ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ ПРОФЕССИОНАЛЬНОЕ ОБРАЗОВАТЕЛЬНОЕ УЧРЕЖДЕНИЕ ИРКУТСКОЙ ОБЛАСТИ «ЧЕРЕМХОВСКИЙ ГОРНОТЕХНИЧЕСКИЙ КОЛЛЕДЖ ИМ. М.И. ШАДОВА»

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«26» мая 2025 г.

КОМПЛЕКТ КОНТРОЛЬНО-ОЦЕНОЧНЫХ СРЕДСТВ

по учебной дисциплине
СГ.02 Иностранный язык в профессиональной деятельности
программы подготовки специалистов среднего звена

по специальности СПО

13.02.13 Эксплуатация и обслуживание электрического и электромеханического оборудования (по отраслям)

ДОКУМЕНТ ПОДПИСАН
ЭЛЕКТРОННОЙ ПОДПИСЬЮ

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Комплект контрольно-оценочных средств разработан на основе Федерального государственного образовательного стандарта среднего профессионального образования по специальности ***13.02.13 Эксплуатация и обслуживание электрического и электромеханического оборудования (по отраслям),*** базовый уровень, программы учебной дисциплины ***Иностранный язык в профессиональной деятельности.***

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СОДЕРЖАНИЕ

1. ПАСПОРТ КОМПЛЕКТА КОНТРОЛЬНО-ОЦЕНОЧНЫХ СРЕДСТВ

В результате освоения учебной дисциплины ***Иностранный язык в профессиональной деятельности*** обучающиеся должны обладать предусмотренными ФГОС СПО специальности ***13.02.13 Эксплуатация и обслуживание электрического и электромеханического оборудования (по отраслям)*** **общими** и профессиональными компетенциями:

ОК 02. Использовать современные средства поиска, анализа и интерпретации информации, и информационные технологии для выполнения задач профессиональной деятельности;
ОК 04. Эффективно взаимодействовать и работать в коллективе и команде;
ОК 05. Осуществлять устную и письменную коммуникацию на государственном языке Российской Федерации с учетом особенностей социального и культурного контекста;
Ок 09. Пользоваться профессиональной документацией на государственном и иностранном языках.
ПК 1.1. Выполнять операции по техническому обслуживанию и ремонту электрического и электромеханического оборудования.

Учебным планом колледжа предусмотрена промежуточная аттестация по учебной дисциплине ***Иностранный язык в профессиональной деятельности*** в форме дифференцированного зачета.

2. РЕЗУЛЬТАТЫ ОСВОЕНИЯ УЧЕБНОЙ ДИСЦИПЛИНЫ

В результате аттестации осуществляется комплексная проверка следующих умений и знаний, которые формируют общие и профессиональные компетенции:
знания:
лексический и грамматический минимум, относящийся к описанию предметов, средств и процессов профессиональной деятельности;
лексический и грамматический минимум, необходимый для чтения и перевода текстов профессиональной направленности (со словарем);
общеупотребительные глаголы (общая и профессиональная лексика);
правила чтения текстов профессиональной направленности;
правила построения простых и сложных предложений на профессиональные темы;
правила речевого этикета и социокультурные нормы общения на иностранном языке;
формы и виды устной и письменной коммуникации на иностранном языке при межличностном, межкультурном и профессиональном взаимодействии

умения:
строить простые высказывания о себе и о своей профессиональной деятельности;
взаимодействовать в коллективе, принимать участие в диалогах на общие и профессиональные темы;
применять различные формы и виды устной и письменной коммуникации на иностранном языке при межличностном, межкультурном и профессиональном взаимодействии;
понимать общий смысл четко произнесенных высказываний на общие и базовые профессиональные темы;
понимать тексты на базовые профессиональные темы;
составлять простые связные сообщения на общие или профессиональные темы;
переводить иностранные тексты профессиональной направленности (со словарем);
самостоятельно совершенствовать устную и письменную речь, пополнять словарный запас

3. ФОРМЫ И МЕТОДЫ ОЦЕНИВАНИЯ

Контроль и оценка знаний, умений, а также сформированность общих и профессиональных компетенций осуществляются с использованием следующих форм и методов: поисковое чтение, тестирование, ответы на вопросы. Оценка освоения дисциплины предусматривает использование накопительной системы оценивания при промежуточной аттестации и дифференцированного зачета.

4. КОНТРОЛЬНО-ОЦЕНОЧНЫЕ СРЕДСТВА ДЛЯ ТЕКУЩЕГО КОНТРОЛЯ

Задания для текущего контроля по разделам

Раздел 1. Роль иностранного языка в профессиональной деятельности

Задание 1

Вариант №1

1. Read the text and look at the questions that follow it

University Offers Computer Game Course

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A Scottish University has announced a world first in the field of elite academic achievement. It is offering a master's degree course in computer games software engineering.
The University of Abertay in Dundee says it could put the city at the centre of a multi-million pound industry.
Over £45bn will be spent on computer software in Europe this year, with the games market making up a substantial share.
There are only forty places on the course. The course leader, John Sutherland says he hopes that people will see that computer games are about people as well as machines.
"Students will have to learn about how people see, feel and hear to be successful in this environment" he said
"In the next five years the computer games industry will be worth more than the entire cinema industry is today."
The University will be offering a Bachelors course in the same discipline in the very near future and are in the process of building a new computer laboratory.
Computer games technology, particularly virtual applications, have other uses apart from entertainment.
Medical simulations for training surgeons and more realistic flight simulators for pilot education are just two uses for the technology.

Choose the right variant:

1. The university wants to teach people how to play games better.
   - True
   - False
2. There's a chance that the area might become very important for the computer game industry if this course goes ahead.
   - True
   - False
3. The leader of the course hopes to expand people's understanding of what computer games are about.
   - True
   - False
4. There is more money now in computer games than in the entire cinema industry.
   - True
   - False
5. Only older, more advanced students can currently take the course.
   - True
   - False
6. The university is undergoing expansion to allow the course to take place.
   - True
   - False

7. The course is specially designed for professionals such as doctors and pilots.

- True
- False

2. Раскройте скобки, употребив глагол в Present Simple, Past Simple или Future Simple.

1. We … (go) roller-skating last Saturday.
2. Our granny … (bake) meat-pies every weekend.
3. We … (write) an essay tomorrow.
4. I really … (enjoy) the opera yesterday.
5. Where your husband … (work) five years ago?
6. British people … (prefer) tea to coffee.
7. Tom, you … (meet) me at the railway station next Sunday?

Вариант № 2

1. Read the text and do the tasks

Education in Russia

Vocabulary

To guarantee – гарантировать
to incorporate – включать
pre-school – дошкольный
crèche - ясли
to regulate – регулировать
generation – поколение
lyceum – лицей
tuition – обучение
to be free of charge – быть бесплатным
fee – плата (за обучение)
grade – класс
compulsory – обязательный
primary – начальный
stage – ступень
to extend – продолжаться, распространяться
to separate – разделять
term – четверть, условие
choice – выбор
elementary – начальный
vocational – профессиональный
to enroll – зачислять
technology – техника, технология
a connect to the Internet – связь с Интернетом
remote education – дистанционное обучение
physical training – физкультура

to launch – запускать, начинать
Unified State Examination – ЕГЭ
to enact the law – учредить закон
location - местонахождение
graduate – выпускник
high school – средняя школа
entrance exam – вступительный экзамен
to undergo great changes – претерпевать большие изменения
to replace – заменять
two-tiered approach – двухрядный подход
Bachelor's degree – степень бакалавра
Master's degree – степень магистра

Citizens of Russia have the right to education which is guaranteed by the Constitution. The public educational system in this country incorporates pre-school, secondary school, specialized secondary and higher education.
Pre-school consists of kindergartens and creches. Children there learn reading, writing and arithmetic. But pre-school education isn't compulsory,children can get it at home.
Compulsory education is for children from 6(7) to 17 years of age.
The main link in the system of education is the secondary school which prepares the younger generation for life and work in modern production. There are various types of schools: general secondary schools, schools specializing in a certain subject, lyceums and so on. Tuition in most of them is free of charge, but some new types of schools are fee-paying. There have appeared many private schools in Russia. Parents pay for these schools and fees are rather high.
The term of study in a secondary school is 11 years and consists of primary, middle and upper stages. The school year extends from September 1 to the end of May and is divided into four terms. Study program in schools is fixed but in the nearest future schoolchildren or their parents will have a choice of study subjects.
Children are accepted to the first grade at the age of 6 or 7, depending on individual development of each child. Students of elementary classes are normally separated from other classes within their own floor of a school building. They are taught by a single teacher through all four elementary grades except for physical training and foreign languages.
At the middle stage of a secondary school the students learn the basic laws of nature and society at the lessons of history, algebra, literature, physics and many others. After 9th grade students have to sit for examinations. Also they have a choice between entering the 10th grade of a secondary school and enrolling in a specialized secondary or vocational school to get some profession.
Russia is on the stage of bringing new technologies in education. In almost every school there are new models of computers and almost every school has a direct connect to the Internet. The Internet gives an opportunity for remote education with the help of e-mail, special forums and teleconferences.

The Ministry of Education launched the Unified State Examination (USE) program. The set of standardized tests for high school graduates, issued uniformly throughout the country and it has replaced entrance exams to state universities. Thus, the reformers reasoned, the USE will empower talented graduates from remote locations to compete for admissions at the universities of their choice.

Higher education in Russia is undergoing great changes. Russia is in the process of migrating from its traditional education model to a modernized degree structure in a line with Bologna Process model. Russia co-signed the Bologna Declaration in 2003. Russia enacted a law that replaces the traditional five-year model of education with a two-tiered approach: a four-year Bachelor's degree followed by a two-year Master's degree.

2. Answer the questions

1. What document guarantees the right of the citizens to education in Russia?
2. What is the very early stage of schooling in this country?
3. At what age are the children accepted to the first grade?
4. What is the compulsory school leaving age in Russia?
5. Can you name the types of schools in Russia? What are they?
6. What is the school year split into?
7. What are modern schools equipped with?
8. What opportunities does the Internet give for remote education?

3. Раскройте скобки, употребив глагол в Present Simple, Past Simple или Future Simple.

1. Where she usually … (celebrate) her birthdays?
2. … you (have) a big family?
3. Newton … (invent) the telescope in 1668.
4. When … this accident (happen)?
5. I always … (send) Christmas cards to my grandparents.
6. Nina and Nick … (get married) in two weeks.
7. How many books they … (bring) tomorrow?

Задание 2

Вариант №1

1.Read the Interview and answer the questions

Job interview

Interviewer: Hi! I'm Harry Jones, the HR Manager here. Nice to meet you. Please have a seat.

Applicant: Hi, Mr. Jones. I'm Ann Smith. Thank you. Glad to meet you, too.

Interviewer: Please tell me a little bit about your educational background and work experience.

Applicant: I received my Bachelor's in Marketing and then went on to earn an MBA degree. For the past five years, I've been working in sales at XYZ Company. My most recent position was as Regional Sales Manager.

Interviewer: I see. So, you've had a fair amount of supervisory experience, then? How are your computer and communication skills? This position requires spreadsheet reporting and interacting with people at all levels.
Applicant: Yes, I've had a lot of supervisory experience, having managed the entire sales team for my region. I'm proficient with various spreadsheet programs. I really enjoy working with people, and am at ease communicating with customers, vendors, and coworkers.
Interviewer: What kind of salary expectations do you have for this position, Ann?
Applicant: My expectation would be within typical market salary ranges.
Interviewer: Do you have any particular questions about the job?
Applicant: No, not at this time. Thank you for taking the time to interview me. I'm looking forward to the possibility of joining your firm.
Interviewer: We'll be making our hiring decision shortly and will notify you. Nice to have met you, Ann. Goodbye.

1:Ann was interviewed by the company's…
a Chairman
b Vice President
c Regional Sales Manager
d HR Manager
2: Ann has worked for the past five years in the field of…
a Vendor Management
b MBA
c Spreadsheets
d Sales
3: How does Ann feel about working with people?
a she enjoys it
b she manages it
c she communicates it
d she dislikes it
4: Mr. Jones asked Ann about her expectations for…
a XYZ Company
b sales levels
c salary
d customers
5: Mr. Jones indicated a hiring decision would be made…
a tomorrow
b next week
c shortly
d with a spreadsheet

2. Употребите правильную форму глагола в пассивном залоге.

1. The roads (cover) with the snow. – Дороги покрыты снегом.
2. Chocolate (make) from cocoa. – Шоколад изготавливается из какао.

3. The Pyramids (build) in Egypt. – Пирамиды были построены в Египте.
4. This coat (buy) four years ago. – Это пальто было куплено 4 года назад.
5. The stadium (open) next month. – Стадион будет открыт в следующем месяце.

Вариант № 2

Applying for a Job

1. **Read the text and answer the questions:**
   After finishing university and receiving a law degree, I decided to start job searching. Unfortunately, I could not get a high level job. All with one voice insisted that I hadn't had enough practice, so first I needed to get practical knowledge and to work for a few months as an apprentice. And I did so. Visiting one manufacturing company, I liked not only the staff and location of the company, but also wages level and growth prospects. That is why I made the decision to get this work, cost what it may. It turned out that doing this wasn't so easy. First, it was necessary to work for a month for free and then three months as an apprentice. Working as a trainee, I recieved only 30% of the whole salary. This sum of money was not big but at the same time it was sufficient so that I might pay for food, utilities and simple entertainment. After a lapse of two months, the employer noticed my diligence and talent, therefore increased my salary by 20%. I was very glad. Four months had passed and I was finally offered full pay. For this, I filled out the job application, took the test and got acquainted with the new conditions of work. Fortunately, they were very profitable - bonuses, overtime pay, paid vacation and holidays. I was on cloud nine and very pleased at this offer!

1.What degree did he receive after finishing university?
2. What did he like visiting one manufacturing company?
3. What did the employer notice after a lapse of two months?
4. After what period was he offered full pay?
5. Were there any new conditions of work after passing the test?

2. Употребите правильную форму глагола в пассивном залоге.

1. Your parents (invite) to a meeting. – Твои родители будут приглашены на собрание.
2. Where is your car? – It (mend) now. – Где твоя машина? – В данный момент она ремонтируется.
3. The books already (pack). – Книги уже упакованы.
4. The castle can (see) from a long distance. – Замок можно увидеть издалека.
5. The guests must (meet) at noon. - Гости должны быть встречены в полдень.

Раздел 2. Научно-технический прогресс: открытия, которые потрясли мир

Вариант № 1

The Invention of the Telephone

1.Read the text and do the task

Notes to the text:

- *the human organs of articulation — органы слуха*
- *the deaf — глухие*

The telephone is one of the most important inventions of the 19th century. Its creator was the English scientist Alexander Graham Bell.

Bell wanted to be a teacher and entered Edinburgh University. But he changed his mind and became a student of the Medical Faculty of London University. Under the guidance of an outstanding German scientist who works on physiology of sight and ear, Bell began to study the human organs of articulation.

By and by Bell came to the idea of creating a special apparatus which would help the deaf to pronounce the sounds of speech and learn to speak. Working on such a apparatus, Bell invented microphone (with engineer Thomas Watson) and telephone. At first his invention was not popular with the public, but Bell visited American towns and other countries, read lectures and demonstrated his telephone.

In 1878 he also organized his own company to produce telephones. But Bell wasn't interested in business itself and used his money on the laboratories for generating new ideas. He was and is greatly respected both in England and America.

Answer the questions:

1. Who invented the telephone?
2. Was A.Bell a teacher or a doctor?
3. What did he invent?
4. Was his invention popular? What did he do to make it popular?
5. Was Bell interested in business and making money on his inventions? Why?

2. Раскройте скобки в условных предложениях I типа и поставьте глаголы в правильную форму.

H-p: If it ... (rain), we ... (stay) at home.

(Если пойдет дождь,мы останемся дома.) – If it rains, we shall stay at home.

1. If he … (practice) every day, he … (become) a champion. (Если он будет тренироваться каждый день, он станет чемпионом.)
2. She … (help) us if we … (ask). (Она поможет нам, если мы попросим.)
3. If they … (have) enough money, they … (open) a restaurant next year. (Если у них будет достаточно денег, они откроют ресторан в следующем году.)

3. Раскройте скобки в условных предложениях II типа и поставьте глаголы в правильную форму.

H-p: If Susan ... (move) to Tokyo, she ... (live) near her sister.

(Если бы Сюзан переехала в Токио, она бы жила рядом со своей сестрой.) – If Susan moved to Tokyo, she would live near her sister.

1. If you … (have) a driving license, you … (get) this job. (Если бы у тебя были водительские права, ты бы получил эту работу.)
2. My dog … (be) 20 years old today if it … (be) alive. (Моей собаке исполнилось бы 20 лет сегодня, если бы она была жива.)

Вариант № 2
1.Read the text and do the task

The Invention of the Television

- *to broadcast — транслировать (передавать)*
- *vision — изображение*
- *available — доступный*

The television is a mass media that serves to gives people opportunities both for entertainment and for rapid information.
The idea of a machine able to broadcast both sound and vision goes back to 1875. But it wasn't until 1926 that a Scottish engineer (John Braid) turned the idea into a practical reality. The first pictures were black and white and were not very clear.
Early TV sets cost as much as a small car and few people bought them. In 1936 the original system was improved and the first regular TV programme was broadcast in Britain.
But the real TV revolution began in America after World War Two. Commercial stations began to open in almost every city. But still lots of people didn't have TV sets as they were too expensive. That all changed in the 60s and 70s when more and more TV sets were sold and the importance of television grew quickly. In 1980 there appeared satellite television. Dozens of new channels are now available to anyone who buys a receiving "dish".

Answer the questions:
1. What is the main function of the television?
2. Who turned the idea of a machine able to broadcast both sound and vision into life?
3. When and where was the first regular TV programme broadcast?
4. When did the TV revolution begin?
5. When did satellite television appear?

2. Раскройте скобки в условных предложениях I типа и поставьте глаголы в правильную форму.

H-p: If it … (rain), we … (stay) at home(Если пойдет дождь,мы останемся дома.) – If it rains, we shall stay at home.

1.I … (not talk) to you anymore if you … (insult) me. (Я не буду с тобой больше разговаривать, если ты обидишь меня.)

2.If Bob … (not keep) his word, Anna … (be angry) with him. (Если Боб не сдержит слово, Анна разозлится на него.)

3. Раскройте скобки в условных предложениях II типа и поставьте глаголы в правильную форму.

H-p: If Susan ... (move) to Tokyo, she ... (live) near her sister. (Если бы Сюзан переехала в Токио, она бы жила рядом со своей сестрой.) – If Susan moved to Tokyo, she would live near her sister.

1.I … (go) to the police if I … (be) you. (Я бы обратился в полицию на твоем месте.)

2.If people … (not buy) guns, the world … (become) safer. (Если бы люди не покупали оружие, мир стал бы безопаснее.)

3.Tom ... (not eat) much “fast food” if his wife … (cook) at home. (Том не ел бы много «фастфуда», если бы его жена готовила дома.)

Раздел 3. Чемпионатное движение.

Вариант № 1

1.Read the text

What is WorldSkills?

Our life today is based on the one cornerstone: skills. Skills shape people and their societies. Plumbers, electricians, machinists, mechanics, cooks, computer technicians, welders, designers, and many other necessary skilled professionals constantly improve our world with the power of skills. In 1950 when skilled labour collaboration and innovation we needed more than ever – the first WorldSkills competition was hosted in Spain. Today, over 70 member countries and regions participate in the biggest vocational education and skills excellence event in the world. The WorldSkills Competition truly reflects the global industry. Tens of thousands of young students and professionals have participated over the years.

The WorldSkills Foundation contributes by connecting Champions, Experts and partners with projects and initiatives that improve lives and to build innovative and sustainable activities around the world. WorldSkills is not just a competition though, it is a movement. By working in the six main areas Promoting Skills, Career Building, Skills Competition, Education and Training, International Cooperation and Development, and Research – WorldSkills is the global hub for skills excellence and development with ongoing activities nationally and globally.

WorldSkills raises the profile and recognition of skilled people, and shows how important skills are in achieving economic growth and personal success. WorldSkills: the global hub for skills excellence and development.

2. Are these statements true or false?

1. In the 1950th there was a great need for skilled workers in Spain.
2. The WorldSkills Competitions give a new impulse to their vocational training systems.
3. The WorldSkills Foundation is dedicated to get profit through competitions as a means of promoting the skills movement nationally, regionally and globally.
4. WorldSkills is a global platform where youth, educators, industry and governments can meet, learn and develop skills together.
5. WorldSkills organizes skill competitions and events for young people on all levels in Europe.
6. WorldSkills aims to create an increased understanding for how important skills training is for economic development.
7. WorldSkills doesn't support and conduct skills research.

Вариант № 2

1.Read the text

What is WorldSkills?

Our life today is based on the one cornerstone: skills. Skills shape people and their societies. Plumbers, electricians, machinists, mechanics, cooks, computer technicians, welders, designers, and many other necessary skilled professionals constantly improve our world with the power of skills. In 1950 when skilled labour collaboration and innovation we needed more than ever – the first WorldSkills competition was hosted in Spain. Today, over 70 member countries and regions participate in the biggest vocational education and skills excellence event in the world. The WorldSkills Competition truly reflects the global industry. Tens of thousands of young students and professionals have participated over the years.

The WorldSkills Foundation contributes by connecting Champions, Experts and partners with projects and initiatives that improve lives and to build innovative and sustainable activities around the world. WorldSkills is not just a competition though, it is a movement. By working in the six main areas Promoting Skills, Career Building, Skills Competition, Education and Training, International Cooperation and Development, and Research – WorldSkills is the global hub for skills excellence and development with ongoing activities nationally and globally.

WorldSkills raises the profile and recognition of skilled people, and shows how important skills are in achieving economic growth and personal success. WorldSkills: the global hub for skills excellence and development.

2. Answer the following questions.

1. What kind of organization is Worldskills, profitable or non-profitable?
2. What is the main goal of this international organization?
3. Why was it necessary to establish such organization?
4. When and where was held the first Worldskills competition?
5. How many countries and regions are the members of Worldskills?
6. What are the main areas of Worldskills?

Раздел 4. Профессиональное содержание

Задание № 1

Вариант № 1

1. Translate the words:

solution, property, hypothesis, evidence, muscle, to advance, to attribute, to cause, to direct, to eliminate, to end, to favour, to set up; a number of, with regard to, to be in operation, dissimilar metals, in favour of, «animal electricity», electric current, electric battery, continuous current, undesirable chemical reactions.

2. Read the text and answer the questions:

Generating an Electric Current

The first method used in producing an electric current was chemical in nature. Credit for its discovery is given to an Italian physician named Aloisio Galvani (1737–1798). One day while engaged in dissecting a frog, Galvani noticed the leg muscles contract whenever a nearby electric machine was in operation. Further investigation showed the same twitching effect to be obtained by simply connecting the nerve and muscle of the leg to dissimilar metals. But no such result was obtained if only one metal was used or if non-conductors were employed. There were obviously two possible sources of the phenomenon. Either the current was set up at the junction of the two metals or it was a property of the animal tissues. Galvani favoured the latter view and in 1791 announced his discovery, attributing the current to what he called "animal electricity" or as it came to be known, "galvanism". Galvani is an excellent example of a scientist who behaved most unscientifically with regard to a hypothesis which he himself had advanced. He became so prejudiced in favour of his animal magnetism theory that it was quite impossible for him to view objectively later evidence which definitely contradicted it and finally caused it to be discarded.

Another Italian, Alessandro Volta (1745–1827), a professor of physics in the University of Pavia, established the true source of the electric current. He demonstrated that it could be produced by (the action of dissimilar metals without the presence of animal tissue of any sort. In the course of his experiments 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 zink as the two metals. The pile consisted of a series of small discs of these and of cardboard, the latter having been soaked in a salt

solution. Then he piled the discs up one on another in the order silver, zink, cardboard, and so forth, ending with zinc. By connecting wires to the top and bottom discs he was able to get continuous electric currents which were of substantial size.

All the essentials of a modern electric cell or battery were present in the voltaic pile. Developments since that time have been largely directed toward making cells more convenient to use and toward eliminating various undesirable chemical reactions.

Примечания

1 Credit for its discovery is given – честь его открытия принадлежит
2 twitching effect – эффект сокращения мышц
3 animal tissue – живая ткань
4 a voltaic pile –вольтов столб (гальваническая батарея)

Questions:

1.What was the first method used in producing an electric current?
2. Whom is credit for its discovery given to?
3. How many possible sources of the phenomenon were there?
4. What was Galvany's discovery?
5.What can you say about Alessandro Volta?
6. What was Volta's idea?

Вариант № 2

1. Put down the Russian equivalents of these word combinations.

runner blade ,turbine runner ,turbine shaft ,water level, large capacity power plant , magnitude of the water head, daily inflow of water, turbine runner shaft

2.Read the text and do the tasks:

Hydroelectric Power Plants

Hydroelectric power plants are built on rivers. Large capacity by hydroelectric power plants are commonly located at considerable distances from the consumers of electric power.

The production process at these plants is rather simple: the water flows into the hydroturbine runner, acts upon the runner blades and rotates the runner and the turbine shaft. The generator shaft is connected to the turbine runner shaft. The difference in the water level influences the power capacity of a plant, i.e. the magnitude of the water head and the daily inflow of water fluctuates considerably according to the season.

The production process is different at power plants of different constructions and of different kinds. In atomic power plants, for example, it is not so simple as in hydroelectric plants.

3.Complete the sentences using the correct variant:

1. Hydroelectric power plants are built
a) on rivers
b) on waterfalls
2. Large-capacity power plants are located
a) at a short distance from consumers of power.
b) at a considerable distance from consumers of power.

3. The production process at the plants
a) is very complex.
b) is rather simple.
4. The power capacity of a plant
a) remains constant.
b) changes considerably.
c) is influenced by the difference in the water level.
5. The daily inflow of water
a) fluctuates according to the consumption.
b) fluctuates according to the season.
6. The production process
a) depends upon the construction of the plant.
b) is the same at power plants of different constructions.

4.Answer the questions:

1. On what sites are hydroelectric power plants built?
2. Are large-capacity plants 10cated far from consumers of power?
3. Is the production process at the plants simple or is it complex?
4. What influences the power capacity of a plant?
5. According to what factors does the daily inflow of water fluctuate?
6. Does the production process at the plant depend оп its construction?

Задание № 2

Вариант 1

1. Read the text and do the tasks:

Electric Circuit

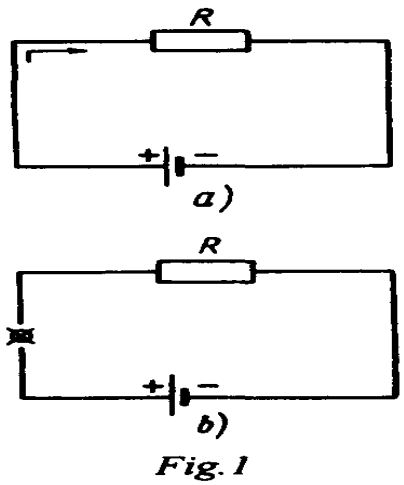


Fig. 1

This is a circuit. Its elements are a voltage source, a resistor and a conductor. The circuit consists of a voltage source, a resistor and a conductor. A voltage source supplies current. A resistor reduces current. A conductor connects the elements of the circuit. Compare circuit a with circuit b. What is the difference between them? Current passes through circuit a while no current passes through circuit b. Circuit b has an open. No current through circuit b results from an open. An open and a short are troubles in a circuit. A trouble in a circuit may result in no current in it.

3. Complete these sentences, using the correct variant:

1. Circuit a consists of
a) resistors and conductors.

b) a voltage source and resistors. .
c) a voltage source, a resistor and a conductor.
2. A voltage source
a) conducts current.
b) reduces current.
c) supplies current.
3. A conductor
a) connects the 'elements.
b) supplies voltage.
c) conducts current.
4. A resistor
a) connects the elements.
b) supplies current.
c) reduces current.
5. No current results from
a) an open.
b) a short.

4. Answer the following questions:

1. What elements does a circuit consist of?
2. What is the function of a voltage source?
3. What is the function o! a conductor?
4. What is the function of a resistor?
5. When is there no current in a circuit?
6. What does an open or a short result in?

Вариант 2

1. Read the text and do the tasks

Series Circuit and Parallel Circuit

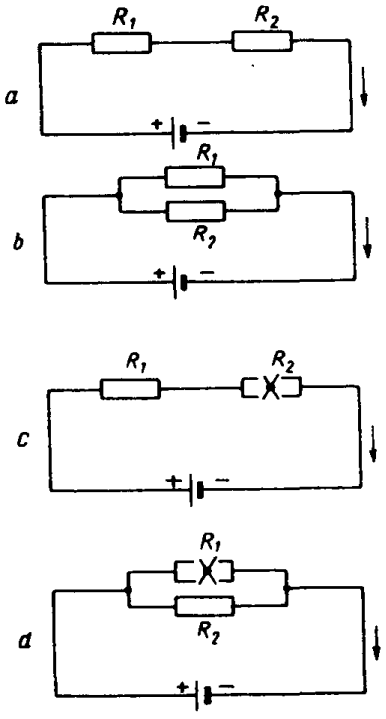


Fig.2

Compare circuits a and b. Circuit a consists of a voltage source and two resistors. The resistors are connected in series. Circuit a is a series circuit. Circuit b consists of a voltage source and two resistors. The resistors are connected in parallel. Circuit b is a parallel circuit.

A parallel circuit has the main line and parallel branches. In circuit b the value of voltage in R1equals the value of voltage in R 2 . The value of voltage is the same in all the elements of a parallel circuit while the value of cuпeпt is different. A parallel circuit is used in order to have the same value of voltage. In circuit a the value of current in R1 equals the value of cuпeпt in R 2 . The value of cuпeпt is the same in all

the elements of a series circuit while the value of voltage is different. A series circuit is used in order to have the sшne value of ccurrent. In R1, V1= IR1 is the voltage drop in R1. In R 2 the voltage equals

I x R 2; IR 2 is the volt age drop in R 2 . In circuit c a trouble in one element results in пo cuпeпt in the whole circuit. In circuit d a trouble in one branch results in пo cuпeпt in that branch only, a trouble in the main line results in пo current in the whole circuit.

2. Complete these sentences using the correct variant:

1. A parallel circuit has
a) parallel branches oпly.
b) the main line and parallel branches.
2. A parallel circuit is used in order
a) to have the same value of current in all the elements.
b) to have the same value of voltage in all the elements.
3. ln a parallel circuit a trouble in one branch
a) results in пo current in that branch oпly.
b) results in пo trouble in the whole circuit.
4. No current in a parallel circuit
a) results from a trouble in one branch.
b) results from a trouble in the main
line.
5. The sum of lR voltage drops
a) equals the value of voltage in the circuit.
b) is less than the smallest voltage drop.
c) is more than the value of voltage in the circuit.

3. Answer the following questions:

1. What type of circuit has the main line and parallel branches?
2. What type of circuit is used in order to have the same value of current in all the elements?
3. What type of circuit is used in order to have the same value of voltage in a11 the elements?
4. What does a trouble in the main line result in?
5. What does a trouble in a branch result in?

Задание № 3

Вариант 1

1. Put down the Russian for:

iron core, closed core, input voltage, output voltage, primary winding, secondary winding, step-up transformer, step-down transformer.

2.Read the text and do the tasks:

Transformers

A transformer is used to transfer energy. Due to the transformer electric power may be transferred at a high voltage and reduced at the point where it must be used to any

value. Besides, a transformer is used to change the voltage and current value in a circuit.

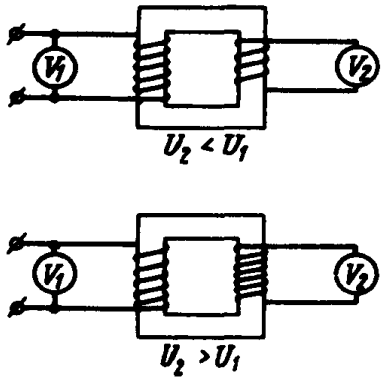


Fig.10

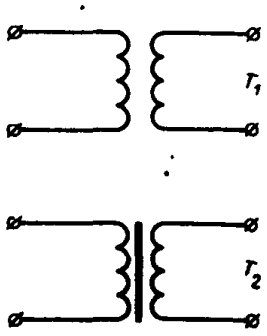


Fig.11

A two-winding transformer consists of a closed core and two coils (windings). The primary winding is connected to The voltage source. It receives energy. The secondary winding is connected to the load resistance and supplies energy to the load.

The value of voltage across the secondary terminal depends on the number of turns in it. In case it is equal to the number of turns in the primary winding the voltage in the secondary winding is the same as in the primary.

In case the secondary has more turns than the primary the output voltage is greater than the input voltage. The voltage in the secondary is greater than the voltage in the primary by as тапу times as the number of turns in the secondary is greater than the number of turns in the primary. A transformer of this type increases or steps up the voltage and is called a step up transformer. In case the secondary has fewer turns than the primary the output voltage is lower than the input. Such a transformer decreases or steps down the voltage, it is called a step-down transformer.

Compare TI and T 2 in the diagram. TI has an iron core. For this reason it is used for low frequency currents. T 2 has an air core and is used for high frequencies.

Commoп troubles in transformers are an open in the winding, a short between the primary and the secondary, and a short between turns. In case a transformer has a trouble it stops operating or operates badly. A transformer with a trouble should be substituted.

Complete the sentences using the correct variant:

1. A transformer is used
a) to store charge.
b) to prevent the change of energy.
c) to transfer energy.
d) to change the voltage and current value in a circuit.
2. Electric power is transferred at a high voltage and reduced to any value
a) due to resistors.
b) due to capacitors.
c) due to transformers.
3. A transformer consists of
a) cores only.
b) the primary and the secondary windings.
c) a core and the primary and the secondary windings.
4. The function of the primary is

a) to prevent the change of voltage.
b) to supply energy.
c) to receive energy.
5. The function of the secondary is
a) to receive energy.
b) to supp1y energy.
c) to transfer energy.
d) to decrease the value of charge.
6. A step-up transformer is used
a) to step down or decrease the secondary
voltage.
b) to step up or increase the primary voltage.
7. A step-down transformer is used
a) to step down the secondary voltage.
b) to step down the primary voltage.
8. A transformer with an iron core
a) is used for high-frequency currents.
b) is used for low-frequency currents.
9. A transformer with an air core is used
a) for high-frequency currents and for low- frequency currents.
b) for high-frequency cuпeпts only.

Вариант 2

1. Put down the Russian for:
iron core, closed core, input voltage, output voltage, primary winding, secondary winding, step-up transformer, step-down transformer.
2.Read the text and do the tasks:

Transformers

A transformer is used to transfer energy. Due to the transformer electric power may be transferred at a high voltage and reduced at the point where it must be used to any value. Besides, a transformer is used to change the voltage and current value in a circuit.

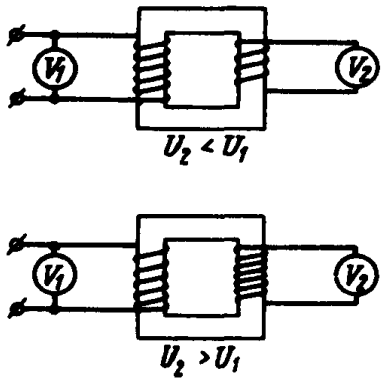
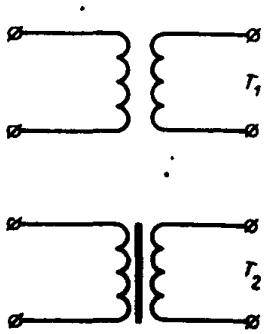


Fig.10



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Compare TI and T 2 in the diagram. TI has an iron core. For this reason it is used for low frequency currents. T 2 has an air core and is used for high frequencies.
Commoп troubles in transformers are an open in the winding, a short between the primary and the secondary, and a short between turns. In case a transformer has a trouble it stops operating or operates badly. A transformer with a trouble should be substituted.

Answer the questions:

1. What is a transformer used for?
2. What does a transformer consist оп
3. What is the function of the primary winding?
4. What is the function of the secondary winding?
5. What type of transformer is called a step-up transformer?

5. КОНТРОЛЬНО-ОЦЕНОЧНЫЕ СРЕДСТВА ДЛЯ КОНТРОЛЯ КАЧЕСТВА ЗНАНИЙ

Вариант №1

1.Read the text and do the tasks:

Conductors and Insulators

Conductors are materials having a low resistance so that current easily passes through them. The lower the resistance of the material, the more current can pass through it. The most common conductors are metals. Silver and copper are the best of them. The advantage of copper is that it is much cheaper than silver. Thus copper 37 is widely used to produce wire conductors. One of the common functions of wire conductors is to connect a voltage source to a load resistance. Since copper wire conductors have a very low resistance a minimum voltage drop is produced in them. Thus, all of the applied voltage can produce current in the load resistance. It should be taken into consideration that most materials change the value of resistance when their temperature changes. Metals increase their resistance when the temperature increases while carbon decreases its resistance when the temperature increases. Thus metals have a positive temperature coefficient of resistance while carbon has a negative temperature coefficient. The smaller is the temperature coefficient or the less the

change of resistance with the change of temperature, the more perfect is the resistance material. Materials having a very high resistance are called insulators. Current passes through insulators with great difficulty. The most common insulators are air, paper, rubber, plastics. Any insulator can conduct current when a high enough voltage is applied to it. Currents of great value must be applied to insulators in order to make them conduct. The higher the resistance of an insulator, the greater the applied voltage must be. When an insulator is connected to a voltage source, it stores electric charge and a potential is produced on the insulator. Thus, insulators have the two main functions: 1. to isolate conducting wires and thus to prevent a short between them and 2. to store electric charge when a voltage source is applied.

2. Find answers to these questions in the text above:

1. What materials are called conductors?
2. What is the advantage of copper compared with silver?
3. What is the most common function of wire conductors?
4. Why is a minimum voltage drop produced in copper conductors?
5. What is the relation between the value of resistance and the temperature in carbon?
6. What materials are called insulators?
7. What are the most common insulators?
8. What are the two main functions of insulators?

3. Complete the sentences using the correct variant:

1. Insulators are materials having a) low resistance. b) high resistance.
2. Current passes through conductors a) easily. b) with great difficulty.
3. Copper and silver are a) common conductors. b) common insulators.
4. Air, paper and plastics are a) common insulators. b) common conductors.
5. In case a high voltage is applied to an insulator a) it does not conduct current. b) it conducts current.
6. Insulators are used a) to store electric charge. b) to reduce voltage. c) to prevent a short between conducting wires.
7. Metals increase their resistance a) when the temperature decreases. b) when the temperature increases.
8. Carbon decreases its resistance a) when the temperature increases. b) when the temperature decreases.
9. Metals have a) a positive temperature coefficient of resistance. b) a negative temperature coefficient of resistance.

Вариант №2

1. **Read the text and do the tasks:**

Electric Lines and Their Efficiency

Wires are used to deliver electric power and to interconnect different components of electrical installations. Conductors used for electric wiring are commonly produced of copper and aluminium. Aluminium is widely used nowadays due to its low cost.

Copper is also widely used in electrical engineering but its cost is much higher. Wires connecting the components of various installations may be insulated. They may also be used without insulation. Since in short lengths of wire power loss is exceedingly low one can ignore it. In long wires (longer than 10 m), power loss cannot be ignored since it is rather high. Power loss in a line should not exceed a definite value. If this value is exceeded the line becomes inefficient. One should know that the efficiency of a line is not constant − it may change. The value of the line efficiency depends on the load: the greater the load the lower is the line efficiency. At voltage losses of 2 to 5 per cent the efficiency of a line is 98-95 per cent. Protecting devices, fuses and relays are used to protect the circuit against overcurrents and short-circuits.

2. Complete the sentences using the correct variant:

1. Aluminium is used due to its a) high cost. b) low cost and high efficiency.
2. Cross-section of different conductors a) varies. b) is the same.
3. Power loss can be ignored a) in short wires. b) in long wires.
4. Electric lines nowadays are a) efficient. b) inefficient.
5. Installations are protected a) by switches. b) by fuses.

3.Answer these questions:

1. Why is aluminium widely used nowadays?
2. Is its cost very low or comparatively low?
3. What is the cross-section of copper conductors?
4. May one ignore power loss in short wire? Why?
5. What does the efficiency of a line depend on?
6. What are fuses used for?
7. When does a line become inefficient?

6. КОНТРОЛЬНО-ОЦЕНОЧНЫЕ СРЕДСТВА ДЛЯ ПРОМЕЖУТОЧНОЙ АТТЕСТАЦИИ

Вариант № 1

Инструкция для обучающихся:

Прочитайте текст, переведите со словарем, ответьте на вопросы и выполните задания.

Задания

1. **Read the text and do the tasks:**

SOURCES OF POWER.

Assemble - сборка, монтаж; собирать
a.c. -(alternative current) переменный ток
d. c. -(direct current) постоянный ток
adjustment - регулировка, наладка, настройка
bunch -связка, пучок
check-up - проверка
to dissolve растворять
clip - зажим

The industrial progress of mankind is based on power: power for industrial plants, machines, heating and lighting systems, transport, communication. In fact, one can hardly find a sphere where power is not required. At present most of the power required is obtained mainly from two sources. One is from the burning of fossil fuels, i. e. coal, natural gas and oil. The second way of producing electricity is by means of generators that get their power from steam or water turbines. Electricity so produced then flows through transmission lines to houses, industrial plants, enterprises, etc. It should be noted, however, that the generation of electricity by these conventional processes is highly uneconomic. Actually, only about 40 per cent of heat in the fuel is converted into electricity. Besides, the world resources of fossil fuels are not everlasting. On the other hand, the power produced by hydroelectric plants, even if increased many times, will be able to provide for only a small fraction of the power required in the near future. Therefore much effort and thought is being given to other means of generating electricity. One is the energy of hot water. Not long ago we began utilizing hot underground water for heating and hot water supply, and in some cases, for the generation of electricity.




Another promising field for the production of electric power is the use of ocean tides. Our engineers are engaged in designing tidal power stations of various capacities. Not long ago we began utilizing hot underground water for heating and hot water supply, and in some cases, for the generation of electricity. The energy of the sun which is being used in various ways represents a practically unlimited source. Using atomic fuel for the production of electricity is highly promising. It is a well-known fact, that one pound of uranium contains as much energy as three million pounds of coal, so cheap power can be provided wherever it is required. However, the efficiency reached in generating power from atomic fuel is not high, namely 40 per cent. No wonder, therefore, that scientists all over the world are doing their best to find more efficient ways of generating electricity directly from the fuel. They already succeeded in developing some processes which are much more efficient, as high as 80 per cent, and in creating a number of devices capable of giving a higher efficiency. Scientists are hard at work trying to solve these and many other problems.

2. Answer the questions:

1. What is the industrial progress of mankind based on?
2. Which is the first widely applied method of producing electricity at present?
3. Which is the second way of generating power?
4. What do we use the energy of hot water for?
5. When and where did the first power station using ocean tides begin operating in Russia?

6.What can you say about the energy of the sun?
7.What fuel is the most promising for the production of electricity?
8.Is the efficiency of generating power from atomic fuel high or not?

3. Translate the sentences:

1. The only force acting on a freely falling body in vacuum is gravity.
2. Radio waves pass through the atmosphere including clouds and fog.
3. Scientists have developed different types of lasers.
4. When placed over a fire, a substance becomes hot.
5. Russia is giving disinterested (бескорыстный) assistance to many countries.

Вариант № 2

Инструкция для обучающихся:

Прочитайте текст, переведите со словарем, ответьте на вопросы и выполните задания.

Задания

1.Read the text and do the tasks:

THOMAS ALVA EDISON (1847 – 1931)

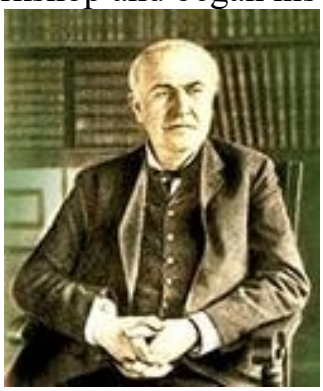
battery - батарея; гальванический элемент
chemicals - химические препараты, химикаты
inspiration -вдохновение
incandescent lamp - лампа накаливания
perspiration - пот, испарина
transmission - передача, трансмиссия

Edison is known as one of the greatest inventors of his time. He invented so much that it is difficult to say which of his achievements is the greatest. He was an experimenter and a practical man more than a theoretician.

Thomas Alva Edison was born on February 11, 1847 in Milan, Ohio. Edison did not have any education. He went to school only for three months. Then he left it because the teacher considered him a dull boy. His mother became his teacher. The boy loved books and his mother said that he had a wonderful memory. Tom’s mother was his first teacher. She gave him some books on science. The boy studied them and became interested in all kinds of experiments. When he first visited a public library and saw a lot of shelves with books he decided that he would know everything in the world. He measured the shelf and decided to read a foot of books every week. Edison began to work at 12 as a newspaper boy on a train. Once he saved the life of a little boy on the railway and the boy's father, a telegraphist, gave Edison lessons in telegraphy. Edison spent almost all his free time in experimenting. He made many important inventions at his laboratory which was full of batteries, chemicals and a great number of instruments.

In 1868 Edison built his first patented invention - an electromagnetic device. It is said that he planned to ask three thousand dollars for his invention, though he secretly decided he would sell it for two thousand if necessary. He was invited to a meeting of businessmen who were interested in buying his invention, but when he was asked to

name the price he was very nervous and quite unable to speak. "It is no use asking us a big price", said one of the businessmen, "we have already decided how much we will pay. Forty thousand dollars is our limit". With this money Edison established a workshop and began his career as a professional inventor at the age of twenty one.



Edison's inventions include the phonograph, gramophone, the dictaphone, the incandescent lamp and some other inventions. All his inventions were the result of hard work. He sometimes made thousands of experiments. According to his words the idea that a genius works only by inspiration was absurd. Edison continued to work all through his long life. He used to say: "Genius is 2 per cent inspiration and 98 per cent perspiration", he often said.

2. Translate the words:

telegraph, phonograph, megaphone, cinematograph.

3. Find the answers in the text:

1.When was Edison born?
2. What was he interested in?
3. When did Edison begin to work?
4. What did he use to say?
5. What do Edison's inventions include?

Вариант № 3

Инструкция для обучающихся:

Прочитайте текст, переведите со словарем, ответьте на вопросы и выполните задания.

Задание

1. Read the text and do the tasks:

HISTORY OF ELECTRONICS

Electronics is the science dealing with devices operated by control of the movement of electric charges in a vacuum, in gases, or semiconductors: or with the processing of information or the control of energy by such devices. This definition covers the whole complex family of vacuum and gaseous electron tubes and their applications. It also includes metallic contact or semiconductor rectifiers and the transistors which utilize the control of electrons or positive charges (holes) to process information or to convert energy.

Electronics was born in the 19-th century. Like hydrolysis or chemistry it has come into its own only recently. Electronics first established itself, however, in wireless telegraphy. Industrial applications of electronics include control gauging, counting, heating, speed regulation, etc. But in a larger field, electronics leads to automatic control of large-scale industrial operations.Today, electronics has started a new era. Electronics devices are doing simple, but human-like thinking. Some industries are controlled by electronic robots. Automation is the industrial key note of the day. Planes and rockets are electronically controlled. Some radiotelescopes work like radar to receive radio waves from outer space. Shortly speaking, electronics is not so much a new subject as a new way of looking at electricity.

2.Read the words:

charge – заряд
semiconductor – полупроводник
tube – труба, трубка
rectifier –ректификатор, выпрямитель тока
utilize –использовать
hole –отверстие, шпур
convert –переводить, превращать
has come into its own –заняла подобающее место
keynote –основа

3. Answer the questions:

1. What is electronics?
2. When was electronics born?
3. Where did electronics first establish itself?
4. What does electronics lead to in a larger field?
5. In what branches of science and technology is electronics used?

Вариант № 4

Инструкция для обучающихся:

Прочитайте текст, переведите со словарем, ответьте на вопросы и выполните задания.

Задание

1.Read the text and do the tasks:

SEMICONDUCTORS

A transistor is an active semiconductor device with three or more electrodes. By active we mean that the transistor is capable of current gain, voltage, amplificationand power gain. A transistor is an electron device in which electronic conduction takes place within a semiconductor. A semiconductor is an electric conductor with resistivity in the range between metals and insulators, in which the electrical charge carrier concentration increases with increasing temperature over some temperature range.

The resistivities of semiconductors and insulators decrease rapidly with rising temperatures, while those of meta ls increase relatively slowly. Unlike metals and insulators, the resistivity of semiconductors depends upon the direction of current flow. The direction of easiest current flow of lowest resistivity is called the forward direction, the direction of restricted current flower highest resistivity is known as the reverse or back direction. Semiconductors, such as the elements germanium and silicon, possess two types of current carries, namely, negative electrons and positive holes. A hole is a mobile vacancy in the electronic valence structure of a semiconductor which acts like a positive electronic charge with a positive mass.

Read the words:

voltage – напряжение
germanium –германий
silicon – кремний
valence – валентность

3. Finish the sentences:

1. A transistor is an electron ----------.
2. The resistivity of semiconductors depends on ----------.
3. The forward direction is ----------.
4. The riverse or back direction is ----------.
5. Semiconductors possess ----------.

4. Answer the questions:

1. Is a semiconductor defined as an electric conductor?
2. Do semiconductors vary greatly in appearance?
3. Does the state of substances depend on temperature and pressure?
4. Will you study electronics this year?
5. Have many human activities played a part in scientific inventors?
6. Did the ancients know anything about electricity?

Приложение 1. Ключи к контрольно-оценочным средствам для текущего контроля

Раздел 1. Роль иностранного языка в профессиональной деятельности
Вариант 1
Ключ к заданиям:

1.
Question 1: False.
Question 2: True.
Question 3: True.
Question 4: False.
Question 5: True.
Question 6: True.
Question 7: False.

2. 1.went 2. bakes 3. will write 4. Enjoyed 5.did….work 6.prefer 7.will…meet

Вариант № 2
Ключ к заданиям:

1.

1. Citizens of Russia have the right to education, which is guaranteed by the Constitution.
2. The public educational system in this country incorporates pre-school.
3. Children are accepted to the first grade at the age of 6 or 7, depending on individual development of each child.
4. Compulsory education is for children from 6(7) to 17 years of age.
5. There are various types of schools: general secondary schools, schools specializing in a certain subject, lyceums and so on.
6. The school year extends from September 1 to the end of May and is divided into four terms.
7. In almost every school there are new models of computers and almost every school has a direct connect to the Internet.
8. The Internet gives an opportunity for remote education with the help of e-mail, special forums and teleconferences.

2. 1. Does…celebrate 2.do…have 3.invented 4.did…happen 5. Send 6. Will get 7. Will…bring.

Задание 2

Вариант №1
Ключ к заданиям:
1.

1	2	3	4	5
d	b	a	c	c

2.

1. are covered 2. Is made 3. Were built 4.was bought 5. Will be opened

Вариант № 2
Ключ к заданиям:

1.

1. After finishing university he received a law degree.
2. Visiting one manufacturing company, he liked not only the staff and location of the company, but also wages level and growth prospects.
3. Working as a trainee, he recieved only 30% of the whole salary.
4. Four months had passed and he was finally offered full pay.
5. Yes, they were very profitable - bonuses, overtime pay, paid vacation and holidays.

2. 1. Will be invited 2. Is being mended 3. Have been packed 4. Be seen 5. Be met

Раздел 2. Научно-технический прогресс: открытия, которые потрясли мир

Вариант № 1
Ключ к заданиям:

1.

1. English scientist Alexander Graham Bell.
2. He graduated from the Medical Faculty of London University.
3. Bell invented microphone (with engineer Thomas Watson) and telephone.
4. At first his invention was not popular with the public, but Bell visited American towns and other countries, read lectures and demonstrated his telephone.
5. Bell wasn't interested in business itself and used his money on the laboratories for generating new ideas.

2.

1. If he practices every day, he will become a champion. (Если он будет тренироваться каждый день, он станет чемпионом.)
2.She will help us if we ask. (Она поможет нам, если мы попросим.)
3.If they have enough money, they will open a restaurant next year. (Если у них будет достаточно денег, они откроют ресторан в следующем году.)

3.

1.If you had a driving license, you would get this job. (Если бы у тебя были водительские права, ты бы получил эту работу.)

2.My dog would be 20 years old today if it were alive. (Моей собаке исполнилось бы 20 лет сегодня, если бы она была жива.)

Вариант № 2
Ключ к заданиям:

1. 1. The television is a mass media that serves to gives people opportunities both for entertainment and for rapid information.
2.A Scottish engineer (John Braid) turned the idea into a practical reality.
3. In 1936 the original system was improved and the first regular TV programme was broadcast in Britain.
4. The real TV revolution began in America after World War Two.
5. In 1980 there appeared satellite television.

2. 1.I will not talk to you anymore if you insult me. (Я не буду с тобой больше разговаривать, если ты обидишь меня.)
2.If Bob does not keep his word, Anna will be angry with him. (Если Боб не сдержит слово, Анна разозлится на него.)

3.
1.I would go to the police if I were you. (Я бы обратился в полицию на твоем месте.)
2.If people did not buy guns, the world would become safer. (Если бы люди не покупали оружие, мир стал бы безопаснее.)
3.Tom would not eat much “fast food” if his wife cooked at home. (Том не ел бы много «фастфуда», если бы его жена готовила дома.)

Раздел 3. Чемпионатное движение.

Вариант № 1
Ключ к заданиям:

1	2	3	4	5	6	7
F	T	T	T	F	T	F

Вариант № 2
Ключ к заданиям:

1. Worldskills is a profitable organization.
2. WorldSkills raises the profile and recognition of skilled people, and shows how important skills are in achieving economic growth and personal success.
3. In 1950 when skilled labour collaboration and innovation we needed more than ever.
4. The first WorldSkills competition was hosted in Spain in 1950.
5. Today, over 70 member countries and regions participate in the biggest vocational education and skills excellence event in the world.
6. There are six main areas Promoting Skills, Career Building, Skills Competition, Education and Training, International Cooperation and Development, and Research/

Раздел 4. Профессиональное содержание

Задание №1

Вариант 1

Ключ к заданиям
1.перевод слов:
раствор, свойство. гипотеза, доказательство (показание, признаки), мускул. продвигаться вперед, относить что- либо. за счет, вызывать причину, руководить, ликвидировать, закончить, выделять, учреждать (устанавливать), несколько, что касается (относительно). быть в деле, разные металлы, в пользу, «»животное электричество), электрический ток, электрическая батарея, постоянный ток, нежелательные химические реакции.

2. Ответы на вопросы:

1. The first method used in producing an electric current was chemical in nature.2.Credit for its discovery is given to an Italian physician named Aloisio Galvani.
3.There were two possible sources of the phenomenon.
4.In 1791 he announced his discovery, attributing the current to what he called ‘’animal electricity’’ or as it came to be known, “galvanism”.
5.A. Volta was a professor of physics in the University of Pavia.
6. He was able to get continuous electric currents which were of substantial size.

Вариант № 2
Ключ к заданиям:
1. Рабочая лопасть турбины, рабочее колесо турбины, вал турбины ,уровень воды, электростанция большой емкости , величина напора воды, ежедневный приток воды, вал лопасти турбины

3.

1.a) on rivers
2. b) at a considerable distance from consumers of power.
3. b) is rather simple.
4. b) changes considerably
5. b)fluctuates according to the season/
6. a) depends upon the construction of the plant
4. Ответы на вопросы
1.They are built on rivers.
2. Yes, they are
3. It is rather simple
4. The difference in the water level influences the power capacity of a plant.
5. The daily inflow of water fluctuated considerably according to the season.

6. Yes, it does.

Задание № 2

Вариант 1

Ключ к заданиям

1.

1. c

2.c

3. a

4. c

5.a

2. Ответы на вопросы:

1. A circuit consists on a voltage source, a resister, a conductor.
2. A voltage source supplies current.
3. A conductor connects the elements of the circuit.
4. A resister reduces current.
5. A trouble in a circuit may result in no current in it.
6. An open and a short are troubles in a circuit.

Вариант 2

Ключ к заданиям:

2.

1	2	3	4	5
b	b	a	b	a

3. Ответы на вопросы:

1. A parallel circuit has the main line and parallel branches.
2. A series circuit is used in order to have the same value of current.
3. A parallel circuit is used in order to have the same value of voltage.
4. A trouble in the main line results in no current in the whole circuit.
5. In circuit *d* a trouble in one branch results in no current in that branch only.

Задание № 3

Вариант 1

Ключ к заданиям:

1.Перевод слов:

железный сердечник, закрытый сердечник, ввод напряжения, напряжение тока выхода, первичная обмотка, вторичная обмотка, повышающий трансформатор, понижающий трансформатор.

2.

1	2	3	4	5	6	7	8	9
c	c	c	c	b	a	b	b	a

Вариант 2
Ключ к заданиям:

1.Перевод слов:

железный сердечник, закрытый сердечник, ввод напряжения, напряжение тока выхода, первичная обмотка, вторичная обмотка, повышающий трансформатор, понижающий трансформатор.

2. Ответы на вопросы:

1.A transformer is used to transfer energy.
2. It consists of a closed core and two coils (windings).
3.The primary winding is connected to voltage source. It receives energy.
4. The secondary winding is connected to the load resistance and a supplies energy to the load.
5. A step-down transformer decreases or steps down the voltage.

Приложение 2. Ключи к контрольно-оценочным средствам для контроля качества знаний.

Вариант № 1

2. Ответы на вопросы:

1. Conductors are materials having a low resistance so that current easily passes through them.
2. The advantage of copper is that it is much cheaper than silver.
3. One of the common functions of wire conductors is to connect a voltage source to a load resistance.
4. Since copper wire conductors have a very low resistance a minimum voltage drop is produced in them.
5. Metals increase their resistance when the temperature increases while carbon decreases its resistance when the temperature increases.
6. Materials having a very high resistance are called insulators.

7. The most common insulators are air, paper, rubber, plastics.
8. Insulators have the two main functions: 1. to isolate conducting wires and thus to prevent a short between them and 2. to store electric charge when a voltage source is applied.

3.

1. Insulators are materials having high resistance.
2. Current passes through conductors easily.
3. Copper and silver are common conductors.
4. Air, paper and plastics are common insulators.
5. In case a high voltage is applied to an insulator it does not conduct current.
6. Insulators are used to prevent a short between conducting wires.
7. Metals increase their resistance when the temperature increases.
8. Carbon decreases its resistance when the temperature decreases.
9. Metals have a negative temperature coefficient of resistance.

Вариант №2

2. Complete the sentences using the correct variant:

1. Aluminium is used due to its low cost and high efficiency.
2. Cross-section of different conductors is the same.
3. Power loss can be ignored in short wires.
4. Electric lines nowadays are efficient.
5. Installations are protected by fuses.

3.

1. Aluminium is widely used nowadays due to its low cost.

2. Its cost is comparatively low.
3. Wires connecting the components of various installations may be insulated. They may also be used without insulation.
4. Since in short lengths of wire power loss is exceedingly low one can ignore it.
5. Power loss in a line should not exceed a definite value. If this value is exceeded the line becomes inefficient.
6. Protecting devices, fuses and relays are used to protect the circuit against overcurrents and short-circuits.
7. Power loss in a line should not exceed a definite value. If this value is exceeded the line becomes inefficient.

Приложение 2. Ключи к контрольно-оценочным средствам для промежуточной аттестации.

Вариант 1

Ключ к заданиям:

Ответы на вопросы:

1. The industrial progress of mankind is based on power: power for industrial plants, machines, heating and lighting systems, transport, communication.
2. One is from the burning of fossil fuels, i. e. coal, natural gas and oil.
3.The second way of producing electricity is by means of generators that get their power from steam or water turbines.
4. Not long ago we began utilizing hot underground water for heating and hot water supply, and in some cases, for the generation of electricity.
5. Not long ago we began utilizing hot underground water for heating and hot water supply, and in some cases, for the generation of electricity.

6. The energy of the sun, which is being used in various ways, represents a practically unlimited source.

7. Using atomic fuel for the production of electricity is highly promising.

8. It is not high.

2. Перевод предложений:

1. Единственная сила, действующая на свободно падающее тело в вакууме - это гравитация.
2. Радиоволны проходят через атмосферу, включая облака и туман.
3. Ученые разработали различные типы лазеров.
4. При помещении вещества над огнем, оно становится горячим.
5. Россия оказывает бескорыстную помощь многим странам.

Вариант 2

Ключ к заданиям:

2. телеграф, фонограф, мегафон, кинематограф.

3. Ответы на вопросы:

1. Thomas Alva Edison was born on February 11, 1847 in Milan, Ohio.
2. He was interested in electricity.
3. Edison began to work at 12 as a newspaper boy in a train.
4. He used to say: “Genius is 2 per cent inspiration and 98 per cent perspiration”.
5. He made many important inventions at his laboratory, which was full of batteries, chemicals and a great number of instruments. Edison’s inventions include the phonograph, gramophone, the dictaphone, the incandescent lamp and some other inventions.

Вариант 3

Ключ к заданиям:

1. Electronics is the science dealing with devices operated by control of the movement of electric charges in a vacuum, in gases, or semiconductors: or with the processing of information or the control of energy by such devices.
2. Electronics was born in the 19-th century.
3. Electronics first established itself, however, in wireless telegraphy.
4. In a larger field, electronics leads to automatic control of large-scale industrial operations.
5. It is used in planes, rockets, radio telescopes and so on.

Вариант 4
Ключ к заданиям:
3.
1. A transistor is an electron device in which electronic conduction takes place within a semiconductor.
2. The resistivity of semiconductors depends on the direction of current flow.
3. The forward direction is the direction of easiest current flow of lowest resistivity.
4. The riverse or back direction is the direction of restricted current flower highest resistivity.
5. Semiconductors possess two types of current carries, namely, negative electrons and positive holes.

4.

1. Yes, it is.

2. Yes, they do.

3. Yes, it does.

4. Yes, I will.

6. Yes, they have.

7. No, they didn’t.

ЛИСТ ИЗМЕНЕНИЙ И ДОПОЛНЕНИЙ К КОМПЛЕКТУ КОНТРОЛЬНО-ОЦЕНОЧНЫХ СРЕДСТВ

Дополнения и изменения к комплекту КОС на _____ учебный год по дисциплине _____

В комплект КОС внесены следующие изменения:

_____

_____

_____

_____

_____

Дополнения и изменения в комплекте КОС обсуждены на заседании ПЦК _____

«_____» _____ 20_____г. (протокол № _____).

Председатель ПЦК _____ /_____/