

ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ ПРОФЕССИОНАЛЬНОЕ ОБРАЗОВАТЕЛЬНОЕ
УЧРЕЖДЕНИЕ
БАШКИРСКИЙ КОЛЛЕДЖ СВАРОЧНО-МОНТАЖНОГО И ПРОМЫШЛЕННОГО
ПРОИЗВОДСТВА

УТВЕРЖДЕНО

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АНГЛИЙСКИЙ ЯЗЫК

Методические указания для выполнения контрольных заданий
для студентов ссузов

Рассмотрено на заседании МК ООД

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Председатель 

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КОНТРОЛЬНЫЕ ЗАДАНИЯ

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. **Числительные.**

4. **Местоимения:** личные, притяжательные, вопросительные, указательные, неопределенные и отрицательные.

5. Форма **настоящего (Present), прошедшего (Past) и будущего (Future)** времени группы Indefinite действительного залога изъявительного наклонения. Спряжение глаголов **to be, to have** в Present, Past и Future Indefinite. Повелительное наклонение и его отрицательная форма.

6. **Простое распространенное предложение:** прямой порядок слов повествовательного и побудительного предложений в утвердительной и отрицательной формах; обратный порядок слов вопросительного предложения. Оборот there is (are).

7. Основные случаи словообразования.

Используйте следующие образцы выполнения упражнений.

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 1 (КУПР.1)

Грамматическая функция окончания -s

1. The students attend Студенты посещают лекции и семинары по истории Отечества.
lectures and seminars on the History of Fatherland.

Lectures - множественное число от имени существительного a **lecture лекция.**

2. He lectures on political Он читает лекции по политической экономии, экономии.

Lectures - 3^е лицо единственного числа от глагола **to lecture** в Present Indefinite.

3. My brother's son is a student. Сын моего брата - студент
В слове brother's - окончание притяжательного падежа имени существительного в единственном числе.

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. II)

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

1. This scientist works at some Эта ученый работает над некоторыми проблемами физики **low temperature physics** *низких температур.*

2. This girl studies at the **Patrice** Эта девушка учится в университете **Lumumba Friendship** *Дружбы народов имени Патриса Лумумбы.*

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 3 (К УПР. V)

Lomonosov **founded** in Moscow Ломоносов *основал* в Москве the first Russian University. первый русский университет.

Founded - Past Indefinite Active от стандартного глагола **to found.**

ВАРИАНТ 1

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

а) показателем 3-го лица единственного числа глагола в 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 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 Houses of Parliament are not far from here.
2. Several Moscow University physicists work at this problem.
3. The United States President lives in the White House.

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. One can see the largest blue diamond in the world in the Washington Museum.
3. No building in Washington may be more than 40 metres tall.

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

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 видо-временные формы глаголов и укажите их инфинитив; переведите предложения на русский язык (см. образец выполнения 3).

1. George Washington selected the place for the capital of the USA.
2. The Port of London is to the east of the City.
3. In a few days she will leave for St. Petersburg.

VI. Прочтите и устно переведите на русский язык с 1-го по 7-й абзацы текста. Перепишите и письменно переведите 1,2,3,6 и 7-й абзацы.

LONDON

I. London is the capital of Great Britain. It lies in the South East of England on both banks of the river Thames. London is one of the largest cities in the world and the largest port and industrial town in England. London is more than twenty centuries old.

2. The heart of the capital is the City. The territory of the City is only about one square mile, but it is the financial and business center of the country. It contains almost all important English banks and offices.

3. The West End of London is famous for its beautiful monuments and palaces, fine parks, fashionable shops and big hotels. The East End is quite

different from the West End. It is the district of factories, plants and the docks. The main branches of industry are machine building, ship-building, metal-processing and others. The narrow streets and poor houses of the East End present a contrast to the homes of the rich people in the West End.

4. There are many places of interest in London. One of them is Trafalgar Square with the Nelson's monument 185 feet high. Buckingham Palace is the royal residence. Westminster Abbey is one of the most beautiful buildings in London. It contains the memorials of many famous citizens of Britain.

5. Across the road from Westminster Abbey are the Houses of Parliament, the seat of the British government. The clock tower towers over the Houses of Parliament. It contains "Big Ben" - one of the largest clocks in the world.

6. The Tower of London is one of the most interesting places in London. It was a fortress, a royal residence, a prison, now it is a museum. Not far from the tower you can see the Tower Bridge, one of the finest bridges in London.

7. London is famous for its green parks. Hyde Park is the most popular of them. It is the greatest park in London as well.

8. London is the center of the country's cultural life. There are many museums and galleries in London: the National Gallery, the Portrait Gallery, the Tate Gallery, the British Museum, the Natural History Museum and many others.

VII. Прочтите 6-й абзац и вопрос к нему. Письменно ответьте на вопрос: What is the Tower of London now?

ВАРИАНТ 2

I. Перепишите следующие предложения. Определите по грамматическим признакам, какой частью речи являются слова, оформленные окончанием -s, и какую функцию это окончание а) показателем 3-го лица единственного числа в Present indefinite; б) признаком множественного числа имени существительного;

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

1. St.Petersburg exports a great variety of goods.
2. Last month my friend read a very interesting book on London's history.
3. The inhabitants of St. Petersburg are fond of their city.

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 students of our group will go to the State History Museum tomorrow.
2. This is the building of the Dublin City Hall.
3. Teams of figure skaters and ice-hockey players undergo intensive training at the Sports Center of Novosibirsk,

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

1. Summer Garden is one of the most favourite parks of the citizens of St.Petersburg.
2. The more you learn of the history of St.Petersburg the more you like it.
3. Your translation is better than mine.

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

1. Some 800 people visit the Hermitage every day.
2. Does he know any foreign language?
3. Any exhibit of this museum is valuable.

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

1. It certainly takes more than one visit to see all St.Petersburg's places of interest.
2. Peter the Great founded St.Petersburg in 1703.

3. In two years my brother will become an engineer.

VI. Прочтите и устно переведите на русский язык с 1-го по 7-й абзацы текста. Перепишите и письменно переведите 1-й, 2-й, 4-й и 5-й абзацы.

St. Petersburg

1. St.Petersburg is the second largest city in Russia and one of its most beautiful cities. Its population is more than 5 million people. St.Petersburg is a major industrial, cultural and scientific center, a large port on the Baltic Sea; and one of the largest rail and motorway junctions. Standing on over 100 islands, which form the great Neva River Delta, the city has a scope of canals.
2. Peter the Great founded the city in 1703 as a future capital. After that Russia got the so-called Window to Europe, which was very important for her foreign trade. The first trading vessel came to St.Petersburg in 1703, while in 1726 St.Petersburg accounted for 90 per cent of the nation's foreign trade.
3. In the second half of the 18th century several plants and factories sprang up. Industrial development was particularly rapid in the second half of the 19th century.
4. Now St.Petersburg plants manufacture the world's biggest steam and hydraulic turbines, along with modern lathes, electronic and electrical appliances. Housing construction is also developing quickly.
5. St.Petersburg, major scientific and cultural center, has over 40 higher educational establishments and many research institutes, 18 theatres, 7 concert halls and over 2.000 public libraries.
6. Moreover St.Petersburg is indeed a wonderful city. The Winter Palace, the Hermitage, the Russian Museum, St.Isaac's Cathedral, the Peter and Paul Fortress, the Admiralty building attract thousands of tourists from every corner of the world, St.Petersburg's many museums house some of the world's most famous art collections. The Hermitage, for example, contains the richest collection of pictures in the world. One of the most interesting museums in St.Petersburg is the Russian Museum where you can see wonderful collections of beautiful works by famous Russian painters. St.Petersburg has a lot of symbols. Perhaps the most famous symbol is the monument to Peter the Great in Dekabrist's Square.

7. Famous both for beauty and historical value are the palaces and parks in the suburbs of St.Petersburg - Petrodvorets, Pavlovsk and Pushkin.

It certainly takes more than one visit to see all the city's places of interest.

VII. Прочтите 6-й абзац текста. Ответьте письменно на вопрос: Where can one see the beautiful works of famous Russian painters?

ВАРИАНТ 3

1. 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-го лица единственного числа в 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 lecturer gave several examples of the Novosibirsk scientists'
2. The foundation of Novosibirsk dates back to 1893.
3. Novosibirsk Science Center incorporates nearly 40 scientific researches institutes.

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

1. They say the State Tretyakov Gallery is one of the largest museums
2. Not long ago our family moved into a large three-room flat.
3. Civil Engineering department is the largest and most popular in the University.

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

1. The more I studied English, the more I liked it.
2. St.Basil's Cathedral is one of the best masterpieces of Russian architecture.
3. This tower is taller than that one.

IV. Перепишите и письменно переведите предложения на русский

язык, обращая внимание на перевод неопределенных и отрицательных

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

V. Перепишите следующие предложения, определите в них видо-временные формы и укажите их инфинитив; переведите предложения

на русский язык (см. образец выполнения 3).

1. The dean will come here later.
2. The student made a lot of mistakes in his translation.
3. Novosibirsk is the third largest center in our country.

VI. Прочтите и устно переведите на русский язык с 1-го по 5-й абзацы текста. Перепишите и письменно переведите 2- и 3- и 4- и абзацы.

Novosibirsk

1. Novosibirsk is a large industrial, scientific and cultural center of Siberia. It is situated on both banks of the river Ob. Novosibirsk is the third largest center after Moscow and St.Petersburg with a population about 2 million people. The city was founded in 1893. Its foundation is associated with the name of the well-known Russian writer of the latter half of the 19th century N.Garin-Mikhailovsky. Engineering was his second profession. The residents of Novosibirsk called the railway square of the city by his name.

2. Today Novosibirsk is a big industrial center, so-called "Siberian Chicago". It turns out machines and different equipment. Generators produced by the Sibelectrotyazhmash plant are operating in Poland, Serbia, Syria. The Sibelectroterm plant produces the most up-to-date electric steelmelting furnaces. There are 200 big enterprises in the city. They

produce various machine tools, hydropresses, complicated instruments etc.

Other towns of Novosibirsk Region are growing rapidly.

3. There are nearly 20 academic scientific research institutes and organizations of Siberian department of the Russian Academy of Sciences in Novosibirsk Academgorodok. It is the first town of science. Besides there are 16 higher institutes of learning.

4. Novosibirsk citizens are proud of the beautiful theaters. They are the State Academic Theater of Opera and Ballet, the Young People's Theater named "Globus", the Operetta House, the Drama Theater named "Old house" and the Puppet Theater. The Art Gallery in Novosibirsk is certainly worth seeing. It contains works of famous Russian painters as well as contemporary artists. On the bank of the river Kamenka stands the tall building of the State Public Scientific and Technical Library. It has more than five million volumes on its shelves.

5. In 1993 Novosibirsk celebrated its 100th anniversary. The city is still growing and becoming more beautiful with every passing year.

VII Прочтите 1-й абзац текста и письменно ответьте на вопрос: Who is considered to be the founder of Novosibirsk?

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:

- а) показателем 3-го лица единственного числа в 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 first mention of Moscow dates back to 1147.
2. The doors of the Novosibirsk Young People's Theatre are always open to children and grown-ups.
3. Both Russian and foreign artists take part in the performance in Red Square.

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 eight-century-old history Moscow experienced many dramatic events.
2. The student body of Moscow University alone is over 28,500.
3. The 40-metre-high arch is one of the most popular places of interest

in this old town.

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

1. The more experiments we carry out, the more data we obtain.
2. The Tzar-Bell is the biggest bell in the world.
3. Moscow is one of the most beautiful cities of Russia.

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

1. Any monument in Moscow has its own history.
2. Nobody knew anything about this experiment.
3. The names of some streets and squares are living history of the city.

V. Перепишите следующие предложения, определите в них видо-временные формы и укажите их инфинитив; переведите предложения

на русский язык (см. образец выполнения 3).

1. Moscow rose from its ashes more beautiful than before.
2. A few hours later the Prince and his men reached a small settlement on the bank of the Moskva River.
3. There are many places of interest in Moscow.

VI. Прочтите и устно переведите на русский язык с 1-го по 8-й абзацы текста. Перепишите и письменно переведите 1-й, 2-й, 5-й и 6-й абзацы.

Moscow

1. Moscow, capital of Russia, is the largest industrial and cultural center and the most important transport junction of the country. With a population of more than 8 million the city occupies an area of 87,500 hectares.

2. Moscow is an old city. Prince Yuri Dolgoruki founded the city in the middle of the 12 th century. Moscow marked its 850 th anniversary in 1997.

3. In the 13th century Moscow became the national center of the struggle of Russian lands against the Mongolo-Tatar yoke, in subsequent years unification of the Russian lands around Moscow continued and, by the beginning of the 17th century, it became capital of the vast centralized Russian State.

4. Moscow is also the biggest industrial center. Moscow's industry is developing at a fast pace. Modern machine - building and metal – working plants turn out machine tools, automobiles, cranes, electric motors, clocks and watches. Many of Moscow's plants and factories use automatic production lines, computers and radioelectric and telemetric equipment.

5. Moscow holds one of the first places in the world in housing construction. But even this rapid housing development has not fully satisfied the population's needs.

6. There are a lot of beautiful palaces, old mansions, cathedrals, churches and monuments in Moscow. It is one of the most beautiful cities in the world. The Kremlin and St.Basil's Cathedral are masterpieces of ancient Russian architecture. On the territory of the Kremlin you can see old cathedrals, the Tzar-Bell, the Bell Tower of Ivan the Great, etc.

7. Moscow is famous for its theaters. The best-known of them is the Bolshoi Opera House. Drama theaters and studios are also very popular.

8. Moscow is the seat of the Russian Parliament and the center of political life of the country.

VII. Прочтите 4-й абзац текста и письменно ответьте на вопрос: What do Moscow factories and plants produce?

ВАРИАНТ 5

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-го лица единственного числа в Present Indefinite;
- б) признаком множественного числа имени существительного;
- в) показателем притяжательного падежа имени существительного (см. образец выполнения I).

Переведите предложения на русский язык.

1. On the other bank of the Potomac lies the Arlington National Cemetery.
2. The White House is the President's residence.
3. There are high mountains and flat prairies in the USA.

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

1. Washington is a one-industry city.
2. We have a large State library in our district.
3. There are a lot of cherry-trees near the Jefferson Memorial.

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

1. The Washington Monument is the tallest landmark in the city.
2. The more you visit Washington, the more you like it.
3. There are no sky-scrappers in Washington because no other building must be taller than the Capitol.

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

1. We saw no old buildings in this city.
2. Almost any building of St.Petersburg is attractive.
3. There are some universities in Washington.

V. Перепишите следующие предложения определите в них видо-временные формы глаголов и укажите их инфинитив; переведите предложения на русский язык.

1. The population of New York comes to 16 million people together with the population of its suburbs.
 2. A Dutch-man, Peter Minuit, bought Manhattan Island for 24 dollars and a barrel of rum.
 3. Like New York Chicago has two different parts.
- VI. Прочтите и устно переведите на русский язык с 1-го по 5-й абзацы текста. Перепишите и письменно переведите 1,2,3 и 4 абзацы.

Washington

1. Washington, the capital of the United States, is situated on the Potomac River in the district of Columbia. The district is a piece of land ten miles square and it doesn't belong to any one state but to all the states. The capital owes very much to the first President of the United States, George Washington. It was Washington who chose the place for the District and laid in 1790 the corner-stone of the Capitol.

2. Washington is not the largest city of the United States. It is not as large as New York, Chicago, Philadelphia, Detroit or Los Angeles. It has a population of 900,000 people. Washington is a one-industry city. That industry is government. Other American cities exist for a variety of reasons: New York is a center of finance; New Orleans deals with cotton; Chicago will sell you wheat. But Washington is to be the seat of the government of nation.

3. Washington has many historical places. The largest and the tallest among the buildings is the Capitol with its Hall of Representatives and Senate Chamber. It rises in the very center of the city - a big white dome standing on a circle of pillars. Washington is the most unusual city of America. There are no sky-scrappers here because no other building must be taller than the Capitol.

4. Not far from the Capitol is the Library of Congress, the largest library in the States. It contains more than 13 million books, more than 19 million manuscripts, including the personal papers of the USA presidents. In Washington there is the White House, a two-storied white building, home of the president. All American presidents except George Washington had lived in the White House.

5. There are some important museums and places of interest in Washington. For example the Washington Monument, which looks like a very big pencil, the Jefferson Memorial and Lincoln Memorial.

A Linkon was the sixteenth President of the USA, the author of the Emancipation Proclamation, which gave freedom to Negroes in America. There are five universities in Washington. Thousands of tourists visit Washington every day to see the capital of the United States of America.

- VII. Внимательно прочтите 2-й абзац текста и письменно ответьте на вопрос:
Why don't you see any workers in the streets of Washington?

КОНТРОЛЬНОЕ ЗАДАНИЕ №2

Для того чтобы правильно выполнить задание № 2, необходимо усвоить следующие разделы курса английского языка по рекомендованному учебнику:

1. **Видо-временные** 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 пассивных конструкций на русский язык.

2. **Модальные** глаголы: а) модальные глаголы, выражающие возможность: **can (could)**, may и эквивалент глагола **can - to be able**; б) модальные глаголы, выражающие долженствование: **must**, его эквиваленты **to have to** и **to be to; should**.

3. **Простые неличные** формы глагола: Participle I (Present Participle), Participle II (Past Participle) в функциях определения и обстоятельства. Gerund - герундий, простые формы.

4. **Определительные и дополнительные** придаточные предложения (союзные }; придаточные обстоятельственные предложения времени и условия.

5. Интернациональные слова.

Используйте следующие образцы выполнения упражнений.

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 1 (К УПР.1)

а) Lobachevsky's geometry had **revolutionized** mathematics and the *произвела коренное изменение* in philosophy of science. математике и философии науки.
had revolutionized - Past Perfect Active от глагола **to revolutionize**.

б) The laboratory equipment was Вчера *послали* за новым sent for yesterday. оборудованием лаборатории.
was sent for - Past Indefinite Passive от глагола **to send**.

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 2 (К УПР. II)

1. The changes **affecting** the Изменения, *влияющие* на состав composition of materials are called материалов, называются chemical changes. химическими изменениями.

Affecting - Participle I, определение.

2. **When heated** to the boiling point *Когда* воду *нагревают* до точки water evaporates. кипения, она испаряется (или; *При нагревании* до точки кипения вода испаряется)

(When) heated - Participle II, обстоятельство.

3. Heat **is radiated** by the Sun to the Тепло *изучается* Солнцем на Earth. Землю

(Is) radiated - Participle II, составная часть видо-временной формы Present Indefinite Passive от глагола **to radiate**.

ВАРИАНТ 1

1. Перепишите следующие предложения; подчеркните в каждом из них глагол - сказуемое и определите его видо-временную форму и залог. Переведите предложения на русский язык. В разделе (б) обратите внимание на перевод пассивных конструкций.

а) 1. Chemical science is successfully solving many complex problems.

2. Radio astronomy has given mankind efficient means for penetration into space.

б) 1. The reinforced concrete tower of the TV center in Moscow was built after the design of Nicolai Nikitin.

2. Heat energy is transmitted in two different ways.

II. 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. Nylon was the first synthetic fiber used in clothing.

2. The atoms forming our planet are built of negative electrons,

positive protons and ordinary neutrons.

3. This kind of treatment when used makes the metals heat-resistant.

4. When passing through an electroscope, X-rays cause its discharge.

III. 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. Man-made satellites had to use solar cells as a source of power.

4. Plastics should be reinforced by different kinds of fibers (to reinforce- усиливать, укреплять).

IV. Прочтите и устно переведите текст. Перепишите и письменно переведите 2, 3, 4 абзацы.

MIKHAIL LOMONOSOV

1. Outstanding poet, founder of Russian literature and creator of the Russian literary language - that is how the father of Russian science, Mikhail Lomonosov, is known.

2. A brilliant student, he was included among those who were sent abroad in 1736 to study chemistry and metallurgy. While abroad, Lomonosov studied philosophy, physics, mathematics and foreign languages. On his return to St. Petersburg, he was accepted in 1741 as an associate of the Academy of Sciences in physics. Four years later he was appointed professor and elected a member of the Academy.

3. After the death of Peter I in 1725, the Academy had fallen into the hands of a group of pseudo-scientists - for the most part foreigners who were supported by the tsarist court and the Government. Lomonosov openly opposed these "academicians". He fought for the success of his country's science, devoting himself heart and soul to this work. In the words of the immortal Pushkin: "Lomonosov was a great man...". He founded the first Russian University; or to express it more clearly, he himself was our first University".

4. Lomonosov established the first chemical laboratory in Russia, and himself headed it in its work. He published a number of books on Russian philology, and lectured on physics, widened the practical application of natural sciences. For Lomonosov science was not an end in itself but a means for developing the productive forces and raising the cultural level of the people.

5. It was Lomonosov's dream to develop scientists from among the people, "our own Newtons and Platons ". He fought for the establishment of schools for general education. He himself wrote books in his own Russian language, as opposed to the "purists" who recognized only Latin as the language of science.

6. As already mentioned, Lomonosov laid the foundation for the scientific study of the Russian language, created Russian grammar, developed prosody, opening up horizons to Russian literature. The great Russian critic, Belinsky, wrote of Lomonosov: " Our literature begins with Lomonosov, he was its father and mentor; he was its Peter the Great".

7. There is hardly a single field of science which does not show the influence of his brilliant mind.

8. Lomonosov may thus truly be considered the father of Russian science and at the same time a great educator, the first man to popularize science in Russia.

V. Прочтите 5-й абзац текста и вопрос к нему, из приведенных вариантов ответа укажите номер предложения, содержащий ответ на поставленный вопрос:

(What) did Lomonosov fight for?

1. ... for the publication of his book.
2. ... for the establishment of his laboratory.
3. for the establishment of school for general education.

ВАРИАНТ 2

I. Перепишите следующие предложения; подчеркните в каждом из них глагол - сказуемое и определите его видо-временную форму и залог, переведите предложения на русский язык. В разделе (б) обратите внимание на перевод пассивных конструкций.

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

2. The Mendelyev 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 is influenced by many factors.

II. 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. Molecular crystals are solids constructed of molecules held together by relatively weak forces.

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. Unless properly treated the metal must not be applied for space technology.

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

1. 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. These metal parts had to be subjected to X-ray examination.

4. The chemists may use the reactor to analyse various substances for their exact composition.

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

Пояснения к тексту.

1. **honorary board** - доска славы, почета
2. **in compiling this** - собирая все материалы и факты
3. **some sixty in all** - всего около шестидесяти
4. **verbaly** – устно

D.I. MENDELYEEV (1834-1907)

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

2. D.I. Mendelyeev was the fourteenth, and last child of the director of the Gymnasium at Tobolsk. At 16 he was taken by his mother to St.Petersburg to seek higher education. He 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.

3. In 1868 Mendelyeev began to write a great textbook of chemistry, known in its English translation as the "Principles of chemistry". In compiling this, he tried to find some system of classifying the elements - some sixty in all then known • whose properties he was describing. This led him to formulate the Periodic Law, which earned him lasting international fame. He presented it verbally to the Russian Chemical Society in October 1868 and published it in February 1869.

4. 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 Mendelyeev's achievement lies in the fact that he had discovered a generalization that not only unified an enormous amount of existing information but pointed the way to further progress.

V. Прочтите 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 Mendelyeev's discovery?

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

ВАРИАНТ 3

I. Перепишите следующие предложения; подчеркните в каждом из них глагол - сказуемое и определите его видо-временную форму и залог. Переведите предложения на русский язык. В разделе (б) обратите внимание на перевод пассивных конструкций.

а) 1. The reactor is last becoming a major source of heat and electricity. 2. Scientists have found 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 I was followed by many achievements in science and engineering.

II. 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 concrete used in construction meets many requirements.
3. Soils containing too much sand or clay are of less value in agriculture.
4. Plastics articles are often difficult to repair if broken.

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

1. Laser light can be used to transmit power of various types.

2. The application of digital (цифровой) computers should include all forms of automatic control in science and industry.
3. These new materials had to withstand much higher temperatures than metals.
4. Ethylene gas may be obtained by cracking petroleum.

IV. Прочитайте и устно переведите с 1-го по 3-й абзацы текста. Перепишите и письменно переведите 2-й и 3-й абзацы.
ACADEMICIAN J.AVRANTIEV - A REPRESENTATIVE OF
RUSSIAN SCIENCE

1. One of the representatives of Russian mathematics school is the great Russian mathematician Mikhail Alekseevkh Lavrentiev. His father was a mathematics lecturer. The young Lavrentiev grew up accustomed to hearing scientific conversation at home. This, he said, was the stimulus for his first interest in science.

2. Later he went to Moscow University to study mathematics. There he came under the influence of a leading Russian mathematician N.N. Luzin. Lavrenliev acknowledged N.N.Luzin to have been one of the key influences in his life. Luzin's work formed the basis for a new and active school of mathematics to which Lavrentiev became closely involved. One of Luzin's important qualities was his close association with young students. This impressed Lavrentiev greatly and he himself had always maintained

close links with the youth. He had been teaching practically all his life.

3. During his scientific career Lavrentiev moved from pure theory to more practical applications. His study of the theory of complex variables led to one particularly unexpected result - it turned out to be applicable to the study of so-called cumulative explosions. Later he developed a theory of controlled explosions which made it possible to predict how much and where materials could be moved. One application was the damming of a river at Alma-Ata using explosives to prevent the spring floods damaging the city.

4. Academician Lavrentiev at 75 was still much involved in running his special creation - the science city, Academgorodok. The name of Lavrentiev and Academgorodok are in many ways synonymous. He was often referred to as "ded", "grandfather". It was Lavrentiev who flew around Siberia looking for the best site for the new science town

in the 1950's. It was he who chose the spot, close to Novosibirsk. There were good reasons for suggesting Siberia as the location, it was clear that Siberia was potentially very rich and it needed a scientific and technological base for its development.

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

Why did Lavrentiev fly around Siberia in 1950's ?

- 1.....looking for the best site for the new science town.
- 2.....looking for the deposits of oil and coal.
- 3.....looking for the spot for the construction of a plant.

ВАРИАНТ 4

I. Перепишите следующие предложения; подчеркните в каждом из них глагол - сказуемое и определите его видо-временную форму и залог. Переведите предложения на русский язык. В разделе (б) обратите внимание на перевод пассивных конструкций.

1. Quantum mechanics has greatly influenced the nuclear theory.
 2. The problem of the structure of matter is constantly occupying the minds of many scientists.
1. Today many polymeric materials are produced on a massive scale.
 2. Many compounds can be decomposed when they are acted upon by different forms of energy.

II. 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. Natural rubber is a thermoplastic material that becomes soft when heated and hard when cooled.
2. Matter composed of any chemical combination of elements is called a compound.
3. The smallest particle having all the characteristics of an element is called an atom.

4. While bombarding the upper layers of the atmosphere, cosmic rays reach the surface of the earth.

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

1. Heat can be divided into three different types.
2. A great number of plastics should find their applications in the electrical industry.
3. Chemical means had to be used for the separation of compounds into their elements.
4. The existence of an X-ray laser in the future may be possible.

IV. Прочитайте и устно переведите с 1-го по 6-й абзацы текста. Перепишите и письменно переведите с 1-го по 4-й абзацы.

ALEXANDER POPOV, THE FIRST INVENTOR OF THE RADIO

1. To-day, when powerful radio stations transmit the latest news all over the globe, and the remotest corners of the world have the possibility to listen in, we realise how great is the name of Alexander Popov, the first inventor of the radio.
2. It was many years ago. At that time electrical engineering was a new science. Popov took great interest in electricity and began to work at it. He made experiments with electric waves.
3. On the 24th of March 1896 a meeting took place in one of the auditoriums of Petersburg University. The greatest scientists of the city were present at that meeting. Popov made a report about the results of his work and demonstrated the first radiograms in the world. It was only in 1899 that Popov could build a radio station. This was the first radio station in the world.
4. In 1904, during the Russo-Japanese war, the tzarist government realised the importance of the wireless. Ships could communicate at long distances only by means of the radio. Then the government gave money and was ready to supply Popov with all the necessary equipment. But as it was wartime and there were no instruments and no specialists in Russia, it was quite impossible to do anything.
5. Popov died in 1905. At that time people spoke and read much about

the radio, but few knew who was the real inventor of the wireless. Only after the Great October Revolution people realised the importance of the invention of the modest Russian scientist, Popov.

6. A few years after Popov's death, the Russian Physical Society set up a commission to settle the question of Popov's invention. This commission stated that Popov was the only inventor of the radio. In spite of this, however, even to this day, there are people abroad who try to keep the name of Alexander Popov, the great Russian scientist, in the background.

V. Прочтите вопрос и ответьте на него письменно. Was Popov's invention recognized during his life time?

ВАРИАНТ5

1. Перепишите следующие предложения; подчеркните в каждом из них глагол-сказуемое и определите его видо-временную форму и залог. Переведите предложения на русский язык. В разделе (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 increasing by 0,002 seconds each century.
- б) 1. The orbiting electrons determine the chemical properties of an element. 2. As a rule one great discovery is generally followed by numerous others.

II. 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 cloud chamber (камера Вильсона) is one of the devices used to detect the presence of radioactivity.
2. Matter consists of one or a number of basic elements occurring in nature.
3. One can use several modern devices while detecting and measuring radioactivity.
4. When heated to a certain temperature, this alloy increases in volume.

III. 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 vast distances between different planets scientists have to use special instruments.

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

PYOTR KAPITSA

1. Pyotr Leonidovich Kapitsa made his appearance in physics; turn of the century. In those years, Russia had a total of no more hundred professional physicists.

2. Petya Kapitsa • the son of a general, a prominent military engineer who had built the Kronstadt fortress - was keenly interested in physics while still at a technical high school (he had been expelled from the Kronstadt classic school for poor academic progress). The expulsion from the classic school may have been a stroke of good luck for Kapitsa. Technical high school graduates had no right to enter the University. As a result, Kapitsa became a student of electromechanical faculty of Petersburg's Peter the Great Polytechnical Institute - perhaps the best technical educational establishment in Russia at the time. One of the most prominent features of Kapitsa's creative method, as L.D.Landau pointed out many years later, was his "inexhaustible curiosity plus boundless ingenuity".

3. In 1921, three of our most prominent scientists were sent abroad to renew scientific contacts. These scientists were lone, Academician Krylov and Kapitsa who was then only twenty-seven.

4. In those times, the wildest rumours had been spread in Britain about Soviet Russia, and the young Russian physicist drew universal attention at the world-famous Cavendish Laboratory headed by Ernest Rutherford, the founder of experimental nuclear physics. Very soon this attention was richly rewarded. Kapitsa established an unusual, almost incredible record – he completed the laboratory courses in two

years. After that, Rutherford took personal interest in him and Kapitsa became his favourite pupil.

5. In 1934 Pyotr Kapitsa returned home. The house of the Institute of Physical Problems was built in a Moscow suburb, according to a plan which had been drawn by Kapitsa himself. He was appointed Director of the Institute.

V. Прочтите 4-й и 5-й абзацы текста и вопрос к ним. Из приведенных вариантов ответа укажите номер предложения, содержащего правильный ответ на поставленный вопрос:

What incredible record did Kapitsa establish?

- 1... he completed the laboratory course in two weeks.
- 2... he completed the laboratory course in two months.
- 3... he completed the laboratory course in two years.

КОНТРОЛЬНОЕ ЗАДАНИЕ №3

Чтобы правильно выполнить задание №3, необходимо усвоить следующие разделы курса английского языка по рекомендованному учебнику:

1. Грамматические функции и значения слов that, one, it.
 2. Пассивный залог (The Passive Voice) видо-временных форм Indefinite, Continuous, Perfect
 3. Функции глаголов to be, to have, to do.
 4. Простые неличные формы глагола. Инфинитив в функции а) подлежащего, б) составной части сказуемого, в) обстоятельства цели.
 5. Бессоюзное подчинение в определительных и дополнительных придаточных -предложениях.
- Используйте образцы выполнения упражнений.

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 1(К УПР. I)

Present Perfect Passive

The main question has already been Главный вопрос уже discussed обсудили.

Present Indefinite Passive

His scientific work is much spoken about. О его научной работе много говорят.

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 2 (К УПР. II)

1. It is necessary to use the latest means of control in industry. Необходимо использовать в промышленности средства контроля.
2. One should agree that that experiment was of great importance for our research. Следует согласиться, что тот эксперимент имел большое значение для нашего исследования.
3. It is hydrogen that will be the main source of energy in the car of the future. Именно водород будет основным источником энергии в автомобиле будущего.

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 3 (К УПР. III)

1. What is the name of the book you are reading? Как называется книга, которую ты читаешь?
2. The region we must explore possesses great natural wealth. Район, который мы должны исследовать, обладает огромными природными ресурсами.

ВАРИАНТ 1

I. Перепишите следующие предложения, определите в каждом из них видо-временную форму и залог глагола-сказуемого (см. образец).

Переведите предложения на русский язык.

1. The problem of the protection of our environment can't be ignored.
2. When the problem of the protection of the environment had been discussed the representatives of the conference began working out the programme of immediate actions.
3. Measures for protecting our water and air will be taken by the local authorities.
4. Nowadays ecologically pure fuel is being applied in cars.

II. Перепишите следующие предложения и переведите их на

русский язык, обратите внимание на разные значения слов *if, that, one*

1. It is evident that ecological problems should be paid much attention to.
2. One should learn ecology at school and do some practical work to protect nature in every possible way.
3. It is ecology that attracts so much attention on the part of the mankind nowadays.

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

1. A conference devoted to environmental problems is to be held this month.
2. People had to be evacuated from the dangerous area.
3. The level of harmful ingredients in the air and water in this area doesn't exceed the normal level.
4. Radiation has greatly influenced the climate of the Earth.

IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на бессоюзное подчинение.

1. We know nuclear weapons poison the atmosphere.
2. The new ecologically pure materials our plant produces gain popularity.

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

1. The programme of measures aimed at protecting the water in this lake to be carried out in the nearest future is very important.
2. To use building materials that are not harmful to our health is the task of structural engineers.

3. This scientist was the first to publish the data showing a dangerous situation in the area.
4. The participants of the conference assembled to discuss the key problems of environmental protection.

VI. Прочтите и устно переведите с 1 по 8 абзацы. Перепишите и письменно переведите 1, 2, 3 и 8 абзацы.

Пояснения к тексту

- 1) **environmental protection** - защита окружающей среды
- 2) **uninhabitable** - непригодный для жилья
- 3) **overpopulation** - перенаселение
- 4) **ozone depletion** - истощение озонового слоя
- 5) **greenhouse effect** - парниковый эффект
- 6) **on the brink of extinction** - на грани исчезновения
- 7) **to become extinct** - угасать, вымирать.

ENVIRONMENTAL PROTECTION

1. The poisoning of the world's land, air, and water is the fastest spreading disease of civilization. It probably produces fewer headlines than wars, earthquakes and floods, but it is potentially one of history's greatest dangers to human life on earth. If present trends continue for the next several decades, our planet will become uninhabitable.
2. Overpopulation, pollution and energy consumption have created such planet-wide problems as massive deforestation, ozone depletion, acid rains and the global warming that is believed to be caused by the greenhouse effect.
3. The seas are in danger. They are filled with poison: industrial and nuclear waste, chemical fertilisers and pesticides. The Mediterranean is already nearly dead; the North Sea is following. The Aral Sea is on the brink of extinction. If nothing is done about it, one day nothing will be able to live in the seas.
4. Every ten minutes one kind of animal, plant or insect dies out for ever. If nothing is done about it, one million species that are alive today will have become extinct very soon.
5. Air pollution is a very serious problem. In Cairo just breathing the air is life threatening - equivalent to smoking two packs of cigarettes a day.
The same holds true for Mexico City and 600 cities of the Commonwealth countries.
6. Industrial enterprises emit tons of harmful substances. These

emissions have disastrous consequences for our planet. They are the main reason for the greenhouse effect and acid rains.

7. An even greater environmental threat are nuclear power stations. We all know how tragic the consequences of the Chernobyl disaster are.

8. People are beginning to realise that environmental problems are not somebody else's. They join and support various international organizations and green parties. If governments wake up to what is happening - perhaps we'll be able to avoid the disaster that threatens the natural world and all of us with it.

VII. Прочтите 6-й абзац текста и ответьте письменно на вопрос: What is the main reason for the greenhouse effect and acid rains?

ВАРИАНТ 2

Перепишите следующие предложения, определите в каждом из них видо-временную форму и залог глагола - сказуемого (см. образец).

Переведите предложения на русский язык.

1. Atmosphere and water pollution have to be controlled.
2. The Man's influence on the climate is studied by the scientists.
3. When the problem of earthquakes had been discussed by the members of the committee they began to elaborate the program of earthquakes' forecast.
4. Control of pollution is being paid much attention to by international

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

1. It is proved that air, water and ground are poisoned daily on our planet.
2. One should take an active part in protecting our nature in every possible
3. It's environmental protection that becomes one of the burning questions on the planet nowadays.

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

1. A program of measures aimed at purifying the water in this region is to be elaborated.
2. The environmental problems have acquired a global importance.
3. This factory doesn't erupt harmful gas and soot after a new powerful filter has been installed.
4. At present many industrial enterprises have their own purification installations to protect environment.

IV. Перепишите следующие предложения к переведите их на русский язык, обращая внимание на бессоюзное подчинение.

1. The methods of purifying the sewage we have just described are very effective.
2. The cars our plant produces erupt minimum soot and harmful gases.

V. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на функции инфинитива.

1. Further steps to be taken in the nearest future should include elaborating joint long-term program of protecting every spot of nature on our planet.
2. To measure the level of radiation in this area is the task of our research group.
3. The plant was the first to produce fuels having no harmful effect on the environment.
4. The duty of a human being is to protect nature because it's nature that gave birth to the man.

VI. Прочтите и устно переведите с 1 по 7 абзацы текста. Перепишите и письменно переведите 1,3,4 и 5 абзацы.

NATURE PROTECTION

1. About two hundred years ago man lived in greater harmony with his environment because industry was not much developed. Today the situation is quite different; the contradictions between man and nature are dramatic.
2. Now many parts of the world are crowded, people live in big cities. Where many people live together, litter is a problem. People don't always put garbage into the garbage can. It's easier to drop a paper than to find a garbage can for it. But litter is ugly. It makes the city look

dirty and spoils the view. Litter is a health problem too. Food, garbage bring animals, which sometimes carry disease.

3. Much of our waste, waste from factories, the chemical industry, heavy industry are very dangerous. Fish dies in the lakes, rivers, seas; forest trees die too. Much of this dangerous waste goes into the air and is carried by winds for great distances.
4. People don't have enough oxygen in big cities. They suffer from smog. You can hardly breathe the air any more in our cities. And think of noise. Nowadays most city centers are simply too noisy to live in. We've got to live with a motor car but we've got to become its master and not its slave.
5. The Earth is our home. We must take care of it for ourselves and for the next generations. This means keeping our environment clean. The importance of this task is pointed out by ecologists, the scientists who want to control this problem. Each of us must do everything possible to keep the land, air, water clean.
6. Some years ago the Aral was a bright sea with a lot of fish. The rivers Amudarya and Syrdarya supplied it with water. But then the water of the rivers was diverted to cotton plantations. As a result, the Aral now is in a very dangerous position. If no immediate measures are taken, the Aral Sea will disappear by the year 2010.
7. There are many other places on our planet that need immediate help. For example Lake Baikal and its shores have been declared a specially protected zone of our country. There is a hope that one of the most beautiful and the deepest lakes of the world will never die.

Пояснения к тексту:

1. **litter**- мусор
2. **garbage**- отбросы, мусор
3. **environment**- окружение, среда
4. **disease**- болезнь
5. **to take care of**- заботиться
6. **to point out**- указывать
7. **waste**- отбросы

VII. Прочтите 6- и абзац текста и дайте на него письменный ответ: Why is the Aral Sea in a dangerous position now?

ВАРИАНТ3

- I. Перепишите следующие предложения, определите в каждом NJ

них видо-временную форму и залог глагола- сказуемого (см. образец).

Переведите предложения на русский язык.

- 1.The life of animals, plants and humans are being constantly influenced by the pollution of the environment.
- 2.Chemicals should be used in a proper way otherwise we shall pollute our environment.
- 3.When the problems of radiation had been discussed the organizing committee proposed to work out the program of measures preventing radiation pollution.
- 4.Our environment is polluted by our plants and factories putting their waste materials into water and atmosphere.

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

- 1.It should be noted that people themselves think very little of social ecology.
- 2.One should remember that the main problem of interaction between the people and the nature is how to protect the nature.
- 3.It's awful that it's the man who spoils the nature that gave him birth.

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

1. Certain steps aimed at reducing radiation in this area are to be taken.
- 2.At present many industrial enterprises have ecologists engaged in solving local environmental problems.
- 3.The sewage of this chemical plant doesn't contain harmful substances.
- 4.Radiation in this area has been reduced to a minimum.

IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на бессоюзное подчинение.

- 1.Everybody understands environmental problems become acute with every passing day.
- 2.The planet we live on needs great care every day.

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

предложении.

- 1.The fuel to be used by cars should not spoil the environment.
- 2.It took the members of the committee almost 2 days to work out the plan of joint measures aimed at protecting the forests in their area.
- 3.To take care of the nature should be as important as to take care of one's health.
4. «Travels for Peace and Nature» is known to be another public movement that appeared in Russia some years ago.

VI. Прочтите и устно переведите с 1 по 6 абзацы текста.

Перепишите и письменно переведите 1,3,4 и 5 абзацы.

ENVIRONMENTAL PROBLEMS

- 1.Environmental problems have become exceptionally acute in the country. For a long time too little attention was paid to the environment.
- 2.In effort to meet production goals the ministries stinted on measures to protect the environment from industrial pollution. As a result, about half of the water sources in the country are polluted with industrial or communal waste. In more than a hundred towns and cities with population of some fifty million, the concentration of harmful substances in the air is over ten times the admissible level.
- 3.For dozens of years the national economy focussed on large projects, including giant projects in what was called the transformation of nature. Blunders were committed that caused environmental disasters. Of the acute problems causing public concern the environment safety of nuclear and hydrolic power engineering is beginning to assume paramount importance. Public anxiety has grown particularly after the Chernobyl disaster. Another reason is the adverse effect of flatland hydropower stations on the environment. The list of serious environmental problems could be continued.
- 4.In recent years people have become more sensitive towards the environment. Still more public organizations and unofficial environmentalist movements have been established with every passing year.
- 5.In 1987 a «Green Peace» public commission has been set up. Its main goal is to combine the people's efforts for peace with the huge and ever mounting movement for nature conservation. Another area of its work is to set up and strengthen cooperation among environmentalists from many

6. Russia is cooperating in the field of environmental protection with the United States, Canada, Norway, Finland and other countries to study and protect the environmental systems of the Arctic and Subarctic regions and also to study some of the natural processes in the permafrost zone.

Пояснения к тексту:

1. **in effort to meet production goals**- преследуя производственные цели

2. **to commit a blunder**- совершить грубую ошибку

3. **causing public concern**- вызывающий озабоченность общественности

4. **flatland**- зд. построенный на равнине

5. **ever mounting**- все возрастающий

6. «**Travels for Peace and Nature**»- «Туризм в защиту мира и природы»

VII. Прочтите 6 абзац и письменно ответьте на вопрос:

Why is Russia cooperating in the field of environmental protection with a number of countries?

I. Перепишите следующие предложения и определите в каждом из них видо-временную форму глагола -сказуемого. Переведите предложения на русский язык.

1. About half of the water sources are polluted with industrial waste.

2. Acid rains have been formed from the mixture of sulphur dioxide (CO₂) and water in the air.

3. In London, a power station burning 400,000 tonnes of rubbish a year, will be constructed soon.

4. Today millions and millions of trees are being cut down.

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

1. It is necessary to find new alternative sources of energy.

2. One must recognize that carbon dioxide (CO₂) in the air has increased a lot.

3. It is a «blanket» around the Earth that causes the «greenhouse effect».

III. Перепишите предложения и переведите их на русский язык,

обращая внимание на разные значения глаголов to be, to have, to do.

1. Waste disposal is a major problem in modern society.

2. Britain's rivers are greatly polluted and the government has to try hard to stop it.

3. No coal fires are allowed in London.

4. Cars do a lot of damage to the environment, don't they?

IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на бессоюзное подчинение.

1. I think underground nuclear weapon tests are a major threat to the environment.

2. Problems inhabitants of industrial centers will have to solve are those of noise pollution.

V. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на функцию инфинитива в предложении.

1. To avoid using non-biodegradable materials is the task of everyone.

2. To save money, energy and natural resources we should recycle rubbish.

3. The purpose of this report is to demonstrate the circumstances of ecological crisis.

4. The measures to be taken are of great importance for environmental protection.

VI. Прочтите и устно переведите с 1 по 6 абзацы текста.

Перепишите и письменно переведите 1,2,3-й абзацы.

MAN AND BIOSPHERE. TWO COURSES OF ACTION

1. Interrelations between man and the biosphere are of a fairly complex nature. Man, like every other living organism, depends for his life on what the biosphere provides: water, oxygen, food and shelter. On the other hand, the biosphere is strongly affected by all sorts of human activity.

2. Technology powerfully amplifies the effects of human beings on the biosphere. Prehistoric man withdrew from the atmosphere only the oxygen

he required for respiration; technological man consumes a far greater amount of oxygen to support fires, power plants and chemical processes.

altered the carbon dioxide concentration in the atmosphere. Apart from the amplification of such natural processes in the biosphere, technology has introduced into the biosphere substances wholly new to it; man-made radioisotopes and a wide variety of synthetic materials such as plastics, insecticides, herbicides and numerous industrial materials. These, too, alter the biosphere.

3. The problem has already been discussed at a large number of conferences, some of them sponsored by the UN. However, relatively little has so far been done to check environmental pollution. Both scientists and politicians agree that unless some radical steps are taken before long, life on our planet may be irrevocably damaged if not destroyed altogether. It seems therefore worth while to consider the fundamental conflict which underlies the surface manifestations of the present crisis. For there undoubtedly exists a conflict, an incompatibility between the tenets of an industrial society and those of ecology.

4. Industry is bound to expand continuously, all ecological systems tend toward stability and equilibrium.

5. There seems to be at least two general courses of action which might be adopted in order that the environmental doom may be averted,

6. One would be to curb the dynamics of industrial development; the other- to turn technology to the construction of physiologically and socially healthy environment. The former possibility being highly unrealistic, the latter one seems to be the only path to follow.

Пояснения к тексту:

1. **to be of a fairly complex nature**- иметь довольно сложный характер
2. **apart from**- кроме
3. **may be irrevocably damaged**- может быть нанесен невозместимый ущерб
4. **the tenets of an industrial society**- законы (принципы) индустриального общества
5. **an environmental doom**- экологическая катастрофа

VII. Прочтите вопрос к тексту. Из приведенных вариантов ответа укажите номер предложения, содержащего правильный ответ на поставленный вопрос:

What is the biosphere affected by?

1. by separate individuals.
2. by all sorts of human activity.
3. by solar radiation.

ВАРИАНТ5

I. Перепишите следующие предложения, определите в каждом из них видо-временную форму и залог глагола- сказуемого.

Переведите предложения на русский язык.

1. Every year, according to statistics, 7,000 million tons of combustibles are burned in the world.
2. The pollution of the North Sea has been caused by the rapid increase in oil extraction there.
3. Environmental problems are being discussed at our conference.
4. Serious actions concerning the environmental protection were undertaken by those scientists.

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

1. The energy of the sun, the wind and the sea makes it possible to produce electricity.
2. People know that only their joint efforts can protect nature.
3. It is the ultraviolet radiation that causes cancer.

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

1. Cigarette smoke *is* a major factor in air pollution.
2. We have to reduce the amount of resources and energy that we use.
3. Risk factors for different types of environmental pollution are calculated.
4. Plastics, metals and chemicals do not disappear in a short time.

IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на бессоюзное подчинение.

1. We know traffic and aircraft can cause serious noise pollution.
2. The problem people will be facing in future is an ecological crisis.

V. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на функцию инфинитива в предложении.

1. To protect the environment is the task of all progressive people.
2. To improve a situation the government introduced new laws to stop smog from coal fires and factories.
3. The main task of «Green Peace» is to protect nature.
4. The theme to be touched upon in the article is paper recycling.

VI. Прочтите и устно переведите с 1 по 5 абзацы текста.

Перепишите и письменно переведите 1 и 4 абзацы.

ECOLOGICAL CATASTROPHE OR HARMONY WITH NATURE.

1. Man, a creature of nature has been waging a tireless struggle against it. This struggle is not the result of man's ill-intentioned aspirations. It is highly objective and inevitable, as man could live and develop only by taking nature's diverse gifts from it to meet his vital needs. For many thousands of years, man has been weak while nature has been almighty.

2. However, as society developed, the correlation of forces between man and nature changed. Man grew so strong that he dared to declare himself the «king of nature» and intended conquering and remoulding nature to his liking.

3. Contradictions, which always existed between man and nature, were led to a conflict known as the «ecological crisis». It was manifested by the exhaustion of unrenewable natural resources and environmental contamination. In this respect special attention should be paid to the protection of natural water reservoirs.

4. Some additional measures to ensure the rational utilization of the natural wealth of Lake Baikal have already been taken. Besides, a comprehensive system of measures is being carried out to protect this unique reservoir of very precious fresh water. The most perfect purification works in industry have been built at the Baikal pulp-and-paper mill – the main contaminator in the lake. A special service and an environmental protection department have been set up at the plant to ensure effective operation of the water purifying complex and steam purifying units. The protection of Lake Baikal and its ecological system includes concern about the sources that fill the lake, and about the purity of its shores and the

vegetation around Baikal.

The stability of the lake's hydrological regime also depends on how well forests protect the basins of rivers that discharge into it. Forests not only protect the mountain slopes from destruction and reservoirs from contamination, but also contribute to the filtration of waste water. A protective zone has been outlined for the area of Baikal basin, 5. The process of interrelationship between society and nature is a dynamic and permanently changing process. Society needs a purposeful regulation and control of the processes taking place in the system «man-society- production-nature» at each step of its progressive development.

Пояснения к тексту:

1. **to wage tireless struggle**- вести неустанную борьбу
2. **ill-intentioned aspiration**- нездоровые (патологические) притязания
3. **to conquer and remould nature to one's liking**- завоевать и переделать природу на свой вкус
4. **unrenewable**- невозполнимый
5. **purification works**- очистные заводы

VI. Письменно ответьте на вопрос:

What does the protection of Lake Baikal and its ecological system include?

КОНТРОЛЬНОЕ ЗАДАНИЕ № 4

Чтобы правильно выполнить задание № 4, необходимо усвоить следующие разделы курса английского языка по рекомендованному учебнику:

1. Сложные формы инфинитива {Passive Infinitive, Perfect Infinitive). Обороты, равнозначные придаточным предложениям : объектный инфинитивный оборот, субъектный инфинитивный оборот.
 2. Причастия (Participle 1, II). Независимый (самостоятельный) причастный оборот.
 3. Условные предложения.
- Используйте образцы выполнения упражнений.

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 1 (К УПР. I)

1. Millions of Russian people are recorded to have taken part in elections. Зарегистрировано, что миллионы Россиян приняли участие в выборах.

2. We want the new car to be produced by February. Мы хотим, чтобы новый автомобиль был выпущен к февралю.

3. The device to be bought must be checked beforehand. Прибор, который нужно купить, следует предварительно проверить.

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 2 (УПР. II)

1. Countries wishing to cooperate with us will always find the necessary understanding. Страны, желающие сотрудничать с нами, всегда найдут должное понимание.

2. Having visited Moscow the participants of the conference went to Tashkent. Посетив Москву, участники конференции поехали в Ташкент.

3. 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 3 (УПР. III)

1. If the installation is put into operation in time, the economic effect will be greater. Если установка будет пущена вовремя, экономический эффект возрастет.

2. 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.

3. 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 I

I. Перепишите и письменно переведите на русский язык следующие предложения. Помните, что объектный и субъектный инфинитивные обороты соответствуют придаточным предложениям

(см. образец выполнения I).

1. Wood and bricks are proved to be the most ancient building materials.

2. For the construction we need many large panels to be delivered in advance.

3. We know new types of concrete to have found wide application in building.

II. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод зависимого и

независимого (самостоятельного) причастных оборотов (см. образец выполнения 2).

1. Testing a new type of hoisting crane the engineer offered some recommendations as to its use.

2. Having built a new prefabrication plant, we increased the output of prefabricated structures and units.

3. Wood being easily subjected to fire, wooden houses were immediately replaced by the stone ones.

III. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на то, как переводятся

условные предложения (см. образец выполнения 3).

1. If the house had been built by December, you would have lived in a new flat already.

2. If you had answered all the questions at the exam, you would have got an excellent mark.

3. It would be impossible to carry out any intensive programme in construction without new building materials.

IV. Перепишите и устно переведите с 1-го по 6-й абзацы текста. Перепишите и письменно переведите 1,2,3 и 4-й абзацы.

THE PROPERTIES OF BUILDING MATERIALS

1. Materials that are used for structural purposes should meet several requirements. In most cases it is important that they should be hard, durable, fire resistant and easily fastened together.
 2. The most commonly used materials are steel, concrete, stone, wood and brick. They differ in hardness, durability and fire-resistance. Wood is the most ancient structural material. It is light, cheap and easy to work. But wood has certain disadvantages : it burns and decays.
 3. Stone belongs to one of the oldest building materials used by man. It is characteristic of many properties. They are mechanical strength, compactness, porosity, sound and heat insulation and fire-resistance. Bricks were known many thousands of years ago. They are the examples of artificial building materials.
 4. Concrete is referred to as one of the most important building materials. Concrete is a mixture of cement, sand, crushed stone and water. Steel has come into general use with the development of industry. Its manufacture requires special equipment and skilled labour.
 5. Plastics combine all the fine characteristics of a building material with good insulating properties. It is no wonder that the architects and engineers have turned to them to add beauty to modern homes and offices.
 6. All building materials are divided into three main groups: 1) Main building materials such as rocks and artificial stones, timber and metals. 2) Binding materials such as lime, gypsum and cement. 3) Secondary or auxiliary materials which are used for the interior parts of the buildings. We use many building materials for bearing structures binding materials are used for making artificial stone and for joining different planes. For the interior finish of the building we use secondary materials.
- V. Прочитайте 6-й абзац текста и ответьте письменно на следующий вопрос:
What are main building materials?

ВАРИАНТ 2

- I. Перепишите и письменно переведите на русский язык следующие предложения. Помните, что объектный и субъектный инфинитивные обороты соответствуют придаточным предложениям (см. образец выполнения 1).
1. The team is reported to have made a great deal of work.
 2. We know reinforced earth to be first investigated by the French engineer Vidal.
 3. All building materials to be used for structural purposes are divided into 3 main groups.
- II. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод зависимого и независимого (самостоятельного) причастных оборотов (см. образец выполнения 2).
1. An architect designing a building should be careful in calculations.
 2. Many thousands of years ago men settling in caves wanted to protect themselves from stormy weather.
 3. A new type of reinforced concrete having been tested, the builders began to use it widely.
- III. Перепишите и письменно переведите на русский язык следующие сложные предложения. Обратите внимание на то, как переводятся условные предложения (см. образец выполнения 3).
1. If a man builds a house of stone and wood, the construction is called a nonfireproof one.
 2. If the house had been built in stone it would not have been destroyed by the fire.
 3. It would be impossible to erect the new bridge without a new device.
- IV. Прочтите и устно переведите с 1-го по 5-й абзацы текста. Перепишите и письменно переведите 1,2,3 и 4-й абзацы.

Пояснения к тексту

1. **concrete**- бетон
2. **an innovation** - инновация, новшество
3. **aggregate** - заполнитель
4. **limestone** – известняк

5. **blast furnace cement** - доменный шлачный цемент

CONCRETE

1. It is difficult to imagine modern structure without concrete. Concrete is the very building material which led to great structural innovations. The most important quality of concrete is it's properly to be formed into the large and strong monolithic units. The basic materials for making concrete are cement, aggregate and water.

2. Cement is the most essential material and the most important one for making concrete of high quality. Cement is made of limestone and clay. It is burnt (calcined) at high temperature and ground up into powder.

3. Depending on the kind and composition of the raw materials different types of cement are obtained. Portland cement, blast furnace cement is suitable for pulling up marine structures.

4. Concrete is made by mixing cement, water, sand, and gravel in the right amount. As soon as it is thoroughly mixed it is poured into forms that hold it in place until it hardens. The crystals forming in the process of making concrete stick together in a very hard artificial stone.

Cement starts

hardening one hour after the water has been added and the process of hardening lasts for about twenty-eight days. The process is called concrete curing. The characteristics of concrete depend upon the quality of the materials used, grading of the aggregates, proportioning and amount of water.

5. The most important requirements for concrete are: it should be hard, strong, durable, fire-resistant and economical. Concrete can be divided into two classes: mass or plain concrete and reinforced concrete (ferro - concrete) where it is necessary to introduce steel.

V. Прочитайте 5-й-абзац текста и ответьте письменно на следующий вопрос:

What classes can concrete be divided into?

ВАРИАНТ 3

I. Перепишите и письменно переведите на русский язык следующие предложения. Помните, что объектный и субъектный инфинитивные обороты соответствуют придаточным предложениям (см. образец выполнения 1).

1. We know steel, stone, concrete , wood and brick to be the most commonly used building materials.

2. The properties of the new material are known to be determined next month.

3. All the problems to be discussed at the conference are of great importance for our company.

II. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод зависимого и независимого (самостоятельного) причастных оборотов (см. образец выполнения 2).

1. Working with machines, sharp tools, motors one must always be careful.

2. The new material finding its way in construction now is called chemically resistant concrete.

3. The powerful machine-building factory having been built in our country, we began to produce new types of machines and equipment.

III. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на то, как переводятся условные предложения (см. образец выполнения 3).

1. If you had translated the article you could have used valuable data in your research.

2. If the quality of the equipment were higher the results of the experiment would be more accurate and complete.

3. It would be impossible to make cement without limestone and clay.

IV. Перепишите и устно переведите с 1-го по 6-й абзацы текста. Перепишите и письменно переведите 1,2,3 и 4-й абзацы.

Пояснения к тексту

1. **ferrous** - черный

2. **non-ferrous** - цветной

3. **an alloy** -сплав

4. **cast iron** - чугун

5. **a curriculum** - учебный план, программа (института, университета)

METALS AND CONCRETE

1. All metals are divided into ferrous metals and non-ferrous metals . Ferrous metals include iron, steel and its alloys. Non-ferrous metals are metals and alloys the main component of which is not iron but some other element. Metals, in general, and especially ferrous metals are of good importance in variations.
2. Metals possess the following properties: 1) All metals have specific metallic luster. 2) They can be forged. 3) Metals can be pulled, 4) All metals, except mercury, are hard substances. 5) They can be melted. 6) In general, metals are good conductors of electricity.
3. These characteristics are possessed by all metals but the metals themselves differ from one another. Steel and cast iron are referred to the group of ferrous metals. Cast iron is the cheapest of the ferrous metals. It is chiefly used in building for compressed members of construction, as the supporting members.
4. When an engineer designs a steelwork he must carefully consider that the steel frame and every part of it should safely carry all the loads imposed upon it. The steel framework must be carefully hidden in walls, floors and panitions. It is steel and metal that is employed as reinforcement in modern ferroconcrete structures. In the curriculum of the institute there is a special course on metal structures.
5. *Aluminium*. This is the oldest and best known light metal. It is used in aircraft, automobile, chemical and some other industries.
6. *Capper*. Copper is the best conductor of electricity. There are different alloys with copper. An alloy of copper and tin is called bronze. This metal is often used for making various ornaments.

V. Прочитайте 6-й абзац текста и ответьте письменно на следующий вопрос:
What metal is often used for making various ornaments?

ВАРИАНТ 3

I. Перепишите и письменно переведите на русский язык следующие предложения. Помните, что объектный и субъектный инфинитивные обороты соответствуют придаточным предложениям (см. образец выполнения 1).

1. We know plastics to be applied to almost every branch of building.
2. Laminate is known to be impregnated with thermosetting resins.
3. Plastics to be designed for interior use may be recommended as structural material for window and door frames.

II. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод зависимого и независимого (самостоятельного) причастных оборотов (см. образец выполнения 2).

1. Having developed plastics our builders have got the material that can be applied both in interior and exterior use.
2. Decorative laminates demonstrating high strength find wide application.
3. The plastics product having thoroughly been tested civil engineers obtained a new challenging material.

III. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на то, как переводятся условные предложения (см. образец выполнения 3).

1. If plastics had not been developed the builders would have been deprived of one of the most attractive finishing materials.
2. It would be impossible to create plastics without impregnating them with resins.
3. If plastics find a wide application in building a lot of structural materials will be saved.

IV. Прочтите и устно переведите с 1-го по 6-й абзацы текста. Перепишите и письменно переведите 1,2,3 и 4-й абзацы.

Пояснения к тексту

1. **put on the market** • поступать на рынок
2. **laminate** - слоистый материал, пластик
3. **thermosetting resins** - термореактивные смолы
4. **a large range** - широкий ряд
5. **ready- lo-mount**-заводского изготовления
6. **maintenance** • уход, текущий ремонт
7. **PVC - polyvinylchloride** –поливинилхлорид

PLASTICS - THE NEWER APPLICATION IN BUILDING

1. Plastics can now be applied to almost every branch of building, from the laying of foundation to the final coat of paint.
2. A lot of decorative plastics now available to the architect and builder have brought about a revolution in interior and exterior design. These materials are known to be used not for decoration only but to withstand severe outdoor conditions for varying periods of time. If many disadvantages had not been overcome in the development of plastics they wouldn't have been put on the market. We know laminate to have been developed which is suitable for both inside and outside use. Laminate is a strong material manufactured from many layers of paper impregnated with thermosetting resins. This sandwich is then pressed and subjected to heat. This process producing laminates gave the builders rigid and strong plastics.
3. As a structural material it is recommended for exterior work on shop fronts, walls, entrances, doors, windows. Its chief advantage is that it needs no maintenance. For interior use it is recommended as a structural material for kitchens, bathrooms, staircases walls, window sills, etc.
4. "Colorplast" factory in Ravigo (Italy) manufactures three main plastics products : panels, window frames and door frames. The rigid polyvinylchloride (PVC) panels are made in a large range of sizes, suitable for every kind of use. They are very strong and are easy to assemble and disassemble. For this reason they are of particular interest to architects and builders.
5. The second group of "Colorplast" products are ready - to mount window frames, made of rigid PVC. They are completely draught - proof, waterproof, fireproof and sound absorbent, easy to install, economic and do not require maintenance. Moreover they are available with different types of openings in varying sizes and are designed to meet any specific requirements.
6. Finally "Colorplast" produces internal laminated plastic doors.
7. Nowadays plastics products are very popular not only in our country but all over the world as well, offering many advantages over the materials they replace.

V. Прочитайте 7-й-абзац-текста и ответьте письменно на следующий вопрос:

Why are plastics products very popular nowadays?

ВАРИАНТ 3

I. Перепишите и письменно переведите на русский язык следующие предложения. Помните, что объектный и субъектный инфинитивные обороты соответствуют придаточным предложениям

(см. образец выполнения I).

1. Reinforced concrete is known to be invented in France.
2. We believe this new building material has great future in the field of housing construction.
3. Reinforced concrete is the structural material to be used for erecting multi-storey buildings and skyscrapers.

II. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на перевод зависимого и независимого (самостоятельного) причастных оборотов (см. образец выполнения 2).

1. Having invented reinforced concrete our designers have got one of the strongest building materials.
2. Reinforced concrete slabs having been tested, they showed great strength.
3. Reinforced concrete showing great strength finds wide usage in building construction.

III. Перепишите и письменно переведите на русский язык следующие предложения. Обратите внимание на то, как переводятся условные предложения (см. образец выполнения 3).

1. If reinforced concrete had not been invented it wouldn't have been possible to build sky-scrapers.
2. Many building materials wouldn't have been saved, if reinforced concrete hadn't been widely used in building construction.
3. If the quantity and the distribution of reinforcement are carefully considered, high strength reinforced concrete will be produced.

IV. Перепишите и устно переведите с 1-го по 8-й абзацы текста. Перепишите и письменно переведите 1,2,3,4 и 5-й абзацы.

Пояснения к тексту

1. **reinforced concrete** • железобетон
2. **reinforcing of concrete** - армирование бетона
3. **age** • возраст (бетона)
4. **reinforcement** • арматура
5. **a sky-scraper** - небоскреб
6. **multi-storey building** - многоэтажный дом

REINFORCED CONCRETE

1. The reinforcing of concrete is known to be first introduced in France in 1861. Twenty-five years later German and Austrian engineers developed formulas for design. Between 1880 and 1890 several reinforced concrete buildings were erected in the United States. Since 1896 the increase in the amount of construction with reinforced concrete has been remarkable. Structures with reinforced concrete have become the most important building materials invented in centuries.
2. At the present time unlimited possibilities in flexibility, slenderness and aesthetic qualities of design appear to be in the hands of the creators of reinforced buildings. The reason of progress of reinforced concrete is quite evident.
3. We know reinforced concrete to be a combination of two of the strongest structural materials, concrete and steel. The resulting material has the advantages of both.
4. Concrete has poor elastic and tensional properties but it is rigid, strong in compression, extremely durable under and above ground and in the presence or absence of air and water. It increases its strength with age, it is fire resistant and suitable for any architectural or engineering forms.
5. Steel has great tensional, compressive and elastic properties but is not durable below ground or if exposed to moisture, it loses its strength with age or exposure to high temperature.
6. When strength is the most important consideration, great care must be taken to produce a concrete that will be homogeneous and as dense as possible. Homogeneity is not possible without thorough mixing. To obtain strength and density, the aggregate must be sand and gravel or crushed rock, clean and free from organic matter and carefully graded from the smallest to the largest particles.
7. An economic quantity of steel is the problem for (he designer of a

reinforced concrete building and it demands careful consideration both of the quantity and of the distribution of the reinforcement.

8. The method of the reinforcement generally used is putting in a wire mesh or system of light rods into the concrete. If reinforced concrete had not been invented it wouldn't have been possible to build multi-storey buildings and sky-scrappers.

V. Прочитайте 8-й абзац текста и ответьте письменно на следующий вопрос:

What is reinforcement?

КОНТРОЛЬНОЕ ЗАДАНИЕ №5

Чтобы правильно выполнить задание №5, необходимо повторить следующие разделы курса английского языка по рекомендованному учебнику:

1. Грамматические функции глаголов should, would.
2. Обороты с инфинитивом и причастием, равнозначные придаточным предложениям.
3. Различные значения слов: as, because of, due to, for, since, both...and, either...or, neither... nor.

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 1 (К УПР.3)

As

1. I have done the work, **as it was** Я сделал работу, как это required. required требовалось.
2. **As** there were many new words Так как в тексте было много in the text I used a dictionary. новых слов, я пользовался словарем.
3. **As to (as for)** the computer it Что касается компьютера, то can handle enormous quantity of он может в секунду обработать data per second. огромное число данных.
4. Electricity is a source of light as Электричество - это источник well as of heat. света, а также тепла.

Because, because of

1. We use these films **because** they possess superior properties.

Мы используем эти пленки, так как они обладают превосходными свойствами.

2. The engineers prefer electronic Devices **because of** their reliability,

Инженеры предпочитают электронные приборы вследствие их надежности.

Due to

1. Plastics are in wide use **due to** their light weight.

Пластики находят широкое применение благодаря их легкому весу

For

1. **For** a long time wood was being applied for housing construction,

В течение долгого времени дерево использовалось для строительства домов

2. We could not translate this text **for** it contained unknown terms.

Мы не могли перевести этот текст, так как он содержал неизвестные термины

Since

1. Man used wood for construction **since** ancient times для строительства.

С древних времен человек использовал дерево

Both...and

1. Electronics helps us to study **both** the atomic nucleus **and** elementary particles.

Электроника позволяет нам изучать атомное ядро, так и элементарные частицы.

Either...or

1. Motors run on **either** direct **or** alternating current

Моторы работают или на постоянном или на переменном токе.

Neither...nor

1. There is **neither** oil **nor** coal in this region

В этом районе нет ни нефти, ни угля.

ВАРИАНТ 1

I. Перепишите предложения и обращая внимание на различные значения глаголов **should** и **would**.

1. It would take much to carry out complicated calculations without a

computer.

2. If you started to print, most of the fonts would be loaded into memory.

3. If a selected font was not available the printer would beep.

II. Перепишите предложения и переведите их на русский язык, принимая во внимание что инфинитивные и причастные обороты соответствуют придаточным предложениям.

1. The computers having been worked out, many important problems could be solved.

2. We wish an electronic machine to be used everywhere where the calculations are to be made.

3. This is known to be done only with the help of computers.

4. To carry out the most complex computations the «Electronic brain» saving man's labour should be used.

5. The data obtained can be again processed by other operations.

III. Перепишите предложения и переведите их на русский язык, обращая внимание на различные значения выделенных слов.

1. *Due to* computers all higher mathematical calculations may be reduced to four operations: addition, subtraction, multiplication and division.

2. By itself a computer could *neither* solve, *nor* translate.

3. *As* has already been mentioned the computers are widely used in many branches of science and industry.

IV. Прочтите и устно переведите на русский язык с 1-го по 5- и абзацы текста. Перепишите и переведите письменно 2 и 3 абзацы текста.

ELECTRONIC BRAIN

1. A high speed electronic computer can carry out several thousands of arithmetical operations in one second. A calculation, which would have taken several years of intense human work in the past, is now done in a few minutes or hours. A number of various complicated problems have already been solved with the help of computer.

2. The principle of this wonderful machine lies in counting electric impulses. Numbers are represented as a sequence of such impulses, and a radio-technical scheme counts them carrying out addition,

subtraction, multiplication and division, all higher mathematical calculations being reduced to these four operations.

3.If we introduce into the scheme first one number and then another, the result will yield the sum of these two numbers. Subtraction is reduced to the addition of negative numbers. Multiplication is done by repeated additions the necessary number of times, a division- by repeated subtraction.

Electronic machines work according to a program, prepared in advance, which determines the sequence of operations. They have a very efficient electronic «memory» which stores the initial data, the intermediate numbers and final results as well as the working commands given to the machine.

4.The electronic machine can also be used for controlling automatic production. Signals given by measuring instruments and controlling devices are introduced into the machine which sends the necessary commands to the control panel according to the program.

5.This machine can also be used to make translations from one language into another by converting words into figures and vice versa*.

All the instruments invented up to now have served to save man's labour. But it is electronic computers the importance of which cannot be underestimated, that come to the help of the human brain, thus opening up boundless possibilities. *vice versa (лат.)- наоборот.

V. Прочтите 4- и абзац текста и вопрос к нему. Из приведенных ниже вариантов укажите номер, содержащий ответ на данный вопрос

Where are signals introduced?

- 1) into the control **panel**
- 2) into the machine
- 3) into a program

ВАРИАНТ 2

I. Перепишите предложения и переведите их на русский язык, обращая внимание на различные значения глаголов should, would.

- 1.The calculation should be made on the basis of the formula derived.
- 2.The computation would not have been carried out but for a high speed electronic computer.
- 3.To make translation with the help of computers English and Russian

words should be converted into figures.

II. Перепишите предложения и переведите их на русский язык, принимая во внимание, что инфинитивные и причастные обороты соответствуют придаточным предложениям.

1. Computers are considered to free man from the hard labour of keeping in memory initial figures, intermediate data and final results.
- 2.We want all the problems of greatest importance not to remain unsolved.
- 3.Being smaller in size and simpler in operation this computer gained popularity very quickly.
4. To carry out the most complex computations the "Electronic brain" saving man's labour should be used.
5. The data obtained can be again processed by other operations.

III. Перепишите предложения и переведите их на русский язык, обращая внимание на различные значения выделенных слов, 1. No wonder that many problems of exceptional importance remained unsolved *for* a long time.

- 2.*Since* the first electronic computer went into operation their importance *for* science and engineering became at once evident.
- 3.*As for* the computer, it saves man's labour by carrying out the most complex computations.

IV. Прочтите и устно переведите на русский язык с 1-го по 5- и абзацы текста. Перепишите и письменно переведите 2,4 и 5- и абзацы.

Пояснения к тексту:

- 1.**to go into operation**- начать действовать.
- 2.**at once**- сразу.
- 3.**to be of great help**- оказывать большую помощь.
- 4.**either...or**- или...или.

NEW METHODS OF COMPUTATION

1. Accurate measurement and exact computation are the bases of modern engineering and scientific research, therefore every engineer must determine accurately (the amount of any change that his material has to undergo in different conditions, either in arctic cold or tropical heat.

2. Every scientist will make numerous computations before he can say that the results of his experiments are correct. Yet there exist complex computations in science and engineering which the scientists are unable to make because they are too long and too complicated. Here is an example which can illustrate how much time some of them may take. For the accurate forecasting of the weather meteorologist must make about one million operations, in order to be able to forecast the weather one day in advance, he has to work with a numerous group of assistants for ten days.

This is not the only example; there are many others.

3. When the first electronic computers went into operation in 1945 their importance for science and engineering became at once evident. They can work very quickly and make no errors. Any computer is a machine that gives information. This is the only thing a computer does. A computer cannot create any new information, though it may transform it into a more useful form. By analogy we may call a computer a mathematical translator in the same sense that a translator takes information in some language and translates it into another.

4. We may divide electronic computers into two groups: machines that can measure and those that can count. The latter can add, subtract, multiply and divide. Such machines are to do any operation which we can reduce to arithmetic. Besides they must be able to combine many problems and take them in any order.

5. Here is an example for illustration: chemists presented to the computer a complicated problem which consisted of about 400,000 arithmetic operations. The machine worked out the problem in a few hours. The operations of the computer appear so simple that one of the inventors says: «the machine does practically nothing, but it does «nothing» very well».

V. Прочтите 5- и абзац текста и следующий вопрос. Из приведенных ниже вариантов укажите номер правильного ответа.
Where do we widely use computers?

1. in agriculture
2. at the lessons
3. in science and engineering

ВАРИАНТ 3

I. Перепишите предложения и переведите их на русский язык, обращая внимание на различные значения глаголов *should*, *would*.

1. The ending number indicates which slot the front cartridge should be placed.

2. All scientific and technical problems can be solved without a computer but it would require millions of arithmetical operations.

3. It should be added that connecting two or more machines in parallel makes it possible to accomplish still more complicated tasks.

II. Перепишите предложения и переведите их на русский язык, обращая внимание на то, что инфинитивные и причастные обороты соответствуют придаточным предложениям.

1. Some materials undergo chemical changes when subjected to heat and pressure.

2. Our electronic industry is known to produce computers which find various applications.

3. We suppose the computer to do the work with lightning speed.

4. The students having computers, the work did not last long.

5. To obtain materials of greater strength with higher melting point and particular electrical properties scientists used X-rays irradiation.

III. Перепишите предложения и переведите их на русский язык, обращая внимание на различные значения выделенных слов.

1. You can choose *as* many printers or cartridges *as* you like, one at a time.

2. These computers are widely used *due to* their high quality characteristics.

3. *For a long* time **man had to make** numerous calculations.

V. Прочтите и устно переведите на русский язык с 1-го по 5- и абзацы текста. Перепишите и переведите письменно 2 и 3- и абзацы текста.

THE COMPUTER IN DESIGN ENGINEERING.

1.Design Engineering has been variously described as a science, an art, and a profession. It has been acknowledged to require creativity, knowledge, skill, inspiration, experience, and talent. It has also been acknowledged to require a lot of plain hard work.

2.A new force however appeared on the engineer's horizon, the computer. Like any new concept it was at first shunned* by some and welcomed openly by others. Engineers have taken the lead in pushing back the boundaries of computer knowledge and computer usefulness, and gradually the computer has become an accepted tool in most circles, and in some a precision instrument for the extension of the engineer's own talent. With the speed, accuracy and marvelous capacity for work of the computer some pioneering engineers in various parts of the country have used the computer effectively, even brilliantly, in their design engineering profession.

3.By extrapolating from the present role of the computer in design engineering, an estimate of the future role can be developed. This extrapolation of use, coupled with new hardware development and the pioneering efforts of various corporations, universities, and individual engineers throughout the country, points towards an increasingly close manmachine relationship between the design engineer and the computer.

4.The engineering computer is undoubtedly able to communicate automatically with other computers in remote locations. Devices are available today that let computers «talk» to one another over telephone lines. It is not difficult to imagine that the computer in the Californian plant of a large company might recognize (hat information requested of it is contained in the memory of the computer in the New York plant, automatically call up the New York location, request the information, receive it, and relay it to the waiting engineer in a matter of seconds.

5.A great deal of progress has been made by design engineers channeling the raw power of the computer in the effective design tool. Through the combined efforts of a multitude of industrial engineers the power of the computer has been transformed into an effective, efficient extension of the engineer's own skill, talent and capacity.

*design engineering- проектирование *shun - избегать

V. Прочтите 4- и абзац текста и вопрос к нему. Из приведенных ниже вариантов укажите номер, содержащий ответ на данный вопрос:

What is the engineering computer able to do?

- 1.to add the connection
- 2.to require some information
- 3.to communicate with other computers

ВАРИАНТ 4

I. Перепишите предложения и переведите их на русский язык, обращая внимание на различные значения глаголов should, would.

- 1.In most cases the laser is like an optical knife which would be more accurate, less painful, and faster than scalpel.
- 2.These instruments are called lasers and they should be used for cutting, drilling, welding and other treatment of materials.
- 3.If the material used was a gas, the device would be called a gas maser

II. Перепишите предложения и переведите их на русский язык, принимая во внимание, что инфинитивные и причастные обороты соответствуют придаточным предложениям.

1. The discovery of laser opens up a completely new frequency territory to be explored.
- 2.Lasers are known 10 have found wide application in medicine.
- 3.The laser being applied to metal working, precision welding and cutting became possible.
- 4.Lasers appear to have wide application in the field of aviation safety.
5. While drilling the tooth the laser destroys the dark decayed spots.

II. Перепишите предложения и переведите их на русский язык, обращая внимание на различные значения выделенных слов.

- 1 .In the field of chemistry lasers are used *either* for diagnostics purposes *or* for producing chemical changes.
- 2.*As for* the laser it is also used in studying the properties of various substances in radio engineering, medicine, biology.
- 3.Lasers were actually first called optical masers *since* light is really an electromagnetic radiation.

4. Although the principle of operation is the same for *both* lasers and masers, the laser is more suitable for generation of energy.
5. A laser beam, *because of* its highly directional nature, can be focused to achieve very high power densities.

IV. Прочтите и устно переведите на русский язык с 1-го по 5-й абзацы текста.

LASERS

1. Laser is an acronym formed from light amplification by stimulated emission of radiation. Lasers generate energy by using the electrons bound to the atoms. Lasers can be considered as generators of energy that operate in a very high frequency region that use the properties of bound electrons rather than free electrons.
2. The discovery of the lasers opens up a completely new frequency territory to be explored. Besides its operating frequency other features of the laser make it a field where many scientists and engineers are working on ideas and applications that just could not be previously attempted. The thought of completely new applications, along with improvements in other applications, is what has generated the excitement over the lasers.
3. Experiments have shown that the laser can be used effectively for welding. By passing the laser beam through a lens system an extremely high energy density can be focused in a very small area. The laser appears to be most useful for spot welding, with (the electronic beam welder). The application of the laser to metal working has made possible precision welding and cutting that previously was performed only by complicated electron beam devices. Eventually the laser will be safer, cheaper, quicker and easier.
4. The laser also has some radar application. An interesting application of lasers appears to be in the field of aviation. A serious hazard to flight is clear air turbulence (CAT). Small particles of dust and ice crystals are concentrated in the turbulent clear air. They are too small to reflect a normal radar wave, but they would reflect the much shorter wave length of a laser beam. Thus an airplane equipped with a laser radar could detect CAT from a safe distance.
5. The powerful beam emitted by the laser shows promise in many

medical applications. Exploration is being conducted in such fields as tooth drilling, eye surgery, cancer treatment. In most of these cases the laser is like an optical knife which would be more accurate, less painful, and faster than the scalpel.

Notes

An acronym- (лингв.) акроним

Light amplification by stimulated emission of radiation- усиление света в результате вынужденного излучения

V. Прочтите 4-й абзац текста и вопрос к нему. Из приведенных ниже вариантов укажите номер, содержащий ответ на данный вопрос.

Why should an airplane be equipped with a laser radar?

1. to detect CAT from a safe distance
2. to struggle with air wave
3. to make the flight easier

ВАРИАНТ 5

- I. Перепишите предложения и переведите их на русский язык, обращая внимание на различные значения глаголов should, would.
1. The application of digital computers should include all forms of automatic control in science and industry.
 2. If the computers had been introduced in human activity in the 19th century the technological processes would have been developed quicker.
 3. Without computers further advance in industry would be impossible.
- II. Перепишите предложения и переведите их на русский язык, принимая во внимание, что инфинитивные и причастные обороты соответствуют придаточным предложениям.
1. Machine translation is known to have become another field of computers use.
 2. The computer's electronic memory recorded all the operator's commands, the picture of deviations from the required parameters being produced.
 3. To prepare teaching programmes linguistic materials should be computered for teaching purposes.
 4. Having worked out computers, scientists solved many important
 5. When translating a text the translation done by a computer.

III. Перепишите предложения и переведите их на русский язык, обращая внимание на различные значения выделенных слов.

1. *As for* the computer it can handle enormous quantity of data per second.

2. Computers are used *both* for scientific research *and* in language teaching.

3. The translation is done *either* by a computer *or* by a man.

4. *Due to* their large storage capacity and response computers of the last generation make scientific research more efficient and effective.

5. *Because* of the necessity to conduct fast technical calculations, fast acting electronic computers came into practical application in atomic technique, aviation and cosmonautics.

IV. Прочтите и устно переведите на русский язык с 1-го по 5-й абзацы текста. Перепишите и переведите письменно 2 и 3 абзацы текста.

COMPUTERS

1. When Charles Babbage, a professor of mathematics at Cambridge University invented the first calculating machine in 1812 he could hardly have imagined the situation in which we find ourselves today. Nearly everything that a man does in a modern world is helped or even controlled

by computers, the complicated decedent of this simple machine.

2. Computers are used nowadays for different purposes. Computers have been already introduced in about 2000 spheres of human activity. One of the scientists noticed that a man who cannot operate a computer is comparable with a man of the beginning of the 20th century who could neither read nor write.

3. The necessity to conduct extremely fast technical calculations primarily in atomic technique, in aviation, rocketry and cosmonautics has led to The development of fast acting electronic computers. Computers are widely used in such fields as economics, planning and management of production. They can pay wages, reserve seats on planes, work out tomorrow's weather and even play chess, write poetry or compose music. One should remember that the wide use of computers signifies a further advance in industry.

4. In philology computers are already used for several decades. They are used both for the intensification of scientific research and in language

teaching. To prepare teaching programs linguistic material should be computered for teaching purposes.

5. Another field in which (the use of computers has become traditional is machine translation. The history of computer translation dates back to (the 40s of the 20th century. From that time on computer translation is developed both in our country and abroad. To translate a text a translator either relies on a computer using automatic dictionaries or participates in the process of translation done by a computer.

V. Прочтите 4 абзац текста и вопрос к нему. Из приведенных ниже

вариантов укажите номер, содержащий ответ на данный вопрос: What should be done to prepare teaching programs?

1. to use special dictionaries

2. to organize material in a special way

3. to computer linguistic material

АНГЛИЙСКИЙ ЯЗЫК

Методические указания и контрольные задания
для студентов ссузов