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Кафедра иностранных языков

Методические указания
к выполнению контрольных работ для студентов
1 курса факультета заочного обучения
(английский язык)

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Методические указания содержат контрольные задания по развитию практических навыков чтения и перевода специальной литературы.

Предназначены для студентов I курса факультета заочного обучения. Первое контрольное задание выполняется в осеннем семестре, второе задание – в весеннем. Каждое контрольное задание представлено в 4 вариантах. Обратите внимание на выбор варианта. Студенты, шифр фамилии которых оканчивается на 0, 1, 2 выполняют первый вариант; 3, 4, 5 - второй; 6, 7 - третий; 8, 9 четвертый вариант.

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КОНТРОЛЬНОЕ ЗАДАНИЕ 1

Для того чтобы правильно выполнить задание 1, необходимо усвоить следующие разделы курса.

1. Имя существительное. Множественное число. Артикли и предлоги как показатели имени существительного. Выражение падежных отношений в английском языке с помощью предлогов и окончания - s. Существительное в функции определения и его перевод на русский язык.
2. Имя прилагательное. Степени сравнения имен прилагательных. Конструкции типа the more...the less.
3. Местоимения: личные, притяжательные, вопросительные, указательные, неопределенные и отрицательные.
4. Спряжение глаголов to be, to have в Present, Past и Future Indefinite. Повелительное наклонение и его отрицательная форма.
5. Видовременные формы глагола:
 - а) активный залог - формы Indefinite (Present, Past, Future); формы Continuous (Present, Past, Future); формы Perfect (Present, Past, Future).
 - б) пассивный залог - формы Indefinite (Present, Past, Future), Особенности перевода на русский язык.
6. Модальные глаголы:
 - а) выражающие возможность: can (could), may (might) и эквивалент глагола can – to be able to;
 - б) выражающие долженствование: must, его эквиваленты to have to и to be to, should.
7. Простые неличные формы глагола: Participle I (Present Participle) и Participle II (Past Participle) в функциях определения и обстоятельства.

Используйте следующие образцы выполнения упражнений.

Образец выполнения 1 (к упр. 1)

Грамматическая функция окончания -s.

1. The students attend lectures and seminars on mathematics. Студенты посещают лекции и семинары по математике.

Lectures – множественное число от имени существительного a lecture – лекция.

2. He lectures on economy. Он читает лекции по экономике.

Lectures – 3-е лицо единственного числа глагола to lecture в Present Indefinite.

3. My brother's son is a student. Сын моего брата студент.

В слове brother's – форма притяжательного падежа имени существительного a brother в единственном числе.

4. My brothers' sons are students. Сыновья моих братьев – студенты. Слово brothers' форма притяжательного падежа имени существительного a brother во множественном числе.

Образец выполнения 2 (к упр. 2)

Особенности перевода на русский язык английских имен существительных, употребляющихся в функции определения, стоящего перед определяемым словом.

This scientist works at some problems of low temperature physics.

Этот ученый работает над некоторыми проблемами физики низких температур.

This girl studies at Moscow University.

Эта девушка учится в Московском университете.

Образец выполнения 3 (к упр. 5)

Lomonosov founded the Russian University in Moscow.

Ломоносов основал первый русский университет в Москве.

Founded - Past Indefinite Active от стандартного глагола to found.

Образец выполнения 4 (к упр. 6)

1. Lobachevsky's geometry had revolutionized mathematics and the philosophy of science.

Геометрия Лобачевского произвела коренное изменение в математике и философии науки.

had revolutionized - Past Perfect Active от глагола to revolutionize.

2. The new laboratory equipment was sent for yesterday.

Вчера послали за новым оборудованием лаборатории.

was sent for - Past Indefinite Passive от глагола to send.

Образец выполнения 5 (к упр. 7)

Функции причастия

1. The changes affecting the composition of materials are called chemical changes.

Изменения, влияющие на состав материалов, называются химическими изменениями.

2. Affecting-Participle I (Present Participle), определение.

Reading the book I made some notes.

Читая книгу, я сделал несколько записей.

Reading - Participle I (Present Participle), обстоятельство.

3. When heated to the boiling point water evaporates.

Когда воду нагревают до точки кипения, она испаряется (или при нагревании до точки кипения вода испаряется).

(When) heated – Participle II (Past participle), обстоятельство.

4. The equipment used for this experiment is quite new.

Оборудование, используемое для этого опыта, является совершенно новым,
Used – Participle II (Past Participle), определение.

5. Heat is radiated by the Sun to the Earth.

Тепло излучается солнцем на землю.

Radiated-Participle II, составная часть видовременной формы Present Indefinite Passive.

Вариант 1

I. Перепишите следующие предложения. Определите по грамматическим признакам, какой частью речи являются слова, оформленные окончанием - s, и какую функцию это окончание выполняет, т.е. служит ли оно:

а) показателем 3 лица единственного числа глагола Present Indefinite;

б) признаком множественного числа имени существительного;

в) показателем притяжательного падежа имени существительного (см. образец выполнения 1). Переведите предложения на русский язык.

1. The "Big Ben" clock weighs 13.5 tons.

2. Most of London's places of interest are situated to the north of the river Thames.

3. Hyde Park covers 360 acres.

II. Перепишите следующие предложения и переведите их, обращая внимание на особенности перевода на русский язык определений, выраженных именем существительным (см. образец выполнения 2).

1. The bus stop is not far from here.

2. Several Moscow University physicists work at this problem.

3. There are only daylight lamps in this room.

III. Перепишите следующие предложения, содержащие разные формы сравнения, и переведите их на русский язык.

1. One of the most famous buildings in England is St. Paul's Cathedral.

2. This room is smaller than that one.

3. The longer is the night, the shorter is the day.

IV. Перепишите и письменно переведите предложения на русский язык, обращая внимание на перевод неопределенных и отрицательных местоимений.

1. At some of the London Underground stations there are lifts, others have escalators.

2. Any student of our group can speak on the history of London.

3. No park in London is as popular as Hyde Park.

V. Перепишите следующие предложения, определите в них видовременные формы глаголов и укажите их инфинитив; переведите предложения на русский язык (см. образец выполнения 3).

1. This student first came to Moscow in 1985.
2. The Port of London is to the east of the City.
3. In a few days she will leave for St. Petersburg.

VI. Перепишите следующие предложения; подчеркните в каждом из них глагол-сказуемое и определите его видовременную форму и залог. Переведите предложения на русский язык. В задании Б обратите внимание на перевод пассивных конструкций.

- A
1. You are working much today.
 2. She has never translated such difficult articles before.
- Б
1. The first cosmic flight was followed by several others.
 2. Heat energy is transmitted in two different ways.

VII. Перепишите следующие предложения, подчеркните Participle I и Participle II и установите функции каждого из них, т.е. укажите, является ли оно определением, обстоятельством или частью глагола-сказуемого. Переведите предложения на русский язык.

1. The results obtained in this experiment are very important.
2. The temperature of boiling water is 100° C.
3. When passing through the wire current heats it.
4. The atoms forming our planet are built of negative electrons, positive protons and ordinary neutrons.

VIII. Перепишите следующие предложения; подчеркните в каждом из них модальный глагол или его эквивалент. Переведите предложения на русский язык.

1. One object may be larger than another one, but it may weigh less.
2. Mass can also be defined as a measure of inertia.
3. Once in Paris Maria Curie had to work hard for two Master's degrees. (Master's degree - степень магистра).

IX. Прочитайте и устно переведите с 1-го по 3-й абзацы текста. Перепишите и письменно переведите 2-й и 3-й абзацы.

Marie Curie

Marie Curie was born in Warsaw on 7th of November 1867. Her father was a teacher of science and mathematics in a school in the town, and from him little Maria

Skłodowska - which was her Polish name - learned her first lessons in science. Maria's wish was to study at the Sorbonne in Paris and after many years of waiting she finally left her native land in 1891.

Once in Paris Maria began a course of hard study and simple living. She decided to work for two Master's degrees-one in Physics, the other in Mathematics. Thus she had to work twice as hard as the ordinary student.

Yet she had not enough money to live on. She lived in a bare attic in the poorest quarter of Paris. Night after night, after her hard day's work at the University, she climbed to her poorly furnished room and worked at her books for hours. Though she had been weak and ill under this hard mode of life, she worked in this way for four years. She chose her course and nothing could turn her from it.

Among the many scientists Maria met and worked with in Paris was Pierre Curie. Pierre Curie, born in 1859 in Paris, was the son of a doctor, and from childhood he liked science. At sixteen, he was a Bachelor of Science and he took his Master's degree in Physics when he was eighteen. When he met Maria Skłodowska he was thirty five years old and famous throughout Europe for his discoveries in magnetism. But in spite of the honour he brought to France by his discoveries, the French Government could only spare him a very meagre salary as a reward, and the University of Paris refused him a laboratory of his own for his researches.

Loving science more than anything else, Pierre Curie and Maria Skłodowska very soon became the closest friends. They worked together constantly and discussed many problems of their researches. After little more than a year they fell in love with each other, and in 1895 Maria Skłodowska became Mme. Curie. Their marriage was not only to be a very happy one but also one of the greatest scientific partnerships.

Notes

A teacher of science – преподаватель естественных наук (физика, химия, биология);

Master's degree – ученая степень магистра;

Under this hard mode of life – при такой тяжелой жизни;

Bachelor of Science – бакалавр естественных наук (звание, присваиваемое после окончания университета);

spare him a very meagre salary – платило ему мизерное звание.

X. Прочитайте 4-й абзац текста и вопрос к нему. Из приведенных вариантов ответа укажите номер предложения, содержащего правильный ответ на поставленный вопрос: What was their marriage?

1. Their marriage was not happy.

2. Their marriage was not only to be a very happy one but also one of the greatest scientific partnerships.

3. Their marriage was a great success.

Вариант 2

I. Перепишите следующие предложения. Определите по грамматическим признакам, какой частью речи являются слова, оформленные окончанием -s, и какую функцию это окончание выполняет, т.е. служит ли оно:

- а) показателем 3 лица единственного числа глагола Present Indefinite;
 - б) признаком множественного числа имени существительного;
 - в) показателем притяжательного падежа имени существительного (см. образец 1).
- 1). Переведите предложения на русский язык.

1. Shakespeare's birthplace was the first place they visited.
2. The Shakespeare Memorial Theatre has the best stage in England.
3. There are old chairs by the fire - place where Shakespeare sat.

II. Перепишите следующие предложения и переведите их, обращая внимание на особенности перевода на русский язык определений, выраженных именем существительным (см. образец 2).

1. His father was one of the leaders of the partisan movement during World War II
2. Not long ago our family moved into a large three - room flat.

III. Перепишите следующие предложения, содержащие разные формы сравнения и переведите на русский язык.

1. The more I studied the English language, the more I liked it.
2. My friend is one of the best students of our group.
3. This room is smaller than that one.

IV. Перепишите и письменно переведите предложения на русский язык, обращая внимание на перевод неопределенных и отрицательных местоимений.

1. No student of that group studies Spanish.
2. Some five hundred people were present at the meeting.
3. Have you any books on chemistry?

V. Перепишите следующие предложения, определите в них видовременные формы глаголов и укажите их инфинитив; переведите предложения на русский язык (см. образец 3).

1. The dean will come here later.
2. The student made no mistakes in his translation.
3. We meet these students here every evening.

VI. Перепишите следующие предложения; подчеркните в каждом из них глагол-сказуемое и определите его видо - временную форму и залог.

Переведите предложения на русский язык. В задании Б обратите внимание на перевод пассивных конструкций.

A 1. Today scientists are still looking for the substance as a source of energy.

2. The Mendeleev system has served for almost 100 years as a key to discovering new elements.

Б 1. Synthetic rubber products were developed between 1914 and the 1930s.

2. The intensity of this process was influenced by many factors.

VII. Перепишите следующие предложения, подчеркните Participle 1 и Participle II и установите функции каждого из них, т.е. укажите, является ли оно определением, обстоятельством или частью глагола- сказуемого. Переведите предложения на русский язык.

1. The device used in our work is modern.

2. A body moving with a certain velocity carries within itself the kinetic energy of motion.

3. While absorbing the energy of cosmic rays the upper atmosphere becomes radioactive.

4. Atomic energy is used in peaceful purposes.

VIII. Перепишите следующие предложения; подчеркните в каждом из них модальный глагол или его эквивалент. Переведите предложения на русский язык.

I. Energy can exist in many forms and each form can be transformed into the other.

2. The computers should become an integral part of the organization of industrial processes of all types.

3. He had to make another experiment.

4. You may use this appliance with different voltage.

IX. Прочитайте и устно переведите с 1-го по 3-й абзацы текста. Перепишите и письменно переведите 2-ой и 3-й абзацы.

D.I. Mendeleev (1834-1907)

A Russian name appeared in 1964 on the honorary board of science at Bridgeport University, USA; Mendeleev was added to the list of the greatest geniuses: Euclid, Archimedes, Copernicus, Galileo, Newton, Lavoisier. D.I. Mendeleev the explorer of nature is the greatest chemist of the world. The Mendeleev system has served for almost 100 years as a key to discovering new elements and it has retained its importance until now.

D.I. Mendeleev was the fourteenth and the last child of the Director of the Gymnasium at Tobolsk. When he was 16 his family moved to St. Petersburg. Mendeleev entered the Pedagogical Institute where his father had also studied. In 1856 he took a degree in chemistry and in 1859 he was sent abroad for two years for further training. He returned to St. Petersburg in 1861 as Professor of Chemistry.

In 1868 Mendeleev began to write a great textbook on chemistry, known in its English translation as the "Principles of chemistry". Compiling this he tried to find some system classifying the elements whose properties he was describing. This led him to formulate the Periodic Law which brought him international fame. He presented it verbally to the Russian Chemical Society in October 1868 and published it in February 1869.

In this paper he set out clearly his Discovery that if the elements are arranged in order of their atomic weights, chemically related elements appear at regular intervals. The greatness of Mendeleev's achievement lies in the fact that he had discovered generalization that not only unified an enormous amount of existing information but pointed the way to further progress.

Notes

Honorary board – доска славы, почета

In compiling this – собирая все материалы и факты

Some sixty in all – всего около шестидесяти

Verbally – устно

IX. Прочитайте 4-й абзац текста и вопрос к нему. Из приведенных вариантов ответа укажите номер предложения, содержащего правильный ответ на поставленный вопрос: What can you say about the greatness of Mendeleev's discovery?

1. The greatness of Mendeleev's achievement lies in the fact that his Periodic Law pointed the way to further progress in chemistry.
2. Mendeleev had discovered several new elements.
3. Mendeleev created the system of classifying chemical elements.

Вариант 3

I. Перепишите следующие предложения. Определите по грамматическим признакам, какой частью речи являются слова, оформленные окончанием - s, и какую функцию это окончание выполняет, т.е. служит ли оно:

- а) показателем 3 лица единственного числа глагола Present Indefinite;
 - б) признаком множественного числа имени существительного;
 - в) показателем притяжательного падежа имени существительного (см. образец 1).
- 1). Переведите предложения на русский язык.

1. The president of the United States lives and works in Washington.
2. There are 50 states and one independent district in the USA.

3. Washington's population is about 1 million people.

II. Перепишите следующие предложения и переведите их, обращая внимание на особенности перевода на русский язык определений, выраженных именем существительным (см. образец выполнения 2).

1. During its two-century-old history the city experienced many events.
2. The District of Columbia is the federal government seat.
3. Capitol building is the tallest one in Washington.

III. Перепишите следующие предложения, содержащие разные формы сравнения и переведите на русский язык.

1. Washington is one of the most beautiful cities in the USA.
2. The more experiments we carry out, the more data we obtain.
3. Washington is smaller in size than the largest cities in the USA.

IV. Перепишите и письменно переведите предложения на русский язык, обращая внимание на перевод неопределенных и отрицательных местоимений.

1. He asked me some questions.
2. Nobody knew anything about this experiment
3. Any student can answer this question.

V. Перепишите следующие предложения, определите в них видовременные формы глагола и укажите их инфинитив. Переведите предложения на русский язык (см. образец 3).

1. I often write to my sister,
2. They sent me English books last week.
3. The exams will begin next week.

VI. Перепишите следующие предложения; подчеркните в каждом из них глагол-сказуемое и определите его видовременную форму и залог. Переведите предложения на русский язык. В задании Б обратите внимание на перевод пассивных конструкций.

A 1. The reactor is fast becoming a major source of heat and electricity.

2. Scientists have found the ways of measuring the sizes and positions of bodies in the Universe.

Б 1. Elements are transformed into other elements both by man and by nature.

2. The launching of Sputnik-1 was followed by many achievements in science and engineering.

VII. Перепишите следующие предложения, подчеркните Participle I и Participle II и установите функции каждого из них, т.е. укажите, является ли оно определением, обстоятельством или частью глагола - сказуемого. Переведите предложения на русский язык.

1. These reactions convert hydrogen into helium, giving off a great amount of light and heat.
2. The formula $E=Mc^2$ discovered by Einstein is perhaps the most well-known equation in the world.
3. This is an article describing the types of electricity.
4. As the book was translated into Russian, it could be read by everybody.

VIII. Перепишите следующие предложения; подчеркните в каждом из них модальный глагол или его эквиваленты. Переведите предложения на русский язык.

1. Laser ray can be used to transmit power of various types.
2. The application of digital computers should include all forms of automatic control in science and industry.
3. He had to do his homework in the reading room yesterday.
4. These results may be obtained only in laboratory conditions.

IX. Прочитайте и устно переведите с 1-го по 3-й абзацы текста. Перепишите и письменно переведите 2-й и 3-й абзацы.

James Clerk Maxwell (1831-1879)

James Clerk Maxwell, the great physicist and mathematician, was born in Edinburgh, Scotland, on November 13th, 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 2 years after the 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. Being in London, 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. A laboratory, organized by Maxwell, 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.

Being fifteen, Maxwell wrote his first scientific work. Since that time he had written a great number of works which were the results of his experiment and calculations. His most famous investigations, however, are in the field of the kinetic theory of gases and electricity. Maxwell is the founder of the electromagnetic field

(side by side with Faraday) and the electromagnetic theory of light. Maxwell's works on the kinetic theory of gases, the theory of heat, dynamics and the mathematical theory of electricity and magnetism are monuments to his great genius.

X. Прочитайте 4-й абзац текста и вопрос к нему. Из приведенных вариантов ответа укажите номер предложения, содержащего правильный ответ на поставленный вопрос:

In what field did he make his most famous investigations?

1. His most famous investigations are in the field of heat.
2. His most famous investigations are in the field of kinetic theory of gases and electricity.

Вариант 4

I. Перепишите следующие предложения. Определите по грамматическим признакам, какой частью речи являются слова, оформленные окончанием -s, и какую функцию это окончание выполняет, т.е. служит ли оно:

- a) показателем 3 лица единственного числа глагола Present Indefinite;
- б) признаком множественного числа имени существительного;
- в) показателем притяжательного падежа имени существительного (см. образец выполнения 1). Переведите предложения на русский язык.

1. New York remains an important manufacturing centre.
2. The city growth began in 1624 with the arrival of Dutch families.
3. Immigrant groups began to arrive in New York in the 17th century.

II. Перепишите следующие предложения и переведите их, обращая внимание на особенности перевода на русский язык определений, выраженных именем существительным (см. образец выполнения 2).

1. Broadway is the theatre district on the west side of Manhattan.
2. We have a large State library in our city.
3. The Empire State Building, a 102-story construction is one of the symbols of New York.

III. Перепишите следующие предложения, содержащие разные формы сравнения и переведите на русский язык.

1. The more you study the more you know.
2. His answer today is better than 2 days ago.
3. This is the most interesting book I have ever read.

IV. Перепишите предложения и письменно переведите их на русский язык, обращая внимание на перевод неопределенных и отрицательных местоимений.

1. Have you got any interesting articles?
2. Come any time you like.
3. Some of my friends speak two foreign languages.

V. Перепишите следующие предложения, определите в них видовременные формы глаголов и укажите их инфинитив; переведите предложения на русский язык (см. образец выполнения 3).

1. New York is one of the youngest of the world's great cities.
2. The population of New York counts more than 7 million people.
3. It received its first official name New Amsterdam in 1625.

VI. Перепишите следующие предложения; подчеркните в каждом из них глагол-сказуемое и определите его видовременную форму и залог. Переведите предложения на русский язык. В задании Б обратите внимание на перевод пассивных конструкций.

- A
1. Astronomers have measured the exact length of the day.
 2. Astronomers find that the day is increased by 0,002 seconds each century.
- Б
1. The machines are tested before use.
 2. As a rule great discovery is generally followed by numerous others.

VII. Перепишите следующие предложения, подчеркните Participle I и Participle II и установите функции каждого из них, т.е. укажите, является ли оно определением, обстоятельством или частью глагола-сказуемого. Переведите предложения на русский язык.

1. Some of the questions put to the lecturer yesterday were very important.
2. Matter consists of one or a number of basic elements existing in nature.
3. While studying at the University I read a lot of scientific books.
4. When heated to a certain temperature this metal increases in volume.

VIII. Перепишите следующие предложения; подчеркните в каждом из них модальный глагол или его эквивалент. Переведите предложения на русский язык.

1. We can think of heat as a special form of kinetic energy.
2. A computer should solve complicated problems many millions of times faster than a mathematician.
3. New types of plastics had to be obtained for space technology.
4. To measure the temperature of gases, the scientists have to use special devices.

IX. Прочитайте и устно переведите с 1-го по 5-й абзацы текста. Перепишите и письменно переведите 2-й и 7-й абзацы.

The First Russian Woman-Scientist (1850-1891)

The great Russian mathematician Sophia Kovalevskaya lived and worked in the second half of the 19th century. It was the period of Russia's progress in science and culture. It was the time when Lobachevsky created a new non-Euclidean geometry and Chebyshev organized a new school of mathematicians.

Sophia was born in Moscow on February 15, 1850 in a well-off family but spent her childhood in a village. Her father, a well-educated person himself, gave a good education to his children. Being eight, Sophia was taught arithmetic, grammar, literature, geography and history by an experienced teacher. The girl showed an unusual gift in mathematics and at the age of twelve puzzled her teacher when she gave a new solution to a difficult unsolved problem.

In 1867 Sophia wanted to continue her studies in St. Petersburg, where her family spent winters. But it was impossible for a woman to attend lectures at the University. Even Chebyshev who at that time headed the Russian mathematical school had no right to allow her to attend his own lectures. The only way out for her was to go abroad, but in this case there was a condition that the woman should be married. Sophia married Vladimir Kovalevsky and soon left Russia.

Studying at Heidelberg University, Sophia attended lectures and did a lot of research and practical work, in 1871 the Kovalevskys went to Berlin. During four years in Berlin Sophia wrote her dissertations. In 1874 Hettingen University awarded her the Degree of Doctor of Philosophy. Having returned to Russia, she vainly tried to get a post at St. Petersburg University. The tsarist Government didn't want to have woman-professors. Again S. Kovalevskaya returned to Berlin where she completed her work on the refraction of light in crystals.

In 1883 she accepted the offer of Stockholm University and was elected professor of mechanics and was at this post until her death in 1891.

In her numerous scientific works Kovalevskaya solved the problems which many scientists couldn't solve during many years. When she became a world-famous scientist, Kovalevskaya won recognition in her own country.

In 1889 she was elected a Corresponding member of the Russian Academy of Sciences.

Х. Прочитайте 3-й абзац текста и вопрос к нему. Из приведенных вариантов ответа укажите номер предложения, содержащего правильный ответ на поставленный вопрос:

Was it possible for a woman to attend lectures at the University?

1. It was possible for a woman to attend lectures at the University.
2. It was impossible for a woman to attend lectures at the University.
3. The women had a right to attend lectures at the University.

КОНТРОЛЬНОЕ ЗАДАНИЕ 2

Для того чтобы правильно выполнить задание 2, необходимо усвоить следующие разделы курса.

1. Многозначные слова: THAT, ONE, местоимение IT.
2. Функции глаголов to be, to have, to do.
3. Пассивный залог (The Passive Voice) временных форм Simple и Perfect.
4. Инфинитив (The Infinitive). Инфинитивные обороты.
5. Причастные обороты (Participle Constructions).
6. Условные предложения (Conditional Sentences).

Образец выполнения 1 (к упр. I)

Present Perfect Passive

The main question has already been discussed.

Главный вопрос уже обсудили.

Present Simple Passive

His scientific work is much spoken about.

О его научной работе много говорят.

Образец выполнения 2 (к упр.2)

1. It is necessary to use the latest means of control in industry.

Необходимо использовать в промышленности новейшие средства контроля.

2. One should be careful when crossing the street.

Следует быть осторожным при переходе через улицу.

3. The article that I translated yesterday was very easy.

Статья, которую я перевел вчера, была очень легкой.

Образец выполнения 3 (к упр.5)

Millions of Russian people are recorded to have taken part in elections.

Зарегистрировано, что миллионы русских людей приняли участие в выборах.

We want the new car to be produced by February.

Мы хотим, чтобы новый автомобиль был выпущен к февралю.

The device to be bought must be checked beforehand.

Прибор, который нужно купить, следует предварительно проверить.

Образец выполнения 4 (к упр.6)

Countries wishing to cooperate with us will always find necessary understanding.

Страны, желающие сотрудничать с нами, всегда найдут должное понимание.

Having visited Moscow the participants of the conference went to Tula.

Посетив Москву, участники конференции поехали в Тулу.

New technological processes having been developed, new types of equipment have been installed in the shop.

Когда были разработаны новые технологические процессы, в цехе было установлено новое оборудование.

Образец выполнения 5 (к упр.7)

If the installation is put into operation in time, the economic effect will be greater.

Если установка будет запущена вовремя, экономический эффект возрастет.

If the system had been perfected, we should have applied it for new calculations.

Если бы система была усовершенствована, мы бы применили ее для новых расчетов.

It would be impossible to build spaceships without using new materials and alloys.

Было бы невозможно построить космические корабли без применения новых материалов и сплавов.

Вариант 1

I. Перепишите следующие предложения, определите в каждом из них видовременную форму и залог глагола-сказуемого (см. образец). Переведите предложения на русский язык.

1. This text was translated at the last lesson.
2. This lecture is listened to with great interest.
3. Time will be saved if one uses a computer.
4. By the time he came, the letter had already been received.

II. Перепишите предложения и переведите их на русский язык, обращая внимание на разные значения слов *it, that, one*.

1. It is proved that light needs time to travel any distance.
2. One must take part in scientific work.
3. We know that all kinds of substances consist of atoms.

III. Перепишите предложения и переведите их на русский язык, обращая внимание на разные значения глаголов *to be, to have, to do*.

1. Last year he was in London.

2. I have to get up very early.
3. This material does not possess elastic properties.
4. Have you ever been to Great Britain?

IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на функцию инфинитива.

It is necessary for a Russian specialist to know a foreign language.
The students began to write their tests.
To solve this task is not easy.
To make this experiment they had to buy new equipment.

V. Перепишите и письменно переведите на русский язык следующие предложения. Помните, что объектный и субъектный инфинитивные обороты соответствуют придаточным предложениям (см. образец 3).

1. We know her to be a good sportsman.
2. Y. A. Gagarin is known to be the first cosmonaut who made an orbital flight around the Earth.
3. The programmer to do the program for a computer must have a good knowledge of mathematics.

VI. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод зависимого и независимого (самостоятельного) причастных оборотов (см. образец 4).

1. A simple laboratory experiment demonstrating this principle is shown in fig 29.
2. He having read the book, I returned it to the library.
3. Last lesson the students wrote tests, all having different variants.

VII. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод условных предложений (см. образец 5).

1. If you had known English well, you would have spoken to him.
2. If your son works hard, he will pass exams well.
3. If we were in London I would visit the British museum.

VIII. Прочитайте и устно переведите с 1-го по 4-й абзацы текста. Перепишите и письменно переведите 1,2,3 и 4-й абзацы.

What is an electron?

What is an electron? We can think of the electron as a very small, indivisible, fundamental particle - a major constituent of all matter. All electrons appear to be identical and to have properties that do not change with time. Two essential characteristics of the electron are its mass and its charge. Qualitatively we can think of an electron as a "piece of matter" that has weight and gravity.

When the mass of any object is defined, we can define the mass of the electron by applying a force and measuring the resulting rate of the change in the velocity of the electron. This rate of change is called acceleration, and the electron mass is then defined as the ratio of the applied force to the resulting acceleration. The mass of the electron is found 9×10^{-28} grams.

All electrons having an electric charge the amount of charge like the mass is identical for all electrons. The sign of the charge of the electron is conventionally defined as negative; the electron thus represents the fundamental unit of a negative charge. It seems more realistic to think that the charge and the mass are two inseparable aspects of a single unity.

The motion of an electron like that of any other body, results from a force acting on it. Force can be applied to an electron. One way is by gravity. Another is by bringing a second charge near the electron, thus exerting an attractive or a repulsive force on it.

Finally, we find that an electric current flow will affect the motion of a nearby charge, but only if that charge is already in motion. In this case, we say that the current sets up a magnetic field which applies a force to the moving charge. These three are the only known ways of applying to SQ electrons. The relationship between these fields, the charge producing them and the resulting effects on other charges are the laws of electron motion.

Notes

constituent – составляющая, составная часть

gravity – сила тяжести

rate of acceleration – степень ускорения

finally – в заключение, в конечном счете, в конце концов

IX. Прочитайте 5-й абзац текста и ответьте письменно на следующий вопрос: What are the laws of electron motion?

Вариант 2

I. Перепишите следующие предложения, определите в каждом из них видовременную форму и залог глагола-сказуемого (см. образец). Переведите предложения на русский язык.

1. The experiment had been done by you.
2. New devices were tested by scientists.
3. The delegation will be met at the airport next Wednesday
4. Such problems are often discussed by students.

II. Перепишите предложения и переведите их на русский язык, обращая внимание на разные значения слов *it, that, one*.

1. This metro station was opened last year, and one will be put into operation in two years
2. It is necessary to find new sources of energy.
3. I didn't know that he lived in our town.

III. Перепишите предложения и переведите их на русский язык, обращая внимание на разные значения глаголов to be, to have, to do.

1. Our atomic age is more than 2000 years old.
2. You have to do this difficult work yourselves.
3. The scientists are to study the problem of using atom.
4. Specialists do not know how to solve this problem.

IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на функцию инфинитива.

1. The teacher told her students to learn the poem by heart.
2. A computer was used to process the data.
3. Your duty is to control the machine operation.
4. Russia was the first country to send a man into space.

V. Перепишите и письменно переведите на русский язык следующие предложения. Помните, что объектный и субъектный инфинитивные обороты соответствуют придаточным предложениям (см. образец 3).

1. Scientific discoveries to be practically applied in industry and agriculture are paid special attention to.
2. Samples of semiconductors with improved properties are reported to be obtained on a new installation.
3. David wants the other students to help him.

VI. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод зависимого и независимого (самостоятельного) причастных оборотов (см. образец 4).

1. Inspecting the motor the engineer made some valuable remarks.
2. Some new devices having been obtained, they could make more complex experiments.
3. Insulator is a substance which contains no free electrons: glass, paper, rubber being the most common non-conductors.

VII. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод условных предложений (см. образец 5).

1. It would be impossible to determine the properties of these metals without intensive studies in our research laboratory.
2. If the metal had been heated slowly, the first change in its appearance would have occurred at a temperature of 1000 K.
3. If the machine is in order, it will function properly.

VIII. Прочитайте и устно переведите с 1-го по 5-й абзацы текста. Перепишите и письменно переведите 1,2,3 и 4-й абзацы.

Thermodynamics

Thermodynamics is that branch of physics which deals with the conversion of mechanical energy into thermal energy and the reverse process of transforming heat into work. Heat is developed when compressing a gas. The transformation of heat into work may be illustrated by operation of a steam or gas engine by means of which heat may be transformed into mechanical energy.

So a heat engine is a machine for transforming heat into mechanical energy, the most important of the practical heat engine being the steam engine and the internal combustion engine. To transform energy from any of its numerous forms into heat is a comparatively simple process. To transform heat into work is a different matter.

Experience shows that any actual physical process, as the change of state of a system, is irreversible and is accompanied by frictional effect. In the case of the ideal reversible process, there is no change in the quantity of available energy, but an actual irreversible process is always accompanied by a decrease of amount of energy necessary for transformation.

All transformation of energy is a subject to two main laws: the general law of conservation of energy, of which the following is a statement: the total energy of an isolated system remains constant and cannot be increased or diminished by any physical process; the law of degradation of energy. According to

this law, the result of any transformation of energy is the reduction of the quantity of energy that may be usefully transformed into mechanical work.

The first law of thermodynamics is merely the law of conservation applied to the transformation of heat into work. It may be stated as follows: the quantity of heat generated is equivalent to the work done; and conversely, when heat is employed to do work, a quantity of heat precisely equivalent to the work done disappears.

The second law of thermodynamics is essentially the law of degradation of energy. A general statement of the second law is: "Now the change in a system of bodies that takes place itself can increase the available energy of the system".

Notes

reverse process – обратный процесс

reversible process – обратимый процесс

irreversible process – необратимый процесс

available energy of the system – имеющаяся энергия системы

to deal with – иметь дело с чем-либо (с кем-либо)

by means of – посредством

internal combustion engine – двигатель внутреннего сгорания

IX. Прочитайте 5-й абзац текста и ответьте письменно на следующий вопрос: What is the second law of thermodynamics?

Вариант 3

I. Перепишите следующие предложения, определите в каждом из них видовременную форму и залог глагола-сказуемого (см. образец 1). Переведите предложения на русский язык.

1. Modern personal computers are always looked at with interest.
2. We were permitted to attend the conference on electricity.
3. Many new branches of industry have been developed in our country since World War II.
4. The results of the experiment will be carefully checked up next week.

II. Перепишите предложения и переведите их на русский язык, обращая внимание на разные значения слов it, that, one. (см. образец 2).

1. The successes in chemistry made it possible to obtain a lot of new materials.
2. One must apply the material that can be machined easily.
3. It is the energy of falling water that is used to drive turbines.

III. Перепишите предложения и переведите их на русский язык, обращая внимание на разные значения глаголов to be, to have, to do.

1. They did many operations on the computer ES-1045.
2. An ordinary business adding machine is a very simple example of a computer.
3. The engineers are to study the problem of using solar energy.
4. The test has to be written in time.

IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на функцию инфинитива.

1. The experiments to be carried out will be of great importance.
2. To design new building is the work of an architect.
3. To measure volumes we must know the dimensions of a body.
4. The main purpose of the computers is to solve complex problems,

V. Перепишите и письменно переведите на русский язык следующие предложения. Помните, что объектный и субъектный инфинитивные обороты соответствуют придаточным предложениям (см. образец 3).

1. The sun and star are proved to be able to produce great quantities of energy by means of certain nuclear reactions.
2. French mathematician Pascal is known to construct the first mechanical computer.
3. For the experiment we want several electrical devices to be connected in series.

VI. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод зависимого и независимого (самостоятельного) причастных оборотов (см. образец 4).

1. The students having written their tests, the teacher collected them.
2. Having built a new automobile plant, we increased the output of cars and buses.
3. The experiment was started in time, it being a success.

VII. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод условных предложений (см. образец 5).

1. If our partners were here we should sign the contract at once.
2. You may go to the library if you need this book.
3. If you had answered six questions in the competition, you would have won the first prize.

VIII. Прочитайте и устно переведите с 1-го по 5-й абзацы текста. Перепишите и письменно переведите 1,2,3 и 4-й абзацы.

The Transformer

A transformer cannot be called a machine for it has no moving parts. We know the transformer to be an apparatus designed for changing the alternating voltages and currents by means of magnetic induction, the frequency remaining unchanged.

A two winding transformer is known to consist of two coils so arranged that the magnetic lines of force of one coil pass through the other. Transformer being generally used only with alternating current, there is no need to make and break the circuit. The alternating current in one coil induces an e.m.f. in the other one because of the alternations in the value of the current in the first coil.

In order to strengthen the magnetic field passing through the coils of a transformer, a closed core of iron is generally used.

The coil on which the current is pressed on the input side of the transformer is called the primary, while the one from which the induced current is obtained on the output side is called the secondary. In case, the secondary has more turns than the primary, the output voltage is larger than the input voltage, and the transformer is called then a step-up transformer.

It is the step-up transformer that should be used to raise the voltage of a c generators, so that electrical energy could be transformed economically at high voltage and low currents. In its turn, the step-down transformer reduces the high voltage. Small transformers are used in radio receivers and transmitters in many different circuits.

As we stated earlier, a transformer is used for changing the voltage or current value in an electrical circuit. Sometimes it is used merely to insulate two electrical circuits while still permitting an interchange of energy between them.

Owing to transformer power may be transmitted at high voltage, and reduced at the point where it is to be used to a value suitable for motors and other machines.

Notes

to impress – усиливать, укреплять

induced current – индуцированный ток

step-up transformer – повышающий трансформатор

step-down transformer – понижающий трансформатор

in its turn – в свою очередь

owing to – благодаря чему-либо

IX. Прочитайте 5-й абзац текста и ответьте письменно на следующий вопрос: What is a transformer used for?

Вариант 4

I. Перепишите следующие предложения, определив в каждом из них видовременную форму и залог глагола-сказуемого (см. образец 1). Переведите предложения на русский язык.

1. Wide prospects before man are opened up thanks to scientific and engineering progress.
2. The new department of mathematics has just been opened.
3. This experiment will be discussed this week.
4. The first atomic power station was built in Russia in 1964.

II. Перепишите предложения и переведите их на русский язык, обращая внимание на разные значения слов *it*, *that*, one (см. образец 2).

1. The peoples know that their joint efforts can secure peace in the whole world.
2. We had to find new methods of investigation because the old ones were unsatisfactory.

III. Перепишите предложения и переведите их на русский язык, обращая внимание на разные значения глаголов to be, to have, to do.

1. Lodygin is an inventor of an electrical lamp.
2. Our students do researches.
3. We had to change the design of this machine.
4. A program for the design of new types of equipment is to be carried out this year.

IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на функцию инфинитива.

1. The main purpose of the computers is to solve complex problems.
2. To do this work is not difficult.
3. The machine to operate with the keys is named an ordinary adding machine.
4. To transmit an electric current we need a source of power.

V. Перепишите и письменно переведите на русский язык следующие предложения. Помните, что объектный и субъектный инфинитивные обороты соответствуют придаточным предложениям (см. образец 3).

1. The new plant is reported to have gone into operation in our town.
2. Some liquids proved to be good conductors of electricity.
3. They wish the work to be done at once.

VI. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод зависимого и независимого (самостоятельного) причастных оборотов (см. образец 4).

1. A curve showing the behavior of metal is given in fig 21.
2. The problem having been solved, the engineers began a new experiment.
3. My friend wrote many interesting books, the last one being the best.

VII. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод условных предложений (см. образец 5).

1. If the service life of the instrument had been prolonged, the economic effect would have been increased many times.
2. It would be impossible to ensure the full supply of energy without atomic power stations.
3. He will tell you about these problems if you ask him.

VIII. Прочитайте и устно переведите с 1-го по 5-й абзацы текста. Перепишите и письменно переведите 1,2,3 и 4-й абзацы.

The invention of Radio

May 7 (April 25, old style) 1895 is considered to be the date of the invention of radio. It was on this day that Popov read a paper in the Physics Department of the Russian Physical and Chemical Society entitled "On the Relation of Metal Powder to Electric Oscillations".

Popov succeeded in building a sensitive receiver that successfully detected and registered electric oscillations, true, as yet only in the atmosphere. But even as such, Popov's invention found practical application in meteorology. His instrument was set up in the Institute of Forest (in St. Petersburg) and reacted readily to lightning discharges at distances up to 30 km.

Popov, who was brought up on the noble traditions of the best scientists, did not think of obtaining a patent for his invention. But later Popov's reports were published in the journals of Russian Physical and Chemical Societies, and the rights of the inventor of radio were thus secured to him. The sensation around the Marconi patent that began abroad in 1896 and later in Russia caused indignation in informed scientific circles, which took the proper measures.

Popov's works were studied with the greatest attention in France where his apparatus was first produced on a mass scale.

French scientists spoke of Popov's invention at scientific meetings.

Popov reported to the Fourth International Electrical Congress that took place in Paris in August, 1900, on the results of the work conducted. A World Electrical Exhibition had opened up in Paris at the same time when the Congress took place.

Popov's radio station and a number of his original instruments were exhibited there. The jury of the Exhibition awarded Popov an honorary diploma and the Grand Gold Medal.

Notes

to bring up – воспитывать

to take place – иметь место, происходить

to succeed in – преуспевать, достигать цели, иметь успех

to report – делать официальное сообщение, докладывать

lightning discharge – разряд молнии

IX. Прочитайте 5-й абзац текста и ответьте письменно на следующий вопрос: What were Popov's radio stations exhibited?

Методические указания
к выполнению контрольных работ для студентов
1 курса факультета заочного обучения
(английский язык)

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