newton?
2. What do you know about his parents?
3. What did he study?
4. Why did go home for a period of eighteen months?
5. What were his three great discoveries?
6. When did Newton die?
7. Where was he buried?

ACTIVITY 2

Ex - 2: Translate the text into Uzbek

Text: Alfred Nobel

A.B .Nobel a Swedish inventor, gave most of his vast fortune in trust as a fund from which annual prizes could be awarded to the individuals and organizations who had achieved the greatest benefit to humanity in a particular year, in the field of chemistry psychology or medicine, literature and internationals place. In 1969 a prize for economics was added by Central Bank of Sweden. All candidates for the prizes are selected by the Royal Swedish Academy and by the Norwegian Nobel Committee.

The prizes are usually presented in Stockholm on December 10 with the king of Sweden officiating a tribute to Nobel on the anniversary of his death. Each prize includes a gold medal, a diploma and a cash award of about one million dollars.

Ex - 2: Translate the sentences into Uzbek:

1. Many new houses had been built in this town before we came to live there.
2. An opening speech has been made by Mr. Brown.
3. He asked me if he had been invited to the party.
4. The project had been ready by Monday.
5. Much attention has been paid to the further improvement of the living conditions.

ACTIVITY 3

Ex - 1: Translate the text into Uzbek

Text: Isaac Newton

Newton, one of the greatest scientists of all times was born in 1642 in the little village in Lincolnshire, England. His father was a farmer and died before Newton was born. His mother was a clever woman whom he always loved.

After the school, Newton studied mathematics at Cambridge university and received his degree in 1665. Then the university was closed because of the danger of plague and Newton went home for eighteen months.

It was most important period in his life when he made his three great discoveries - the discoveries of the differential calculus's, of the nature of white light, and of the law of gravitation. These discoveries are still important for the modern science.

Newton had always been interested in the problems of light. Many people saw colors of a rainbow but only Newton showed, by his experiments, that white light consists of these colors. It is interesting how he discovered the law gravitation. Once, as he sat at the garden, his attention was drawn by the fall of an apple. Many people saw such an usual thing before. But it was Newton who asked himself a question: "Why does that apple fall perpendicularly to the ground? Why doesn't it go sideward or upwards?" The answer to this question was the theory of gravitation, discovered by Newton. Newton died at the age of 84, and was buried in Westminster Abbey, where his monument stands today.

Ex-2: Answer the questions:

1. When and where was Newton born?
2. Where did he study?
3. What three major discoveries did Newton make?
4. When did Newton make these discoveries?
5. How did the idea which led to the discovery of the law of gravitation first come to him?
6. When did Newton die and where is he buried?

New words and word expressions:

degree – ilmiy unvon

plague – vabo, o'lat

discovery - ixtiro, kashfiyot

differential calculus - differensial hisob-kitob

law of gravitation - yerning tortishish qonuni

rainbow - kamalak, yog'du

to draw – jalb etmoq

perpendicularly – perpendikulyar, tik

sidewards - yonga

upwards – tepaga, yuqoriga

abbey – abbat, ruhoni

Ex - 3: Translate the text into English

1. Isaak Nyuton o'z davrining buyuk olimlaridan biri edi.
2. U 1642 yilda Angliyaning Linlolinshir grafligidagi kichik bir qishloqda dunyoga keld.
3. Uning otasi fermer bo'lib, Isaak Nyuton tug'ilmasdan oldin vafor etgan edi.
4. Uning onasi juda ham aqlli va zakovatli ayol bo'lgan.
5. Maktabni bitirgandan keyin Isaak Nyuton Kembridj Universitetida matematikani chuqur o'rgandi va 1665 yilda ilmiy unvonga sazovor bo'ldi.
6. Bir qancha vaqtdan so'ng, universitet mamlakatda tarqalgan vabo tufayli yopiladi va Isaak Nyuton bir yarim yil o'zi tug'ilib o'sgan joyda yashaydi.
7. Aynan mana sgu muddat Isaak Nyutonning hayotida tubdan burilish yasaydi, ya'ni u o'zining mashhur uch kashfiyotini yaratadi.
8. O'zining qiziquvchanligi tufayli Isaak Nyuton olamning tortishish qonunini kashf qiladi.

Questions for examination:

1. Where do you study?
2. What faculty do you study?
3. What can you say about your future speciality?
4. Who is your best friend?
5. Where does your father (mother, sister, brother) work (study)?
6. When does your working day begin?
7. What do you usually do in the morning?
8. What do you have for breakfast (dinner, supper)?
9. How do you get to the University?
10. Till what time are you busy at the University?
11. How do you spend your leisure time?
12. How often do you go to the cinema?
13. What music (books, films) do you like?
14. Do you watch any programs on T. V?
15. What subjects do you study at the University?
16. What is your favorite subject?
17. When and where were you born?
18. Where do you live?
19. Why did you decide to enter the University?
20. When will you be able to speak English fluently?
21. Who is your favorite writer (poet, actor, sportsman)?
22. What books of this writer do you like best?
23. What famous American, British and Uzbek writers do you know?
24. Is your family large or small?
25. How old are your parents?
26. Have you many relatives (aunts, uncles, cousins)?
27. How many seasons are there in the year and what are they?
28. When does it often rain?
29. When do trees begin to burst into leaf?

30. What holiday does our Republic celebrate in spring?
31. How do you spend your time in summer?
32. Do you listen to the latest news every day?
33. What for do you study English?
34. What is your native city?
35. What was the ancient name of Tashkent?
36. What are the friends-sister cities of Tashkent do you know?
37. How many theatres are there in Tashkent? What are they?
38. What places of interest in Tashkent do you know?
39. When was Exhibition Hall opened and where is it situated?
40. What can you tell about the T. V. tower?
41. How many stations are there in Tashkent Underground and when was it opened?
42. What territory does the Republic of Uzbekistan occupy?
43. When did Uzbekistan become independent?
44. What does the independence for our Republic mean?
45. Where is Uzbekistan situated?
46. What is the climate of our Republic?
47. What can you say about the Constitution of our Republic?
48. Who is the President of Uzbekistan now?
49. How is the Supreme Council of Uzbekistan called?
50. What is the official name of Great Britain?
51. What parts does G. B. consist of?
52. What is the capital of G. B. ?
53. What sea separates G. B. from the European continent?
54. What climate has G. B. ?
55. What are the most important parts of London? Speak about each part.
56. Who is the Queen of G. B.?
57. How is the residence of the Queen called?
58. What places of interest in London do you know?

59. Why do the Englishmen say about monarch's power: "They reign, but don't rule».
60. What do the Londoners say about their city?
61. Where is the official residence of the Prime Minister of England situated?
62. What is Westminster Abbey?
63. What do you know about the parks of London?
64. What picture gallery is the largest in London?
65. What are the most famous Universities in G. B.?

Conversation practice

Ex-1: Answer the questions.

1. How old are you now?
2. Where were you born?
3. What city did you come from?
4. Where did you go to school?
5. What foreign language did you study at school?
6. How long did you study at school?
7. Why did you enter this institute?
8. What are your favorite subjects at the institute?
9. Where do you live?
10. Do you live with your family?
11. How do you usually spend your Saturday and Sunday?
12. What did you do last weekend?
13. What are you going to do next weekend?
14. What is your favorite sport?
15. What is your hobby?
16. Where do you usually spend your summer vacation?
17. When do you usually get up in the morning?
18. At what time do you usually leave home?
19. How do you usually get to the institute?

SPECIAL TEXTS FOR SELF STUDY WORK

ACTIVITY 1

Ex-1: Translate the text

Cosmic Flight

We live in a wonderful age when the most daring dreams of man are coming true. For many centuries cosmic flights were but a dream. October 4, 1957 became a remarkable day throughout the world. The first space satellite was put into orbit around the Earth. Tsiolkovsky's "utopian" dream has been realized. Each cosmic flight on a manned spaceship is really a great event. The satellite is a small space laboratory. Its aim is investigating radiation as well as the effects of the state of weightlessness on the human organism.

Ex-2: Translate words and expressions:

to put into orbit, space satellite, manned spaceship, investigating, the state of weightlessness, radiation.

Ex-3: Translate the sentences:

Each manned spaceship is a small cosmic laboratory.

Ex-4: Choose the right form:

The most... dreams of people are coming true.

a) remarkable b) daring c) wonderful

Ex-5: Choose the right form:

Each cosmic ... is really a great event,

a) satellite b) spaceship c) flight

Ex-6: Complete the sentence:

For many centuries cosmic flights were....

a) "utopian" dream b) but a dream

Ex-7: Complete the sentence:

The first space satellite was put into orbit....

a) around the Earth b) around the moon

Ex-8: Make up a sentence:

is, on, organism, aim, investigating, the, its, radiation, human

Ex-9: Make up a sentence:

flight, manned, really, event, cosmic, a, is, remarkable, each, on, spaceship, a.

Ex-10: Answer the Questions:

1. When was the first space satellite launched?
2. What is a satellite?
3. Who was the first cosmonaut in the world?

ACTIVITY 2

Ex-1: Translate the text

Text: Ulugbek

The great scientists of Central Asia were not only outstanding thinkers, who confirmed to the world faultless of their ideas on understanding the Universe. Central Asia also had some of the remarkable astronomers, who made careful observations under natural phenomena.

Among Samarkand's astronomers of the 15-th century was Ulugbek who made himself famous by his observations needed for science. Having studied Astronomy under famous scientists Ulugbek began intensively observing the sky. He built enormous observatory in Samarkand. Observatory was equipped by the most modern tools of that time.

Ex-2: Translate words and expressions:

scientists, outstanding thinkers, to confirm, faultless, the Universe, remarkable, observations, intensively, enormous observatory, modern tools.

Ex-3: Translate the sentences:

Markaziy Osiyoning ko'zga ko'ringan mashhur allomalari nafaqat olim emas, balki buyuk astranomlar bo'lishgan.

Ex-4: Translate the sentences:

Ulyg'bekning Samarqaddagi rasadxonasi eng zamonavi asbob-uskunalr bilan jihozlangan edi.

Ex-5: Choose the right form:

Samarkand's astronomers achieved the great accuracy in their

a) ideas b) observations c) instruments

Ex-6: Choose the right form:

The catalogue "Starry tables «contained position of 1018 stars in the sky.

a) precise b) geographic c) different

Ex-7: Put pronouns:

Astronomy was subject..... major concern him.

Ex-8: Put pronouns:

Ulugbek's contemporaries were fascinated..... the magnificence the observatory.

Ex-9: Put pronouns:

Ulugbek widely used definitions geographic coordinates different places Central Asia practical purpose.

Ex-10: Make up a sentence:

of, astronomers, known, all, world, were, works, the, Samarkand's, widely, the, over.

Ex-11: Answer the Questions:

- 1) What was Ulugbek famous for?
- 2) What was the great achievement of Ulugbek in Samarkand?

ACTIVITY 3

Ex-1: Translate the text:

The Electric Current

When a conductor joins two points of different potential, electricity flows from one to the other along the conductors until the potentials are equal. This process is very rapid, and with good conductors is completed in a fraction of a second.

While it lasts, an electric current is said to flow from one point to the other. By convention, the direction of the current is said to be that from the higher to the lower potential, i.e. the direction in which positive charges would travel, but actually, owing to their much greater mobility, it is the negative electrons which move, and it is their motion which constitutes the current.

Ex-2: Translate into Russian:

conductor, potential, rapid, direction, positive, charge, mobility, motion, negative, current.

Ex-3: Translate sentences:

- 1) Electricity flows from one potential to the other until the potentials are equal.
- 2) An electric current flows from one point to the other.
- 3) The motion of the negative electrons constitutes the electric current.

Ex-4: Choose the right form:

When a conductor joins two points of different potential... flows from one to the other.

- a) process b) electricity c) motion

Ex-5: Choose the right form:

This process is very ... and is completed in a fraction of a second.

- a) large b) slow c) rapid

Ex-6: Choose the right form:

The direction of the ... is that from the higher to the lower potential

- a) current b) electricity c) charge

Ex-7: Continue the sentence:

The electric current passing through a wire

- a) will cool that wire b) will heat that wire

Ex-8: Continue the sentence:

By connecting wires to the top and bottom discs Volta

- a) was able to get electric current b) was able to heat a conductor

Ex-9: Continue the sentence:

When an electric current flows along a conductor,

- a) the latter becomes strong b) the latter becomes heated

Ex-10: Make up a sentence:

from, to, along, flows, potential, the, conductor, electricity, one, other, the.

ACTIVITY 4

Ex-1: Translate the text:

Faraday's Experiment

Faraday knew from his long study of electricity that magnetism should be able to produce a current, as well as vice versa. In spite of his various failures, the idea of producing a current directly by magnetic action remained firm in his thoughts. One of his friends said later how at this period of his long life Faraday used to carry about with him in his pocket a small rough model of electro-magnetic apparatus.

This consisted simply of an inch-long straight iron core with some turns of copper wire wound round it. The basic idea he had in mind was this: if an electric current in a wire can produce a magnetic effect, why should not a magnet near a conducting wire produce an electric current?

Ex-2: Translate into Uzbek:

electricity, magnetism, various, directly, magnetic, action, really, successful, immediately, reaction.

Ex-3: Translate sentences into Uzbek:

- 1) Faraday knew that magnetism should be able to produce a current.

2) He had produced electricity through magnetism which had never been done before.

3) Faraday used to carry about with him a model of electromagnetic apparatus.

Ex-4: Choose the right form:

In spite of his various.... Faraday was sure that magnetism should be able to produce a current.

a) failures b) purposes c) magnets

Ex-5: Choose the right form:

Anyone who has a coil of wire, a.... magnet and a sensitive current indicator may repeat Faraday's experiment.

a) big b) bar c) copper

Ex-6: Choose the right form:

Amplifying the current, the scientist.... the necessary results

a) deflected b) got c) switched on

Ex-7: Continue the sentence:

Faraday's basic idea was that a magnet near a conducting wire should be.....

a) on opposite sides of the ring b) able to produce an electric current

Ex-8: Continue the sentence:

Faraday separated each turn.....

a) by string for insulation purposes b) fed from the battery

Ex-9: Continue the sentence:

Faraday wound long coils of thin copper wire.....,

a) he was disappointed b) on opposite sides of the ring

Ex-10: Make up a sentence:

by, produce, wanted, electricity, Faraday, to, electromagnetism.

Ex-11: Answer the Questions:

1) What was Faraday famous for?

2) What was his idea?

3) What can you say about a small model of electro-magnetic apparatus,

ACTIVITY 5

Ex-1: Translate the text:

The Discovery of Magnetic Induction

The discovery in 1820 that there was a close connection between electricity and magnetism was very exciting -until then, the two subjects had been considered as quite independent.

The first discovery was that currents in wires make magnetic fields; then in the same year, it was found that wires carrying current in a magnetic field have forces on them.

In 1840 Faraday discovered - electric effects exist only when there is something changing. If one of a pair of wires has a carrying current, a current is induced in the other, or if a magnet is moved near an electric circuit, there is a current. We say that currents are induced.

Ex-2: Translate words and word combinations:

Discovery, magnetic induction, wires, magnetic fields, current, electric effects, induced, an electric circuit, connection, electricity and magnetism.

Ex-3: Translate the sentences:

- 1) Electricity and magnetism subjects had been considered as quite independent subjects.
- 2) If currents make magnetic fields, people suggested that magnets might also make electric fields.

Ex-4: Choose the right form:

For the atom to be electrically neutral, the number of protons must be..... to that of electrons.

- a) more b) equal c) less

Ex-5: Choose the right form:

We know Isaac Newton to express the connection between..... and motion in the form of several laws.

- a) electricity b) current c) force

Ex-6: Choose the right form:

Before Faraday's discovery the only usable source of..... was the galvanic battery.

- a) electricity b) magnetism c) conduction

Ex-7: Artificial magnets may be made by placing.....

- a) a magnet to be magnetized into a battery
b) a piece of iron or steel to be magnetized into a coil

Ex-8: Continue the sentence:

Faraday wanted to produce electricity by.....

- a) Electromagnetism b) electric circuit

Ex-9: Make up a sentence:

Was, carrying, a, have, them, discovery, that, current, magnetic, forces, the, wires, in, field, on.

Ex-10: Make up a sentence:

A, electricity, and, had, as, was, between, magnetism, subjects, considered, independent, there, connection, and, these, been, quite.

ACTIVITY 6

Ex-1: Translate the text:

Text: Generating an Electric Current

Alessandro Volta, a professor of physics, established the true source of the electric current. He demonstrated that it could be produced by the action of dissimilar metals. In 1800 he developed the first electric battery, a device known as a voltaic pile.

Although he tried a number of different materials he found that the best results were obtained when he used silver and zinc as the two metals. The pile consisted of a series of small disks of these and of cardboard, the latter having been soaked in a salt solution.

Ex-2: Translate the words:

source, dissimilar, device, a voltaic pile, silver, zinc, cardboard, soaked, salt solution, series.

Ex-3: Translate the sentences:

- 1) The electric current could be produced by the action of dissimilar metals.
- 2) A voltaic pile consisted of a series of small disks and of cardboard.

Ex-4: Choose the right form:

Alessandro Volta established the true... of the electric current,

- a) material b) source c) field

Ex-5: Choose the right form:

During his experiments Volta developed the first electric...

- a) battery b) source c) device

Ex-6: Choose the right form:

By connecting... to the top and bottom discs Volta got electric current

- a) discs b) wires c) bars

Ex-7: Complete the sentences:

An electric current is a flow of electrons along...

- a) the particles were electrons

b) a metal wire or a conductor

Ex-8: Complete the sentences:

There are many measuring devices e. g....

a) galvanometers, voltmeters and others

b) slight changes every day

Ex-9: Complete the sentences:

The method of producing electricity directly from heat attracts...

a) problem of life

b) attention of scientists

Ex-10: Make up sentences:

that, current, produced, action, metals, demonstrated, the, could, by, of, Volta,
electric, be, the, dissimilar

Texts for free conversation

About myself

My name is Alisher. I am 20 years old. I am a student of Jizzak Polytechnical Institute. I have a family. I have a father, a mother, two brothers, and a little sister. I have a grandfather and grandmother too. I also have many friends too. They are also students.

I am interested in English, mathematics and many other subjects. I am also fond of sports. I go in for tennis. Because it is my hobby: I like to watch sports channel on TV. I like classical music. I like Uzbek foods. I like to read books of Uzbek, English, American and French writers. I am Uzbek and live in Uzbekistan. I am proud of my country and love it very much.

My friend

My name is Alisher. I am a student of Jizzakh Polytechnical Institute. I have a friend. My friend's name is Bobur. Bobur is a student too. He lives in Uzbekistan, in Jizzakh. He knows English very well.

He is one of the best students of our institute. He has 2 or 3 lessons a day. He learns mathematics, history of Uzbekistan, geography, English and many other subjects. He is fond of sports. His hobby is football. He likes to read English and Uzbek books.

My Family

Let me introduce myself. My name is Nodir. I have a family. I have a mother, a father, 2 brothers and a little sister. We live in Jizzakh. We have a big house. My father works at a plant as an engineer. He has a car. He is fifty one years old.

My mother is a teacher. She works at the Vocational College. She is fifty years old. My elder brother is 23 years old. He is a student. He studies at the University. My second brother is 30 years old. He studies at the Technological Institute. My little sister's name is Dilbar. Dilbar is a pupil. She is in form 6. I like my family.

My biography

My full name is Alimov Nodir Fayzullayvich. I was born on the 11 th of July in 1984 in Jizzakh. I went to the 1 st form of the secondary school.

I have a father, a mother, two brothers and a little sister.

My father's name is Alimov Fayzulla. He was born in 1956 in Jizzakh. He is an economist and works at the joint-venture.

My mother's name is Alimova Saida. She was born in 1958 in Jizzakh. She is a teacher and works at the secondary school. She teaches English.

My first brother's name is Alisher. He was born in 1980 in Jizzakh city. He is a student of the Economic University in Tashkent.

My second brother's name is Valisher. He is a student of Uzbek State World Language University in Tashkent.

Now I am a student of Jizzalh Polytechnical Institute.

My future profession

We know that, an engineer-mechanic, a builder, an economist, a translator, a painter, an artist, an agronomist, an engineer-technologist and so on. Every boy and girl stepping into the independent life after finishing school chooses their profession.

A builder builds high buildings, offices for us, an economist works on the economical problems of every office, town, city, an agronomist works on the fields, and this profession deals with the agricultural products.

In short, every profession is interesting in its way. This year I'll finish the Institute. I want to be an engineer. I like this profession very much. I hope to be an engineer in future.

My native town

I was born in Jizzakh. It is my native town. It is an ancient and very beautiful town. There are many new buildings and modern shops. There are two high schools: Jizzakh Polytechnical Institute and Jizzakh State Pedagogical Institute. And there are many plants, factories, colleges and many others. There are many joint ventures such as “Jizzakh Exside”.

My flat

There are many big houses in Jizzakh. Our flat is in one of these houses. It is in the centre of Jizzakh city. Our flat is big and comfortable. There are 4 rooms, a kitchen, and bathroom. The rooms are: sitting-room, a dining-room, a bedroom and a study. In the sitting room there is a TV set, some pictures on the walls, carpets on the floor and sofa.

There are a table, 6 chairs and sofa in the dining room. There are table bookshelves in the room. There are 2 beds, a little table, and a mirror in the bedroom. The fourth room is mine. My study is a small room. There are some shelves in the study. There are many books on the shelves.

My working day

Every day I have much interesting and necessary work to do. I always remember that the lost time is never gained. That is why I don't like to waste even a minute. I get up early in the morning – at about 6.30. Then I do my morning jerks and have a cold shower.

We know that physical exercises are a good remedy for the protection of our health. After breakfast I go to college on foot as it is near our flat. Our classes usually begin at 8.30. In addition to several practical classes we have a lecture or two every day.

Sport in my life

People all over the world are fond of sports and games. Sport makes people healthy, keeps them fit, more organized and better disciplined. It unit people of different classes and nationalities:

Many people do sports on their personal initiative. They go in for skiing, skating, table tennis, swimming, volley-ball, football, etc.

All necessary facilities are provided for them: stadiums, sport ground, swimming pools, skating rinks, football fields.

My Capital

Tashkent is a beautiful city. It is the capital of Uzbekistan. It takes up an area of 220 square kilometers and its population is more than 2 million people. Tashkent is a city of gardens and flowers, a city of numerous shady parks and artificial lakes.

The climate of Tashkent is continental with a dry, long summer and a short winter. Tashkent is an industrial city. There are lost of mills and factories there. The capital of Uzbekistan is often called a town of peace and friendship. The whole country remembers the earthquake of April, 1966, that stuck Tashkent. The people of different nationalities took part in the reconstruction of the city.

Seasons

There are four seasons in a year: spring, summer, autumn, winter. The winter months are December, January, February. Winter weather varies widely in our country. It is it is very cold in the north and warm in the South.

Spring is the most pleasant season of the year. Everyone wants to go to the country and enjoy the nice season. Spring months are March, April, May.

Summer is the best season for different sports in the open air. Most people have their vacation during the summer months which are June, July, August.

Autumn is very beautiful season. Many people like autumn best of all.

The leaves on the trees are red and yellow in September. Towards the end of October it often rains, the weather gets colder in November and in December winter comes.

Sport in my life

People all over the world are fond of sports and games. Sport makes people healthy, keeps them fit, more organized and better disciplined. It unit people of different classes and nationalities.

Many people do sports on their personal initiative. They go in for skiing, skating, table tennis, swimming, volley-ball, football, etc.

All necessary facilities are provided for them: stadiums, sport ground, swimming pools, skating rinks, football fields.

Uzbekistan is my motherland

Uzbekistan is situated between the Amudarya and the Syrdarya, the greatest Asian rivers. It is the region of flatlands, mountains and deserts.

The territory of the Republic covers 447, 4 thousand square kilometers and is larger than Great Britain or Italy. Uzbekistan borders on Kazakhstan, Kirghisia, Tajikistan, and Turkmeniya.

In the south Uzbekistan borders on Afghanistan. There are 12 regions and one Autonomous Republic in Uzbekistan.

My favorite subject is English

My favorite subjects were Literature, History and English. Most of all I liked English. I read English books, tried to translate some stories from newspapers from English into Russian and vice versa. I had some English handbooks and they were of great help to me when I studied English Grammar and exercises.

At our English lessons we read quit a lot of dull texts from our textbooks. But in my view, written lexis and textbooks are not important.

Professions

There are professions of an engineer-mechanic, a builder, an economist, a translator, a painter, an artist, an agronomist, an engineer-technologist and so on.

A builder builds high buildings, offices for us, an economist works on the economical problems of every office, town, city, an agronomist works on the fields, and this profession deals with the agricultural products.

In short, every profession is interesting in its way. This year I'll finish the Institute. I want to be an engineer. I like this profession very much. I hope to be an engineer in future.

Holidays

As many other peoples Uzbek people also, have national holidays. Every year we celebrate many holidays.

Independence Day is one of the great holidays of people. This holiday is celebrated on the 1st of September. People get ready for this holiday with a great pleasure. Constitution day it is celebrated on, the 8-th of December and people don't go to work on this day

New year, this holiday is celebrated on the 31st of December.

The Armed Forces Day of Uzbekistan, it is celebrated on the 14 th of January every year.

Navrus, this holiday is celebrated on the 21 st of March.

Memory appreciate Day, this holiday is celebrated on the 9th of May.

Great Britain

Great Britain is situated on a large island lying to the west of Europe. It consists of England, Scotland and Wales.

Long ago the greater part of country was covered with forest. Now there are particularly no forests there, but there are very many trees that give beauty to the countryside. Some parts of England are really beautiful. There are very many rivers, lakes, hills and mountains there.

The rivers in Britain are not long. Many of them are joined by canals, so that it is quite possible to travel by water from one end of England to the other. The rivers never freeze there.

My hobby

Usually hobbies help to choose our future profession: because, we learn a lot of things. Many people are interested in music. Somebody likes in sports. Some of us like their gardens, flowers.

A lot of students like to work computers. But I like to design some building projects. It is my hobby. In future I want to be architecture.

London is the capital of England

London is the capital of Great Britain. More than six million people live in London, London lies on both banks of the river Thames. It is the largest city in Europe and one of the largest cities in the world.

London is not only the capital of the country; it is also a very big port, one of the greatest commercial centres in the world, a university city, and the seat of government of Great Britain. The most important parts of London are: the city, the Westminster.

My native town

I was born in Jizzakh. It is my native town. It is an ancient and very beautiful town. There are many new buildings and modern shops. There are two high schools: Jizzakh Polytechnical Institute and Jizzakh State Pedagogical Institute. And there are many plants, factories, colleges and many others.

There are many joint ventures such as “Jizzakh Exside”.

SPECIAL TECHNICAL ABBRIVATIONS
MUTAXASSISLIKKA OID QISQARTMALAR

A	A.C. Ante Christum	лат. до нашей эры	eramizgacha
	ac alternating current	переменный ток	o'zgaruvchan tok
	a.m. ante meridiem	лат. до полудня	tushgacha
B	B.C. before Christ	до нашей эры	eramizdan oldingi
	BTU British Thermal Unit	Британская тепловая единица	Britaniya issiqlik birligi
C	C Centigrade	стоградусный (шкала Цельсия)	100 daraja(Celtsiy shkalasi)
	cc cubic centimetre	кубический сантиметр	kub santimetr
	ccw counter clockwise	против движения часовой стрелки	soat strelkasiga qarama-qarshi
	cwt hundredweight	центнер; (50,8 кг в Англии и 45,3 кг в США)	Centner (50,8 kg. Angliyada, 45,3 kg. AQSHda)
D	dc direct current	постоянный ток	doimiy tok
	deg. degree	градус	gradus
E	e.g. exempli gratia	лат. например	lotin tilida – masalan ma'nosida
	e.m.f. electromotive force	электродвижущая сила	elektr harakat kuchi
	etc. et cetera	лат. и т.д.	lotin tilida – va hakazo ma'nosida
F	Fahr. (F)	Fahrenheit — шкала Фаренгейта	Farengeyt shkalasi

	ft. foot; feet	фут(ы)	fut
G	gal. gallon	галлон	gallon
	gr gram(me)	грамм	gramm
H	h (hr) hour	час	soat
	hp horsepower	лошадиная сила	ot kuchi
I	i.e. id est	лат. то есть	lotin tilida – ya’ni ma’nosida
K	kv kilovolt	КИЛОВОЛЬТ	kilovolt
	kva kilovolt- ampere	КИЛО- ВОЛЬТ-АМПЕР	kilovolt – amper
	kw kilowatt	КИЛОВАТТ	kilovatt
L	lb libra pound	лат. фунт	lotin tilida – futt
M	m metre	метр	metr
	mile	миля	mill (milya)
	minute	минута	minut
	mm millimeter	МИЛЛИМЕТР	millimeter
	m.p.h. miles per hour	МИЛЬ В ЧАС	mill soat
P	p. page	страница	bet (kitob beti, varoq)
	p.c. pro centum per cent	лат. процент	protsent, foiz
	p.m. post meridiem	лат. после полудня	tushdan so’ng
	p.s feet per second	футов в секунду	sekund futt
R	R Reaumur	шкала Реомюра	Ryumer shkalasi
	r.p.m. revolutions per minute	оборотов в минуту	minut aylanish
	r.p.s. revolutions per second	оборотов в секунду	sekund aylanish

S	sq. square	квадратный	kvadrat
T	t. temperature	температура;	temperatura, harorat
	ton	тонна	tonna
V	viz videlicet	лат. А именно	lotin tilida – aynan, xuddi shunday
	Vs versus	лат. против	lotin tilida – qarshi
	v.v. vice versa	лат. наоборот	lotin tilida – aksincha
W	w watt	ватт	vatt

Texnik atamalar lug'ati
Словарь технических терминов
Special technique terms

t/r	O'zbekcha	Ruscha	Inglizcha
	A		
1	Abonentning (mijoz) issiqlik makoni	Абонентский тепловой пункт	Subseriabial thermal point
2	Adiabatik jarayon	Адиабатный процесс	Adiabatic process
3	Agregat	Агрегат	Unit
4	Agregat bloki	Блок агрегата	Unit block
5	Agregatning bosim bo'yicha o'rnatilgan quvvati	Располагаемая по напору мощность агрегата	Power of unit on a pressure
6	Agregatning eng yuqori aylanishlari	Разгонные обороты агрегата	Runaway unit speed
7	Adiabatik	Адиабатическое	Adiabatic
8	Aerodrom chiroqlari kabellari	Кабель для аэродромных огней	Cable for (airdrome american eng) aerodrome (british eng) light
9	Ajratgich	Отделитель	Separator
10	Aloqa kabeli muftasi	Муфта кабеля связи	Connection of cable box
11	Amper	Ампер	Ampere
12	Ampermetr	Амперметр	Ampermeter
13	Anionlash	Анионирование	Anioniting
14	Antrasit	Антрацит	Anthracite
15	Aralash kabel	Комбинированный кабель	Combined cable
16	Aralashma	Примес	Admixture
17	Armatura	Арматура	Armature
18	Asbob- uskuna	Устройство (прибор, приспособление, механизм)	Apparatus, arrangement, device, equipment, facility, means, unit
19	Avtomatik	Автоматический	Automatic

20	Avtomatik qayta ulash (AQU)	Автоматическое повторное включение (АПВ)	Automatic repeated inclusion (ARI)
21	Avtomatik qayta ulash qurilmasi (AQUQ)	Устройство автоматического повторного включения (УАПВ)	Device of automatic repeated inclusion
22	Avtomatik rostlash	Автоматическое регулирование	Automatic regulation (control)
23	Avtomatik sinxronlash	Автоматическая синхронизация	Automatic synchronisation
24	Avtomatik uzgich	Автоматический выключатель	Automatic switch
25	Avtotransformator	Автотрансформатор	Autotransformer <i>n</i>)
26	Avtotransformatorning ketma-ket chulg'ami	Последовательная обмотка автотрансформатора	Consecutive winding of autotransformer
27	Avtotransformatorning umumiy chulg'ami	Общая обмотка автотрансформатора	Total (general) winding of autotransformer
28	Asinxron	Асинхрон	Asynchronous
29	Asinxron generator	Асинхронный генератор	Asynchronous generator
30	Asinxron mashina	Асинхронная машина	Asynchronous machine
31	Asinxron mashinaning kritik (tang) sirpanishi	Критическое скольжение асинхронной машины	Critical sliding of asynchronous machine
32	Asinxron mashinaning statik turg'unligi	Статическая устойчивость асинхронной машины	Static stability of asynchronous machine
33	Asinxron taxogenerator	Асинхронный тахогенератор	Asynchronous tachogenerator
34	Asos	Основа	Skeleton, frame work
35	Asosiy issiqlik tarmog'i	Магистральная тепловая сеть	Main thermal network
36	Asosiy kondensat	Основной конденсат	Main condensate

37	Atmosfera bosimli deaerator	Деаэратор атмосферного давления	Deaerator of atmospheric pressure
38	Avtomobil (traktor) generatori	Автомобильный генератор	Automobile (tractor) generator
39	Avtotransformatorning elektr quvvati	Электрическая мощность автотрансформатора	Electric capacity of autotransformer
40	Avtotransformatorning elektr quvvati	Электрическая мощность автотрансформатора	Electric power of autotransformer
41	Ayrim kondensator	Единичный конденсатор	Single capacitor(individual condenser)
42	Atom elektr stansiyasi	Атомная электростанция	Nuclear power station (atomic power station)
	B		
43	Bak	Бак	Tank
44	Barqarorlashgan issiqlik almashuvi	Стабилизированный теплообмен	Developed heat transfer
45	Bazisli GES	Базисная ГЭС	Basic hydroelectric power station
46	Berk kabel uchligi	Наконечник кабельный глухой	Tip of closed cable
47	Birlamchi issiqlik tashuvchi muhit	Первичный теплоноситель	Primary carrier of warmth
48	Binoning infiltrasiya yo'li bilan issiqlik yo'qotishlari	Тепловые потери здания инфильтрацией	Building by infiltration
49	Binoning issiqlikni to'plash qobiliyati	Аккумулирующая способность здания	Accumulating ability of building
50	Blok	Блок	Block
51	Blokli sxema	Блочная схема	Block scheme
52	Bog' (dastak)	Стрэнга	Strands
53	Bog'lam	Ядро	Yoke
54	Bosim	Напор	Pressure
55	Bosimli kabel	Кабель давления	Pressure cable

56	Boshqaruv	Управление	Control
57	Bosh bug' zulfini	Главная паровая задвижка	General bolt of steam
58	Burama kabel (sim, chilvir)	Спиральный кабель (провод, шнур)	Spiral cable (wire, cord)
59	Bug'	Пар	Steam
60	Bug' parametrlari	Параметры пара	Steam parameters
61	Bug' taqsimlagichi drosselli turbina	Турбина с дроссельным парораспределением	Turbine with throttle distribution of steam
62	Bug' taqsimlagichi soploli turbina	Турбина с сопловым парораспределением	Turbine with soplodistribution of steam
63	Bug' turbinali issiqlik ta'minoti qurilmasi	Паротурбинная теплофикационная установка	Steamturbine heating installation
64	Bug' o'zgartirgichi	Паропреобразователь	Steam-transformer
65	Bug' hosil bo'lishi	Парообразование	Vaporisation
66	Bug' orqali qizdiriladigan turbina	Турбина с промежуточным перегревом	Turbine with an intermediate overheat
67	Bug' - suv emulsiyasi	Пароводяная эмульсия	Steam-and-water emulsion
68	Bug' - suvli isitgich	Пароводяной подогреватель	Steam-and-water heater
69	Bo'ylama	Продольный	Longitudinal
70	Burama kurakli gidravlik turbinaning parrakli tavsifi	Пропеллерная характеристика поворотно - лопастной гидротурбины	Hydraulic turbine propeller characteristic
71	Bug'li issiqlik ta'minoti sistemasi	Паровая система теплоснабжения	Steam system of warmthsupply
	D		
72	Daraja	Степень (уровень)	Level
73	Daryo tarmog'idagi GES	Деривационная ГЭС	Derivational hydroelectric power station

74	Dastaklab o'raladigan kabel	Кабель пучковой скрутки	Cable of small bunch twist
75	Deaerator	Деаэратор атмосферного давления	Deairator of atmospheric pressure
76	Deaerator qizdiruvchi deaerator/gazsizlantirgich/	Деаэрация	Deairation
77	Deaerasiya	Деформация	Deformation
78	Deformasiya	Деривация	Derivation
79	Derivasiyali tunnel	Деривационный туннель	Derivational tunnel
80	Diafragma	Диафрагма	Diaphragm
81	Diametr	Диаметр	Diameter [dai`
82	Dimlanish	Подпорный уровень	Headwater (retaining) level
83	Dielektrik	Диэлектрик	Dielectric
84	Doimiy kanallar	Постоянные каналы	Permanent (constant) canals
85	Drenaj	Дренаж	Drainage
86	Drossellash (tartiblash)	Дросселирование	Throttling
87	Drossellash samarasi (effekti)	Дроссельный эффект	Jonce-Thomson effect
	E		
88	Elektr stansiyasi	Электрическая станция	Power station (plant)
89	Energiyaning disipasiyasi	Диссипация энергии	Dissipation of energy
90	Elektr zanjirini ketma-ket ulash	Последовательное соединение электрической цепи	Circuit series
91	Elektr zanjirini parallel ulash	Параллельное соединение электрической цепи	Parallel circuit
92	Elektr mashinadagi o'tish jarayonlari	Переходные процессы в электрической машине	Transients in electric machine
93	Ekranlangan kabel	Экранированный	Screened cable

		кабель	
94	Eshib buralgan kabel	Кабель повивной скрутки	Weave twist cable
	F		
95	Faza	Фаза	Phase
	G		
96	Gaz	Газ	Gas
97	Gaz va mazutning yondirgichi (yoqish moslamasi)	Газомазутная горелка	Gas-masut torch
98	Gaz golder (Gaz idishi)	Газгольдер	Gas holder
99	Gaz yo'li	Газоход	Way of gas
100	Gaz to'latilgan kabel	Газонаполненный кабель	Gas - filled cable
101	Galvanometr	Гальванометр	Galvanometer
102	Generator	Генератор	Generator
103	Germetik	Герметичный	Hermetic
104	Gidravlik	Гидравлическая	Hydraulic
105	Gelioelektr stansiyasi	Гелиоэлектрическая станция	Solar power station
106	Gidravlik elektr stansiyasi	Гидроэлектрическая станция	Hydroelectric station
107	Gidroelektr stansiyasi ar tizmasi	Каскад гидроэлектростанции	Hydroelectric power station cascade
108	GES binosi	Здание ГЭС	Hydroelectric power station building
109	GES quvvati	Мощность ГЭС	Capacity (power) of hydroelectric power station
110	GESdan foydalanish, olish mumkin bo'lgan quvvati	Располагаемая мощность ГЭС	Disposable capacity of hydroelectric power station
111	GESning kafolatli cho'qqi quvvati	Гарантированная пиковая мощность ГЭС	Guaranteed peak power of hydroelectric power station

112	GESning majburiy quvvati	Вынужденная мощность ГЭС	Forced capacity of hydroelectric power station
113	GESning mashina zali	Машинный зал ГЭС	Turbine (machine) hall hydroelectric power station
114	Gidravlik mashina	Гидравлическая машина	Hydraulic machine
115	Gidravlik turbinaning keltirilgan quvvati	Приведенная мощность гидротурбины	Resulted capacity of the hydraulic turbine
116	Gidravlik turbinaning keltirilgan sarfi	Приведенный расход гидротурбины	Resulted expense of the hydraulic turbine
117	Gidravlik turbinaning kombinatorlik boʻlanishi	Комбинаторная зависимость гидротурбины	Combinatory dependence of the hydraulic turbine
118	Gidravlik turbinaning maksimal bosimi	Максимальный напор гидротурбины	Maximum head of hydraulic turbine
119	Gidravlik turbinaning minimal bosimi	Минимальный напор гидротурбины	Minimum head of hydraulic turbine
120	Gidravlik turbinaning suv chiqarish quvuri	Отсасывающая труба гидротурбины	Hydraulic turbine draft tube
121	Gidravlik turbinaning soʻrib olish balandligi	Высота отсасывания гидротурбины	Height suction of hydraulic turbine
122	Gidravlik turbinaning tezyurark koefisienti	Коэффициент быстроходности гидротурбины	Factor of rapidity of the hydraulic turbine
123	Gidravlik turbinaning yoʻnaltiruvchi apparati	Осевой направляющий аппарат гидротурбины	Axial directing device of the hydraulic turbine
124	Gidravlik turbinaning universal tavsifi	Универсальная характеристика гидротурбины	Hydraulic turbine universal characteristic
125	Gidravlik turbinaning oʻrnatilish balandligi	Отметка установки гидротурбины	Hydraulic turbine installation mark
126	Gidravlik turbinaning	Расчетный напор	Rated head of the

	hisobiy bosimi	гидротурбины	hydraulic turbine
127	Gidravlik elektr stansiyaning derivasiyasi	Деривация гидроэлектростанции	Derivation of hydropower station
128	Gidravlik yuviladigan tindirgichlar	Отстойники с гидравлическим промывом	Sediment bowls with hydraulic washing off
129	Gidravlika	Гидравлика	Hydraulics
130	Gidravlik zichlanish	Гидравлическое уплотнение	Hydraulic concentrating
131	Gidroagregat	Гидроагрегат	Hydroelectric unit
132	Gidrogenerator	Гидрогенератор	Hydrogenerator
133	Gidrotexnika	Гидротехника	Hydraulic engineering
134	Gidroenergetika	Гидроэнергетика	Hydropower engineering
135	Gidroenergetika inshootlari	Гидроэнергетические сооружения	Hydropower
136	Gisterezisdagi isitish	Потери на гистерезис	Losses on a hysteresis
137	Grafik	График	Graph
138	Guruh	Группа	Group
139	Guruhlash	Классификация	Grouping
140			
141	Galvanometr	Гальванометр	Galvanometer
142	Generator	Генератор	Generator
143	Germetik	Герметичный	Hermetic
144	Gidravlik	Гидравлическая	Hydraulic
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161	Gidravlik turbinaning so'rib olish balandligi	Высота отсасывания гидротурбины	Height suction of hydraulic turbine
162	Gidravlik turbinaning tezyurark koefisienti	Коэффициент быстроходности гидротурбины	Factor of rapidity of the hydraulic turbine
163	Gidravlik turbinaning	Осевой	Axial directing

	yo'naltiruvchi apparati	направляющий аппарат гидротурбины	device of the hydraulic turbine
164	Gidravlik turbinaning universal tavsifi	Универсальная характеристика гидротурбины	Hydraulic turbine universal characteristic
165	Gidravlik turbinaning o'rnatilish balandligi	Отметка установки гидротурбины	Hydraulic turbine installation mark
166	Gidravlik turbinaning hisobiy bosimi	Расчетный напор гидротурбины	Rated head of the hydraulic turbine
167	Gidravlik elektr stansiyaning derivasiyasi	Деривация гидроэлектростанции	Derivation of hydropower station
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173	Gidrotexnika	Гидротехника	Hydraulic engineering
174	Gidroenergetika	Гидроэнергетика	Hydropower engineering
175	Gidroenergetika inshootlari	Гидроэнергетические сооружения	Hydropower
176	Gisterezisdagi isitish	Потери на гистерезис	Losses on a hysteresis
177			
178	Grafik	График	Graph
179	Guruh	Группа	Group
180	Guruhlash	Классификация	Grouping
	Н		
181	Havo kabeli	Воздушный кабель	Air cable
182	Havo kondensatori	Воздушный конденсатор	Air condenser (capacitor)
183	Havo sovutgichi	Воздухоохладитель	Air cooler
	И		

184	Ikkilamchi issiqlik tashuvchi muhit	Вторичный теплоноситель	Basic heater
185	Ikkilamchi kondensat	Вторичный конденсат	Secondary condensate
186	Induksiya	Индукция	Induce
187	Induksiyalash	Индуктировать	Induce (v)
188	Induksiyalangan o'ram	Индуктированная катушка	Induce coil
189	Induktiv kuchlanish	Индуктированное напряжение	Induce voltage
190	Ion	Ион	Ion
191	Ionlanish, ionlash	Ионизация	Ionization
192	Irrigasiya	Ирригация	Irrigation
193	Isitgich	Подогреватель	Heater
194	Isitish	Отопление	Heating
195	Isitish davri (mavsumi)	Отопительный период (сезон)	Heating period (season)
196	Isitish kozonxonasi	Отопительная котельная	Heating boiler – house
197	Isitish koeffisienti	Отопительный коэффициент	Heating factor
198	Isrof	Потеря	Loss
199	Izobarik jarayon	Изобарный процесс	Isobar process
200	Izoxorik jarayon	Изохорический процесс	Isochorer process
201	Izoentalpiya jarayon	Изоэнтальпийный процесс	Isoenthalpic process
202	Izoentropa jarayon	Изоэнтропный процессе	Isoentropic process
203	Izolyator	Изолятор	Insulator
204	Izolyator armaturasi	Арматура изолятора	Insulator armature
205	Izolyator qozig'i	Штырь изолятора	Insulator probe
206	Izolyatsion material	Изоляционный материал	Insulation material
207	Izolyastiya	Изоляция	Isolation
208	Izolyastiyalangan kabel	Изолированный кабель	Insulated cable
209	Izotermik	Изотермик	Isothermal

210	Izotermik drossellash	Изотермичекое дросселирование	Isothermal throttling
211	Izotermik jarayon	Изотермический процесс	Isothermal process
212	Izotermik yuza	Изотермическая поверхность	Isothermal surfase
213	Issiq va erigan toshqollar orqali issiqlikning isrof bo'lishi	Потеря теплоты с горячими и расплавленными шлаками	Loss of heat with the hot and fused slugs
214	Issiqlik	Теплота	Heat
215	Issiqlik akkumulyatori	Аккумулятор тепла	Heat accumulator
216	Issiqlik almashtirgich	Теплообменник	Heat exchanger
217	Issiqlik almashuvi	Теплообмен	Heat exchange
218	Issiqlik berish	Теплоотдача	Heat transfer
219	Issiqlik berish koeffisienti	Коэффициент теплоотдачи	Heat transfer factor
220	Issiqlik iste'moli	Тепловое потребление	Thermal consumption
221	Issiqlik iste'molchisi	Потребитель тепла	Heat consumer
222	Issiqlik yo'qotilishi	Потери теплоты	Loss of warmth
223	Issiqlik manbai	Источник теплота	Sourse of warmth
224	Issiqlik muvozanati (balansi)	Тепловой баланс	Thermal balance
225	Issiqlik nurlanishi	Тепловое излучение	Thermal radiation
226	Issiqlik oqimi	Тепловой поток	Thermal stream
227	Issiqlik oqimining zichligi	Плотность теплового потока	Density of a thermal stream
228	Issiqlik sarfi	Расход тепла	Heat expense
229	Issiqlik sig'imi	Теплоемкость	Thermal capacity
230	Issiqlik sxemasi	Тепловая схема	Thermal scheme
231	Issiqlik tarmog'i	Тепловая сеть	Thermal network
232	Issiqlik tarmog'ining kamerasi	Камера тепловой сети	Chanber of warmth-net
233	Issiqlik tarmog'i gidravlik rostlanganligining buzilishi	Емкость тепловой сети	Capacity of warmth-het
234	Issiqlik tarmog'ining	Трубопровод	Pipeline of a

	sig'imi	тепловой сети	thermal network
235	Issiqlik tarmog'ining quvuri	Теплоноситель	Heat – carrier
236	Issiqlik tashuvchi (muhit)	Расход теплоносителя	Expenditure of warmth carrier
237	Issiqlik ta'minoti koefitsienti	Система теплоснабжения	Heat supply system
238	Issiqlik ta'minoti sistemasi	Пусковое регулирование системы теплоснабжения	Starting regulating of warmth supply system
239	Issiqlik ta'minoti sistemasini ishga tushirishdagi rostdash	Режим работы системы теплоснабжения	Regime of workof warmth supply system
240	Issiqlikning solishtirma sarfi	Коэффициент теплоотдачи	Heat transfer coefficient
241	Issiqlik ta'minoti sistemasining ish holati	Гидравлическая устойчивость системы теплоснабжения	Hydrawlic stability of warmthsupply system
242	Issiqlik ta'minoti sistemasining gidravlik turg'unligi	Теплофикационная турбина	Power - and - heat supply turbine
243	Issiqlik ta'minoti turbinasi	Теплопередача	Heat transfer
244	Issiqlik uzatish	Тепловые потери здания теплопередачей	Thermal loses of building by warmth transmission
245	Issiqlik uzatish orqali binoni issiqlik yo'qotishlari	Транзитная тепловая сеть	Transdit net of warmth
246	Issiqlikni to'g'ridan-tog'ri uzatish tarmog'i	Удельный расход тепла	Specific expenditure of warm
247	Issiqlikning solishtirma sarfi	Коэффициент теплоотдачи	Heat transfer coefficient
248	Issiqlik uzatish koefitsienti	Коэффициент теплоусвоения	Heat-mastering coefficient
249	Issiqlik o'zlashtirish	Теплопроводность	Heat conductivity

	koeffisienti		
250	Issiqlik o'tkazuvchanlik	Коэффициент теплопроводности	Heat conductivity coefficient
251	Issiqlik otkazuvchanlik koeffisienti	Тепловая карта	Heat map
252	Issiqlik xaritasi	Теплоэлектрoцентраль (ТЭЦ)	Electric-warmth centre (EWC)
253	Issiqlik elektr markazi (IEM)	Паротурбинная установка тепловой электрической станции	Steamturbine installation of the thermal power station
254	Issiqlik elektr stansiyasining bug' turbinali qurilmasi	Котельная установка тепловой	Boiler installation of a thermal power plant
255	Issiqlik elektr stansiyasining qozon qurilmasi	электрической станции	
256	Issiqlik xaritasi	Тепловая карта	Map of warmth
257	Issiqlikni to'g'ridan-to'g'ri uzatish tarmog'i	Транзитная тепловая сеть	Transit thermal network
258	Issiqlikning atrof muhitga isrof bo'lishi	Потери теплоты в окружающую среду	Heat losses in environment
259	Issiq va erigan toshqollar orqali issiqlikning isrof bo'lishi	Потеря теплоты с горячими и расплавленными шлаками	Loss the warmth with not and melted slags
260	Issiqlik elektr stansiyasi (IES)	Тепловая электростанция	Thermal power station
	Ichki issiqlik chiqarilishi	Внутренние тепловыделения	Secertion of inside warmth
261	Ishqalanish	Трение	Rub
262	Ishqalanish kuchi	Сила трения	Friction
263	Ishlab chiqarmoq	Производить (вырабатывать)	Produce
264	Ishqorlilik	Щелочность	Alkalinness
	J		
265	Jarayon	Процесс	Prosses
266	Juftlik	Пара	Pair

	К		
267	Kabel	Кабель	Cable
268	Kabel biriktirgich (muftasi)	Муфта (соединительная)	Cable muff
269	Kabel bo'limi	Кабельный блок	Cable block
270	Kabel bo'lma (hujra)si	Кабельная камера	Cable chamber
271	Kabel buyumlari	Кабельная продукция	Cable production
272	Kabel yerosti yoli (tunneli)	Кабельный туннель	Cable tunnel
273	Kabel yostiqchasi	Кабельная подушка	Cable pillow
274	Kabel zirhi	Броня кабеля	Cable reservation
275	Kabel zovuri kanali	Кабельный канал	Cable duct
276	Kabel izolyatsiyasi	Изоляция кабеля	Isolated cable
277	Kabel inshootlari (Kabelli inshootlar)	Кабельное сооружение	Cable construction
278	Kabel yo'li	Кабельная линия	Cable line
279	Kabel kanalizasiyasi	Кабельная канализация	Cable water drain
280	Kabel kiritgichi	Кабельный ввод	Cable input
281	Kabel krani	Кабельный кран	Cable crane
282	Kabel qavati	Кабельный этаж	Cable storey (floor)
283	Kabel qobig'i	Кабельная оболочка	Cable cover
284	Kabel qog'ozi	Кабельная бумага	Cable paper
285	Kabel qudug'i	Кабельный колодец	Cable well
286	Kabel qo'lqopi	Перчатка кабельная	Cable glove
287	Kabel mahsuloti	Кабельное изделие	Cable product
288	Kabel mahsulotining belgisi	Марка кабельного изделия	Mark of cable product
289	Kabel mahsulotining qismi	Элемент кабельного изделия	Element of cable product
290	Kabel mahsulotining turi	Тип кабельного изделия	Type of cable product
291	Kabel mahsulotlarining makro o'lchami	Маркоразмер кабельного изделия	Mark dimensions of cable product
292	Kabel moy to'latilgan tarmog'ining bo'limi	Секция кабельной маслonaполненной линии	Section cable of the oil filling lines
293	Kabel moyi	Кабельное масло	Cable oil

294	Kabel muftasi (manchon, bilezik)	Кабельная муфта	Cable box (head, sleeve, muff)
295	Kabel nazariyasi	Кабельная теория	Cable theory
296	Kabel nominal o'lchami	Номинальный размер кабеля (провода, шнура)	Nominal size of cable (wire, flex, cord)
297	Kabel simi	Жила кабеля	Cable vein
298	Kabel tashqi qoplamasi	Наружный кабельный покров	External cable cover
299	Kabel o'rnatgichi	Кабельные вставки	Cable inserts
300	Kabel uchligi	Кабельный наконечник	Cable terminal (tip)
301	Kabel uchlik moslamasi	Кабельные наконечные устройства	Cable terminal device
302	Kabel ekрани	Кабельный экран	Cable screen
303	Kabelli quvur	Кабельный трубопровод	Cable tube (pipeline; duct)
304	Kabelli elektr uzatish liniyasi	Кабельная линия электропередачи	Cable transmission line
305	Kabelning himoya qoplamasi	Защитный кабельный покров	Protective cable cover
306	Kabelning shikastlanishi	Повреждение кабеля	Cable fault (cable damage)
307	Kation	Катион	Cation
308	Kationlash	Катионирование	Cationing
309	Kavitasiya	Кавитация	Cavitation
310	Kamera	Камера	Camera
311	Kanal	Канал	Channel, canal
312	Kattalik	Величина (размер)	Magnitude
313	Kauchuk	Каучук	Rubber
314	Kavitation zahira	Кавитационный запас	Positive suction head
315	Kengaytirgich	Расширитель	Expander
316	Kesim	Отсечка	Cut-off
317	Klapan	Клапан	Valve
318	Koks	Кокс	Coke [kəuk]
319	Koks gazi	Коксовый газ	Coke gas

320	Kollektor	Коллектор	Collector
321	Kollektor halqasining siqilishi	Стяжное кольцо коллектора	Commentators ring
322	Kompensator	Компенсатор	Compensator
323	Kompensasiya	Компенсация	Compensation
324	Kompensasiyalash	Компенсировать	Compensate
325	Kompressor	Компрессор	Compressor
326			
327	Kommutasiya operatsiyasi	Коммутационная операция	Switching operation
328	Kondensatsiya	Конденсация	Condensation
329	Konstruktiv qismlaridagi qo'shimcha isroflar	Добавочные потери в элементах конструкции	Additional losses in design elements
330	Koaksial kabel	Коаксиальный кабель	Coaxial cable
331	Kuch kabeli	Силовой кабель	Power cable
332	Kondensat	Конденсат	Condensate
333	Kondensat yig'gich	Конденсатосборник	Condensate-collector
334	Kondensator	Конденсатор	Condenser
335	Krio o'tkazuvchan kabel	Криопроводящий кабель	Cryoresistive cable
336	Ko'p simli kabel (sim)	Многожильный кабель (провод)	Multicore cable (wire)
337	Ko'p tomirli kabel	Многожильный кабель	Multicourse cable
338	Ko'p o'ramli kabel	Кабель повивной скрутки	Cable of twist
339	Ko'p fazali kabel idishi	Многофазная кабельная воронка	Multiphase cable funnel
340	Kondensatsion	Конденсационная	Condensing
341	Kondensatsion qurilma	Конденсационное устройство	Condensing device
342	Kondensatsion turbina	Конденсационная турбина	Condensing turbine
343	Kondensasiya (ie)	Конденсация	Condensation
	Kondensatsion koeffisienti	Коэффициент конденсации	Condensation coefficient

344	Kondensasiyalanish	Конденсировать(ся)	Condense
345	Kontaktor	Контактор	Contactactor
346	Kontur	Контур	Contour
347	Konturli tenglamalar usuli	Метод контурных уравнений	Method of the planimetric equations
348	Koeffisient	Коэффициент	Coefficient
349	Kritik	Критический	Critical
350	Kukun	Порошок	Powder
351	Press kukun	Пресс порошок	Moulding powder
352	Kurakcha	Лопатка	Blade
353	Kuch	Сила (усилие)	Muscle
354	Kuchlanganlik	Напряженность	Intensity
355	Kuchlanish	Напряжения	Voltage
356	Ko'mir	Уголь	Coal
357	Ko'rsatkich	Показатель	Indicator)
358	Ko'tarma (To'g'on)	Платина (Дамба)	Dike, dam
	L		
359	Lahzali tokli kesim	Мгновенная токовая отсечка	Instant cutoff protection
360	Lampa (chiroq)	Лампа	Lamp
361	Loyqalik	Мутность	Turbidity
	M		
362	Magnetizm	Магнетизм	Magnetism
363	Magnetron	Магнетрон	Magnetron
364	Magnit	Магнит	Magnetic
365	Magnitlanish (ee, eee)	Намагниченность	Magnetization
366	Mazut	Мазут	Mazut, black oil
367	Mazut ombori	Мазутохранилище	Mazut deposits
368	Manba	Источник	Source
369	Manipulyator (boshqaruvchi)	Манипулятор	Manipulator [
370	Manfiy	Отрицательный	Negative
371	Massa	Масса	Mass
372	Mashina	Машина	Machine
373	Markaziy issiqlik makoni	Центральный тепловой пункт	Central thermal – point
374	Markazlashtirilgan issiqlik	Централизованное	Centralised heat

	ta'minoti	теплоснабжение	supply
375	Markazlashtirilmagan issiqlik ta'minoti	Децентрализованное теплоснабжение	Decentralised heat supply
376	Megagers	Мегагерц	Megahertz
377	Meger	Мегер	Mugger
378	Metall	Металл	Metal
379	Механика	Механика	Mechanics
380	Mikro	Микро	Micro
381	Mikro GES	Микро ГЭС	Micro hydroelectric power station
382	Milliamper	Миллиампер	Mille ampere
383	Modda	Вещество	Matter
384	Motor	Двигатель	Motor
385	Motor-generator	Двигатель-генератор	Engine-generator
	Mum	Воск	Wax
387	Mumsimon modda	Воскообразное вещество	Wax-like (waxy) substance
388	Musbat	Положительный	Positive
389	Mufta	Муфта	Muff [
390	Mo'ri (mo'rkon)	Дымовая труба	Pipe of smoke
391	Moy to'latilgan kabel tarmog'i	Кабельная маслонаполненная линия	Oil filling cable line
	N		
392	Namlik	Влажность	Humidity, dampness
394	Namlik miqdori	Влагосодержание	Moisture content
395	Nasos	Насос	Pump
396	Nasos stansiyasi (NS)	Насосная станция	Pump station
397	Neytral	Нейтраль	Neutral
	Neytron	Нейтрон	Neutron
398	Nimstansiya	Подстанция	Substation
399	Nol (ee, eee)	Нуль	Zero
400	Nolli sim	Нулевая жила	Zero vein
401	Nominal (ishchi) (ee, eee, ie, ge)	Номинальный	Nominal
402	Nurlanishli issiqlik almashuvi	Теплообмен излучением	Heat transfer by radiation

	O		
403	Osma	Подвеска	Suspension, hanger
404	Osma kabel (sim)	Самонесущий кабель (провод)	Self-bearing cable (wire)
405	Osma izolyator	Подвесной изолятор	Pendant insulator
406	Ochiq issiqlik ta'minoti sistemasi	Открытая система теплоснабжения	Open system of warmth supply
407	Ochiq turdagi GES	ГЭС открытого типа	Hydroelectric power station of open type
408	Oqartirish	Лужение	Tinning
409	Oqim	Сток	Drain
410	Om	Ом	Ohm
411	Ommetr	Омметр	Ohmmeter
	Orbita	Орбита	Orbit
412	Ochiq zanjir	Незамкнутый ток	Open circuit
413	Oqmoq	Преломлять(ся) (отклонять(ся))	Deflect
	P		
414	Past bosimli kabel	Кабель низкого давления	Low-pressure cable
415	Plastik izolyasii	Пластмассовая изоляция	Plastic isolation
416	Past bosimli kabel	Кабель низкого давления	Low-pressure cable
417	Plastmassa izolyatsiyali kabel	Кабель с пластмассовой изоляцией	Plastic-isolation cable
418	Payvandlash	Сварка	Welding
419	Payvandlash generatori	Сварочный генератор	Welding generator
420	Payvandlash transformatori	Сварочный трансформатор	Welding transformer
421	Parallel	Параллель	Parallel
422	Parallel elektr sxema	Параллельная электрическая схема	Parallel circuit diagramm
423	Past bosimli GES	Низконапорная ГЭС	Low head hydroelectric power station

424	Polimer	Полимер	Polymer
425	Potensial	Потенциал	Potential
426	Proton	Протон	Proton
427	Purkagich	Форсунка	Atomizer
	Q		
428	Qayta sinxronlash	Ресинхронизация	Resynchronization
429	Qisqa tutashuv isroflari	Потери короткого замыкания	Short circuit losses
430	Qog'ozli kondensator	Бумажный конденсатор	Paper capacitor (condenser)
431	Qovushqoq shimdiruvchi tarkibli kabel	Кабель с вязким пропиточным составом	Cable with viscous tenorcity structure
432			
433	Qozonni qizdirishga ketgan issiqlik sarfi	Расход тепла на растопку котла	Expenditure of warmth to burning the boiler
434	Quyi issiqlik berish qobiliyati	Низшая теплотворная способность	Lowest warmmaking ability
435	Qo'rg'oshin qobiqli kabel	Кабель со свинцовой оболочкой	Cable with a lead cover
436	Quvvatli kabel	Силовой кабель	Power cable
437	Quvurdagi moy bosimli kabel	Кабель под давлением масла в трубе	Cable under the pressure of oil in a pipe
438	Quyma izolyasiyali kabel	Кабель с экструдированной изоляцией	Cable with extruded isolation
439	Qo'sh kabel uchligi	Наконечник кабельный двойной	End (tip) of double cables
440	Qo'shma turdagi GES	ГЭС совмещенного типа	Hydroelectric power station of the combined type
	R		
441	Radiatsiya	Радиация	Radiation
442	Rangdorlik	Цветность	Colority
443	Radiasion-konvektiv	Радиационно-	Heat transfer by

	issiqlik almashuvi	конвективный теплообмен	radiation and convection
444	Radiasion-konduktiv ~ almashuvi	Радиационно-кондуктивный теплообмен	Heat transfer by radiation and conduction
445	Reduksion klapan	Редукционный клапан	Reduction valve
446	Rezinali izolyastiya	Резиновая изоляция	Rubber isolation
447	Rostlovchi klapan	Регулирующий клапан	Regulating valve
448	Radiatsiya	Радиация	Radiation
449	Rangdorlik	Цветность	Colority
450	Reagent	Реагент	Reagent
451	Reagentning solishtirma sarfi	Удельный расход реагента	Specific expenditure of reagent
452	Reaktiv	Реактивный	Jet
453	Reaktor	Реактор	Reactor
	Juftlangan reaktor	Сдвоенный реактор	Dual reactor
454	Regenerativ	Регенератив	Regenerative
455	Regenerativ isitgich	Регенеративный подогреватель	Regenerative heater
456	Regenerativ sistema	Регенеративная система	Regenerative system
457	Regenerativ hayo isitgichi	Регенеративный воздухоподогреватель	Regenerative heater of air
458	Rezetka	Розетка	Outlet
459	Rezina	Резина	Rubber
460	Rele	Реле	Relay
461	Releli himoya	Релейная защита	Relay protection
462			
463	Rostlagich	Регулятор	Controller, regulator
464	Rostlash	Регулирование	Control
465	Rostlash parametri	Параметр регулирования	Control, regulation parameter
466	Rotor	Ротор	Rotor

	S		
467	Salt yurish isroflari	Потери холостого хода	No-load (idling) losses
468	Sanoat kondensati	Производственный конденсат	Industrial condensate
469	Saqlovchi klapan	Предохранительный клапан,	Defending valve
470	Stansiya	Станция	Station
471	Sidirg'a izolyastiya	Сплошная изоляция	Continuous isolation
472	Sirli izolyastiya	Эмалевая изоляция	Enamel isolation
473	Stantsion qurilmaning issiqlik ta'minoti	Теплофикация	Central heating
474	Sopol izolyator	Керамический изолятор	Ceramic insulator
475	Sozlanadigan kondensator	Подстроенный конденсатор	Trimmer capacitor (Pre-set capacitor; Arranged condenser)
476	Sopolli kondensator	Керамический конденсатор	Ceramic capacitor (condenser)
477	Suvli issiqlik ta'minoti sistemasi	Водяная система теплоснабжения	Water system of warmth supply
478	Sun'iy (sintetik) kauchuk	Синтетический каучук	Synthetic rubber
479	Slyudali kondensator	Слюдяной конденсатор	Mica condenser
480	Suv oqimi boshqariladigan GES	ГЭС на зарегулированном стоке	Hydroelectric power station with control drain
481	Suv to'kuvchi inshoot ichiga o'rnatilgan GES	Встроенная водосливная ГЭС	Hydroelectric power station built in spillway dam
482	Summaviy isroflar	Суммарные потери	Total losses
483	Simmetrik (mutanosib) kabel	Симметричный кабель	Symmetric cable
484	Spiralli kabel	Спиральный кабель (провод, шнур)	Spiral cable (wire, cord)

485	Saqlagich	Предохранитель	Fuse, safety lock
486	Sakrash	Скачок	Jump
487	Tezlikning sakrashi	Скачок скорости	Velocity jump
488	Salt ishlash	Холостой ход	Idle running
489	Salt ishlash tajribasi	Опыт холостого хода	No-load experience (idling experience) of transformer
490	Selsin	Сельсин	Selsyn
491	Servomotor	Сервомотор	Servo-motor
492	Sizilma	Фильтрат	Filtrate
493	Sim	Жила	Wire
494	Simlari alohida qobiqlangan kabel	Кабель с жилами в отдельных оболочках	Cable with veins in separate covers
495	Simmetriyalashtirish	Симметрирование	Balancing
496	Sinov, sinash	Испытания	Test
497	Sinxron	Синхронный	Synchronous
498	Sinxronlash	Синхронизация	Synchronization
499	Sinxronlik	Синхронизм	Synchronism
500	Sinxronlikka kirish momenti	Входной момент в синхронизм	Entrance moment in synchronism
501	Slanets	Сланец	Shale
502	Sovutgich	Охладитель	Cooler
503	Sovitish	Охлаждения	Cooling
504	Sovitish sistemasi	Система охлаждения	Cooling system
505	Son	Число	Number
506	Soqqacha	Яблочко	Apple
	T		
507	Tarmoqlovchi kabel qutisi	Разветлительная кабельная коробка	Terminal cable box
508	Tashqi izolyastiya	Внешняя изоляция	External isolation
509	Termik kompressor	Термокомпрессор	Thermocompressor
510	Teskari aks klapan	Обратный клапан	Reverse (return) valve
511	To'xtatish klapani	Стопорный клапан	Stop valve
	Tolali izolyastiya	Волокнистая изоляция	Fibrous isolation
512	Tortma izolyator	Натяжной изолятор	Tension insulator
	Turbina kondensatori	Конденсатор турбины	Turbine condenser

513	To'g'ri o'ralgan sim	Жила (проводник) правильной скрутки	Conductor (vein) of correct twist
514	To'g'on oldi GESi	Приплотинная ГЭС	Hydroelectric power station behind dam
	U		
515	Umumiy ekranli kabel	Кабель с общим экраном	Cable with the general screen
517	Uch simli koaksial kabel	Трёхпроводный коаксиальный кабель	Three conductor coaxial cable
518	Uchki kabel muftasi	Концевая кабельная муфта	Trailer cable muff
	V		
519	Vaqtinchalik kanallar	Временные каналы	Temporary canals
	X		
	Xalqasimon kabel uchligi	Наконечник кабельный кольцевой	End (tip) of cable ring
	Y		
520	Yakkalangan GES	Изолированная ГЭС	Isolated hydroelectric power station
521	Yaxlit sim	Сплошной провод	Solid conductor
522	Yarim ochiq GES	ГЭС полукрытого типа	Hydroelectric power station of half-open type
523	Yassi kabel	Плоский кабель	Flat cable
524	Yirik GES	Крупная ГЭС	Large hydroelectric power station
525	Yig'uv, montaj	Монтаж	Assemble
526	Yig'uv maydonchasi	Монтажная площадка	Assembly site
527	Yig'uv uskunalari	Остнастка монтажная	Rigging assembly
528	Yopiq issiqlik ta'minoti sistemasi	Закрытая система теплоснабжения	Closed system of heatsupply
529	Yopiq turdagi GES	ГЭС закрытого типа	Hydroelectric power station of closed type
530	Yuqori bosimli GES	Высоконапорная ГЭС	High head hydroelectric power

			station
531	Yog'ing ishchi namligi	Влага в топливе рабочая	Working moisture in fuel
532	Yog'ning maydalanuvchanligi	Размолоспособность топлива	Grind ability of fuel
533	Yog'ning ϕ z- ϕ zidan yonib ketishi	Самовозгорание топлива	Fuel self-ignition
534	Yonuvchi slanets	Горючий сланец	Combustible shale
535	Yoqish	Сгорать	Burn up
536	Yuza zulfin	Поверхностный затвор	Superficial shutter
537	Yonalish	Направление	Direction
538	Yuklanuvchan kabel	Грузонесущий кабель	Load burden cable
539	Yumaloq sim	Круглая жила (проводник)	Round vein (conductor)
	Z		
540	Zanjir	Цепь	Circuit
541	Zahira	Запас	Supply
542	Zirhlangan kabel	Бронированный кабель	Armour cable
543	Zichlashtirilgan kabel	Герметизирован ный кабель	Hermetically sealed cable
544	Zulfin	Затвор	Shutter
	O'		
545	O'zanli GES	Русловая ГЭС	River hydroelectric power station
546	O'rtacha bosimli GES	Средненапорная ГЭС	Middle head hydroelectric power station
547	O'rtacha GES	Средняя ГЭС	Average hydroelectric power station
548	O'ta o'tkazuvchan kabel	Сверхпроводящий кабель	Superconducting cable
549	O'ta egiluvchan kabel	Особо гибкий шланговый кабель	Especially flexible hose cable
550	O'ta yuqori kuchlanishli kabel	Кабель сверхвысокого	Extra-high-voltage cable

		напряжения	
551	O'tish izolyatori	Пролодной изолятор	Insulator through passage
552	O'zgaruvchan sig'im kondensatori	Конденсатор переменной емкости	Condenser of variable capacity
553	O'z-o'zini sinxronlash	Самосинхронизация	Self-synchronisation
	Sh		
554	Shamol elektr stansiyasisi	Ветроэлектростанция	Wind power station
555	Shimdirilgan qog'oz izolyatsiyali kabel	Кабель с бумажной пропитанной изоляцией	Cable with paper impregnated isolation
556	Shlangli lift kabel	Лифтовый шланговый кабель (с несущим тросом)	Lift hose of cable
557	Shisha izolyator	Стекланный изолятор	Glass insulator
558	Shishali kondensator	Стекланный конденсатор	Glass condenser (capacitor)
559	Shisha-sopolli kondensatori	Стеклокерамический конденсатор	Glass-ceramic condenser (capacitor)
	Ch		
560	Chala koks	Полукокс	Semicoke
561	Chala koks	Полукокс	Semicoke
562	Cho'qqi GES	Пиковая ГЭС	Peak hydroelectric power station

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