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КОНТРОЛЬНЫЕ РАБОТЫ ПО ИНОСТРАННОМУ (АНГЛИЙСКОМУ) ЯЗЫКУ

**Методические указания к контрольной работе
для студентов заочной формы обучения**

Рекомендованы учебно-методической комиссией
специальности 21.05.04 «Горное дело»
в качестве электронного издания для самостоятельной работы

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Контрольные работы по иностранному языку (английский):
методические указания к контрольной работе [Электронный ресурс] для
студентов специальности «Горное дело», специализации
«Маркшейдерское дело»; «Подземная разработка пластовых
месторождений»; «Открытые горные работы»; «Обогащение полезных
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Целью методических указаний является организация самостоятельной работы студентов заочной формы обучения, направленной на формирование у них такой общекультурной компетенции, как владение одним из иностранных языков для изучения зарубежного опыта в профессиональной деятельности, а также для осуществления контактов на профессиональном (элементарном) уровне.

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Предисловие

Цель указаний – формирование у студентов такой общекультурной компетенции, как владение одним из иностранных языков для изучения зарубежного опыта в профессиональной деятельности, а также для осуществления контактов на профессиональном (элементарном) уровне.

Упражнения и задания, представленные в контрольных работах, направлены на обеспечение практического владения студентами английским языком на уровне умения самостоятельного чтения литературы по специальности. Сопутствующая задача – обеспечить корректировку и выравнивание уровня знаний, умений и навыков студентов заочной формы обучения, приступающих к изучению иностранного языка в вузе.

Проработка практических материалов данных указаний обеспечивает необходимую и достаточную базу для перехода к работе с текстами по широким вопросам будущей профессиональной деятельности студента.

1. Каждая контрольная работа представлена в пяти вариантах. **Номер варианта** определяется по последней цифре шифра зачетной книжки студента. Если шифр оканчивается на 1 или 2, вариант – № 1; на 3 или 4 – №2; на 5 или 6 – № 3; на 7 или 8 – № 4; на 9 или 0 – № 5.

2. Контрольные работы распределяются по семестрам следующим образом:

<i>Семестр</i>	<i>Номер контрольной работы, подлежащей выполнению</i>
I	Контрольная работа №1
II	Контрольная работа №2

2. Работы выполняются **в письменном виде** и представляются в деканат за месяц до начала сессии. На обложке тетради должны быть четко представлены следующие данные: название языка (английский); номер и вариант контрольной работы; фамилия, имя, отчество (студента); группа и шифр.

3. Работы выполняются на развернутых листах (первая страница остается чистой). По краям обеих страниц оставляются поля для замечаний и методических указаний рецензента.

Образец расположения материала контрольной работы

Поля	Левая страница	Правая страница	Поля
	Контрольная работа №1		
	№ задания и его формулировка		
	Английский текст	Русский текст	
	I.	I.	
	Необходимые по заданию объяснения		
	II.	II.	

4. Работы с пометой рецензента «К защите» остаются на кафедре и дорабатываются студентом во время сессионных занятий под руководством преподавателя. Исправление ошибок осуществляется на основе замечаний рецензента с помощью

необходимого грамматического раздела учебника или самоучителя и словарей.

5. Работы с пометой «Незачет» возвращаются студенту до начала сессии на переработку. Работа, выполненная без соблюдения предъявляемых требований или не полностью, возвращается без проверки.

6. Экзамен по дисциплине «Иностранный язык» (I семестр) состоит из следующих заданий:

1. *Письменный перевод текста по изученной тематике с использованием словаря (1000-1200) п.зн. Время подготовки: 45 минут.*

2. *Аннотация (на русском или английском языке) текста по изученной тематике без словаря (2000-2500) п.зн. Время подготовки 15 минут.*

3. *Устное изложение или беседа по одной из пройденных тем (15-20 предложений).*

- *О себе*
- *О своей семье*
- *КузГТУ*
- *Высшее образование в России и в странах изучаемого языка*

7. Зачет по дисциплине «Иностранный язык» (II семестр) ставится по итогам защиты контрольной работы.

КОНТРОЛЬНАЯ РАБОТА № 1

Вариант 1

I. Запишите и переведите предложения, обращая внимание на степени сравнения прилагательного и наречия.

1. The more hazardous is an occupation; the more important is safety aspect of an industry.

2. The greatest advantage of this extraction technique is that it is much cheaper than the previous one.

3. The most difficult thing in their experiment was to keep the temperature constant.

II. Запишите и переведите предложения, обращая внимание на значение неопределенных и отрицательных местоимений.

1. Any of scientists can take part in this important experiment.
2. Only some years ago there were no industrial enterprises in this region.
3. These devices are very efficient but they have some drawbacks.

III. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите, обращая особое внимание на перевод пассивных конструкций.

1. Surface mining and deep underground mining are the two basic methods of mining.
2. Coal is greatly valued for its energy content.
3. The development of this hypothesis was undertaken by numerous investigators.
4. The properties of this mineral are affected by many natural phenomena.

IV. Запишите предложения и подчеркните в них модальный глагол или его эквивалент. Переведите.

1. Statistical analysis is used when the facts can be presented in numbers.
2. The goal of mining is to obtain coal from the ground.
3. As the construction of the open-pit was an international project, scientists from different countries had to take part in the experiments.
4. The foreman is the person who gives instructions how the work is to be done.

V. Запишите и переведите предложения, обращая внимание на разные значения слова *it*.

1. It was important to test the properties of the material before using it as a protective coating.
2. These substances remain in the air making it harmful for environment.
3. It is light weight of this metal which made it possible to use it for roof support.

VI. Запишите и переведите предложения, обращая внимание на бессоюзные дополнительные и определительные придаточные предложения.

1. Everyone knows coal produces heat.
2. The device the engineer is speaking about will be used for air ventilation.

VII. Прочитайте весь текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 1, 2 и 3.

ENVIRONMENTAL PROBLEMS

1. Overpopulation, pollution and energy consumption have created such planet-wide problems as massive deforestation, acid rains and the global warming connected with the 'greenhouse effect'.

2. The seas filled with poison – industrial and nuclear wastes as well as chemical substances – are in danger. The Mediterranean Sea is already nearly dead, the next are the North and the Aral ones. Scientists say every ten minutes one kind of animal, plant or insect dies out for ever. If nothing is done, one million species that are alive today will disappear in twenty years from now, nothing will be able to live in them.

3. A very serious problem is air pollution. We know industrial enterprises emit tons of harmful substances. Being the main reason for the greenhouse effect and acid rains these emissions have disastrous consequences for the whole planet. Of special danger is carbon dioxide (Co₂) working as follows: it lets the sunlight in but does not let the heat out. In Cairo even to breathe the air is life threatening. One may say the same of Mexico City and 600 cities of the former Soviet Union. An even greater environmental threat is presented by atomic power stations. Everyone knows the consequences of the Chernobyl and other atomic stations' tragedies.

4. The poisoning of the Earth's land, air, and water results in the fast-spreading disease of civilization. It is probably not less dangerous than wars, earthquakes and floods; it is one of history's greatest dangers to human life. If present trends continue for the next several decades, our planet will become uninhabitable. Understanding that environmental problems are their own problems people are beginning

to join and support various international organizations and green parties.

VIII. Просмотрите 4-ю часть и ответьте на вопрос: *Why does the author compare the planet's pollution with wars, earthquakes and floods?* Запишите и переведите вопрос и ответ.

Вариант 2

I. Запишите и переведите предложения, обращая внимание на степени сравнения прилагательного и наречия.

1. Rational use of natural resources is the most vital problem of the country's national economy.

2. The heavier the equipment, the more difficult to install it.

3. The old device was more valuable for our research than the new one.

II. Запишите и переведите предложения, обращая внимание на значение неопределенных и отрицательных местоимений.

1. Nobody knows anything about this problem.

2. Will you carry out any experiment in our research laboratory this year?

3. We invited some skilful workers for the construction of the new workings.

III. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите, обращая особое внимание на перевод пассивных конструкций.

1. Many scientists from different countries entered the new field of research.

2. Automation is being increasingly used in all branches of mining.

3. It is not surprising that every great discovery is much spoken about.

4. High speed electronic machines have introduced great changes in making industry-purpose calculations.

IV. Запишите предложения и подчеркните в них модальный глагол или его эквивалент. Переведите.

1. Our laboratory has to investigate a series of accidents that have taken place in the locality within the last three months.

2. Every future miner should strictly follow safety patterns.

3. This company is able to expand production to 32 million tons by 2020.

4. Both surface and deep underground mining methods can be used in this region.

V. Запишите и переведите предложения, обращая внимание на разные значения слова *it*.

1. Surface mining accounts for around 80 percent of production in Australia. It is 67 percent of total output.

2. It is obvious that we have to do all possible to reduce atmospheric pollution.

3. It was the Industrial Revolution which promoted the application of coal to power steam engines.

VI. Запишите и переведите предложения, обращая внимание на бессоюзные дополнительные и определительные придаточные предложения.

1. The properties of materials the designers use for these technologies do not react to temperature changes.

2. We know some geological conditions are considered dangerous for mining.

VII. Прочитайте весь текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 2, 3 и 4.

WATER AND AIR POLLUTION

1. We cannot live without water and air, the pollution of which is the factor destroying the environment in big cities. Even Paris where there is no heavy industry is to protect its water resources. The problem is being solved by building pollution-control stations. To clean the water from admixtures and gases before it goes into the water supply systems both mechanical and biological means have to

be used. The atmosphere is polluted mainly by heating systems and cars. Smoke from factories and cars in combination with natural fog forms smog which is recognised as a potential cause of death.

2. It is known that factories and transportation have to burn huge amounts of fuel: billions of tons of coal and oil are consumed around the world every year. When burning these fuels throw off smoke and other by-products into the atmosphere. The accumulation of pollution is a serious threat to humans and the environment. To protect the air it is necessary to switch industry to more clean fuels than coal or oil.

3. Some scientists are of the opinion that at present the world's number one polluter is the car. The production of one car results in 1,500 kilos of waste and 75 million cubic metres of polluted air. Taking into account that there are now about 500 million cars on Earth it is impossible to estimate a quantity of pollution. Even when you throw the car away it is still polluting the earth with dangerous metals (like cadmium) and other chemicals. Moreover, to drive a car you need roads, motorways and car parks the construction of which also produces a large quantity of pollution.

4. A wide understanding of the pollution threat dates from 1950s but still little has been done by man in the area of environmental protection.

VIII. Просмотрите 1-ю часть и ответьте на вопрос: *Is the protection of air as important for man as that of water and why?* Запишите и переведите вопрос и ответ.

Вариант 3

I. Запишите и переведите предложения, обращая внимание на степени сравнения прилагательного и наречия.

1. The more scientists work in studying the problem, the more reliable are the research results.

2. When coal seams are nearer the surface, it may be economical to extract it using open cut.

3. At present coal is one of the cheapest sources for power generation.

II. Запишите и переведите предложения, обращая внимание на значение неопределенных и отрицательных местоимений.

1. According to Albert Einstein nothing can move faster than light.

2. Any industry needs modern machinery to improve its production.

3. Some 250 scientists from more than 40 countries gathered for this international conference.

III. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите, обращая особое внимание на перевод пассивных конструкций.

1. Lectures in up-to-date mining techniques were always attended by a great number of students and young scientists.

2. Since the 1880s, coal has been widely used to generate electricity.

3. Coal mining has had a lot of developments over the recent years.

4. They will have completed the construction of the deep-level tunnel by autumn.

IV. Запишите предложения и подчеркните в них модальный глагол или его эквивалент. Переведите.

1. As a skilled worker he could easily start and stop every kind of engine.

2. This research work may require much money and time.

3. Such instruments were to be used to make measurements and to express these measurements in physical units.

4. Engineers will have to use new equipment to improve operation.

V. Запишите и переведите предложения, обращая внимание на разные значения слова *it*.

1. When the capacity had been increased it exceeded the technological limits.

2. This deposit was discovered in 1938. It is the deep lying seam which contains a great amount of coal.

3. It was necessary to review some aspects of the problem once again.

VI. Запишите и переведите предложения, обращая внимание на бессоюзные дополнительные и определительные придаточные предложения.

1. We were told the experiments with this machinery had been completed successfully.

2. Mines and other industrial enterprises pollute the air and water we cannot live without.

VII. Прочитайте весь текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 1, 4 и 5.

WATER POLLUTION

1. City growth has always concentrated in the areas near some water supply – rivers, canals, lakes, seas and oceans – because man cannot live without water. The greater is the number of population, the more water it needs. The increase in water consumption on the planet may result in a water shortage in the near future.

2. Since the beginning of civilization, water has been used to carry away different kinds of wastes and garbage. Water has the capacity to dissolve many substances. When dissolved these substances are less dangerous to the environment than metals or plastics. Nevertheless, remaining in the water they can make it poisonous for many forms of life.

3. Huge consumers and polluters of water are industry and agriculture. It has been estimated that about 85 per cent of the water is consumed by industry. To manufacture a ton of paper it needs 100, and a ton of synthetic fibers – from 2,500 to 5,000 cubic meters of water.

4. Industrial and agricultural development is accompanied with the increasing amount of waste materials. It should be mentioned that rivers and lakes are also used as transportation routes, fishing and recreation areas. As a result, more and more waterways are becoming polluted. Lakes are especially affected by pollution because they cannot cleanse themselves as rapidly as rivers or oceans. The wastes are the “food” for water plants which, when growing, reduce the amount of open water and result in drying up of a lake.

5. People have long recognized that we all depend upon the earth environment. But to understand the problem is not to solve it. So, some decisive measures have to be taken to protect the earth's wonderful and complex environment system which is so easily damaged by man's activity.

VIII. Просмотрите 2-ю и 3-ю части и ответьте на вопрос: *How many sources of water pollution are mentioned there and what are they?* Запишите и переведите вопрос и ответ.

Вариант 4

I. Запишите и переведите предложения, обращая внимание на степени сравнения прилагательного и наречия.

1. The largest coal field in the country has been explored in the beginning of the last century.

2. These devices are the most effective instruments for studying geological conditions.

3. The lower the level of labour force qualification, the less efficient is mining operation.

II. Запишите и переведите предложения, обращая внимание на значение неопределенных и отрицательных местоимений.

1. We needed some 20 minutes to check and adjust the measuring instrument.

2. Anybody can explain you the operational principles of that apparatus.

3. Any skilled operator can easily start and stop the conveyor.

III. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите, обращая особое внимание на перевод пассивных конструкций.

1. Last month the workers fulfilled the plan ahead of schedule.

2. The delegation of German miners will come to our region to share experience with our workers.

3. This unique apparatus has been invented by one of our engineers.

4. By 1912, surface mining was conducted with steam shovels designed for coal mining.

IV. Запишите предложения и подчеркните в них модальный глагол или его эквивалент. Переведите.

1. The mechanical shop of our plant was to be reconstructed.
2. He is a skilful worker who can operate practically any type of mining equipment.
3. Everyone working underground should know safety rules.
4. In view of reconstruction works old equipment will have to be replaced within a month.

V. Запишите и переведите предложения, обращая внимание на разные значения слова *it*.

1. It is the country's natural wealth that determines the structure of its national economy.
2. It was proved that industrial waste has a dangerous effect on the environment.
3. When the temperature had been measured it was written down in the table.

VI. Запишите и переведите предложения, обращая внимание на бессоюзные дополнительные и определительные придаточные предложения.

1. Many problems we are solving today have been caused by man's economic activity.
2. Scientists believe this protective coating will withstand high temperature underground.

VII. Прочитайте весь текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 1, 2 и 4.

SOURCES OF ATMOSPHERIC POLLUTION

1. There are natural and artificial sources of atmospheric pollution. The former include active volcanoes, dust storms, forest fires and some other factors. Artificial sources appeared due to the development of cities and industry. Because of its heating system

every industrial enterprise as well as automobile pollutes the atmosphere and influences the local climate. Scientists have established that the larger is the population of an urban area, the greater is the level of air pollution.

2. Any industrial process is accompanied with emission of dangerous gases and industrial dust. Daily emission of an electric power plant, for example, burning 2,000 tons of coal a day, is about 400 tons of SO₂ gas. One can name such great air polluters as thermal power stations, metallurgical, chemical, cement and many other plants.

3. A very serious source of atmospheric pollution is the automobile. Being a very convenient means of transportation, the automobile at the same time emits huge amounts of fumes. To make them less toxic special measures have to be taken. We know engineers are working at such problems as development of more efficient carburetors and less toxic fuels, neutralization of fumes, development of electric automobiles and others.

4. The problem of atmospheric pollution by radioactive elements dates back to the atomic bombs dropped on the Japanese cities (1945). Although released into the atmosphere, the radioactive products fall on the earth, spreading over many kilometers. That is why we face a global "Man and the Biosphere" problem which cannot be solved by the efforts of any one country.

VIII. Просмотрите 3-ю часть и ответьте на вопрос: *What are the main advantage and disadvantage of the automobile?* Запишите и переведите вопрос и ответ.

Вариант 5

I. Запишите и переведите предложения, обращая внимание на степени сравнения прилагательного и наречия.

1. A wider application of computers makes our labour easier and more efficient.

2. The newer the equipment, the higher is labour productivity.

3. This book gives the most detailed explanation of different mining techniques.

II. Запишите и переведите предложения, обращая внимание на значение неопределенных и отрицательных местоимений.

1. Will anybody analyze these data in your scientific laboratory?
2. Any industrial enterprise should provide safe labour conditions for workers.
3. These researchers are doing some important work at our mine.

III. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите, обращая особое внимание на перевод пассивных конструкций.

1. The commission will consider this offer carefully before accepting it.
2. Mining at large scale requires the use of draglines, trucks, conveyor, jacks and shearers.
3. Coals occurring below 100 m are usually deep mined.
4. The results of this research work were often referred to by the professor.

IV. Запишите предложения и подчеркните в них модальный глагол или его эквивалент. Переведите.

1. You should try to find out as many facts as possible about history of surface mining.
2. The team of experts is to analyze the present situation connected with our city's ecological problems.
3. The young engineer was allowed to apply the mobile equipment in his field experiments.
4. This production process had to be further improved by new technical means.

V. Запишите и переведите предложения, обращая внимание на разные значения слова *it*.

1. It is said that the first mines were organized in Ancient Greece some 1,500 years ago.
2. It is China which leads the world in coal extraction.
3. Longwall mining is the principal method of mining. It accounts for about 50 percent of underground production.

VI. Запишите и переведите предложения, обращая внимание на бессоюзные дополнительные и определительные придаточные предложения.

1. It is well-known electronics has made great progress over the last decades.

2. Amount of the pollutants the enterprises throw into air depends on the quality of purifying installations.

VII. Прочитайте весь текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 1, 2 и 3.

RATIONAL USE OF NATURAL RESOURCES

1. The problem of rational use of natural resources is closely connected with environmental protection. Today industrially developed countries extract about 30 tons of minerals a year for each person, but only 1.0-1.5 per cent of them are consumed in different products. So, man's economic activity results in huge amounts of wastes polluting the atmosphere, water resources, soil.

2. Further increase in world population needs the development of industry which is impossible without development of new deposits of natural resources. As we deplete the existing deposits, we begin to exploit the deeper ones, those lying at greater depths of the earth. Scientists are working at the technical aspects of their development. But one should remember that the exploitation of one resource must not affect and damage the others.

3. To meet our needs new materials are created by industry every year. According to the statistics 40,000 chemical substances produced are dangerous for the human organism. New chemicals and types of energy as well as physical radiations give rise to new diseases. Moreover, the production of each new substance is accompanied by new wastes.

4. To decrease these wastes is, first of all, to improve the efficiency of using natural resources. Everyone knows that coal, oil and gas are not only energy sources but raw materials for valuable chemicals. Oil is used to produce petrol, kerosene, masut, paraffin and other substances. Natural gas is a raw material for plastics and

fertilizers. Thus, we are to produce as many different substances from each mineral as possible.

5. Rational use of natural resources providing their conservation is an integral part of the society's development. A huge work has been done in this direction but still more is to be done.

VIII. Просмотрите 4-ю и 5-ю части и ответьте на вопрос: *What should be done to achieve "rational use" of natural resources?* Запишите и переведите вопрос и ответ.

КОНТРОЛЬНАЯ РАБОТА № 2

Вариант 1

I. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите.

1. Great efforts have been undertaken in the area of the environment protection.

2. They could not solve this complex problem without applying digital computers.

3. The development of automatic control systems is being paid much attention to.

4. The worker was told to increase the pressure up to 25 atmospheres.

II. Запишите и переведите предложения, обращая внимание на функцию инфинитива (Infinitive).

1. Throughout human history man has invented machines and techniques to make mining easier and safer.

2. To explain this process the engineer was to demonstrate some schemes, tables and diagrams.

3. To reduce pollutants from enterprises, industry was forced to change combustion processes and to add controllers.

4. The properties of coal to be extracted in the region are being carefully studied.

III. Перепишите и переведите предложения, содержащие субъектный и объектный инфинитивные обороты, инфинитив в функции определения.

1. These electronic instruments are supposed to be able to solve complex logical problems.

2. Long ago researchers believed minerals to be an immense and inexhaustible source of energy.

3. The coke to be produced at our plant will be bought throughout the country.

IV. Запишите предложения. Выпишите из них причастия, укажите их вид (Participle I или Participle II) определите их самостоятельную функцию (определение или обстоятельство). Переведите.

1. The students studying at Kuzbass Technical University are to have practical training at mines and other enterprises.

2. When asked about the plan the chief engineer said that it had been fulfilled in time.

3. Working on the device in the laboratory, the engineers were regularly testing it at the mine.

4. Advanced techniques used in mining open wide possibilities for the automatic control.

V. Перепишите и переведите предложения, содержащие зависимый и независимый (самостоятельный) причастные обороты.

1. When extracted coal is transported to the surface.

2. Various characteristics of the mineral stratification having been discovered, it was possible to determine the method of extraction.

3. Progress in the development of industrial robotics has been so rapid that today electronics is applied in many mining processes.

4. Excavating minerals by means of heavy machinery industrialists should pay attention to nature recovery.

VI. Перепишите и переведите предложения, содержащие условные предложения и сослагательное наклонение.

1. A part of the fire will be converted into carbon monoxide if there is no enough amount of air.

2. If technological advancements had not been made coal mining would not have been as productive as it is today.

3. If hazardous gas monitoring was not introduced, it would be impossible to continue underground operations.

VII. Прочитайте текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 1, 2 и 3.

Process of mining

The process of mining from discovery of an ore body through extraction of minerals and finally to returning the land to its natural state consists of several distinct steps. The first is discovery of the ore body, which is carried out through prospecting or exploration to find and then define the extent, location and value of the ore body. This leads to mathematical resource estimation to estimate the size and grade of the deposit.

This estimation is used to conduct a pre-feasibility study to determine the theoretical economics of the ore deposit. This identifies, early on, whether further investment in estimation and engineering studies is warranted and identifies key risks and areas for further work. The next step is to conduct a feasibility study to evaluate the financial viability, technical and financial risks and robustness of the project.

This is when the mining company makes the decision to develop the mine or to walk away from the project. This includes mine planning to evaluate the economically recoverable portion of the deposit, the metallurgy and ore recoverability, marketability and payability of the ore concentrates, engineering concerns, milling and infrastructure costs, finance and equity requirements and an analysis of the proposed mine from the initial excavation all the way through to reclamation. The proportion of a deposit that is economically recoverable is dependent on the enrichment factor of the ore in the area.

Once the analysis determines a given ore body is worth recovering, development begins to create access to the ore body. The mine buildings and processing plants are built and any necessary equipment is obtained. The operation of the mine to recover the ore

begins and continues as long as the company operating the mine finds it economical to do so. Once all the ore that the mine can produce profitably is recovered, reclamation begins to make the land used by the mine suitable for future use.

VIII. Просмотрите 4-й абзац и ответьте на вопрос: *When does operation of the mine usually finish?* Запишите и переведите вопрос и ответ.

Вариант 2

I. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите.

1. Mineral properties are always being studied with great interest.

2. We expect that the technology used at our mine will have been greatly improved.

3. Every living organism is affected by the level of the air, water and soil pollution.

4. The man testing the engine belongs to the team responsible for the equipment.

II. Запишите и переведите предложения, обращая внимание на функцию инфинитива (Infinitive).

1. Computer-aided monitoring systems are used to detect hazardous gases underground.

2. To gain control over nature means to know its laws and not to break them.

3. In order to extract coal from the ground, either underground or open pit mining techniques are used.

4. The method to be introduced at our mine was developed some years ago and proved very efficient.

III. Перепишите и переведите предложения, содержащие субъектный и объектный инфинитивные обороты, инфинитив в функции определения.

1. Efficiency of ventilation systems to be used underground is being improved every year.

2. The basic idea of longwall mining is known to have been developed in England in the late 17th century.

3. Specialists know the resistance of metals to depend on their temperature.

IV. Запишите предложения. Выпишите из них причастия, укажите их вид (Participle I или Participle II) определите их самостоятельную функцию (определение или обстоятельство). Переведите.

1. The students studying at the Kuzbass Technical University are to have practical training at mines and other enterprises.

2. When asked about the plan the chief engineer said that it had been fulfilled in time.

3. Working on the device in the laboratory, the engineers were regularly testing it at the mine.

4. Advanced techniques used in mining open wide possibilities for the automatic control.

V. Перепишите и переведите предложения, содержащие зависимый и независимый (самостоятельный) причастные обороты.

1. Major principles of computer-aided mining having been developed, scientists and engineers put them into practice.

2. When extracting coal it is necessary to remember that it can result in a number of adverse effects on the environment.

3. We know that modern shearers are machines usually having faces of 300 m or more.

4. Coal extracted in our region is supplied to various districts of the country.

VI. Перепишите и переведите предложения, содержащие условные предложения и сослагательное наклонение.

1. If they did not use remote-controlled equipment, they would not be able to prevent cave-ins.

2. Without application of electronic equipment modern mining would be impossible.

3. The production rate of this mine will be greatly improved if it is equipped with "continuous miners".

VII. Прочитайте текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 1, 2 и 3.

Bituminous coals

1. When coal seams are near the surface, it may be economical to extract the coal using open cut (also referred to as open cast, open pit, or strip) mining methods. Open cast coal mining recovers a greater proportion of the coal deposit than underground methods, as more of the coal seams in the strata may be exploited. Large open cast mines can cover an area of many square kilometers and use very large pieces of equipment.

2. In this mining method, explosives are first used in order to break through the surface, or overburden, of the mining area. The overburden is then removed by draglines or by shovel and truck. Once the coal seam is exposed, it is drilled, fractured and thoroughly mined in strips. The coal is then loaded on to large trucks or conveyors for transport to either the coal preparation plant or directly to where it will be used.

3. Most open cast mines in the United States extract bituminous coal. In Australia and South Africa open cast mining is used for both thermal and metallurgical coals. In New South Wales open casting for steam coal and anthracite is practised. Surface mining accounts for around 80 percent of production in Australia, while in the US it is used for about 67 percent of production. Globally, about 40 percent of coal production involves surface mining.

4. Bituminous coals are graded according to vitrinite reflectance, moisture content, volatile content, plasticity and ash content. Generally, the highest value bituminous coals have a specific grade of plasticity, volatility and low ash content, especially with low carbonate, phosphorus, and sulphur. Plasticity is vital for coking as it represents its ability to gradually form specific plasticity phases during the coking process, measured by coal dilatation tests. Low phosphorus content is vital for these coals, as phosphorus is a highly damaging element in steel making.

VIII. Просмотрите 4-й абзац и ответьте на вопрос: *What is the basis for gradation of bituminous coals?* Запишите и переведите вопрос и ответ.

Вариант 3

I. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите.

1. Improvements in mining methods have reduced many of the risks of rock falls.

2. The chief engineer was informed of the changes made in the production cycle.

3. Scientists of different countries were working hard to improve technologies for proper coal treatment.

4. The results of the experiment could not be relied upon because of some fault in the equipment.

II. Запишите и переведите предложения, обращая внимание на функцию инфинитива (Infinitive).

1. Our intention was to expand the production and to increase the output of coal by 20 per cent.

2. The drill to be used for this operation was being constructed for several years.

3. To explain the problem the professor mentioned some facts from his life.

4. People use discoveries to satisfy their needs and to improve the environment they live in.

III. Перепишите и переведите предложения, содержащие субъектный и объектный инфинитивные обороты, инфинитив в функции определения.

1. The coke must be strong enough to resist the weight of overburden in the blast furnace.

2. Coal is one of the first minerals to have been found by man in nature.

3. Scientists affirm coal to have been used by the Chinese long before it was used in Europe.

IV. Запишите предложения. Выпишите из них причастия, укажите их вид (Participle I или Participle II) и определите их самостоятельную функцию (определение или обстоятельство). Переведите.

1. It took the builders three years to complete the construction of new dressing plant in the region.

2. The results received will be of great importance for their further work.

3. When studying coal properties researchers came to know that they it could be converted into synthetic fuels equivalent to gasoline or diesel.

4. If used for electricity generation, coal is usually pulverized and then combusted in a furnace with a boiler.

V. Перепишите и переведите предложения, содержащие зависимый и независимый (самостоятельный) причастные обороты.

1. While studying coal properties scientists found that it is the largest worldwide anthropogenic sources of carbon dioxide releases.

2. In all mines visited new electronic means of controlling are used.

3. Lignite, or brown coal, being the lowest rank of coal, is used almost exclusively as fuel for electric power generation.

4. Computer technologies having been widely introduced into industry, we could automate a lot of processes.

VI. Перепишите и переведите предложения, содержащие условные предложения и сослагательное наклонение.

1. Engineers would be unable to reach deep coal seams without the use of modern underground equipment and sophisticated mining techniques.

2. If 75 percent of the coal section is removed, the roof is allowed to collapse in a safe manner.

3. If the shearers had not been invented, a great number of mines would have never been opened.

VII. Прочитайте текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 1, 3 и 4.

Open-pit mining

1. Open-pit mining is a method of extracting rock or minerals from the earth by their removal from an open pit or borrow. This form of mining differs from extractive methods that require tunneling into the earth such as long wall mining. Open-pit mines are used when deposits of commercially useful minerals or rock are found near the surface; that is, where the overburden (surface material covering the valuable deposit) is relatively thin or the material of interest is structurally unsuitable for tunneling. For minerals that occur deep below the surface underground mining methods extract the valued material.

2. Open-pit mines are dug on benches, which describe vertical levels of the hole. These benches are usually on four meter to sixty meter intervals, depending on the size of the machinery that is being used. Many quarries do not use benches, as they are usually shallow. Most walls of the pit are generally dug on an angle less than vertical, to prevent and minimize damage and danger from rock falls. This depends on how weathered the rocks are, and the type of rock, and also how many structural weaknesses occur within the rocks, such as a fault, shears, joints or foliations.

3. The walls are stepped. The inclined section of the wall is known as the batter, and the flat part of the step is known as the bench or berm. The steps in the walls help prevent rock falls continuing down the entire face of the wall. In some instances additional ground support is required and rock bolts, cable bolts and shotcrete are used. De-watering bores may be used to relieve water pressure by drilling horizontally into the wall, which is often enough to cause failures in the wall by itself. A haul road is usually situated at the side of the pit, forming a ramp up which trucks can drive, carrying ore and waste rock.

4. Waste rock is piled up at the surface, near the edge of the open pit. This is known as the waste dump. The waste dump is also tiered and stepped, to minimize degradation. Ore which has been processed is known as tailings, and is generally slurry. This is pumped to a

tailings dam or settling pond, where the water evaporates. Tailings dams can often be toxic due to the presence of unextracted sulfide minerals, some forms of toxic minerals in the gangue, and often cyanide which is used to treat gold ore via the cyanide leach process. This toxicity can harm the surrounding environment.

VIII. Просмотрите 2-й абзац и ответьте на вопрос: *What do the intervals of benches depend on?* Запишите и переведите вопрос и ответ.

Вариант 4

I. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите.

1. Experts in mine construction technologies have been shown some types of new building materials.

2. In Australia and South Africa open cast mining is used for both thermal and metallurgical coals.

3. The results of calculation are influenced by the calculation method.

4. The operator had to replace only one part in that device.

II. Запишите и переведите предложения, обращая внимание на функцию инфинитива (Infinitive).

1. The goals of precombustion coal technologies are to increase efficiency and reduce emissions when the coal is burned.

2. The principle of room and pillar mining system is to extract mined material across a horizontal plane while leaving “pillars” of untouched material to support the roof overburden leaving open areas or “rooms” underground.

3. To make accurate measurements several parameters must be known.

4. To mine great amounts of coal is impossible without modern shearers and cutters.

III. Перепишите и переведите предложения, содержащие субъектный и объектный инфинитивные обороты, инфинитив в функции определения.

1. Everyone knows coal to have been formed under high pressure and high temperature.

2. Kuzbass is considered to be one of the largest coal fields all over the world.

3. The equipment to be tested in our shop will be used for carbonization operations.

IV. Запишите предложения. Выпишите из них причастия, укажите их вид (Participle I или Participle II) и определите их самостоятельную функцию (определение или обстоятельство). Переведите.

1. When put into operation “Kedrovskiy” had a capacity of 3,000,000 tons of annual output.

2. Designing new mining machines engineers should pay attention to geological conditions of mines.

3. Anthracite, being the highest rank of coal, is hard, glossy black coal.

4. The problem discussed at the conference is of vital importance for our region.

V. Перепишите и переведите предложения, содержащие зависимый и независимый (самостоятельный) причастные обороты.

1. Being studied intensively by specialists of different branches bituminous coal quickly found wide-scale application for various purposes.

2. The type of methods applied depended on geological conditions.

3. These easily accessible sources of coal having been exhausted; underground extraction by shaft mining was developed.

4. Mining engineers are the scientists involved in theory and practice of extracting minerals from a naturally occurring environment.

VI. Перепишите и переведите предложения, содержащие условные предложения и сослагательное наклонение.

1. If coal seams are too deep underground they require underground mining.

2. If coal mining hadn't been a very dangerous activity the list of coal mining disasters wouldn't have been so long.

3. It would be impossible to supply far-off regions with heat and power without coal.

VII. Прочитайте текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 1, 2 и 4.

Clean coal technology

1. Clean coal technology is a collection of technologies being developed to mitigate the environmental impact of coal energy generation. When coal is used as a fuel source, the gaseous emissions generated by the thermal decomposition of the coal include sulphur dioxide, nitrogen dioxide, carbon dioxide, and other chemical byproducts that vary depending of the type of the coal being used. These emissions have been established to have a negative impact on the environment, contributing to acid rain and climate change.

2. As a result, clean coal technologies are being developed to remove or reduce pollutant emissions to the atmosphere. Some of the techniques that would be used to accomplish this include chemically washing minerals and impurities from the coal, gasification, treating the flue gases with steam to remove sulfur dioxide, carbon capture and storage technologies to capture the carbon dioxide from the flue gas and dewatering lower rank coals to improve the calorific value, and thus the efficiency of the conversion into electricity.

3. Clean coal technology usually addresses atmospheric problems resulting from burning coal. Historically, the primary focus was on sulfur dioxide and particulates, since it is the most important gas in the causation of acid rain. More recent focus has been on carbon dioxide as well as other pollutants. Concerns exist regarding the economic viability of these technologies and the timeframe of delivery, potentially high hidden economic costs in terms of social and

environmental damage, and the costs and viability of disposing of removed carbon and other toxic matter.

4. Coal, which is primarily used for the generation of electricity, is the second largest domestic contributor to carbon dioxide emissions in the USA. The public has become more concerned about global warming which has led to new legislation. The coal industry has responded by running advertising touting clean coal in an effort to counter negative perceptions and claiming more than \$50 billion towards the development and deployment of “traditional” clean coal technologies over the past 30 years; and promising \$500 million towards carbon capture and storage research and development.

VIII. Просмотрите 3-й абзац и ответьте на вопрос: *What were ecologists first focused on: sulfur dioxide or carbon dioxide?* Запишите и переведите вопрос и ответ.

Вариант 5

I. Запишите предложения. Выпишите из них сказуемые, определите их видо-временные формы и залог. Переведите.

1. The scientist was speaking of the new instruments used for geodetic surveying.

2. The situation in the sphere of environment protection is regularly reported in the regional paper.

3. Chemists and physicists make a wide use of minerals for developing new sources of power.

4. The act of mining requires different methods of extraction depending on the mineralogy, geology, and location of the resources.

II. Запишите и переведите предложения, обращая внимание на функцию инфинитива (Infinitive).

1. The first step in discovering an ore body is to determine what minerals to test for.

2. One can use different means to measure temperatures underground.

3. The machine to be inspected by the operator is located in the mechanical shop of our enterprise.

4. To design and develop automatic control systems is the responsibility of an engineer.

III. Перепишите и переведите предложения, содержащие субъектный и объектный инфинитивные обороты, инфинитив в функции определения.

1. First Kuzbass coal deposit is known to have been discovered about 200 years ago.

2. The designers believe their new device to be able to maintain a desired rate of operation for a long time.

3. There are a great many of interesting things to be said about coke properties.

IV. Запишите предложения. Выпишите из них причастия, укажите их вид (Participle I или Participle II) и определите их самостоятельную функцию (определение или обстоятельство). Переведите.

1. Doing the research you must follow the recommendations given in this handbook.

2. The figures mentioned in his report will be published in the next issue of this scientific journal.

3. When measured the seam thickness was much higher than it was expected.

4. A mining engineer must pay special attention to safety, following all federal, state, and local mine safety laws.

V. Перепишите и переведите предложения, содержащие зависимый и независимый (самостоятельный) причастные обороты.

1. Having developed large scale mining methods, Romans were able to raise the amount of coal output.

2. Prospective deposit being located, the mining engineer determines the ore properties.

3. The new underground mine being built near the Arctic Circle is to use a special technological scheme.

4. Anthracite being of higher quality, it generally costs two to three times as much as regular coal.

VI. Перепишите и переведите предложения, содержащие условные предложения и сослагательное наклонение.

1. A part of the fire will be converted into carbon monoxide if there is no enough amount of air.

2. Ancient miners would have done much for the development of mining, if they had had more advanced machinery.

3. It would be wrong to suppose that surface mining methods are more productive than the underground ones.

VII. Прочитайте текст и постарайтесь понять его содержание. Перепишите и письменно переведите части 3, 4 и 5.

Stoping

1. Stoping is the removal of the wanted ore from an underground mine leaving behind an open space known as a stope. Stoping is used when the country rock is sufficiently strong not to cave into the stope, although in most cases artificial support is also provided. As mining progresses, the stope is often backfilled with tailings, or when needed for strength, a mixture of tailings and cement.

2. In the past stoping took place with manual tools or by fire-setting; later gunpowder was used, and from the 19th century various other explosives and power-tools came into use. In old mines, stopes frequently collapse at a later time, leaving craters at the surface. They are an unexpected danger when records of underground mining have been lost with the passage of time.

3. A stope can be created in a variety of ways, depending on the geology of the ore body being mined. It is common to dig shafts vertically downwards to reach the ore body and then drive horizontal levels through it. Stoping then takes place from these levels, in its simplest form as overhand and underhand stoping, which refer to the removal of ore from above or below the level, respectively. In steeply-dipping ore bodies, such as lodes of tin, the stopes become long narrow near-vertical spaces, which, if one reaches the surface is known as a gunnis or coffen.

4. Stull stoping is a form of stoping used in hardrock mining that uses systematic or random timbering (“stulls”) placed between the foot and hanging wall of the vein. In shrinkage stoping, mining

proceeds from the bottom upwards, in horizontal slices, with the broken ore being left in place for miners to work from.

5. Underhand stoping, also known as horizontal-cut underhand or underbreaking stoping, is the working of an ore deposit from the top downwards. Long-hole stoping can be the lowest cost method when large ore bodies are located in strong country rock. In operation, it is similar to an underground version of quarrying.

VIII. Просмотрите 1-й и 2-й абзацы и ответьте на вопрос: *Why old stopes are dangerous for miners?* Запишите и переведите вопрос и ответ.