Государственное бюджетное профессиональное образовательное учреждение Иркутской области
Иркутский техникум транспорта и строительства

МЕТОДИЧЕСКИЕ УКАЗАНИЯ К ПРАКТИЧЕСКИМ РАБОТАМ УЧЕБНОЙ ДИСЦИПЛИНЫ
Иностранный язык в профессиональной деятельности
по специальности среднего профессионального образования
15.02.10 Мехатроника и робототехника (по отраслям)
СГ.02

Иркутск, 2026

Методические указания для выполнения практических работ составлены на основе рабочей программы учебной дисциплины, которая разработана на основе: Федерального государственного образовательного стандарта среднего общего образования, утвержденного приказом Министерства образования и науки РФ от 17 мая 2012 года № 413 с изменениями и дополнениями от 29 декабря 2014 г., 31 декабря 2015 г., 29 июня 2017 г., 12.08.2022 г. Пр. №732;
Федеральной образовательной программы среднего общего образования (Приказ Минпросвещения России от 18.05.2023 N 371 "Об утверждении федеральной образовательной программы среднего общего образования" (Зарегистрировано в Минюсте России 12.07.2023 N 74228));
Федерального государственного образовательного стандарта по специальности 15.02.10
Мехатроника и робототехника от 14 сентября 2023 № 684

Организация – разработчик: ГБПОУ ИО «Иркутский техникум транспорта и строительства»

Разработчик: преподаватель Линейцева Эльвира Разимовна
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Рассмотрено на заседании ДЦК
Протокол № 10 от 11.06. 2026 г

ПЕРЕЧЕНЬ

практических работ по учебной дисциплине
Иностранный язык в профессиональной деятельности
по специальности 15.02.10 Мехатроника и робототехника
СГ.02.

Название ПР	Количество часов
ПЗ №1 Образование.	2
ПЗ №2 Развитие и инновации образования в России.	2
ПЗ№3 Развитие образования.	2
ПЗ№4 Университеты Оксфорд и Кембридж.	2
ПЗ№5 Образование в США.	2
ПЗ№6 Мой колледж.	2
ПЗ№7 Обучение в зарубежном колледже.	2
ПЗ№8 Оформление документации.	2
ПЗ№9 Великие живописцы России.	2
ПЗ№10 Великие живописцы Англии.	2
ПЗ№11 Великие поэты, писатели России.	2
ПЗ№12 Великие поэты, писатели Англии.	2
ПЗ№13 Великие российские и английские композиторы.	2
ПЗ№14 Музыка современного поколения.	2
ПЗ№15 Великие ученые.	2
ПЗ№16 Главная наука.	2
ПЗ№17 Наука и ученые.	
ПЗ№18 Величайшие открытия.	2
ПЗ№19 Путешествия.	2
ПЗ№20 В аэропорту. На таможне.	2
ПЗ№21 В гостинице. В ресторане.	2
ПЗ№22 Общение с персоналом.	2
Чтение и драматизация диалогов по тексту «В гостинице, в ресторане».	2
ПЗ№23 Туристическая поездка.	2
ПЗ№24 Мое путешествие.	2
ПЗ№25 Правила этикета.	2

ПЗ№26 Диалог-побуждение к действию, диалог-обмен информацией.	
ПЗ№27 Диалоги смешанного типа.	2
ПЗ№28 Профессии человека.	2
ПЗ№29 Выбор профессии.	2
ПЗ№30 Работа.	2
ПЗ№31 Профессии мужчин и женщин.	2
ПЗ№32 Моя будущая специальность – мехатроника.	2
ПЗ№33 Мой день в колледже.	2
ПЗ№34 Инженерия.	2
ПЗ№35 Мехатроника.	2
ПЗ№36 Времена глаголов группы Perfect Active, the Present, Past, Future Perfect Active»; «Предлоги for, since особенности	2
их употребления	2
ПЗ№37 Электронные и электрические системы	2
ПЗ№38 Элементы электронных и электрических систем	2
ПЗ№39 Элементы электронных и электрических систем на предприятиях г. Иркутска	2
ПЗ№40 Гидростатическое оборудование	2
ПЗ№41 The Present and Past Simple Passive	2
ПЗ№42 Гидравлические и пневматические приводы	2
ПЗ№43 Гидравлические и пневматические приводы	2
ПЗ№44 Автоматизация	2
ПЗ№45 The Present and Past Progressive Passive, The Present and Past Perfect Passive	2
ПЗ№46 Типы автоматизации	2
ПЗ№47 Типы автоматизации	2
ПЗ№48 Гибкие производственные системы	
ПЗ№49 Гибкие производственные комплексы на предприятиях города Иркутска	2
ПЗ№50 Гибкие производственные комплексы на предприятиях города Иркутской области	2
ПЗ№51 Роботизированные комплексы	2
ПЗ №52 Принципы работы промышленных роботизированных систем	2
ПЗ№53 Современные мехатронные системы	2
ПЗ№54 Автоматизированное машиностроение».	2
ПЗ№55 Мехатронные системы в автоматизированном машиностроении	2
ПЗ№56Мехатронные системы в автоматизированном машиностроении	2
ПЗ№57 Металлообрабатывающие центры	2
ПЗ№58 Многофункциональные металлообрабатывающие центры	2

ПЗ№59 Многофункциональные металлообрабатывающие центры	2
ПЗ№60 Многофункциональные металлообрабатывающие центры	2
ПЗ№61 История чемпионатов профессионального мастерства	2
ПЗ№62 Причастие 1 и 2	2
ПЗ№63 Неличные формы глагола	2
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ПЗ№65 Победители чемпионата в России	2
ПЗ№66 Победители чемпионата г. Иркутска	2
ПЗ№67 Официальные документы	2
ПЗ№68 Техническое описание компетенций, представляемых на чемпионатах профессионального мастерства	2
ПЗ№69 Компетенция Мехатроника	2
ПЗ№70 Компетенция Мехатроника	2
ПЗ№71 Формат и структура Конкурсного задания.	2
ПЗ№72 Компетенция «Мобильная робототехника	2
ПЗ№73 Перечень видов конкурсных заданий по компетенции «Мобильная робототехника»	2
ПЗ№74 Резюме	2
ПЗ№75 Заявление о приеме на работу	2
ПЗ№76 Заполнение анкеты работодателя.	2
ПЗ№77 Условные предложения.	2
ПЗ№78 Собеседование у работодателя	2
ПЗ№79 Документы, необходимые при собеседовании	2
ПЗ№80 Резюме	2
ПЗ№81 Профессии будущего	2
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Пояснительная записка

Методические указания предназначены для обучающихся по специальности среднего профессионального образования 15.02.10 Мехатроника и робототехника (по отраслям) СГ.02
Целью методических указаний является методическое сопровождение обучающихся при выполнении практической работы.

Выполнение обучающимися практических работ способствует формированию:

Код	Наименование формируемых компетенций
ОК 01.	Выбирать способы решения задач профессиональной деятельности, применительно к различным контекстам.
ОК 02.	Использовать современные средства поиска, анализа и интерпретации информации и информационные технологии для выполнения задач профессиональной деятельности.
ОК 03.	Планировать и реализовывать собственное профессиональное и личностное развитие, предпринимательскую деятельность в профессиональной сфере, использовать знания по правовой и финансовой грамотности в различных жизненных ситуациях.
ОК 04.	Эффективно взаимодействовать и работать в коллективе и команде.
ОК 05.	Осуществлять устную и письменную коммуникацию на государственном языке Российской Федерации с учетом особенностей социального и культурного контекста.
ОК 06.	Проявлять гражданско-патриотическую позицию, демонстрировать осознанное поведение на основе традиционных российских духовно-нравственных ценностей, в том числе с учетом гармонизации межнациональных и межрелигиозных отношений, применять стандарты антикоррупционного поведения.
ОК 07.	Содействовать сохранению окружающей среды, ресурсосбережению, применять знания об изменении климата, принципы бережливого производства, эффективно действовать в чрезвычайных ситуациях.
ОК 08.	Использовать средства физической культуры для сохранения и укрепления здоровья в процессе профессиональной деятельности и поддержания необходимого уровня физической подготовленности.
ОК 09.	Пользоваться профессиональной документацией на государственном и иностранном языках.

ПК 1.1	Выполнять сборку различных узлов мехатронных устройств и систем
ПК 1.2.	Выполнять снятие и установку датчиков мехатронных устройств и систем
ПК 1.3.	Производить наладку и регулировку различных узлов и агрегатов мехатронных устройств и систем
ПК 1.4.	Проводить настройку комплексов следящих приводов в составе мехатронных устройств и систем
ПК 1.5	Выполнять установку программного обеспечения электронных и компьютерных модулей и узлов мехатронных устройств и систем
ПК 1.6	Проводить конфигурирование и настройку программного обеспечения мехатронных устройств и систем
ПК 1.7	Проводить конфигурирование и настройку программного обеспечения клиент-серверных систем сбора и анализа данных (промышленного интернета вещей)
ПК 1.8	Проводить конфигурирование и настройку параметров информационной вычислительной сети мехатронной системы
ПК 1.9	Проводить комплексную настройку мехатронных устройств и систем с использованием программного обеспечения контроллеров и управляющих ЭВМ, их устройств управления
ПК 2.1.	Выявлять внешние дефекты узлов и агрегатов мехатронных устройств и систем в результате их внешнего осмотра
ПК 2.2.	Проверять соответствие диагностируемых параметров узлов, агрегатов и электронных модулей мехатронных устройств и систем требованиям эксплуатационной документации
ПК 2.3.	Проводить контроль работоспособности программного обеспечения электронных устройств управления, приводов и датчиков мехатронных устройств и систем
ПК 2.4	Выявлять отработавшие ресурс или вышедшие из строя компоненты мехатронных устройств и систем
ПК 2.5	Заменять отработавшие ресурс или вышедшие из строя компоненты мехатронных устройств и систем
ПК 2.6	Проводить контроль корректности работы и обновление программного обеспечения мехатронных устройств и систем
ПК 2.7	Проводить текущее техническое обслуживание узлов и агрегатов мехатронных устройств и систем
ПК 3.1.	Проводить монтаж и коммутацию датчиков РТС
ПК 3.2.	Проводить проверку и установку навесного оборудования на базу РТС
ПК 3.3.	Выполнять монтаж и настройку средств измерений и робототехнических устройств и систем
ПК 3.4	Проводить синхронизацию навесного оборудования с блоком управления и питания РТС

ПК 3.5	Разрабатывать управляющие программы и контролировать их исполнение РТС
ПК 3.6	Выполнять пуск и наладку средств роботизации
ПК 3.7	Проводить обработку данных, полученных с внутренних систем контроля РТС и навесного оборудования
ПК 3.8	Проводить диагностику, техническое обслуживание и устранение мелких неисправностей внешних и внутренних систем РСТ

Методические указания предназначены для организации учебного процесса по данной дисциплине, а также подготовки и проведению практических занятий и их проверки.
Практические задания предназначены для закрепления теоретического материала по учебной дисциплине СГ.02 Иностранный язык в профессиональной деятельности и выработки навыков его применения.
Практические занятия являются важными видами учебной работы обучающегося по учебной дисциплине и выполняются в пределах часов, предусмотренных учебным планом. Программа включает в себя: учебная нагрузка обучающихся 162 ч., включая практические занятия, — 162 ч, профессионально ориентированное содержание – 162 ч..
Цель данных методических указаний состоит в оказании помощи обучающимся при проведении практических занятий по изучению данной дисциплины, достижении предметных и метапредметных результатов.

КОНТРОЛЬ ВЫПОЛНЕНИЯ ПРАКТИЧЕСКИХ ЗАНЯТИЙ

Критерии оценки

Отметка «5» ставится в том случае, если:

- перевод текста полный, без пропусков и произвольных сокращений оригинала;
- перевод текста не содержит лексико-грамматических ошибок;
- профессиональная терминология использована правильно и единообразно;
- упражнения выполнены в полном объеме без лексико-грамматических ошибок;
- допускаются некоторые погрешности в форме предъявления письменных работ.

Отметка «4» ставится в том случае, если:

- перевод полный, без пропусков и произвольных сокращений текста оригинала;
- допускается одна или две лексические или грамматические ошибки, при условии отсутствия потерь информации и стилистических погрешностей на других фрагментах текста;
- имеются несущественные погрешности в использовании профессиональной терминологии;
- упражнения выполнены в полном объеме, но имеют одну или две незначительные лексические или грамматические ошибки;
- допускаются некоторые нарушения в форме предъявления письменных работ.

Отметка «3» ставится в том случае, если:

- перевод текста содержит три или четыре лексические и грамматические ошибки;
- низкая коммуникативность и плохая «читабельность» текста затрудняют его понимание;
- при переводе профессиональной терминологии не соблюден принцип единообразия;
- упражнения выполнены не в полном объеме и имеют три или четыре грубых лексических или грамматических ошибок;
- имеются нарушения в форме предъявления письменных работ.

Отметка «2» ставится в том случае, если:

- перевод текста содержит большое количество лексических и грамматических ошибок;
- нарушена полнота перевода текста, его эквивалентность и адекватность;
- имеются существенные погрешности в использовании профессиональной терминологии;
- упражнения не выполнены;
- допускаются грубые нарушения в форме предъявления письменных работ.

ПЗ №1 Образование.

1.Прочтите и переведите текст:

EDUCATION IN RUSSIA

Citizens of Russia have the right for education which is guaranteed by the Constitution. The public educational system in our country incorporates pre-school,
general school, specialized secondary and higher education. Pre-school consists of kindergartens and creches. Children there learn reading, writing and arithmetic. But pre-school education isn't compulsory - children can get it at home. Compulsory education is for children from 6(7) to 17 years of age. The main link in the system of education is the general school which prepares the younger generation for life and work in modern production. There are various types of schools: general secondary schools, schools specializing in a certain subject, high schools, lyceums and so on. Tuition in most of them is free of charge, but some new types of schools are fee-paying. The term of study in a general secondary school is 11 years and consists of primary, middle and upper stages. At the middle stage of a secondary school the children learn the basic laws of nature and society at the lessons of history, algebra, literature, physics and many others. After the 9th form pupils have to sit for examinations. Also they have a choice between entering the 10th grade of a general secondary school and enrolling in a specialized secondary or vocational school. Persons who finish the general secondary school, receive a secondary education certificate, giving them the right to enter any higher educational establishment. Entrance examinations are held in July and August. Institutions are headed by rectors; the faculties are headed by the deans. One has to study in the institute for 5 years. Higher educational institutions train students in one or several specializations.

2.Расскажите о системе образования в России.

3. Запишите слова и выражения, которые необходимо знать по данной теме: compulsory - обязательная
nursery school - детский сад exam - экзамен subject - предмет university - университет private - частный opportunity - возможность to award - давать, присваивать bachelor - бакалавр master – магистр

EDUCATION IN BRITAIN

In England and Wales compulsory school begins at the age of five, but before that age children can go to a nursery school, also called play school. School is compulsory till the children are 16 years old.
In Primary School and First School children learn to read and write and the basis of arithmetic. In the higher classes of Primary School (or in Middle School) children learn geography, history, religion and, in some schools, a foreign language. Then children go to the Secondary School.
When students are 16 years old they may take an exam in various subjects in order to have a qualification. These qualifications can be either G.C.S.E. (General Certificate of Secondary Education) or "O level" (Ordinary level). After that students can either leave school and start working or continue their studies in the same school as before. If they continue, when they are 18, they have to take further examinations which are necessary for getting into university or college.
Some parents choose private schools for their children. They are very expensive but considered to provide a better education and good job opportunities.
In England there are 47 universities, including the Open University which teaches via TV and radio, about 400 colleges and institutes of higher education. The oldest universities in England are Oxford and Cambridge. Generally, universities award two kinds of degrees: the Bachelor's degree and

the Master's degree.
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5.Ответьте на вопросы:

1.When does compulsory school begin?
2.How long does a child stay in compulsory school?
3.What subjects do children learn in Primary School?
4.What kind of exam do students have to take when they are 16?
5.Do students have to leave school at the age of 16 or to continue their studies?
6.How do private schools differ from the regular ones?
7.How many universities are there in England?
8.What is the Open University?
9.What kinds of degrees do universities award?

6.Расположите следующие утверждения под соответствующим заголовком: GB, Russia:

1.Children ages 6-7/17 attend school
2.Pupils do not wear school uniforms
3.Pupils have a lunch at school free of charge
4.School discipline is not very strict
5.Summer vacations from June to August
6.Education is divided into 4 stages
7.Children ages 5-16/18 attend school
8.Pupils have to wear school uniforms to school
9.Pupils eat a hot lunch at school
10.Pupils have exams at the ages of 7, 11, 13 and 16

11.There are state and private schools in the country
12.School discipline is very strict.
7.Подведение итогов работы, оценивание.

ПЗ №2 Развитие и инновации образования в России.

Before reading the text answer the questions:

1. Is education compulsory in Russia?
2. What kind of school do you attend?
3. Do you pay for your education?
4. Would you like to study in a private school? Why?

Words for the text:

1. **academic subjects** – учебные предметы
2. **competition** – зд. конкурс
3. **fierce** — жесткий
4. **public** — государственный
5. **bachelor's degree** – диплом бакалавра
6. **specialist's degre**e – диплом инженера
7. **master's degree** – диплом магистра
8. **higher education** — высшее образование
9. **institutions of higher education** — высшие учебные заведения

All Russian children have the right to education, but it is not only a right, it is a duty, too. Education in our country is **compulsory** and now lasts eleven years. It consists of primary **education and secondary education.**
Primary education starts at the age of 6 or 7 and continues for four years. After finishing primary school pupils go on to **secondary school**. The school year starts in September and ends in May. Generally there 4 school terms with holidays up to 10 days between them. The summer holidays last from June to September.
Most schools in Russia are c**omprehensive**, which take pupils of all abilities without **entrance exams.** As a rule, pstudents go to school 5 days a week. But there are also **specialized schools,** lyceums and gymnasiums, which give **profound knowledge** in various **academic subjects**. In lyceums and gymnasiums students study 6 days a week.
After finishing the 9th form students must take 4 examinations. Then young people can choose to stay at school, enter a college or a technical school. But to **enter a university** they have to study for two more years (either at school or at college).
Higher education in Russia.
There are many colleges and universities in our country, but it is not easy to **enter a university** or college as the **competition** is rather **fierce**. Most of the colleges and universities are **public** and students do not have to pay for their education.

After 4 years of study students can pass examinations and get a **bachelor's degree**, after 5 years a **specialist's degree** and after 6 years a **master's degree.**

There are a lot of **institutions of higher education** in our country:

- the Moscow State University (Московский Государственный Университет)
- the Linguistic University, known as Maurice Thorez Institute of Foreign Languages (Лингвистический Университет, известный как Институт иностранных языков имени Мориса Терезы)
- People's Friendship University of Russia (Российский Университет Дружбы Народов)

They are well-known not only in Russia but also abroad.

Задание. *Retell the text to make sure that you have remembered the words:*

1. **study academic subjects**
2. **there is a fierce competition**
3. **take entrance exams**
4. **enter a university**
5. **get profound knowledge**
6. **get a bachelor's degree**
7. **get higher education**
8. **various institutions of higher education**

ПЗ№3 Развитие образования.

1. Прочтите и переведите текст

Future of Russian education

In Russia, people most of all believe in hybrid education and that the future of education lies in micro-qualification programs and a combination of study and practice. Such are the results of a study on the influence of global trends on Russian education conducted by the Laboratory of Educational Innovation at the Higher School of Economics together with Rosatom. This is the second time the study has been conducted.

To find out what innovations will come to education in 2023 and how much the Russian and European "visions of the future" coincide, researchers took the top 10 new global trends in teaching. These were identified by researchers from the Institute of Educational Technology at The Open University (Great Britain) in cooperation with the Open University of Catalonia (Spain) and published in a report titled Innovating Pedagogy. Russian education is included in the global context, while retaining its specificity. Experts in Russian education, as well as students and schoolchildren, were asked to comment on which of the world trends our pedagogical community is already actively using, which have the potential for development in 2023, and which are less relevant for our country. A survey was also conducted among participants of the Contest of Innovations in Education (CIE). Global trends were evaluated by 370 innovators from 60 regions of Russia.

1. Hybrid learning

The combination of classroom and online learning is more often noted by innovators from large cities, especially among university employees. Experts warn, however, that without teacher training and the necessary technological infrastructure, for example, in villages, the hybrid format is not possible.

2. Micro-qualification programs.

More than half of those who chose this trend are innovators from big cities, mostly of mature age, rather than young people. The experts we surveyed predict growth of the trend for micro-qualification programs both globally and in Russia. In some professional spheres, such as programming, law or psychology, microlearning has become a standard long ago.

3. Combining theory and practice

Young innovators and male innovators more often point to the combination of learning and practice as an important trend for Russia. Experts note a steady development of this trend and emergence of new formats.

4. Education in social networks

While only a third of innovators chose this trend, experts consider it rather promising: gaining knowledge in social networks at the intersection of education and entertainment can fill the gaps of formal education and increase motivation to study. Most of us use blogs and social networks anyway, so teachers should take this trend into account and use it.

5. Autonomous pedagogy

This trend is more often noted by young innovators and respondents from small towns. Experts emphasize its importance especially for older students and adults. But when the educational trajectory is unique for each student, the question arises about the comparability of the qualifications obtained by them.

6. Education for psychological health

This trend was especially noted by female innovators and the youngest participants in the study (up to 21 years). This is consistent with the opinion of experts that older generations find it more difficult to recognize the importance of psychological help and literacy.

7. Home pedagogy

This trend has caused mixed attitudes among experts and students alike. On the one hand, it is important to take into account the home circumstances of the student, but on the other hand, active school intervention in the family space can harm the relationship among students, parents, and teachers. Useful consideration of the home environment is possible when education is individualized and resourced.

8. Watch Parties

Expert opinions split on this one. Some believe that watching and discussing films builds communication skills and understanding of art. Others argue that the student remains passive in this approach, and it is more useful for developing creative skills and critical thinking if students create videos or select videos together.

9. Reflecting Negative Emotions

This trend is especially often chosen by innovators under the age of 21. Experts noted that in Russia this trend is underdeveloped while highly relevant. It is related to the social-emotional skills of teachers and students and could help prevent school bullying and discrimination in society.

10. Walk-and-talk

Walk-and-talk learning opportunities especially appeal to urban innovators and those working in supplemental education. Experts are skeptical about the idea of traditional walk-and-talk lessons, unless they involve preschoolers or very small groups of students. At the same time, for certain topics and

disciplines, such as architecture or ecology, getting out of the classroom can be useful.

2. Составьте 10 вопросов по тексту

3. Выберите тренд в образовании, который вам кажется наиболее перспективным и обоснуйте свой ответ (7-10 предложений)

4. Подведение итогов работы, оценивание.

ПЗ№4 Университеты Оксфорд и Кембридж.

Прочитайте и переведите текст, выполните задания к тексту

OXBRIDGE

Oxford and Cambridge are the oldest and most prestigious universities in Great Britain. They are often called collectively Oxbridge. Both universities are independent. Only the education elite go to Oxford or Cambridge. Most of their students are former public schools leavers.

The normal length of the degree course is three years, after which the students take the Degree of Bachelor of Arts (B.A.). Some courses, such as languages or medicine, may be one or two years longer. The students may work for other degrees as well. The degrees are awarded at public degree ceremonies'. Oxford and Cambridge cling to their traditions, such as the use of Latin at degree ceremonies. Full academic dress is worn at examinations. Oxford and Cambridge universities consist of a number of colleges. Each college is different, but in many ways they are alike. Each college has its name, its coat of arms. Each college is governed by a Master. The larger ones have more than 400 members, the smallest colleges have less than 30. Each college offers teaching in a wide range of subjects. Within, the college one will normally find a chapel, a dining hall, a library, rooms for undergraduates, fellows and the Master, and also rooms for teaching purposes. Oxford is one of the oldest universities in Europe. It is the second largest in Britain, after London. There are now twenty-four colleges for men, five for women and another five which have both men and women members, many from overseas studying for higher degrees. The local car industry in East Oxford gives an important addition to the city's outlook. There a great deal of bicycle traffic both in Oxford and Cambridge.

Задание 1. Дайте письменно английские эквиваленты к следующим словам и выражениям:

Образование, длительность, преподавание, предметы, экзамены, выпускники школ, предлагает широкий выбор, директор, частные школы, дипломы о высшем образовании.

Задание 2. Дайте письменные ответы на следующие вопросы:

1. Who studies at Oxford and Cambridge Universities?
2. How many years do students study to get a Bachelor degree?
3. What language is used at degree ceremonies?
4. Do students have to wear an official dress at the ceremony?
5. What rooms can be found in the colleges?
6. Who governs the colleges?
7. Do men and women always study together?
8. Would you like to study in Oxbridge? Why?

Упражнение 1. Write in There’s / There’re.
_____ some universities in the city
_____ some jam on the table.
_____ some cornflakes in the cupboard.
_____ some sugar in the glass.
_____ two cups of tea on the table.

Упражнение 2. Напиши каждое предложение в отрицательной и вопросительной форме.

There are many pupils in the classroom.
There is some meat on the plate.
There are four parks in the city.

Упражнение 3. Составь и запиши предложения.

1. pears / there / ten / in the / are / bag / .
2. aren’t / pupils / there / classroom / in the / .
3. an egg / on the / there / plate / is / ?
4. on the / there / a / cat / chair / is / white / .
5. a turtle / on / there / isn’t / farm / this / .
6. at the / two / bikes / door / are / there / ?

ПЗ№5 Образование в США.

1.Запишите слова и выражения, которые необходимо знать по данной теме: compulsory - обязательный to involve - включать schooling - обучение в школе to be divided into - делиться на trimester - триместр quarter - четверть respectively - соответственно to vary - варьироваться to consist of - состоять из elementary education - начальное образование secondary education - среднее образование higher education - высшее образование notion - понятие preschool education - дошкольное образование to get acquainted with — знакомиться с nursery school - детский сад to aim - быть нацеленным
to acquire the experience of association - получить опыт общения grade - класс
General History -всеобщая история
sex and drug education - сексуальное образование и уроки, посвященные изучению социальной роли наркотиков skill - навык goal - цель

curriculum - расписание, учебный план specific - конкретный, определённый
Social Studies - обществознание opportunity - возможность elective subject - предметы по выбору according to - в соответствии с guidance counselor - советник по профессиональной ориентации various - разнообразный freshman - новичок sophomore - студент второго курса колледжа или ученик 10-го класса средней школы junior - студент предпоследнего курса колледжа или ученик 11-го класса средней школы senior - студент последнего класса колледжа или ученик 12-го класса средней школы majority - большинство bachelor's degree - степень бакалавра master's degree - степень магистра to be engaged in - заниматься чем-либо research work - научно-исследовательская работа

2.Прочтите и переведите текст:

EDUCATION IN THE USA

Education in the United States of America is compulsory for children from the age of 6 till 16 (or 18). It involves 12 years of schooling. A school year starts at the end of August or at the beginning of September and ends in late June or early July. The whole school year is divided into three terms/trimesters or four quarters. American students have winter, spring and summer holidays which last 2 or 3 weeks and 6 or 8 weeks, respectively. The length of the school year varies among the states as well as the day length. Students go to school 5 days a week.

The American education system consists of 3 basic components: elementary, secondary and higher education. There is also such a notion as preschool education. At the age of 4 or 5 children just get acquainted with the formal education in a nursery school. The preschool education programme aims to prepare children for elementary school through playing and help them to acquire the experience of association. It lasts for one year. Then they go to the first grade (or grade 1).

Elementary education starts when pupils are 6 years old. The programme of studies in the elementary school includes the following subjects: English, Arithmetic, Geography, History of the USA, Natural sciences, Physical Training, Singing, Drawing, wood or metal work. The education is mostly concentrated on the basic skills (speaking, reading, writing and arithmetic). Sometimes children also learn some foreign languages, general history and such new subjects as drug and sex education. The main goal of elementary education is the general intellectual, social and physical development of a pupil from 5 to 12 or 15 years old.

Secondary education begins when children move on to high or secondary school in the ninth grade, where they continue their studies until the twelfth grade. The secondary school curriculum is built around specific subjects rather than general skills. Although there is always a number of basic subjects in the curriculum: English, Mathematics, Science, Social Studies and Physical Education, the students have an opportunity to learn some elective subjects, which are not necessary for everybody. After the first two years of education they can select subjects according to their professional interests. The electives are to be connected with the students' future work or further education at university or college. Every high school has a special teacher - a guidance counselor who helps the students to choose these elective subjects. Moreover, he helps them with some social problems, too. The elective courses are different in various schools.

Members of each grade in high school have special names: students in the ninth grade are called freshmen, tenth graders are called sophomores, eleventh graders are juniors and as for twelfth graders, they are seniors.

After graduating from high schools the majority of the Americans go on studying at higher education establishments. In universities they have to study for four years to get a bachelor's degree. In order to get a master's degree they must study two years more and, besides, be engaged in a research work.

3.Ответьте на вопросы:

1.At what age do American students start and finish their compulsory education?

2.How are the school years called in the United States?
3.The length of the school year varies among the states, doesn't it?
4.What are the basic components of American education?
5.Do all children have to attend a nursery school?
6.When does elementary education start?
7.What is the main aim of elementary education?
8.The secondary school curriculum doesn't imply a number of basic subjects, does it?
9.What are elective subjects?
10.Who is a guidance counselor?

4. Подведение итогов работы, оценивание.

ПЗ№6 Мой колледж.

Vocabulary:

a hall of residence, power engineering, professional training, graduates, picturesque, outstanding people, well-designed, multimedia projection units, an Assembly hall, a canteen, sports facilities, nonresident students, a welder, an accountant, teaching practice, workshop, hardworking, experienced.

My college

After finishing secondary school young people can continue their education at different kinds of technical schools or colleges. Professional training makes it easier to get a higher education.

The classrooms in our college are comfortable and well-designed. They are equipped with computers and multimedia projection units. There are laboratories for studying physics, chemistry and biology. In our college there are 2 computer classrooms where students learn to use the Internet to create their first computer programs and projects in different subjects. On the second floor there is a library with a reading room. There is also a large Assembly hall for concerts and performances. One of the most popular places among the students is a canteen. In our college there are good sports facilities: a large gym, a stadium.

Today the college provides training in such specialties and professions as a welder, a car mechanic, a crane operator. Teaching practice takes place in the workshops. There are all kinds of tools and machines in the workshops.

We are hardworking. They always take part in different educational programs, quizzes and competitions and therefore achieve good results. Many of them get a scholarship. Experienced teachers help to create a friendly atmosphere for learning. They prepare students for entering the best universities of

our country. Studying at the college is a hard work but a real pleasure.

ПЗ№7 Обучение в зарубежном колледже.

7 countries where you can get a college degree and still work in your profession

It is easier to enroll in a foreign college than in a university, and studying costs less. At the same time, you can get a real profession and get a job in another country after two or three years of training. Mel and WorldSkills Russia tell you how and why to get secondary special education in seven different countries.

Spain

Universidad Deusto

Compared to the rest of Europe, studying in Spain is quite cheap — an average of 200-500 euros per year. Yes, and life here is inexpensive: in a large city, you can rent a room for 300 euros per month, about the same amount will be spent on food. The stage of study that is responsible for secondary vocational education is called Formacion Profesional: Grado Medio. Training lasts one to two years, with 25% of the total academic time spent on practical training. Specialties include nuclear medicine, dentistry, 3D animation, djing, and sound engineering.

The Grado Medio program is available to anyone over the age of 17. To enroll, you need to submit a high school certificate or pass the entrance exams. A graduate of such a program receives a junior specialist's diploma, which is recognized in all European countries. With such a diploma, you can get a job or go to high school, and some of the subjects you have already completed will be counted automatically. To enter a Spanish university, Grado Medio alone will not be enough: you will also need to complete the second, higher level of professional education — Grado Superior.

Cyprus

Cyprus College

Most of the specialties in Cyprus are somehow connected with tourism — a third of the island's population earns on it. Thanks to this, local hotels, travel agencies and transport companies always have places for internships. Two other reasons to choose Cyprus are the warm climate (and the sea!) and simplified visa relations with Russia. But it is not cheap to study at local colleges — up to 3,500 euros per year.

In some colleges, after studying for a year or two longer, you can get a bachelor's degree. And after three years of study at the Higher Technological College of Cyprus, you can get an international diploma in engineering and continue your education in any other country. Some Cypriot colleges have dual degree programs accredited by UK and US educational institutions.

You can enter college from the age of 15 by submitting a certificate of completed secondary education and a certificate in English — IELTS or TOEFL.

Irish

Dublin Institute of Technology

Educational institutions in Ireland are not divided into universities and colleges — they together make up the so-called "third level" in the local education system. For example, in state technological institutes, you can get both a secondary professional education and an academic degree. But the certificate of professional education is much more valuable in the areas of computer technology, business, industry and services.

Short-term professional training programs are designed for 1-3 years. After graduation, the student is issued a national certificate (after two years of study) or a national diploma (after three years).

You can enter a college or institute of technology from the age of 16, but the main stream of students will be over the age of 18: before this age, they still study in secondary school in Ireland. Russian students need a certificate of completed secondary education and a TOEFL or IELTS certificate for admission. The cost of studying in Ireland is lower than in neighboring Great Britain, but still quite high — 10-13 000 euros per year. Many colleges offer scholarships to international students that cover up to 60% of the cost per year of study.

Commerce

Canada

Douglas College

Canadian colleges are divided into three types: community, technical, and CEGEP colleges. The latter are available only in the province of Quebec and purposefully prepare French-speaking students for admission to universities in Quebec. It is easier for foreigners to enter public and technical colleges (and more useful if you want to get a profession). So you can learn, for example, to become a cosmetologist, physiotherapist, 3D designer, system administrator or immigration consultant.

A community college course lasts two years. After that, the student receives a certificate of incomplete higher education and can, if desired, enroll immediately in the third year of one of the partner universities. At the technical college, students also study for two years, but the main part of the training takes place in laboratories and workshops, and after graduation, students receive diplomas on secondary vocational education. With such a diploma, a foreigner receives a three-year Post Graduate Work Permit in Canada, and then can apply for a residence permit. Training costs from 5000 euros per year.

You can enter a Canadian college from the age of 18. You will need a certificate of completed secondary education and a certificate of passing the TOEFL or IELTS language exam. Some colleges conduct their own entrance exams or ask you to take preparatory courses.

France

Lycée Professionnel Marie Balavenne

Recently, training in professional lyceums (Lycée Professionnel) has become increasingly popular in France. This reduces the unemployment rate among local youth, and gives foreigners the opportunity to get into the language environment and get a working specialty that will be in demand in France. Here they teach how to care for young children, train municipal civil servants and housekeepers. The latter have, for example, such items as cooking food and caring for clothes.

The best part is that in France, education is either completely free or costs very little. Secondary vocational education costs 350-700 euros per year. The curriculum is designed for two years, of which 12-22 weeks are practical exercises. With a certificate of graduation from the lyceum, a student can go to get a job or enroll in a university for a bachelor's degree. If you want to get an academic education, but four years at the university seems like a waste of time, there is an option to go to the one — year professional bachelor's degree program at the same lyceum. You can enter the French lyceum from the age of 15.

Holland

Wellantcollege

A special secondary education (MBE) program in the Netherlands can last from one to four years. You can go to work at the end of any program, and enter the university-only after four years.

Colleges of secondary vocational education are considered to be the main suppliers of personnel to the labor market in the Netherlands — about 40% of

Dutch employees now have received such an education. Among all Dutch educational institutions, colleges have the closest ties to companies that are constantly in need of employees. When colleges receive requests from companies about what skills they need, they teach these skills to their students and pass them on directly to the employer. The most popular areas that students choose from year to year are economics, healthcare, technical specialties, and agriculture.

To get into the MBO program, you need to reach the age of 16 and get a certificate of completed secondary education. The good news is that if you are under the age of 18, studying in the Netherlands is free of charge. Those over the age of 18 need to pay the tuition fee that the Ministry of Education sets each year.

Great Britain

York College

There are two types of colleges offering secondary vocational education in the UK: Colleges of Further Education and pre-university Colleges of Sixth Form. Studying at these colleges is considered quite prestigious. This explains the rather high cost of training — 15-40 000 euros per year.

A graduate of a British college receives a national certificate of professional qualification, with which you can go to get a job. If, after graduating from college, there is a desire to enter a university — they will be readily accepted there, they will take into account the subjects already passed in college, and in some cases they will even immediately enroll in the second or third year.

You can start college at the age of 16. Russian students, in addition to the school certificate, need to provide a certificate of passing the English language exam TOEFL or IELTS.

2. Заполните таблицу в соответствии с текстом

College	Admission requirements	Advantages

ПЗ№8 Оформление документации.

Ознакомьтесь с образцом составления письма -заявки и исправьте ошибки. Запишите верный вариант в тетрадь

Request for application materials sample
Mr Ken Smith
9034 Commerce Street
Detroit, Michigan
USA, 90345

ParkInn Hotel
7834 17th Street
Tampa, Florida

June 28, 2013

Dear Sir or Madam
I'd like to book a single room in your hotel from August 1 till August 10. Could you please tell me the price per night including breakfast and dinner if possible? Do you have airport transfer and car rent service?

I am looking forward to you reply,
Mr Ken Smith

June 28, 2013
Mr Ken Smith
9034 Commerce Street
Detroit, Michigan
USA, 90345
I am looking forward to you reply,
Mr Ken Smith

Florida ParkInn Hotel Tampa, 17th Street7834

Dear Sir or Madam
I'd like to book a single room in your hotel from August 1 till August 10. Could you please tell me the price per night including breakfast and dinner if possible? Do you have airport transfer and car rent service?

Covering letter sample

NORTHERN ILLINOIS UNIVERSITY
Career Services
Division of Academic Affairs

Campus Life Building · Room 220 · DeKalb, Illinois 60115 · (815) 753-1641
niu.edu/CareerServices · careerservices@niu.edu · facebook.com/NIUCareerServices

The Cover Letter

Your Name
Street Address
City, State Zip Code
Phone Number
E-Mail Address

Today's Date

(Mr./ Mrs./ Ms./ Dr.) First & Last Name, Job Title
Department
Company
Street Address
City, State ZIP

Dear (Mr./ Mrs./ Ms./ Dr.) First & Last Name:

Your opening paragraph should arouse the reader's interest. Tell why you are writing the letter. State that you are applying for a specific position and indicate how you found out about the job. Explain why you are specifically interested in employment with this company.

Your middle paragraph(s) should address the employer's hiring needs. Target the information to the job requirements and/or research the employer to identify what those needs may be. Give detailed information about your relevant qualifications and how they match the job requirements, and show the reader why s/he should consider you as a prospective employee. Be as specific as possible about what you can do; don't make the reader try to guess. After reading this letter, there shouldn't be any doubt in the reader's mind as to why you think you are qualified.

In your closing paragraph, refer the reader to your enclosed resume and thank the reader for taking time to review your materials. Mention your interest in an interview. You may also state that you will follow-up in writing or by phone after a specific date.

Sincerely,
Your Name

Enclosure: Resume *(this is traditionally written when a paper copy of your cover letter and resume are being mailed; it may be left off when the documents are being e-mailed or uploaded to an online application.)*

Ознакомьтесь с образцом составления сопроводительного письма и составьте аналогичное для сопровождения груза в другой город. Запишите письмо в тетрадь

Работа с письмами (Acceptance and refusal)

Переведите на английский язык письмо отказ и на русский язык письмо согласие. Составьте по аналогии свои варианты

От: г-н Уильям Блэк, менеджер по персоналу, Лит&Ко
7834 Гранд стрит, Даллас, Техас

Кому: г-жа Кейт Лэйн
9034 Денвер стрит, Даллас, Техас, США 90345

24 мая 2013 года

Уважаемая г-жа Лэйн
К сожалению, мы не можем дать вам какие-либо рекомендации. Вы проработали в нашей компании всего лишь один месяц, а это слишком мало, чтобы давать оценку Вашим способностям. Я надеюсь на Ваше понимание и желаю Вам всего самого наилучшего.

С уважением,
Уильям Блэк,
Менеджер по персоналу

Credit Refusal Letter

Date

Receiver's Name

Company

Address

ZIP Code

Dear Receiver's Name,

We are thankful for your application for credit and our products/services. We are looking forward to having good terms business relations with you.

According to the recent survey, we regret to inform you that we cannot approve of as many credit applicants We are trying to maintain reasonable and competitive prices. Currently, we are not in a condition for appro but we assure you that once you satisfy our terms after doing long-term business, we will approve for the same. We are looking for a favourable history establishment with good business. We will not refuse your credit requests once you meet our terms and conditions.

We know you are busy with your work, but we assure you to review your account regularly after months and look if we can offer you credit.

It is a great pleasure for us to do business with you.

Sincerely,

Your Name

Credit Refusal Letter

Date

Receiver's Name
Company
Address
ZIP Code

Dear Receiver's Name,

We are thankful for your application for credit and our products/services. We are looking forward to having good terms business relations with you.

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We know you are busy with your work, but we assure you to review your account regularly after months and look if we can offer you credit.

It is a great pleasure for us to do business with you.

Sincerely,
Your Name

ПЗ№9 Великие живописцы России.

1. Прочтите и переведите текст

Son of a Russian composer and music critic, **Valentin Alexandrovich Serov** was encouraged to pursue his artistic talents from a young age. Realism was an influential art movement whose artists decided to portray, with uncompromising truth and accuracy, the people and situations of the present. The art of Serov was inspired by the Realist movement. His most famous artworks are portraits which concentrate on the spontaneity of perception of his models and capture their psychological characteristics. These include the Girl with Peaches, perhaps his greatest and most renowned work. In his later years, Serov worked on themes from classical mythology giving them his personal interpretation. Valentin Serov was one of the leading portrait artists of his time and he produced some of the greatest works of Russian realist art.

Natalia Sergeevna Goncharova was born in a wealthy and artistic family. She was a descendant of Aleksandr Pushkin, the legendary Russian novelist. She was in fact named Natalia after Pushkin's wife. In 1910, Natalia exhibited in Moscow becoming one of the founding members of the Jack of Diamonds, Moscow's first radical independent exhibiting group. The same year, she also held her first solo exhibition, which was denounced by the press for its "disgusting depravation." Natalia was even put on trial for pornography, but was acquitted. She then became a founding member of Der Blaue Reiter (The Blue Rider), one of two groups fundamental to the influential art movement Expressionism. She eventually pioneered Rayonism, a style of abstract art in which natural appearances are depicted as semi-abstractions of radiating rays of light. Natalia Goncharova played an important role in the development of modern art and she is perhaps Russia's most famous female artist.

Ivan Ivanovich Shishkin was a member of Peredvizhniki, also known as The Wanderers and the Itinerants' Society. They were a group of Russian realist artists who protested against academic restrictions and were critical of the social environment in Tsarist Russia. Among other things, the Peredvizhniki painted landscapes to explore the beauty of their own country and encourage ordinary people to love and preserve it. Ivan Shishkin used painting as a way to study nature. Throughout his long, successful and prodigious career, he focused on the Russian landscape especially its native forests. It is said that there was no one at that time who depicted trees more realistically, honestly and with greater love. His artwork Morning in a Pine Forest is one of the most famous Russian paintings of all time. Along with Isaac Levitan, Ivan Shishkin is one of the most successful landscape artists of Russia.

Little is known with certainty about **Andrei Rublev**. Even his birthplace and date of birth is unknown. Also as Russian painters did not sign their works until the 17th century, paintings can be assigned to him only on the basis of written evidence or of style. Despite all this, Andrei Rublev is considered one of the greatest medieval Russian artists. He specialized as a painter of Orthodox icons and frescos. His icon The Trinity, which depicts the three angels who visited Abraham, is regarded as one of the highest achievements of Russian art. Andrei Rublev combined the highest asceticism and the classic harmony of Byzantine mannerism in his artworks. The characters of his paintings are always peaceful and calm. The Russian Orthodox Church canonized Rublev as a saint in 1988.

Isaac Ilyich Levitan was born into a poor but educated family. His family encouraged his artistic talents and he was enrolled in the Moscow School of Painting. His mother died when he was fifteen and two years later his father also died leaving him homeless. It was one of his teachers who took him on as an apprentice to provide some monetary aid. At the age of 17, Isaac had experienced the sorrows of abject poverty and this reflected in his paintings. Isaac Levitan is now regarded as one of Russia's most influential landscape artists. His choice of subject was dictated by mood, a central category in his personal aesthetics. He is thus credited for being the founder of what has been called the "mood landscape". Levitan created landscapes which reflect the smallness of mankind next to the vastness of heaven. All of his work is marked with the theme of eternity, even in its smallest, most modest

manifestation.

Ivan Aivazovsky was one of the leading Russian artists of his time who also served as the main painter of the Russian Navy. He was a prolific artist whose career spanned for almost 60 years during which he created around 6,000 paintings. Aivazovsky was awarded the Order of St. Vladimir in 1865 and the Order of St. Alexander Nevsky in 1897 by the Russian Empire. He was also one of the few Russian artists to achieve worldwide recognition during his lifetime. In 1857, he became the first non-French artist to receive the Legion of Honour. The following year, he was awarded the Order of the Medjidie by the Ottoman Empire. Ivan Aivazovsky is the most famous Russian Romantic painter. He is also regarded as one of the greatest marine artists of all time. Well known Russian writer Anton Chekhov coined the phrase "worthy of Aivazovsky's brush". It became the standard way of describing something overwhelmingly lovely in 19th century Russia.

Ilya Repin was also a member of Peredvizhniki. His works are categorized under Social Realism, a genre which draws attention to the everyday conditions of the working class and the poor; and is critical of social structures that lead to these conditions. Repin was constantly in search for new techniques and content to give more depth to his works. He had the artistic gift to sense the spirit of the age and he used his work to depict its impact on individuals. Repin is most famous for capturing the peasant life in his works, perhaps better than any other artist in history. Ilya Repin was the most renowned Russian artist of the 19th century, with his position in the art world being comparable to that of Leo Tolstoy in literature. Among other things, he played a major role in bringing Russian art into the mainstream of European culture.

Geometric abstraction is a form of abstract art based on the use of geometric forms. **Kazimir Malevich** was the founder of the art movement known as Suprematism, which focused on basic geometric forms, such as circles, squares, lines, and rectangles, and the use of limited range of colors. He is thus a pioneer of geometric abstract art. His 1915 Suprematist painting Black Square is one of the most famous and influential works in the history of abstract art. Malevich was also an art theoretician and wrote the book The World as Non-Objectivity, which outlined his suprematist theories. He was a key figure in the development of total abstraction and reducing a painting to its geometric essence. Kazimir Malevich is the most famous Russian abstract artist after Wassily Kandinsky.

Marc Zakharovich Chagall was one of the most influential modern artists. He was associated with a number of modern art movements including Cubism, Symbolism, Fauvism and Surrealism. However, throughout these phases he remained above all "a Jewish artist, whose work was one long dreamy reverie of life in his native village of Vitebsk". During his time, he was the foremost Jewish artist in the world and has since been referred to as "the quintessential Jewish artist of the twentieth century". Marc Chagall worked in a variety of media but is most renowned for his paintings. His artworks are usually lively and imaginative. They often combine the various art styles he knew with his folkish style. Marc Chagall has been described as a "pioneer of modern art and one of its greatest figurative painters who invented a visual language that recorded the thrill and terror of the twentieth century."

Initially a teacher of law and economics**, Wassily Kandinsky** gave up his promising career to pursue his interests in art. He rose to prominence in the 1910s to become one of the leading figures in modern art. Kandinsky was a pioneer of abstract art and he painted some of the earliest works in the genre including what is known as the First Abstract Watercolor. Music, being abstract in nature, was an inherent part of his art and he named some of his spontaneous works as "improvisations" and elaborate ones as "compositions". Apart from being a painter, Kandinsky was also a prominent art theorist whose books had an enormous and profound influence on future artists. For his tremendous contribution in moving the art world away from representational traditions and towards abstraction, Wassily Kandinsky is considered by many as the "Father of Abstract Art". He is the most famous Russian artist.

2. Заполнить таблицу, используя информацию из текста и из сети Интернет

Name	Lifespan	Masterpiece	Other Famous Works

ПЗ№10 Великие живописцы Европы.

Прочитайте и переведите текст «Famous European artists», выполнение упражнений к тексту.

Leonardo Da Vinci	In 1452, Leonardo Da Vinci was born in an Italian town called Vinci. He lived in a time period called the Renaissa when everyone was interested in art. Even though Da Vinci was a great artist, he became famous because of all the other things he could do. He was a sculptor, a scientist, an inventor, an architect, a musician, and a mathematician. When he was twenty, he helped his teacher finish a painting called *The Baptism of Christ*. When h was thirty, he moved to Milan. That is where he painted most of his pictures. Da Vinci's paintings were done in the Realist style.
Paul Klee	Paul Klee was born in Switzerland on December 18, 1887. He loved cats. He painted the a lot. He had at least 8,92 works of art. In these works of art, he used simple lines and strong colours. He also used simple shapes to make important parts of the painting. Klee painted in many styles, but a lot of them were in the Primitive and Surrealist styles.
Claude Monet	Claude Monet was born in 1840 on November 14 in Paris. Even when he was young he was a very good artist. Hi pictures were so good that an art supply store let him hang his pictures in their window. Monet's parents did not want him to become an artist because they thought he would not make a good living. That not stop him though. When he was 20, he studied art at an inexpensive art school in Paris. Monet often went on trips around France to paint. . This is where he painted his Impressionist cathedral paintings became very famous. His house also had a wonderful garden with a lily pond that had a Japanese bridge across it. These were his favourite things to paint. Monet died in 1926. Unlike many artists, he was famous even before he died. Now his house in Giverny is a muse that is visited by many people.
Pablo Picasso	Pablo Picasso was born in Malaga, Spain on October 5, 1881. His father, Jose Ruiz, was also an artist. Picasso pai in many styles, including Cubism and Expressionism. He also sculpted. In cubism, he tried to show the dimensions the objects in his paintings. When he painted in the classical style, his shapes were round and soft. In cubism, his shapes were square and hard.

	When Picasso painted, he had a blue period and a rose period. For about three years in his early twenties, he used mostly light blue colours in his paintings. The rose period came after the blue period. It began after he moved from Spain to France. Because he could work in multiple styles, Picasso became very famous. He used great lines and colour in his paintings.
Vincent Van Gogh	Van Gogh was born in Holland in 1853. He worked at many jobs, such as at an art gallery, a bookstore, as a preacher, and at last, he became an artist. He didn't have a very happy life. He painted sad paintings with poor people in them. His paintings were always very dark until he saw some colorful Japanese paintings. Then Van Gogh started painting happier paintings. Most of his work was in the Postimpressionist style. One day, he moved to live with his brother because he was unhappy where he lived, and he wanted to find someone to paint with. When he finally found someone, he wished he hadn't. Van Gogh and the other artist did not get along. After this, Van Gogh became so sad that he cut part of his ear off! After these things happened, he painted one more gloomy painting. It was called *Wheatfield with Crows.* After he finished it, he shot himself.
Andy Warhol	Andy Warhol was born in Pittsburgh, Pennsylvania in 1928. Andy was born with a natural talent for art. His mother encouraged him with his drawings. His teachers thought he had such a good talent for art that he should go to weekend art class. When his family saved enough money to send Andy to art college, he went to Carnagie Institute of Technology, where he studied design and illustration. That's where he developed his unusual art style. When he graduated from school he went to New York City for a job. He got jobs doing magazine illustrations, decorating department store windows, greeting cards, record albums, book covers, and suns, clouds, and raindrops for television weather reports. He still was not satisfied because he was not famous. His friend suggested him to draw everyday items. This was called Popular, or Pop Art. People liked his pictures because they were bright, attractive, and familiar. Warhol liked getting people’s ideas for new drawings. He also tried making films. Warhol died in 1987. By that time, he was a famous artist. His works made people think of the important, everyday things in their lives.

True or false statements

1. In his paintings, Marc Chagall often used geometric shapes.

2. Salvador Dali painted everyday items in strange and mysterious ways.

3. Leonardo Da Vinci painted in Abstract style.

4. Paul Klee had a few works of art.

5. Claude Monet’s favourite thing to paint was a lily pond with a Japanese bridge across it.

6. Picasso became very famous because he could work in many styles.

7. Van Gogh's paintings were always bright and colourful.

8. The works of Andy Warhol were attractive and bright.

ПЗ№11 Великие поэты, писатели России.

1. Прочтите и переведите текст

Boris Leonidovich Pasternak was born in an artistic Jewish household in Moscow. His father was an art professor and a well-known artist while his mother was a concert pianist. As his father was a portraitist, several leading personalities were frequent guests at his home including novelist Leo Tolstoy, poet Rainer Maria Rilke and composer Sergey Rachmaninoff. After initially planning to be a musician, Pasternak decided that his true calling was literature. With the publication of his collection of poetry, My Sister Life, he gained a place as a leading poet among his Russian contemporaries. Though Pasternak was primarily famous as a poet in Russia, in the west he gained fame with his novel Doctor Zhivago. The novel was refused publication in Russia due to its rejection of socialist realism. The manuscript was then smuggled to Milan and published in 1957. Doctor Zhivago became an instant sensation throughout the non-Communist world. However, though it was an international best seller, it was circulated only in secrecy and translation in his own land. It also helped Pasternak get the Nobel Prize for Literature in 1958, an award he refused it due to pressure in the Soviet Union. His descendants accepted the prize in 1988 and since 2003, Doctor Zhivago has been part of the main Russian school curriculum.

Born in Russian nobility**, Pushkin** published his first poem when he was 15 and by the time he graduated his talent was already widely recognized within the Russian literary scene. Due to his controversial works like the poem "Ode to Liberty", he was exiled by Tsar Alexander I of Russia. Upon meeting with Tsar Nicholas I, Pushkin was able to obtain his release from exile but he was kept under surveillance and the tsar retained strict control of everything Pushkin published. Pushkin married Natalia Goncharova, one of the most talked-about beauties of Moscow. Rumors of an affair between his wife and French military officer Georges-Charles de Heeckeren d'Anthès led to a duel between the two in which Pushkin was fatally wounded at the age of just 37. Alexander Pushkin is widely regarded as the greatest Russian poet and the founder of modern Russian literature. As a novelist, he wrote several great works the most famous of which is his novel in verse, Eugene Onegin

Born in Russian nobility, **Ivan Sergeyevich Turgenev** became fluent in French, German and English at a young age. After studying at the University of Moscow and the University of Saint Petersburg, he studied at the University of Berlin from 1838 to 1841. Impressed with German society, he believed that Russia would improve if it incorporated ideas from the Age of Enlightenment. As an author, Turgenev first came to prominence with his collection of short stories titled A Sportsman's Sketches. Fathers and Sons, his most famous and enduring novel, was published in 1862. Focusing on the relationship between the older generation and the youth, it went on to become one of the most acclaimed Russian novels of the 19th century. Ivan Turgenev was the first Russian writer to be widely celebrated in the West and as such he played a key role in popularizing Russian literature outside his nation. However, he was hated by the radicals as well as by Tolstoy and Dostoyevsky for his dedicated Westernism. The work of Turgenev is distinguished from his more famous contemporaries by its sophisticated lack of hyperbole and its balance.

A member of the petty gentry, **Nikolai Gogol** spent the first nineteen years of his life in Ukraine, which was then part of the Russian Empire. At the age of 22, his collection of short stories, Evenings on a Farm Near Dikanka, was published. His writing captivated the Russian literary world with is genuine

folk flavor and liveliness along with his sense of the macabre. Though not his first, the story collection was his breakthrough work. It was an immediate success making Gogol famous overnight. The most famous work of Gogol, Dead Souls, was published in 1842. The novel is widely regarded as an exemplar of 19th century Russian literature. Although Gogol intended it to be part of a trilogy, he suffered creative decline in his later years and couldn't finish its second part to his satisfaction. Gogol had a unique style of writing which has been compared to the "ostranenie" technique, which makes people view common things in a strange and unfamiliar way to know them deeply. Nikolai Gogol had a huge influence on Russian and world literature, which has been acknowledged by Fyodor Dostoevsky and Franz Kafka, among others.

Alexei Maximovich Peshkov, primarily known as Maxim Gorky, lost his father at the age of five. His mother remarried and he was raised by his maternal grandparents. His grandfather treated him harshly and send him out to earn a living at the age of 8. Maximovich was frequently beaten by his employers and was often hungry and ill clothed. The bitterness of these early experiences later led him to choose the word gorky ("bitter") as his pseudonym. Maximovich traveled on foot across the Russian Empire for five years, which led him to experience the life in Russia firsthand. These experiences would later be reflected in his writings. The first published work of Gorky, Essays and Stories (1898), enjoyed a sensational success. The following year his novel Foma Gordeyev established him as a major novelist. The most famous novel of Gorky was Mother (1906), regarded in the Soviet Union as a classic of "socialist realism." Maxim Gorky was also a political activist who opposed the Tsarist regime and took part in revolutionary activities for a time. As a writer, Gorky was a five-time nominee for the Nobel Prize in Literature. Many regard him as the greatest Russian writer of the 20th century.

Born into a family of Cossack intellectuals**, Aleksandr Isayevich Solzhenitsyn** lost his father before he was born and was thus primarily raised by his mother and his aunt. Solzhenitsyn studied mathematics and physics at Rostov State University. At the same time, he took correspondence courses in literature at Moscow State University. He fought during the Second World War but during his service he began doubting the moral foundations of the Soviet regime. In a letter to a friend, he criticized the Soviet dictator Joseph Stalin. This led to his being arrested in 1945 and he had to spent eight years in prisons and labor camps. Solzhenitsyn became an outspoken critic of the Soviet Union and Communism. This led to his losing his Soviet citizenship in 1974. He moved with his family to the United States in 1976, where he continued to write. Shortly before the dissolution of the Soviet Union, his citizenship was restored. He returned to Russia in 1994 and stayed there till his death in 2008. The most famous work of Solzhenitsyn is The Gulag Archipelago, which "amounted to a head-on challenge to the Soviet state". Aleksandr Solzhenitsyn was awarded the Nobel Prize in Literature in 1970 and he remains one of the best known Russian novelists.

Also known by the pen name **Vladimir Sirin, Vladimir Vladimirovich Nabokov** was born in a wealthy family in Russian nobility. After the Russian Revolution, his family was forced to flee from Saint Petersburg. While in England, Nabokov enrolled in Trinity College of the University of Cambridge. His family moved to Berlin in 1920 and he joined them two years later after completing his studies at Cambridge. In Berlin, Nabokov became a somewhat recognized writer. However, he had to support himself by teaching languages and giving tennis and boxing lessons. In May 1940, the Nabokovs fled the advancing German troops and settled in Manhattan, United States. Vladimir wrote Lolita while traveling in the western United States. Lolita quickly attained a classic status and was adapted into a film by Stanley Kubrick in 1962. After the great financial success of Lolita, Nabokov returned to Europe and devoted himself to writing. It is to be noted that before Lolita, no book he wrote in Russian or English produced more than a few hundred dollars. Apart from Lolita, his 1962 novel Pale Fire is regarded as one of the best works of the 20th century. Both these novels rank in the Modern Library 100 Best Novels list with Lolita occupying the 4th and Pale Fire the 53rd spot.

Fyodor Mikhailovich Dostoevsky was part of a noble family of Russian Orthodox Christians. As a young child, he was exposed to heroic sagas, fairy

tales and legends by his nanny. As he grew up, his parents exposed him to a wide range of literature. Dostoevsky himself reports that his imagination was brought alive by nightly readings by his parents. After graduating from the Academy of Military Engineering in St. Petersburg, Dostoevsky took a job as a lieutenant engineer. However, he was unsuited for this occupation and soon took up writing. As soon as his first novel Poor Folk was published in 1846, Dostoevsky was hailed as the great new talent of Russian literature by the most influential critic of his day, Vissarion Belinsky. Dostoevsky went on to write 12 novels, 4 novellas, 16 short stories and numerous other works. His literature explores human psychology in the troubled political, social and spiritual atmospheres of 19th century Russia. Fyodor Dostoevsky is regarded by critics as one of the finest novelists who ever lived. Moreover, he is considered as one of the greatest psychologists in the history of literature. Literary modernism, existentialism and various schools of psychology, theology and literary criticism have been profoundly shaped by his ideas.

Lev Nikolayevich Tolstoy was born in a prominent family of old Russian nobility. His first novel, Childhood, was published in 1852. After serving in the army during the Crimean War, Tolstoy converted from a privileged society author to a non-violent and spiritual anarchist. The most famous works of Tolstoy are his novels War and Peace (1867) and Anna Karenina (1877), which are commonly regarded as among the finest novels ever written. His fiction includes dozens of short stories and several novellas including The Death of Ivan Ilyich (1886), regarded as one of the best examples of a novella. Apart from his work as a writer, Tolstoy also achieved fame as a moral and religious teacher. His ideas on nonviolent resistance had a profound impact on such pivotal 20th-century figures as Mahatma Gandhi and Martin Luther King Jr. A master of realistic fiction, Leo Tolstoy is regarded as one of the greatest authors of all time. He received nominations for the Nobel Prize in Literature every year from 1902 to 1906. That he never won is a major controversy. Leo Tolstoy is undoubtedly the most famous Russian novelist.

2. Заполнить таблицу, используя информацию из текста и из сети Интернет

Name	Lifespan	Main Novel	Other Famous Novels

ПЗ№12 Великие поэты, писатели Англии.

Read about these famous people.

Writers

William Shakespeare: 1564-1616

William Shakespeare was born in Stratford-upon-Avon, England, where he received an excellent classical education. At the age of eighteen he married Anne Hathaway, and they had three children. Shakespeare was playwright and poet. As he rose in popularity, he wrote plays for the famous Globe Theatre, a round, open-roofed building that housed approximately 2,000 spectators. Later Shakespeare became one of the owners of the Globe Theatre. Unlike many writers who never live to enjoy their fame, Shakespeare achieved great recognition during his lifetime. He wrote three types of plays: comedies, tragedies and histories. He also wrote narrative poems, sonnets and lyric poetry. He is acknowledged as one of the greatest writers of all time, and has remained popular with readers around the world.

Charles Dickens: 1812-1870

Charles Dickens was a novelist who provided Victorian England with one of its greatest champions of reform. Dickens used his novels to identify and address many problems of the nineteenth century, such as child abuse, unfair labour practices, unjustices in the legal system, and weaknesses in education. Dickens had experienced many of these problems in his own childhood, and so he dedicated his life to bringing about social reform. Some of

his most popular novels include, David Copperfield, Oliver Twist, A Tale of Two Cities, and Great Expectations.

Rudyard Kipling: 1865-1936

Rudyard Kipling was an English novelist, short-story writer and poet. He is most widely known for his works for children, especially the "Jungle Book." Kipling was born in Bombay, India, in 1865 but attended school in England. After completing his education, he returned to India where he worked as a newspaper reporter for several years. Many of Kipling's stories and novels reflect his experiences in India and convey the importance of duty and unselfishness. He was awarded the Nobel Prize for literature in 1907.

Washington Irving: 1783-1859

The first American writer to gain international attention was Washington Irving. He was bom to a wealthy New York family and received an excellent education. He began his writing career by creating satires about New York society. He later wrote about the Dutch influences upon the city in its early days. He attempted to give America a sense of a romantic past like that found in Europe, and he recorded some of the important developments in the exploration of the western regions of the country. His most popular work by far was The Sketch Book, which contains two of his most beloved stories, "The Legend of Sleepy Hollow" and "Rip Van Winkle."

Henry Wadsworth Longfellow: 1807-1882

Henry Wadsworth Longfellow was one of the most widely read American poets of the 19th century. From 1835 to 1854 he was Smith Professor of Modern Languages at Harvard. In 1884, 2 years after his death, he became the first American to be honoured with a bust in the Poets' Corner of Westminster Abbey, London. He is best remembered for poems such as "The Song of Hiawatha" and "Paul Revere's Ride."

Mark Twain: 1835-1910

Mark Twain left his hometown of Hannibal, Missouri at the age of eighteen. His real name was Samuel Clemens, but he took his penname from a term used by the men who operated the river boats. They would call, "By the mark, twain!" This meant that the river was two (twain) feet deep. Mark Twain began his career as a newspaper writer. Later in life he used memories from his childhood to create some of his most popular novels, including The Adventures of Tom Sawyer and The Adventures of Huckleberry Finn. Twain used humour to develop many serious themes in his novels and to help society see itself more clearly.

O'Henry: 1862-1910

O'Henry is a well-known American short-story writer. He had to earn his living from the age of fifteen and he educated himself with the help of friends.

O'Henry knew people very well, especially the ordinary people of New York. In his stories you can feel satirical criticism of the American way of life. Most of his short stories are full of warm sympathy for ordinary American people.

O'Henry was the penname used by author William Sydney Porter. Porter was a great admirer of another American writer, Edgar Allan Poe, and he was influenced by Poe's style. O'Henry wrote many popular stories and earned a reputation as the master of surprise endings. He was especially talented at developing his characters, and at portraying city life accurately. He wrote over 600 stories.

abuse — оскорбление
accurately —точно
achieve recognition — получить признание
admirer — поклонник, обожатель

approximately —приблизительно
attend — посещать
be acknowledged — быть признанным
contain —содержать, зд. Включать
convey — выражать
developing — создание
Dutch — голландский
earn — заслуживать
educate —давать образование, воспитывать
ending — конец
gain international attention — получить международное признание
identify — отождествлять
influence — оказывать влияние (на)
narrative —эпический
ordinary —обычный, обыкновенный
playwright —драматург
portray —описывать
satire — сатира
spectator —зритель
surprise —неожиданный
sympathy— сочувствие, симпатия
unselfishness —бескорыстие
wealthy — состоятельный

Author Review. *Match*

1. William Shakespeare 2. Washington Irving 3. O'Henry 4. Charles Dickens 5. Henry Wadsworth Longfellow 6. Rudyard	1. The first American writer to earn international recognition. 2. This author's real name was Samuel Clemens. 3. He built the famous Globe Theatre in London. 4. He used his novels to encourage social reforms in England. 5. Surprise endings were this writer's characteristic trademark. 6. He was awarded the Nobel Prize for literature in 1907. 7. He became the first American to be honoured with a bust in the Poets' Corner of Westminster Abbey, London.

Kipling 7. Mark Twain	

Telling about a writer or a poet.

1. I know that many people like to read books.
2. As for me, I … like / don`t like to read books.
3. I read books … (when I have free time; when my teachers give us a task).
4. My favourite … (writer, poet) is…(name). / I would like to tell you about… (name).
5. …is a great ….(Russian, English. American) poet/writer.
6. He / she is a … (well-known, famous, world-known) person.
7. He / she was born in …(place), …(year).
8. He / she spent his/her childhood in … (place).
9. *His / her* parents were …(rich/ poor, intelligent, peasants/ workers/ doctors…).
10. *His / her* mother was a… (pretty, nice, beautiful, kind) woman.
11. *His / her* father was a … (handsome, kind, severe) man.
12. He/she studied … (at school, university, academy).
13. He/she began writing his/her … (stories, novels, poems) when he/she was … years old.
14. He / she wrote …(many stories, novels, poems).
15. He /she wrote about … (people's lives, adventures, historical events, magic things).
16. The best known of them are … .
17. I … like/don`t like his/her …(stories, novels, poems).
18. They are … and … (interesting, exciting, boring, thrilling).
19. I … (would /wouldn`t) recommend them to everybody.
20. I think that we should read more if we want to be well-educated.

ПЗ№13 Великие российские и английские композиторы.

1**. Игра «Кто я?» Прочтите и переведите тексты. Соотнесите их с именами композиторов.**

I was a renowned Russian composer, virtuoso pianist, and conductor known for his exceptional talent and profound contributions to Romanticism in Russian classical	Sergei Rachmaninoff

music. My compositions are characterized by rich harmonies, expressive melodies, and virtuosic piano writing. Despite facing setbacks, including a period of depression after a disappointing premiere, I persevered to create masterpieces such as his Piano Concerto No. 2. I enjoyed a successful career as a performer, conductor, and composer, leaving a lasting legacy in the world of classical music.	
I was a pioneering Russian composer of the Romantic era, known for his iconic works such as Swan Lake, The Nutcracker, and the 1812 Overture. Despite initial challenges, I pursued a musical career, blending Western training with native Russian influences to create a distinctive style. My compositions were initially met with mixed critical reception, with some questioning their adherence to traditional Western principles. Nevertheless, my music has endured and continues to captivate audiences worldwide.	Pyotr Ilyich Tchaikovsky
I was a Soviet-era Russian composer and pianist who gained international recognition with his First Symphony in 1926. Despite early success, I faced challenges due to his complex relationship with the Soviet government. My work, such as the opera Lady Macbeth of Mtsensk, faced condemnation, leading to censure under the Zhdanov Doctrine in 1948. Throughout my career, I composed a diverse range of music, including symphonies, concerti, chamber works, solo piano pieces, operas, and ballets. My reputation has grown posthumously, sparking scholarly interest and debate regarding his music and political views.	Dmitri Shostakovich
I was a prominent Russian composer, known for my mastery of orchestration and nationalistic style of classical music. I was a key member of The Five composers group and a respected professor at the Saint Petersburg Conservatory. My compositions, such as Scheherazade and Capriccio Espagnol, are renowned in the classical music repertoire. My influence extended to younger composers and musicians, shaping the Russian style of classical music and impacting composers worldwide, including Maurice Ravel and Claude Debussy.	Nikolai Rimsky-Korsakov
I was a pioneering Russian composer and member of "The Five" group. I played a significant role in shaping Russian music during the Romantic period by striving to	Modest Mussorgsky

establish a distinct Russian musical identity. My compositions, inspired by Russian history, folklore, and national themes, include the opera Boris Godunov, the tone poem Night on Bald Mountain, and the piano suite Pictures at an Exhibition. Initially, others revised my works, but posthumously, my original compositions have gained recognition, with some original scores now available.	
I was a pioneering Russian composer who achieved widespread recognition in my homeland. Considered the founder of Russian classical music, I greatly influenced subsequent Russian composers, particularly the members of The Five, who developed a unique national style of music. My professional life was marked by innovative compositions that showcased his talent and creativity. My work left a lasting impact on the Russian music scene, solidifying mt legacy as a trailblazer in the country's musical history.	Mikhail Ivanovich Glinka

2. Прочтите и переведите текст.

Great British Composers

Britain wrote her name in gold in global history thanks to many great personalities born in her midst. Of them, the world remembers with respect and gratitude some great british composers as well as those who created unmatched and enchanting pieces of music during their lifetime.

One of them is Ralph Vaughan Williams (1872-1958). He was born on 12 October 1872 and died on 26 August 1958. During this period, he composed hundreds of recognized music achievements in the form of ballets, operas, religious and chamber music, symphonies and orchestral music.

The members of Ralph's family were very wealthy and they valued life enriched with good moral conducts. Throughout his life, Vaughan Williams composed music that had an affinity to folklore and the public. His famous compositions include 'Fantasia on a Theme by Thomas Tallis' and 'The Lark Ascending'. People lauded Ralph's 'A Masque for Dancing' (Ballet 1930) very much. He has also composed music for eight stage performances.

Another recognized personality among the classical composers in Britain was Sir Edward William Elgar was born on 2 June 1857. He produced many a great piece of music until he died on 23 February 1934. Sir Edward's prominent works include 'Enigma Variations', 'Violion and Cello', and 'Pomp and Circumstance Marchers'. British as well as International Classical music was inspired very much by Edgar's music, so in 1924, he received the rank of Master of the King's Music in Britain. The World recognizes some of the violin concertos and symphonies of Sir Edgar as invaluable masterpieces of the music classics.

Another historical personality among the British-born composers was Edward Benjamin Britten (Barron Britten 1913 – 1976). Britain regarded Edward Benjamin as the most prominent classical music composer in England during the 20th century. 'Peter Grimes', 'War Requiem', and 'The Young Person's Guide to the Orchestra' are some of his best pieces of music. He was born in Suffolk to a dentist and studied at the London Royal College of Music. He came into the limelight when he composed 'A Boy Was Born' in 1934.

That there are British-born composers in the forefront of the music field is proven with the achievements of another British Composer, Frederick Theodore Albert Delius (1862 – 1934). He was born to a wealthy trading family, and his family asked him to manage a plantation estate of oranges in Florida in 1884. Influenced by the infusion of African –American music, he went to Europe in 1886, to study it further. His Opera 'A Village Romeo and Juliet' became very popular among music lovers. He was infected with syphilis in 1918 while he was in Paris. Blinded and paralyzed, Frederick still succeeded in composing great pieces of music. He worked closely with European Musicians such as Richard Wagner, and Edvard Grieg.

This list of great British-born composers is continuing with famous names in the music field such as Henry Purcell (1659-1635), Gustav Holst (1874 – 1934), and George Frideric Handel (1685-1759). The great classical works of composers of British heritage include operas such as 'Irmelin', 'The Magic Fountain', 'Koanga', 'Margot-la-Rouge', and other modern music pieces such as 'A Song of Summer', and 'Songs of Farwell'.

3. Верны ли следующие предложения.

1. Throughout his life, Henry Purcell composed music that had an affinity to folklore and the public.
2. Britain regarded Edward Benjamin as the most prominent classical music composer in England during the 20th century.
3. Williams's Opera 'A Village Romeo and Juliet' became very popular among music lovers.
4. Blinded and paralyzed, Handel still succeeded in composing great pieces of music.
5. The great classical works of composers of British heritage include operas such as 'Irmelin', 'The Magic Fountain', 'Koanga', 'Margot-la-Rouge', and other modern music pieces such as 'A Song of Summer', and 'Songs of Farwell'.
6. Elgar was born in Suffolk to a dentist and studied at the London Royal College of Music.

ПЗ№14 Музыка современного поколения.

Дискуссия на тему «Music in my life»

Выучите слова по теме. Составьте 10 предложений на английском языке с использованием этих слов

lyrics – текст песни
melody – мелодия
rhythm –ритм
out of tune – не в тон
headphones –наушники
MP3 player –мп3 плейер
blues – блюз

classical – классическая музыка
country – кантри
dance – танцевальная
easy listening – лёгкая музыка
electronic – электронная
folk – народная
heavy metal – тяжелый металл
hip hop – хип-хоп
jazz – джаз
Latin – латино
opera – опера
pop – поп
rap –рэп
reggae – регги
rock – рок
techno – техно
band – муз группа
choir – хор
orchestra – оркестр
pop group – поп группа
rock band – рок группа
composer – композитор
musician – музыкант
performer – исполнитель
guitarist – гитарист
pianist – пианист
pop star – поп звезда
rapper – рэпер
singer – певец
to listen to music – слушать музыку
to play an instrument – играть на инструменте
to sing – петь
audience – аудитория
concert – концерт

Music in my life

You are going to give a talk about music in your life.
Remember to say:

- **how often you listen to music;**
- **what kind of music you prefer;**
- **how often you go to concerts.**

I'm going to give a talk about music in my life.

I'm a teenager and I can't imagine my life without music. I listen to music while I have breakfast and it makes my day. I also listen to the songs on my MP3 player on my way to and from school.

I like listening to Europe Plus radio station as it has different music genres, such as pop, rock and dance music. My choice of music depends on my mood: when I'm happy I prefer pop or dance music, when I'm sad I listen to rock or rap. Beside this easy listening I sometimes listen to classical music, when I need to concentrate on something.

I live in a small town and we don't have many concerts. Some famous pop singers come to the town not far from us, but I haven't been to a big concert yet. I watch concerts of my favourite performers on TV from time to time.

In conclusion I should say that music plays important role in our life.

That's all I wanted to tell.

ПЗ№15 Великие ученые.

1. Прочтите и переведите текст. Выпишите 10 предложений, в которых используется страдательный залог.

Marie Curie and the discovery of Radium

Marie Curie was born in Warsaw on 7 November, 1867. Her father was a teacher of science and mathematics in a school in the town, and from him little Maria Sklodpwska - which was her Polish name - learned her first lessons in science. Maria's wish was to study at the Sorbonne in Paris, and after many years of waiting she finally left her native land in 1891.

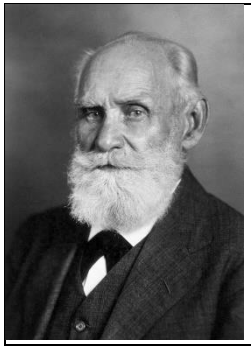
In Paris Maria began a course of hard study and simple living. She determined to work for two Master's degrees - one in Physics, the other in Mathematics. Thus she had to work twice as hard as the ordinary student. Yet she had scarcely enough money to live on. She lived in the poorest quarter of Paris. Night after night, after her hard day's work at the University, she got to her poorly furnished room and worked at her books steadily for hours. Sometimes she had no more than a bag of cherries. Though she was often weak and ill, she worked in this way for four years. She had chosen her course and nothing could turn her from it.

Among the many scientists Maria met and worked with in Paris was Pierre Curie. Pierre Curie, born in 1859 in Paris, was the son of a doctor, and from early childhood he had been fascinated by science.

At sixteen he was a Bachelor of Science, and he took his Master's degree in Physics when he was eighteen. When he met Maria Sklodowska he was thirty-five years old and was famous throughout Europe for his discoveries in magnetism. But in spite of the honour he had brought to France by his discoveries, the French Government could only give him a very little salary as a reward, and the University of Paris refused him a laboratory of his own

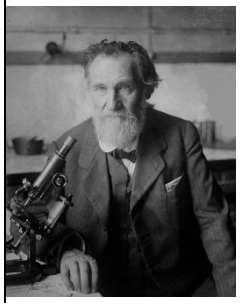
for his researches.
Pierre Curie and Maria Sklodowska, both of whom loved science more than anything else, very soon became the closest friends. They worked together constantly and discussed many problems of their researches. After little more than a year they fell in love with each other, and in 1895 Maria Sklodowska became Mme. Curie. Theirs was not only to be a very happy marriage but also one of the greatest scientific partnerships.
Marie had been the greatest woman-scientist of her day but she was a mother too, a very loving one. There were their two little girls, Irene and Eve.
By this time Mme. Curie had obtained her Master's degree in Physics and Mathematics, and was busy with researches on steel. She now wished to obtain a Doctor's degree. For this it was necessary to offer to the examiners a special study, palled a thesis.
For some time Pierre Curie had been interested in the work of a French scientist named Becquerel. There is rare metal called uranium which, as Becquerel discovered, emits rays very much like X-rays. These rays made marks on a photographic plate when it was wrapped in black paper. The Curies got interested in these rays of uranium. What caused them? How strong were they? There were many such questions that puzzled Marie Curie and her husband. Here, they decided, was the very subject for Marie's Doctor's thesis.
The research was carried out under great difficulty. Mme. Curie had to use an old store-room at the University as her laboratory - she was refused a better room. It was cold, there was no proper apparatus and very little space for research work. Soon she discovered that the rays of uranium were like no other known rays.
Marie Curie wanted to find out if other chemical substances might emit similar rays. So she began to examine every known chemical substance. Once after repeating her experiments time after time she found that a mineral called pitchblende[3] emitted much more powerful rays than any she had already found.
Now, an element is a chemical substance which so far as is known cannot be split up into other substances. As Mme. Curie had examined every known chemical element and none of them had emitted such powerful rays as pitchblende she could only decide that this mineral must contain some new element.
Scientists had declared that every element was already known to them. But all Mme. Curie's experiments pointed out that it was not so. Pitchblende must contain some new and unknown element. There was no other explanation for the powerful rays which it emitted. At that moment Pierre Curie stopped his own investigations on the physics of crystals and joined his wife in her effort to find those more active unknown chemical elements.
Scientists call the property of giving out such rays "radioactivity", and Mme. Curie decided to call the new element "radium", because it was more strongly radioactive than any known metal.
In 1903 Marie and Pierre together with Henry Becquerel were awarded the Nobel Prize in Physics.
In 1911 Marie received the Nobel Prize in Chemistry. But the second prize went to her alone for in 1906 Pierre had died tragically in a traffic accident.
Mme. Sklodowska-Curie, the leading woman-scientist, the greatest woman of her generation, has become the first person to receive a Nobel Prize twice.
Marie lived to see her story repeated. Her daughter Irene grew into a woman with the same interests as her mother's and she was deeply interested in her mother's work. From Marie she learned all about radiology and chose science for her career. At twenty-nine she married Frederic Joliot, a brilliant scientist at the Institute of Radium, which her parents had founded.
Together the Joliot-Curies carried on the research work that Irene's mother had begun. In 1935 Irene and her husband won the Nobel Prize for their discovery of artificial radioactivity.
So, Marie lived to see the completion of the great work, but she died on the eve of the award.

Pyotr Kapitsa and other most prominent Russian Nobel Prize winners



1. Ivan Pavlov – Physiology and Medicine, 1904

Famous for his experiments with dogs, a pioneer in physiology, Pavlov was Russia's first ever Nobel prize laureate. He was awarded for his work on digestive physiology.

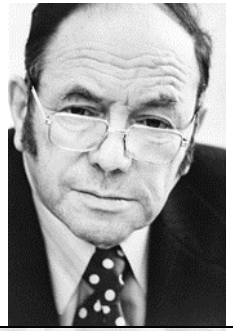


2. Ilya Mechnikov - Physiology and Medicine, 1908

Famous biologist and pioneer in embryology, Mechnikov was also called father of innate immunity, and he opened cell-mediated immunity. However, by the time he got the prize 'for works on immunity', he had already worked for a decade in France, joining Louis Pasteur's institute.

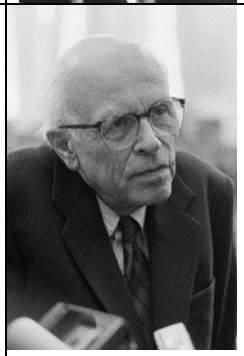
3. Ivan Bunin - Literature, 1933

Ivan Bunin had already emigrated to France when he was awarded the Nobel Prize for the strict artistic talent with which he recreated the typical Russian character in literary prose. There was the fight between Ivan Bunin and Maxim Gorky for the prize and the Nobel family connection.



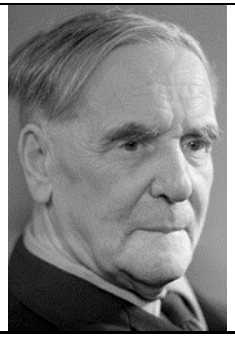
11. Leonid Kantorovich - Economic sciences, 1975

The Soviet mathematician and economist was a founder of linear programming. He shared the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel with the Dutch-American Tjalling C. Koopmans "for their contributions to the theory of optimum allocation of resources".

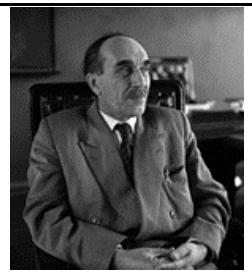


12. Andrei Sakharov - the Peace Prize, 1975

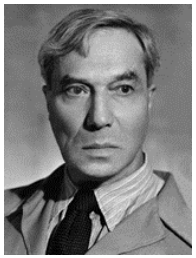
One of the founders of thermonuclear weapons, a dissident and human rights activist, Sakharov was awarded "for his struggle for human rights in the Soviet Union, for disarmament and cooperation between all nations." Five years later he would be asked to leave the USSR for his political activism and campaign against the war in Afghanistan.



13. Pyotr Kapitsa - Physics, 1978
A luminary of Soviet physics and a founder of the Institute for Physical Problems was awarded "for his basic inventions and discoveries in the area of low-temperature physics".

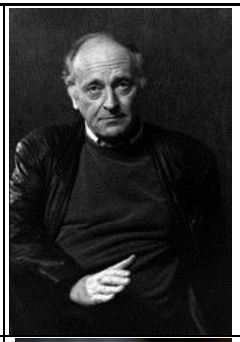


4. Nikolay Semyonov - Chemistry, 1956
Semyonov was the only Soviet Nobel prize winner in chemistry. He gained the prize for his work on the mechanism of chemical transformation, together with a British physical chemist Sir Cyril Norman Hinshelwood.



5. Boris Pasternak - Literature, 1958
After his opus magnum Doctor Zhivago, banned in the USSR, was published in the West (not without CIA involvement), the Swedish Academy awarded him for his important achievement both in contemporary lyrical poetry and in the field of the great Russian epic tradition. The prize caused a scandal in the Soviet Union and after a campaign of intimidation he was forced to decline the award.

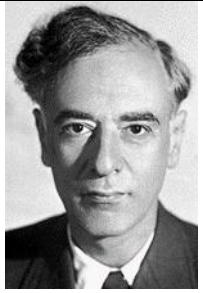
6. Pavel Cherenkov, Igor Tamm and Ilya Frank - Physics, 1958
Three physicists shared the Nobel Prize for the discovery of Cherenkov radiation which was made in the 1930s. Firstly Cherenkov noticed the blue glow of an underwater nuclear reactor, and then together with colleagues they researched and described the phenomenon.



14. Joseph Brodsky - Literature, 1987
Though he emigrated to the U.S. in 1972 and started writing essays in English, he remained a very Russian poet. A major intellectual, a professor of Russian literature in American universities, he was awarded "for an all-embracing authorship, imbued with clarity of thought and poetic intensity".

15. Mikhail Gorbachev - the Peace Prize, 1990
The first Soviet president is still one of the most controversial politicians in Russia, with many people split between blaming him for the collapse of the USSR or praising him for perestroika and freedom of speech. He was among those responsible for the fall of the Berlin Wall. He was awarded "for the leading role he played in the radical changes in East-West relations".

16. Zhores Alferov - Physics, 2000A renowned physicist and Russian parliament deputy, Alferov was awarded "for developing semiconductor heterostructures used in high-speed- and opto-electronics". He shared the prize with the German-American physicist Herbert Kroemer, who worked in the same field independently.

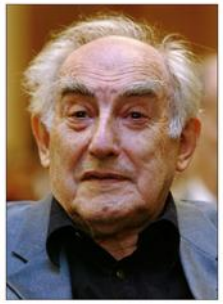


7. Lev Landau - Physics, 1962

Landau massively contributed to the development of theoretical physics and is considered a founder of the so-called "Landau school" of physicists. He was recognized for his pioneering theories for condensed matter, especially liquid helium. Read more about 'DAU' film saga named after Lev Landau.


8. Alexander Prokhorov and Nikolai Basov - Physics, 1964
The laser creators, two talented physicists, got the prize for "for fundamental work in the field of quantum electronics, which has led to the construction of oscillators and amplifiers based on the maser-laser principle." They shared the award with American scientist Charles H. Townes who worked in the same field.

9. Mikhail Sholokhov - Literature, 1965
The author of the epic novel 'And Quiet Flows the Don' was awarded “for the artistic power and integrity with which, in his epic of the Don, he has given expression to a historic phase in the life of the Russian people”. This time the Soviet authorities recognized the award

17. Alexei Abrikosov, Vitaly Ginzburg - Physics, 2003
Vitaly Ginzburg took part in the work of previous Nobel prize winners - Cherenkov and Landau, and was one of the authors of the Ginzburg–Landau theory of superconductivity. Their colleague Abrikosov helped develop the theory by discovering a fluxon called 'Abrikosov vortex' . Since the early 1990s he has lived in the U.S. Two big physicists shared the prize with the British-American physicist Sir Anthony James Leggett “for pioneering contributions to the theory of superconductors and superfluids”.

18. Konstantin Novoselov - Physics, 2010
Scientist Novoselov left the country in the 1990s, and in the Netherlands he met another Russian-born physicist Andre Geim. They started working together, and then moved to the UK, where they continued to collaborate. They are best known for discovering graphene. And they shared the Nobel Prize "for groundbreaking experiments regarding the two-dimensional material graphene."

19. Dmitry Muratov - the Peace Prize, 2021
The editor-in-chief of Novaya Gazeta was awarded along with Philippine journalist Maria Ressa “for their efforts to safeguard freedom of expression, which is a precondition for democracy and lasting peace.” It is symbolic that Muratov got the award on the 15th anniversary of the death of Anna Politkovskaya, a Novaya Gazeta journalist who was murdered due to her stories revealing human rights abuses in Russia and Chechnya.

10. Alexander Solzhenitsyn - Literature, 1970
The author who struggled with all the horrors of the Soviet labor camps, and then opened the Gulag for the mass reader, was awarded “for the ethical force with which he has pursued the indispensable traditions of Russian literature”. This time the Soviets started a propaganda campaign against Solzhenitsyn, and he was only able to receive his prize eight years later.

20. Alexei Ekimov - Chemistry, 2023
In 2023 Alexei Ekimov and his American colleagues Moungi G. Bawendi and Louis E. Brus won the Nobel Prize in chemistry for “for the discovery and synthesis of quantum dots”. Born in 1945 and having researched semiconductors all his life, a Leningrad scientist first noticed that the size of particles matters and even their luminescence and color in quantum effects depends on it back in the 1980s.

3. Составьте таблицу достижений в хронологическом порядке

ПЗ№16 Главная наука.

Дискуссия на тему «The scientist I’d like a new street to be named after».

Расскажите о великих ученых разных стран. Оформите доклад в виде презентации на английском языке. Прочитайте и переведите текст. Составьте по аналогии свой вариант .

The scientist I'd like a new street to be named after.
I would like a new street to be named after Michael Faraday. He was born in a poor family in 1791 .His parents were simple and poor people. So poor, indeed, that they could not make ends meet.
He was not yet twenty when he began experimenting and constructed an electrical machine. Onee day he was given the opportunity to attend lectures delivered by Sir Humphry Davy, England's greatest scientist of the time. Faraday wrote to him and told him about his great dream to enter in to the service of science. A few months later Michael was engaged as a laboratory assistant to Sir Humphry .His duty was to assist lecturers, to clean and replace any instrument or apparatus required. Like Davy he became interested in electricity. I
In those days scientists knew little about electricity .Michael Faraday spent long weeks and months studing it. At last he saw that electricity could be made by a machine.
This was the beginning of all the great machines that make our electricity today .With their help we can have electricity telephones, radio and television.
Faraday's reputation as a research chemist was growing. He achieved his greatest chemical discovery, the isolation of a substance known as benzene.
Faraday became director of the laboratory and after Davy's death he took his place as professor of Chemistry at the Royal Institution.
Faraday gave to the world the dynamo. From this dynamo the electric motor was born. So the age of electricity in which we live now dates from Faraday's experiments in 1831.
On the 25th of August 1867 Faraday's life came to an end. He died quietly in his chair in his study.
I have chosen this scientist, because he was not only one of the greatest scientist of ail time but also the gentlest and kindest of men.

ПЗ№17 Наука и ученые.

1. Прочтите и переведите текст:

INVENTORS AND THEIR INVENTIONS

1. Shrapnel - kind of an artillery shell. It is named in honor of Henry Shrapnel (1761-1842) - British Army officer.
2. Hugo Schmeisser - a famous German arms designer. He designed automatic rifle StG 44 during the Second World War.
3. Sandwich was named after John Montagu, Earl Sandwich (1718-1792).
4. The saxophone was designed in 1842 by the Belgian Adolphe Sax music master and patented it four years later.
5. "Rubik's Cube" was invented in 1974 by Hungarian sculptor and professor of architecture Er- no Rubik.
6. Belgian brothers Emile and Leon Nagant developed Nagant revolver. Nagant revolver was used in many countries at the end of XIX - the middle of the XX century.
7. Mauser K96 - German pistol, designed in 1895. In Russia, Mauser became very popular. Fidel Mauser headed experimental arms factory "Mauser".
8. The American gunsmith Maxim developed Maxim machine gun in 1883. Maxim machine gun was widely used during the Anglo-Boer War, 1899-1902, World War I and World War II.
9. Oliver Winchester - American businessperson. In 1855, he bought firm Smith & Wesson and switched to production of weapons, mostly hunting, which is often called by his name.
10. Whatman paper - white paper. Distinguished by high resistance to abrasion. James Whatman paper manufacturer made it in the middle 1750s in England.
11. An American colonel, a hero of the Civil War Berdan, developed Berdan rifle.
12. Strass - imitation gemstone made of glass, from the name of the inventor, the jeweler Georg Strasse (1701-1773).
13. Walter - a pistol, called by the name of the manufacturer.
14. Browning - gun manufacturing company of the same name, the name of its founder, Belgian gunsmith John Moses Browning (1855-1926).

2. Заполните таблицу:

invention	**inventor**	**profession**
1. the ball-point pen		
2. Rolls-Royce car		
3. pasteurization		
4. waterproof raincoat		
5. the bowler hat		
6. the pistol with a barrel		
7. the diesel engine		
8. the counter of radioactivity		
9. the telegraphic alphabet		

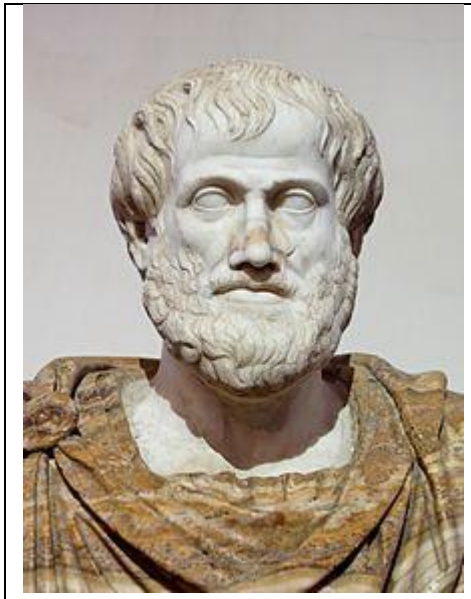
10. alphabet and font for blind person		

3. Подведение итогов занятия, оценивание.

ПЗ№18 Величайшие открытия.

Дискуссия на тему «The greatest inventions of mankind». Прочитайте текст, найдите в тексте изобретениях ученых. Расскажите о них кратко, применяя правила образования формы глагола в страдательном залоге. Выучите Л Е

GREAT SCIENTISTS OF THE WORLD



Scientists have enormous contribution in the advancement of human civilization. Throughout the history of the world, many scientists have dedicated their lives for research and innovation. Some of them even faced a lot of torture for their theories but they continued their mission and thus we are now in a modern world.

Aristotle

Aristotle is the Great philosopher who had a vast knowledge in different disciplines. Studying different subject he contributed[1] a lot in each of those subjects. He contributed in physics, poetry, zoology, logic, rhetoric, politics, government, ethics, and biology. This laurel Greek philosopher was born in Stagira in 384 BC. His father Nicomachus was a physician[2] to the king Amyntas III of Macedon's court[3] and it is believed that their ancestors[4] also held this position. Earlier in his life he was taught by his father at home and the medical knowledge he got from his father led him to investigate[5] natural phenomena[6] later on. At the age of 18 he was admitted[7] into the young Greek aristocracy run by Plato, another Great Greek philosopher, and Aristotle became the most favorite student of Plato.

As a scientist Aristotle made a good contribution which was very influential[8] for the development of the science over the years. Mainly he spent most of his life researching the natural science and he did the researches without making reference to the Mathematics which was later proven as the weakness of his research by the scientists. His natural science oriented research includes botany, zoology, physics, astronomy, chemistry, and meteorology, geometry and many more. He was also the teacher of the Great warrior Alexander the Great. This great philosopher died in 322 BC.

to contribute – вносить вклад

2. physician – врач, доктор
3. court – двор (короля и т.п.)

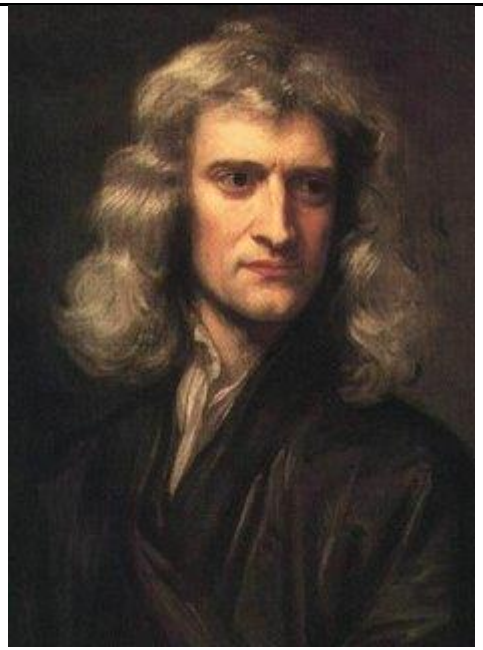
4. ancestors – предки
5. to investigate – исследовать, изучать
6. natural phenomena – явления природы
7. to be admitted – быть принятым
8. influential – влиятельный, важный

Sir Isaac Newton

Newton was also a man of versatile[1] quality. He was physicist, mathematician, astronomer, alchemist, and natural philosopher in a row[2]. His contribution in the development of science is a special one. He is best known for his explanation of Universal Gravitation and three laws of motion, and he was able to prove that the reason of both the motion of objects on Earth and of celestial bodies are controlled by the same Neutral laws[3]. These findings could make a revolutionary change in the development of science. In mechanical science his great contribution was in optics. He could make a reflecting telescope. He also made some research on light and stars. His research on General binomial Theorem[4] helped to be introduced today's Calculus.

Newton was born to a farmer family but before three months of his birth his father died and then he was brought up to his maternal grandmother as her mother remarried. Newton could show his talent from his early life in The King's School in Grantham and later he joined to the Cambridge University where he took his higher degrees.

1. versatile – разносторонний
2. in a row - в одном лице
3. Neutral laws – объективные законы, законы Вселенной
4. binomial Theorem – Теория бинома

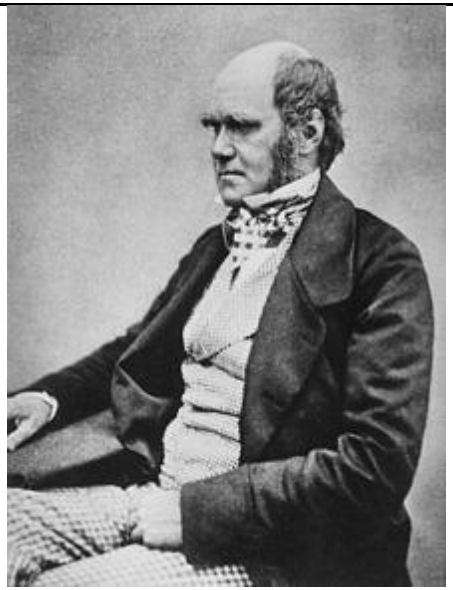


Galileo Galilei

Galileo is considered as one of the greatest contributors[1] to the development[2] of Science. It is undoubtedly true that Galileo could first helped science to come out of the trend[3] of Aristotle. He was physicist, astronomer, and philosopher and his best known contributions lie in the development of Telescope, first two laws of motion and also in Astronomy. He is also considered as the father of astronomy, father of physics and father of science.

He was born to a mathematician and musician father Vincenzo Galilei and his mother was Giulia Ammannati in Italy. He was taught from his very early life. He was the first scientist who followed the way of quantitative[4] experiments in his research where the result was based on mathematics. He had to suffer[5] a lot from the church for his theories.

1. contributor – вкладчик
2. development – развитие
3. to come out of the trend – выйти из под влияния
4. quantitative – количественный
5. to suffer – страдать, пострадать

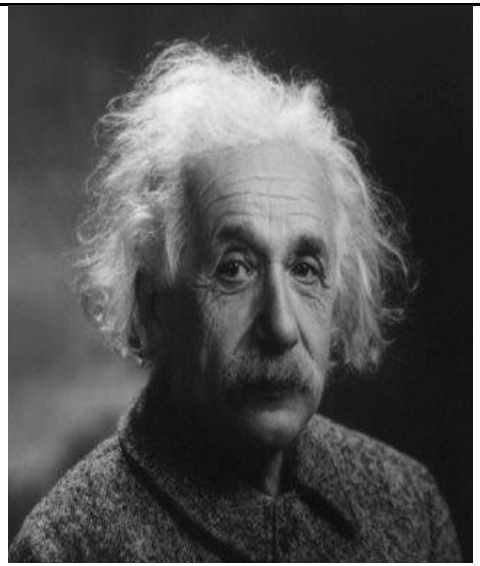


Charles Robert Darwin

There can be debate[1] about whether Charles Darwin (12 February 1809 – 19 April 1882) is the greatest scientist of all time but there is no doubt that he is the most controversial[2] scientist of all time. On the Origin of Species by Means of Natural Selection (1859) - this is the book that has made Darwin immortal in the world history. This book has changed the course of science radically. It is perhaps an irony that Darwin studied theology and instead of becoming a clergy, he became naturalist.

Darwin went to different parts of the world and carried out extensive research. His theory about origin of human beings caused widespread controversy. Darwin stated that human beings have evolved through many changes and survival of the fittest was in important factor in the development of animal world. Darwin's theory still causes passionate debate among his supporters and opponents.

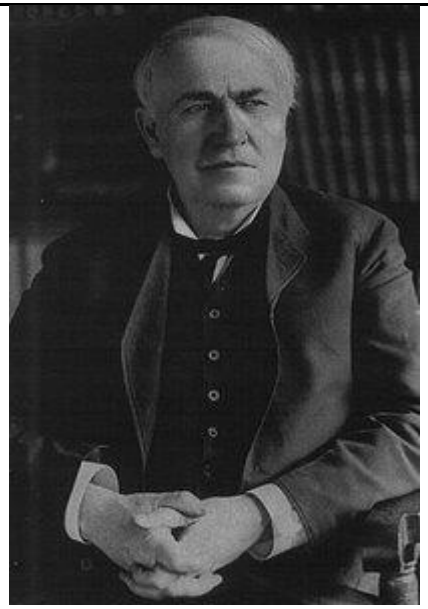
1. There can be debate – можно спорить
2. controversial –противоречивый
3. the Origin of Species – Происхождение Видов



Albert Einstein

Einstein is the great scientist of the twentieth century and notable[1] physicist of all time. It is told that he had learning disability[2] in his childhood. He could not talk till he was three and could not read till he was eight. Despite such problems he later became the noble prize winner for his contribution to the Physics. His theory of relativity[3] is considered as a revolutionary development of Physics. He got Noble Prize in Physics in 1921 for his explanation[4] of the Photoelectric Effect and for his research[5] in Theoretical physics.

1. notable – выдающийся, значительный
2. learning disability – неспособность к учению
3. relativity – относительность
4. research - исследование



Thomas Edison

Edison is the great inventor[1] who has over 1000 patents and his inventions are in various fields[2] used in our daily life. In his early life he was thought to have a learning disability[3] and he could not read till he was twelve and later he himself admitted that he became deaf after pulling up to a train car by his ears. He first could able to turn the attention of the world after inventing Phonograph. His one of the most popular invention is the Electric Bulb. He also developed the telegraph system. His invention of carbon[4] telephone transmitter developed the carbon microphone which was used in the telephone till 1980. He also became a prominent businessman and his business institution produced his inventions and marketed the products to the general people.

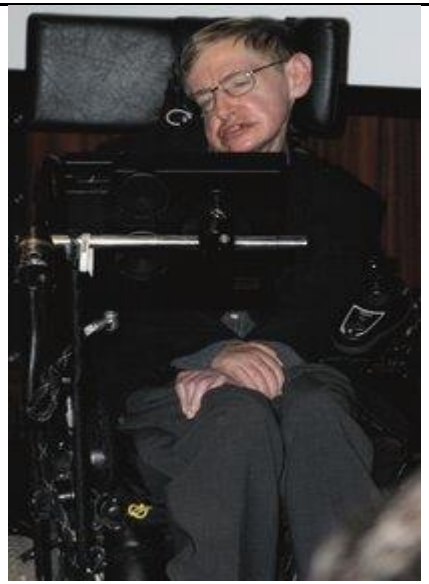
in various fields – в разных областях

2. a learning disability - неспособность к учению
3. carbon -углерод

Alessandro Giuseppe Antonio Anastasio Volta

Volta was Italian physicist and he is best known for his contribution to the development of electric battery. This benevolent[2] scientist is also regarded as one of the founder[3] of the electric age[4]. His parents sent him to the Jesuit school intending to make him a Jurist. He also taught in the University of Pavia for 25 years. After that in 1800 he could make voltaic pile[5] which could produce steady electric current[6]. He then worked on to develop the electric bulb. For his work in the electric development he was given a count by Napoleon. Emperor of Austria honored him naming him a professor of Philosophy at Padova. For his honor an electric unit Volt was named after him.

1. benevolent – великодушный
2. founder – основатель
3. age – эра
4. voltaic pile –гальваническая , электрическая дуга
5. current – электрический ток



Stephen Hawking

Stephen Hawking is doubtless the most well-known theoretical physicist and cosmologist of our time.

At the age of 21, while he was still a young student, Stephen Hawking was diagnosed as having amyotrophic lateral sclerosis, that is to say**,** a degenerative motor neurone disease that prevents voluntary control of the muscles. He was informed that he had not long to live.

Despite the disease, or as he himself says, perhaps as a result of it, he continued with his studies and was awarded his PhD in 1977 and so started a brilliant scientific career. He has made important contributions to the theory of black holes and the origin of the universe.

Besides losing the ability to control his arm and leg muscles, he gradually lost the ability to speak clearly. This meant that, as a rule**,** at scientific conferences or seminars he was obliged to speak via an interpreter. In 1985, he caught pneumonia and was obliged to undergo a tracheotomy, i.e**.** an incision of the oesophagus. The tracheotomy operation, however, removed his ability to speak altogether. For a time, the only way he could communicate was by signalling with his eye muscles. A computer expert in California designed him a program linked to a voice synthesizer that could be activated with one finger, thereby enabling Hawking to move the cursor. At present he can produce 15 words a minute.

Hawking is nevertheless**,** very active. He travels a great deal and recently has given conferences in the US, India, South Korea and the UK

1. doubtless – несомненно
2. amyotrophic lateral sclerosis - боковой амиотрофический склероз (неизлечимое дегенеративное заболевание центральной нервной системы)
3. disease – заболевание
4. contributions – вклад
5. oesophagus [iːˈsɔfəgəs] - пищевод

Louis Pasteur

He is one of the most famous contributors[1] in the medical science. He first introduced the germ[2] theory of diseases[3]. This is regarded as the base of today's microbiology. He found out[4] some of the notion of the microbe and he could find out that the viruses were not detectable through microscope. Another important contribution of Pasteur is to protect harmful microbes in a way called "Pasteurization" where harmful microbes are destroyed by hitting the food. He is undoubtedly the most influential scientist in medical science.

1. contributor – вкладчик
2. germ - микроб
3. diseases - болезнь
4. found out – обнаружил
5. detectable – определяемый, выявляемый

Guglielmo Marchese Marconi

Marconi is a Nobel laureate physicist from Italy. He is best known for his invention of Radio and he first introduced wireless telegraph system. He was born to a landowner father Giuseppe Marconi and his mother was Annie Jameson. He was very interested in science from his early life. He initially started working on electromagnetic wave or radio waves invented by Heinrich Hertz. Then after a long research he could figure out such a technology to communicate without wire. After his invention, he marketed this equipment for the commercial purpose and at that time he got a competitor free market in the U.S.

wireless – беспроводной

1. initially – изначально
2. research – исследование
3. equipment – оборудование

Marie Curie

Dr. Marie Curie is known to the world as the scientist who discovered radioactive metals i.e. Radium & Polonium.

Marie Curie was a Polish physicist and chemist who lived between 1867-1934. Together with her husband, Pierre, she discovered two new elements (radium and polonium, two radioactive elements that they extracted chemically[1] from pitchblende ore[2]) and studied the x-rays[3] they emitted[4]. She found that x-rays were able to kill tumors[5]. By the end of World War I, Marie Curie was probably the most famous woman in the world. She had made a conscious decision, however, not to patent methods of processing radium or its medical applications.

Her co-discovery with her husband Pierre Curie of the radioactive elements radium and polonium represents one of the best known stories in modern science for which they were recognized in 1901 with the Nobel Prize in Physics. In 1911, Marie Curie was honored with a second Nobel prize, this time in chemistry, to honor her for successfully isolating pure radium and determining radium's atomic weight.

As a child, Marie Curie amazed people with her great memory. She learned to read when she was only four years old. Her father was a professor of science and the instruments that he kept in a glass case fascinated Marie. She dreamed of becoming a scientist, but that would not be easy. Her family became very poor, and at the age of 18, Marie became a governess. She helped pay for her sister to study in Paris. Later, her sister helped Marie with her education. In 1891, Marie attended the Sorbonne University in Paris where she met and married Pierre Curie, a well-known physicist.

After the sudden accidental death of Pierre Curie, Marie Curie managed to raise her two small daughters (Irène, who was herself awarded a Nobel Prize in Chemistry in 1935, and Eve) and continue an active career in experimental radioactivity measurements.

Marie Curie contributed greatly to our understanding of radioactivity and the effects of x-rays. She received two Nobel prizes for her brilliant work, but died of leukemia, caused by her repeated exposure to radioactive material.

1. to extract chemically – выделить химическим путем
2. pitchblende ore – уранистая руда
3. x-rays – рентгеновы лучи
4. to emit – излучать
5. tumor – опухоль

ПЗ№19 Путешествия.

1.Прочтите и переведите текст:

TRAVELLING

Thousands of people spend their holidays travelling. They travel by trains, buses, their own cars and motorcycles. People travel to see other countries and continents. People travel spending their time visiting museums and art galleries, places of interest, looking at the shop windows and dining at fine restaurants.

They cruise the Volga, the Dnieper, the Angara, the Yenisei and the Black Sea. They hike in the forests of Siberia. They climb the famous peak of the Caucasian mountains - Elbrus. They enjoy the beauty of snow-covered mountains, sunny valleys and vast forests.

Many people travel in their own cars along the roads. Beautiful pine forests and silvery birches, picture-like rivers and numerous lakes attract lovers of nature. They travel not only to enjoy fine places, but also to see old monuments of sculpture and historical places of the country.

Hiking is becoming very popular. People like to spend their days off in the country. There are fine places near every town with forests, lakes and rivers. It is pleasant to spend a day-off.

Travelling by air has some pluses of course. It is convenient and much quicker than any other means of travelling. During the flight, the passengers do whatever they like. Some of them read, others sleep, looking, or talking. Sometimes they can see the land below. It looks like a topographical map.

Of course, the fastest way of travelling is by plane. However, many people travel by train. With a train, you have speed, comfort and pleasure combined. Travelling by train is of course slower than by air but it also has its pluses. Train is the cheap means of travelling. Modern trains have very comfortable seats in all passengers. During your way on the train, you can read newspapers, books, look out of the window, drink the tea, and tell with your neighbors or sleep. When you are in the train, you can see the beauty of nature.

Many people enjoy travelling by sea. Such a travailing is called voyage or cruise. The ship stops excursions. When on board the ship people spend a lot of time on the upper deck.

Most travelers take a camera with them and take pictures of everything that interests them - beautiful views of waterfalls, forests, unusual plants and animals. These photos will remind them of the happy time of holiday.

2.Письменно перевести предложения:

1. Thousands of people spend their holidays travelling.
2. They travel by trains, buses, cars and motorcycles.
3. People travel to other countries and continents.
4. People cruise the Volga, the Yenisei and the Black Sea.
5. They hike in the forests of Siberia.
6. Many people travel in their own cars.
7. People like to spend their days off in the country.
8. The fastest way of travelling is by plane.

9. Travelling by train is of course slower than by air but it also has its pluses.
10. Train is the cheap means of travelling.
11. When you are in the train, you can see the beauty of nature.
12. Many people enjoy travelling by sea.
13. Such a travailing is called voyage or cruise.

3. Запишите и выучите слова

1. airplane	1. spend
2. cruise	2. through train
3. flight	3. to travel by car or by bus
4. hiking	4. travelling
5. holidays	5. travelling by car
6. long distance train	6. travelling by sea
7. passenger train	7. travelling by train
8. railroad	8. travelling on foot
9. rest	9. vocations

4.Прочтите и обсудите текст:

BE A GOOD TOURIST

Tourism has developed much in the 20th century. The truth is that tourists who go to faraway or tropical countries often do nature much harm. Now the travelers are told to not only watch wildlife around them but also try to protect nature at the same time. Special guides are trying to teach lovers of nature how to behave. In the past, many travelers tried to shoot animals. Today they can only watch them and take pictures of them. Facts show, however, that even this is not always good for the animal world. For example, the people of Kenya have agreed to turn their land into animal reserves. Now it appears that the leopards in the parks cannot have a good rest at night because tourists drive in their cars late at night. The hotels on the Pacific coasts throw such bright light at night that big green turtles that come out from the sea cannot lay their eggs. Tourist hotels are sometimes built in the jungle and the monkey‘s jumps from the trees to hotel roofs. Beautiful butterflies in the Mexican highland make homes in the trees. Crowds of tourists come to look after the butterflies and trample the ground under the trees. Tens of thousands of Europeans come every year to the Canary Island to watch whales. Their boats frighten the whales that dive so deep that they often drown. The government has decided to limit the number of boats with tourists. They also try to make people understand that we can have more by protecting nature than by using it carelessly.

ПЗ№20 В аэропорту. На таможне.

Чтение и перевод диалога «В аэропорту. На таможне», выполнение упражнений к тексту на закрепление новых лексических единиц.

Warm-up

Студенты называют слова по теме «Таможня».

Lead-in (знакомство с новыми словами)
1)customs officer – сотрудник таможни

2) passport – паспорт

3) ID card – удостоверение личности

4) suitcase – чемодан

5) backpack – рюкзак

6) hand luggage – ручная кладь

7) firearm – огнестрельное оружие

8) metal detector – металлоискатель

9) body scanner – досмотровый сканер

10) packet of cigarettes – пачка сигарет

11) carton of cigarettes – блок сигарет

12) bottle of spirits – бутылка спиртного

13) exotic species – экзотические виды

14) smuggle – вывести, переправить, пронести

15) tax/duty – налог/пошлина

16) duty-free shop – магазин беспошлинной торговли

17) duty-free allowance – беспошлинное пособие

18) VAT – Value Added Tax – НДС – налог на добавленную стоимость

19) declare – объявлять, декларировать

20) Green channel – зелёный коридор (*в аэропорту: если нет товаров, подлежащих декларированию, заполнение таможенной декларации не требуется. При этом следовать необходимо по зелёному коридору)*
21) Red channel – красный коридор (*в аэропорту: в отношении импортных товаров, связанных с «чувствительными» материалами, применяется так называемая процедура «красный коридор»)*
22) banned goods – запрещённые товары

23) restricted goods – ограничиваемые товары

EXTRA WORDS

1)booking – бронирование

2) room – номер (*в отеле)*
3) passport – паспорт

4) out – выйти, отсутствовать (*определённое время)*
5) lift – лифт

6) towels – полотенца

7) breakfast – завтрак

STUDY
Listening
Dialogue ‘The customs officer’

In this dialogue, Peter who has flown in from New York City, is going is going through customs. [Заполните диалог пропущенными словами].

Customs: Hi, could you put your bag on the table, please?
Peter: Yes, sure.
Customs: Would you mind (1) _____ it for me, please?
Peter: Yes, of course.
Customs: Did you (2) _____ it yourself?
Peter: Yes, I did.
Customs: Where have you (3) _____ in from?
Peter: New York City.
Customs: Is this your first time in the UK?
Peter: Yes.
Customs: Is there anyone else (4) _____ with you?
Peter: No.
Customs: Can I (5) _____ your passport, please?
Peter: Yes, erm, here you are.
Customs: OK, and what's the purpose of your visit?
Peter: I'm (6) _____ some friends and relatives.
Customs: And how long do you plan to (7) _____?
Peter: 15 days.
Customs: Where will you be staying?
Peter: At my uncle's house.
Customs: Have you got anything to (8) _____?
Peter: No, I don't think so. I mean, I've got this bottle of whisky, but I got it in the duty-free shop.
Customs: That's all right. That's within your duty free allowance. OK, you can go now. Enjoy your stay.
Peter: Thanks.

ACTIVATE
Составьте диалог по теме «В аэропорту» по образцу предыдущего задания.

ПЗ№21 В гостинице. В ресторане.

1. Прочтите и переведите диалог.

В ОТЕЛЕ

The car has brought Pete, Nick and David to the hotel. Now they are in the lounge of the hotel.
Машина доставила Петра, Николая и Дэвида в отель. Сейчас они находятся в фойе отеля.

Pete: Just a minute, David. I'll speak to the receptionist. We made a reservation last week… Will you fill in this form, please?	Минуту, Дэйв. Я поговорю с администратором. Мы бронировали номер на прошлой неделе… Заполните, пожалуйста, форму.

David fills in the form, comes up to the receptionist and hands in the form.
Дэвид заполняет форму, подходит к администратору и вручает ей форму.

David: Here you are. Is everything all right?	Пожалуйста. Все ли правильно?
Receptionist: Yes, everything is OK… Your room number is five oh two. Here is your key.	Да, все верно. Ваша комната 502. Вот ключ.
David: Thank you.	Спасибо.
Receptionist: You are welcome. Have a nice stay.	Пожалуйста. Приятно провести время
David: Thanks	Спасибо.
Pete: David, will you join us for dinner tonight?	Давид, не присоединишься ли к нам сегодня вечером за ужином?
David: I'll be glad to.	Был бы рад
Pete: Fine. Then we'll meet you here at seven sharp. And, if you don't mind. we shall have dinner at the hotel restaurant. It's not bad at	Замечательно. Мы встречаемся тогда ровно в семь. И, если не возражаешь, мы поужинаем в ресторане отеля. Здесь

all.	совсем не плохо.
David: Thank you for the invitation. See you later.	Спасибо за приглашение. Увидимся позже.

В ресторане.
It is seven sharp. Pete and David are in the lounge.
Ровно семь. Петр и Дэвид находятся в вестибюле.

Pete: Good evening, David.	Добрый вечер, Дэвид.
David: Good evening, Pete.	Добрый вечер, Петр.

It is two minutes past seven. They see Nick.
Время 19:02. Они видят Николая.

Nick: Good evening. I'm late, I'm afraid. I do apologise.	Добрый вечер, я опоздал. Боюсь, что придется извиниться.
David: Good evening. That's all right.	Добрый вечер, все в порядке.
Pete: Good evening. Follow me please, gentlemen	Добрый вечер. Следуйте за мной, господа.

They go to the restaurant. The head waiter comes up to them and offers them one of the vacant tables.
Они проходят в ресторан. Старший официант подходит к ним и предлагает один из свободных столиков.

Заказ блюд

Pete: Do you like this table, David?	Тебе нравится этот стол, Дэвид?
David: It looks all right.	Выглядит нормально.
Pete: Then let's take it… Here is the menu…	Тогда давайте и сядем за него… Вот и меню..
David: Oh, it's in English too. How very nice.	О, меню есть и на английском, как замечательно.

Pete: What would you like to drink?	Чтобы бы ты хотел выпить?
David: Gin and tonic for me, please	Джин и тоник для меня, пожалуйста.
Nick: And what would you like as a starter?	А что бы ты хотел на закуску?
David: Your English is very good. Some cold fish, I think	Твой английский очень хорош. Немного холодной рыбы, я думаю.
Nick: Thank you for the compliment. I'll tell my teacher about it. And what would you like as a hot meal?	Спасибо за комплимент. Я расскажу об этом моей учительнице. А что бы ты хотел на горячее?
David: Some meat and vegetables.	Немного мяса с овощами.

Продолжение беседы в ресторане

Pete, Nick and David are still at the restaurant. They are enjoying their meal and have a small talk.
Петр, Николай и Дэвид до сих пор в ресторане. Им нравится еда, они немного разговаривают.

Pete: David, is this your first visit to Moscow?	Дэвид, это твой первый визит в Москву?
David: Oh, no. 1 was in Moscow last year. I like your city very much. It's a pity my sister is not with me now. She wanted to go so much.	Нет, я был в Москве в прошлом году. Мне нравится ваш город очень сильно. Жаль, что со мной нет моей сестры. Он очень хотела поехать.
Nick: And why didn't she join you? Is she busy?	И почему она к нам не присоединилась? Она занята?
David: Well, you see, she could not leave her office, her boss did not let her go. They are working at a very important project now. And have you got a sister or a brother, Nick?	Видишь ли, она не смогла уехать из офиса, босс не разрешил ей поехать. Они сейчас работают над очень важным проектом. А у тебя, Николай, есть брат или сестра?

Вопросы про семью

Nick: Oh, yes. I have a brother. He is on	О, да. У меня есть брат. Сейчас он

holiday in the mountains.	находится в отпуске в горах.
Pete: Oh, really? My elder daughter is also in the mountains in Czechia now. She is fond of skiing and goes to the mountains every winter.	Правда? Моя старшая дочь сейчас тоже находится в горах, только в Чехии. Она увлекается лыжами и ездит в горы каждую зиму.
David: Have you got a big family, Peter?	А у тебя большая семья, Петр?
Pete: I wouldn't say so. There are five of us. Two daughters, a son, my wife and I.	Я бы так про нас не сказал. У меня в семье пятеро: две дочери, сын и мы с женой.
David: Quite an English family!	Прямо таки английская семья!

ДОГОВАРИВАЕМСЯ О СЛЕДУЮЩЕЙ ВСТРЕЧЕ

The three gentlemen have enjoyed their dinner and they are prearing to leave the restaurant.
Три джентльмена закончили с удовольствием свой ужин и готовятся покинуть ресторан.

Pete: Thank you for the nice evening, David.	Спасибо, Дэвид за прекрасный совместный вечер.
David: Likewise. I enjoyed everything very much. And I liked the orchestra in this restaurant. I like Russian music immensely	Взаимно. Мне все очень понравилось. И мне в этом ресторане понравилась местная группа. Я очень люблю русскую музыку.
Pete: Very often they play English songs here. They sound superb.	Очень часто они здесь поют и английские песни. Они звучат безупречно.
David: Then I was lucky to listen to Russian songs tonight. They are more than beautiful….	Тогда мне повезло, что сегодня я слышал русские песни. Они более, чем прекрасны.

The waiter comes up to Pete and hands the bill over to him.
Официант в ресторане подходит к Петру и вручает ему счет.

David: Oh, let me pay the bill, Pete.	Петр, позволь мне оплатить счет.
Pete: Oh, no. It will be my pleasure. And	О, нет. Мне будет приятно это сделать

when can you come to our office tomorrow?	самому… А когда ты завтра сможешь подъехать в наш офис?
David: Will ten o’clock be convenient to you?	В десять часов для тебя будет удобно?
Pete: Fine. Then Nick will pick you up tomorrow at ten to ten in the lounge	Отлично. Тогда Николай заедет завтра за тобой без десяти десять и будет ждать в вестибюле.
David: OK. See you tomorrow then.	Хорошо. Тогда до завтра.
Nick: Good-bye. See you tomorrow. I won’t be late I promise.	До свидания. Увидимся завтра. Я не опоздаю, обещаю.
David: I hope I won’t be late either.	Надеюсь, что я тоже не опоздаю.
Pete: Have a good sleep. See you tomorrow.	Приятных снов, увидимся завтра.

2. На основе данного диалога составить собственный, отчитать и разыграть в парах.

ПЗ№22 Общение с персоналом.

Выполните упражнения, составьте диалог на тему «В гостинице, в ресторане».

What do you think they do? Match each photo with a job


7


8


9


10


11

H I`m a maintenance engineer.
I I`m a concierge.
J I`m a barman/ bar tender.
K I`m a room maid/ chambermaid.
L I`m a porter.

1.2 Look at the words in the box. Practice reading them. Translate the words into Russian.

General Manager, Assistant General Manager, Receptionist, Reservations Clerk, Room maid/ Chambermaid, Laundry Maid, Concierge, Doorman, Porter, Parking Attendant, Lift Attendant or Elevator Operator, Valet, Cashier, Accountant, Maintenance Engineer, Storekeeper, Head Waiter/ Maitre d'hôtel, Room Service Waiter/Waitress, Barman, Platewash Assistant, Head Chef

To speak about your job responsibilities:

I am responsible for…/ I`m in charge of + *Verb-ing (e.g.cleaning the room)*
I look after …
I deal with …
I liaise with…

2.9. Look at the hotel bill. Is it like a bill in the hotel where you work? What`s the same? What is different?

HOTEL LETTER HEAD

Manual GRC : **4162** Bill No : **A17737**

Room No	Name	Room Rate	Pax	Room Type	Days
				STD (Executive)	5

Company / TATO Name & Address	Arrival Date	Departure Date
M/s. XXXXXXXXXXXXXXXXXX LTD No.10, xxxxxxxxx,	11/01/2010 02:06	15/01/2010 21:26

Date	Description	Charges	Credit	Balance
	TARIFF		7200.00	
7200.00				
	LUXURY TAX		720.00	
7920.00				
	LAUNDRY (7340)		99.00	
8019.00				

Total
8019.00

Advance
6000.00

Advance Refund
0.00

Nett
2019.00

PLEASE RETURN YOUR KEY ON DEPARTURE

I Agree that I am responsible for the full payment of this bill in the event if not paid by the Company, Organisation or Person indicated

Billing Instructions : DIRECT

Cashier : xxxxx

Cashier's Signature Guest's Signature

Thank you for Honouring us by your visit

What questions do guests ask about the bill? What do you reply?

ПЗ№23 Туристическая поездка.

1.Прочтите и переведите текст:

TRAVELLING

Thousands of people spend their holidays travelling. They travel by trains, buses, their own cars and motorcycles. People travel to see other countries and continents. People travel spending their time visiting museums and art galleries, places of interest, looking at the shop windows and dining at fine restaurants.

They cruise the Volga, the Dnieper, the Angara, the Yenisei and the Black Sea. They hike in the forests of Siberia. They climb the famous peak of the Caucasian mountains - Elbrus. They enjoy the beauty of snow-covered mountains, sunny valleys and vast forests.

Many people travel in their own cars along the roads. Beautiful pine forests and silvery birches, picture-like rivers and numerous lakes attract lovers of nature. They travel not only to enjoy fine places, but also to see old monuments of sculpture and historical places of the country.

Hiking is becoming very popular. People like to spend their days off in the country. There are fine places near every town with forests, lakes and rivers. It is pleasant to spend a day-off.

Travelling by air has some pluses of course. It is convenient and much quicker than any other means of travelling. During the flight, the passengers do whatever they like. Some of them read, others sleep, looking, or talking. Sometimes they can see the land below. It looks like a to¬pographical map.

Of course, the fastest way of travelling is by plane. However, many people travel by train. With a train, you have speed, comfort and pleasure combined. Travelling by train is of course slower than by air but it also has its pluses. Train is the cheap means of travelling. Modern trains have very comfortable seats in all passengers. During your way on the train, you can read news¬papers, books, look out of the window, drink the tea, and tell with your neighbors or sleep. When you are in the train, you can see the beauty of nature.

Many people enjoy travelling by sea. Such a travailing is called voyage or cruise. The ship stops excursions. When on board the ship people spend a lot of time on the upper deck.

Most travelers take a camera with them and take pictures of everything that interests them - beautiful views of waterfalls, forests, unusual plants and animals. These photos will remind them of the happy time of holiday.

2.Письменно перевести предложения:

1.Thousands of people spend their holidays travelling.
2.They travel by trains, buses, cars and motorcycles.
3.People travel to other countries and continents.
4.People cruise the Volga, the Yenisei and the Black Sea.
5.They hike in the forests of Siberia.
6.Many people travel in their own cars.
7.People like to spend their days off in the country.
8.The fastest way of travelling is by plane.
9.Travelling by train is of course slower than by air but it also has its pluses.
10Train is the cheap means of travelling.
11.When you are in the train, you can see the beauty of nature.

12.Many people enjoy travelling by sea.
13.Such a travailing is called voyage or cruise.
3.Запишите и выучите слова:
1.spend
2.through train
3.to travel by car or by bus
4.travelling
5.travelling by car
6.travelling by sea
7.travelling by train
8.travelling on foot
9.vocations

3.Прочтите и обсудите текст:

BE A GOOD TOURIST

Tourism has developed much in the 20th century. The truth is that tourists who go to fa¬raway or tropical countries often do nature much harm. Now the travelers are told to not only watch wildlife around them but also try to protect nature at the same time. Special guides are try¬ing to teach lovers of nature how to behave. In the past, many travelers tried to shoot animals. Today they can only watch them and take pictures of them. Facts show, however, that even this is not always good for the animal world. For example, the people of Kenya have agreed to turn their land into animal reserves. Now it appears that the leopards in the parks cannot have a good rest at night because tourists drive in their cars late at night. The hotels on the Pacific coasts throw such bright light at night that big green turtles that come out from the sea cannot lay their eggs. Tourist hotels are sometimes built in the jungle and the monkey‘s jumps from the trees to hotel roofs. Beautiful butterflies in the Mexican highland make homes in the trees. Crowds of tourists come to look after the butterflies and trample the ground under the trees. Tens of thou¬sands of Europeans come every year to the Canary Island to watch whales. Their boats frighten the whales that dive so deep that they often drown. The government has decided to limit the number of boats with tourists. They also try to make people understand that we can have more by protecting nature than by using it carelessly.

ПЗ№24 Мое путешествие.

Выучите слова, составьте с ними предложения

- **outside of the country** – за пределы страны
- **to be fortunate to do smt** – иметь везение что-то сделать, посчастливилось что-то сделать.
- **to plan on doing smt** – планировать что-то сделать.
- **a great experience** – отличный опыт.
- **as much as you can** – так много, как ты можешь, как можно больше.
- **to save up** – поднакопить денег.
- **to go on a trip** – отправиться в поездку.

- **in the near future** – в ближайшем будущем.
- **fun** – веселый, интересный.
- **to grow as a person** – расти как личность.

Переведите тексты, устно ответьте на вопросы

Traveling.

People began to travel ages ago. The very first travelers were explorers who went on trips to find wealth, fame or something else. Their journeys were very dangerous.

Nowadays it is not as dangerous and much more convenient. Do you want to go somewhere? Hundreds of companies help you. They will take care about your tickets and make all the reservations. You do not speak the language of the country you go to? There are interpreters that will help you. With modern services you can go around the world. You can choose the means of transport you like: plane, train, ship, bicycle or you can travel hiking. Tourism became a very profitable business because people are ready to spend their money for the great opportunity to have a great time learning about new countries, going sightseeing, resting.

Answer the questions:

1. Who were the first travelers?
2. Were their journeys safe?
3. Is it more convenient to travel now?
4. Is tourism a profitable business?

Text 2.

Traveling.

I like to travel. First of all, the members of our family usually have long walks in the country. Such walks are called hikes. During such hikes we see a lot of interesting places, sometimes we meet interesting people. It is useful for all members of our family. We take our rucksacks. We don’t think about tickets and there is no need to hurry up.

As for me, it's more comfortable to travel by train and by plane. But it's difficult to buy tickets for the plane. That’s why we buy our tickets beforehand. I like to travel by car. It's interesting too, because you can see many things in a short time. When we go by car, we don't take tickets. We put all things we need in a car. We don't carry them. Sometimes we go to the seaside for a few days. As usual the weather is warm and we can swim. It's pleasure to watch white ships. So I can say that I enjoy all kinds of traveling very much.

Answer the questions:

1. Do you like to travel?
2. How do you like to travel?
3. Do you like to travel by sea or by plane?
4. Whom do you like to travel with?
5. Why do we buy tickets beforehand?

Text 3.

Traveling.

If we are fond of traveling we see and learn all sorts of things we can never see or learn at home. Though we may read about them in books and newspapers and see pictures of them at the cinema. The best way to study geography is to travel and the best way to get to know and understand the people is to meet them in their own houses. When I was a child every holiday that I had, seemed to be perfect. In those far-off days the sun seemed to shine constantly and the water was always warm. All day I played on the sands with my friends. We made sand- castles with huge yellow walls. Sometimes we left the beach and walked in the country. Although I am now an adult, my idea of a good holiday is the same as it was. I still like the sun and the warm sand and the sound of waves breaking on the beach. I don't want to build sandcastles any longer but still I like sunbathing and the feeling that sand is running through my fingers.

I like traveling. And I want to smell different smells I want to see different kinds of trees, flowers and plants. When I spend a holiday in traveling I always take a camera with me and photograph everything that interests or pleases me: the sights of a city? Views of mountains, lakes, valleys; the ruins of ancient buildings. Some years later they will remind me the happy time that I had.

Answer the questions:

1. Do you like to travel?
2. What is the best way to study geography?
3. What do you do during your vacation?
4. What do you call "a good vacation"?

Translate the words and phrases given in brackets.

1. I hate flying and always prefer to travel **(на поезде).**

2. **(самый удобный способ)** to get there is by plane.

3. Modern planes have very comfortable **(сиденья)** in all cabins.

4. I like (**походы / пеший туризм**) because it's an easy way to keep fit.

5. Going on this tour you can see many interesting places (**за короткое время**).

Choose the word that best completes the sentences from the list below:

by sea on foot expensive advantages walking tours cars business trips by car pleasure journeys anywhere you wish by air by train

1. Travelling _____ is the fastest way to get somewhere.

2. You can easily get there _____.

3. The most pleasant but the most _____ way to travel to Solovki is _____.

4. Travelling _____ has one big advantage: you can stop _____ and make an ordinary meal a picnic.

5. In the last decade, ecotourism has developed in Russia. Almost every region can offer you _____ in the protected corners of nature.

6. _____ are better to take by plane or train, and _____ – by sea or _____.

7. Traveling in the Russian reserved-seat car is terrible, but there are also sleeping and a dining ____, which will greatly facilitate your existence.

Find the synonyms.

1	journey	a	wagon-lit
2	dining car	b	by road
3	by air	c	flight
4	voyage	d	way
5	walking tour	e	trip
6	mean	f	hike
7	sleeping car	j	by plane
8	by car	h	buffet car

ПЗ№25 Правила этикета.

1. Прочтите и переведите текст

25 Rules of Good Manners and Etiquette Everyone Should Know (And Follow!)

1. Timing is very important. Always keep to time when honoring a meeting, date, event, etc. When you show up late, it says so much about your personality and the kind of regard you show to important things.
2. Always take note of what you pick out of the refrigerator at the office; if you haven't kept some food or drink in there you have no business taking anything out. Leftovers should also be thrown away rather than getting the refrigerator stocked with junk.
3. Watch your manners when you make use of the cell phone. Being loud on the phone is a lot of disturbance to those around you. You are more likely to cause some distractions or disrupt other people's concentration.

4. If you RSVP for an event, you must show up. If probably you won't be able to honor such an event anymore, you must have communicated that early enough or else you will be causing a lot of imbalance for the celebrant.
5. Your diet plans are for you; don't bother other people with what you have to do or eat. If you prepare food for a lot of people you should be considerate enough to note that your diet isn't the same as well as others.
6. When your family is invited to visit a friend, make it a duty to help with some clean up and rearrangements especially when the kids loiter and displace things around.
7. Never break up with your partner or announce a death incidence via text; you should convey some information face to face or via a phone call.
8. No matter how cute dogs are, aside from taking them for a walk it is not ideal to take them to shopping malls or places where it is uncalled for. Most times people do this just for the sake of gaining some attention.
9. While using an earphone, make sure it is well plugged to avoid a situation where it's playing in your ears and at the same time playing on your device's speaker. It can be discomforting to people around.
10. When inviting people for a party, it is unruly to ask them to come with their food. They can eat at home; bringing their food has ceased it from been a party.
11. Posting your personal conversations and arguments on social networking sites is poor etiquette. The drama can be done privately in your inbox rather than bringing such awful conversation to the public.
12. Lend books to people only when they ask for it. When you force people to read a book by giving it to them, you may put some guilt on them and in the end, you will feel pained that they do not appreciate the book.
13. During a dinner, it is offensive to be loud while laughing, talking or even to stare at other diners.
14. It is expected that a person who invites you to lunch pays the bill. However, you should keep track of your portion and be ready to pay to avoid embarrassment.
15. When invited to a party, it's courteous not to bring any uninvited guests. It is important that you use some decency here.
16. As a gentleman, always open doors and allow ladies to enter first. And if you have a reserved table, the man should locate it and lead his companion there.
17. While you are at a dinner party, it's advisable to leave your phone on silent mode or put the cell phone off. It's better to respond to urgent calls by text rather than excusing yourself too often to pick calls.
18. Perhaps you come in late to a meeting, class or any other gathering. It is more honorable to find a seat behind where you won't be causing some distractions rather than trying to fit into your favorite position.
19. As a commuter, an able-bodied young person should give an elderly person or a woman carrying children his or her seat rather than leave them in less comfort.
20. Men should only sit on public transport if no woman is left standing near them. Men should always give their seats to ladies.
21. When a man has a lady as company, he is expected to use the exit first and clear the way for her as he assists her to exit the building, train, bus, etc.
22. As a guest, it is not polite to refuse food. It is better to ask for a lesser portion rather than turning down the offer. If you are on a diet, it is more honorable to decline an invitation rather than accept it and then avoid their food.
23. Listening is very important. It doesn't mean you must keep mute during a conversation, but showing a keen interest in the discussion and interjecting

at an appropriate timing depicts that you are on the same page as your partner.
24. Show your good use of etiquette by greeting the driver when you board a bus or a taxi and show some courtesy by thanking them as you alight.
25. As a commuter, be careful not to inconvenience others with your luggage. Do not place your belongings on the seat next to you; if you can't manage to hold them closely on your lap, you can as well put them under your seat.

2. Выпишите правила этикета, которые вы соблюдаете. Обсуждение ответов

3. Составьте диалог этикетного характера

ПЗ№26 Диалог-побуждение к действию, диалог-обмен информацией.

Ознакомьтесь с словосочетаниями, примените их в диалоге.

How to suggest in English — Как предложить по-английски

1. Let's go right now, shall we? — Давай пойдем прямо сейчас.
2. Let's not hurry …. — Давай не будем торопиться….
3. How about going to… — Как насчет того, чтобы….
4. What about going to … — Как насчет того, чтобы….
5. Why don't we go… — Почему бы нам не….
6. Why not go… — Почему бы нам не….
7. Shall I buy…? — Мне купить…?
8. Would you like to go to….? — Ты хотел бы….?
9. Do you suggest going to…? — Ты предлагаешь пойти (поехать)…?

How to agree in English — Как согласиться по-английски

1. Yes, let's. — Давай.
2. I'd love to. -С удовольствием.
3. That would be great/ fantastic. — Это было бы здорово.
4. With pleasure. — С удовольствием.

How to agree partly in English — Неуверенное согласие по-английски

1. That's a good idea, but… Это хорошая мысль, но…
2. O.K., but only if I have time. Ладно, но только если будет время.
3. That sounds good, but…. Звучит заманчиво, но…..
4. I don't mind. Я не возражаю.
5. It might be interesting. Это может быть интересно.
6. We might as well do…. Мы можем с таким же успехом сделать…
7. Why not? Почему бы нет.

8. The only thing… — Единственное …

How to refuse in English — Как отказаться по-английски

Чтобы ваш отказ прозвучал **вежливо**, надо к любой из этих фраз добавить: **I am afraid I can't.** — Боюсь, я не смогу.

1. I don't feel like it. — Мне что-то не хочется.
2. I'm not very keen on that. — Мне что-то не хочется.
3. I haven't got time. — У меня нет времени.
4. I'm too tired. — Я слишком устал(а).
5. There is no point in doing it. — Не вижу смысла это делать.
6. I'd rather not. — Я предпочел бы не делать это.
7. I'd rather + глагол … — Я бы скорее сделал(а) ….

Составьте по картинке диалог-побуждение к действию, диалог-обмен информацией.

ПЗ№27 Диалоги смешанного типа.

1. Напишите конспект

Виды диалогов

1. Диалог этикетного характера
2. Диалог-расспрос
3. Диалог –обмен мнениями
4. Диалог –побуждение к действию

1. Диалог этикетного характера

Вы должны уметь начинать, поддерживать и заканчивать разговор; поздравлять, выражать пожелания и реагировать на них, выражать благодарность, вежливо переспрашивать, отказываться соглашаться. Изучите Разговорные фразы на английском языке для начинающих

2. Диалог – расспрос

Вы должны уметь запрашивать и сообщать фактическую информацию (кто? что? как? где? куда? когда? с кем? почему?), целенаправленно расспрашивать, брать интервью. Изучите Типичные ситуации при общении на английском языке. Советы

3. Диалог – обмен мнениями

Важно уметь выражать свою точку зрения и соглашаться (не соглашаться) с мнением собеседника, высказывать ободрение (неодобрение), сомнение, выражать эмоциональную оценку обсуждаемых событий (радость, огорчение, желание (нежелание)). Изучите Разговорные фразы на английском языке для начинающих

4. Диалог – побуждение к действию (принятие совместного решения)

Нужно научиться обращаться с просьбой и выражать готовность (отказ) ее выполнить, давать совет и принимать (не принимать) его; приглашать к действию и соглашаться (не соглашаться) принять в нем участие; делать предложение и выражать согласие (несогласие принять его).

How to suggest in English — Как предложить по-английски

1. Let’s go right now, shall we? — Давай пойдем прямо сейчас.
2. Let’s not hurry …. — Давай не будем торопиться….
3. How about going to… — Как насчет того, чтобы….
4. What about going to … — Как насчет того, чтобы….
5. Why don’t we go… — Почему бы нам не….
6. Why not go… — Почему бы нам не….
7. Shall I buy…? — Мне купить…?
8. Would you like to go to….? — Ты хотел бы….?
9. Do you suggest going to…? — Ты предлагаешь пойти (поехать)…?

How to agree in English — Как согласиться по-английски

1. Yes, let’s. — Давай.

2. I'd love to. -С удовольствием.
3. That would be great/ fantastic. — Это было бы здорово.
4. With pleasure. — С удовольствием.

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2. O.K., but only if I have time. Ладно, но только если будет время.
3. That sounds good, but…. Звучит заманчиво, но…..
4. I don't mind. Я не возражаю.
5. It might be interesting. Это может быть интересно.
6. We might as well do…. Мы можем с таким же успехом сделать…
7. Why not? Почему бы нет.
8. The only thing… — Единственное …

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Чтобы ваш отказ прозвучал **вежливо**, надо к любой из этих фраз добавить: **I am afraid I can't.** — Боюсь, я не смогу.

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2. I'm not very keen on that. — Мне что-то не хочется.
3. I haven't got time. — У меня нет времени.
4. I'm too tired. — Я слишком устал(а).
5. There is no point in doing it. — Не вижу смысла это делать.
6. I'd rather not. — Я предпочел бы не делать это.
7. I'd rather + глагол … — Я бы скорее сделал(а) ….

Запомните: есть два глагола, которые переводятся «предложить» и их легко перепутать: **suggest** и **offer.**

Лексическая разница:

— to offer – предлагать что-либо конкретное, напр. материальную вещь или услугу

— to suggest – предлагать нечто абстрактное (мысль, идею)

Грамматическая разница:

— после OFFER употребляется существительное или глагол с частицей TO: offer **smth**/ offer **to** do smth

— после SUGGEST — Ding или придаточное предложение: suggest **doing**/ suggest **that** you should do … (придат. предложение)

ПРИМЕРЫ

1. He offered me a cup of tea.
2. He offered to help me with the housework.
3. What do you suggest?

4. I suggest calling a taxi.
5. I suggest that we should leave at once.

Запомните:

offer (предложить вещь) – offer (предложение)

suggest (предложить идею) – sugges**tion** (предложение)

2. Составить диалог смешанного типа.

СРС№4 Монологическое высказывание на тему «Поездка в другую страну».

Прослушайте аудиотекст на тему Travel. Ответьте на вопросы: Кто путешествует, в какой стране, какие достопримечательности видел(и), какие еще запланированы мероприятия.

Составите рассказ о своем путешествии

ПЗ№28 Профессии человека.

Выполнение упражнений на закрепление НЛМ по теме «Профессии человека».

Try to choose an appropriate profession:

Possibilities: doctor, driver, artist, stewardess, director, singer

1. She speaks foreign languages. She works very long hours, but she doesn't work every day. She likes people and travel, and she travels a lot in her work.. She is a ...

2. She doesn't work in an office. She is not a teacher. She works very long hours, and she often works at night – it's a hard job. She likes people and she helps them. She loves her job. She is a ...

3. He gets up at half past seven every day, has breakfast at eight o'clock, and starts work at half past nine. He works in an office. He has two secretaries and two telephones. He does not work on Sundays. He likes people. He is a ...

4. He usually gets up at eleven o'clock, and has breakfast at 12. He works at home. Sometimes he may work outside. He works in the afternoons, but not every day. Sometimes he works long hours, sometimes he does not work at all. He loves his job. He is an ...

5. She lives in a big city. She gets up late and has a late breakfast. She works late in the evening. She goes to and from work by taxi. People like to listen to her and sometimes they send her flowers. She is a ...

6. He gets up at five o'clock in the morning. He has breakfast and lunch in motorway restaurants. He works sitting down and travels a lot in his work. He likes his job. He is a ...

Name the profession:

1) I work outside and I love flowers. I'm a …….. .
2) I look after sick people in a hospital, but I'm not a doctor. I'm a …… .
3) I work in a small restaurant. I prepare food for out quests. I'm a ……. .
4) I love animals. Some people call me an animal doctor. I'm a …… .
5) I'm an artist and my job is taking photographs. I'm a ……. .
6) I'm interested in fashion. I make clothes for women. I'm a …….. .

Look at the pictures of rare and out-of-date professions. They are: weaver, potter, tailor, animal trainer, conductor, and bricklayer.

bricklayer

conductor

animal trainer

tailor

weaver

potter

Read the names of professions and divide them into groups.

photographer, school master, physician (doctor), conductor, bus driver, bricklayer (каменщик), tailor (портной), weaver (ткач), judge, shop-assistant, physicist, manager, accountant, programmer, fashion designer, architect.

Prestigious jobs	**Not prestigious jobs**
Well-paid	Low-paid
Up-to-date	Out-of-date
Rare	Widespread

Intellectual/mental	Manual

ПЗ№29 Выбор профессии.

1. Прочтите и переведите текст.

My future profession

What I would like to become? This question is important for me. Every job has its elements of difficulties and interest. I think that nearly all the professions are very important in life. But to choose the right occupation is very difficult, because we must take in to consideration many factors. We must consider our personal taste and our kind of mind. At the same time, we must satisfy the requirements of our society and people's needs in one profession or another. The end of school is the beginning of an independent life, the beginning of a more serious examination. In order to pass that very serious exam we must choose the road in life, which will help us best to live and work. Each boy and girl has every opportunity to develop skills and use knowledge and education received at school. Some may prefer to work in factories or plants, others want to go into construction: to take part in building power stations and new towns. Many opportunities to work and to satisfy at the same time the requirements of the society and your own personal interest are offered in the sphere of the services transport, communications and many others. When choosing a future career it is important to keep in the consideration the following things:

• do you like meeting and dealing with people;
• do you like to work inside;
• do you enjoy thinking about problems;
• do you enjoy working with your hands;
• do you like working on you own;
• do you enjoy being creative.

Analyzing all this will help not to make wrong choice. Various tests, which determine which group of professions you are inclined to, can also help.

2. Пройдите тест.

1a. to care of animals. 1b. to work with machines. 2a. to care of sick people 2b. to make schemes, programmes. 3a. to watch quality of figures 3b. to watch the plants 4a. to process materials (a tree, a fabric, plastic) 10b. to do counts 11a. to make new kinds of plants 11b. to design new kinds of things 12a. to solve difficult situations	10b. to do counts 11a. to make new kinds of plants 11b. to design new kinds of things 12a. to solve difficult situations 12b. to check up, to make in order tables and schemes 13a. to watch the work clubs 13b. to watch microbes 14a. to watch the work of medical machines 14b. to treat people 15a. to give a detailed description of

12b. to check up, to make in order tables and schemes 13a. to watch the work clubs 13b. to watch microbes 4b. to sell or advertise goods 5a. to discuss scientific articles or books 5b.to discuss books, plays or concerts 6a. to grow farm animals 6b.to train somebody in sport or labor skills 7a. to copy pictures 7b. to grow plants 8a.to look for and explain an information 8b. to prepare concerts plays 9a. to repair clothes, houses 9b. to correct mistakes in texts and pictures 10a. to treat animals	experiments 15b. to describe different events 16a. to do medical tests in a hospital 16b. to talk to sick people 17a. to paint walls or things 17b. to build houses or machines 18a. to organize trips and excursions 18b. to take part in plays or concerts 19a. to make a thing according to the working drawing 19b. to make working drawings 20a. to treat plants or trees 20b. to type

Man-nature	Man-techniques	Man-man	Man-symbols	Man-object of art
1a	1b	2a	2b	3a
3b	4a	4b	5a	5b
6a 10a	7b 9a	6b 8a	9b 10b	7a 8b
11a	11b	12a	12b	13a
13b 16a	14a 17b	14b 16b	15a 19b	15b 17a
20a	19a	18a	20b	18b

3. Соотнесите профессию с функцией.

1. a teacher	a) He bakes bread.
2. a doctor	b) He works in a circus.
3. a policeman	c) He takes care of our teeth.
4. a clown	d) He fights fires.
5. a postman	e) She studies at school.
6. a dancer	f) He delivers letters.
7. a fireman	g) She gives pupils homework.
8. a baker	h) He helps sick people.
9. a dentist	i) He protects people.
10 a pupil	j) She works in a theatre.

7. Составьте высказыванире «What is a profession?»

Use the phrase:

To my mind this is a profession of…

I think…

It seems to me…

a) This profession requires special education; the person should be kindhearted, careful, courageous, sensitive to the need of others; should be sympathetic to the pain of other people; should be very handy, devoted to this duty, selfless.

b) This profession requires special education; the person should be king, generous, strict and just; should love children; should possess deep and broad knowledge of a subject; should be responsive, honest, tactful, reserved, patient and tolerant.

c) This trade requires special qualities; the person should be careful; should have quick reactions; should have vision and hearing; should know and observe the traffic rules; should be a good mechanic.

d) This profession requires special education and physical qualities; the person should be very well educated in physics, mathematics, astronomy; should be in a perfect state of health; should have good endurance and the ability to stand great strain and the state of weightlessness; should be courageous and daring.

e) This profession needs special qualities; ability to stand heights or depths, extremes of heat or cold, courage, curiosity, the sense of duty, the ability to risk, good health, devotion to one’s idea, confidence in success.

f) This profession needs the following qualities; enterprise, the ability to foresee, to analyze and to risk; the ability to keep promises; the person should be disciplined, well behaved, communicative; should know foreign languages; to be a good psychologist.
8. Tell me about your profession. Why did you choose it? What will you do when you get your education?

ПЗ№30 Работа.

Ознакомиться с ЛЕ по теме «Выбор профессии», «Работа». Выучить и составить 10 предложений, подчеркнуть использованные слова

1. my dream — моя мечта
2. come true — сбыться
3. take exams — сдавать экзамены
4. leave school — закончить школу
5. enter an instutute (a college) — поступить в институт (колледж)
6. get education — получить образование
7. find a job — найти работу
8. be independent — быть независимым
9. be interested in — интересоваться
10. study hard — усердно учиться
11. be in two minds — быть в раздумье
12. decide — решить
13. make **up** one's mind — решить
14. change one's mind — передумать
15. follow my parents' profession — продолжить профессию родителей
16. choose — выбрать
17. make a choice — сделать выбор
18. the right choice — правильный выбор
19. the wrong choice — неверный выбор
20. make a career — сделать карьеру
21. be successful — быть успешным
22. **by** profession — по профессии

Прослушать диалог, разделиться на группы и драматизировать предложенные диалоги. Составить свой по теме

ПЗ№31 Профессии мужчин и женщин.

1. Прочтите и переведите текст.

Are there 'female' and 'male' professions in Russia?

Russian women see themselves in accounting, teaching and administrative work, while men eye opportunities in the automobile business, logistics, and security services.

This summer, on July 18, Russian authorities signed a decree opening more than 350 jobs for women, which were previously off-limits under Soviet-era labor restrictions. Starting in 2021, women will be allowed to work as truck and train drivers, as well as serve in the navy. Under the new rules, only 100 out of previously 456 jobs will remain off-limits for female candidates, due to physically challenging or harmful working conditions.

"The Russian labor market today needs more and more candidates, especially due to the demographic backdrop of 1990s," says Olga Mets, director of marketing and PR at HeadHunter, Russian job-searching website. "That's why it's clear that the opening of new jobs is an effective measure to satisfy the need of the economy in general and the labor market in particular."

Thanks to the new framework, women will have an opportunity to work as skydivers, electric train drivers, car repairmen, fishermen on coastal fishing boats and agricultural tractor drivers. At the same time, they will still be restricted from working in certain positions, such as in chemical production and in mining, that might be harmful to female health.

Yet, despite this trend toward less gender bias on the labor market, the country still sees a rather traditional "female" and "male" job differentiation. According to recent research carried out by popular Russian recruiting website 'Avito Jobs', most Russian women and men still eye traditionally "female" or "male" occupations and differ in their salary expectations.

The analysis of CVs posted on the website from January to June 2019 showed that female applicants dominate openings in accounting (93.2 percent of all CVs), teaching and scientific work (84.4 percent), administration (83.1 percent), as well as in fitness and beauty (82.1 percent) and in medicine and pharmaceutics (77.9 percent).

Male CVs, in turn, tend to seek out opportunities in automobile business (97 percent), transport and logistics (95 percent), security services (93.8 percent), construction (93.1 percent) and in IT, internet, and telecoms (88.6 percent).

At the same time, there are fields which are of equal interest to both women and men: tourism and catering business (with 49.6 percent of male and 50.4 percent of female CVs), marketing, PR and advertising (with 50.4 percent of male and 49.6 percent of female CVs), and jobs in public service and non-profit organizations (with 51.6 percent of male and 48.4 percent of female CVs).

What's also interesting to note is that women historically have lower salary expectations than men. For instance, in construction, men expect to earn 45,100 rubles ($676) per month, while women – 36,600 rubles ($548). Or take tourism and catering: here men expect to get paid as much as 41,100 rubles ($616), while women – 30,700 rubles ($460).

2. Распределите профессии по таблице

female professions	male professions

Accountant, Actor, Actuary,Animal Trainer, Arborist, Architect, Armed Forces Servicemember, Artist, Assistant, Astronaut, Astronomer, Athlete, Attendant, Audiologist, Autho, Botanist, Business Owner, Certified Nursing Assistant, Chef, Chemist, Chief Executive Officer, Chief Financial Officer, Child Care Provider, Chiropractor, Educator, Electrical Worker, Emergency Medical Technician, Doctor, Driver, Hairdresser, Horticulturist, Human

Resources, Interpreter, Investor, IT Professional, Nail Technician, Nanny, Pilot, Police Officer, Politician, Postal Worker, President, Priest, Principal, Producer, Professor, Programmer, Reporter, Scientist, Secretary, Server, Singer, Small-Business Owner, Social Worker, Salesperson, Teacher, Trainer, Translator, Travel Agent, 3. Составьте высказывание по одному из вопросов 1. Are there ‘female’ and ‘male’ professions? 2. My future profession 4. The best specialist
ПЗ№32 Моя будущая специальность – мехатроника. Чтение и перевод текста «Моя будущая специальность – мехатроника», выполнение упражнений к тексту.

Unit 1. WHAT IS MECHATRONICS?

1. Запишите и запомните следующие слова и словосочетания:

actuator technology – технические средства приводов
controls – средства управления
design solution – конструкторское решение
drive technology – теория приводов
flexibility – гибкость
instrumentation technology – измерительная техника
mechanical engineering – машиностроение
performance – технические характеристики
precision engineering – точное (прецизионное) машиностроение
sensor technology – сенсорная техника, технология очувствления (роботов)
software engineering – разработка программного обеспечения
synergistic – синергический, синергетический, действующий совместно

2. Выберите правильное определение для каждого термина:

blend	bringing the best possible profits or advantages for the lowest possible costs
cost-effective	about an object: strong and not likely to break
robust	important
significant	to invent a new word or expression, especially one that many people start to use
to coin	a mixture of different types of tea, coffee, or tobacco; a word formed by combining parts of two other words (brunch = breakfast +lunch)

3. Переведите предложения на русский язык.

The procedure is quick, easy to use and cost-effective.
The chair was more robust than it looked.
Please inform us if there are any significant changes in your plans.
The word *mechatronics* was coined in Japan some 40 years ago.
New, more cost-effective plans should be available by June 1.
The England team is a good side, with a nice blend of experience and youthful energy.
The new monument is more robust than the original and also far larger.
In all cases, probability values less than 0.05 were taken to indicate significant differences.
The word *aromatherapy* was coined in the 1920s.
The term "black hole" was coined in 1969 by the American scientist John Wheeler.

4. Прочитайте и переведите текст.

Mechatronics is the combination of mechanical engineering, electronic engineering, and software engineering. Mechatronics means the synergistic use of precision engineering, control theory, computer science, sensor and actuator technology to design improved products and processes.

The word *Mechatronics* was first coined in Japan over 40 years ago. Since then, mechatronics has been used to represent a synergistic blend of mechanics and electronics. It's a significant design trend that has a great influence on the product-development process, international competition in manufactured goods, and the nature of mechanical engineering education in coming years.

Mechatronics is a methodology for designing products with better, more precise characteristics. These characteristics can be achieved by considering not only the mechanical design but also the use of servo controls, sensors, and electronics. It is also very important to make the design robust. Computer disk drives, for example, are a prime example of the successful application of mechatronics.

Mechatronics is the combination of traditional design methods with sensors and instrumentation technology, actuator technology, embedded

real-time microprocessor systems, and real-time software. Mechatronic products exhibit certain distinguishing (=unique) features, including the replacement of many mechanical functions with electronic ones, which

7. Ответьте на вопросы к тексту:

- What does the word *Mechatronics* mean?

ПЗ№33 Мой день в колледже.

1.Прочтите текст:

MY DAY

Hello. My name is Vlad Volkov and I am a college student. I am in my first year now. I want to tell you about my usual working day. It is 6.30 am and my younger brother Alexei is knocking at the door of my bedroom. "Will you jog with me today?" he asks. Every morning be¬gins this way for me. I went jogging last year but then I have become «lazier and Alexei uses every chance to mock at me. He goes jogging regularly and he is a «good sportsman by the way - so his coach says. Alexei goes in for tennis and he has been playing football since he went to primary school. He is the best forward in his team.

Alexei goes away and I stay in bed a little while longer. Anyway, it is time to get up. I go to the bathroom and take a shower and clean my teeth, then come back to my room and switch on the television to watch the news while I am brushing my hair, shaving and putting my clothes on.

Now it is time for breakfast. All my family is at table - my mother, my father, Alexei and myself. We have scrambled eggs and bacon, a cup of tea and sandwiches. We chat and discuss news. I think it is right time to introduce my family members to you. My mother's name is Mary. She is a children's doctor. My father's name is Alexander and he is an engineer. Alexei is still a pupil. He is four years my junior. Oh, I have not yet told you about my elder sister. Her name is Nina. She is married. Her husband and she rent a flat not far from our place.

After breakfast, I look through my notes - just in case I have left something behind, put on my coat, then say good-bye to my mother and leave home. My father gives me a lift to the college in his car. He starts working later than my classes begin.

I arrive at my college just in time to say hello to my fellow-students before the bell goes. As a rule, we have three or four periods every day. We go to college five days a week. Saturday and Sunday are our days off. We have lectures and seminars. Sometimes we work in the work¬shops. To my mind, these are the most interesting lessons. My friends say that we will be having a test in English today. I think that writing tests in grammar is more difficult than speaking Eng¬lish. I hope I will not fail.

During the breaks, we go to the gym and play a round or two of basketball or volleyball. My friend John and I are fond of reading fantasy and we discuss the latest book by Nick Peru¬mov. He asks me if I liked the book that he had given me. I tell him that I will have read the book by the end of the week.

At 1 pm, we have a long break. We go to the canteen and have a roll and a cup of juice. Then there is one more period, which is Mathematics. It is my favourite subject. The classes are over at 2.40 pm. Sometimes I go to the library to study there, but today I do not.

On my way home, I see my girlfriend Lena. She smiles at me and we walk together for a while. I suddenly remember that we will have been dating for a year next week. I will go and look for a present for her tomorrow. When we first met at a party, I told her that she was the pret¬tiest girl in the world and I had been looking for her all my life. Now I think that she is not only the most beautiful girl, but also the best friend. I am fond of her. She is still a pupil; she is leav¬ing school this year. Lena's dream is to enter Moscow State University.

I come to my place at about 4 pm. Mother is already at home. She is cooking in the kitch¬en. Soon my father and brother arrive and we have dinner together. After dinner, I do my lessons for tomorrow, watch television and read. I do not go out because the weather has become worse. I go to bed at about 11.30 pm.

2.Переведите текст на английский язык:

Тони - итальянец. Он студент английского колледжа и изучает математику.

Он сейчас на 2 курсе. Тони живет в английской семье. Их фамилия Томсон. Их пятеро: мистер и миссис Томсон, сын Эндрю, старшая дочь Джейн и младшая Мэгги. Их дом находится в Оксфорде. По утрам Тони идет на пробежку, затем завтракает. На завтрак он пьет стакан апельсинового сока и ест яичницу с ветчиной. Затем он идет в колледж. Как правило, у него 3 или 4 лекции или семинара. Потом он занимается в библиотеке вместе со своими друзьями. Он приходит домой в 5 часов и ужинает с Томсонами. По вечерам он ходит в спортзал и играет в баскетбол или волейбол. После ужина он готовит уроки на следующий день или идет гулять, если погода хорошая. Обычно он ложится спать в 11 часов.

Tony is Italian. He is a student at an English college and studies mathematics. He is in his second year. Tony lives in an English family. Their surname is Tomson. There are five of them: Mr and Mrs Tomson, their son Andrew, an elder daughter Jane and younger Maggy. Their house
is in Oxford. In the morning Tony jogs, then he has breakfast. For breakfast he drinks a glass of orange juice and eats bacon and eggs. Then he goes to college. As a rule, he has 3 or 4 lectures or seminars. Then he studies in the library with his friends. He comes home at five and has dinner with the Tomsons. In the evenings he goes to a sport hall and plays volley-ball or basket¬ball. After supper he prepares his homework for the next day or goes for a walk, if the weather is fine. Usually he goes to bed at eleven pm.

3.Напишите короткий рассказ о своем типичном рабочем дне, ответив на следующие вопросы:

1.When do you usually get up? Do you get up early?
2.Is it easy for you to get up early?
3.Does your alarm clock wake you up or do you wake up yourself?
4.Who usually makes breakfast for you?
5.What do you usually have for breakfast?
6.When do you usually leave your house?
7.How long does it take you to get to your college?
8.Do you go there by bus/trolley-bus or walk?
9.How many lectures do you usually have every day?
10.Where do you usually have lunch (dinner)?
11.What time do you come back home?
12.How long does it take you to do your homework?
13.How do you usually spend your evenings?

4.Переведите следующие предложения по теме «Мой колледж» на английский язык:

1.Моя цель – получить полное среднее образование и профессию, а затем найти хорошо-оплачиваемую работу.
2.Мы учимся шесть дней в неделю и имеем по восемь уроков в день.
3.В колледже есть много хорошо-оборудованных мастерских.
4.В мастерских есть много технических приборов и инструментов для практического обучения.
5.На втором этаже есть библиотека, концертный зал и два спортзала.
6.Я интересуюсь техническими приборами и оборудованием.
7.Обучение бесплатное. Если обучающийся учится хорошо, он получает небольшую стипендию.

ПЗ№34 Инженерия.

Современные тенденции инженерии.
Работа с учебником Английский язык в профессиональной деятельности В.А. Радовель: учебное пособие -Москва, 2021 –(среднее профессиональное образование)
Стр. 81 упр 1-4
Стр. 85 упр 11-13

ПЗ№35 Мехатроника.

1. Запишите и запомните следующие слова и словосочетания:
actuator technology – технические средства приводов
controls – средства управления
design solution – конструкторское решение
drive technology – теория приводов
flexibility – гибкость
instrumentation technology – измерительная техника
mechanical engineering – машиностроение
performance – технические характеристики
precision engineering – точное (прецизионное) машиностроение
sensor technology – сенсорная техника, технология очувствления (роботов)
software engineering – разработка программного обеспечения
synergistic – синергический, синергетический, действующий совместно

2. Выберите правильное определение для каждого термина:

blend	bringing the best possible profits or advantages for the lowest possible
cost-effective	costs about an object; strong and not likely to break
robust	important
significant	to invent a new word or expression, especially one that many people start to use
to coin	a mixture of different types of tea, coffee, or tobacco; a word formed by combining parts of two other words (brunch = breakfast +lunch)

3. Переведите предложения на русский язык.
The procedure is quick, easy to use and cost-effective.
The chair was more robust than it looked.

Please inform us if there are any significant changes in your plans.
The word mechatronics was coined in Japan some 40 years ago.
New, more cost-effective plans should be available by June 1.
The England team is a good side, with a nice blend of experience and youthful energy.
The new monument is more robust than the original and also far larger.
In all cases, probability values less than 0.05 were taken to indicate significant differences.
The word aromatherapy was coined in the 1920s.
The term "black hole" was coined in 1969 by the American scientist John Wheeler.

4. Прочитайте и переведите текст.

Mechatronics is the combination of mechanical engineering, electronic engineering, and software engineering. Mechatronics means the synergistic use of precision engineering, control theory, computer science, sensor and actuator technology to design improved products and processes. The word Mechatronics was first coined in Japan over 40 years ago. Since then, mechatronics has been used to represent a synergistic blend of mechanics and electronics. It's a significant design trend that has a great influence on the product-development process, international competition in manufactured goods, and the nature of mechanical engineering education in coming years. Mechatronics is a methodology for designing products with better, more precise characteristics. These characteristics can be achieved by considering not only the mechanical design but also the use of servo controls, sensors, and electronics. It is also very important to make the design robust. Computer disk drives, for example, are a prime example of the successful application of mechatronics. Mechatronics is the combination of traditional design methods with sensors and instrumentation technology, actuator technology, embedded 6 real-time microprocessor systems, and real-time software. Mechatronic products exhibit certain distinguishing (=unique) features, including the replacement of many mechanical functions with electronic ones, which results in much greater flexibility and easy redesign or reprogramming. The basic idea is to apply new controls to extract new levels of performance from a mechanical device. It means using modern, costeffective technology to improve product performance and flexibility. In many cases, the application of computer and controls technology provides a design solution that is more elegant than the purely mechanical approach.

7. Ответьте на вопросы к тексту:

1.What does the word Mechatronics mean?
2.In what country was the term coined?
3.What influence does mechatronics have on the product-development process?
4.Does mechatronics influence international competition in manufacturing goods?
5.Is Mechatronics an obligatory course in higher educational institutions?
6.Is mechatronics a specific methodology?
7.Can you give an example of the successful application of mechatronics in manufacturing consumer goods?
8.What distinguishing features do mechatronic products exhibit?
9.What does the replacement of many mechanical functions with electronic functions result in?
10.What design solution may the use of computer and controls technology provide?

ПЗ№36 Времена глаголов группы Perfect Active, the Present, Past, Future Perfect Active;

Предлоги for, since особенности их употребления

1. Поставьте глагол в форму Present Perfect, Past Perfect или Future Perfect.

to arrive

Our taxi … by 9 o'clock yesterday morning.
Let's go. The guests already … .
They … by the time the meeting starts.

to be

I am tired of waiting. Where you … ?
By the time I'm 30 I … a famous scientist.
He didn't remember where he … before the accident.

to paint

We … the house by next Tuesday.
She … more than 10 pictures already.
I wondered if they … the room.

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

Sam … (lose) his keys. So he can't open the door.
When I woke up in the morning, the rain already … (stop).
I hope I … (finish) my test by midnight.
The film turned out to be much longer than we … (expect).
My sister just … (leave) for the bank.
The girls were good friends. They … (know) each other for 5 years.
Mother … (lay) the table before we come.
I never … (try) Japanese food.
Ted was so happy because his dream … (come) true.
We … (be) to Paris many times.

3. Выберите в скобках подходящее слово или словосочетание. Переведите предложения.

She will have finished her resume … (on Monday/by Monday/last Monday).
The aircraft hasn't landed … (yet/just/already).
We have lived in New York … (since/from/for) three years.
… (After/Already/Ago) they had eaten the cake, they cleared the table.
They will have decorated the Christmas tree … (by the time/before/by then).
My uncle has … (already/yet/ago) repaired his car.
I haven't met them … (from/since/for) their wedding.

… (By the time/Already/Just) the sun set, the farmers had already stopped working.
Have you … (just/ever/yet) been married, Kelly?
… (When/How much/How long) has he known her?
Упражнение 2. What is Katrin saying? Add for ago, or since.

4. Добавьте for ago or since

I'm Australian. I was born in Canberra. I lived in Canberra (1) _____ sixteen years. Then my family moved to Melbourne. I lived there (2) _____ two years. Then I moved to Sydney. I've lived there (3) _____ 1990. I work for a travel agency. I started working there a year (4) _____. I'm married to Jack. We got married three years (5) _____. We have a house in Sydney. We've had the house (6) _____ two years.

5. Вставьте since или for.

Meredith has lived here _____ 1997.
Meredith has lived here _____ eighteen years.
John has had the ball_____ last July.
He has had the ball _____ eight months.
Molly has liked fairy-tales _____ she was a tiny baby.
Steven has been a worker_____ he left school
We have had three tests _____ Tuesday.
The couple have stayed here _____ three days.
I have had my player _____ ten weeks.
Molly has had the player_____ Christmas.

ПЗ№37 Электронные и электрические системы

Выполнение упражнений на закрепление НЛМ по теме «Электронные и электрические системы».

The transformer is static electrical equipment which transforms electrical energy to the magnetic energy and again to the electrical energy. The operating frequency and nominal power are approximately equal on primary and secondary transformer side because the transformer is very efficient equipment, while the voltage and current values are usually different. Essentially, the main task of the transformer is to convert high voltage (HV) and low current from the primary side to the low voltage (LV) and high current on the secondary side and vice versa. Also, a transformer with its operation principle provides galvanic isolation in the electrical system.

A transformer transfers electrical energy from one circuit to another through inductively coupled conductors the transformer's coils. A varying electric current in the first or *primary winding* creates a varying magnetic flux in the transformer's core and thus a varying magnetic field through the *secondary winding*. This varying magnetic field induces a varying electromotive force (e. m. f.) or "voltage" in the secondary winding. This effect is called mutual induction.

With those features, the transformer is the most important part of the electrical system and provides economical and reliable transmission and distribution of electrical energy.

The **working principle of transformer** is very simple. It depends upon Faraday's law of electromagnetic induction. Actually, mutual induction between two or more winding is responsible for transformation action in an electrical transformer.

In the broadest terms, there are two types of transformers. There are voltage transformers, which are typically what people are talking about when they simply say ‘transformer’, and there are current transformers, often times called instrument transformers. Voltage transformers alter the voltage input to the device and output a voltage that is proportional to the input voltage. Current transformers do the same for amperage.

There is an incredible range of transformers where the size of these devices is concerned. Some transformers are small enough to fit in a pocket and some are larger and heavier than most cars. These devices, no matter what size they happen to be, function on largely the same principles.

Transformers can be categorized in different ways, depending upon their purpose, use, construction etc. The main **types of transformers** are as follows:

1. Step-up transformers
2. Step-down transformers
3. Isolation transformers

The **step-up transformers** can be used in electronic and electrical devices where the voltage boosting is required. But nowadays in the modern electronic device, power electronic circuits are more frequently used because of weight and dimension.

 The step-down transformer converts the high voltage (HV) and low current from the primary side to the low voltage (LV) and high current value on the secondary side. This transformer type has a wide application in electronic devices and electrical systems. When it comes to the operation voltage, the step-up transformer application can be roughly divided in two groups: LV (voltages up to 1 kV) and HV application (voltages above 1 kV).

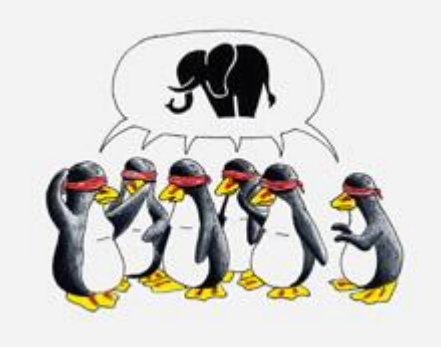
The **step-down transformer** is used to provide this low voltage value which is suitable for electronics supplying. It transforms home voltage (230/120

V) from primary to a low voltage on the secondary side which is used for the electronic supplying. If electronic devices are designed to have higher nominal power, transformers with high operating frequency are used (kHz-s). The transformers with higher nominal power value and 50/60 Hz nominal frequency would be too large and heavy. Also, the daily used battery chargers use the step-down transformer in its design.
An isolation transformer is a transformer used to transfer electrical power from a source of alternating current (AC) power to some equipment or device while isolating the powered device from the power source, usually for safety reasons. Isolation transformers provide galvanic isolation and are used to protect against electric shock, to suppress electrical noise in sensitive devices, or to transfer power between two circuits which must not be connected. A transformer sold for isolation is often built with special insulation between primary and secondary, and is specified to withstand a high voltage between windings.
Transformers play an important role in power transmission because they allow power to be converted to and from higher voltages. This is important because higher voltages suffer less power loss during transmission. This is because higher voltages allow for lower current to deliver the same amount of power as power is the product of the two. Thus, as the voltage steps up, the current steps down. It is the current flowing through the components that result in both the losses and the subsequent heating. These losses, appearing in the form of heat, are equal to the current squared times the electrical resistance through which the current flows.


Transformers are among the most basic electrical components in use. These devices contain few parts, but they perform a vital role in many different electrical applications. From the large plugs on most electronic charging devices for cellular phones and tablet computers to the huge transformers mounted to power poles and located at substations, these devices are so common precisely because they are so useful.
Transformers play many different roles in electronics. They are used in amplification devices, on power poles to step voltage down for household use and in computers to provide many different voltages to the motherboard through separate connections to the motherboard.

ASSIGNMENTS

1. Say what readers' category it is for.
2. Read the text and find out whether the title fully represents the content.
3. Have you read any articles on the basis of this theme? Were they fascinating or scientifically vital to you?



4. Read the first paragraph of the text and say what questions are discussed in it.

5. Divide the text into several parts. Explain your choice.
6. Scan the text. Focus on the general ideas of each part to say how they are connected and why.
7. Think of the alternative way to entitle each part.

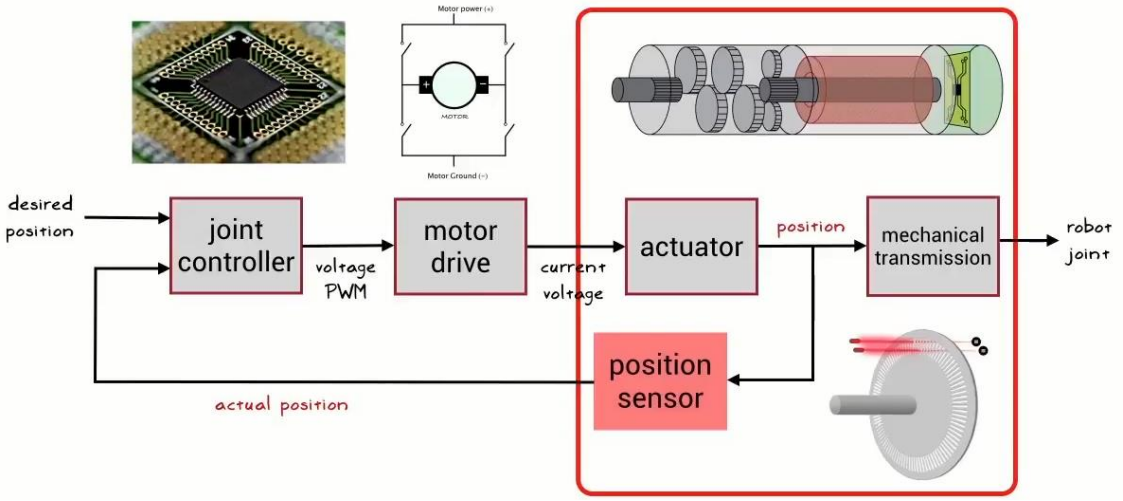
ПЗ№38 Элементы электронных и электрических систем

1. Прочтите и переведите текст.

Elements of electronic and electrical systems in mechatronics:

The electronic part. Consists of microelectronic devices, power converters and electronics of measuring circuits.

Sensors. Collect data on the actual state of the external environment and objects of work, the mechanical device and the drive unit, followed by primary processing and transmission of this information to a computer control device.



Electric drive. It consists of an electric motor device (EDU) designed to convert electrical energy into mechanical energy, a power converter device (SPU) for converting electrical energy parameters and a transfer mechanism that converts the parameters of mechanical energy of the EDU to a given type and required values.

Also, the elements of electrical systems in mechatronics include electromechanical converters that convert electrical energy into mechanical energy and vice versa. The main type of electromechanical converter is an electric motor (electric generator).

2. Заполните таблицу

The electronic part	Sensors	Electric drive

3. Составьте монологическое высказывания, отвечая на вопрос

.In which industries are mechatronic systems most widely used?

ПЗ№39 Элементы электронных и электрических систем на предприятиях г. Иркутска

Запишите и выучите новые слова. Составьте доклад о предприятиях города Иркутска (релейный завод), применяя правила конструкции

английского предложения.

NOUNS	
application	прибор;аппаратура; сфера применения
appliance	приспособление;устройство;электрический прибор
electrification	электрификация;электризация
generation	выработка электрической энергии
lamp *paraffin-fuelled Tilley lamp*	лампа *керосиновая лампа «Тилли»*
lighting	освещение
line *electric power lines*	линия *линия электропередачи (ЛЭП)*
mains	электрическая сеть
petrol	бензин
power *power output*	мощность; энергия *выработка электроэнергии; выходная мощность*
source *alternative source*	источник *альтернативный источник*
transmission	передача
wire	провод

VERBS	
extend	продлить; расширить
generate	вырабатывать
power	снабжать энергией;приводить в действие;служить источником энергии
pump	качать
transmit	передавать
ADJECTIVES	
rural *rural electrification*	сельский *электрификация сельских районов*
stationary	стационарный; неподвижный

ПЗ№40 Гидростатическое оборудование

1. Прочтите и переведите текст

Hydrostatic Pressure Test Equipment

Hydrostatic pressure testing is a common method used to test the integrity and strength of pipelines, vessels, and other pressure equipment. Hydrostatic pressure test equipment is used to conduct these tests, and typically includes the following features:

High Pressure Capability: Hydrostatic pressure test equipment is designed to withstand high pressures, often up to several thousand psi. This allows it to simulate the operating conditions that the equipment will be subjected to in its actual use.

Accurate Pressure Measurement: The equipment is designed to accurately measure the pressure of the fluid being used to test the equipment. This is important to ensure that the equipment being tested is not subjected to pressures beyond its design limits.

Safety Features: Hydrostatic pressure test equipment typically includes safety features such as relief valves and pressure gauges to ensure safe operation and prevent over-pressurization.

Easy to Use: The equipment is designed to be easy to set up and operate, with clear instructions and controls for the operator.

Portable: Hydrostatic pressure test equipment is often portable, allowing it to be taken to the location where the equipment being tested is located. This is important in situations where it is not practical to move the equipment being tested.

Data Recording: Modern hydrostatic pressure test equipment often includes data recording features, allowing the pressure and other test parameters to be

recorded and analyzed later. This can be useful for identifying potential issues and for complying with regulatory requirements.
With a large stock of quality high pressure hydrostatic test equipment, we can ensure we have the system you need.Hydrostatic Pressure Test Equipment is safe and easy to operate and is suitable for a wide range of liquids and gases. In addition to our standard equipment, we can also design and manufacture bespoke hydrostatic testing systems to your specifications. Pneumatics and Hydraulics is a stocking distributor of all the components in our systems, enabling us to build a cost effective, reliable system that is fully customised to your needs.
Any of our high pressure test systems are supplied with a variety of safety devices to ensure maximum safety for all your operators. Pneumatics and Hydraulics' experienced engineering team can also provide on-site consultation and start-up services if you require.

2. Верны ли следующие утверждения

1. Equipment is safe and easy to operate and is suitable for a wide range of liquids and substances.
2. Hydrostatic pressure test equipment is designed to withstand low pressures.
3. Hydrostatic pressure test equipment is used to conduct tests.
4. This isn't important to ensure that the equipment being tested
5. Hydrostatic pressure test equipment typically does not include safety features.

3. Составьте 5 специальных вопросов по тексту

4. Приведите примеры использования гидростатического оборудования

ПЗ№41 The Present and Past Simple Passive

Чтение и перевод текста «Гидростатические машины», чтение и перевод тематических текстов, выполнение лексико-грамматических упражнений к текстам. Выполнение грамматических упражнений по теме: «The Present and Past Simple Passive».

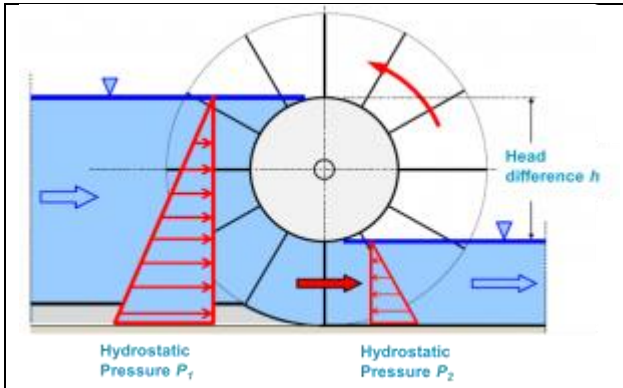
Переведите предложенную информацию, выделите и расскажите основную информацию, используя Present and Past Simple Passive

Hydrostatic Pressure Machine (HPM)

Resource and requirement

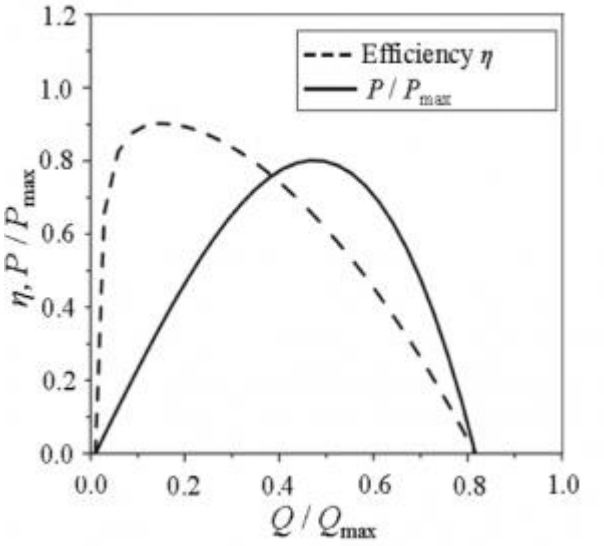
- Unused low head potential in England: 800 → 1000 MW
- From old mills and river weirs, (~ 30,000 mills were in operation in the 1850's)
- Global resource available from run of river sites to irrigations canals
- No economically viable very low head and high flow rate machine currently available
- New requirement for an economic and ecologically acceptable turbine

Concept – Hydrostatic Pressure Machine (HPM)



Concept of the HPM

Members of the sustainable energy research group (Gerald Muller, James Senior, Nick Linton and William Batten) have been involved in the design and development new machine.
This new machine developed at Southampton University, uses hydrostatic pressure difference. It is a simple machine which can feasibly take a high volume of flow and also also fish as sediment passage.
The further development and field demonstrations has been a part of the HYLOW project.
Theory



Theory predictions

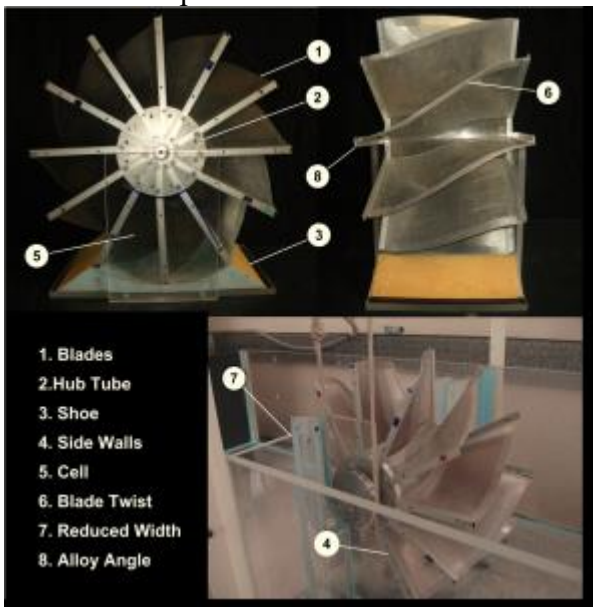
The novel principles:

- Wheels acts as weir and maintains head difference
- Hydrostatic pressure acts on moving wheel blade
- Pressure head reduces with increasing wheel speed
- Losses caused by turbulence, and leakage

Theoretical properties:

- Efficiency reduces with increasing flow rate (Q)
- Maximum efficiency does not coincide with max. power
- Flow volumes Q = 2 m^3/s • m
- Power: 5 → 150 kW
- Efficiencies: 70 → 85%

Lab model experiments



One of the configurations tested at Lab scale

Lab scale model:

- Most tests done at 1:6 scale
- 12 bladed machine
- Used to further develop theory and design field installations

Parameters tested:

- Hub to diameter ratio
- Blade shape / angle
- Machine to channel width
- Shoe shapes

Field demonstration (1) Reactivation of old mill	(A) Retrofit of an old mill to generate electricity

Reactivation of a Mill at Partenstein, Germany with a HPM.

(B) Inclined blades, steel runner with concrete support structure
Measured performance

- Mech. efficiency: 80%
- Total eff. (hydro → elec): 65%
- Measurements agree well with theory

Advantages:

- Economical
- Ecologically compatible allows for sediment and fish passage
- Retrofit possible

Field demonstration (2) Run of river installation

Run-of-river plant, with fish pass, installed
River Iskar, Bulgaria
Performance

- Pmax = 12 kW (elec.)
- H = 1.00 m
- Q = 1.80 m³/s
- Max. eff. hydro→ elec: 77% ~ 60% design flow

ПЗ№42 Гидравлические и пневматические приводы

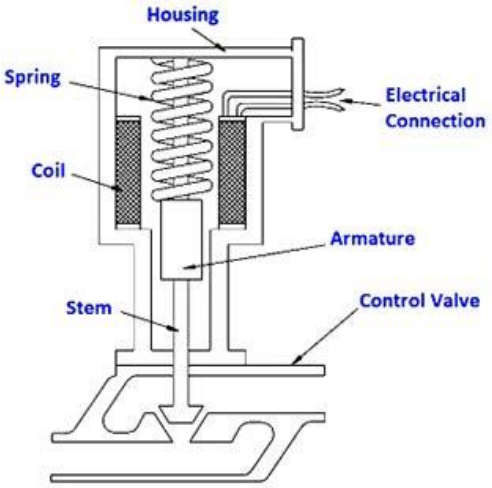
1. Прочтите и переведите текст письменно.

Hydraulic Actuator

The hydraulic actuators consist of a cylinder or **fluid-based motor** which utilizes the power of hydraulics to create mechanical actions. Hydraulic actuators are capable of providing linear as well as rotary motions. They utilize incompressible fluids such as oils from a pump that fills the cylinder to apply power to either one or both sides of the pistons. The speed and force can be adjusted by increasing the pressure of the fluid inside the cylinder. These are the oldest types of actuators known to us. The below image shows a cross-section of the hydraulic actuator. In the image of a JCB machine, we can see 3 hydraulic actuators used to control its arm.

Advantage of Hydraulic Actuators

- They are capable of producing high speed and high power



- Hydraulic actuators can hold constant force even without a pump consuming extra energy for supplying fluids to the cylinder as they utilize incompressible fluids.

Disadvantages of Hydraulic Actuators

- They require higher maintenance cost
- Leaks in the fluid may result in loss of efficiency, the fluids can also impact the environment adversely.
- They are not suitable for extreme temperatures as the fluid property may vary depending on temperatures.
- Hydraulic Actuators have a lot of components such as reservoirs, pumps, release valves, heat exchangers, etc, which can result in lower reliability and higher resources for monitoring, thus increasing the cost of operations.

Hydraulic actuators are extensively used in industrial applications, they are also used in construction equipment such as JCB machines, diggers, etc for operating their equipment such as plunger or diggers. They are commonly used in brakes of our vehicles or suspension systems etc.

Pneumatic Actuator

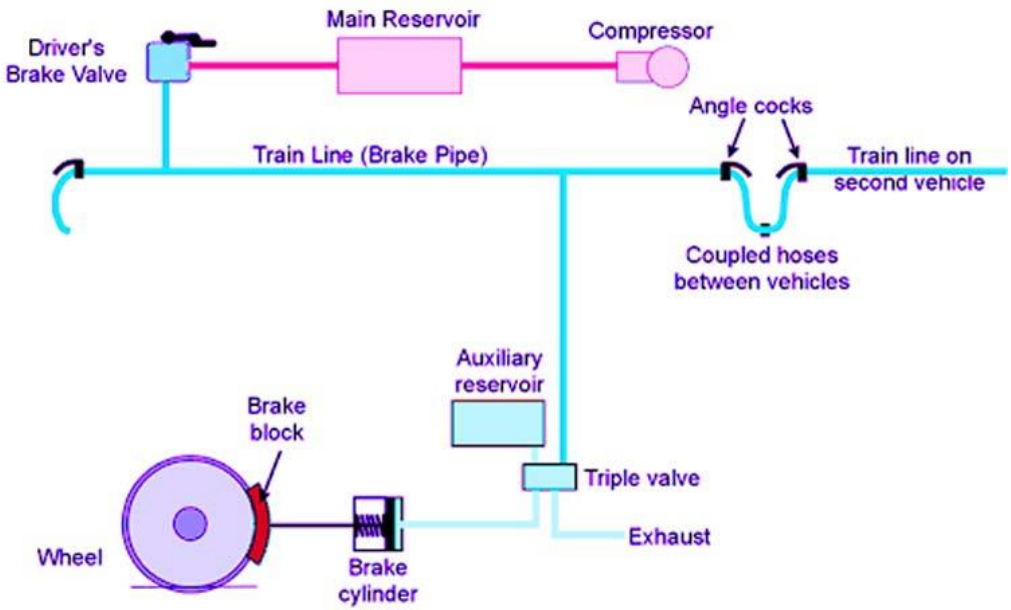
Pneumatic Actuators are similar to hydraulic actuators. The difference is the fluid used for driving the pistons is gaseous in nature. The energy is from either a high-pressured compressed air or vacuum is used to get a liner or rotary mechanical motion. Similar to hydraulic actuators, they convert pressure into force. A diagram of air brakes used in trains is shown below

Advantages of Pneumatic Actuators

- Very fast response rate

- High forces can be produced with small pressure changes
- Cheaper to construct and operate than electrical and hydraulic actuators.
- Pneumatic actuators produce higher power than electric or hydraulic actuators.
- It can be used in extreme temperatures and hazardous conditions as it is safer to operate air in hazardous places than chemicals or electricity.

Disadvantages of Pneumatic Actuators



- Even if no movement is required a compressor must operate continuously since pressure losses and compressibility of air make pneumatic actuators loose power.
- Small leaks are difficult to identify than in hydraulic actuators.
- If the air in reservoir gets contaminated by oil, lubrication, or other gases, the power output is changed which leads to downtime and maintenance.

Pneumatic actuators find applications in a lot of different types of industries, they are used as **Rack and Pinion** actuators for valve controls operations. They are also used in Pneumatic brakes in vehicles as they are very responsive to small pressure changes applied by the driver.

2. Заполните таблицу

Hydraulic Actuator		**Pneumatic Actuator**	
Advantages	**Disadvantages**	**Advantages**	**Disadvantages**

3. Ответьте на вопросы

1. Where are Hydraulic Actuators used?
2. Where are Pneumatic Actuators used?

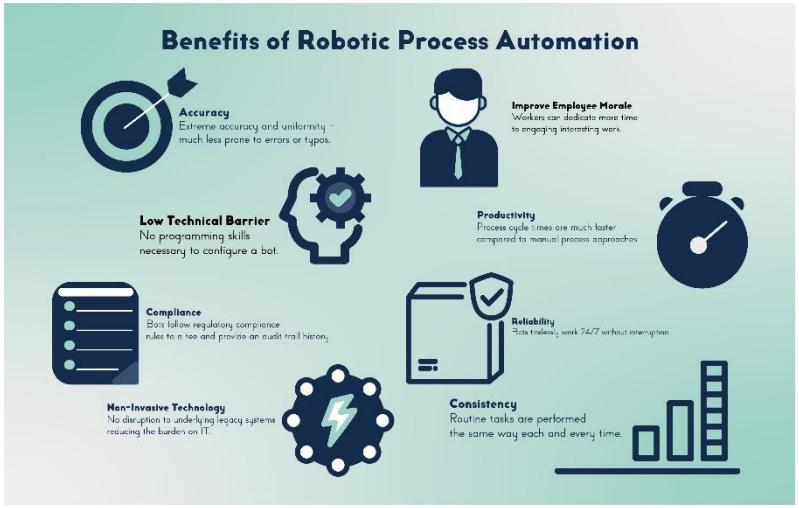
ПЗ№43 Гидравлические и пневматические приводы

Чтение и перевод тематических текстов, выполнение лексико-грамматических упражнений к текстам.

Работа с учебником Английский язык для изучающих автоматику (B1-B2): учебник для среднего профессионального образования/ М.Ю. Рачков _ 3е издание. Испр и доп. – Москва : Издательство Юрай 2023-233 с. (Профессиональное образование)
Стр. 122-126

ПЗ№44 Автоматизация

Чтение и перевод текста «Автоматизация», чтение и перевод тематических текстов, выполнение лексико-грамматических упражнений к текстам



Automation in Manufacturing

Automation in manufacturing uses manufacturing management software or robotic tools. It is used to perform a factory's tasks when making physical products. These tools are built to meet the needs of businesses. They can lessen overhead and improve efficiency. The devices can allow multiple innovative processes to be integrated into one system.

Automation is the ability to perform repetitive, patterned tasks automatically. This is done by programming a machine or tool with computer code. The machine automatically instructs it to perform a process. Automation in manufacturing can improve efficiency and reduce costs. However, like any other process, this too, has its pros and cons.

Process Automation in Manufacturing

Companies are starting to use manufacturing automation. This is a result of years of research and development. It is now often related to electromechanical systems that may be programmed to carry out a variety of tasks.

Not every manufacturer is a good candidate for automation. Yet, most businesses can benefit from the different kinds of automation.

Automation can give you the ability to increase quality and reduce waste. It can also deliver products on time and optimize resource allocation.

Automation can be used to enhance industrial systems and procedures in several situations. It can take many different forms. The examples include the following:

Order Processing

As a company grows, it could become increasingly difficult to manage a high volume of incoming orders. Businesses can monitor incoming orders and

order revisions. They may also want to accomplish price calculations in real time by automating order processing.

The repetitious nature of procurement ties up a lot of precious human resources. Yet, companies can automate procurement by utilizing vendor management systems and supplier portals.

This frees the employees of the cumbersome and repeated tasks. Eventually, allowing the management to reassign staff to more mentally demanding duties.

Production

A common application of automation in the industrial sector is manual production assembly. Businesses deploy a combination of machines, robots, IoT devices, and software to guide workers. They may also collect data and physically complete daily activities. This allows them to optimize the production process on the factory floor.

Worker in an industrial setup

Industrial automation software facilitates enhancing operator productivity

Additionally, industrial automation software facilitates enhancing operator productivity on the production line. It also aids to gather real-time data. With the help of this information, supervisors may locate the inefficiencies in manufacturing.

The process also lets them take remedial action to promote ongoing progress.

Supply Chain

The supply chain consists of several routine, prone-to-error procedures. It is a crucial process that can affect related processes. An error at any stage can create multiple problems.

These processes could lead to bottlenecks throughout the entire system. However, automation techniques to perform picking, receiving, stocking, and shipping remove errors.

Production routing works well with automated supply chain management. Thus, it helps in improving workflow and productivity.

2. Ответьте на вопросы

1. What is process automation in manufacturing?

2. How is automation used in production facilities?

3. What does help in improving workflow and productivity?

4. What is the role of worker in an industrial setup?

5. What are the benefits of automating manufacturing processes?

3. Напишите высказывание на тему «Главные тренды в автоматизации производства» (10-15 предложений)

ПЗ№45 The Present and Past Progressive Passive, The Present and Past Perfect Passive

Выполнение грамматических упражнений по теме: «The Present and Past Progressive Passive, The Present and Past Perfect Passive».

Работа с учебником Английский язык для изучающих автоматику (B1-B2): учебник для среднего профессионального образования/ М.Ю. Рачков _ 3е издание. Испр и доп. – Москва : Издательство Юрай 2023-233 с. (Профессиональное образование)

Стр. 21-23 Прочитайте текст, выполните упражнения к тексту

Change the following sentences to passive voice.

1 simple present People speak English in Australia. _____

2 present continuous They are writing the report now.

_____

3 simple past The dog bit the mailman. _____

4 past continuous He was still fixing the car when I arrived at the garage.

_____

5 future Someone will give us a tour of the museum._____

6 future with “going to” They are going to tear down the old building.

_____

7 present perfect They have already given him the bad news.

_____

8 past perfect They had built the houses before the war started.

_____

9 modal “can” They can finish the project on time.

_____

10 modal “have to” You have to send the parcel today.

11 modal “should” **You should sweep the floor every day.**

12 modal “must” **You must wear your seatbelt at all times.**

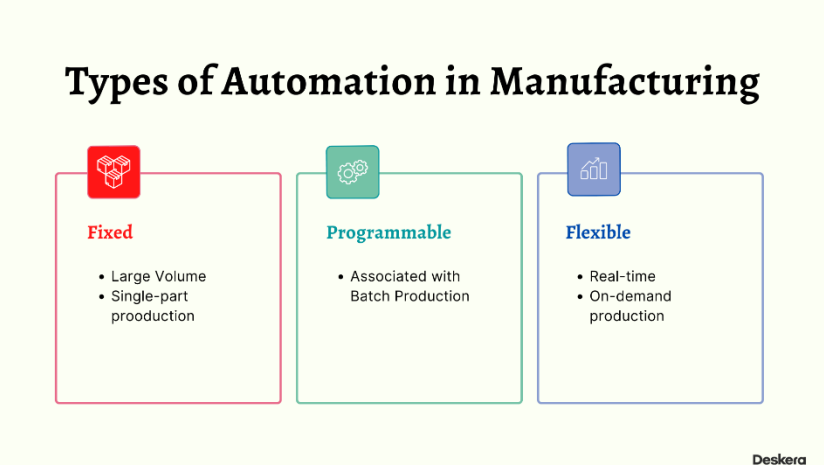
13 modal “might” **They might complete the new bridge by next year.**

14 modal “may” **They may contact you this week.**

ПЗ№46 Типы автоматизации

1. Прочтите и переведите текст

What are the Types of Manufacturing Automation?



Automation is the mechanization of processes. It ensures production procedures are followed without human intervention.

On the production floor, a variety of automation techniques are employed. A manufacturing operation will decide what kind of automation to use based on the items being produced. It also dictates the machinery needed and the resources available.

In the case of industrial automation, different processes and pieces of machinery are handled by control systems. This may rely on computers or robots, to finish a task.

Types of Automation in Manufacturing

It may be used most easily when conducting predictable physical work, collecting data, and analyzing data.

We have the following types of manufacturing automation techniques:

Fixed Automation

This is also known as hard automation. It can be used for producing large quantities and has a high barrier of entry. But it is generally used for parts of the production process that need high levels of reliability.

The main advantage of programmable automation are increased flexibility. The production line runs continuously, and the operators can monitor more items at one time. Changes in demand and small batches can be accommodated by programmable automation.

It can also oversee changes in warehousing or other changes in inventory. In some cases, changes in product design would need to be accommodated as well, but this is rare.

For automation in manufacturing, measure the total cost of changes versus a fixed automation solution. Fixed automation is more expensive, but it is also a more secure solution. Yet, we must know that this may not be an appropriate option for every situation.

Programmable Automation

Programmable automation is related to batch production. It is characterized by producing hundreds to thousands of items. The ability to generate more

different parts or products is provided by programmable automation.
To perform changeovers, however, downtime is necessary. The lead times and batch sizes are adjusted to account for this interruption. Costly downtime has prompted an expansion of programmable automation known as flexible automation.

Flexible Automation

Switchovers can be carried out automatically through flexible automation. This may require additional devices to enable automated changeovers. Or restrict equipment to run portions that utilize identical tools.
Flexible automation is often connected to some kind of network that adds value by enabling remote monitoring or control. This is because programs need to be altered. Computer programs are created offline. A designer might upload and execute new programs into ongoing manufacturing from anywhere. It depends on how the gadget is connected, though.

2. Перечислите типы автоматизации

3. Перечислите плюсы и минусы стационарной автоматизации

4. Перечислите плюсы и минусы программируемой автоматизации

5. Перечислите плюсы и минусы гибкой автоматизации

Эталоны ответов

TYPES OF MANUFACTURING AUTOMATION
Fixed Automation
Programmable Automation
Flexible Automation

ADVANTAGES OF FIXED AUTOMATION	**DISADVANTAGES OF FIXED AUTOMATION**
• Higher production rates	• Obsolescence

• Lower unit costs	• Prone to failure
	• Higher initial investment
	• Lacks flexibility in entailing product variety

ADVANTAGES OF PROGRAMMABLE AUTOMATION	DISADVANTAGES OF PROGRAMMABLE AUTOMATION
• Aptly deals with design variations	• Requires larger investment
• Very suitable for batch production	• Has a lower production rate as compared to fixed automation

ADVANTAGES OF FLEXIBLE AUTOMATION	DISADVANTAGES OF FLEXIBLE AUTOMATION
• Exhibits flexibility in dealing with product design variation	• Needs a high amount of investment
• Offers uninterrupted production of variable mixtures in products	• Has a higher unit cost as compared to fixed automation
• Provides a medium production rate	

ПЗ№46 Типы автоматизации
Закрепление НЛМ по теме «Типы автоматизации».

Работа с учебником Английский язык для изучающих автоматику (B1-B2): учебник для среднего профессионального образования/ М.Ю. Рачков _ 3е издание. Испр и доп. – Москва : Издательство Юрай 2023-233 с. (Профессиональное образование)
Стр. 38-40 Прочитайте текст, выполните упражнения к тексту № 3,4

ПЗ№48 Гибкие производственные системы

1. Прочтите и переведите текст

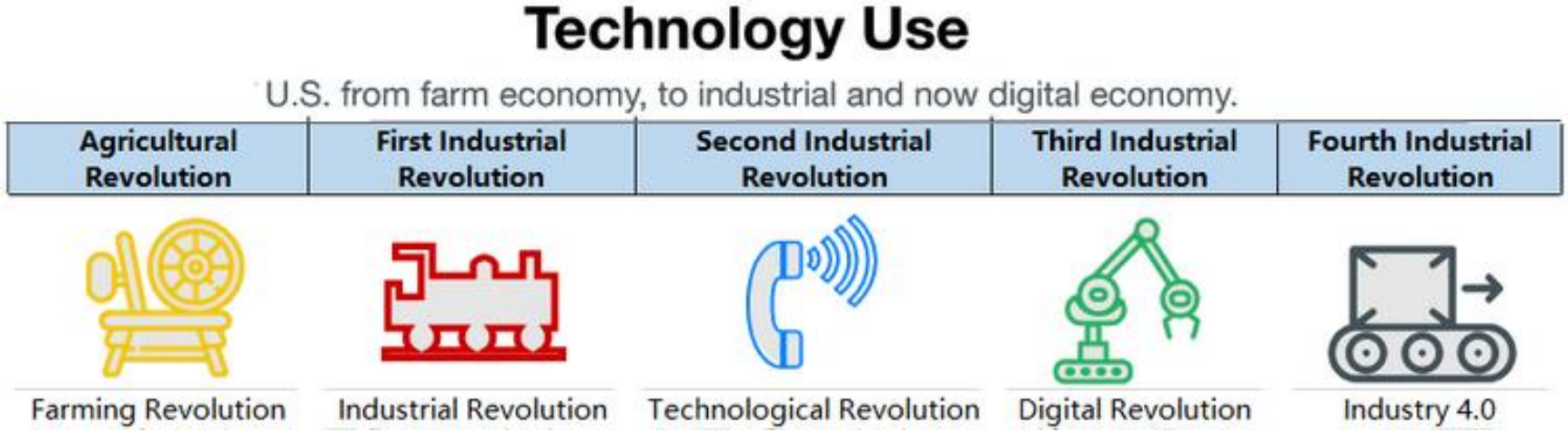
Flexible Manufacturing Systems

Flexible manufacturing systems (FMS) are designed to allow manufacturers to make sudden changes to production plans. In contrast with mass production on a traditional production line, the goal is easy adaptation of a manufacturing process at any time. This can range from producing brand-new products to modifying batch sizes to simply reordering the assembly sequence. There are two main areas of flexibility: *Routing* Flexibility and *Machine* Flexibility.

Regardless of category, FMS works through three main systems:

- Central Control Computer
- Material Handling
- Work Machines

Originating in the 1950s by industrial engineer Jerome H. Lemelson, the earliest iteration of FMS was to incorporate robot-based manufacturing onto factory floors. Today, industrial FMS can be described as any interconnected system overseen by computers from start to finish. This production method is as automated as possible in order to reduce labor and increase production opportunities.



FMS was part of the Third Industrial Revolution, also known as the Digital Revolution.

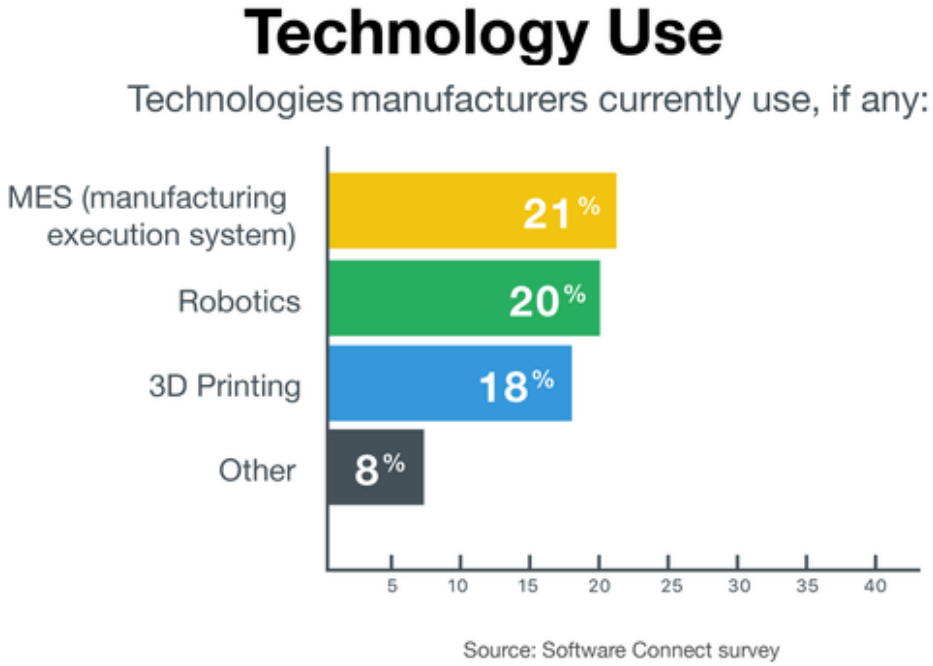
Examples of Flexibility

What is Routing Flexibility?

Routing Flexibility is how well your FMS and machine tools are able to adapt to the production of new products. It can also refer to making any changes to the order of operations necessary for completing production on a particular part.
For example, a furniture company might always install chair legs before adding seat cushions. One day, they were short on material for the legs due to a delayed delivery. To keep up production volume, the cushions are added first so the chairs will just need legs to be completed. In this case, rearranging the assembly sequence is routing flexibility. All the involved machine tools are still performing the same basic tasks, just in a modified way, in order to keep production moving despite the material shortage.

What is Machine Flexibility?

In FMS, Machine Flexibility refers to the use of multiple CNC machines to perform identical tasks. Additionally, this determines the system's overall ability to make changes to volume or capacity. The idea is to prevent a factory from becoming hyper-specialized to the point that adding new products would require entirely new equipment and facilities.
For instance, machine flexibility would be programming multiple machines intended for certain tasks with additional functionality. If a primary machine needs maintenance, others can pick up the slack instantly rather than causing downtime. And if there is a sudden increase in customer demand for a particular product, more machines can be used to produce the necessary parts with a significantly shorter lead time than using one dedicated machine.



Increasing technology usage has led to more flexibility in manufacturing. The use of technology, ranging from traditional lathes to 3D printers, has increased the need for computer-integrated manufacturing systems in order to keep production running smoothly.

2. Ответьте на вопросы

1. What are Flexible Manufacturing Systems?
2. What are the Three Main Systems of FMS?
3. What are the types of FMS?
4. What are the benefits of FMS?
5. How Does Flexible Manufacturing Compare to Other Methods?

ПЗ№49 Гибкие производственные комплексы на предприятиях города Иркутска
Чтение и перевод текста «Гибкие производственные комплексы», выполнение упражнений к тексту на закрепление новых

лексических единиц

Работа с учебником Английский язык для изучающих автоматику (B1-B2): учебник для среднего профессионального образования/ М.Ю. Рачков _ 3е издание. Испр и доп. – Москва : Издательство Юрай 2023-233 с. (Профессиональное образование)
Стр. 74-78 Прочитайте текст, выполните упражнения к тексту № 1-6

ПЗ№50 Гибкие производственные комплексы на предприятиях Иркутской области
Чтение и перевод текста «Гибкие производственные комплексы», выполнение упражнений к тексту на закрепление новых лексических единиц

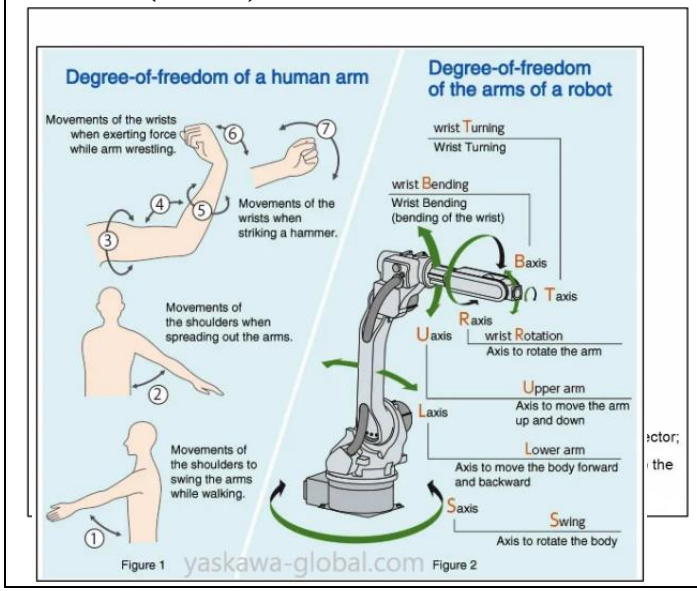
Работа с учебником Английский язык для изучающих автоматику (B1-B2): учебник для среднего профессионального образования/ М.Ю. Рачков _ 3е издание. Испр и доп. – Москва : Издательство Юрай 2023-233 с. (Профессиональное образование)
Стр. 74-78 Прочитайте текст, выполните упражнения к тексту № 1-6

ПЗ№51Роботизированные комплексы

1. Прочитайте текст, выпишите слова, выделенные курсивом и запишите их перевод; письменно переведите 1 и 2 абзацы:

ROBOTIC CONTROL SYSTEMS

The mechanical structure of a robot must be controlled to perform tasks. The control of a robot involves three *distinct phases – perception, processing,* and action (robotic paradigms). Sensors give information about the environment or the robot itself (e.g. the position of its *joints* or its end *effector*). This information is then processed to be stored or transmitted and to calculate the *appropriate signals* to the *actuators (*motors), which move the mechanical structure to achieve the required coordinated motion or force actions.



The processing phase can range in *complexity*. At a reactive level, it may translate raw sensor information directly into actuator commands (e.g. firing motor power electronic gates based directly upon *encoder feedback signals* to achieve the required *torque/velocity* of the shaft). Sensor fusion and internal models may first be used to estimate parameters of interest (e.g. the position of the robot's *gripper)* from noisy sensor data. An immediate task (such as moving the gripper in a certain direction until an object is detected with a proximity sensor) is sometimes inferred from these estimates. Techniques from control theory are generally used to convert the higher-level tasks into individual commands that drive the actuators, most often using kinematic and dynamic models of the mechanical structure. At longer time scales or with more sophisticated tasks, the robot may need to build and reason with a "cognitive" model. *Cognitive models* try to represent the robot, the world, and how the two interact. *Pattern recognition* and computer vision can be used to track objects. Mapping techniques can be used to build maps of the world. Finally, motion planning and other *artificial intelligence* techniques may be used to figure out how to act. For example, a planner may figure out how to achieve a task without hitting obstacles, falling over, etc.

Modern commercial robotic control systems are highly complex, integrate multiple sensors and effectors, have many interacting degrees-of-freedom (DOF) and *require operator interfaces*, programming tools and real-time capabilities. They are oftentimes interconnected to wider communication networks and in many cases are now both IoT-enabled and mobile. Progress towards open architecture, layered, userfriendly and 'intelligent' sensor-based interconnected robots has emerged from earlier concepts related to Flexible Manufacturing Systems (FMS), and several 'open or 'hybrid' *reference architectures* exist which assist developers of robot control software and hardware to move beyond traditional, earlier notions of 'closed' robot control systems have been proposed.

2. Расскажите, что нового вы узнали о системах управления роботами

ПЗ №52 Принципы работы промышленных роботизированных систем

Выполнение упражнений к текстам на закрепление новых лексических единиц. Чтение и перевод тематических текстов, выполнение лексико-грамматических упражнений к текстам.

MANUFACTURING APPLICATIONS OF AUTOMATION AND ROBOTICS

1. Запишите и запомните следующие слова и словосочетания:

batch – партия (товара, продукции); серия (изделий)
changeover – перенастройка, переналадка (оборудования)
off-line – автономный режим работы; вне станка; вне цеха
production rate – производительность; объём выпуска
programmable automation – автоматизация средствами ЧПУ
component-insertion machine – сборочная машина
machine tool industry – машиностроение, станкостроение
to machine – обрабатывать
lead wire – проволочный вывод
dead-reckoning – точный счет траектории движения робота
destination – место назначения
feedback – обратная связь
intelligence – уровень интеллекта робота
manufacturing area (facilities) – производственная площадь
shipping – погрузка; отправка
vehicle – транспортное средство

automated guided vehicle (AGV) – автоматически управляемая тележка, робо(то)кар
vision-guided robot – робот с системой технического зрения (стереозрения)
laser navigated – управляемые управляемые с помощью лазера

2. Прочитайте и переведите текст.

There are three types of manufacturing automation: fixed automation, programmable automation, and flexible automation.

Fixed automation, also known as "hard automation", refers to automated production facilities in which the sequence of processing operations is fixed by the equipment configuration. The programmed commands are contained in the machines in the form of cams, gears, wiring, and other hardware that is not easily changed over from one product style to another. This form of automation is characterized by high initial investment and high production rates. It is therefore suitable for products that are made in large volumes. Examples of fixed automation include automatic assembly machines, and certain chemical processes.

Programmable automation is a form of automation for producing products in batches. The products are made in batch quantities ranging from several dozen to several thousand units at a time. For each new batch, the production equipment must be reprogrammed and changed over to accommodate the new product style. This reprogramming and changeover take time to complete, and there is a period of nonproductive time. Production rates in programmable automation are generally lower than in fixed automation, because the equipment is designed to facilitate product changeover rather than for product specialization. A numerical-control machine tool is a good example of programmable automation. The program is coded in computer memory for each different product style, and the machine is controlled by the computer program. Industrial robots are another example.

Flexible automation is an extension of programmable automation. The disadvantage with programmable automation is the time required to reprogram and change over the production equipment for each batch of new product. This is lost production time, which is expensive. In flexible automation, the variety of products is limited so that the changeover of the equipment can be done very quickly and automatically. The reprogramming of the equipment in flexible automation is done off-line; that is, the programming is accomplished at a computer terminal without using the production equipment itself. Accordingly, there is no need to group identical products into batches; instead, a mixture of different products can be produced one right after another.

3. Соедините термины из текста с эквивалентами на русском языке:

numerical-control (NC) machine tool	a) гибкая автоматизация (с возможностью перепрограммирования)
flexible automation	b) электропроводка
fixed automation	c) объём партии (обрабатываемых деталей)
manufacturing automation	d) сборочный автомат
manufacturing application	e) станок с ЧПУ
automatic assembly machine	f) жёсткая автоматизация, автоматизация механическими средствами

batch quantity	g) применение в производстве
wiring	h) автоматизация производства

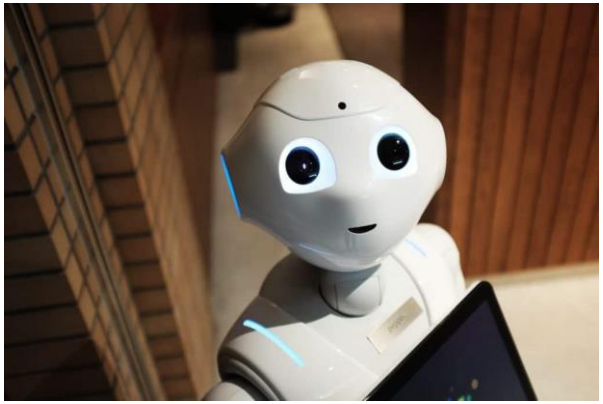
4.Ответьте на вопросы:

- What are the main types of manufacturing automation?
- What do you understand by *hardware* when talking about manufacturing automation?
- Does fixed automation require changing over hardware from one product style to another?
- What form of automation is characterized by high initial investment and high production rates?
- What products is fixed automation suitable for?
- Can you give some examples of fixed automation?

ПЗ№53 Современные мехатронные системы

1.Прочтите и переведите текст

The Future of Mechatronics – Innovations and Trends to Watch Out for



Mechanical Engineering

Mechanical engineering is the study of machines that involve movement and force, combining mathematics and physics. It is the broadest of the four disciplines and encompasses chemical, civil and industrial engineering. Mechanical engineering has helped innovate simple mechanisms like wind-up space robots to more complex structures like steam and fuel-powered engines.

3D Printing

One area where we have already seen fantastic development is 3D technology. As time progresses, we will see a broader collaboration between 3D printing and nanotechnology, manipulating material at the most minor level.

Combining 3D and nanotechnology will create superior, lighter, more durable, and stronger materials. These will be easier to manipulate and customize, breaking the boundaries of what you can start with 3D tech. This will allow us to manufacture different things rapidly, reducing production costs and making 3D-Nano devices more accessible to more people. The most significant industry to benefit from this technological leap will be wearable tech and biomechanics.

Wearable Tech And Biomechanics

Wearable tech is already mainstream technology, valued at $61.3 billion today. However, since most of it is expensive to manufacture, it is out of reach for many people. Advances in mechanical engineering and specific 3D technology will ensure more people can access the tech, merging seamlessly with fashion.

On the other hand, biometrics will see the advancement of exoskeleton technology that closely mimics human movement. The tech will be able to interact with the human body better, which can be especially beneficial to amputees. Such biomechatronics will also benefit older adults. They will be

able to use wearable technology to make their lives easier through monitoring their vitals and exoskeleton technology to aid in movement and physical rehabilitation.

Electrical Engineering

One area we should all be looking forward to seeing improvements in the future is electrical engineering. It's an extremely broad industry; virtually everything we interact with in both everyday life and niche industries relies on this discipline, from mobile phones to biosensors.

Right now, the global push in electrical engineering is to go green and reduce the carbon footprint. As a result, we expect most of the technology to move in that direction. The future promises better communication between devices and remote monitoring.

Electric Cars

Electric cars are the future. Transportation accounts for 27% of the greenhouse effect brought about by carbon dioxide. With fossil fuels depleting, we need to start relying on renewable sources of power.

The future of electric cars will see the development and replacement of internal combustion engines with better battery-powered engines. While they're generally more expensive than gas-powered cars, as more people move towards electric cars, we will see a price drop as manufacturers make more affordable models.

Smart Grids

Currently, there is an overreliance on the central electrical grid, and only 13% of people now use solar and wind energy in the US. A smart grid makes power grids way more efficient, using digital communication to detect when and where power is needed. This will save on everybody's power bills as power is reduced when you don't need it!

Control Engineering

Control engineering includes systems and equipment designed to regulate digital or mechanical environments.

Collaborative Robotics

Collaborative robotics, or cobots, can work better with their human partners. They can carry out more sophisticated operations and adapt to more situations, resulting in their use across more industries. This can range from traffic direction to medical operations.

Computer Engineering

Computer engineering promises to bring together all the disciplines we have discussed through the Internet of Things(IoT). IoT is how machines and software connect to other machines, software, devices, and even living organisms through sensors like an Arduino. Even though IoT is a small part of computer engineering, it has resulted in one of the biggest technological pushes in history. Through IoT, we saw the evolution of devices from connecting to each other through Bluetooth, then mass adoption of the Internet, and now the reliance on apps and file storage in the cloud. Even home appliances can communicate with each other without human interaction.

Computer engineering through IoT will better autonomous systems, including cars and everyday appliances. It will help us improve and simplify human-machine interactions by incorporating gestures, haptic feedback, and voice control. Through interaction with AI, IoT can learn from the environment and adapt to improve performance.

The future of mechatronics is looking bright. Let's see what incredible innovations are to come!

2. Ответьте на вопросы

1. What is mechatronics?

2. What are the key innovations in mechatronics?
3. What are the emerging trends in mechatronics?
4. How is mechatronics transforming industries?
5. How does mechatronics contribute to sustainability?

3. Составьте монологическое высказывание по теме наиболее перспективного, на ваш счет, тренда в мехатронике.

ПЗ№54 Неличные формы глагола, инфинитив».

Ознакомьтесь с темой и выполните грамматические упражнения по теме: «Неличные формы глагола, инфинитив».

Grammar test

Choose the correct answer.

I'd prefer **going/to go/go** travelling in Europe this summer.
Do you remember **meeting/to meet/meet** Julia last year?
We stopped at the side of the road **looking/to look/look** at the view.
You should **seeing/to see/see** the dentist as soon as possible.
Don't forget **bringing/to bring/bring** the passport!
They'd rather **buying/to buy/buy** souvenirs later.
He apologized for not **calling/to call/call** me for so long.
Mum really made me **crying/to cry/cry** with her story.
She wanted all her children **obeying/to obey/obey** the rules.

Underline the mistakes and correct the wrong word or phrase. Tick (V) the correct sentence(s).

I'm really looking forward to go ice-skating tomorrow. _____
Sean's decided taking up skateboarding. _____
I adore going to outdoor cinemas in the summer. _____
Did you remember buying the tickets for the show? _____
I don't really feel like seeing a film tonight. _____
She ought to stop complaining all the time. _____
The music was great – we didn't stop to dance all night. _____

Составьте 10 предложений, используя любые из данных глаголов.

1. want	7. make	13. hope	17. start (2)
2. dislike	8. avoid	14. let	18. deny
3. would love	9. see (2)	15. shall	19. hate
4. it’s worth	10. promise	16. can	20. must

5. finish 6. will	11. expect 12. it’s no use		

ПЗ№59 Автоматизированное машиностроение.

Task 2 Skim this text and identify the paragraphs which contain information on each of these topics. The 6rst one has been done for you.

Skim this text and identify the paragraphs which contain information on each of these topics. The first one has been done for you.

a What electric motors are used for *paragraph 1*

b The commutator _____

c Why the armature turns _____

d Electromagnets _____

e Effect of putting magnets together _____

f The armature _____

para

In an electric motor an electric current and magnetic field produce a turning movement. This can drive all sorts of machines, from wrist-watches to trains. The motor shown in Fig. 1 is for a washing machine. It is a universal motor, which can run on direct current or alternating current. 1

An electric current running through a wire produces a magnetic field around the wire. If an electric current flows around a loop of wire with a bar of iron through it, the iron becomes magnetized. It is called an electromagnet; one end becomes a north pole and the other a south pole, depending on which way the current is flowing around the loop. 2

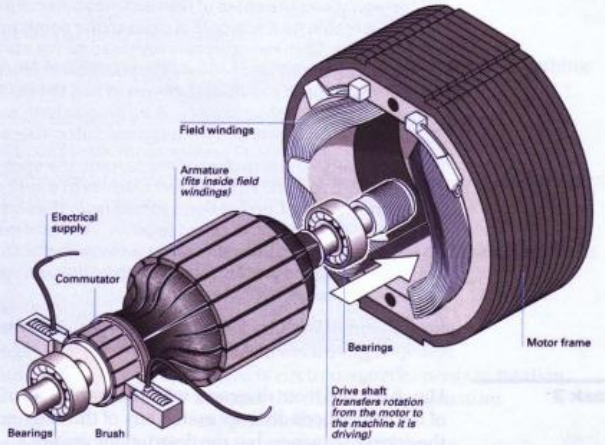


Fig. 1

If you put two magnets close together, like poles – for example, two north poles – repel each other, and unlike poles attract each other. 3

In a simple electric motor, like the one shown in Fig. 2, a piece of iron with loops of wire round it, called an armature, is placed between the north and south poles of a stationary magnet, known as the field magnet. When electricity flows around the armature wire, the iron becomes an electromagnet. 4

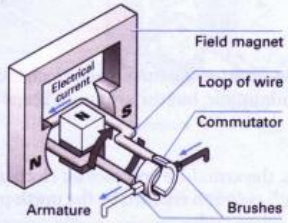


Fig. 2

20 The attraction and repulsion between the poles of this armature magnet and the poles of the field magnet make the armature turn. As a result, its north pole is close to the south pole of the field magnet. Then the current is reversed so the north pole of the armature magnet becomes the south pole. Once again, the 25 attraction and repulsion between it and the field magnet make it turn. The armature continues turning as long as the direction of the current, and therefore its magnetic poles, keeps being reversed. 5

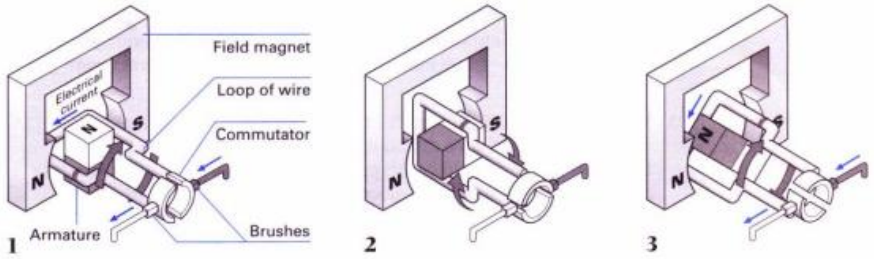
To reverse the direction of the current, the ends of the armature wire are connected to different halves of a split ring called a 30 commutator. Current flows to and from the commutator through small carbon blocks called brushes. As the armature turns, first one half of the commutator comes into contact with the brush delivering the current, and then the other, so the direction of the current keeps being reversed. 6

Source: Adapted from 'Inside out: Electric Motor', *Education Guardian*

Task 3

Match each of these diagrams with the correct description, **A**, **B**, **C**, or **D**. One of the descriptions does *not* match any of the diagrams. (The diagrams are in the correct sequence, but the descriptions are not.)

Motor run on direct current



A
The armature turns a quarter of a turn. Then electric contact is broken because of the gap in the commutator, but the armature keeps turning because there is nothing to stop it.

B
When current flows, the armature becomes an electromagnet. Its north pole is attracted by the south pole and repelled by the north pole of the field magnet.

C
When a universal motor is run on direct current, the magnetic poles in the armature change while those of the field magnet remain constant.

D
When the commutator comes back into contact with the brushes, current flows through the armature in the opposite direction. Its poles are reversed and the turn continues.

Language study *Describing function*

Try to answer this question:

What does an electric motor do?

When we answer a question like this, we describe the function of something. We can describe the function of an electric motor in this way:

An electric motor converts electrical energy to mechanical energy.

We can emphasize the function like this:

The function of an electric motor is to convert electrical energy to mechanical energy.

Task 4

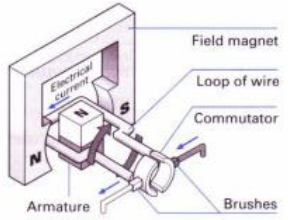
Match each of these motor components to its function, and then describe its function in a sentence.

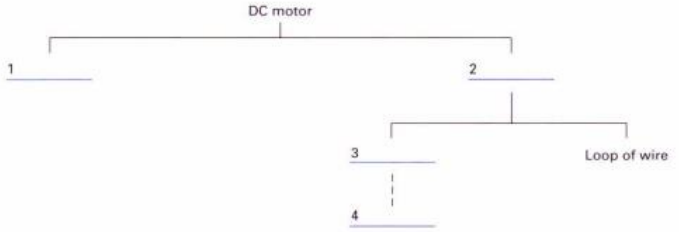
	Component		Function
1	armature	**a**	transfers rotation from the motor
2	bearings	**b**	create an electromagnetic field
3	brushes	**c**	converts electromagnetic energy to rotation
4	commutator	**d**	reverses the current to the armature
5	drive shaft	**e**	support the drive shaft
6	field windings	**f**	supply current to the armature

Writing *Describing components*

Task 5

Dismantle this simple dc motor into its components by completing the labelling of the chart below.





ПЗ№55 Мехатронные системы в автоматизированном машиностроении

Чтение и перевод текста «Мехатронные системы в автоматизированном машиностроении», чтение и перевод тематических текстов, выполнение лексико-грамматических упражнений к текстам.

MECHATRONICS AS A SYSTEM APPROACH TO THE DESIGN, DEVELOPMENT AND IMPLEMENTATION OF COMPLEX ENGINEERING SYSTEMS

1. Запишите и запомните следующие слова и словосочетания:

processing power – производительность по обработке данных, вычислительная мощность
to enhance – увеличивать, усиливать
classifiable – классифицируемый
agility – быстрота действия
disassembly – разборка, демонтаж
sophisticated manufacturing – усовершенствованное производство
outperform humans – превосходить человека
to condemn products to the landfill – забраковать продукты в отходы
recyclable – подлежащий вторичной переработке
core technology – базовая технология
to ensure – обеспечивать, гарантировать
credibility – надежность, доверие
to impact – оказать воздействие, влиять

2. Прочитайте и переведите текст.

Mechatronics and Design Innovation

In recent years, products and systems of all types from domestic appliances to vehicles have become increasingly complex. This complexity is in turn defined by the combination of local and distributed processing power with mechanical design, and is driven by the increased availability of such processing power allied to enhanced communications strategies and protocols. Thus, a modern car will integrate multiple systems ranging from engine management to environmental controls for driver and passenger comfort, and potentially even autonomous navigation.

Mechatronics and Manufacturing

Engineers from most disciplines will quite understandably associate mechatronics with robotics and factory systems. Systems that move, machine and assemble “hard” substances are really only classifiable as ‘mechatronic’ to the degree that they contain elements of reasoning and agility. Areas of mechatronic involvement in manufacturing include assembly, machining, inspection, dangerous material handling and disassembly.

The modern automobile contains many of the same technologies, including allwheel drive and electronically-actuated fuel injection. Automobile assembly plants have led the way in robotic painting, welding and heavy material handling. With the introduction of the ‘make to order’ paradigm, manufacturing is now far more sophisticated than simply mass producing items for inventory. Buyers now want to customize everything and to do so at

almost the unit level. This requires operations that were previously unimagined.
The pharmaceutical and power generation industries are also heavily dependent on mechatronic devices to provide skilled operations in environments where it is either unsafe or inconvenient for humans to work. This includes the handling of toxic and radioactive materials and maintenance in heavily polluted atmospheric conditions. Automated inspection systems provide 100 % quality control and dramatically outperform humans in such boring and repetitive tasks.
While mechatronic systems are an obvious area of interesting research, they are also gaining acceptance and popularity in manufacturing processes and are becoming an integral part of a greener and more sustainable industrial world.
Along these lines, there is a current trend to design commodity items such as cell phones for disassembly and component reuse. Manufacturers are usually concerned with securely fastening units together, which consequently makes for safer use but condemns the product to the landfill. By careful design for remanufacturing, it will become economically feasible as well as environmentally prudent to produce goods that are truly recyclable with no loss in quality. Mechatronics will feature heavily in this arena!

Mechatronics and Education

In the development of mechatronics education, the concern in course design has always been that of achieving an appropriate balance between providing the necessary depth of understanding of core technologies and the ability to develop solutions which integrate those technologies. This may be compared with a subject based approach to engineering education where the emphasis is on ensuring a depth of understanding within the subject area.
The education of a mechatronics engineer thus has to place a greater emphasis on the ability to work across and between individual areas of technology. The achievement of a balanced programme of mechatronics education must therefore ensure that individuals are provided with sufficient depth in at least one area of technology in order to allow them to make an effective contribution to that area, whilst ensuring the breadth of understanding necessary to give them credibility in regard to other subject specialists. The key challenge then facing mechatronics course designers is that of ensuring that there is an appropriate balance between depth and breadth within the course, as well as providing opportunities to enable students to practice integration.

Mechatronics and a Sustainable Future

It is clear that the future development of mechatronics will need to be integrated with the need to meet and respond to a range of challenges in areas including energy systems, transport, health care, medicine and manufacturing. Indeed, it can be argued that the achievement of sustainable systems in these and other areas will depend on the ability to integrate a mechatronic approach to system design and development into corresponding developments in areas such as materials technology. This will impact not only on specific products, but on the ways they are made.

3. Переведите словосочетания на русский язык и составьте с ними предложения:

to customize everything, to condemn the product to the landfill, to be environmentally prudent, truly recyclable, core technologies, ensuring the breadth of understanding, to practice integration, mechatronic approach.

4. Переведите слова и словосочетания на английский язык:

усовершенствованное производство, глубина понимания базовых технологий, способность разрабатывать решения, внедрение мехатро-ники в производство, мехатронные устройства, ключевой вызов, сба-лансированная образовательная программа по мехатронике.

5. Подберите из правой колонки синонимы для слов из левой:

to enhance	base
to impact	action speed
agility	to guarantee
disassembly	to influence
sophisticated	separation
to outperform	improved
to ensure	trust
credibility	to surpass
core	to improve

ПЗ№56Мехатронные системы в автоматизированном машиностроении

1. Изучите следующие слова и выражения:

1. handling — обращение
2. transfer — передача, перенос
3. pick up — брать, подбирать
4. arrangement — расположение
5. to utilize — утилизировать, находить при-менение
6. gripper — захват
7. to grasp— схватывать
8. spot welding — точечная сварка
9. arc welding — электродуговая сварка
10. spray painting — окраска распылением
11. frame — рама
12. spray-painting gun — распылитель краски
13. grinding — шлифование
14. polishing — полирование
15. spindle — шпиндель
16. hazardous — опасный
17. shift — смена

2. Прочитайте текст и переведите:

ROBOTS IN AUTOMOBILE MANUFACTURING

Robots and robotic complexes nowadays are widely-used in manufacturing operations of the automobile industry. The applications of robots can be divided into three categories:

1. material handling
2. processing operations
3. assembly and inspection.

Material-handling is the transfer of material and loading and unloading of machines. Material-transfer applications require the robot to move materials or work parts from one to another. Many of these tasks are relatively simple: robots pick up parts from one conveyor and place them on another. Other transfer operations are more complex, such as placing parts in an arrangement that can be calculated by the robot. Machine loading and unloading operations utilize a robot to load and unload parts. This requires the robot to be equipped with a gripper that can grasp parts. As a rule, the gripper must be designed specifically for the particular part geometry. In robotic processing operations, the robot manipulates a tool to perform a process on the work part. Examples of such applications include spot welding, continuous arc welding and spray painting. Spot welding of automobile bodies is one of the most common applications of industrial robots. The robot positions a spot welder against the automobile panels and frames to join them. Arc welding is a continuous process in which a robot moves the welding rod along the welding seam. Spray painting is the manipulation of a spray-painting gun over the surface of the object to be coated. Other operations in this category include grinding and polishing

in which a rotating spindle serves as the robot's tool. The third application area of industrial robots is assembly and inspection. The use of robots in assembly is expected to increase because of the high cost of manual labour. But the design of the product is an important aspect of robotic assembly.

Assembly methods that are satisfactory for humans are not always suitable for robots. Screws and nuts are widely used for fastening in manual assembly, but the same operations are extremely difficult for an one-armed robot. Inspection is another area of factory operations in which the utilization of robots is growing. In a typical inspection job, the robot positions a sensor with respect to the work part and determines whether the part answers the quality specifications.

In nearly all industrial robotic applications, the robot provides a substitute for human labour. There are certain characteristics of industrial jobs performed by humans that can be done by robots:

1. the operation is repetitive, involving the same basic work motions every cycle,
2. the operation is hazardous or uncomfortable for the human worker (for example: spray painting, spot welding, arc welding, and certain machine loading and

unloading tasks),
3. the workpiece or tool is too heavy and difficult to handle,
4. the operation allows the robot to be used on two or three shifts.

2. Ответьте на следующие вопросы:

1. How are robots used in automobile manufacturing?
2. What is «material handling»?
3. What does a robot need to be equipped with to do loading and unloading operations?
4. What does a robot manipulate in a robotic processing operation?
5. What is the most common application of robots in automobile manufacturing?
6. What operations could be done by robot in the car manufacturing industry?
7. What are the main reasons to use robots in production?
8. How can robots inspect the quality of production?
9. What operations could be done by robots in hazardous or uncomfortable conditions for the human workers?

4. Переведите предложения на английский язык:

1. Роботизированные системы широко используются для выполнения трудных или опасных для человека задач в производстве.
2. Автоматизация широко используется в химической промышленности и автомобилестроении.
3. Станки с числовым программным управлением — хороший пример программируемой автоматизации.
4. Гибкая автоматизация делает возможным перепрограммирование оборудования.
5. Использование гибкой автоматизации делает возможным производство разнообразной продукции.

ПЗ№57 Металлообрабатывающие центры

Выполнение упражнений на закрепление НЛМ по теме «Металлообрабатывающие центры».

«METALWORKING PROCESSES»

Metals are important in industry because they can be easily deformed into **useful shapes.** A lot of metalworking processes have been developed for certain applications. They can be divided into five broad groups:

1. rolling,
2. extrusion,
3. drawing,
4. forging,
5. sheet-metal forming.

During the first four processes metal is **subjected** to large **amounts** of strain (deformation). But if deformation goes at a high temperature, the metal will recrystallize — that is, new strain-free grains will grow instead of deformed grains. For this reason metals are usually rolled, extruded, drawn, or forged above their recrystallization temperature. This is called hot working. Under these **conditions** there is no limit to the compressive plastic strain to which the metal can be subjected.

Other processes are **performed** below the recrystallization temperature. These are called cold working. Cold working **hardens** metal and makes the part stronger. However, there is a limit to the strain before a cold part cracks.

Rolling

Rolling is the most common metalworking process. More than 90 percent of the aluminum, steel and copper produced is rolled **at least** once in the course of production. The most **common** rolled product is **sheet.** Rolling can be done either hot or cold. If the rolling is finished cold, the surface will be smoother and the product stronger.

Extrusion

Extrusion is pushing the billet to flow through the orifice of a die. Products may have either a simple or a complex cross section. Aluminum window frames are the examples of complex extrusions.

Tubes or other **hollow** parts can also be extruded. The **initial** piece is a **thick-walled** tube, and the extruded part is shaped between a die on the outside of the tube and a **mandrel** held on the inside.

In impact extrusion (also called back-extrusion) (штамповка выдавливанием), the workpiece is placed in the bottom of a hole and a **loosely fitting ram** is pushed against it. The ram **forces** the metal to flow back around it, with the **gap** between the ram and the die **determining** the wall thickness. The example of this process is the manufacturing of aluminum beer cans.

Vocabulary:

useful — полезный
shape — форма, формировать
rolling — прокатка
extrusion — экструзия, выдавливание
drawing — волочение
forging — ковка
sheet — лист
to subject — подвергать
amount — количество
condition — состояние, условие
perform — выполнять, проводить
to harden — делаться твердым, упрочняться
at least — по крайней мере
common — общий
billet — заготовка, болванка
orifice — отверстие
die — штамп, пуансон, матрица, фильера, волочильная доска
cross section — поперечное сечение
window frame — рама окна

tube — труба
hollow — полый
initial — первоначальный, начальный
thick-walled — толстостенный
mandrel — оправка, сердечник
impact — удар
loosely — свободно, с зазором
fitting — зд. посадка
ram — пуансон, плунжер
force — сила
gap — промежуток, зазор
to determine — устанавливать, определять

General understanding:

1. Why are metals so important in industry?
2. What are the main metalworking processes?
3. Why are metals worked mostly hot?
4. What properties does cold working give to metals?
5. What is rolling? Where is it used?
6. What is extrusion? What shapes can be obtained after extrusion?
7. What are the types of extrusion?

Exercise 2.1. **Find the following in the text:**

1. могут легко деформироваться
2. нужные формы
3. подвергать большим деформациям
4. зерна свободные от деформации
5. температура перекристаллизации
6. пластическая деформация сжатия
7. самый обычный процесс обработки металла
8. самое обычное изделие проката
9. отверстие фильеры
10. первоначальный
11. сложное сечение
12. пустотелые детали
13. свободно входящий плунжер

14. зазор между плунжером (пуансоном) и штампом
15. толщина стенки

Exercise 2.2. **Translate into English:**

1. Способность металла перекристаллизовываться при высокой температуре используется при горячей обработке.
2. Перекристаллизация — это рост новых, свободных от деформации зерен.
3. Во время горячей обработки металл может подвергаться очень большой пластической деформации сжатия.
4. Холодная обработка делает металл тверже и прочнее, но некоторые металлы имеют предел деформации.
5. Листовой прокат может производиться горячим или холодным.
6. Поверхность холоднокатаного листа более гладкая и он прочнее.
7. Поперечное сечение фильеры для экструзии может быть простым или сложным.
8. Алюминиевые и медные сплавы являются наилучшими для экструзии из-за их пластичности при деформации.
9. Алюминиевые банки, тюбики для зубной пасты являются примерами использования штамповки выдавливанием.
10. Толщина стенки алюминиевой банки определяется зазором между пунсоном и штампом.

ПЗ№58 Многофункциональные металлообрабатывающие центры

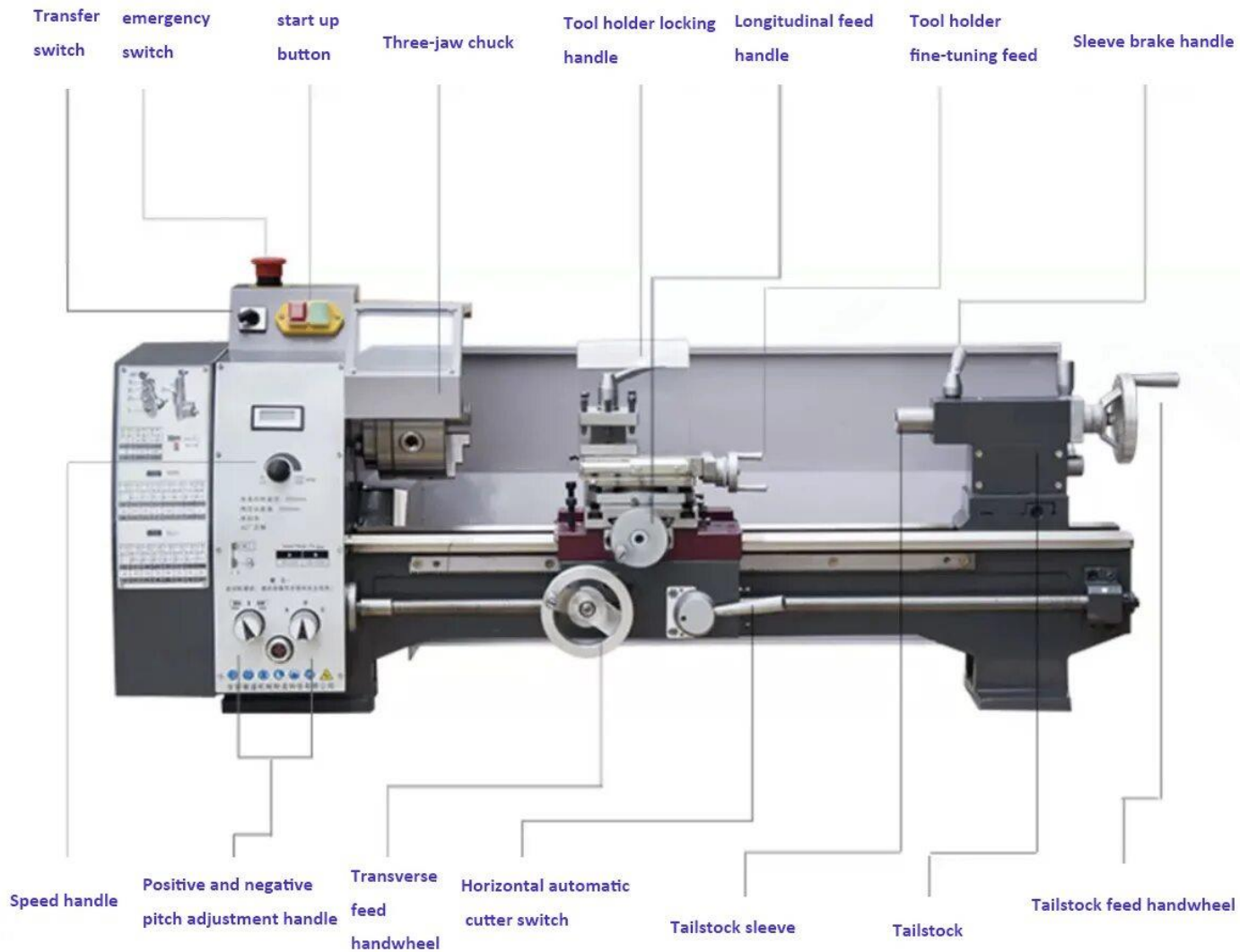
1. Прочтите и переведите текст.

Multifunctional metalworking center.

A multifunctional metalworking center is a numerically controlled machine that is capable of performing various operations, such as drilling, milling, etc., with high accuracy and minimal time costs. There are three main types of metalworking centers: Horizontal. It includes a spindle that is able to move sideways while processing the part. The horizontal center tool shop holds from 16 to 100 tools at a time. Such centers are capable of processing up to four surfaces of a part, without the need to manually change its orientation. Vertical. It includes a vertically positioned spindle, as well as automatic pallet changer and automatic tool changer systems, but with a smaller capacity than that of the horizontal center. Vertical machining centers take up less space than horizontal ones, are more portable and convenient. Universal. It has a spindle that can be oriented horizontally or vertically. In most cases, a universal machining center includes a 5-axis or more system. This allows access to the workpiece from 5 or more different sides in one installation. Multifunctional centers with software control are used in a variety of industries: aircraft industry, space industry, oil and gas industry, production of medical equipment and other tools, mechanical engineering, energy industry.

2. Заполните таблицу

Vertical.	Horizontal	Universal


Transfer switch
emergency switch
start up button
Three-jaw chuck
Tool holder locking handle
Longitudinal feed handle
Tool holder fine-tuning feed
Sleeve brake handle
Speed handle
Positive and negative pitch adjustment handle
Transverse feed handwheel
Horizontal automatic cutter switch
Tailstock sleeve
Tailstock
Tailstock feed handwheel

3. Изучите строение ММЦ. Опишите его строение

ПЗ№59 Многофункциональные металлообрабатывающие центры

Чтение и перевод текста «Многофункциональные металлообрабатывающие центры», чтение и перевод тематических текстов, выполнение лексико-грам

матических упражнений к текстам.

Переведите основные характеристики ММЦ.

CNC Automatic Metal Turning Lathe Universal Centre Lathe Machines Small CNC Machine Lathe

US$7,000.00
1-9 Pieces

US$5,600.00
10-99 Pieces

US$4,500.00
100+ Pieces

Product Details

Customization:	**Available**
After-sales Service:	**Technical Support**
Warranty:	**1.5 Year**

Basic Info.

Model NO.	SZGH-25	Type	Specialized Lathe
Processing Accessory	Chuck CNC Lathe	Guide Rail	Horizontal Guide Rail
Power Source	Electric	Controlling Mode	CNC
Automatic Grade	Automatic	Setting Mode	Floor-type
Precision	High Precision	Certification	CE, RoHS, ISO 9001
Condition	New	Core Components	Bearing, Pump
Processing	Metal Working Lathe Machine	Spindle Speed Ranges	3500~4000rpm
CNC Controller	Szgh-CNC990tdb-2	Machinery Test Report	Provided
Video Outgoing-Inspection	Provided	Marketing Type	New Product 2023
X/Z Axis Travel	500*180mm	Optional Tool	Power Head
Weight (Kg)	1500	Travel (X Axis)(mm)	500 mm
Travel (Z Axis)(mm)	180 mm	Transport Package	Shipping by Sea, Packed in W Case
Specification	1700*1400*1600	Trademark	SZGH
Origin	China	HS Code	8458910000
Production Capacity	300pieces/Month		

Product Description

Small CNC Turning Lathe Machine Of SZGH-25 CNC Lathe

Product Description

SZGH-25 mini CNC lathe adopts an advanced numerical control system, which can realize precise processing control. It has a highly rigid structure, which ensures stability and deformation resistance during processing, thus achieving high-precision machining. The lathe is also equipped with automatic tool changeover and automatic loading functions, which improve production efficiency.

In terms of accuracy, SZGH-25 can meet the requirements for product accuracy, and the tolerances are controlled within a small range to ensure that the product quality meets the standard. It is suitable for machining a variety of precision parts such as bearings, threaded rods, and connectors.

The SZGH-25 is a high-performance 2-axis mini CNC turning machine for a wide range of machining needs. SZGH-25 lathe is widely used in the mass production of copper, iron, aluminum, stainless steel, and other bar materials within 25mm. At the same time, it is also suitable for automatic feeding and mass production of forged parts and other pellets within 50mm.
1. Our 2-axis CNC vertical turning lathe machine controller is a high-performance device. It provides high-precision motion control and powerful features to ensure that your lathe machine achieves superior performance and precision during machining.

2. Compared to our peers, our 2-axis lathe controller has unique characteristics. First of all, it adopts advanced CNC technology and reliable control algorithms to ensure stable motion control and excellent processing results. Secondly, we focus on user experience, the controller interface is simple and intuitive, and the operation is convenient so that the operator can quickly get started and operate the machine efficiently.

3. This 2-axis lathe controller delivers outstanding performance. It enables high-speed, high-precision motion control to precisely control the position of the tool and the cutting process, enabling fine machining and complex shapes.

4. Our 2-axis lathe controllers are also scalable and flexible. It supports a variety of programming methods and adjustment of processing parameters and can be customized according to different processing needs. At the same time, it also has rich interface and communication functions, which is convenient for linkage and data transmission with other devices.

5. A focus on safety and reliability is an important feature of our 2-axis lathe controllers. We employ advanced safety measures and protection features such as emergency stop buttons, overload protection, and error detection mechanisms to ensure the safety of operators and equipm

ПЗ№60 Многофункциональные металлообрабатывающие центры

1. Прочтите и переведите текст

Advantages of multifunctional metalworking centers

Advantages of multifunctional metalworking centers In order to carry out heterogeneous operations, either several machines with a narrow specialization or a multifunctional metalworking center can be used. In the second case, technological time and electrical energy are significantly saved. When using numerically controlled machining centers, maintenance supplies are saved, as well as operator time, because it is faster and easier to maintain one machine than several. Due to the fact that in machining centers with numerical control, the position of the workpiece does not change during different operations, but only the tool is changed, the accuracy of the processing process is very high, which positively affects the quality of the finished part. The use of automated workpiece processing centers provides an opportunity to use software tools for designing new samples. If it is

necessary to change the processing program, it is enough to simply reconfigure the processing center. Due to the minimization of the human factor in multifunctional metalworking centers with numerical control, the probability of marriage is practically excluded. High-tech processing centers are able to connect to a local computer network, so that the equipment can be controlled remotely.Чтение и перевод текста

2. Объясните, используя информацию из текста и сети Интернет, с чем связаны следующие преимущества использования многофункциональных металлообрабатывающих центров

Saving technological time and electrical energy	
Saving consumables and operator time	
High precision of the processing process.	
The ability to use software tools for designing new samples.	
The possibility of marriage is practically excluded.	
Remote control.	

Эталон ответов:

Saving technological time and electrical energy. There is no need to transfer workpieces between machines, different technological stages are combined in one equipment.

Saving consumables and operator time. It is faster and easier to maintain one machine than several.

High precision of the processing process. During different operations, the position of the workpiece does not change, but only the tool is changed. The ability to use software tools for designing new samples. If it is necessary to change the processing program, it is enough to simply reconfigure the processing center.

The possibility of marriage is practically excluded. This is due to the minimization of the human factor.

Remote control. High-tech processing centers are capable of connecting to a local computer network.

ПЗ№61 История чемпионатов профессионального мастерства

Переведите текст на английский язык, применяя конструкцию английского предложения. Составьте 5 видов вопросительных предложений. Ответьте письменно на вопросы одногруппников на английском.

WorldSkills в мире. История успеха

Это случилось в 1946 году, в то время была большая потребность в квалифицированных рабочих в Испании. Г-н Хосе Антонио Элола Оласо, генеральный директор OJE (Испанский молодежная организация), предложил национальную идею: убедить молодежь, а также их родителей, учителей и потенциальных работодателей, что их будущее зависит от эффективной системы профессионального образования.

Г-н Оласо выбрал Франциско Альберт-Видаля для дальнейшего развития этой идеи вместе с Антонио Альмагро Диаз и Фаустино Рамос Диас, которые были в разное время директорами Центров подготовки рабочих. Доктор Диомед Паленсия Альберт, директор в то время «Вирхен-де-ла Палома» (самый крупный на тот момент испанский учебный центр), был назначен техническим советником проекта.

Для решения этой задачи было принято решение проводить соревнования. Среди молодежи проснется дух конкуренции, специалисты будут обсуждать результаты соревнований, а посетители смогут увидеть большое разнообразие профессий.

Государственные органы, предприятия и профтехучилища сразу заинтересовались идеей соревнований профессионального мастерства, а правительство Испании поддержало инициативу.

Эта блестящая идея увидеть людей различных профессий за работой имела большой успех. Так в 1947 году с участием около 4000 учеников технических профессий прошел первый Национальный чемпионат Испании.

Но инициаторы хотели достичь гораздо большего. Они имели далеко идущие планы: чтобы мотивировать молодежь в соревнованиях, чтобы сделать их энтузиастами профессиональной подготовки, нужно сравнивать навыки и способности людей из разных стран.

Идеи соревнований профессионального мастерства первой поддержала Португалия. В 1950 году прошли первые международные Пиренейские соревнования, в которых приняли участие 12 участников с обеих сторон. Приглашенным наблюдателям из других стран идея очень понравилась. Как результат в 1953 году в Пиренейских соревнованиях приняли участие конкурсанты из Германии, Великобритании, Франции, Марокко и Швейцарии.

Так сформировалась организация по проведению конкурсов профессионального мастерства (IVTO).

Кстати, благодаря участию конкурсантов и экспертов из Германии и Швейцарии, испанцы узнали о дуальной системе образования в этих странах, и через год дуальная система образования была внедрена в самой Испании.

В июне 1954 года с целью установить общие правила соревнований и определить единые профессиональные стандарты, был создан Организационный Совет, который состоял из официальных и технических представителей стран-участниц соревнований.

Впервые соревнования вышли за пределы Испании в 1958 году. В рамках Всемирной выставки в Брюсселе состоялся Мировой чемпионат профессионального мастерства. Год спустя соревнования провели в Модене (Италия), а в 1970 году IVTO сделала «прыжок» в Японию.

С приемом стран-членов со всех континентов, IVTO приобрела опыт, увеличила знания в области профессионального образования и прикладной подготовки рабочих. В начале 2000-х годов движение обрело новую символику и новое название WorldSkills International (WSI).

Сегодня в мире регулярно проводится большое количество мероприятий WSI: национальные первенства, континентальные чемпионаты и раз в два года — мировое первенство.

Идея проводить мировые соревнования по профессиональному мастерству по праву можно сравнить с инициативой Пьера де Кубертена по созданию современных Олимпийских игр, а его девиз «великие идеи идут от сердца» может быть применен и к основателям WorldSkills.

ПЗ№62 Причастие 1 и 2

1. Записать основные тезисы.

1.В английском языке два причастия: Participle I (имеет 4 формы) и Participle II (имеет 1 форму). Они переводятся на русский язык по-разному. В этом уроке мы рассмотрели Present Participle и Past Participle в функции определения, что соответствует действительному и страдательному причастию в русском языке.

ПРИМЕРЫ

1. a reading boy – читающий мальчик; действительное причастие Present Participle Active (причастие настоящего времени)
2. a broken cup – разбитая чашка; страдательное (3 форма глагола) – Past Participle Passive (причастие прошедшего времени)

2. Обратите внимание, что Past Participle Passive также употребляется в конструкции пассивного залога.

a broken cup = a cup which is broken (чашка, которая разбита)

a torn dress = a dress which is torn (платье, которое порвано)

Забыли, что такое пассивный залог в английском языке? Читайте Passive Voice (для начинающих)

3. Present Participle Active соответствует глагольному времени The Present Continuous Tense.

a reading boy = a boy who is reading (мальчик, который читает)

flying birds = birds that are flying (птицы, которые летают)

4. Причастия, образованные от правильных глаголов при помощи окончаний ING/ED, иногда называют прилагательные на ING/ED**.**

2. Образуйте Participle I или Participle II.

A) Participle I (doing)	B) Participle II (done)
1. (grow) interest	2. a (complicate) explanation
3. an (excite) child	4. a (terrify) experiment
5. (worry) problem	6. (well-pay) job
7. a (pass) bus	8. a (burn) barn
9. an (excite) story	10. a (steal) car
11. (fly) fish	12. (run) water
13. a (freeze) lake	14. (blind) light
15. a (break) heart	16. a (die) soldier
17. a (cheer) crowd	18. a (swim) lesson
19. a (destroy) church	20. (longplay) records
21. the (follow) chapter	

* * *

2 Выберите подходящий вариант.

Nessie

Have you ever heard of the Loch Ness Monster? Many people believe that there is a huge animal (living/lived) in Loch Ness in Scotland.

The animal is about 50 metres long (including/included) its tail. Nobody knows anything about its (eating / eaten) habits. There are some photos of the animal (taking/ taken) by different people (visiting/ visited) the lake, but nobody can prove that they are real.

This animal (giving/ given) the nickname Nessie has been one of the greatest tourists attractions to the area for years. Expeditions (sent / sending) to Scotland tried very hard to find and catch Nessie. And so did individuals (looking/ looked) for the animal. But there has been no

result yet.

Nessie is still a great mystery. Very few things (knowing/ known) about Nessie are: it has a long and thin neck like a giraffe's, its head is quite small and looks like a horse's, its colour is dark yellow and its habitat is the deepest and the coldest part of the lake.

* * *

4. Образуйте Participle I или Participle II от глаголов в скобках.

1. Why have you got that … (worry) expression on your face? Are you in trouble?
2. The teacher was … (disappoint) with the test results.
3. Jack's answer was … (disappoint).
4. I went to the exhibition of French art last week and I was very much … (impress).
5. We saw a lot of … (fascinate) paintings.
6. I was so … (excite) that I couldn't say a word.
7. The trip to the mountains was so … (excite) — we enjoyed every minute of it.
8. I'm … (bore) — I have nothing to do.
9. The lecture was so … (bore) that a few listeners fell asleep.
10. We liked the Room of Horrors but some of the tricks were rather … (frighten).
11. It was raining so heavily that the little puppy got … (frighten) and hid under the bed.
12. Little John's questions were … (surprise).
13. We were … (surprise) at the news.
14. The boy … (translate) the story is the best pupil in our class.
15. The girl … (wash) the window is my sister.
16. … (do) his homework Tom looked through the window several times.
17. The work … (do) was very interesting.
18. Everything … (write) on the blackboard is correct.
19. … (write) the letter Olga thought about her summer holidays.

Если вы сомневаетесь в правильности выполнения и перевода предложений **16 и 19,** то вам следует знать, что английское действительное причастие часто переводится на русский язык **деепричастием или деепричастным оборотом.** Об этом вы узнаете в уроке Participle (для продолжающих, часть 3)

* * *

5. Перепишите предложение, используя причастный оборот (или причастие) вместо придаточного предложения.

ПРИМЕР

The old castle, **which was built five hundred years ago,** belongs to the university. Старый замок, **который был построен 500 лет назад**, принадлежит университету.

= The old castle **built five hundreds ago** belongs to the university. Старый замок, **построенный 500 лет назад,** принадлежит университету.

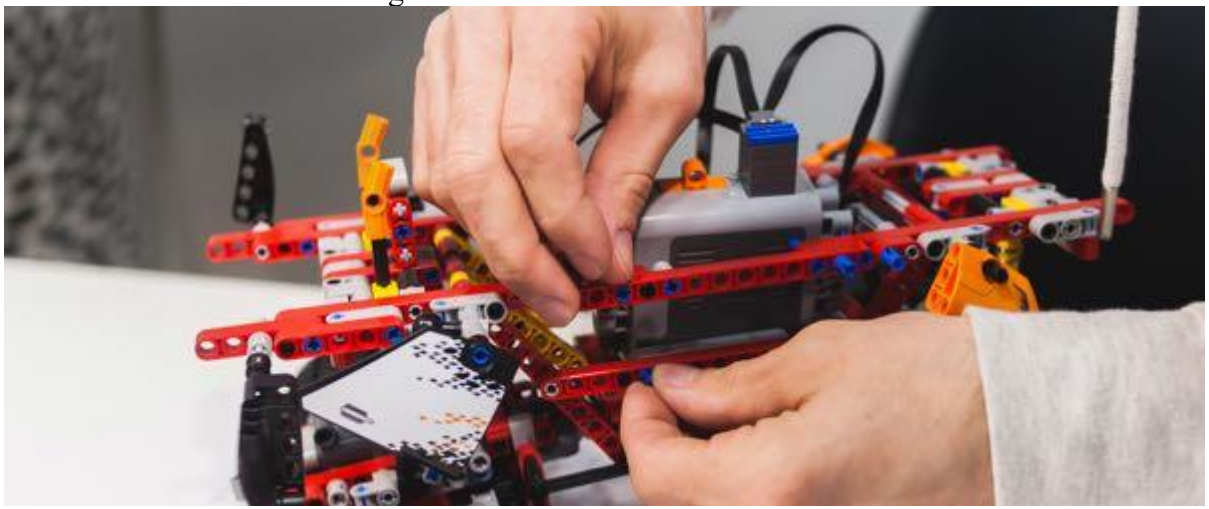
1. The holidaymakers who were wearing light clothes walked along the beach.
2. The lands that were discovered by Columbus were rich in gold.
3. The children who were excited by the news shouted “Hoorah” three times.
4. The hedges that divided the fields were getting yellow.
5. The young lady who was standing at the door looked very attractive.
6. The two banks which were connected by a bridge were high and looked dangerous.
7. Betty Smith heard the noise of a child who was crying.
8. He entered the yard and smelt something that was burning.

+

ПЗ№63 Неличные формы глагола

Прочитайте и переведите письменно текст. Найдите в тексте неличные формы глагола. Выполните тест по теме

What does a Mechatronics Engineer do?



Mechatronics engineers create sophisticated systems that leverage mechanical, electronic, and software technologies to provide efficient, intelligent, and automated solutions for a wide range of industries, making our lives safer, more convenient, and technologically advanced.

Duties and Responsibilities

The duties and responsibilities of a mechatronics engineer can vary depending on the specific industry and project they are involved in. However, some common tasks and responsibilities of a mechatronics engineer include:

- System Design and Integration: Mechatronics engineers design and integrate mechanical components, electronic sensors, actuators, and control systems to create innovative and intelligent machines or systems. They ensure that all components work together seamlessly to achieve the desired functionality and performance.
- Prototyping and Testing: Mechatronics engineers build and test prototypes of their designs to evaluate their functionality and identify potential improvements. They conduct experiments and simulations to validate the performance of the systems and make necessary adjustments.
- Software Development and Programming: Mechatronics engineers are proficient in programming microcontrollers, PLCs (Programmable Logic Controllers), and other control devices to manage and regulate the behavior of the mechanical and electronic components in the system.
- Electronics and Sensor Integration: They select and integrate appropriate sensors, such as cameras, encoders, and proximity sensors, to enable the system to perceive and respond to its environment.
- Automation and Robotics: Mechatronics engineers work on projects related to industrial automation and robotics. They design robotic systems for manufacturing, assembly lines, and autonomous vehicles, among others.
- Troubleshooting and Maintenance: They diagnose and resolve issues with mechatronic systems and provide maintenance and support to ensure their continued smooth operation.
- Project Management: Mechatronics engineers often lead or participate in multidisciplinary teams, collaborating with mechanical engineers, electrical engineers, and software developers to complete projects on time and within budget.
- Innovation and Research: Mechatronics engineers may be involved in research and development to push the boundaries of automation, robotics, and smart systems, contributing to technological advancements.

Types of Mechatronics Engineers

Mechatronics engineering is a multidisciplinary field that offers various specializations based on the specific applications and industries. Here are some types of mechatronics engineers:

- Robotics Engineer: Robotics engineers specialize in the design, development, and programming of robotic systems. They work on creating intelligent machines capable of autonomous movement, sensing, and decision-making, with applications ranging from industrial automation to healthcare and beyond.
- Automation Engineer: Automation engineers focus on designing and implementing automated systems that enhance efficiency and productivity in various industries. They may work on integrating sensors, actuators, and control systems to create automated processes in manufacturing, assembly lines, and industrial facilities.
- Control Systems Engineer: Control systems engineers concentrate on developing algorithms and control strategies to regulate the behavior of mechatronic systems. They play a crucial role in ensuring precise and reliable performance, particularly in applications where feedback control is essential.
- Embedded Systems Engineer: Embedded systems engineers specialize in designing and programming the embedded electronic systems within mechatronic devices. They work on microcontrollers, sensors, and communication interfaces to enable seamless interaction between mechanical

and electronic components.

- Instrumentation Engineer: Instrumentation engineers focus on the design and implementation of measurement and control systems. They develop sensor technologies and instrumentation solutions to collect data, monitor performance, and control various parameters within mechatronic systems.
- Mechanical Design Engineer (with Mechatronics Focus): Mechanical design engineers with a mechatronics focus work on the physical design of mechatronic systems. They ensure that mechanical components seamlessly integrate with electronic and control systems, emphasizing the holistic design of intelligent machines.
- Industrial IoT Engineer: Engineers specializing in Industrial Internet of Things (IoT) focus on connecting mechatronic systems to the internet for data exchange and remote monitoring. They work on implementing smart sensors, communication protocols, and data analytics to enhance system capabilities.
- Sensors and Actuators Engineer: Engineers in this specialization concentrate on the selection, integration, and optimization of sensors and actuators within mechatronic systems. They play a crucial role in translating physical movements and environmental data into electronic signals and vice versa.
- Automotive Mechatronics Engineer: Automotive mechatronics engineers work on integrating advanced electronic systems into vehicles. They contribute to the design of smart automotive features, such as advanced driver-assistance systems (ADAS), autonomous driving components, and in-vehicle control systems.

NON-FINITE VERB FORMS (НЕЛИЧНЫЕ ФОРМЫ ГЛАГОЛА)
TEST

a) неличная форма глагола, имеющая признаки глагола и существительного;
b) неличная форма глагола, имеющая признаки глагола и прилагательного;
c) неличная форма глагола, имеющая признаки глагола и наречия

2. Причастие II – это …

a) причастие настоящего времени;
b) причастие прошедшего времени

3. В предложении причастие может быть

a) только определением;
b) определением и дополнением;
c) только обстоятельством;
d) определением и обстоятельством

4. Герундий – это ….

a) неличная форма глагола, имеющая признаки глагола и существительного;
b) неличная форма глагола, имеющая признаки глагола и прилагательного;
c) неличная форма глагола, имеющая признаки глагола и наречия

5. Окончание «ing» используется для образования
a) причастия I;
b) инфинитива;
c) герундия;
d) причастия I и герундия
6. Герундий употребляется
a) после глаголов с предлогами;
b) после существительных с предлогами;
c) после составных предлогов;
d) все варианты верны
7. В предложении герундий не может быть
a) подлежащим;
b) частью сказуемого;
c) определением;
d) дополнением
8. Инфинитив имеет категории времени и залога
a) верно;
b) неверно
9. Инфинитив без частицы «to» в предложении
a) употребляется;
b) не употребляется
10. В предложении инфинитив может быть
a) любым членом предложения;
b) любым членом предложения, кроме определения;
c) только обстоятельством;
d) подлежащим, частью сказуемого, определением и обстоятельством
11. translated
a) переводимый;
b) переводящий;
c) переведённый
12. sitting
a) посаженный;
b) сидящий;
c) севший

13. bought
a) покупающий;
b) купленный;
c) купивший
14. swimming
a) плавание;
b) плывущий;
c) оба варианта верны
15. to think
a) думать;
b) подумавший;
c) оба варианта верны
16. built
a) причастие I;
b) причастие II;
c) герундий;
d) инфинитив
17. to play
a) причастие I;
b) причастие II;
c) герундий;
d) инфинитив
18. smoking
a) причастие I;
b) причастие II;
c) герундий;
d) причастие I и герундий
19. to be sent
a) причастие I;
b) причастие II;
c) герундий;
d) инфинитив
20. sent
a) причастие I;

b) причастие II;
c) герундий;
d) инфинитив

21. You must … it at once.

a) to do;
b) do;
c) doing;
d) done

22. The man told me not … on the grass.

a) to walk;
b) walk;
c) walking;
d) walked

23. He is interested in …. stamps.

a) to collect;
b) collect;
c) collecting;
d) collected

24. Seeing is … .

a) to believe;
b) believe;
c) believing;
d) believed

25. The vegetables … were fresh.

a) to buy;
b) buy;
c) buying;
d) bought

26. The girl … on the sofa is my sister.

a) to sit;
b) sit;
c) sitting;
d) sat

27. You'd better … my advice.

a) to follow;
b) follow;
c) following;
d) followed

28. The work … is not difficult.

a) to do;
b) be done;
c) to be done;
d) do

29. My hobby is … .

a) swimming;
b) swim;
c) swam;
d) все варианты подходят

30. The book … by me was interesting.

a) read;
b) reading;
c) to read;
d) to be read

31. He must have left.

a) Он должен уйти.
b) Он должен был уйти.
c) Он, должно быть, ушел.

32. I saw her dancing.

a) Я видел, как она танцует.
b) Она видела, что я танцую.
c) Я видел ее танец.

33. She spent all day shopping.

a) Она провела весь день в магазине.
b) Она провела весь день, делая покупки.
c) Она ходит за покупками каждый день.

34. He was lying on the bed reading a book.

a) Он лежал на кровати и читал книгу.
b) Он лежал на кровати, читая книгу.

c) Он читал книгу, лежа на кровати.

35. The information presented in the article was very important.

a) Информация, представленная в статье, была очень важна.
b) Информация, представляемая в статье, была очень важна.
c) В статье представили очень важную информацию.

36. He broke his arm playing football.

a) Он сломал руку, играя в футбол.
b) Он играл в футбол и сломал руку.
c) Играя в футбол, можно сломать руку.

37. *Smoking* costs a lot of money.

a) подлежащее;
b) часть сказуемого;
c) определение;
d) обстоятельство

38. You must *work* hard every day.

a) подлежащее;
b) часть сказуемого;
c) определение;
d) обстоятельство

39. The house *built* is very comfortable.

a) подлежащее;
b) часть сказуемого;
c) определение;
d) обстоятельство

40. *Given* the task, he began his work.

a) подлежащее;
b) часть сказуемого;
c) определение;
d) обстоятельство

ПЗ№64 Неличные формы глагола

1. Пройдите онлайн тест "Неличные формы глагола. Non-Finite Forms of the Verb"

https://www.study.ru/test/grammaticheskie-testy/test-nelichnye-formy-glagola-non-finite-forms-of-the-verb

2. Разбор ошибок

ПЗ№65 Победители чемпионата в России

С помощью сети интернет составьте доклад о победителях Чемпионата WorldSkills на английском. Составьте вопросы для обсуждения/дискуссии по этой теме для одногруппников

ПЗ№66 Победители чемпионата г. Иркутска

1. Найдите в тексте английские эквиваленты следующих фраз.

многочисленные чемпионы, увеличить свой статус, среди участников, обмениваться опытом, в тоже время, теоретические знания, включая умения общения, со всего мира, региональные чемпионы.

2. Прочитайте и переведите текст.

3. Подберите синонимы.

1) require	a) take part in
2) select	b) different
3) qualified	c) choose
4) various	d) support
5) participate	e) need
6) help	f) connect
7) join	g) professional
8) complex	h) hard

What is WorldSkills?

WorldSkills is an international non-commercial movement that aims to elevate the prestige value of blue-collar and service professions and develop mastery of skills. The movement began in 1947, in post-war Spain, as a response to the lack of qualified workers; as of now, the organization includes members from 77 countries. The first championships were organized in order to popularize service work and increase its status. Today, these events are an effective way of training qualified workers who can respond to global standards and the needs of new, high-tech productions.

Regional, national, continental and international competitions are held under the WorldSkills banner. Participants show their skills by performing tasks specific to their occupations, among which are: construction, information and communication technologies, creative work and design, industrial manufacturing, service work and public transit.

How ITMO trains champions

The Refrigeration and Air Conditioning category is considered one of the most difficult ones, as it requires from its participants not only complex theoretical knowledge, but also sufficient real-life experience. For that reason, the programs at SCC include both theoretical and practical training in all areas of this field as outlined in the WorldSkills standards. Participants are tasked with installing, tuning and operating of refrigeration unites, assembling of freon tubes, installing refrigeration circuit elements, making electrical connections, programming controllers and working with modern coolants and software.

Over time, industrial partners, too, joined the initiative – major global companies such as Rothenberger and Danfoss, as well as the Russian companies Land, Ostrov, Kreo Group and others, are now sending their own specialists to be trained at the Center. International partners contribute to the cause by providing modern equipment and materials.

4.
1.
2.
3.
4.
5.
6.
7.
8.

5.

Найдите информацию о победителях из г. Иркутска в сети Интернет и составьте высказывание.

ПЗ№67 Официальные документы чемпионатов профессионального мастерства

Работа с онлайн ресурсами

Ознакомьтесь с официальными документами WorldSkills, перейдя по ссылке https://worldskills.org/about/#official-documents

Напишите краткое предназначение каждого документа на английском языке. Определите какой документ представлен ниже, заполните его

	Event		The Finals of the Professional Skills Championship "Professionals" 2024				
	Competition title		CNC Milling				
Code	**Subcriteria**	**Type**	**Specification**	**Judge's score**	**Verification method**	**Requirement or size**	**Professional task**
A	**Module A. Producing of parts**						
1	Main dimentions - Module A						
		И	Main size #1		Dimensional tolerance		1
		И	Main size #2		Dimensional tolerance		2
		И	Main size #3		Dimensional tolerance		4
		И	Main size #4		Dimensional tolerance		4
		И	Main size #5		Dimensional tolerance		4
		И	Main size #6		Dimensional tolerance		5

ПЗ№68 Техническое описание компетенций, представляемых на чемпионатах профессионального мастерства

1. Прочтите и переведите текст

The technical description of the competencies presented at the Professional Skills championships includes the following elements:
Description of the competence. Defines the name of the competence, principles and format of participation in the competition.
A competitive task. Describes a set of practical tasks and necessary skills (work functions, activities) that the contestant needs to complete within the framework of the championship, as well as a scheme for evaluating the corresponding task. The task has a modular structure and should be as close as possible to real production tasks.

The infrastructure sheet. Includes all the infrastructure, equipment and supplies that are necessary to complete the competition task. The infrastructure sheet must contain an example of the equipment and its clear and understandable characteristics if it is possible to purchase analogues.
The list of competencies for the championship is approved annually by the organizing committee of the movement in coordination with the host region of the Russian Federation.

2. Заполните таблицу, согласно текста

Description of the competence	The infrastructure sheet	The list of competencies

3. Выберите одну из компетенций и составьте её техническое описание

ПЗ№69 Компетенция Мехатроника

Драматизация тематических диалогов (диалог-обмен информацией, построение диалога, применение в различных ситуациях профессионального общения, диалоги смешанного типа, применение в различных ситуациях профессионального общения) по теме «Квалификация, объем работ, материалы и оборудование по компетенции «Мехатроника».

Прочитайте диалог по ролям. Переведите. На примере данного диалога составьте 4 ситуации, связанные со специальностью на английском языке.

- Susan: Oh, my god! It’s like a nightmare! The final exams are coming, and I still have not chosen the place to enter.
- Jane: Stop to panic. Let's try to determine which profession suits you most of all.
- C: But how can we do it?
- D: It's very easy. I will ask you questions, and you will honestly answer them. Then we will analyze and understand what your future profession.
- S: How do you know all this?
- D: Have you forgotten? I attend psychology courses once a week. We have recently discussed such problem.
- S: Really?
- D: Yes, you will be surprised, but you are not alone to have such a problem.
- S: That calms me a little. Well, come on, let’s start.
- D: What kind of work do you prefer: working with people, with animals or with documents?
- S: I'm afraid of animals, and a little shy to communicate with people. I prefer to work with documents.
- D: I see. In which subject do you have better grades: math or languages?
- S: I'm very bad at math, but I like languages. Especially, foreign ones.
- D: Do you like children?
- S: Oh, yes. I always play with children when guests come to us. I think they like to spend time with me too.
- D: Well, even having conducted such a small questioning, it became clear to me that you need to choose a profession that relates to children,

languages and documents. For example, an interpreter, a school teacher of foreign language or a kindergarten nurse.

- S: Well done! Now I have something to think about. Your advice really helped me, thank you!
- D: Not at all. I was glad to do it.

ПЗ№70 Компетенция Мехатроника

1. Прочтите и переведите текст.

Presentation of the competence of "Young Professionals","Mechatronics"

Specialists in the field of mechatronics develop, design, carry out commissioning, carry out maintenance, localize and eliminate malfunctions of automated equipment, as well as program control systems and interfaces for equipment interaction with humans. Highly trained specialists are able to meet the most diverse needs of the industry. They perform mechanical maintenance and installation of equipment. They also deal with data acquisition equipment (sensors) and regulatory devices.

The form of participation in the competition is a team (2 people)

Competitions are held in two age groups:

⋆ students aged 14-16

⋆ students aged 16-25

The task for the competition is to perform a set of works on the commissioning of a mechatronic system: mechanical assembly and installation of a mechatronic line consisting of two or more stations. In accordance with the technical documentation, participants connect and configure sensors and electrical components, connect and configure pneumatic components, develop a control program for a PLC and perform commissioning of a material transfer system in accordance with the algorithm of the line operation.

The competition task includes the following modules:

A. Mechanical assembly, programming, maintenance, troubleshooting, commissioning of an electrically powered material transfer station.

B. Mechanical assembly, programming and commissioning of a material transfer and processing line.

C. Maintenance, troubleshooting, commissioning of a material transfer and processing line.

D. Optimization of the operation of a transfer line and processing of materials.

Number of hours to complete the task:

12 hours for juniors 14-16 years old;

22 hours for participants aged 16-25.

Ответьте на вопросы по тексту.

1. What are specialists do?
2. What is the age of competitors?
3. What is the number of hours to complete the task?
4. What is the task for the competition perform?
5. What does the competition task include?

2. Match the translation.

sophisticated	опытный
willingness	желание
requirement	требование
contribute	делать вклад
knowledge	знание
according to	в соответствии с

3. Fill in the blanks: participants, participated, held

1. The first WorldSkills championship was [[1]] in Moscow.
2. Russian **[[2]]** only trained for a couple of months on short-term programs.
3. As head of WorldSkills Russia Robert Urazov notes, in 2017 approximately 150,000 students of blue-collar and engineering specialties **[[3]]** in the competition.

4. Answer the question (full answer)

1) What are the basic documents of the movement World Skills?
2) Would you like to take part in World Skills? Why? Why not?

ПЗ№71 Формат и структура Конкурсного задания.

Драматизация тематических диалогов (диалог-обмен информацией, построение диалога, применение в различных ситуациях профессионального общения, диалоги смешанного типа, применение в различных ситуациях профессионального общения) по теме «Конкурсное задание по компетенции «Мехатроника».

Ознакомьтесь с правилами КОНКУРСНЫХ ЗАДАНИЙ Чемпионата по компетенции: 3D моделирование для компьютерных игр. Составьте и драматизируйте диалог, где участники диалога обсуждают правила конкурсных заданий Чемпионата.
https://drive.google.com/file/d/1tX3KdUneWMln9W22iVtVi-wVwMo7NI5F/view

ПЗ№72 Компетенция «Мобильная робототехника»

1. Прочтите и переведите текст

Competence "Mobile robotics"

The Young Professionals Championships consist of 6 main blocks. In each of the 6 blocks, a list of competencies is allocated — the branches and specializations of the work for which competitions are held. Within the framework of competitions according to the standards of Young Professionals, a competence of the same name has been developed, which belongs to the category of team competitions, a team of 2 people takes part. During the championship, participants will have to design, assemble, test and debug a robot to solve a specific task. Practical tasks are provided in the form of technical descriptions of automation tasks, including sketches, drawings, photographs, videos and data files that contain a description of the automation object and production processes to be upgraded using a mobile robotic system. The practical work of the participants is evaluated. Mobile robotics is an industry involving the design, construction, programming and maintenance of robots that are designed to solve industrial problems. A roboticist does not just create a robot for a task, he also deals with its maintenance: identifies and eliminates malfunctions of mechanical and electronic systems. Mobile robotics is a global trend that is an important part of the industry with the possibility of application. This specialty implies that specialists have a lot of narrowly focused knowledge, as well as the ability to think outside the box and solve tasks.

There is a Specification of standards for Young professionals — a guide to the necessary training and preparation for competitions in a certain competence. The main goal of the championship is to increase the prestige of working professions, provide participants with advanced skills and demonstrate the best world practices.

Standards are based on up-to-date industry data, and the diversity of skills depends on the changes that are taking place in the industry. Thus, the distinctive skills of a robotics specialist will be not only in-depth specialized knowledge, but also the ability to transfer analytical skills internationally.
When preparing for competitions, it is necessary to take into account the requirements for theoretical and material bases.
Theoretical training includes mastering basic skills and knowledge. The requirements are prescribed for each competence. In the technical description of the competence "Mobile Robotics" Young professionals, the requirements for the knowledge and skills of the contestants are divided into 6 thematic blocks:
1. Organization and management of work.
2. Competence of communication and interpersonal relations.
3. Design.
4. Manufacturing, assembly and wiring.
5. Programming, testing and regulation.
6. Efficiency analysis and commissioning.

In order to prepare for the competition, participants should carefully study the requirements for knowledge and skills required in the competence of "Mobile Robotics" and begin practical training with suitable training kits.
Preparation, and even more so participation in competitions, is impossible without the equipment specified in the infrastructure competence sheet. You can use tasks from previous years as a simulator. The NGO Avanti Group company is an official partner of the Young Professionals movement and

supplies special Studica training kits to prepare for competitions.
The equipment that is used during training should match the one that is used during the competition, as it is easier and more efficient to work on familiar equipment. The training kits are designed specifically for several age categories. They include all the necessary elements, detailed tutorials and assignments from previous years. The materials selected for the work have passed a number of tests for durability, durability and ease of use.
Discussion on the topic "Results of students' participation in the championship of professional skills"

2. Ответьте на вопросы.
1. How to prepare for competitions in the competence of "Mobile robotics"?
2. What are the requirements for the knowledge and skills of the contestants?
3. What is a Specification of standards for Young professionals?
4. How many people does the team take part in?
5. What does Mobile robotics industry involve?

ПЗ№73 Перечень видов конкурсных заданий по компетенции «Мобильная робототехника»

Дискуссия на тему «Результаты участия обучающихся в чемпионате профессионального мастерства»

Ознакомьтесь с типовыми конкурсными заданиями для региональных чемпионатов чемпионатного цикла 2021 – 2022 гг. КОМПЕТЕНЦИИ «Мобильная робототехника» по ссылке
https://drive.google.com/file/d/1LrbdpzeVOz8k4Pj3DZ3KVVxugluLTbTg/view
С помощью сети Интернет найдите победителей разных лет в этой области. Расскажите о них на английском языке.

ПЗ№74 Резюме

1.Познакомьтесь с формой резюме:
В США резюме принято называть Resume, в Европе - CV (Curriculum Vitae):
- Личная информация (Personal Information)
- Цель (Objective)
- Опыт работы (Work Experience) если есть.
- Образование (Education)
- Специальные навыки (Additional Skills)
- Рекомендации (References)

2.Выучите наиболее употребляемые слова:
directed, led managed, supervised; achieved, delivered, drove, generated, grew, increased, initiated, instituted and launched; cut, decreased, reduced, slashed; accelerated, created, developed, established, implemented, instituted, performed, pioneered, planned, produced, reengineered, restructured, saved and transformed.

3.Переведите резюме, составленного на определенное объявление о ваканси:
Объявление о вакансии

Large European pharmaceutical company seeks for **Clinical Research Associate The ideal candidate should have:**
Medical or pharmaceutical degree;
At least 1 year experience as researcher;
Fluent English;
Advanced computer skills;
Goodwill to learn and work hard;
References on request.
We offer:
Competitive package;
Trainings.
Kindly send your CV to attention Recruitment manager fax 916 20 35

Резюме

DR. ALEXANDR IVANOVICH CHUTRENOV Ul. Finnskaya, 31/2-34
Moscow, RUSSIA Tel: +7 (095) 874 2854
Email: a.chutrenov@moskdat.ru

OBJECTIVE

Clinical Research Associate
Having completed many years in my specialist field of treatment of leukemia, I have decided that the time is right for a change in area of specialization. Completing my Ph.D. was one of the most exciting and challenging periods of my life and I want to experience such a steep learning curve again in another medical field. The position of Research Associate would therefore be very suitable for me as I have many years‘ experience at prestigious medical institutes and have studied in Russia, Germany and in the United States. My level of language is therefore exceptional, and my communication skills have been thoroughly tested. I am looking to broaden my knowledge of medicine, to which I have devoted my life and feel that I would be a particularly suitable candidate for the position.

PERSONAL DETAILS
Date of Birth: 12 April 1969 Marital Status: Married

EDUCATION

1993-1996:	**New York University of Medicine** - Major field of studies: Research into Pharmaceuticals of Treatment of Leukemia
1987-1993:	**Moscow State University (MGU)** - Major field of studies: - Medicine and Pharmaceutical Research - Qualification: Doctor of Pharmaceuticals (PhD)
August 2002 - present:	**Pharmaceutical Researcher at Pfizer, UK** - Research into the effective treatment of leukemia - Focusing on the reduction of treatment side-effects - Organizing personal funding of research and funding of departmental research - Organizing pharmaceutical testing
Oct. 1996 - June 2002	**Research Assistant, Pfizer, Germany** - Research into alternative therapies of renal cancer and leukemia
Sept. 1993 - June 1995	**Research Assistant, New York, USA** - Research into alternative therapies for cancer patients
	ADDITIONAL SKILLS
Languages:	- English - Advanced Level / Cambridge Proficiency German - Advanced Level

Computer skills: - Experienced with MS Word, Excel, Internet Explorer and Outlook Express, Turbo Cad, many analytic programs.
Driving License: - Driving License Category A
- Qualified and highly professional; highly motivated; enthusiastic; good communication skills; eager to experience and learn new skills.

4.Составьте резюме, согласно следующим рубрикам:

a. Objective
b. Qualification
c. Education

d. Language
e. Work history
f. Personal

5.Запомните произношение и значение следующих слов и словосочетаний (активная лексика):

reference - отзыв, рекомендация present a list of references - предоставить список отзывов tense - напряженный polite - вежливый be confident - быть уверенным
persuade - убеждать
regular duties - обычные обязанности be an asset for the company - быть приобретением для компании give a good representation - хорошо представить demand - требовать
appoint the date - назначить дату

ПЗ№75 Заявление о приеме на работу

Выполнение упражнений на закрепление НЛМ по теме «Резюме и заявление о приеме на работу».

RESUME

Torbeeva Olga Aleksandrovna

Address:	Apt. 28, 9 Roterta Street Moscow 129347 Russian Federation
Tel.:	+7 499 1823767
E-mail:	otorbeeva@yandex.ru
Place of birth:	Moscow
Date of birth:	23 June 1988
Age:	20
Marital Status:	Single
Nationality:	Russian Federation

Education

2005 – present	Bauman Moscow State Technical University Engineering Business and Management Faculty Bachelor's degree
2001–2005	Lyceum of Information Technologies № 1537 School-leaving certificate

Professional Experience

July 2008 — Kamov Company – a month summer internship
Assistant in the Finance Department:

- responsible for the workflow involving accounting software 1C;
- interaction with company departments.

Computer skills

- Microsoft Office, Excel, Access, PowerPoint, MS Project;
- Law and accounting software Consultant+, Garant, 1C;
- Basic, VisualBasic, programming algorithms, HTML code;
- MathCAD, AutoCAD, Photoshop CS, etc.

Language Proficiency

- Russian Language – Native;
- English Language – Upper-Intermediate Level, First Certificate in English Grade A

Awards

Gold medal for excellent grades at the Lyceum of Information Technologies № 1537;

Hobbies

Skiing, swimming, classical literature, watching football, etc.

1. Составьте по образцу свое резюме.

2.Translate other rules of writing CV

Never write!

- Don't use cheap paper. Don't use bright colours, if you want to look conservative and business-like.
- Don't write a resume longer than 2 pages. Never write it on two sides of the same paper.
- Don't forget to put your name on the second page, if you have two-page resume.
- Don't handwrite your resume. The best way of typing a resume is using a computer and a printer.
- Don't include personal information such as: weight, nationality, race, desired salary, the reasons why you left the previous job (sometimes personal interests and hobbies).
- Don't use "I"-statements because it's a formal document but not a story.
- Don't forget to give your work experience and education in reverse chronological order.
- Don't avoid to use active verbs such as "managed", "provided", "directed", "coordinated", "accomplished", "maintained", "encouraged", "increased", "conducted", "participated".

ПЗ№76 Заполнение анкеты работодателя.

1. Заполните анкету

Contract of employment questionnaire

GLOBAL RECRUITMENT SOLUTIONS

Please fill in all the data fields below to help up prepare a contract of employment.

1. **Full name of employer and address including HE Company Registration Number.**	
2. Full name of employee and address. ID Passport or Cyprus Residency ID. Social Insurance Number.	
3. **Please describe the group structure, if applicable and the position of the employing company within the group.**	
4. **What is the commencement date?** **What is the date of commencement of the Employee's period of continuous employment for statutory purposes if different? Is there going to be a probationary period?** According to the Termination of Employment Law (Law 24/67) a fixed probationary period of **26 weeks** applies to each employment. The probation period however can be extended up to a maximum of **104 weeks** by written agreement, at the time of the employment (i.e specified in the employment contract).	
5. **Employee's job title, reporting line and any relevant details of job description.**	
6. **Is the employment:** • 'Fixed Term' or of 'Indefinite duration'? • To be terminable by notice? Statutory notice or enhanced contractual notice?	
7. **What is the normal retirement age?** The age of compulsory retirement today in Cyprus is set at 65 years old, with a right for early retirement and reduced pension at 63 years old.	
8. **Where is the Employee's principal place of work?**	
9. **Is the Employee required to be mobile:** • Within Cyprus • Elsewhere in the world?	
10. **Will the Employee be required to work abroad?** If so: • What is the period to be spent abroad? • If the period is not known could it be over a month at a time? • What expenses and or payments or additional will be paid for business trips/short-term or long-term assignments?	
11. **Hours of work:** • What are the Employee's normal hours of work? • Is the Employee required to work outside these hours without additional remuneration? • Is the employee working 5 or 6 days per week or less? Specify days of work to be worked each week. • Is there a requirement to work shifts and if so, is there any shift premium to be paid? • Is overtime paid? If so, at what rate? • How long is the lunch break and when can it be taken? • Is this a paid lunch break? • Is the Employee likely to work more than 48 hours on average over 17 weeks? If so, the employee may be required to sign an individual opt-out agreement to ensure compliance with the current Working Time Regulations.	
12. **Remuneration** • How much is the Employee to be paid? • Will the employee be paid 12 or 13 salaries? If no 13th salary is to be paid this should be confirmed. • When is the normal pay date and is payment in advance or in arrears? • When is the Employee's pay reviewed and when is the next review date? • What deductions will need to be from pay? Social Insurance, Tax, Medical insurance etc. • Do you need to reserve the right to pay in lieu of notice?	
13. **Please provide full details of any bonus, commission or incentive scheme in which the Employee will be entitled to or participate in.**	
14. **Does the company operate a policy in relation to expenses?** If so, please provide a copy.	
15. **Is the Employee to be provided with a company car? If so, please provide full details:** • The company car policy • Any limits on the value or type of car • Costs to be borne by the Company, insurance, petrol etc • Whether the Employee and members of his family can use the car for private use. Is the Employee to be provided with a tax free travel or fuel allowance? If so, how much and frequency of payment.	
16. **Pension – please provide full details of any pension scheme including:** • Contributory/non-contributory • Level of company contributions if any • From whom the Employee may obtain further information.	

ПЗ№77 Условные предложения.

Выполнение грамматических упражнений по теме «Условные предложения».

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

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

1. If he … (practice) every day, he … (become) a champion. (Если он будет тренироваться каждый день, он станет чемпионом.)
2. She … (help) us if we … (ask). (Она поможет нам, если мы попросим.)
3. If they … (have) enough money, they … (open) a restaurant next year. (Если у них будет достаточно денег, они откроют ресторан в следующем году.)
4. I … (not talk) to you anymore if you … (insult) me. (Я не буду с тобой больше разговаривать, если ты обидишь меня.)
5. If Bob … (not keep) his word, Anna … (be angry) with him. (Если Боб не сдержит слово, Анна разозлится на него.)

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

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

1. If you … (have) a driving license, you … (get) this job. (Если бы у тебя были водительские права, ты бы получил эту работу.)
2. My dog … (be) 20 years old today if it … (be) alive. (Моей собаке исполнилось бы 20 лет сегодня, если бы она была жива.)
3. I … (go) to the police if I … (be) you. (Я бы обратился в полицию на твоем месте.)
4. If people … (not buy) guns, the world … (become) safer. (Если бы люди не покупали оружие, мир стал бы безопаснее.)
5. Tom ... (not eat) much “fast food” if his wife … (cook) at home. (Том не ел бы много «фастфуда», если бы его жена готовила дома.)

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

Н-р: John … (not have) a car accident if he … (choose) another road. (Джон не попал бы в автомобильную аварию, если бы выбрал другую дорогу.) – John wouldn’t have had a car accident if he had chosen another road.

1. I … (visit) Sarah yesterday if I … (know) that she was ill. (Я бы навестил Сару вчера, если бы знал, что она больна.)
2. If you … (go) with me to Paris last month, you … (see) the Eifel Tower too. (Если бы ты поехал со мной в Париж в прошлом месяце, ты бы тоже увидел Эйфелеву башню.)
3. We … (not get wet) if you … (take) an umbrella. (Мы бы не промокли, если бы ты взяла зонт.)
4. If Mum … (not open) the windows, our room … (not be) full of mosquitoes. (Если бы мама не открыла окна, наша комната не была бы полна комаров.)
5. Nick … (not be) so tired this morning if he … (go to bed) early last night. (Ник не был бы таким уставшим этим утром, если бы рано лег спать прошлой ночью.)

4. Подберите к первой части условных предложений (из первого столбика) их окончание (из второго столбика). Обратите внимание на тип

условного предложения. Переведите получившиеся предложения.
Н-р: 1 – c (Мы бы испекли торт, если бы мы купили немного яиц вчера.)

1) We would have made a cake	a) if he hadn’t shouted at them.
2) If it rains much	b) if she loses weight.
3) If I knew English well	c) if we had bought some eggs yesterday.
4) My kids wouldn’t have cried	d) if I were you.
5) I would call him	e) I would be an interpreter.
6) She will put this dress on	f) the flowers will grow very fast.

5. Переведите условные предложения всех типов.

1. Если бы у меня был отпуск сейчас, я бы поехал на озеро Байкал.
2. Я посмотрю этот фильм, если он понравится тебе.
3. Если бы ты подписал документы вчера, мы бы отослали их сегодня.
4. Если бы Джон не потерял номер телефона, он бы позвонил ей.
5. Марк был бы здоровым мужчиной, если бы не курил.
6. Если я пойду в магазин, я куплю новый телефон.

ПЗ№78 Собеседование у работодателя

1. Прочитать и перевести текст.

You are fired!

There are Sack and Fire for such cases. You've probably heard the phrase "You are fired!" more than once in movies. - You're fired! when the boss also pronounces it rudely and loudly. Why sack, because sack is a bag? Why fire, because fire is fire? The fact is that in the old days in England, all workers had their own tools, which were stored in a special bag (sack). At the same time, they often traveled from place to place with their tools, changing jobs. When applying for a new job, employees deposited their bags with the employer. When the service life ended, the job was done, or the employer fired the employee, he returned the bags to the workers (give the sack), and they went on in search of work. If the employee was caught stealing, the employer burned his bag along with tools in front of other mercenaries so that the thief could not find another job in the future. This served as a lesson and prevention of theft. This form of punishment was called firing the tools or being fired, respectively: "He is fired" – "He is fired."

2. Выписать новую лексику. Добавить собственные примеры

Лексика для собеседования

Employee /ɪmˈplɔɪ.iː/ - работник. Есть работодатель - Employer /ɪmˈplɔɪ.ər/, а есть работники. Как и trainer и его trainee (тренер и тот, кого он тренирует), как и adviser и advaisee (советник и человек, советы принимающий). Все слышали про суффикс er, а про существование ее многие даже и не в курсе. Даже есть slayer (*истребитель кого-то, как Buffy the Vampire Slayer,*) и slayee (ну, вы поняли).

Employment /ɪmˈplɔɪ.mənt/- трудоустройство.
Due to the recession, there are thousands of people looking for employment.
Unemployment /ˌʌn.ɪmˈplɔɪ.mənt/ - безработица.
He has been unemployed for 6 months now.
to commute /kəˈmjuːt/- ездить на работу.
It takes longer for people to commute to work because of traffic problems.
Salary /ˈsæl.ər.i/ Wages /ˈweɪ·dʒəz/ - зарплата. Причем тут важно не спутать, salary - это зарплата, фиксированная сумма, которую сотрудник получает ежемесячно за свою работу. Wage или wages — это зарплата, которая рассчитывается на основе отработанных часов/дней в неделю/месяц.
Разница между wage и salary заключается еще и в том, что wages применяется в отношении физического труда, а salary — умственного.
The company pays me a salary of 30 000 roubles per month.
Plant workers protest against low wages
Есть еще Fee /fiː/ или fees — это гонорар, который платится специалисту за работу.
Flexitime /ˈflek.si.taɪm/ - гибкий график.
They have introduced flexitime at my work place so I usually start at 10am now and finish at 6pm.
Resign [rɪ'zaɪn] - уходить в отставку, покидать пост.
Quit [kwɪt] - уволиться с работы.
Apply for a job \ Applying for a job - та самая подача заявления на работу, податься на вакансию. *She answered the ad and applied for a job - Она ответила на объявление и ответила на вакансию.*
Fill online application -заполнить заявление на вакансию.
A job ad- объявление о работе. W*hen I saw your job ad at [RandomJobBoardWebsite], even though I wasn't actively looking for a job at the time, I couldn't help but apply! - Когда я увидел ваше объявление в…. хотя я и не искал работу активно, я не мог не откликнуться!*
Skills - навыки. И вот тут можно прямо разгуляться, потому что тут можно прямо выбрать то, что описывает конкретно вас (или все сразу). Согласно зарубежному сайту *Indeed.com*, специализирующегося на поиске работы и найме), эти навыки считаются ключевыми для выбора в вашу пользу:
Communication skills (коммуникация), computer skills (Владение ПК), customer survice skills (общение с клиентами), interpersonal skills (межличностное общение, в том числе с коллегами), leadership skills (лидерство), management skills (управление), problem-solving skills (навык решения проблем), time management skills (управление временем).
Opening - открытая вакансия. *RBC bank has several new openings for Custom Service Assistants.*
Previous experience - предыдущий опыт. *No previous experience required for this position- Для этой позиции опыт не требуется. Managerial experience - управленческий опыт. Gain hands-on experiece - получить прикладной опыт.*
Career prospects - карьерные перспективы - *This post offers career prospects to candidates- Пост предлагает карьерные возможности для кандидатов.*
A competitive salary - конкурентная зарплата.

Salary expectations - зарплатные ожидания.
Benefit package - бонусный пакет (соц. пакет). Сюда может войти healthcare plan - наш ДМС.
Cover Letter - сопроводительное письмо. *A cover letter should always accompany a proposal - Сопроводительное письмо должно всегда сопровождать предложение.*

3. Составить диалог в паре, используя изученную лексику

ПЗ№79 Документы, необходимые при собеседовании

Диалог-обсуждение, диалог-обмен информацией: обсуждение требований, предъявляемых работодателем.
Переведите пример сопроводительного письма.

Cover letter

John Mayers,
+1(653)89-90-90
johnm@gmail.com
Dear High Flying Birds HR-team,

I would like to express my interest in applying for a part-time Articles Writer position in your online Magazine. I saw this opportunity at the recent post on your Instagram (@highflyingbirds) and hope that you are still looking for someone with great experience and passion for writing.
I think that I would be well suited to the position because I have huge experience in creating online articles and SEO-writing. For the last 5 years, I have worked with Wanderlust, Vogue, GQ and many more. During this time, I wrote above 150 full-length articles about music, travel, street style, beauty, and home. As you can see, I have a lot of experience in many areas. I consider unique content and highest quality to be my strong points.
I have attached my CV and samples of my best works to this email. I look forward to the invitation for an interview. I can be reached at +1(653)89-90-90 any day from 9 AM to 10 PM or on my Instagram account (@john_mayers) any time.

Looking forward to hearing from you.

Best regards,

John Mayers

Перечислите на английском все документы, необходимые при устройстве на работу. Составьте предложение с каждым из них. Составьте резюме при устройстве в крупную компанию на должность специалиста по ИКТ.

ПЗ№80 Резюме

1. Прочтите м переведите текст

Interview questions

Question 1:

Can you explain what a mechatronics system is?

Insights:

The interviewer is looking for the candidate's understanding of the core concept of mechatronics, their ability to explain it in simple terms, and their familiarity with the various components that make up a mechatronics system.

Approach:

Start by providing a simple definition of mechatronics, then explain how it integrates various engineering disciplines, such as mechanical, electrical, and computer engineering. Highlight the various components of a mechatronics system, such as sensors, actuators, controllers, and software.

Avoid:

Avoid using technical jargon that may confuse the interviewer.

Question 2:

How do you approach designing a mechatronics system?

Insights:

The interviewer is looking for the candidate's understanding of the design process, their ability to identify the key requirements of a mechatronics system, and their experience in developing a mechatronics system.

Approach:

Start by discussing the requirements of the mechatronics system, such as performance, reliability, and cost. Explain how you would identify the key components of the system and their interconnections. Discuss how you would evaluate the system's performance and identify potential areas for improvement.

Avoid:

Avoid oversimplifying the design process or failing to consider the system's full range of requirements.

Question 3:

Can you explain your experience with programming languages used in mechatronics, such as C++, Java, and Python?

Insights:

The interviewer is looking for the candidate's familiarity with programming languages used in mechatronics, their experience with using these languages in real-world applications, and their ability to explain the advantages and disadvantages of each language.

Approach:

Start by discussing your experience with each language, including any projects or applications you have developed using them. Explain the advantages and disadvantages of each language, such as their performance, readability, and ease of use. Discuss how you would choose a programming language for a specific mechatronics project.

Avoid:

Avoid overstating your experience with a particular language or failing to acknowledge the limitations of a language.

Question 4:

How do you ensure the safety of a mechatronics system?

Insights:

The interviewer is looking for the candidate's understanding of safety considerations in mechatronics, their experience in developing safety systems, and their ability to explain how safety is integrated into the design process.

Approach:

Start by discussing the safety risks associated with mechatronics systems, such as electrical hazards, mechanical hazards, and software errors. Explain how you would identify potential safety hazards and design safety systems to mitigate them. Discuss how safety is integrated into the design process, such as through risk assessments and safety testing.

Avoid:

Avoid downplaying the importance of safety or failing to acknowledge the potential risks associated with mechatronics systems.

Question 5:

Can you explain your experience with control systems and feedback loops in mechatronics?

Insights:

The interviewer is looking for the candidate's understanding of control systems and feedback loops in mechatronics, their experience in designing and implementing control systems, and their ability to explain how control systems improve the performance of mechatronics systems.

Approach:

Start by discussing your experience with control systems and feedback loops, including any projects or applications you have developed using them. Explain how control systems improve the performance of mechatronics systems by regulating inputs and outputs. Discuss the importance of feedback loops in controlling mechatronics systems and how they are implemented.

Avoid:

Avoid oversimplifying the concept of control systems or failing to explain the benefits of feedback loops.

Question 6:

How do you manage complexity in mechatronics systems?

Insights:

The interviewer is looking for the candidate's understanding of the challenges associated with complex mechatronics systems, their experience in managing complexity, and their ability to explain how they approach complex problems.

Approach:

Start by discussing the challenges associated with complex mechatronics systems, such as integration of multiple components, software compatibility, and troubleshooting. Explain how you manage complexity in mechatronics systems, such as through modular design, software architecture, and testing. Discuss how you approach complex problems, such as by breaking them down into smaller components or using simulation tools.

Avoid:

Avoid oversimplifying the challenges of managing complexity in mechatronics systems or failing to acknowledge the limitations of managing complexity.

Question 7:
Can you explain your experience with sensors and actuators used in mechatronics systems?
Insights:
The interviewer is looking for the candidate's familiarity with sensors and actuators commonly used in mechatronics systems, their experience in designing and implementing sensors and actuators, and their ability to explain how they enhance the performance of mechatronics systems.
Approach:
Start by discussing your experience with sensors and actuators commonly used in mechatronics systems, including any projects or applications you have developed using them. Explain how sensors and actuators enhance the performance of mechatronics systems by providing feedback and control. Discuss how you would choose a sensor or actuator for a specific mechatronics project.
Avoid:
Avoid overstating your experience with a particular sensor or actuator or failing to acknowledge the limitations of a sensor or actuator.
2. Оформите ответы на вопросы, учитывая рекомендации

ПЗ№81 Профессии будущего

Выполнение упражнений на закрепление НЛМ по теме «Профессии будущего

Ответьте на вопросы
1. What did you dream to become when you were little?
2. What jobs are interesting to you now?
3. Are you planning to get a higher education? Why?
4. Who advises you on your career choice?
5. What school subjects do you think you will need most in your future profession?

Which person is it?
Choose the best word to complete the sentence. Look up any words you don't know.
1. Every in this army should know how to use the new gun.
a. sailor b. porter c. soldier d. joker
2. He left his job because his didn't pay him enough money.
a. employee b. employer c. conductor d. architect
3. The arrested him for stealing the diamonds.
a. dentist b. electrician c. politician d. policeman
4. A famous operated on her.
a. surgeon b. coach c. driver d. carpenter
5. The made a lot of noise as they left the party in their

cars.
a. thieves b. characters c. pedestrians d. guests
6. It's difficult to be a of this club.
a. travel agent b. member c. clown d. bachelor
7. I can hear my next-door playing his trumpet.
a. thief b. customer c. neighbour d. champion
8. He hates marriage. He wants to stay a
a. passenger b. bachelor c. customer d. widow
9. Who is the of this book?
a. author b. surgeon c. journalist d. orphan
10. If she beats her, she'll be the new tennis
a. character b. host c. champion d. passenger
11. The made this door badly. I can't close it.
a. orphan b. carpenter c. artist d. pedestrian
12. After his parents died, the young went to live with his aunt.
a. clown b. farmer c. orphan d. lawyer
13. Sherlock Holmes is an important in detective fiction.
a. employer b. character c. manager d. writer
14. I hope they find the who stole my money.

Опишите профессии/специальности на картинке.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АДВОКАТ ПО РОБОЭТИКЕ
ДИЗАЙНЕР ЧЕЛОВЕЧЕСКОГО ТЕЛА
КОСМИЧЕСКИЙ ГИД
ИНЖЕНЕР ПО ВОССТАНОВЛЕНИЮ ОКРУЖАЮЩЕЙ СРЕДЫ
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