Управление образования и науки Липецкой области

Государственное образовательное бюджетное профессиональное

образовательное учреждение

«Грязинский технический колледж»

(ГОБПОУ «ГТК»)

**Методические рекомендации**

**по выполнению контрольной работы №3 по Иностранному языку в профессиональной деятельности для студентов заочного отделения**

**(группа СЗ-191з)**

Рассмотрено на заседании

цикловой комиссии

общеобразовательных дисциплинн

Протокол №\_\_\_\_\_\_\_\_

от «\_\_\_\_»\_\_\_\_\_\_\_\_2021 г.

Председатель цикловой комиссии

\_\_\_\_\_\_\_\_\_\_\_\_\_Лавровская Н.В.

Грязи, 2021 г.

Методические рекомендации по выполнению контрольной работы по английскому языку для студентов заочного отделения 3 курса, обучающихся по специальности 08.02.01 «Строительство эксплуатаций зданий и сооружений»

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***Аннотация:***

Данные методические рекомендации разработаны для студентов - заочников 3 курса, обучающихся по специальности 08.02.01 «Строительство эксплуатаций зданий и сооружений»

Основным учебником для успешного выполнения контрольных заданий является учебник английского языка авторы Н.А. Бонк, Г.А. Котий, Н.А. Лукьянова -640с., В.А., Голубев, А. П. Английский язык: учебное пособие А. П. Голубев, А. П. Коржавый, Б. Смирнова. - 7-е изд., стер. – М.: Академия, 2016. - 208 с.; Немецкий язык для колледжей=Deutsch für Colleges (СПО), Учебник / Басова Н.В., Коноплева Т.Г. – М.: КноРус, 2016. - 352 с.**,** Кравченко А.П. «Немецкий язык для колледжей» - 425с., Тагиль И.П. Грамматика немецкого языка. – 10-е изд. СПб: КАРО2016

Указанные учебники имеются в библиотеке колледжа и в сети Интернет в полном объеме. Ресурсы сети Интернет:

Электронные издания (электронные ресурсы)

*Macmillanenglish [электронный ресурс], режим доступа:* [*www.macmillanenglish.com*](http://www.macmillanenglish.com)*.*

*British Council , [электронный ресурс], режим доступа:*www.britishcouncil.org

*Handouts Online, [электронный ресурс], режим доступа*: www.handoutsonline.com

www.enlish-to-go.com (for teachers and students)

*BBC - Video Nation – Christmas, [электронный ресурс], режим доступа:*

www.bbc.co.uk/videonation (authentic video clips on a variety of topics)

*Журнал "Deutsch",[электронный ресурс], режим доступа* http ://der1.september. ru/

*Goethe-Institut, [электронный ресурс], режим доступа:* http :// www.goethe.de /

*GrammaDe.ru, [электронный ресурс], режим доступа:* http :// grammade . ru/

*Изучение немецкого языка с Studygerman, [электронный ресурс], режим доступа:* http :// www. studygerman. ru/

позволяют получить консультативную помощь по всем вариантам контрольных работ.

***Введение:***

По учебному плану в соответствии с Госстандартом на базе основного общего образования на изучение учебной дисциплины отводится 200 часов. Для каждой темы имеется лексический словарь, где подобран необходимый лексический запас, используемый в контрольной работе. Для снятия трудностей в чтении слов, к каждому слову предусмотрена его транскрипция.

Для выполнения грамматических заданий следует изучить материал, данный в грамматическом справочнике. В заданиях даны наиболее используемые в устной и письменной речи грамматические явления. Это: «Местоимения», «Настоящее время группы Indefinite», «оборот to be going to», «Прошедшее и будущее время «Indefinite», «глаголы to be, to have,can, must, may, should, would, have to.», «Степени сравнения прилагательных», «Употребление артиклей». В каждой контрольной работе даны тестовые задания по грамматике. Даются задания, направленные на развитие навыков чтения и перевода. Для чтения и перевода даны тексты по изученному лексическому материалу, поэтому они не представляют трудности для перевода текста без словаря. Лексика, грамматика и правила чтения закрепляются рядом упражнений, помещенных после текста в каждой теме. Большинство этих упражнений целесообразно выполнять студентам самостоятельно для успешной подготовки к контрольной работе и к зачету по иностранному языку.

КОНТРОЛЬНАЯ РАБОТА №3

**Вариант № 1**

**Задание № 1.**

Перепишите и письменно переведите следующие предложения, подчеркните **неопределенные местоимения**.

1. There are not any modern conveniences in their house.

2. There is some clean water in the bottle.

3. No letters again! Nobody has written to me for a month.

4. The young engineer had no experience in such work.

**Задание № 2.**

Выберите **прилагательное** в соответствующей степени сравнения. Перепишите и переведите предложения на русский язык.

1. Sweden is the fifth (large, larger, largest) country in Europe.

2. In the past we needed (little, less, the least) mathematics than today.

3. You look much (good, better, the best) today.

4. Who is that boy in the (far, further, furthest) corner of the room?

**Задание № 3.**

Выберите нужную форму глагола **to be**. Перепишите и переведите предложения на русский язык.

1. Her hair (is, are, were) long, black and beautiful.

2. We (are, were, will be) at the Zoo last Sunday.

3. They (is, are, were) busy now.

4. I think the audience (is, was, will be) good tomorrow.

**Задание № 4.**

Вставьте **there’s** или **it’s**. Перепишите и переведите предложения на русский язык.

1. … a boring book.

2. … a wonderful park in this city.

3. … cold outside.

4. … a lot of work to do for us.

**Задание№ 5.**

Прочитайте текст. Найдите ответы на вопросы:

1) What groups are all building materials divided into?

2) What building materials are mentioned in the text?

**Building Materials**

to divide - разделять to bind - связывать, скреплять mortar - строительный раствор ferrous metals - черный металл compactness - плотность durable - прочный, долговечный to belong - принадлежать to cut - резать to shape - придавать форму property - свойство disadvantage - недостаток unit - элемент, узел masonry - каменная кладка main - основной artificial - искусственный framework - каркас derivative - производное alloy - сплав to refer - относиться to use - использовать purpose - цель step - ступенька to decay - гнить hard - твердый porosity - пористость to face - облицовывать to bum - гореть to fasten - скреплять, соединять to include - включать to apply - применять easy - легкий cheap - дешевый kind - вид, тип reinforcement - арматура

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 main building materials for bearing structures, binding materials are used for making artificial stone and for joining together masonry units. For the interior finish of the building we use secondary materials.

Natural building materials are stone, sand, lime and timber. Cement, clay products and concrete are examples of artificial building materials.

Timber is referred to the group of the main building materials. It is the most ancient structural material. It is light, cheap and easy to work. But wood has certain disadvantages: it bums and decays.

Stone belongs to one of the oldest building materials used by man. It has many properties such as mechanical strength, porosity, compactness, sound and heat insulation and fire-resistance. The stones which are usually used for masonry work are granite, sandstone and marble. Granite is very hard, strong and durable. It is used for foundations, columns, steps and for entire facades. Its colour may be grey, yellow, pink or deep red. Sandstone is comparatively easy to cut and shape. It is often used for facing rough walls and for interior decorations. Marble is a crystalline stone chiefly used for decorative purposes. It takes on a high polish.

Bricks were known many thousands of years ago. They are the examples of artificial building materials. Brick is made by pressing clay into blocks and burning them to hardness. Bricks are hard and easily fastened together with the help of mortar. They are produced in a great variety for widely different purposes.

Metals are divided into ferrous and non-ferrous metals. Ferrous metals include iron, steel and its alloys. Cast iron is the cheapest of the ferrous metals. It is chiefly used in building for compressed members of constmction. Steel is used for framework of buildings and as reinforcement in modem ferroconcrete stmctures. Non-ferrous metals have the following characteristics: high electric and heat conductivity, high corrosion resistance, light weight. The oldest and the best known light metal is aluminum. It is used in lift bridges, long span roofs, dome roofs, crane jibs and in other stmctures.

Glass and plastics are widely used nowadays in constmction of different kinds of buildings. Glass has excellent combination of physical, chemical and mechanical properties. The outstanding property of glass is its chemical inertness. Glass is used for constmcting doors, walls, roofs, pipelines etc. Plastics is the name for various derivatives of resin, cellulose and protein. Nowadays plastics can be applied to almost every branch of building.

**Задание№ 6.**

Прочитайте текст ещё раз. Найдите эквиваленты русских слов и словосочетаний:

Основные строительные материалы; вяжущие строительные материалы; второстепенные строительные материалы; внутренние части здания; несущие конструкции; изготовление искусственных камней; элементы каменной кладки; внутренняя отделка; примеры искусственных строительных материалов; старейший строительный материал; некоторые недостатки; механическая прочность; огнестойкость; сравнительно легко режется и обрабатывается; для облицовки неоштукатуренных стен; кристаллический камень; легко соединяются с помощью раствора; цветные металлы; самый дешевый черный металл; конструкции, работающие на сжатие; каркас здания; современные железобетонные конструкции; устойчивость против коррозии; подъемный мост; выдающиеся свойства стекла; производные смолы, целлюлозы и протеина.

КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 2

**Задание № 1.**

Перепишите и письменно переведите следующие предложения, подчеркните **неопределенные местоимения**.

1. Some of us agree with the statement.

2. I did not see any change in his life.

3. Nobody can help him under the circumstances.

4. Something prevented him from coming.

**Задание № 2.**

Выберите **прилагательное** в соответствующей степени сравнения. Перепишите и переведите предложения на русский язык.

1. He found the work (easy, easier, the easiest) than he had expected.

2. She was (active, more active, the most active) of us.

3. He felt (bad, worse, the worst) yesterday than the day before.

4. When he had left Paris it was as (cold, colder, the coldest) as in winter there.

**Задание № 3.**

Выберите нужную форму глагола **to be**. Перепишите и переведите предложения на русский язык.

1. She (is, was, will be) at the lecture now.

2. Last winter (is, was, will be) cold.

3. We (are, were, will be) free yesterday.

4. I (am, was, will be) at home tomorrow.

**Задание № 4.**

Вставьте **there’s** или **it’s**. Перепишите и переведите предложения на русский язык.

1. … a beautiful garden near the house.

2. Where is the cat? … under the sofa.

3. … no theatre in that small town.

4. … hot today.

**Задание№ 5.**

1. Прочитайте и переведите текст письменно:

floor finish - напольное покрытие to polish - полировать abrasion resistant - устойчивый к истиранию acid - кислота smooth - гладкий pathway - дорога cobblestones - брусчатка translucent - полупрозрачный quarry - добывать resistant to acids- устойчивый к воздействию кислот to clad walls - облицовывать стены layer - слой smoothness - гладкость

**NATURAL BUILDING MATERIALS**

Stone is a great floor finish and is affordable in many countries; Italy and India are both known for the variety and quality of stone they produce. There is a great advantage to stone that is almost unique to floor finishes: you can polish it, and thus make it look and feel like new, at any time in its life.

*Granite* is a volcanic rock (it was originally lava that cooled to form solid rock) that has the following properties:

• It is very hard, strong, and abrasion resistant

• It is resistant to acids

• It can be polished to a mirror-like smoothness

These properties make it a great choice as a floor or countertop finish. It can also be used to clad walls. However it is available mainly in dark colours: black, red, grey. This darkness in colour does tend to limit its use in certain areas.

Its surface can also be worked to produce a variety of textures other than smooth. These rough finishes are mostly used outdoors, on pathways. The famous cobblestones of Europe are granite, for instance.

*Marble* is a metamorphic rock (meaning that it was made by the intense pressures and heat deep within the earth), and has the following properties:

• Most marbles are soft, and not very abrasion resistant

• They are not resistant to acids

• They can be polished to a mirror finish

• It is translucent - light can pass through it to the extent of a few millimeters Thus, marbles should not be used in high-traffic areas such as the entryways or staircases of public buildings - granite would be much better in those cases. Since it is not acid resistant, you should not use marble under urinals (urine is acidic), and in kitchens, where lemon juice and other acids are present. But marble is prized for the beauty and richness of its finish; it also feels very special underfoot. It is available in a wide variety of colours, mainly light colours.

*Sandstone* is a sedimentary rock (rock formed by ancient rivers that slowly deposited material on their beds that built up layer by layer over millions of years). It has the following properties:

• It is abrasion resistant, but not always strong, as it is formed in layers.

• It is usually highly resistant to acids

• It has a rough finish, and cannot be mirror-polished, as it consists of grains

These properties mean that it is good for decks and external areas because of its anti-slip properties. Since sandstone looks and feels very different from granite and marble, it has become fashionable to use these in boutique stores. Steve Jobs famously saw a bluish-grey sandstone on a trip to Florence, and many years later insisted that that very stone be used in all apple stores because of its 'integrity'. The stone is quarried, cut into tiles, and every piece graded individually for colour tone by master craftsmen. The tiles are then arranged so that pieces with similar colour are placed together, which makes them seem more uniform to the eye.

**Задание№ 6.**

Заполните таблицу:

|  |  |  |  |
| --- | --- | --- | --- |
| **Kind of stone** | **Origins** | **Properties** | **Usage** |
|  |  |  |  |
|  |  |  |  |

КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 3

**Задание № 1.**

Перепишите и письменно переведите следующие предложения, подчеркните **неопределенные местоимения**.

1. When arriving in a foreign country one goes through the customs.

2. Speaking on TV the Prime Minister said that the Government would take some practical steps to increase competition and improve the work of public services (средства общественного транспорта и связи).

3. MP’s proposal (MP–член парламента) doesn’t seem to have aroused anybody’s interest.

4. She didn’t tell anyone about her secret. Not a person.

**Задание № 2.**

Выберите **прилагательное** в соответствующей степени сравнения. Перепишите и переведите предложения на русский язык.

1. Love is (precious, more precious, the most precious) than money.

2. To violate traffic regulations is very (dangerous, more dangerous, the most dangerous).

3. Interrupting people is (bad, worse, the worst) of all.

4. The House of Lords is (large, larger, the largest) in membership but the House of Commons has nearly all the power.

**Задание № 3.**

Выберите нужную форму глагола **to be.** Перепишите и переведите предложения на русский язык.

1. The weather promised to be fine. There (are; were; will be) many stars in the sky.

2. Buckingham palace (will be, was, is) the place where presidents, kings and politicians go to meet the Queen.

3. The yesterday commercial program on TV (was, will be, is) of little artistic value.

4. Competition (was, is, will be) a good stimulus in the young managers’ future work.

**Задание № 4.**

Вставьте **there’s** или **it’s**. Перепишите и переведите предложения на русский язык.

1. …an awful day. Everything goes wrong.

2. …a big crowd at the discotheque tonight.

3. …the British Prime Minister’s residence in Downing Street 10, London.

4. …high time the children go to bed.

**Задание№ 5.**

Прочитайте и переведите текст письменно.

to imagine - представлять себе quality - качество, свойство grading - грануметрический состав aggregate - заполнитель to pour - лить, вливать to m ix- смешивать to hold - держать to stick - липнуть to introduce - вводить to compose - состоять из to contain - содержать pavement - дорожное покрытие to replace - заменять innovation - нововведение structure - здание, конструкция compressive strength - прочность на сжатие compressive stress - сжимающее напряжение blast-fumace slag - доменный шлак amount - количество resistance - сопротивление beam - балка setting - схватывание void - пустота compound - соединение to foam - пениться sodium - натрий potassium - калий tensile strength - сопротивление разрыву tensile stress - растягивающее напряжение

**Concrete**

It is difficult to imagine modem stmcture without concrete. Concrete is the very building material which led to great structural innovations. The most important quality of concrete is its property to be formed into large and strong monolithic units. The basic materials for making concrete are cement, aggregate and water.

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.

The characteristics of concrete depend upon the quality of the materials used, grading of the aggregates, proportioning and amount of water. 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.

Reinforced concrete is a combination of two of the strongest stmctural materials: concrete and steel. Concrete has an adequate compressive strength, but its tensile strength is low. On the other hand, steel has a high tensile strength. Suitable combination of these two materials provides resistance to both compressive and tensile stresses.

Plain concrete can be used for almost all building purposes. Reinforced concrete is used in building bridges, arches, dams, for structures under water, for foundations, columns, beams etc. The use of concrete and reinforced concrete is almost universal.

There is a broad division of concrete types into: 1) Dense concretes, which are composed of heavy aggregates and 2) Low-weight concretes, which are composed of light aggregates.

There are cellular concretes made by using materials which foam or form gas during the mixing of concrete. This gives very light weight to a product, because after setting it contains a large number of small voids.

Concrete can be made on a construction site and poured into position as a wet mix, or it may be used as the material for making prefabricated units in a factory. That is why there is another classification into in-situ and precast concrete.

Builders now produce two types of new building materials: alkali-slag and silica concrete. In alkali-slag concrete cement is replaced by a mixture of granulated blastfurnace slag and sodium and potassium compounds. This material is used for irrigation systems, roads, pavements and other structures. Silica concrete is light, fire-resistant and acid-proof. It contains no cement. Silica concrete is widely used in aviation and in under water constructions.

**Задание№ 6.**

Прочитайте текст ещё раз. Найдите эквиваленты русских слов и словосочетаний:

Трудно представить; большие и прочные монолитные блоки; очень твердый искусственный камень; гранулометрический состав заполнителя; количество воды; самые важные требования; достаточная прочность на сжатие; высокая прочность на разрыв; сжимающие и растягивающие напряжения; тяжелый заполнитель; легкий заполнитель; большое количество маленьких пустот; строительная площадка; сборные элементы; два типа новых строительных материалов; измельченный доменный шлак; натрий-калиевые соединения; оросительные системы; подводные сооружения.

КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 4

**Задание № 1.**

Перепишите и письменно переведите следующие предложения, подчеркните **неопределенные местоимения.**

1. I want some sugar to make jam.

2. Has anybody of them been to Scotland?

3. Nobody will smoke in the room.

4. The Metric System has some advantages over the English System.

**Задание № 2.**

Выберите **прилагательное** в соответствующей степени сравнения. Перепишите и переведите предложения на русский язык.

1. He is the (old, oldest, eldest) son of my father’s friend.

2. What is the (much, more, most) important invention in the twentieth century?

3. We have heard the (late, later, latest) news on the radio.

4. I am sure this coffee tastes (good, better, the best) than that one.

**Задание № 3.**

Выберите нужную форму глагола **to be**. Перепишите и переведите предложения на русский язык.

1. The news he told us (are, was, were) interesting.

2. The Metric System (is, was, will be) a system of measures and weight.

3. You (are, is, were) at home last night.

4. It (is, was, will be) cold next week.

**Задание № 4.**

Вставьте **there’s** или **it’s**. Перепишите и переведите предложения на русский язык.

1. … easy to understand the rule.

2. … often a rainbow after the rain.

3. … electricity in all the houses of the town.

4. … so warm in the flat.

**Задание№ 5.**

Прочитайте и переведите текст письменно.

float glass - полированное листовое стекло dice-like pieces кусочки кубиками soda lime glass - силикатное стекло railing- перила clear glass - бесцветное стекло partition - перегородка anneal - обжигать batch партия, серия molten glass - расплавленное стекло, стекломасса tinted glass - тонированное стекло rupture - разрушение, повреждение toughened glass- закаленное стекло psi - фунт-сила на кв. дюйм (единица измерения давления) tempered - смягченный, сдержанный take a punch - выдержать удар distortion - искажение transparency - прозрачность canopy - козырек transparent - прозрачный chromatic glass - цветное стекло glare блеск, сияние, блик skylight- мансардное окно double-glazed стеклопакет shatterproof безосколочное, units - glass - небьющееся стекло hollow - пустотелый obscuration - затемнение foamed glass - пеностекло moisture - влага laminated glass - ламинированное стекло, триплекс impermeability непроницаемость

**Types of glass Float Glass.**

*Float glass* is also called soda lime glass or clear glass. This is produced by annealing the molten glass and is clear and flat. Its modulus of rupture is 5000-6000 psi. Stronger than Rocky Balboa taking punches from 2000 psi punches man Ivan Drago. It is available in standard thickness ranging from 2mm to 20mm. and has weight range in 6-26kg/m2. It has too much transparency and can cause glare. It is used in making canopies, shop fronts, glass blocks, railing partitions, etc.

*Tinted Glass.* Certain additions to the glass batch mix can add color to the clear glass without compromising its strength. Iron oxide is added to give glass a green tint; sulphur in different concentrations can make the glass yellow, red or black. Copper sulphate can turn it blue etc.

*Toughened Glass.* This type of glass is tempered, may have distortions and low visibility but it breaks into small dice-like pieces at modulus of rupture of 3600 psi. Hence it is used in making fire resistant doors etc. They are available in same weight and thickness range as float glass.

*Laminated Glass.* This type of glass is made by sandwiching glass panels within a protective layer. It is heavier than normal glass and may cause optical distortions as well. It is tough and protects from UV radiation (99%) and insulates sound by 50%. Used in glass facades, aquariums, bridges, staircases, floor slabs, etc.

*Shatterproof glass.* By adding a polyvinyl butyral layer, shatter proof glass is made. This type of glass does not from sharp edged pieces even when broken. Used in skylight, window, flooring, etc.

*Extra clean glass.* This type of glass is hydrophilic i.e. The water moves over them without leaving any marks and photocatylitic i.e. they are covered with Nanoparticles that attack and break dirt making it easier to clean and maintain.

*Double Glazed Units.* These are made by providing air gap between two glass panes in order to reduce the heat loss and gain. Normal glass can cause immense amount of heat gain and up to 30% of loss of heat of air conditioning energy. Green, energy efficient glass can reduce this impact.

*Chromatic glass.* This type of glass can control daylight and transparency effectively. These glass are available in three forms - photochromatic (light sensitive lamination on glass), thermochromatic (heat sensitive lamination on glass) and electrochromatic (light sensitive glass the transparency of which can be controlled by electricity switch.) It can be used in meeting rooms and ICUs.

*Glass wool.* Glass wool is a thermal insulation that consists of intertwined and flexible glass fibers, which causes it to "package" air, and consequently make good insulating materials. Glass wool can be used as filler or insulators in buildings, also for soundproofing.

*Glass blocks.* Hollow glass wall blocks are manufactured as two separate halves and, while the glass is still molten, the two pieces are pressed together and annealed. The resulting glass blocks will have a partial vacuum at the hollow center. Glass bricks provide visual obscuration while admitting light.

*Foamed glass* is a high porosity heat insulating material, available in blocks. It is made by heating a mixture of crushed or granulated glass and a blowing agent (chemical foaming agent) such as carbon or limestone. Near the melting point of the glass, the blowing agent releases a gas, producing a foaming effect in the glass. After cooling the mixture hardens into a rigid material with gas-filled closed-cell pores. Foamed glass is non-flammable, has light weight, high mechanical strength, moisture, vapour and gas impermeability, thermal and acoustic insulating properties.

**Задание№ 6.**

Заполните таблицу:

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Fabrication/ ingredients** | **Advantages/****Properties** | **Usage** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 5

**Задание № 1.**

Перепишите и письменно переведите следующие предложения, подчеркните **неопределенные местоимения.**

1. There isn’t anybody in the garden.

2. I’ve got nothing to read.

3. She said something but I didn’t understand her.

4. Somebody has broken the window.

**Задание № 2.**

Выберите **прилагательное** в соответствующей степени сравнения. Перепишите и переведите предложения на русский язык.

1. It’s (easy, easier, the easiest) to phone than to write a letter.

2. Sydney is (large, larger, the largest) city in Australia.

3. Money is important, but it isn’t (important, more important, the most important) thing in life.

4. Italy has (old, older, the oldest) population in the world.

**Задание № 3.**

Выберите нужную форму глагола **to be.** Перепишите и переведите предложения на русский язык.

1. Jane (will be, was, is) at home at the moment.

2. Where (are, was, were) you at 11 o’clock last Friday morning?

3. They (are, will be, were) engineers in 5 years.

4. Books (will be, were, are) expensive nowadays.

**Задание № 4.**

Вставьте **there’s** или **it’s.** Перепишите и переведите предложения на русский язык.

1. … a lot of snow in the forest.

2. … difficult to stop smoking.

3. I’m not going to buy this book. … too expensive.

4. … a vase on the floor in the corner of the room.

**Задание№ 5.**

Прочитайте и переведите текст письменно.

**PLASTICS**

Thermoplastics - термопластик Thermosetting plastics - термореактивные пластмассы, теплоустойчивые пластмассы Viscoelastic - вязкоупругий, вязкоэластичный Absorption - поглощение Density - плотность Toughness - жесткость (но эластичность, ех. алюминиевая ложка, способность материала поглощать энергию при воздействии) Stiffness - жесткость (но хрупкость, ех. керамическая тарелка) Alkali - щелочь Adhesion - прилипание Adhesive - клей Casting - литье

One of new synthetic materials used widely is plastic. Plastics have found wide application both in everyday life and in industry.

Plastics are synthetic polymers. Most plastics are synthesized from organic chemicals or from natural gas or coal. Plastics are rapidly becoming important construction materials because of their great variety, strength, durability and lightness. Plastics can be classified into several broad types.

1) *Thermoplastics* soften on heating, and then harden again when cooled. They are flexible and easily stretched. Thermoplastics are also viscoelastic (they flow under stress). Typical examples of thermoplastics are polystyrene, polythene and PVC.

*Polystyrene* resins are characterized by high resistance to chemical and mechanical stresses at low temperatures and by very low absorption of water. These properties make the polystyrene especially suitable for radio-frequency insulation and for parts used at low temperatures in refrigerators and in airplanes. Polythene is a white waxy solid with very low density, reasonable strength and toughness, but low stiffness. It is easily molded and has a wide range of uses in containers, pipes, coatings and insulation, and for soft-drinks bottles.

*PVC* is a colourless solid with outstanding resistance to water, alcohols and concentrated acids and alkalis. When compounded with plasticizers, it yields a flexible material more durable than rubber. It is widely used for cable and wire insulation, for production of tubes or pipes.

2) *Thermosetting plastics* (thermosets) do not soften when heated, and with strong heating they decompose. They have a higher density than thermoplastics. They are less flexible, more difficult to stretch, and are less subjected to creep.

Examples of thermosetting plastics include polyurethane and epoxy resins, most polyesters and phenolic polymers.

*Epoxy resins* have outstanding adhesion, toughness, and chemical resistance. They form strong bonds and have excellent electrical insulation properties. Large, complex, void-free castings can be made of them. They are also used as adhesives, and in composites for boat building and sport equipment.

The following characteristics of plastics are usually shared by all types: lightweight, corrosion resistance, electrical and thermal insulation, ease of fabrication, transparency, ease of coloring and economy of production. Using of plastics as materials for a construction in the form of sheets, rods or tubes is substituting the conventional metals. Plastics have now been developed to such an extent that they can be applied to almost every branch of building, from the laying of foundations to the final coat of paint.

**Задание№ 6.**

Прочитайте текст ещё раз. Найдите эквиваленты русских слов и словосочетаний:

Органические химические вещества, размягчаться при нагревании, затвердевать при охлаждении, гибкий и легкорастяжимый, высокая устойчивость к химическому и механическому воздействию, бесцветный, электроизоляционные свойства, более высокая плотность, устойчивость к воздействию химических веществ, может применяться в любой отрасли строительства

КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 6

**Задание № 1.**

Перепишите и письменно переведите следующие предложения, подчеркните **неопределенные местоимения.**

1. I’m not hungry. I don’t want anything to eat.

2. Has anybody seen the bag?

3. Someone has forgotten the umbrella.

4. He’s busy. He’s got some work to do.

**Задание № 2.**

Выберите **прилагательное** в соответствующей степени сравнения. Перепишите и переведите предложения на русский язык.

1. Last night I went to bed (early, earlier, the earliest) than usual.

2. The speed of this plane is as (high, higher, the highest) as the speed of sound.

3. The film was very bad. I think it’s (bad, worse, the worst) film I’ve ever seen.

4. Is it (expensive, more expensive, the most expensive) to go by car or by train?

**Задание № 3.**

Выберите нужную форму глагола **to be.** Перепишите и переведите предложения на русский язык.

1. John (am, is, are) afraid of dogs.

2. This time last year I (were, was, will be) in Paris.

3. Today she is in Madrid. Tomorrow she (is, was, will be) at home.

4. Please, be quiet. I (were, are, am) working.

**Задание № 4.**

Вставьте **there’s** или **it’s.** Перепишите и переведите предложения на русский язык.

1. … dangerous to work in the road.

2. … a new restaurant in King Street.

3. … a good film on TV tonight.

4. … impossible to understand her.

**Задание № 5.**

Прочитайте и переведите текст письменно.

**STEEL IN FRAME STRUCTURES**

mild steel - низкоуглеродистая сталь feature - свойство, черта flexibility - гибкость plasticity - пластичность ductility - тягучесть crack - трещина, трескаться bend out of shape - деформироваться lose strength - терять прочность fire protection - огнезащита high rise building - высотное здание warehouse building - складское помещение span spaces - пролетные строения residential building - жилое здание light gauge steel construction - лёгкие стальные конструкции из холодногнутых профилей temporary structure - временное сооружение

Most construction is done with a type of steel called mild steel. Mild steel is a material that is immensely strong. Take a circular bar of steel 1 inch / 25mm in diameter. If you were to attach this bar securely to your ceiling, you could hang from it 20,000 Kg (which is 20 tons), or any one of the following: 18 Honda City Cars, 2 and a half African Elephants, 1 and a half London City Double-Decker Buses.

This immense strength is of great advantage to buildings. The other important feature of steel framing is its flexibility. It can bend without cracking, which is another great advantage, as a steel building can flex when it is pushed to one side by say, wind, or an earthquake. The third characteristic of steel is its plasticity or ductility. This means that when subjected to great force, it will not suddenly crack like glass, but slowly bend out of shape. This property allows steel buildings to bend out of shape, or deform, thus giving warning to inhabitants to escape. Failure in steel frames is not sudden - a steel structure rarely collapses. Steel in most cases performs far better in earthquake than most other materials because of these properties.

However one important property of steel is that it quickly loses its strength in a fire. At 500 degrees Celsius (930 degrees F), mild steel can lose almost half its strength. This is what happened at the collapse of the World Trade Towers in 2001. Therefore, steel in buildings must be protected from fire or high temperature; this is usually done by wrapping it with boards or spray-on material called fire protection.

Steel construction is most often used in:

• High rise buildings because of its strength, low weight, and speed of construction

• Industrial buildings because of its ability to create large span spaces at low cost

• Warehouse buildings for the same reason

• Residential buildings in a technique called light gauge steel construction

• Temporary Structures as these are quick to set up and remove.

**Задание № 6.**

Прочитайте текст ещё раз. Напишите ответы на вопросы на английском языке.

1) What are the main properties of steel framing?

2) What does the flexibility of the frame mean?

3) What does its ductility mean for a building?

4) What is the disadvantage of steel frame structures?

5) Where is steel construction most often used in?

6) Why is it used in industrial buildings?

7) For what reason is it used in high rise buildings?

КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 7

**Задание № 1.**

Перепишите и письменно переведите следующие предложения, подчеркните **неопределенные местоимения.**

1. Grandpa doesn’t want anybody picking him up at the station. He likes to be independent.

2. It’s really easy to work on a computer, but, like anything, you need to work at it.

3. English and Americans often think of a pet as one of the family.

4. It’s a problem, isn’t it? Let’s try to work something out.

**Задание № 2.**

Выберите **прилагательное** в соответствующей степени сравнения. Перепишите и переведите предложения на русский язык.

1. (good, better, the best) is a friend that is near, than a relative far off.

2. A university is (large, larger, the largest) than a college.

3. In the USA (common, more common, the most common) college degree among the others is a bachelor of arts.

4. Central Park, in the centre of Manhattan, is one of (popular, more popular, the most popular) parks in New York.

**Задание № 3.**

Выберите нужную форму глагола **to be.** Перепишите и переведите предложения на русский язык.

1. Marilyn (are, were, is) in great shape due to her regular aerobics classes.

2. The dog (will be, was, is) well trained and didn’t hurt anyone.

3. Better (were, will be, to be) alone than in bad company.

4. Kind words like good deeds (are, was, am) eternal, you never know where their influence will end.

**Задание № 4.**

Вставьте **there’s** или **it’s.** Перепишите и переведите предложения на русский язык.

1. Don’t be upset about being late. … another advanced computer class today at four o’clock.

2. …not easy to cook dinner for the entire family.

3. …nice weather. I decided to forget my problems and just enjoy this beautiful spring day.

4. In many apartment and office buildings in the U.S. … no 13th floor. The 14th floor follows the 12th.

**Задание№ 5.**

Прочитайте и переведите текст письменно.

**NEW (MODERN) TYPES OF CONCRETE**

stamped concrete - штампованный бетон to replicate - копировать wear resistance - износостойкость self-compacting concrete - самоуплотняющийся бетон flowable - текучий fluidity - текучесть glass concrete - стеклобетон rapid strength concrete - быстротвердеющий бетон driveway aprons - подвижные подъездные пути pier - опора

*Stamped concrete* is an architectural concrete which has a superior surface finish. After a concrete floor has been laid, floor hardeners (can be pigmented) are impregnated on the surface and a mold which may be textured to replicate a stone / brick or even wood is stamped on to give an attractive textured surface finish. After sufficient hardening the surface is cleaned and generally sealed to give a protection. The wear resistance of stamped concrete is generally excellent and hence found in applications like parking lots, pavements, walkways etc.

*Self-Compacting Concrete* (SCC) is cohesive but flowable and took the shape of the formwork without use of any mechanical compaction. SCC is known as selfconsolidating concrete in the United States. SCC is characterized by extreme fluidity, no need for vibrators to compact the concrete, placement being easier, no bleed water, or aggregate segregation.

*Glass concrete.* The use of recycled glass as aggregate in concrete has become popular in modem times, with large scale research being carried out at Columbia University in New York. This greatly enhances the aesthetic appeal of the concrete. Recent research findings have shown that concrete made with recycled glass aggregates have shown better long-term strength and better thermal insulation due to its better thermal properties of the glass aggregates. GC without steel framing is commonly used for purely decorative applications such as decorative columns, exterior friezes, or limestone-Нке wall panels.

*Rapid strength concrete.* This type of concrete is able to develop high resistance within few hours after being manufactured. This feature has advantages such as removing the formwork early and to move forward in the building process at record time, repair road surfaces that become fully operational in just a few hours. It has wide structural application, full depth or repairs, in constructing highways, structural piers, bridge decks, balconies, parking garages, slabs, sidewalks, and patios, foundations and footings, driveway aprons.

**Задание№ 6.**

Заполните таблицу:

|  |  |  |
| --- | --- | --- |
| **Type of concrete** | **Properties** | **Usage** |
|  |  |  |
|  |  |  |

КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 8

**Задание № 1 Выберите правильный вариант ответа**

1. The dead load of a building ….. the weights of the ceilings the frame the floor roofs and the walls

A includes

B included

C has included

D will include

E include

2. When I was young I \_\_\_ to be a engineer

A was wanting

B were want

C wanted

D wanting

Ewants

3. What does construction of a building start with?

A foundation

B building material

C sand

D decoration

E excavation

4. We \_\_\_ a contract last year.

A has signed

B signed

C haven't sign

D have sign

E signing

5. I \_\_\_ back from a business trip to France last weekend.

A come

B came

C never came

D have just come

E will come

**Задание№ 2.**

Прочитайте и переведите текст письменно.

**CONSTRUCTION EQUIPMENT**

equipment - оборудование, техника hoist - подъемный механизм, лебедка excavation - котлован земляные работы, выемка грунта, conveyance - перемещение, транспортировка, перевозка to dig - рыть, копать obstruction - препятствие, преграда to grout - заливать раствор derrick - кран, стрела крана to compact - уплотнять cableway - подвесная дорога dozing - работа бульдозером compactor - каток grading - сортировка paver - асфальтоукладчик hauling - перевозка pile - свая power shovel - backhoe loader - bucket - экскаватор одноковшовый экскаваторпогрузчик ковш pile driver demolition hammer — blasting - сваебойное оборудование отбойный молоток подрывные работы

There is a wide variety of relatively heavy machines which perform specific construction (or demolition) functions. It is customary to classify construction machines in accordance with their functions. There have been few changes for many years in the basic types of machines available for specific jobs, and few in the basic configurations of those that have long been available.

The basic operations involved in the construction of any project are Excavation, Digging of large quantities of earth, Moving them to fairly long distances, Placement, Compacting, Leveling, Dozing, Grading, Hauling, etc. Construction equipment can be classified as under:

1. Excavating Equipment is divided into two main classes: standard land excavators and marine dredges; each has many variations. The standard land excavator comprises machines that merely dig earth and rock and place it in separate hauling units, as well as those that pick up and transport the materials. Among the former are power shovels, draglines, backhoes, cranes with a variety of buckets, front-end loaders, excavating belt loaders, trenchers, and the continuous bucket excavator. The second group includes such machines as bulldozers, scrapers of various types, and sometimes the Ifont-end loader.

2. Earthmoving Equipment (graders, bulldozers, wheel loader)

3. Hauling Equipment Excavated materials are moved great distances by a wide variety of conveyances. The most common of these are rear-dump trucks, which are classed as off-the-road trucks. Wagons towed by a rubber-tired prime mover are also used for hauling dirt. These commonly have bottom dumps which permit spreading dirt as the vehicle moves. In special cases side-dump trucks are also used. Conveyors, while not commonly used on construction jobs for hauling earth and rock great distances, have been used to good advantage on large jobs where obstructions make impractical the passage of trucks.

4. Hoisting Equipment is used to raise or lower materials from one elevation to another or to move them from one point to another over an obstruction. The main types of hoisting equipment are derricks, cableways, cranes (tower cranes, mobile cranes and crawler mounted cranes), elevators, and conveyors, builders hoist, passenger hoist.

5. Compacting Equipment (compactor, paver)

6. Pile Driving Equipment (pile driver)

7. Drilling Equipment is used to drill holes in rock for wells and for blasting, grouting, and exploring.

8. Equipment used for Concrete Works (concrete mixer, demolition hammer) Design emphasis for new machines is on modifications that increase speed, efficiency, and accuracy; that improve operator comfort and safety; and that protect the public through sound attenuation and emission control.

**Задание № 3.**

Прочитайте текст ещё раз. Напишите ответы на вопросы на английском языке.

1) What machines does compacting equipment include? 2) What functions do heavy machines perform?

3) What machines does earth moving equipment include? 4) Can side-dump trucks be used for hauling jobs? 5) What are wagons for hauling dirt towed by? 6) Is excavation equipment divided into three main classes?

КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 9

**Задание № 1 Выберите правильный вариант ответа**

1. Where \_\_\_ you go yesterday morning?

A had

B have

C has

D did

E is

2. The buildings erected in nowadays can be divided into

A six general classes

B three general classes

C five general classes

D four general classes

E two general classes

3. He \_\_\_ many instruments.

A have

B has

C haves

D have got

E having

4. Who decides the size of the walls the floors the beams the girders?

A bricklayer C welder E master

B builder D architect

5. The water supply and severage systems are called

A plumbing C ventilation E building

B electricity D heating system

**Задание№ 2.**

Прочитайте и переведите текст письменно.

**DUMP TRUCKS**

full truck chassis - buckhead - axle - payload capacity - wind row - to tilt - to impede - полноприводное шасси перемычка ось грузоподъемность гряда насыпного материала наклоняться мешать, препятствовать nimble - loose material - versatility - clam shell type dump gate - ram - dump body - to tip over - шустрый сыпучий материал подвижность секторный затвор домкрат кузов переворачивать

Dump trucks or production trucks are those that are used for transporting loose material such as sand, dirt, and gravel for construction. The typical dump truck is equipped with a hydraulically operated open box bed hinged at the rear, with the front being able to be lifted up to allow the contents to fall out on the ground at the site of delivery. Dump trucks come in many different configurations with each one specified to accomplish a specific task in the construction chain.

*Standard dump truck*

The standard dump truck is a full truck chassis with the dump body mounted onto the frame. The dump body is raised by a hydraulic ram lift that is mounted forward of the front bulkhead, normally between the truck cab and the dump body. The standard dump truck also has one front axle, and one or more rear axles which normally have dual wheels on each side. The common configurations for standard dump trucks include the six wheeler and ten wheeler.

*Transfer dump truck*

For the amount of noise made when transferring, the transfer dump truck is easy to recognize. It’s a standard dump truck that pulls a separate trailer which can be loaded with sand, asphalt, gravel, dirt, etc. The В box or aggregate container on the trailer is powered by an electric motor and rides on wheels and rolls off of the trailer and into the main dump box. The biggest advantage with this configuration is to maximize payload capacity without having to sacrifice the maneuverability of the short and nimble dump truck standards.

*Semi trailer end dump truck*

The semi end dump truck is a tractor trailer combination where the trailer itself contains the hydraulic hoist. The average semi end dump truck has a 3 axle tractor that pulls a 2 axle semi trailer. The advantage to having a semi end dump truck is rapid unloading.

*Semi trailer bottom dump truck*

A bottom dump truck is a 3 axle tractor that pulls a 2 axle trailer with a clam shell type dump gate in the belly of the trailer. The biggest advantage of a semi bottom dump truck is the ability to lay material in a wind row. This type of truck is also maneuverable in reverse as well, unlike the double and triple trailer configurations.

*Double and triple trailer*

The double and triple bottom dump trucks consist of a 2 axle tractor pulling a semi axle semi trailer and an additional trailer. These types of dump trucks allow the driver to lay material in wind rows without having to leave the cab or stop the truck. The biggest disadvantage is the difficulty in going in reverse. Side dump trucks Side dump trucks consist of a 3 axle trailer pulling a 2 axle semi trailer. It offers hydraulic rams that tilt the dump body onto the side, which spills the material to the left or right side of the trailer. The biggest advantages with these types of dump trucks are that they allow rapid unloading and carry more weight than other dump trucks. In addition to this, side dump trucks are almost impossible to tip over while dumping, unlike the semi end dump trucks which are very prone to being upset or tipped over. The length of these trucks impede maneuverability and limit versatility.

*Off road dump trucks*

Off road trucks resemble heavy construction equipment more than they do highway dump trucks. They are used strictly for off road mining and heavy dirt hauling jobs, such as excavation work. They are very big in size and perfect for those times when you need to dig out roads and need something to haul the massive amounts of dirt to another location.

**Задание№ 3.**

Заполните таблицу:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Types of Dump Trucks | Distinctive Features | Function | Advantages | Disadvantages |
|  |  |  |  |  |
|  |  |  |  |  |
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КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 10

**Задание № 1.**

Заполните пропуски соответствующими **личными или притяжательнымиместоимениями**, переведите предложения на русский язык:

1. I work with … (I) friend. I see … (he) every day. I help … (he) in … (he) work.

2. The girl is here, … came early.

3. Jane is … (I) sister. … is older than … am.

4. Thank … (you) for the book … gave … (I). … is very interesting.

5. Jane takes … (she) guitar lesson on Monday.

**Задание № 2.**

Заполните пропуски формами глагола **to be (am, is, are).** Переведите предложения на русский язык. Cделайте предложения вопросительными и отрицательными:

1. Moscow … the capital of our country.

2. These boys … students.

3. I … the best voleyball player of our group.

**Задание № 3.**

Заполните пропуски формами глагола **to have (have, has).** Переведите предложения на русский язык. Сделайте предложения вопросительными и отрицательными:

1. He … got good marks at the lesson.

2. We … got a new car.

**Задание № 4.**

Вставьте **there’s** или **it’s**. Перепишите и переведите предложения на русский язык.

1. … a boring book.

2. … a wonderful park in this city.

3. … cold outside.

4. … a lot of work to do for us.

**Задание№ 5.**

Прочитайте и переведите текст письменно.

**VARIOUS TYPES OF CRANES**

derrick - подъемная стрела pulley - ременный шкив to mount - монтировать pendant control подвесная станция station - управления boom - стрела (крана) to extend boom - увеличивать вылет стрелы boom swing - поворот стелы крана at angles - под углом hydraulic fluid - гидравлическая жидкость assembly area - место сборки trench - траншея to retract - втягивать to hinge - прикреплять на петлях backfill blade - отвал для обратной засыпки грунта vehicle - транспортное средство outriggers - выносная стрела

A crane is a tower or derrick that is equipped with cables and pulleys that are used to lift and lower material. They are commonly used in the construction industry and in the manufacturing of heavy equipment. Cranes for construction are normally temporary structures, either fixed to the ground or mounted on a purpose built vehicle. They can either be controlled from an operator in a cab that travels along with the crane, by a push button pendant control station, or by radio type controls. The crane operator is ultimately responsible for the safety of the crews and the crane. Mobile Cranes The most basic type of crane consists of a steel truss or telescopic boom mounted on a mobile platform, which could be a rail, wheeled, or even on a cat truck. The boom is hinged at the bottom and can be either raised or lowered by cables or hydraulic cylinders. Telescopic Crane This type of crane offers a boom that consists of a number of tubes fitted one inside of the other. A hydraulic mechanism extends or retracts the tubes to increase or decrease the length of the boom.

Tower Crane The tower crane is a modern form of a balance crane. When fixed to the ground, tower cranes will often give the best combination of height and lifting capacity and are also used when constructing tall buildings. Truck Mounted Crane Cranes mounted on a rubber tire truck will provide great mobility. Outriggers that extend vertically or horizontally are used to level and stabilize the crane during hoisting.

Rough Terrain Crane A crane that is mounted on an undercarriage with four rubber tires, designed for operations off road. The outriggers extend vertically and horizontally to level and stabilize the crane when hoisting. These types of cranes are single engine machines where the same engine is used for powering the undercarriage as it is for powering the crane. In these types of cranes, the engine is normally mounted in the undercarriage rather than in the upper portion. Uoader Crane A loader crane is a hydraulically powered articulated arm fitted to a trailer, equipment onto a trailer. The numerous sections can be folded into a small the crane isn’t in use. Overhead Crane Also referred to as a suspended crane, this type is normally used in a factory, with some of them being able to lift very heavy loads. The hoist is set on a trolley which will move in one direction along one or two beams, which move at angles to that direction along elevated or ground level tracks, often mounted along the side of an assembly area.

In the excavation world, cranes are used to move equipment or machinery. Cranes can quickly and easily move machinery into trenches or down steep hills, or even pipe. There are many types of cranes available, serving everything from excavation to road work. Cranes are also beneficial to building bridges or construction. For many years, cranes have proven to be an asset to the industry of construction and excavating. Crane operators make really good money, no matter what type of crane they are operating.

**Задание № 6.**

Прочитайте текст ещё раз. Напишите ответы на вопросы на английском языке.

1. What is the main purpose of cranes?

2. Where can they be used for?

3. Are cranes permanent structures?

4. What cranes can be used for constructing tall buildings?

5. What cranes are designed for off road works?

6. Where are overhead cranes used?

7. What things do loader cranes load?

8. What cranes provide great mobility?

9. What does a boom of a telescopic crane consist of?

КОНТРОЛЬНАЯ РАБОТА №3

Вариант № 11

**Задание № 1.**

Заполните пропуски соответствующими **личными или притяжательными местоимениями**, переведите предложения на русский язык:

1. In the morning … (I) sister takes … (she) books and go to school. I see … (she) in the evening.

2. Ted and Jack are here, … came early.

3. Mary gave … (he) the book and asked to return … to … (she) next week.

4. … (we) flat is on the third floor, … windows face the sea.

5. I invite Tom to … (I) party, … hope … will bring … (he) friend with … (he) .

**Задание № 2.**

Заполните пропуски формами глагола **to be (am, is, are).** Переведите предложения на русский язык. Cделайте предложения вопросительными и отрицательными:

1. Winter … the coldest season of the year.

2. The days … long in summer.

3. I … his sister.

**Задание № 3.**

Заполните пропуски формами глагола **to have (have, has).** Переведите предложения на русский язык. Сделайте предложения вопросительными и отрицательными:

1. She … got a new car.

2. We … many lessons on Monday.

**Задание№ 5.**

Прочитайте и переведите текст письменно.

**BULLDOZER**

crawler - гусеничный ход, гусеница equipped - оборудованный blade - отвал rubble - щебень densely compacted materials - плотно утрамбованные материалы tracked tractor - гусеничный трактор tracks - гусеницы ground holding capability - сцепление с грунтом mobility - мобильность, маневренность rough terrain - пересеченная местность, ground pressure - давление на грунт hydraulic arms - гидравлические манипуляторы to remove - убирать, удалять articulation joint - шарнирное сочленение actuated hydraulically - c гидравлическим приводом angledozer - бульдозер с поворотным отвалом to level - выравнивать irreplaceable - незаменимый automatic transmission - автоматическая коробка передач grade control - система управления

A bulldozer is a crawler equipped with a large metal plate (known as a blade) used to push large quantities of soil, sand, rubble, or other such material during construction and typically equipped at the rear with a claw-like device (known as a ripper) to loosen densely compacted materials. The term "bulldozer" is often used erroneously to mean any heavy equipment (sometimes a loader and sometimes an excavator), but precisely, the term refers only to a tractor (usually tracked) fitted with a dozer blade.

The tracks give them excellent ground holding capability and mobility through very rough terrain. Wide tracks help distribute the bulldozer's weight over a large area (decreasing ground pressure), thus preventing it from sinking in sandy or muddy ground.

Because of these attributes, bulldozers are often used in road building, construction, mining, forestry, land clearing and any other projects requiring highly mobile, powerful, and stable earth-moving equipment.

 Bulldozers have been further modified over time to evolve into new machines which can work in ways that the original bulldozer cannot.

One example is that loader tractors were created by removing the blade and substituting a large volume bucket and hydraulic arms which can raise and lower the bucket, thus making it useful for scooping up earth and loading it into trucks.

Other modifications to the original bulldozer include making it smaller to let it operate in small work areas where movement is limited.

Another type of bulldozer is the wheeled bulldozer, which generally has four wheels driven by a 4-wheel-drive system and has a hydraulic system. The blade is mounted forward of the articulation joint, and is hydraulically actuated.

Some lightweight forms of bulldozer are commonly used in snow removal and as a tool for preparing winter sports areas for ski and snowboard sports.

There is a modification of dozer (an angledozer) where the blade can be pushed forward at one end to make it easier to push material away to the side.

Nevertheless, the original earthmoving bulldozers are still irreplaceable as their tasks are concentrated in deforestation, earthmoving, ground levelling, and road carving. Heavy bulldozers are mainly employed to level the terrain to prepare it for construction. Over the years, bulldozers grew more sophisticated. Improvements include an automatic transmission instead of a manual transmission, blade movement controlled by hydraulic cylinders or electric motors instead of early models' cable winch/brake, and automatic grade control. A more recent innovation is the outfitting of bulldozers with GPS technology.

 **Задание № 6.**

Прочитайте текст ещё раз. Напишите ответы на вопросы на английском языке.

Answer the following questions:

1) What are the main parts of a bulldozer?

2) What are the tracks of a bulldozer used for?

3) Where are bulldozers often used?

4) What kinds of bulldozers do you know?

5) What do advanced bulldozers include?