# Департамент внутренней и кадровой политики Белгородской области Областное государственное автономное профессиональное образовательное учреждение

## «Белгородский индустриальный колледж»

Рассмотрено цикловой комиссией Протокол заседания № 1 . от «31» августа 2020 г. Председатель цикловой комиссии \_\_\_\_\_ Сердюкова Н.А.

## МЕТОДИЧЕСКИЕ РЕКОМЕНДАЦИИ

по выполнению практических работ по дисциплине ОГСЭ.03 «ИНОСТРАННЫЙ ЯЗЫК»

по специальности 22.02.06 Сварочное производство

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#### 1. Пояснительная записка

Дисциплина «Английский язык» является общеобразовательной дисциплиной, в процессе изучения которой обучающиеся должны приобрести определенные знания. Наряду с изучением теоретического материала по дисциплине «Английский язык» большое внимание должно быть уделено практическим занятиям. Последние представляют собой весьма важную часть в общем объеме дисциплины.

Данные методические рекомендации составлены на основе рабочей программы «Иностранный язык» по специальности 22.02.06 Сварочное производство в соответствии с обязательной нагрузкой в количестве 168 часов.

В результате освоения учебной дисциплины обучающийся должен уметь:

- общаться (устно и письменно) на иностранном языке на профессиональные и повседневные темы;
- переводить (со словарем) иностранные тексты профессиональной направленности;
- самостоятельно совершенствовать устную и письменную речь, пополнять словарный запас.

В результате освоения учебной дисциплины обучающийся должен знать:

- лексический (1200-1400 лексических единиц) и грамматический минимум, необходимый для чтения и перевода (со словарем) иностранных текстов профессиональной направленности;
- В процессе освоения учебной дисциплины у обучающихся должны быть сформированы общие компетенции:
- OK1 понимать сущность и социальную значимость своей будущей профессии, проявлять к ней устойчивый интерес;
- OK3 принимать решения в стандартных и нестандартных ситуациях и нести за них ответственность;
- OK4 осуществлять поиск и использование информации, необходимой для эффективного выполнения профессиональных задач, профессионального и личностного развития;
- OK6 работать в коллективе и команде, эффективно общаться с коллегами, руководством, потребителями;
- OK7 брать на себя ответственность за работу членов команды (подчиненных), за результат выполнения заданий;
- OK8 самостоятельно определять задачи профессионального и личностного развития, заниматься самообразованием, осознанно планировать повышение квалификации.

Данные методические рекомендации призваны помочь обучающимся в овладении всеми видами речевой деятельности в соответствии с требованиями программы.

Цельюданных методических указаний является углубление языковых знаний, формирование навыков анализа языковых средств, расширение словарного запаса, углубление и расширение знаний и навыков употребления грамматических явлений и формирование у обучающихся речевой, языковой и коммуникативной компетенции, уровень развития которой позволяет использовать иностранный язык, как инструмент межкультурного общения, так и для целей самообразования.

## 2. Общие методические рекомендации по выполнению практических заданий 2.1 Подготовка к выполнению практического задания

Для выполнения практических заданий обучающийся должен руководствоваться следующими положениями:

- 1. Внимательно ознакомиться с описанием соответствующей практической работы и установить, в чем состоит основная цель и задача этой работы;
- 2. По лекционному курсу и соответствующим литературным источникам изучить теоретическую часть, относящуюся к данной работе.

Успешное выполнение практических заданий может быть достигнуто в том случае, если обучаемый представляет себе цель выполнения практической работы, поэтому важным условием является тщательная подготовка к работе.

#### 2.2 Оформление практического задания

Оформление практического задания является важнейшим этапом выполнения. Каждую работу обучающиеся выполняют, руководствуясь следующими положениями:

- 1. На новой странице тетради указать название и порядковый номер практической работы, а также кратко сформулировать цель работы;
- 2. Записать при необходимости план решения заданий;
- 3. Схемы и графики вычертить с помощью карандаша и линейки с соблюдением принятых стандартных условных обозначений;
- 4. После проведения практических занятий обучающиеся должны составить отчет о проделанной работе. Практическая работа должна быть написана разборчивым подчерком и выполнена в тетради с полями для проверки работы преподавателем. Итогом выполнения является устная защита работы, по вопросам, которые прописаны в конце каждой работы.

## 3. Тематическое планирование практических занятий 2 курс

№ п\п	Тема	Кол-
·		ВО
		часов
Раздел 1.	Введение. Вводно-коррективный курс	4
Тема 1.1.	Речевой этикет.	
	Местоимения, глаголыtobe, tohave.Модальные глагола	
Раздел 2.	Страна изучаемого языка	8
Тема 2.1.	Географическое положение Великобритании. PresentSimple.	4
Тема 2.2.	Столица страны изучаемого языка. PastSimple	4
Раздел 3.	Деловая поездка за рубеж	10
Тема 3.1.	В аэропорту. На вокзале.	4
	Страдательный залог времен Simple. Present Simple Passive.	
Тема 3.2.	Оформление документов. Паспортный и таможенный контроль.	4
	Страдательный залог времен Simple.	
Тема 3.3 Вгостинице. Past Simple Passive		2
	Контрольная работа	2
	Итоговое занятие	1
Раздел 4.	Электротехника	47
Тема 4.1	Числа и математические действия. Закон Ома. Электрическая	6
	цепь. Времена группы Continuous	
Тема 4.2.	Последовательные и параллельные цепи. Времена группы Perfect	6
Тема 4.3	Электрические измерительные приборы.	6
	PresentPerfectиPastSimpleвсравнении	
Тема 4.4.	Резисторы. Времена группы Perfect.	6
Тема 4.5	Электрические элементы. Типы вопросов	4
Тема 4.6.	Конденсаторы.Времена группы Perfect.	6
Тема 4.7.	Проводники и изоляторы. Повторение пройденного материала.	6
Тема 4.8.	Виды тока.	6
	Контрольная работа	2
	Дифференцированный зачет	1

# 3 курс

№ п\п	Тема	Кол-
		во
		часов
Раздел 5.	Материаловедение	32
Тема 5.1.	Металлы, применяемые в машиностроении и приборостроении.	
	Passive Voice группы Continuous	
Тема 5.2	Сталь. Методы тепловой обработки стали.	6
Тема 5.3.	Способы обработки металлов. Прокатка. Экструзия. Пассивный	
	залог группы Perfect.	
Тема 5.4.	Волочение и ковка как металлургические процессы. Пассивный	6
	залог группы Perfect.	
Тема 5.5.	Улучшение свойств металлов.	4

	Пассивный залог группы Perfect.	
	Контрольная работа	2
	Итоговое занятие	2
Раздел 6.	Технологические процессы. Оборудование	24
Тема 6.1	Сплавы. Инфинитив	4
Тема 6.2.	Металлы, используемые в сварных конструкциях. Инфинитив	4
Тема 6.3	Станки для обработки металла. Токарный станок. Фрезерный станок. Инфинитив	6
Тема 6.4	Штампы. Инфинитив страдательного залога.	4
	Контрольная работа	2
	Дифференцированный зачет	2

# 4 курс

№ п\п	Тема	Кол-
		ВО
		часов
Раздел 7	Сварочное производство	34
Тема 7.1.	Сварка. Оборудование сварочного производства.	6
	Особенности перевода технических текстов.	
Тема 7.2.	Виды сварки. Газовая сварка. Электродуговая сварка.	6
	Причастие І.	
Тема 7.3	Другие виды сварки.	
	Причастие І.Формы.	
Тема 7.4.	Правила безопасности в сварочном производстве.	
	Причастие II.Словообразование. Суффиксы.	
Тема 7.5.	1 11	
	Употребление форм причастия.	
	Контрольная работа	2
	Итоговое занятие	2
Тема 1.1	Типы автоматизации. Закрепление грамматического материала	4
	Дифференцированный зачет	2

## 4. Содержание практических занятий

## 2 КУРС 3 СЕМЕСТР ВВЕДЕНИЕ. ВВОДНО-КОРРЕКТИВНЫЙ КУРС.

## Практическая работа № 1.

<u>Тема</u>: SpeechEtiquette. (Речевой этикет. Формы знакомства и приветствия.)

<u>Цель</u>: совершенствование лексических навыков

Перечень оборудования для проведения работы: тетрадь, письменные принадлежности,

словарь.

Задание: выписать выражения, составить мини диалоги

Формы приветствий		
How do you do?	Здравствуйте. Ответ тот же самый – How d'you do?	
How d'you do, Mister Brown?	Здравствуйте, господин Браун!	
Hello!	Привет! Здравствуй! (менее официально). Ответ тот же самый – Hello!	
Hello, old chap! Glad to meet you.	Привет, старина! Рад тебя видеть.	
Good morning! Morning!	Доброе утро!	
Morning, sir!	Доброе утро, сэр!	
Good morning, my young friends!	Доброе утро, мои юные друзья!	
Good afternoon!	Добрый день! Примечание: «Good day!» как правило, не употребляется, так как звучит грубовато.	
Good afternoon, Madame!	Добрый день, мадам!	
Good evening! Evening!	Добрый вечер!	
Good evening, ladies and gentlemen!	Добрый вечер, дамы и господа!	
Продолжение приветствий		
You are welcome! Welcome!	Добро пожаловать!	
Welcome, dear guests!	Добро пожаловать, дорогие гости!	
We are pleased to welcome you in our	Мы рады приветствовать вас в нашем	
I am pleased to meet you. Pleased to meet you. I am glad to meet you. Glad to meet you.	Рад встретиться (познакомиться) с вами!	
We are happy to receive you.	Мы счастливы принять вас.	
Glad to see you!	Рад вас видеть!	
Happy to see you!	Счастлив вас видеть!	

I'm also very glad to see you.	Я тоже очень рад вас видеть.
So am I. So I'm.	Я тоже (рад).
Знакомство	,
Let me introduce myself. Allow me to introduce myself. May I introduce myself?	Позвольте представиться.
I'd like to introduce you to I'd like you to meet I want you to meet	Я хотел бы представить вас (кому-то)
Meet my friend, Mr. Smith!	Познакомьтесь с моим другом, мистером Смитом.
Allow me to introduce Mr/Mrs/Miss May I introduce Mr/Mrs/Miss? I'd like to introduce Mr/Mrs/Miss I'd like you to meet Mr/Mrs/Miss	Позвольте представить вам мистера/миссис/мисс
Ответ на представление	
This is a pleasure Mr/Mrs	Очень приятно мистер/миссис

I d like you to meet will wills/wilss	
Ответ на представление	
This is a pleasure, Mr/Mrs	Очень приятно, мистер/миссис
Pleased to meet you.	Очень приятно с вами познакомиться.
Glad to meet you. Nice to meet you.	Рад (рада) с вами познакомиться.
We've met before.	Мы уже знакомы. Мы уже встречались.
We've already been introduced.	Мы уже знакомились.
Could I have seen you somewhere?	Мог ли я вас где-то видеть? (Где-то я вас видел).
I have a feeling we've met before.	По-моему, мы уже встречались.
Your face seems familiar to me.	Ваше лицо кажется мне знакомым.
Примеры знакомств	
Victor Pirogov. I'm a reader at Moscow University. I understand we're working in the	Позвольте представиться. Меня зовут Виктор Пирогов. Я читаю лекции (преподаватель) в Московском университете. По-моему, мы работаем в одной области, и я надеялся, что мы смогли бы обсудить некоторые проблемы.

## Практическая работа № 2.

<u>Тема</u>: SpeechEtiquette. (Речевой этикет. Формы знакомства и приветствия).

Цель: Употребление известной и новой лексики при составлении монологов.

Перечень оборудования для проведения работы: тетрадь, письменные

принадлежности, словарь.

Задание: Представить себя аудитории по плану.

Образец:

- 1. **Greeting.** (Hi/Hello/Good afternoon ..)
- 2. **Spelling the name.** (My name is spelled ...)
- 3. **Place of living.** (I'm from ...)
- 4. **Age.** (I'm...)
- 5. **Occupation.** (I'm a student at ...)

**Your hobby.** (My hobby is ...)

#### Формы обращения на различных уровнях вежливости

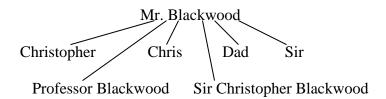
- Русское полное имя состоит из 3-х компонентов- имени, отчества и фамилии(Александр Сергеевич Пушкин).
- Английское полное имя (fullname)состоит из 2-х ,3-х и 4-х компонентов(JackLondon, WilliamMakepeaceThackeray, AgathaMaryClarissaChristie.
- Вежливое обращение к незнакомому человеку начинается с извинения за причиняемые беспокойства.
- «Excuse me» «Извините»

«Pardon me» - «Простите»

«Ibegyourpardon» - «Прошу прощения» (приношу вам свои извинения).

- Обращение к пассажиру в транспорте.
- -Excuse me, is this sit taken?
- -Извините, это место не занято?
- -Excuse me, are you getting of at the next station?
- -Извините, вы не выходите на следующей остановки?

#### Различные формы обращения к одному и тому же лицу



#### Практическая работа № 3.

<u>Тема</u>: SpeechEtiquette. (Речевой этикет. Формы знакомства и приветствия).

Цель: Употребление известной и новой лексики при инсценировки диалогов.

**Перечень оборудования для проведения работы:** тетрадь, письменные принадлежности, словарь.

Задание: прочитать, перевести и инсценировать диалоги

(Встреча двух старых знакомых)

D: Good evening, Jack. I hope you are well?

J: Very well, thank you, and you, David?

D: Much the same as usual, you know. I'm very glad to see you again. How are your wife and children?

J: They are all in the best of health, thanks.

(Неожиданнаявстречабывшихсоучеников)

A: Excuse me for stopping you like this, but aren't you Tom Wallace?

T: Yes, that's my name.

A: Don't you remember me? I'm Alec Bell, we were at school together.

T: My goodness! So we were! This is a great pleasure (They shake hands warmly).

(Встреча друзей, давно не видевших друг друга)

F: Hallo, old boy, where have you suddenly sprung from?

A: Well, I never! If it isn't Fressy Carter! My first day back in London, and I run into you. How is everybody? Are you still living in Wimbledon?

F: Yes, we're still in the same place – we are all fine; and what are you doing, Alan? Have you come over from the States on a business trip?

A: No, we've come back for good.

(Том навещает своего школьного друга)

Tom: Good morning, Mrs Brown, is Denis at home?

Mrs Brown: Yes, he's just come from school. Please, come in.

Dennis: Hallo, Tom. I'm glad to see you, please sit down.

T: Thanks.

D: How have you been lately?

T: Oh, splendid, thanks, and how are you?

D: I've have a slight cold, but it's better now.

T: How's school?

D: Oh, lots of home assignments these days. The exams start in a week

T: Sodomine.

(На званом вечере. Знакомство двух молодых людей, оказавшихся рядом за столом)

J: Perhaps I'd better introduce myself. My name's Ralph Jefferson. I'm studying at London University.

H: My name's Catherine Hogg. I'm a medical student.

(В учреждении. Знакомство сослуживцев без посредника)

S: I should introduce myself – Peter Smith. I'm in the accounts department.

J: Philip Jones. Pleased to meet you, Peter. Or do they call you 'Pete'

S: Usually "Peter". What section are you in?

(Выражениеблагодарностиприятелю)

M: Here's the book I promised you, John.

J: Thanks very much, Martin. I'll be careful with it. When do you want it back?

M: Any time. I'm in no hurry for it.

J: I should've finished it by next week. Thanks again.

(Выражение благодарности друзьям)

P: Many thanks, John, for going to all that trouble for us.

J: Don't thank me, Peter, thank Dorothy. She's the one who did all the running around.

P: Well, thank you, then, Dorothy. It was very good of you and we're very grateful.

D: That's okay, Peter, I didn't mind a bit.

## Практическая работа № 4.

<u>Тема:</u>GreatBritain (Географическое положение страны изучаемого языка). PresentSimple.

<u>Цель</u>: употребление и понимание новых слов, формирование умения у обучающихся самостоятельно работать с текстом

Перечень оборудования для проведения работы: тетрадь, письменные принадлежности, словарь.

Задание №1 Перевести текст прочитать и законспектировать образование и употребление PresentSimple

The Geographical Position Of The United Kingdom Of Great Britain And Northern Ireland

The official name of Great Britain is the United Kingdom of Great Britain and Northern Ireland. It consists of two main islands (Great Britain and Ireland) and over five hundred small islands.

Great Britain and Ireland are separated by the Irish Sea. In the East the country is washed by the North Sea. The northwest and west of Great Britain is surrounded by the Atlantic Ocean. In the South the country is separated from France by the English Channel. The narrowest part of it is the Strait of Dover (32 km wide).

The country is made up of four parts: England, Scotland, Wales and Northern Ireland. The capital of England and the whole country is London. Edinburg is the capital of Scotland. The capital of Wales is Cardiff and the capital of Northern Ireland is Belfast.

England is separated from Scotland by the Cheviot Hills, running from east to west. England has three hill regions in the north, west and southwest and two lowlands regions in the south east and east. The northern hill region includes the Pennine Range. England's highest point is Scafell Pike in the Cumbrian Mountains of the Lake District.

Scotland is a mountainous country with three chains: the North West Highlands, the Grampians whose Ben Nevis is the highest peak in the UK and the Southern Uplands.

Most of Wales is occupied by the Cambrian Mountains and much of the land is suitable only for pasture.

The UK is abundant in rivers, they are deep but short. The most important river is the Thames; London stands on it. The longest river in England is Severn with Avon, its tributary.

The UK is rich in lakes; they are especially beautiful in Scotland and in Northern Ireland.

Many Scottish valleys between the hills are filled with lakes, called lochs. The best known are Loch Lomond and Loch Ness where a large Monster named Lassie lives as some people think.

Forests cover less than one-tenth of the UK. Historically, the most famous forest is Sherwood Forest, which is north of London. It's known all over the world as the home of Robin Hood.

The climate of the British Isles is generally mild and humid. The weather is very changeable. Great Britain is known for its thick fog.

официальный

#### Vocabulary:

official

1.

-	• •	CITICIO	Фидишини
2	2.	To consist of	состоять из
3	3.	Island	остров
4	4.	to be separated by	отделяться
4	5.	to be washed by	омываться
6	5.	to be surrounded by	быть окружённым
7	7.	the English Channel	Ла-Манш
8	3.	to be made up of	состоять из
9	€.	mountainous	горный
]	10.	range	горный хребет
]	11.	chain	горная цепь
1	12.	to be occupied by	быть занятым
1	13.	pasture	пастбище
1	14.	toinclude	включать в себя что-либо
]	15.	to be abundant in=to be rich in	быть богатым чем-либо
1	16.	tributary	приток реки
1	17.	valley	долина
]	18.	famous	знаменитый
1	19.	tobeknown	быть известным
2	20.	allovertheworld	по всему миру (во всём мире)
2	21.	climate	климат

22. humid

влажный, сырой

23. fog

туман

Географические названия

The United Kingdom of Great Britain and Northern Ireland

The Irish Sea

The North Sea

The Atlantic Ocean

France

The Strait of Dover

England

Scotland

Wales

Northern Ireland

London

Edinburg

Cardiff

Belfast

The Cheviot Hills

Pennine Range

Scafell Pike

The Cumbrian Mountians

The North West Highlands

The Grampians

Ben Nevis

The Southern Uplands

The Thames

TheSevern

Задание № 2 Прочитать и законспектировать образование и употребление PresentSimple **Present Simple - простое настоящее время** 

Время **Present Simple** обозначает действие в настоящем в широком смысле слова. Оно употребляется для обозначения обычных, регулярно повторяющихся или постоянных действий, например, когда мы говорим о чьих-либо привычках, режиме дня, расписании и т. д., т. е. **Present Simple** обозначает действия, которые происходят в настоящее время, но не привязаны именно к моменту речи.

## Образование Present Simple

Утвердительные предложения:

I play	We play
You play	You play
He / she / it plays	They play

#### Вопросительные предложения:

Do I play?	Do we play?
Do you play?	Do you play?
Does he / she / it play?	Do they play?

Отрицательные предложения:

I do not play	We do not play
You do not play	You do not play
He / she / it does not play	They do not play

<u>Английский глагол</u> во временной форме **Present Simple** почти всегда совпадает со своей начальной, то есть указанной в словаре, формой без частицы **to**. Лишь в 3-ем лице единственного числа к ней нужно прибавить окончание **-s**:

I work – he works

Если глагол оканчивается на **-s**, **-ss**, **-sh**, **-ch**, **-x**, **-o**, то к нему прибавляется окончание **-es**:

I wish − he wishes

К глаголам на -y с предшествующей согласной тоже прибавляется окончание -es, а -y заменяется на -i-:

I try - he tries

Если же глагол оканчивается на **-у** с предшествующей гласной, то **-у** сохраняется и добавляется только окончание **-s**:

I play – he plays

Для того, чтобы построить **вопросительное предложение**, перед подлежащим нужно поставить вспомогательный глагол. Время **Present Simple** используется без него, поэтому в этом случае добавляется вспомогательный глагол **do** (или **does** в 3 л. ед. ч.):

**Do** you **like** rock?

Тебенравитсярок?

Does he speak English?

Он говорит по-английски?

В **отрицательных предложениях** тоже используется вспомогательный глагол **do/does**, но не перед подлежащим, а перед глаголом. После него прибавляется отрицательная частица **not**. **Do/does** и **not**часто сокращаются

до don't и doesn't соответственно:

I do not like black coffee.

Я не люблю черный кофе.

She **doesn't** smoke.

Она не курит.

## Случаи употребления Present Simple

• Регулярные, повторяющиеся действия:

I often **go** to the park.

Я часто хожу в парк.

They **play** tennis every weekend.

Каждые выходные они играют в теннис.

• Действие в настоящем в широком смысле слова (не обязательно в момент речи):

Jim studies French.

Джимизучаетфранцузский.

We live in Boston.

МыживемвБостоне.

• Общеизвестные факты:

The Earth is round.

Земля – круглая.

The Volga is the longest river in Europe.

Волга – самаядлиннаярекав Европе.

• Перечисление последовательности действий:

We **analyse** what our clients may need, **develop** a new product, **produce** a sample, **improve** it and **sell** it.

Мы анализируем, что может понадобиться нашим клиентам, разрабатываем новый продукт, изготавливаем образец, дорабатываем его и продаем.

• Некоторые случаи указания на будущее время (если имеется в виду некое расписание или план действий, а также в придаточных предложениях времени и условия):

The airplane **takes off** at 2.30 p.m.

Самолетвзлетаетв 14:30.

When you **see** a big green house, turn left.

Когда вы увидите большой зеленый дом, поверните налево.

#### Практическая работа № 5.

<u>Тема:</u>GreatBritain (Географическое положение страны изучаемого языка). PresentSimple.

<u>Цель</u>: совершенствование лексических и грамматических навыков

Перечень оборудования для проведения работы: тетрадь, письменные принадлежности, словарь.

Задание №1 выполнить тест

#### Тест

#### «Страноведение. Великобритания»

#### I. General information

- 1) What is the official name of Britain?
  - a) The United Kingdom of Great Britain and Northern Ireland
  - b) United Kingdom of Great Britain and Northern Ireland
  - c) The United Kingdom of the Great Britain and the Northern Ireland
- 2) What parts does the United Kingdom consist of?
  - a) England, Scotland, Wales
  - b) England, Scotland, Wales, Ireland
  - c) England, Scotland, Wales, Northern Ireland
- 3) What is the capital of Scotland?
  - a) Belfast **b) Edinbourgh** c) Cardiff
- 4) What is the symbol of England?
  - a) the thistle b) the daffodil c) the red rose
- 5) What is the oldest part of London?
  - a) the East End **b) the City** c) the West End
- 6) What is the official part of London?
  - a) Westminster b) the East End c) the West End
- 7) What part of London is the symbol of wealth and luxury?
  - a) the City **b) the West End** c) the East End
- 8) What is the mostly working-class part of London?
  - a) the West End b) the East End c) Westminster
- 9) What is the national instrument of Scots?
  - a) the guitar b) the violin c) the bagpipe
- 10) What is Wales called?
  - a) A "Land of Dance" b) A "Land of Music" c) A "Land of Songs"

#### Geographical position

- 1) Where do the British Isles lie?
  - a) to the East of the continent of Europe
  - b) to the West of the continent of Europe
  - c) to the South of the continent of Europe
- 2) What channel lies between Britain and the continent of Europe?
  - a) Suez Canal
  - b) British Channel

- c) English Channel
- 3) What is the highest mountain peak in Britain
  - a) Snowdon b)**Ben Nevis** c) the Grampians
- 4) What mountains are there in England?
  - a) the Grampians b) the Cambrian Mountains c) the Pennine Chain
- 5) What is the longest river in Britain
  - a) *The Severn* b) the Thames c) the Ob
- 6) What river is the British capital situated on
  - a) The Severn **b) the Thames** c) the Ob
- 7) What are the largest islands of the British Isles?
  - a) England and Wales b) Ireland and Britain c) Great Britain and Ireland
- 8) What is the eastern coast of the British Isles washed by?
  - a) by the North Sea b) by the Irish Sea c) by the Atlantic Ocean
- 9) What is the western coast of the British Isles washed by?
  - a) by the North Sea b) by the Irish Sea c) by the Atlantic Ocean
- 10) Why is it never too hot or too cold in Britain?- Because of...
  - a) the sea b) mountains ) forests

#### II. Political System

- 1) What kind of state is Great Britain?
  - a) a republic b) a parliamentary monarchy c) an absolute monarchy
- 2) What is the head of the state of Great Britain?
  - a) the Parliament b) the Queen c) the Prime Minister
- 3) When did the Princess Elizabeth come to the throne?
  - a) in 1932 b) in 1942 c) in 1952
- 4) What are the Houses of British Parliament?
  - a) The House of Lords and the House of Commons
  - b) The House of Lords and the House of Commons and Senate
  - c) Senate and the House of Lords
- 5) How many members are there in the House of Lords?
  - a) more than 3,000 members
  - b) more than 2,000 members
  - c) more than 1,000 members
- 6) Who heads the government of Great Britain?
  - a) The Queen b) the Prime Minister c) the President
- 7) How is the Speaker elected?
  - a) by all the members of the House of Commons
  - b) by all the members of the House of Lords
  - c) by the Queen
- 8) When do members of each House meet in session?
  - a) at the e of May b) at the beginning of September
  - c) at the end of October
- 9) How long do sessions last?
  - a) for about 100 days a year
  - b) for about 160 days a year
  - c) for about 250 days a year
- 10) Who is the Prime minister Of great Britain nowadays?
  - a) Tony Blair b) Margaret Thatcher c) David Cameron

Задание №2 Раскройте скобки, употребляя глаголы в Present Simple.

I. (USUALLY) 1. My working day (to begin) at seven o'clock. I (to get) up, (to switch) on the radio and (to do) my morning exercises. It (to take) me fifteen minutes. At half

past seven we (to have) breakfast. My father and I (to leave) home at eight o'clock. He (to take) a bus to his factory. My mother (to be) a doctor, she (to leave) home at nine o'clock. In the evening we (to gather) in the living room. We (to watch) TV and (to talk). 2. My sister (to get) up at eight o'clock. 3. She (to be) a schoolgirl. She (to go) to school in the afternoon. 4. Jane (to be) fond of sports. She (to do) her morning exercises every day. 5. For breakfast she (to have) two eggs, a sandwich and a cup of tea. 6. After breakfast she (to go) to school. 7. It (to take) him two hours to do his homework. 8. She (to speak) French well.

II. Раскройтескобки, употребляяглаголыв Present Simple.

(USUALLY) 1. Andrea Schatzmann, an exchange student from Switzerland, (to live) with the Connor family in San Francisco. She (to get) up at 7 am and (to take) a shower. She normally (not to have) breakfast. At half past seven she (to catch) the bus. Her first class (to start) at a quarter past eight. She always (to have) lunch at 12 o'clock in the cafeteria. The cafeteria food (to be) OK and it (to be) cheap too. Her afternoon classes (to be) from 1.15 till 3.00 pm, so she (to be) at school all day. She usually (to have) dinner with the Connors at about 8.00. On Saturdays she (to have) lunch at the restaurant. Once a week, usually on Sunday mornings, she (to go) swimming. A few friends usually (to go) along, too. One of her friends has got a car, so he (to pick) them up and then he (to drive) them home. After swimming they often (to go) out for a pizza. On Saturday evenings she sometimes (to go) out with friends to a party or maybe to a concert. Sometimes she (to invite) friends to her house and they (to listen) to music and (to talk). Mr. and Mrs. Connor often (to take) them for a camping weekend to the seaside or to the mountains. From time to time she (to call) her family in Switzerland. They never (to talk) for very long because it (to be) expensive. She usually (to call) on Sundays because it (to be) cheaper then. 2. What time Andrea usually (to get) up? 3. When she (to catch) the bus? 4. She (to take) a shower in the morning? 5. She (to go) home for lunch? 6. When she (to go) swimming? 7. How she (to get) to the pool? 8. What she (to do) on Saturday evenings?

#### Практическаяработа № 6

<u>Тема:</u> London.(Лондон). PastSimple.

<u>Цель</u>: употребление и понимание новых слов, формирование умения у обучающихся самостоятельно работать с текстом.

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1 перевеститекст.

#### London.

London is the capital of Great Britain. More than six million people live in London. London lies on both banks of the river Thames. It is the largest city in Europe and one of the largest cities in the world.

London is not only the capital of the country, it is also a very big port, one of the greatest commercial centres in the world, a university city, and the seat of the government of Great Britain.

The most important parts of London are: the City, the West End, the East End and Westminster.

The City is the busiest part of London. People do business there. Only about ten thousand people live there.

The West End is the richest part of London. You can find the best shops, theatres, cinemas, museums, fine parks and squares there. Its houses and streets are the finest in the capital. The rich people live in the West End.

The East End is the part of London where working people live. It is not so rich as other parts of London and there are fewer parks there.

Westminster Abbey is one of the most beautiful buildings in London. There are many monuments of great men there. Many great English scientists lie buried there; among them Newton, Darwin and Watt. In the Poets' Corner some of the famous English poets and writers are buried.

#### Контрольные вопросы:

- 1. На сколько частей делиться Лондон?
- 2. Чем знамениты эти части?

Задание № 2 прочитать, выполнить конспект

#### Past Simple - простое прошедшее время

Время **Past Simple** используется для обозначения действия, которое произошло в определенное время в прошлом и время совершения которого уже истекло. Для уточнения момента совершения действия в прошлом при использовании времени **Past Simple** обычно используются такие слова, как five days ago(пять дней назад), last year (в

# прошлом году), yesterday (вчера), in 1980 (в 1980 году) и т.п.

#### Образование Past Simple

Утвердительные предложения:

I played	We played
You played	You played
He / she / it played	They played

#### Вопросительные предложения:

Did I play?	Did we play?
Did you play?	Did you play?
Did he / she / it play?	Did they play?

#### Отрицательные предложения:

1 ' 1 ''	
I did not play	We did not play
You did not play	You did not play
He / she / it did not play	They did not play

Для того, чтобы поставить <u>английский глагол</u> во время **Past Simple**, нужно использовать его «вторую форму». Для большинства глаголов она образуется прибавлением окончания **-ed**:

examine – examined, enjoy – enjoyed, close – closed

Однако есть также достаточно большая группа неправильных английских глаголов, которые образуют форму прошедшего времени не по общим правилам, для них форму прошедшего времени нужно просто запомнить.

We saw your dog two blocks from here.

Мы видели вашу собаку в двух кварталах отсюда.

В вопросительном предложении перед подлежащим нужно использовать вспомогательный глагол **do** в прошедшем времени – **did**, а после подлежащего поставить основной, значимый глагол в начальной форме:

Did you wash your hands?

Тыпомылруки?

Did they sign the contract?

Они подписали контракт?

В отрицательных предложениях перед глаголом нужно поставить вспомогательный глагол did и отрицательную частицу not:

We did not find our car.

Мы не нашли свою машину.

I did not understand this question.

Я не понял этот вопрос.

Случаи употребления Past Simple:

Указание на простое действие в прошлом:

I saw Jeremy in the bank.

Я видел Джереми в банке.

Регулярные, повторяющиеся действия в прошлом:

The old man often visited me.

Старик часто меня навещал.

I noticed this charming shop girl each time I went to buy something.

Я замечал эту очаровательную продавщицу каждый раз, когда шел за покупками.

Перечисление последовательности действий в прошлом:

I heard a strange sound, looked back, and saw a huge cat sitting on the table.

Я услышал странный звук, обернулся и увидел здоровенного кота, сидящего на столе

#### Практическая работа № 7

Тема:London. (Лондон). PastSimple.

Цель: познакомиться с основными достопримечательностями Лондона

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1 Прочитать, перевести, рассказать о наиболее понравившейся достопримечательности

## **Buckingham Palace**



Buckingham Palace is the official residence of Queen Elizabeth. It is located near Green Park. When the Queen is in the residence, the Royal Standard flies over Buckingham Palace.

There are 775 rooms where members of the Royal family and their servants live. There are also rooms for guests. There are offices, on-site post and even swimming pool in the palace.

Throughout the year right in front of Buckingham Palace the ceremony of the Changing of the Guard takes place, attracting a lot of tourists.

#### **The Tower of London**



The Tower of London is one of the main London's places of interest. It is located on the north bank of the River Thames and is one of the oldest buildings.

At different times the Tower was used as a royal residence, fortress, prison, mint and, even, zoo. Today the Tower of London is the place where the Crown Jewels are kept.

Every day its doors are open for tourists. A few black ravens live on its territory. The walls of the Tower are still guarded by palace guard in historical outfits.

#### Trafalgar Square



Trafalgar Square is located in the centre of London. It was named after the victory in the Battle of Trafalgar. In the centre of the square there is Nelson's column with four lions at the bottom of it.

There are beautiful fountains in the square. Some famous buildings, such as the National Gallery, St. Martin-in-the-fields and Admiralty Arch, are also located there.

The square is the place where a lot of different events and celebrations are held.

**Hyde Park** 



Hyde Park is a big park located in central London. Today it is a popular place for meetings, celebrations and festivals.

The park is known for its artificial lake Serpentine where it is allowed to swim. There is a gallery, a museum and several sculptures on the territory of Hyde Park.

During the Olympic Games 2012 Hyde Park was the place where some competitions were held.

St. Paul's Cathedral



St. Paul's Cathedral is located at the highest point of the City of London, Ludgate Hill. The Cathedral was seriously damaged during the Great Fire of London. It was redesigned by Christopher Wren, a famous architect.

There are three Galleries and 17 bells in the Cathedral. The largest bell is called Great Paul. The funerals of a lot of notable figures have occured at the cathedral.

The British Museum



The British Museum is one of the largest museums in the world. It was founded in the XVIII century and in the XIX century it was already divided into different departments.

The museum houses large collections of artefacts representing different cultures of the world, both ancient and modern.

So, there is the Department of coins and medals, the Department of prints and drawings, the Department of Ancient Egypt and Sudan and many others.

#### The London Eye



The London Eye is one the largest Ferris wheels in Europe. Unforgettable views of the city open from its height of 135 metres.

The wheel consists of 32 air-conditioned capsules which symbolize 32 boroughs of London. The London Eye rotates with the speed of 0,9 km/hour. The ride takes 30 minutes. The wheel looks like a big bicycle wheel.

#### **Oxford Street**



Oxford Street is a lively shopping street located in the centre of London. There are hundreds of shops in this street. The street is 1,9 km long. It is one of the busiest commercial streets in Europe.

During Christmas time Oxford Street is decorated with lots of lights and garlands making it one of the most popular destinations for tourists.

#### Westminster



Westminster is a historical area of central London with several famous landmarks.

Westminster Abbey, a Gothic church, is located there. The church is a traditional place of coronation and burial site for all British kings and queens.

Not far from the church there is the Palace of Westminster which is the meeting place of the House of Commons and the House of Lords.

Big Ben



Big Ben is the name of the Great bell of the clock at the Palace of Westminster. Nowadays this name mostly refers to the clock and the clock tower.

In 2012 the tower was renamed to celebrate the Diamond Jubilee of the Queen and is now officially known as the Elizabeth Tower.

The height of the tower is 96,3 metres. Big Ben is one of the most prominent symbols of the United Kingdom.

Задание № 2. Раскройте скобки, употребляя глаголы в PastSimple.

1. What your neighbours (to do) yesterday? 2. Mr. Smith (to fix) his car yesterday morning. 3. His wife (to water) plants in the garden. 4. Their children (to clean) the yard and then they (to play) basketball. 5. In the evening their boys (to listen) to loud music and (to watch) TV. 6. Their little girl (to cry) a little and then (to smile). 7. Her brothers (to shout) at her. 8. Mrs. Smith (to work) in the kitchen. 9. She (to bake) a delicious apple pie. 10. She (to cook) a good dinner. 11. She (to wash) the dishes and (to look) very tired. 12. The children (to brush) their teeth, (to yawn) a little and (to go) to bed. 13. Their mother (to change) her clothes and (to brush) her hair. Then she (to talk) on the phone. 14. Her husband (to smoke) a cigarette and (to talk) to his wife. 15. They (to wait) for the bus. The bus (to arrive) at 9 o'clock. 16. They (to visit) their friends. 17. They (to dance) a lot there. 18. Mr. and Mrs. Smith (to rest) very well last night. They real ly (to have) a wonderful time at their friends.

Упражнение. Перепишите следующий текст в прошедшем времени.

On Monday we have five lessons. The first lesson is Russian. At this lesson we write a dictation and do some exercises. Nick goes to the blackboard. He answers well and gets a "five". Pete does not get a "five" because he does not know his lesson. After the second lesson I go to the canteen. I eat a sandwich and drink a cup of tea. I do not drink milk. After school I do not go home at once. I go to the library and change the book. Then I go home.

## Практическая работа № 8

Тема: Britain's Economy (Экономика Британии). Future Simple.

<u>Цель</u>: развитие лексических навыков, совершенствование грамматических навыков <u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1перевести текст

#### **Britain'seconomy**

Vocabulary:
tobebasedon — быть основанным на
privateenterprise — частное предприятие
employment — занятость, наем
to be engaged — бытьнанятым
to contribute — способствовать
exploiting - разработка
self-sufficient — самодостаточный
to remain — оставаться
tomakeup - составлять
toexpect — надеяться, рассчитывать

Britain's economy is based primarily on private enterprise, which accounts for 75 per cent of output and nearly 70 per cent of employment.

Just 2 per cent of the British workforce is engaged in agriculture, a lower proportion than in any other leading industrialized country. Services contribute a growing proportion of

production, 65 per cent, while manufacturing accounts for 21 per cent.

By successfully exploiting oil and natural gas from the North Sea, Britain has become self-sufficient in energy and expects to remain so for some years. Exports mainly to other EC countries are equivalent to over half of domestic oil production.

International trade plays a vital role in Britain's economy. Exports of goods and services make up around 25 per cent of national output.

Задание № 2 Прочитать, сделать конспект

### Future Simple - простое будущее время

Вы можете пройти интерактивный тест по этой теме

Время **Future Simple** ссылается на действие, которое совершится в неопределенном или отдаленном будущем. Простое будущее время обычно используется с обстоятельствами: tomorrow (завтра), next year(в следующем году), in five years (через пять лет), in 2035 (в 2035 году) и т.п.

#### Образование Future Simple

Утвердительные предложения:

	1 ' '
I will play	We will play
You will play	You will play
He / she / it will play	They will play

#### Вопросительные предложения:

Will I play?	Will we play?
Will you play?	Will you play?
Will he / she / it play?	Will they play?

#### Отрицательные предложения:

I will not play	We will not play
You will not play	You will not play
He / she / it will not play	They will not play

Для того, чтобы поставить глагол во временную форму **Future Simple**, нужно использовать его начальную форму и вспомогательный глагол **shall** (для первого лица) или **will** (второе и третье лицо). В устной речи **shall** и **will** чаще всего сокращаются до формы 'll, которая может использоваться во всех лицах.

Примечание:

В современном английском, особенно в устной речи, **will** стал использоваться и в первом лице:

I will go to Shanghai next summer.

Следующим летом я поеду в Шанхай.

В вопросительном предложении вспомогательные глаголы shall или will ставятся перед подлежащим. Значимый глагол остается после подлежащего в своей начальной форме:

**Shall** we **go** to the beach?

Мыпойдемнапляж?

Will your boss agree with our conditions?

Ваш босс согласится с нашими условиями?

В **отрицательных предложениях** за вспомогательным глаголом следует отрицательная частица **not**. Вместе они могут быть сокращены до формы **shan't** (чаще в брит. английском) или **won't**:

I shall not (shan't) let you down.

Яваснеподведу.

Fred **will not** (**won't**) agree to help us.

Фреднесогласитсянампомочь.

## Случаиупотребления Future Simple:

• Указание на простое действие в будущем:

We'll return in 4 hours.

Мывернемсячерез 4 часа.

It will not be easy to convince him.

Егобудетнелегкоубедить.

• Регулярные, повторяющиеся действия в будущем:

I promise I'll visit you every day.

Обещаю, что буду навещать тебя каждый день.

• При перечислении последовательности действий в будущем:

I cannot wait for my vacation. I **shall go** to the river, **swim** and **fish** every day.

Не могу дождаться своего отпуска. Буду каждый день ходить к речке, купаться и ловить рыбу

#### Практическая работа № 9

Тема:Britain's Economy (Экономика Британии). Future Simple.

Цель: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1 Прочитать текст Britain's Economy (см. практическую работу № 8), выполнить упражнения

- 1. Explain the translation of the following word-combinations/
  - 1) ... is based on
  - 2) ... is engaged
  - 3) leading industrialized countries
  - 4) a growing proportion of production
  - 5) while manufacturing accounts
  - 6) by exploiting oil and natural gas
- 2. Complete the sentences.
  - **1.** Britain's economy is based...
  - 2. Services contribute...
  - **3.** Manufacturing accounts...
  - **4.** By ... from the North Sea, Britain has become self-sufficient in energy.
  - 5. ... plays a vital role in Britain's economy.

Задание № 2 Раскройте скобки, употребляя глаголы в Future Simple.

1. I want to get a medical checkup. I (to go) to my doctor tomorrow. 2. He (to give) me a complete examination. 3. The nurse (to lead) me into one of the examination rooms. 4. I (to take) off my clothes and (to put) on a hospital gown. 5. Dr. Setton (to come) in, (to shake) my hand, and (to say) "hello". 6. I (to stand) on his scale so he can measure my height and my weight. 7. He (to take) my pulse. 8. Then he (to take) my blood pressure. 9. After he takes my blood pressure, he (to take) some blood for a blood analysis. 10. He (to examine) my eyes, ears, nose, and throat. 11. He (to listen) to my heart with a stethoscope. 12. Then he (to take) a chest X-ray and (to do) a cardiogram (ECG or EKG). 13. After the checkup I (to go) home and (to wait) for

Dr. Set-ton's call. 14. Dr. Setton (to call) me tomorrow afternoon and (to say) to me: "Stop worring! Your blood analysis is excellent." He is a very good doctor.

Сравнитеупотребление Present Simple, Past Simple и Future Simple

Упражнение. Раскройтескобки, употребляяглаголыв Present Simple, Past Simple или Future Simple.

1. I (to go) to bed at ten o'clock every day. 2.1 (to go) to bed at ten o'clock yesterday. 3. I (to go) to bed at ten o'clock tomorrow. 4. I (not to go) to the cinema every day. 5. I (not to go) to the cinema yesterday. 6. I (not to go) to the cinema tomorrow. 7. You (to watch) TV every day? 8. You (to watch) TV yesterday? 9. You (to watch) TV tomorrow? 10. When you (to leave) home for school every day? 11. When you (to leave) home for school yesterday? 12. When you (to leave) home for school tomorrow? 13. My brother (to go) to work every day. He (to leave) home at a quarter past eight. As the office he (to work) at (to be) near our house, he (to walk) there. He (not to take) a bus. Yesterday he (not to go) to work. Yesterday he (to get) up at nine o'clock. 14. You (to have) a PT lesson yesterday? — No, I ... . 15. What you (to buy) at the shop yesterday? — I (to buy) a book. 16. Yesterday my father (not to read) newspapers because he (to be) very busy. He (to read) newspapers tomorrow.

#### Практическаяработа № 10.

<u>Тема:</u> AT A RAILWAY STATION / HABOK3AJE. PresentSimplePassive

<u>Цель</u>: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание І

1. Прочитайте слова

booking-office – касса

compartment – купе

dining-car – вагон-ресторан

fast train – скорыйпоезд

left-luggage office – камерахранения

localtrain- местныйпоезд

longdistancetrain- поезд дальнего следования

porter- носильщик

railwaystation— вокзал

runonschedule- следовать по расписанию

throughtrain- прямой поезд

HowcanIgettoplatformNo.1? – Как мне пройти на платформу номер один?

WhatplatformdoestrainNo.43leavefrom? – С какой платформы отправляется поезд 43?

Where is the booking office, please? –  $\Gamma$ денаходитсякасса?

Where is the left-luggage office, please? – Гденаходитсякамерахранения?

2. Прочитайтедиалоги.

2.1

A Hello. Can I help you?

B Yes. How much is a ticket to Glasgow?

A Single or return?

B Single, please.

A It's £24. And how much is a seat reservation?

B Seat reservations are free.

A And what time is the first train this evening?

B There is a train at 17.42, but that's a local train and it stops at every station.

A OK. What platform does the train leave?

B It departs from platform 6.

A Thank you very much.

2.2

- A Which train do I take to Madrid?
- B 8.20. Would you like a single or a return?
- A A single, please.
- B Need I change trains?
- A No, there is no need to change. It's a through train.
- B Right. When does it arrive in Madrid?
- A The train arrives at 12.00 according to the timetable.
- B OK. Is there a dining car on the train?
- A Yes, sure.
- 2.3
- A I'm sorry. How can I get to No.4 platform?
- B It's the second turn on your right.
- A And where is the luggage-office please?
- B It is on the ground floor. You should take the lift downstairs and go through the automatic doors.
- A Thank you for your help.
- 3.Заполните пропуски следующими фразами.
- Seatreservationsarefree.
- Can I help you?
- It's due in at 4.55.
- Is there a fast train?
- Sorry, we are all booked up for today.
- What time does it get in?
- It departs from platform 7.
- Well, the fare is £159.
- 3.1
- B ----?
- A Yes. I'd like a ticket for train No.617 to Manchester.
- B -----.
- A So, which train would get me to Manchester by 06.00?
- B Let me see... Yes, it's train No.270.
- A What time does it reach Manchester?
- B -----
- A OK. That suits me.
- 3.2
- A How much are three first class singles to York, please.
- B -----.
- A And how much is a seat reservation?
- B -----.
- A Which train do I get to York?
- B There's an express at 2.55 and that arrives in York at 5 sharp.
- A Oh, OK. What platform does the train leave from?
- B -----
- A Thank you very much.
- 3.3
- A What time is the first train to Budapest, please?
- B There's a train at 11.45, but that's a local train so it stops at every station.
- A ----?
- B It gets there at 17.00.
- A -----?
- B Yes, it arrives at 15.15.
- A Oh, I think that's better.



6. Переведите диалоги на английский язык.

6.1

А Доброе утро. Чем могу помочь?

В Когда ближайший поезд до Линкольна сегодня вечером?

А В 9.25 с платформы 4.

В Когда поезд прибудет в Линкольн?

А Поезд прибывает ровно в 12.00 по расписанию.

В В поезде есть вагон-ресторан?

А К сожалению, в местных поездах нет вагона-ресторана. Поторопитесь. Поезд отходит через 25 минут.

6.2

В Билет до Стокгольма, пожалуйста.

А Только до Стокгольма или туда и обратно?

В Только в один конец.

А Билет стоит 32 доллара.

В Мне нужно пересаживаться?

А Нет, это прямой поезд.

В Когда мы прибудем на место?

А Поезд прибывает в 6.35.

6.3.

В Извините, где находится касса?

А Прямо, в главном зале вокзала.

В А здесь есть камера хранения?

А Да, на первом этаже, первый поворот налево.

#### Задание II

Раскройте скобки, употребляя глаголы в PresentSimplePassive.

(USUALLY) 1. The postbox (to empty) every day. 2. The stamps (to postmark) at the post office. 3. The letters (to sort) into the different towns. 4. The mail (to load) into the train. 5. The mailbags (to unload) after their journey. 6. The bags (to take) to the post office. 7. The letters (to sort) into the different streets. 8. The letters (to deliver).

#### Практическая работа № 11.

Тема: Atthe Airport (В аэропорту). Present Simple Passive

<u> Цель</u>: совершенствование лексических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: прочитать, составить мини диалоги по каждому пункту

#### Go through security/ Проходим через службу безопасности

Прежде всего, нужно пройти процедуру предполетного досмотра, а также предъявить для досмотра багаж. При прохождении контроля службы безопасности (security check) необходимо предъявить билет, посадочный талон (boarding pass) и документ, удостоверяющий личность пассажира (passport).

Вы должны поставить свой багаж на аппарат, который проверяет его рентгеновскими лучами (**put your hand luggage through** the x-ray machine). Запрещается перевозить в салоне самолета ножи, аэрозоли, жидкости более 100 мл. Все эти предметы разрешается положить в багаж.

#### Фразы:

Put your laptop out of your bag Достаньте ноутбук из сумки

Take out your cell-phone and place it on the tray	Достаньте сотовый телефон и положите его в лоток
Take off any metallic items and put them on this tray	Снимите все металлические предметы и положите их в лоток
You cannot take this much liquid on the plane	Вы не можете взять столько жидкости в самолет



#### Chek -in /Регистрация

Регистрация на международные рейсы (international flights) начинается за два часа до вылета (two hours before departure). Пассажиры подходят к стойке регистрации (check-in counter), предоставляют паспорт и взвешивают чемодан (weigh a suitcase or a bag), сдают его в багаж (check in), оставляя при себе ручную кладь. Небольшая сумка, которую вы возьмете на борт самолета называется

ручной кладью (carry-on luggage or carry-on), На всю ручную кладь и провоз жидкостей и беспошлинных товаров распространяются особые правила. Каждый пассажир получает посадочный талон (boarding pass), который необходимо предъявить при посадке (boarding), проходит паспортный контроль (go through the passport control) и сканирование ручной клади (carry-on scan).

NB: На стойке регистрации пассажиров всегда есть багажные бирки (**luggage tags**), в которые пассажир может внести адрес проживания в пункте назначения и закрепить на багаже, хотя это необязательно. Пассажиру обязательно нужно сохранить номерные бирки, которые обычно временно наклеивают на посадочный талон или в паспорт.

#### Вопросы, которые могут задать на стойке регистрации:

Can I see your ticket and passport, please?	Могу я посмотреть ваш паспорт и билет?
How many bags are you checking?	Сколько сумок вы регистрируете?
Would you like a window or an aisle seat?	Вы хотите место у окна или в проходе?
<b>Do you have a carry-on bag?</b> (a bag or purse to take on the airplane)	У вас есть ручная кладь?
The charge for the overweight luggage is 6\$ per kilo	Сбор за сверхнормативный багаж 6 долларов за килограмм
Your suitcase is 5 kilos overweight.	Перевес вашей сумки составляет 5 кг
You may keep valuables, medicines, cameras or delicate items in your hand luggage.	Вы можете оставить в ручной клади драгоценности, лекарства, фотоаппарат или хрупкие предметы

Вопросы, которые вы можете задать на регистрации

What's the charge tor excess luggage?	Какой сбор берется за сверхнормативный багаж?
Can I check my luggage all the way through?	Можно ли зарегистрировать багаж до конечного пункта назначения?



Where's the check-in counter for American Airlines?	Где находится стойка регистрации на Американские авиалинии?
Is there a shuttle bus that goes between terminals?	Ездит ли автобус между терминалами?
How much time before my flight should I check in?	За сколько времени начнется регистрация на рейс?
Where do I collect my baggage?	Где я должен получить мой багаж?
Is my flight on time?	Мой рейс вылетает вовремя?
Where can I find a taxi?	Где я могу найти такси?
When is the next flight to Washington?	Когда следующий рейс в Вашингтон?
How long does it take to make a connection?	Сколько нужно времени на пересадку?
I'm going to New York through Paris.	Я еду в Нью-Йорк через Париж
I would check that bag in. It is too big to carry.	Я положу эту сумку в багаж, она слишком большая, чтобы ее нести с собой
This is my carry-on	Это моя ручная кладь
I'd like a window seat so I can see the takeoff and landing.	Я бы хотел место у окна, чтобы видеть взлёт и посадку

# I would like to reserve a seat in the non-smoking section

# Я хотел бы забронировать место в салоне для некурящих

#### Departure lounge/ зал ожидания ( перед выходом на посадку)



Зал ожидания

Когда вы прошли службу безопасности и зарегистрировали свой багаж (check your baggage) необходимо пройти в зал ожидания (departure lounge). Ожидайте там до момента посадки (time of boarding). Чтобы скоротать время ожидания, вы можете посетить

магазины беспошлинной торговли (duty-free), которые находятся в международных аэропортах (international airport). Shop, eat, relax and enjoy — Пройтись по магазинам, пообедать в кафе, отдохнуть и получить от всего этого удовольствие именно в этой фразе содержится все то, чем можно заняться в ожидании вылета. В последнюю минутку купить подарок, сувенир на память или немного перекусить (to snack). Многое можно купить в аэропорту.

## Departure gate / Выход на посадку



Время начала посадки указано как на Вашем посадочном талоне, так и на информационных экранах в аэропорту (departure board). Номер выхода (number of gate) также указан(pointed). Поскольку номер выхода на посадку может измениться, мы рекомендуем внимательно следить за голосовыми объявлениями (Airport announcements) и данными на информационных экранах в аэропорту. При объявлении посадки необходимо пройти к

соответствующему выходу и предъявить дежурному по посадке посадочный талон (boarding pass), после чего проследовать в автобус (shuttle-bus), который доставит вас к самолету. Выход на посадку (departure gate) может находиться как на первом этаже (пассажиры доставляются к самолету на автобусе), так и на втором (Вы проходите в самолет по специальным телескопическим трапам (jetbridge), соединяющим воздушное судно со зданием терминала).

В посадочном талоне обычно указывается следующая важная информация:

- номер рейса flight number
- время отправления departure time
- пункт отправления departure (place)
- время прибытия arrival time
- пункт прибытия arrival (place)
- терминал terminal (A, B, C, etc.)
- выход gate (number)
- время посадки boarding time
- место (в кабине самолета) seat

Could you tell me how to get to this terminal?	Вы не могли бы сказать мне как добраться до этого терминала?
Has my flight number changed?	Номер моего рейса изменился?
Has my departure time and gate changed?	Изменился ли время вылета и выход на посадку?

# Where is the boarding gate? Где выход на посадку?

#### **To board** подниматься на борт ( садиться в самолет)

Could you please direct me to my seat?	Не могли бы вы показать где находится мое место?
I can't find my seat. Help me, please	Я не могу найти свое место. Помогите мне, пожалуйста
Where is the seat 32F?	Где находится место 32 F?
Could I change seats with you?	He могли бы Вы поменяться со мной местами?
Is there a stewardess on board who can speak Russian?	Есть ли стюардесса, которая говорит на русском

#### Take off /Взлет (Самый волнительный момент всего перелета, не считая посадки.)

What time do we take off?	В какое время мы вылетаем?
Please put your seat-belts and turn off all electronic devices. Our plane is ready to take off	Пристегните, пожалуйста, ремни безопасности и отключите все электронные приборы. Наш самолет готов к взлету
Our flight is expected to take off on time.	Наш рейс вылетит по расписанию.
Make sure your seat belt is fastened	Проверьте пристегнут ли ваш ремень безопасности?
Smoking is prohibited throughout the flight	Курение во время полёта запрещено
What time do we arrive at Los Angeles?	В котором часу мы прилетаем в Лос-Анджелес?



#### Arrival/Прилет

Посадка самолета

По прибытии в пункт назначения необходимо будет заполнить декларацию (customs declaration) о ввозимых товарах, если эти товары ввозятся на продажу или если их общая стоимость превышает норму. При въезде в страну все пассажиры проходят таможенный и паспортный контроль (go

through the customs and passport control). На паспортном контроле Вас спросят, какова цель Вашего визита. (What is the purpose of your visit to...? Why are you coming to ...?).

При себе желательно нужно иметь приглашение (invitation) и адрес проживания (hotel/friend's address).



## Buggage/ Багаж

И вот, наконец, осталась практически финальная часть вашего путешествия в аэропорту — получение багажа. Багаж выдается на багажной ленте, которая крутится по кругу. Нужно узнать номер багажной ленты, где будет выдаваться ваш багаж и подойти к ней. При получении багажа необходимо удостовериться в правильности получения багажа, для этого надо сверить номер

корешка багажной бирки (claim tag) на багаже с номером отрывного талона у Вас в билете. Здесь вам могут пригодится следующие фразы:

How do I get to luggage claim?	Как пройти к выдаче багажа?
At which carousel will our luggage be?	На какой багажной ленте будет выдаваться наш багаж?
My baggage is broken, and some things are missing	Мой багаж поврежден, и некоторых вещей не хватает.
Where do I collect my baggage?	Где я должен получить свой багаж?
Here is my claim tag.	Вот моя багажная квитанция
I can't find my baggage	Я не могу найти свой багаж
I didn't receive the claim tag when I checked in	Мне не выдали багажную квитанцию при регистрации
May I use this baggage cart?	Можно взять эту багажную тележку
I've lost my suitcase	Я потерял свой чемодан
Could you help me locate my luggage? Here are the luggage stickers	Не могли бы вы помочь мне найти мой багаж? Вот мои багажные бирки

#### Практическая работа № 12.

Тема: На таможне

<u>Щель</u>: употребление и понимание новых слов, формирование умения у обучающихся работать в парах, совершенствование грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1: перевести диалог по ролям.

#### At the Airport and customs desk.

**Customs Inspector:** Your passport, please. How long are you planning to stay in the country?

**Joey:** Three weeks. Could I prolong my entrance visa in case of necessity?

**Customs Inspector:** Sure. The receiving party shall take care of it. Can you put your bags on the table, and your customs form, please.

Joey: How much do they weight?

Customs Inspector:23 kilos. I'm sorry, but you'll have to pay an excess luggage charge.

Joey: Oh! It's only 3 kilos overweight.

**Customs Inspector:**Yes, sir...that's £ 6 ... Thank you. Have you anything to declare?

**Joey:** Pardon?

**Customs Inspector:** Alcohol, cigarettes, fresh fruit, plants?

Joey: Uh, no.

Customs Inspector: Open your suitcase, please. Any gifts?

Joey: Only one bottle of vodka.

**Customs Inspector:**All right. It's duty free. As you probably know, it's forbidden to bring in more than two bottles of alcohol and two blocks of cigarettes to America. And no limitations as to currency. Here's your form.

Joey: Thank you.

Customs Inspector: Not at all. Nextplease.

<u>Задание № 2</u>Раскройтескобки, употребляяглаголыв Past Simple Passive.

(YESTERDAY) 1. The postbox (to empty) yesterday. 2. The stamps (to postmark) at the post office. 3. The letters (to sort) into the different towns. 4. The mail (to load) into the train. 5. The mailbags (to unload) after their journey. 6. The bags (to take) to the post office. 7. The letters (to sort) into the different streets. 8. The letters (to deliver).

### Практическая работа № 13

Тема: Паспортный и таможенный контроль.

Цель: Монологическая и диалогическая речь с использованием новой лексики.

Перечень оборудования для проведения работы: тетрадь, письменные

принадлежности, словарь. Задание: Выучить диалог. Паспортный контроль

could I see your passport, please? пожалуйста, покажите ваш паспорт

where have you travelled from? откуда вы прибыли?

what's the purpose of your visit? какая цель вашего визита?

I'm on holiday я в отпуске

I'm on business это деловая поездка

I'm visiting relatives я приехал к родственникам

how long will you be staying? как долго вы собираетесь здесь пробыть?

where will you be staying? где вы будете жить?

you have to fill in this ... вы должны заполнить ...

landing card карту прибытия

immigration form иммиграционную карту

enjoy your stay! хорошего пребывания!

Таможня

could you open your bag, please? откройте вашу сумку, пожалуйста do you have anything to declare? у вас есть что-нибудь, подлежащее декларации? you have to pay duty on these items вы должны уплатить за это пошлину

#### Надписи

EU citizens Граждане EC All passports Все паспорта

Wait behind the yellow line Ждите за жёлтой чертой

Please have your passport ready Пожалуйста, приготовьте паспорт

Nothing to declare Нечего декларировать

Goods to declare Вещи, подлежащие декларации

#### Диалог:

Immigration officer: — Good evening. Where have you come from?

Paul Ryefield: — Bucharest, Romania.

Immigration officer: — May I have your passport and form I-94, please?

Paul Ryefield: — Here you are.

Immigration officer: — What's the nature of your visit? Business or pleasure?

Paul Ryefield: — Pleasure. I'm visiting my relatives.

Immigration officer: — How long are you going to stay in the United States?

Paul Ryefield: — Three weeks.

Immigration officer: — What is your occupation?

Paul Ryefield: — I work as an accountant for a Romanian telecommunications company.

Immigration officer: — Do you have a return ticket?

Paul Ryefield: — Yes, here it is.

Immigration officer: — That's fine. Thanks. Enjoy your trip.

Paul Ryefield: — Thank you.

## Практическая работа № 14

Тема: В гостинице.

Цель: Монологическая и диалогическая речь с использованием новой лексики.

Перечень оборудования для проведения работы: тетрадь, письменные

принадлежности, словарь. Задание: Выучить диалог.

#### Лексика по теме «В гостинице»

ENGLISH	ПЕРЕВОД
make a reservation for a room	забронировать гостиничный номер
booking confirmation	подтверждение бронирования
in advance	заранее
discount	скидка
hotel facilities	комплекс услуг, которые предлагает гостиница

The rate includes sauna, gym, parking, safe deposit box.	В стоимость включено: посещение сауны, спортивного зала, парковка автомобиля на территории отеля, возможность пользоваться сейфом для хранения ценностей.	
check-in time	час, с наступлением которого возможно заселение в номер (устанавливается администрацией гостиницы)	
check-out time	час, до которого необходимо освободить номер в день отъезда	
pay for services	оплатить услуги	
payment in local currency	оплата в местной валюте	
pay cash	расплатиться наличными	
cater	обслуживать	
available	имеющийся в наличии	
At the moment there are no rooms available.	В данный момент свободных номеров нет.	
Номера:		
single room	одноместный номер	
twin room	двухместный номер с двумя кроватями	
double room	двухместный номер с одной двуспальной кроватью	
Категории номеров (по комфортности):		
Standard room	стандартный номер	
Superior room	номер повышенной комфортности	
Junior suite room	номер "полулюкс"	
Suite room	номер "люкс"	
Классификация проживания по типу питания:		
B&B - bed and breakfast	питание: завтрак	
HB - half board	полупансион (как правило, завтрак и ужин)	
FB - full board	трёхразовое питание	
All inclusive	всё включено	
Диалог 1:		

After a long journey from Heathrow, John finally arrives at his hotel in King's Cross. He goes to the reception area to check in.

**Receptionist:** Hello. Can I help you?

**John:** Yeah hi, I've got a reservation. My name is John Ashley.

**Receptionist:** Ah, yes. You booked a shared room for one week?

**John:** Yes, a shared room, but perhaps I'll stay longer.

**Receptionist:** OK, but let us know as soon as you decide?

**John:** Yes, of course. How much is that?

**Receptionist:** It's 18.50 GBP for a shared room. Can I see your passport?

John: Here you are.

#### Диалог 2:

John is checking in at his hotel in King's Cross. He asks the receptionist some questions about the hotel.

**Receptionist:** Here is your room key, it's number 13, on the first floor.

**John:** Is there a lift? My case is very heavy!

**Receptionist:** Yes, it's over there.

**John:** Oh one other thing, is there somewhere I can put my valuables?

**Receptionist:** Yes, we have lockers available, they cost two pounds a day.

**John:** OK. And the hotel is open all night?

**Receptionist:** Yes, of course, we have 24 hour reception.

**John:** OK, I think that's everything, thanks.

#### Практическая работа № 15

Тема:Контрольная работа

Цель:Контроль лексических и грамматических навыков, словарного запаса обучающихся. Перечень оборудования для проведения работы: тетрадь для контрольных работ, письменные принадлежности, словарь.

Контрольная работа №1. 2 курс 3 семестр.

#### Вариант 1

1. Совместите слова и словосочетания из двух колонок:

**▶**Темза to carry luggage ▶Зданиепарламента Buckingham palace **Б**илет hand luggage ▶Упаковыватьвещи the Thames

▶Британскиймузей the Houses of Parliament

▶Нестибагаж to pack bags ►Букингемскийдворец a ticket

►Ручнаякладь the British Museum БДостопримечательности a window seat Местоуокна placesofinterest

#### 2. Дополните предложения и переведите их:

- 1. Great Britain consists of... parts.
- 2. The capital of Wales is....
- 3. The official head of the United Kingdom is....

## 3. Образуйте отрицательную и вопросительную формы от данного предложения:

The Queen lives in Buckingham palace.

#### 4. Исправьте ошибки, если таковые имеются:

- 1. He doesn't likes studying.
- 2. She drive a car very fast.
- 3. They have many friends.
- 4. After dinner he listens to the music or watch TV

#### Вариант 2

## 1.Совместите слова и словосочетания из двух колонок:

►Посадочный билет passengers

Трафальгарская площадь
 Регистрация
 Номеррейса
 Вестминстерское Аббатство
 Местовцентре
 Располагатьсяна
 Пассажиры
 Замината в править в править

▶ Зданиепарламента the United Kingdom▶ СоединенноеКоролевство the Houses of Parliament

#### 2. Дополните предложения и переведите их:

- 1. The climate of Great Britain is ....
- 2. The Houses of Parliament is famous for its big hour bell known as ....
- 3. The capital of Northern Ireland is ....

## 3. Образуйте отрицательную и вопросительную формы от данного предложения:

He bought the ticket two days ago.

## 4. Исправьте ошибки, если таковые имеются:

- 1. They didn't visited their granny last week.
- 2. We maked many mistakes in the test.
- 3. When were you born?
- 4. Did you like the film? No I not.

#### Практическая работа № 16.

<u>Тема</u>: Итоговое занятие

Цель: контроль знаний и умений обучающихся

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: прочитать текст, ответить на вопросы, выполнить упражнения

#### THE STORY OF MY TROUBLES

From my childhood I was an easily taught and obedient boy. My kindness was so noticeable that my friends made fun of me. I was especially fond of animals and had a great number of pets. With these I spent most of my time, and never was so happy as when feeding and playing with them. My character did not change much when I grew up.

I married early, and was happy to find in my wife a character very much like my own. Seeing my love for pets she never lost a chance of getting the most pleasant animals. We had birds, gold-fish, a fine dog, rabbits, a small monkey, and a cat.

This cat was a remarkably large and beautiful animal, quite black and surprisingly clever. In speaking of his cleverness, my wife, who was a superstitious woman, often mentioned the old popular belief, which considered all black cats to be in disguise.

Pluto- this was the cat's name-was my favourite pet and playmate. I alone fed him, and he followed me everywhere about the house. It was even with difficulty that I could prevent him following me through the streets.

Our friendship lasted for several years, during which my character (I blush to confess it) had changed for the worse. I became day by day more moody and irritable. It often happened that I hurt the feelings of others; I suffered myself as I was rude to my wife. At last I even hit her.

My pets, of course, could feel the change in my character. In fact, I began to treat them cruelly. As for Pluto, I held back from cruelty as I did treat cruelly the rabbits, the monkey, or even the dog when they came in my way. But my illness took hold of me- for what other illness is like alcohol!- and at last even Pluto ,who was now becoming old, even Pluto began to feel the effects of my temper.

# 1. Answer the questions:

- 1. What kind of pets do they have?
- 2. What was the cat's name?
- 3. What illness had the author?
- 4. Was he a kind man?
- 5. How long did their friendship last?

#### 2. Ask questions.

- 1. Yes/No
- 2. Who
- 3. Where
- 4. or
- 5. "tag" question

#### 3. Translate:

- 1. I married early, and was happy to find in my wife a character very much like my own.
- 2. Our friendship lasted for several years, during which my character (I blush to confess it) had changed for the worse.
- 3. In speaking of his cleverness, my wife, who was a superstitious woman, often mentioned the old popular belief, which considered all black cats to be in disguise.

#### 4. Name antonyms:

Happy, beautiful, kind, black, begin.

# 5. Find in the text:

I got day by day more changeable.

# 2 курс 4 семестр Практическая работа № 1.

<u>Тема</u>: «Числа и математические действия. Закон Ома».

Цель: введение и закрепление новой лексики.

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

# Краткие теоретические положения:

Сегодня ситуация в мире такова, что людям любых специальностей рано или поздно приходится иметь дело с английским языком. Для профессионального общения, для сдачи экзаменов при получении работы и многого другого. В данном разделе рассмотрим общую для многих специальностей науку — математику.

Начнем с самых простых действий, встречающихся в любой формуле:

- прибавить plus/add
- отнять minus/subtract
- умножить multiply (умножитьна 2 multiply by two)
- разделить divide (делитьна 2 divide by two)
- равно is equal to
- больше is greater than
- меньше is smaller than
- пропорционально is proportional to

Дробные числа. На письме целая и дробная части разделяются точкой, которая поанглийски называется point. Например, 4.62 — fou point six ty two. Если же нужно назвать часть целого числа (например, 2/5 — две пятых), то в этом случае вспоминаем порядковые числительные и говорим twofifth.

Квадратный корень —  $\sqrt{\ }$  — на английском называется square root или просто root. Корень из 25 будет звучать как square root of 25.

Степень. Два в квадрате — two squared, два в кубе — two cube. Два в любой другой степени, допустим, в степени x — two to the power x.

# Математические действия (NumbersforMaths)

• Сложение (Addition)

$$1 + 2 = 3$$

One and two is seven. One plus two equals eight.

• Вычитание (Subtraction):

$$7 - 6 = 1$$

Seven minus six is one. Seven subtract six equals fourteen.

• Multiplication (Умножение):

$$5 \times 6 = 30$$

Five times six equals twenty-one. Five multiplied by six is twelve.

• Division (Деление):

$$9 \div 3 = 3$$

Nine divided by three equals three. Three goes into nine three times.

• Другие символы и их чтение (Othersymbols)

<	less than	меньше	5<6	Five is less than 6
>	greater than	больше	7>5	Seven is greaterthan 5
1/4	fractions	дробь	1/ <sub>4</sub> 1 1/ <sub>4</sub>	one fourth one and one fourth
%	percent	процент	2% 2.5%	two per cent  two per cent point five
0	degrees	градусы	90°	ninetydegrees
1.666	decimals	десятичная	1.666	one point six sixsix

	дробь	0.25	nought point two five

Задание: выполните упражнения.

Упражнение № 1. Запишите примеры по-английски.

11 x 2	6 X 8	7 X 6	4 X 9
6 X 4	7 X 7	81:9	12 x3

Упражнение № 2. Дайте письменный вариант следующих числительных:

Упражнение 3. Запишите даты по образцу:

16.6.99. – June the sixteenth nineteen ninety-nine.

# Практическая работа № 2.

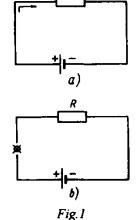
<u>Тема</u>: Электрическая цепь

<u>Цель</u>: развитие навыков чтения с полным пониманием содержания, совершенствование грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание №1: перевести текст, пересказать

## ElectricCircuit.



This is a circuit. Its elements are a voltage source, a resistor and a conductor. The circuit consists of a voltage source, a resistor and conductor. A voltage source supplies current. A resistor reduces current. A conductor connects the elements of the circuit.

Compare circuit a) with circuit b). What is the difference between them? Current passes through circuit a while no current passes through circuit b. Circuit b has an open. No current through circuit b results from an open. An open and a short are troubles in a circuit. A trouble in a circuit may result in no current in it.

Задание № 2 Прочитать, выполнить упражнение

### Present Continuous - настоящее длительное время

Времена группы **Continuous** указывают на процесс, действие, длящееся в определенный момент в прошлом, настоящем или будущем.

Время **Present Continuous** обычно указывает на процесс, длящийся непосредственно в момент речи. На это могут указывать контекст или такие слова, как now (сейчас), at the moment (в текущий момент) и т.п.:

Sally **is doing** her homework at the moment.

Салли сейчас делает домашнее задание.

#### Dad and me are fishing now.

Мыспапойсейчасрыбачим.

# Образование Present Continuous

Утвердительные предложения:

I am playing	We are playing
1 . 0	1 0
You are playing	You are playing
He / she / it is playing	They are playing

Вопросительные предложения:

Am I playing?	Are we playing?
Are you playing?	Are you playing?
Is he / she / it playing?	Are they playing?

Отрицательные предложения:

I am not playing	We are not playing
You are not playing	You are not playing
He / she / it is not playing	They are not playing

Для того, чтобы поставить глагол в форму времени **Present Continuous**, требуется вспомогательный <u>глагол **to be**</u> в настоящем времени и <u>причастие настоящего</u> времени (Participle I) смыслового глагола.

**To be** в настоящем времени имеет три формы:

- **am** 1 лицо, ед. ч. (I am shaving.)
- **is** 3 лицо, ед. ч. (He is reading.)
- are 2 лицо ед. ч. и все формы мн. ч. (They are sleeping.)

Примечание:

<u>Личные местоимения</u> и вспомогательный глагол часто сокращаются до I'm, he's, she's, it's, we're, you're, they're.

Причастие настоящего времени (Participle I) можно получить, прибавив к начальной форме значимого глагола окончание **-ing**:

jump – jump**ing**, live – livi**ng** 

В вопросительном предложении вспомогательный глагол выносится на место перед подлежащим, а значимый глагол остается после него:

Why are you laughing?

Почемутысмеешься?

**Are** you **using** this dictionary?

Вы используете этот словарь?

В **отрицательных предложениях** за вспомогательным глаголом следует отрицательная частица **not**. Формы **is** и **are** при этом могут быть сокращены до **isn't** и **aren't** соответственно.

Radio is **not (isn't) working**.

Радио не работает.

### Случаи употребления Present Continuous

• Указание на процесс, происходящий непосредственно в момент разговора:

The doctor **is conducting** an operation now.

Врач сейчас проводит операцию.

• Описание характерных свойств человека, часто с негативной окраской:

Why **are** you always **interrupting** people?

Почему ты вечно перебиваешь людей?

He is always shouting at me.

Онвсегданаменяорет.

• Запланированное действие в будущем, часто с глаголами движения:

We **are landing** in Heathrow in 20 minutes.

Мы приземляемся в Хитроу через 20 минут.

Упражнение. Раскройте скобки, употребляя глаголы в Present Continuous или в Present Simple.

1. He (to work) in the centre of Chicago. 2. He (to work) in the centre of Chicago? 3. He (not to work) in the centre of Chicago. 4. They (to read) many books. 5. They (to read) many books? 6. They (not to read) many books. 7. The children (to eat) soup now. 8. The children (to eat) soup now? 9. The children (not to eat) soup now. 10. You (to play) volleyball well? 11. When you (to play) volleyball? 12. What Nick (to do) in the evening? 13. He (to go) to the cinema in the evening? 14. We (not to dance) every day. 15. Look! Kate (to dance). 16. Kate (to sing) well? 17. Where he (to go) in the morning? 18. He (not to sleep) after dinner. 19. My granny (to sleep) after dinner. 20. When you (to sleep)? 21. Nina (not to sleep) now. 22. Where John (to live)? — He (to live) in England. 23. My friends from Switzerland (to speak) four languages. 24. Elvire (to speak) English, German and French? — Yes, she .... 25. She only (not to speak) Italian

## Практическая работа № 3.

Тема: Последовательные и параллельные цепи

Цель: развитие техники перевода, совершенствование грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1 Перевеститекст

### Series Circuit and Parallel Circuit.

Compare circuits a and b. Circuit a consists of a voltage source and two resistors. The resistors are connected in series. Circuit a is a series circuit. Circuit b consists of a voltage source and two resistors. The resistors are connected in parallel. Circuit b is a parallel circuit.

A parallel circuit has the main line and parallel branches.

In circuit b the value of voltage in  $R_1$  equals the value of voltage in  $R_2$ . The value of voltage is the same in all the elements of a parallel circuit while the value of current is different. A parallel circuit is used in order to have the same value of voltage.

In circuit a the value of current in  $R_1$  equals the value of current in  $R_2$ . The value of current is the same in all the elements of a series circuit while the value of voltage is different. A series circuit is used in order to have the same value of current. In  $R_1$ ,  $V_1$ =IR $_1$  is the voltage drop in  $R_1$ . In  $R_2$  the voltage equals Ix $R_2$ ; IR $_2$  is the voltage drop in  $R_2$ . In circuit c a trouble in one element results in no current in the whole circuit. In circuit d a trouble in one branch results in no current in that branch only, a trouble in the main line results in no current in the whole circuit.

Задание № 2 Рассмотреть и изучить таблицу, выписать в тетрадь, выполнить упражнение

Present	Past	Future
<b>I</b> <i>have started</i> the motor. Язапустилдвигатель.	I <i>had started</i> the motor before the engineer came. Я запустил двигатель до того, как пришёл инженер.	I shall have started the motor before the engineer comes. Я запущу двигатель до того, как придёт инженер.
He has written exercises today.	He had written exercises by 5	He will have written
Оннаписалупражнения сегодня.	o'clock.	exercises by five o'clock.
We have just spoken about you.	Он написал упражнения к	Он напишет упражнения к
Мы только что говорили о вас.	пяти часам.	5 часам.

Образуется при помощи глагола Образуется при помощи to have в форме Present Indefinite глагола to have в форме Past + Participle II смыслового глагола.

Indefinite + Participle II смыслового глагола.

Образуется при помощи глагола to have в форме Future Indefinite + Participle II смыслового глагола.

Упражнение. В следующих предложениях измените время глагола на Present Perfect. Переведитепредложениянарусскийязык.

1. The pupils are writing a dictation. 2. My friend is helping me to solve a difficult problem. 3. I am learning a poem. 4. She is telling them an interesting story. 5. Kate is sweeping the floor. 6. The waiter is putting a bottle of lemonade in front of him. 7. I am eating my breakfast. 8. We are drinking water. 9. He is bringing them some meat and vegetables. 10. You are putting the dishes on the table. 11. They are having tea. 12. She is taking the dirty plates from the table. 13. The children are putting on their coats. 14. Susan is making a new dress for her birthday party. 15. She is opening a box of chocolates. 16. I am buying milk for milk shakes. 17. James is ordering a bottle of apple juice. 18. We are looking for more CDs with good music. 19. Are you recording your favourite film on his video recorder? 20. I am translating a difficult article from German into Russian.

# Практическая работа № 4.

Тема: Последовательные и параллельные цепи

Цель: закрепление новой лексики по теме, совершенствование грамматических навыков Перечень оборудования для проведения работы: тетрадь, письменные принадлежности,

Задание № 1: описать электрические цепи, используя следующие вопросы

#### **Questions:**

- What type of circuit has the main line and the parallel branches?
- What type of circuit is used in order to have the same value of current in all the elements?
- What type of circuit is used in order to have the same value of voltage in all the elements?
- What does a trouble in the main line result in?
- What does a trouble in a branch result in?
- What does no current in a series circuit result from?
- What is the difference between series and parallel circuits?

## Задание № 2

- 1. Поставьтеглагольформу Present Perfect, Past Perfect или Future Perfect. to arrive
  - 1. Our taxi ... by 9 o'clock yesterday morning.
  - 2. Let's go. The guests already ....
  - 3. They ... by the time the meeting starts.

#### to be

- 4. I am tired of waiting. Where you ...?
- 5. By the time I'm 30 I ... a famous scientist.
- 6. He didn't remember where he ... before the accident. to paint
  - 7. We ... the house by next Tuesday.
  - 8. She ... more than 10 pictures already.
  - 9. I wondered if they ... the room.
- 2. Раскройтескобки, употребивглагольформе Present Perfect, Past Perfect или Future Perfect.
  - 1. Sam ... (lose) his keys. So he can't open the door.
  - 2. When I woke up in the morning, the rain already ... (stop).

- 3. I hope I ... (finish) my test by midnight.
- 4. The film turned out to be much longer than we ... (expect).
- 5. My sister just ... (leave) for the bank.
- 6. The girls were good friends. They ... (know) each other for 5 years.
- 7. Mother ... (lay) the table before we come.
- 8. I never ... (try) Japanese food.
- 9. Ted was so happy because his dream ... (come) true.
- 10. We ... (be) to Paris many times.
- 3. Выберите в скобках подходящее слово или словосочетание. Переведите предложения.
  - 1. She will have finished her resume ... (on Monday/by Monday/last Monday).
  - 2. The aircraft hasn't landed ... (yet/just/already).
  - 3. We have lived in New York ... (since/from/for) three years.
  - 4. ... (After/Already/Ago) they had eaten the cake, they cleared the table.
  - 5. They will have decorated the Christmas tree ... (by the time/before/by then).
  - 6. My uncle has ... (already/yet/ago) repaired his car.
  - 7. I haven't met them ... (from/since/for) their wedding.
  - 8. ... (By the time/Already/Just) the sun set, the farmers had already stopped working.
  - 9. Have you ... (just/ever/yet) been married, Kelly?
  - 10. ... (When/How much/How long) has he known her?

## Практическая работа № 5.

Тема:Электрические измерительные приборы

<u>Цель</u>: развитие лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1: Прочитать текст, сделать мини словарь к тексту, перевести текст

#### **Meters**

Among the most common meters used there are the ohmmeter, the ammeter and the voltmeter. The ohmmeter is used to measure the value of resistance. It consists of a milliammeter calibrated to read in ohms, a battery and resistors. The meter is connected in parallel and the circuit is not opened when its resistance is measured. The readings on the scale show the measured value.

The ammeter is used to measure the value of current. When the ammeter is used the circuit should be opened at one point and the terminals of the meter should be connected to it. One should take into consideration that the positive terminal of the meter is connected to the positive terminal of the source the negative terminal - to the negative terminal of the source.

The ammeter should be connected in series. The readings on the scale show the measured value.

#### Задание № 2 Выполнить упражнение

#### Краткие теоретические положения:

PresentPerfect всегда употребляется с привязкой ко времени настоящему, в то время как действие, описанное в предложении в PastSimple, отсылает нас исключительно к прошлому.

#### Сравните эти два предложения:

He has lost his keys.

He lost his keys.

В первом случае подразумевается то, что некто потерял ключи и пока не нашел их (не нашел до момента речи). Во втором случае мы не знаем, были ли найдены ключи. Мы только знаем, что некто потерял их в какой-то момент в прошлом.

Упражнение

В этом упражнении вам нужно разобраться с ситуацией, описанной в предложении, а затем написать продолжения, используя предложенные слова. Используйте глаголы, указанные в скобках. Внимательно ознакомьтесь с примером.

## Например:

I put on a lot of weight but now I'm too thin again. (put on weight/lose weight) I put on a lot of weight but now I have lost it.

- 1. Five minutes ago Chris lost his dog. Now his dog is with him again. (lose/find)
- 2. Peter went to Russia but now he is back in France again. (go/return)
- 3. Jason bought a new car two months ago. Now the car belongs to his friend. (buy/sell)
- 4. The doctors took Kim to the hospital but now she is at home again. (take/return)
- 5. John shaved his moustaches. Now they are long again. (shave/grow)
- 6. The thief escaped from the jail. Now he is back in jail. (escape/becaught)

## Практическая работа № 6.

<u>Тема:</u>Электрические измерительные приборы

<u>Цель</u>: закрепление лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1 Ответить на вопросы

- 1. What the most common meters do you know?
- 2. What is the function of the ammeter?
- 3. What is the function of the ohmmeter?
- 4. What is the function of the voltmeter?

### Задание № 2 Выполнить упражнения

Past Simple Present Perfect. Упражнение 1

В данном упражнении нужно определить, в правильном ли времени употреблены выделенные глаголы. Если нет, тогда неправильные предложения нужно исправить.

## Например:

Have you heard? Susan has got divorced. – Right

The Americans have invented pizza. – Wrong- Invented

- 1. Who has written the play 'Romeo and Juliette'?
- 2. Look at Monica! She had a haircut.
- 3. Pushkin **has been** a Russian poet.
- 4. Oops! I have cut my toe. Nowit's bleeding.
- 5. My parents **got** married in Paris.
- 6. Einstein was the scientist who has developed the theory of relativity.

Past Simple Present Perfect. Упражнение 2

В этом задании от вас требуется поставить глагол в правильную форму, исходя из контекста.

#### Например:

Look! Somebody has broken (break) a plate in the kitchen.

It wasn't (be) me. I didn't (not/do) it.

Well, who was (be) it?

- 1. Your hair seems to become shorter. (You/have) a haircut?
- 2. Well, yes.
- 3. (You/cut) it by yourself?
- 4. No, Christina, a friend of mine, (cut) it for me.
- 5. Have you heard about Peter? He (break) hisarm.
- 6. You're kidding me? How and when (that/happen)?
- 7. He (fall) off a ladder yesterday.

Past Simple Present Perfect. Упражнение 3

В этом задании вам нужно поставить глагол в правильную временную форму в зависимости от контекста.

#### Например:

I have lost (lost) my pen. I can't find my pen anywhere.

Did you hear (hear) a new song of Shakira yesterday on the radio?

- 1. Bill ... (buy) a new motorcycle five days ago.
- 2. Jane's hair is too short. She probably ... (have) a haircut.
- 3. Yesterday I ... (come) home at midnight. I ... (have) a bath, ... (drink) some water and ... (go) tobed.
- 4. ... (you/see) many monuments when you were in London?
- 5. My car isn't here anymore. Somebody ... (steal) it.
- 6. When ... (you/give up) drinking?
- 7. I ... (not/go) anywhere yesterday because I ... (not/feel) good.
- 8. The window looks very clean. (you/wash) it?

# Практическая работа № 7.

Тема: Резисторы

<u> Цель:</u> совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1Прочтите текст и ответьте на следующие вопросы

- 1. What is a resistor used for?
- 2. When does the temperature of a resistor rise?
- 3. What element is used to change the value of voltage?
- 4. What types of resistors do you know?
- 5. What does an open resistor result in?
- 6. What is the difference between a fixed resistor and a variable resistor?
- 7. What resistors have a variable value?

#### Resistors

A resistor is one of the most common elements of any circuit. Resistors are used:

- 1. to reduce the value of current in the circuit;
- 2. to produce IR voltage drop and in this way to change the value ofthe voltage.

When current is passing through a resistor its temperature rises high. The higher the value of current the higher is the temperature of a resistor.

Each resistor has a maximum temperature to which it may be heated without a trouble. If the temperature rises higher the resistor gets open and opens the circuit.

Resistors are rated in watts. The watt is the rate at which electric energy is supplied when a current of one ampere is passing at a potential difference of one volt. A resistor is rated as a 1-W resistor if its resistance equals 1,000,000 ohms and its current-carrying capacity equals 1/1,000,000 amp, since P = ExI = IRxI = I2R where P - power is given in watts, R - resistance is given in ohms and I - current is given in amperes.

If a resistor has a resistance of only 2 ohms but its current-carrying capacity equals 2,000 amp, it is rated as a 8,000,000-W resistor.

Some resistors have a constant value - these are fixed resistors, the value of other resistors may be varied - these are variable resistors.

Задание № 2 Выполнитеупражнения

Present Simple Present Perfect. Упражнение

Для выполнения данного задания вам необходимо выбрать правильный вариант глагола из четырех предложенных.

Peter ... a teacher.

- was
- did

- is
- has been

Catherine (not/master) ... Portuguese yet, but she can communicate.

- doesn't master
- isn't mastering
- didn't master
- hasn't mastered

Actually, he (just/come) ... back from Spain.

- is coming
- came
- come
- has come

... (you/ever/visit) ... the Niagara Falls?

- have you visited
- did you visit
- are you visiting
- do you visit

Asus (make) ... electronics but it (not/make) ... planes.

- makes/doesn't make
- has made/hasn't made
- is making/isn't making
- had made/hadn't made

Sony (develop) ... a new advanced type of camera.

- develops
- is developing
- · has developed
- had developed

The yen (fall) ... against the dollar.

- fell
- has been fallen
- is falling/has fallen
- falls

This is the best film I (ever/see) ....

- see
- have seen
- am seeing
- saw

He is the most difficult client I ... (ever/deal) ... with.

- am dealing
- deal
- dealt
- have dealt.

### Практическая работа № 8.

<u>Тема:</u> Резисторы

Цель: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

# 1. Совместите слова из левой колонки с их переводом из правой:

	I
capacity	скорость, степень
Capacity	CROPOCIB, CICILCHB

power	производить
heat	емкость
rate	варьировать(ся)
to produce	мощность
to change	теплота, нагрев
to vary	высокий
low	менять(ся)
high	постоянный
fixed	переменный
variable	низкий

# 3. Прочитайте текст Resistors (см. практическую работу №7). Переведите в письменной форме абзацы 1,2,3.

# 4. Закончите предложения, выбрав правильный вариант:

- 1. A resistor is used
  - a) to measure the resistance.
  - b) to reduce the current.
  - c) to change the resistance.
  - d) to produce IR voltage drop.
- 2. When current passes through a resistor
  - a) its temperature drops.
  - b) its temperature rises
- 3. Resistors are rated
  - a) in ohms.
  - b) in volts.
  - c) in watts.
- 4. Power is given
  - a) in amperes.
  - b) in watts.
- 5. Fixed resistors have
  - a) a constant value.
  - b) a variable value.
- 6. The value of a variable resistor
  - a) is fixed.
  - b) is varied.
- 7. The higher the value of current,
  - a) the lower is the temperature of a resistor.
- b) the higher is the temperature of a resistor.

# 5.Поставьте предложения в PresentPerfect:

- 1. She.....(just break) a vase.
- 2. We.....(already clean) the room.
- 3. I....(just make) the bed.
- 4. He.....(phone) his friend.
- 5. It....(start) raining.
- 6. A little girl.....(cut) her finger.

# 6.Что обозначает -'s— (has или is)? Напиши предложения без сокращений:

- 1. She'sgonetotheshop.
- 2. She's very angry.
- 3. I think Emily's right.
- 4. He's lived here for ten years.
- 5. He's always hungry.

#### 6. What's happened?

# Практическая работа № 9.

<u>Тема:</u> Электрические элементы

<u>Щель:</u> формирование умения у обучающихся самостоятельно работать с текстом, совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1: перевести письменно текст, сделать мини словарь к тексту

#### **Electric Cells**

An electric cell is used to produce and supply electric energy. It consists of an electrolyte and two electrodes. Electrodes are used as terminals, they connect the cell to the circuit – current passes through the terminals and the bulb lights.

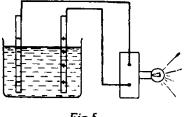


Fig.5

Cells can be connected in series, in parallel and in seriesparallel. In order to increase the current capacity cells should be connected in parallel. In order to increase the voltage output cells should be connected in series. In case a battery has a large current capacity and a large voltage output, its cells are connected in series-parallel.

When cells are connected in series the positive terminal of one cell is connected to the negative terminal of the second cell, the positive terminal of the second cell-to the negative terminal of the third ... and so on.

When cells are connected in parallel their negative terminals are connected together and their positive terminals are also connected.

In case a cell has a trouble it stops operating or operates badly. This cell should be substituted by another one.

Задание № 2 Прочитать, сделатьконспект

# Типы вопросов в английском языке

1. Вопрос к подлежащему (questiontothesubject).

В таком вопросительном предложении порядок слов прямой (неизмененный), да и в самом предложении все остается на своих местах. Мы лишь убираем подлежащее и вместо него употребляем подходящее вопросительное слово: Who? What? (кто — что). Ни в настоящем, ни в прошедшем времени этот тип вопроса в английском языке не нуждается в использовании вспомогательных глаголов. В будущем могут появиться вспомогательные глаголы shall / will, но они являются показателем именно времени и к вопросу, в принципе, отношения не имеют.

Есть лишь один нюанс — в настоящем времени употребляем глагол в третьем лице и единственном числе.

Примеры: What happened to us? – Что случилось с нами? What makes you feel upset? – Что заставляет тебя грустить? Who invites guests for the party? – Кто приглашает гостей на вечеринку

2. Общий вопрос (general question).

Это вопросительное предложение в английском языке подразумевает постановку вопроса ко всему предложению. Ответом на данный вопрос служат слова да и нет. Поэтому этот тип вопроса в английском языке еще именуют yes / no question. В данном вопросе обратный порядок слов и на первом месте вспомогательный (do, does, is и т.д.) или молальный глагол.

Примеры: Does she like knitting? — Она любит вязать? Do you play computer games? — Ты играешь в компьютерные игры? Is this his book? — Это его книга? Только не забывайте, что глаголу to be в настоящем и простом прошедшем времени не требуется никаких вспомогательных глаголов: Are you at home? — Ты дома? Или Was he at the cinema yesterday? — Онбылвчеравтеатре?

#### 3. Специальный вопрос (special question)

Этот тип вопроса в английском языке отличается тем, что он может быть задан к любому члену предложения. Порядок слов тоже обратный, а для получения нужной информации используется ряд вопросительных слов: What? — что?; When? — когда?; Where? — где?; Why? — почему?; Which? — который? и другие.

Примеры: Where are you going to move? – Куда ты собираешься переехать? What would you like to read? – Чтобытыхотелпочитать? When did you leave the house? – Когдатыушелиздома?

## 4. Альтернативный вопрос (alternative question)

Задаем к любому члену предложения, однако особенностью этого вопросительного предложения является выбор между двумя предметами, лицами, качествами, действиями и т.д. В таком вопросе будет обязательно присутствовать союз или — от. Примеры: They finished writing the article at 5 p.m. — Онизакончилиписатьстатьюв 5 вечера. Did they finish writing the article in the morning or at night? — Онизакончилиписатьстатьюутромиливечером? Did they finish writing or reading the article? — Онизакончилиписатьиличитатьстатью?

#### 5. Разделительный вопрос (tag-question / disjunctive question).

При постановке такого вопросительного предложения в английском языке человек пытается выразить сомнение, удивление, подтверждение сказанного. Аналогом данного вопроса в русском языке является оборот не правда ли?, не так ли?. Такой вопрос состоит из двух частей: первая — это само предложение целиком, с неизмененным порядком слов, и без тех частей речи, к которым собственно задается вопрос; вторая — краткий вопрос, в котором появится вспомогательный или модальный глагол, присутствующий в сказуемом первой части.

Есть два способа образования такого вопроса в английском языке: предложение утвердительное, краткий вопрос отрицательный; предложение отрицательное, краткий вопрос положительный.

Примеры: My mother prefers meat to fish, doesn't she? — Моя мать предпочитает рыбе мясо, не так ли? I am a pessimist, ain't/aren't I? – Я пессимист, не правда ли? You can cook this dish, can't you? – Ты можешь приготовить это блюдо, не так ли? She doesn't go to the church, does she? – Она не ходит в церковь, не так ли?

#### Практическая работа № 10.

<u>Тема:</u> Электрические элементы

Цель: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: задайте 10 собственные вопросы к тексту своим одногруппникам

An electric cell is used to produce and supply electric energy. It consists of an electrolyte and two electrodes. Electrodes are used as terminals, they connect the cell to the circuit – current passes through the terminals and the bulb lights.

Cells can be connected in series, in parallel and in series-parallel. In order to increase the current capacity cells should be connected in parallel. In order to increase the voltage output cells should be connected in series. In case a battery has a large current capacity and a large voltage output, its cells are connected in series-parallel.

When cells are connected in series the positive terminal of one cell is connected to the negative terminal of the second cell, the positive terminal of the second cell-to the negative terminal of the third ... and so on.

When cells are connected in parallel their negative terminals are connected together and their positive terminals are also connected.

In case a cell has a trouble it stops operating or operates badly. This cell should be substituted by another one.

## Практическаяработа № 11.

<u>Тема:</u> Конденсаторы

Цель: отработка лексико-грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: прочитать текст, сделать письменный перевод, составить 5 вопросов к тексту

### **Capacitors**

A capacitor is one of the main elements of a circuit. It is used to store electric energy. A capacitor stores electric energy provided that a voltage source is applied to it.

The main parts of a capacitor are metal plates and insulators. The function of insulators is to isolate the metal plates and in this way to prevent a short.

In the diagram one can see two common types of capacitors in use nowadays: a fixed capacitor and a variable one. The plates of a fixed capacitor cannot be moved; for this reason its capacity does not change. The plates of a variable capacitor move; its capacity changes. The greater the distance between the plates, the less is the capacity of a capacitor. Variable capacitors are commonly used by radiomen; their function is to vary the frequency in the circuit. Fixed capacitors are used in telephone and radio work.

Fixed capacitors have insulators produced of paper, ceramics and other materials; variable capacitors have air insulators. Paper capacitors are commonly used in radio and electronics; their advantage is their high capacity: it may be higher than 1,000 picofarad.

Besides, electrolyte capacitors are highly in use. They also have a very high capacity: it varies from 0.5 to 2,000 microfarad. Their disadvantage is that they change their capacity when the temperature changes. They can operate without a change only at temperatures not fewer than -40°C.

Common troubles in capacitors are an open and a short. A capacitor stops operating and does not store energy in case it has a trouble. A capacitor with a trouble should be substituted by a new one.

# Практическая работа № 12.

Тема: Конденсаторы

<u> Цель</u>: отработка лексико-грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

1. Совместите слова из левой колонки с их переводом из правой:

10 CODMOCTATO COODE ASSISTED AND ASSISTANCE OF AND ASSISTANCE OF ASSISTA		
capacitor	частота	
insulator	преимущество	
frequency	недостаток	
distance	прилагать, применять	
advantage	двигать(ся)	
disadvantage	конденсатор	
plate	причина	
to apply	расстояние	
to move	изолятор	
to prevent	анод (лампы)	
reason	предотвращать	
providedthat	при условии что	

### 2. Закончите предложения, выбрав правильный вариант:

- 1. A capacitor is used
  - a) to supply voltage.

- b) to increase the voltage output.
- c) to store energy.
- 2. The main parts of a capacitor are
  - a) insulators only.
  - b) metal plates only.
  - c) metal plates and insulators between them.
- 3. The function of insulators is
  - a) to store energy.
  - b) to isolate the metal plates.
  - c) to prevent a short between the metal plates.
- 4. The capacity of a capacitor depends on
  - a) the size of the plates.
  - b) the distance between the plates.
  - c) the material of the insulators.
- 5. The capacity of a fixed capacitor
  - a) is constant.
  - b) is varied.
- 6. The plates of a variable capacitor
  - a) can be moved.
  - b) cannot be moved.
- 7. Electrolyte capacitors have
  - a) a very low capacity.
  - b) a very high capacity.
- 8. In case a capacitor has a trouble
  - a) it operates.

(fly).

b) it stops operating.

# 3. Раскройте скобки, поставив глаголы в PastPerfect:

Образец: Mr And Mrs Davis were in an airplane.

They were very nervous as the plane took off because they had never flown before

- 1. My best friend, Kevin, was no longer there. He ... (go) away.
- 2. The local cinema was no longer open. It ... (close) down.
- 3. Mr Johnson was no longer alive. He ... (die).
- 4. I didn't recognize Mrs Johnson. She ... (change) a lot.
- 5. Bill no longer had his car. He ... (sell) it.
- 6. The woman was a complete stranger to me. I ... (see) before.

# 4. Раскройтескобки, употребляяглаголыв Past Simple или Past Perfect:

- 1. Tom (to return) from the cinema at five o'clock.
- 2. Tom (to return) from the cinema by five o'clock.
- 3. I (to finish) my homework at seven o'clock.
- 4. I (to finish) my homework by seven o'clock.
- 5. He (to think) that he (to lose) the money.
- 6. Ann (to tell) me that she (to see) an interesting film.

### Практическая работа № 13.

Тема: Конденсаторы

Цель: отработка лексико-грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание№ 1. Прочтите текст и ответьте на следующие вопросы:

- 1. What is a capacitor used for?
- 2. What are the main parts of a capacitor?

- 3. What is the function of insulators?
- 4. What does the capacity of a capacitor depend on?
- 5. What is the difference between a fixed capacitor and a variable one?
- 6. What should be done in order to change a capacitor?

Задание № 2 Рассмотрите таблицу и выполните упражнение

Active - действительный залог

	INDEFINITE	CONTINUOUS	PERFECT	PERFECT CONTINUOUS
PRESENT	V, Vs	am is + Ving are	have + Ved, V3 has	have + been + Ving has
8	I write.	I am writing.	I have written.	I have been writing.
	Я пишу (часто).	Я пишу (сейчас).	Я написал (уже, только что)	Я пишу (уже час, с двух часов)
PAST	Ved, V2	was + Ving were	had + Ved, V3	had + been + Ving
۵	I wrote.	I was writing.	I had written.	I had been writing.
	Я написал (вчера).	Я писал (вчера, в 3 часа, когда он вошел)	Я написал (вчера, к 3 часам, до того как)	Я писал (уже 2 часа, когда он пришел).
RE	will + <b>V</b>	will + be + Ving	will + have + Ved, V3	will + have + been + Ving
12	I'll write.	I'll be writing.	I'll have written.	I'll have been writing.
FUTURE	Я напишу (завтра).	Я буду писать (завтра, в 3 часа)	Я напишу (завтра, к 3 часам, до того как он придет)	Я буду писать (завтра, к тому времени, когда он придет)

Раскройте скобки, употребляя глаголы в одном из следующих времен: Present Simple, Past Simple, Future Simple; Present Continuous, Past Continuous; Present Perfect, Past Perfect.

1. My friend (to like) pies. He (to eat) pies every day. When I (to meet) him in the street yesterday, he (to eat) a pie. He (to tell) me that he (to buy) that pie at the corner of the street. Look at my friend now! He (to eat) a pie again. 2. I always (to come) to school at a quarter to nine. 3. Yesterday I (to come) to school at ten minutes to nine. 4. Tomorrow Nick (not to go) to the cinema because he (to go) to the cinema yesterday. He already (to be) to the cinema this week. He (to stay) at home and (to play) a computer game. 5. What your brother (to do) now? 6. My father (to work) in an office. It (to be) Sunday now. He (not to work), he (to read) at home. 7. I (not to see) you for a while! You (to be) busy at work? — I (to have) an awful week, you (to know). 8. What he (to do) at ten o'clock last night? — He (not to do) anything really. He just (to look) at some magazines. 9. We (to have) rather a difficult time at the moment. — I (to be) sorry to hear that. 10. Something awful (to happen). Her little daughter (to swallow) a coin. 11. She (to ask) me if I (to see) her backpack. 12. After the boys (to do) all the work, they (to go) to the pictures

#### Практическая работа № 14.

Тема: Проводники и изоляторы

Цель: совершенствование лексических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

1. a) Cover the right column and read the English words. Translate them into Russian and check your translation.

b) Cover the left column and translate the Russian words back into English.

cheap дешевый 'copper медь

decrease уменьшение

load нагрузка

make smb (smth) do smth заставитького-л. (что-л.) делать что-л.

thus таким образом, так

difficulty трудность rubber резина since так как todecrease уменьшать increase увеличение

2. Read the words and put down their Russian equivalents:

diagram coefficient function transformer to transfer

3. Form adverbs. Follow the model.

Model: wide - widely

cheap - positive - high - negative -

4. Put down the Russian for:

load resistance wire conductors silver wire conductors temperature 'decrease

temperature 'increase

- 5. Translate intu Russian. Mind *since* 
  - Copper conductors are widly used since they are much cheaper than silver ones.
  - A minimum viltage drop is produced in copper wire conductors since they have a low resictance.
  - A bulb connected to an open circuit does not light since an open circuit has no current.

#### Практическая работа № 15.

<u>Тема:</u> Проводники и изоляторы

<u>Цель</u>: развитие навыков чтения с извлечением необходимой информации

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание№ 1 Прочитать текст, найти следующие предложения в тексте.

- 1. Проводники это материалы, имеющие низкое сопротивление.
- 2. Наиболее распространённые проводники металлы.
- 3. Следует принимать во внимание, что большинство материалов изменяет значения сопротивления при изменении своей температуры.
- 4. Материалы, имеющие очень высокое сопротивление, называются изоляторами
- 5. Наиболее распространенные изоляторы воздух, бумага, резина, пластмасса
- 6. Изоляторы имеют две основные функции:
  - 1. изолировать проводники и предотвращать короткое замыкание между ними
  - 2. сохранять электрический заряд при применении источника напряжения.

#### **Conductors and Insulators.**

Conductors are materials having a low resistance so that current easily passes through them. The lower the resistance of the material, the more current can pass through it.

The most common conductors are metals. Silver and copper are the best of them. The advantage of copper is that it is much cheaper than silver. Thus copper is widely used to produce wire conductors. One of the common functions of wire conductors is to connect a voltage source to a load resistance. Since copper wire conductors have a very low resistance a minimum voltage drop is produced in them. Thus, all of the applied voltage can produce current in the load resistance.

It should be taken into consideration that most materials change the value of resistance when their temperature changes.

Metals increase their resistance when the temperature increases while carbon decreases its resistance when the temperature increases. Thus metals have a positive temperature coefficient of resistance while carbon has a negative temperature coefficient. The smaller is the temperature coefficient or the less the change of resistance with the change of temperature, the more perfect is the resistance material.

Materials having a very high resistance are called insulators. Current passes through insulators with great difficulty.

The most common insulators are air, paper, rubber, plastics.

Any insulator can conduct current when a high enough voltage is applied to it. Currents of great value must be applied to insulators in order to make them conduct. The higher the resistance of an insulator, the greater the applied voltage must be.

When an insulator is connected to a voltage source, it stores electric charge and a potential is produced on the insulator. Thus, insulators have the two main functions:

- 1. to isolate conducting wires and thus to prevent a short between them and
- 2. to store electric charge when a voltage source is applied.

Задание № 2 Составить тематический словарь к тексту

#### Практическая работа № 16.

<u>Тема:</u> Проводники и изоляторы. Выполнение лексических и грамматических упражнений Цель: отработка лексико-грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить лексические упражнения к тексту Conductors and Insulators (см. практическую работу N 15).

# Find answers to these questions in the text above:

- 1. What materials are called conductors?
- 2. What is the advantage of copper compared with silver?
- 3. What is the most common function of wire conductors?
- 4. Why is a minimum voltage drop produced in copper conductors?
- 5. What is the relation between the value of resistance and the temperature in carbon?
- 6. What materials are called insulators?
- 7. What are the most common insulators?
- 8. What are the two main functions of insulators?

### Complete the sentences using the correct variant:

- 1. Insulators are materials having
- a) low resistance.
- b) high resistance.
- 2. Current passes through conductors
- a) easily.
- b) with great difficulty.
- 3. Copper and silver are

- a) common conductors.
- b) common insulators.
- 4. Air, paper and plastics are
- a) common insulators.
- b) common conductors.
- 5. In case a high voltage is applied to
- a) it does not conduct current, an insulator
- b) it conducts current.
- 6. Insulators are used
- a) to store electric charge.
- b) to reduce voltage.
- c) to prevent a short between conducting wires.
- 7. Metals increase their resistance
- a) when the temperature decreases,
- b) when the temperature increases.
- 8. Carbon decreases its resistance
- a) when the temperature increases,
- b) when the temperature decreases.
- 9. Metals have
- a) a positive temperature coefficient of resistance,
- b) a negative temperature coefficient of resistance.

# Complete the sentences using while.

- 1. Conductors have a low resistance...
- 2. Current passes through insulators with great difficulty...
- 3. Metals are common conductors...
- 4. To make insulators conduct, currents of great value must be applied...
- 5. Carbon decreases its resistance when the temperature increases...
- 6. Metals have a positive temperature coefficient of resistance ....

# Pair work. Put these questions to your groupmate, and ask him/her to answer them:

- 1. What is the difference between conductors and insulators?
- 2. How does current pass through insulators?
- 3. What materials are commonly used to produce insulators?
- 4. What materials are commonly used to produce conductors?
- 5. In what case do insulators conduct current?
- 6. How does resistance change when the temperature decreases?

# Практическая работа № 17.

Тема:Виды тока

Цель: совершенствованиелексических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1 выполнить упражнения, перевеститекст

- 1. a) Cover the right column and read the English words. Translate them into Russian and check your translation.
- b) Cover the left column and translate the Russian words back into English.

Alternating переменный

direct прямой

direction направление flow течение

necessary необходимый to con'sider рассматривать

use использование

2. Read the words and write down their Russian equivalents:

cycle

per second

type

3. Put down the Russian for:

one time direct voltage source five times alternating voltage source

sixty times direction of flow

## **Types of Current.**

Current is a flow of electricity through a circuit. Let us consider two main types of current direct and alternating. A direct current (d.c.) flows through a conducting circuit in one direction only. It flows provided a direct voltage source is applied to the circuit.

An alternating current (a.c.) is a current that changes its direction of flow through a circuit. It flows provided an alternating voltage source is applied to the circuit. Alternating current flows in cycles. The number of cycles per second is called the frequency of the current. In a 60-cycle alternating current circuit the current flows in one direction 60 times and in the other direction 60 times per second.

It is easy to transform a.c. power from one voltage to another by a transformer. Transformers are also used to step down the voltage at the receiving point of the line to the low values that are necessary for use.

When necessary a.c. can be changed into d.c. but this is seldom necessary.

## Практическая работа № 18.

Тема:Виды тока

<u> Цель</u>: отработка лексико-грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения к тексту **Types of Current** (см.практ.раб.№17)

# **Complete the sentences using the correct variant:**

- 1. D.c. is a current that a) changes its direction of flow.
- b) flows in one direction.
- 2. A.c. flows provided
- a) a direct voltage source is applied.
- b) an alternating voltage source is applied.
- 3. In an alternating current circuit
- a) current flows in one direction 60 times per rent circuit second.
- b) current flows in one direction 60 times and in the other direction 60 times per second.
- 4. A.c.
- a) can be changed into d.c.
- b) cannot be changed into d.c.

### Complete these sentences using while.

- 1. An alternating current changes its direction of flow ....
- 2. A direct current flows provided a direct voltage source is applied ...

# **Answer the following questions:**

- 1. What is current?
- 2. What types of current do you know?
- 3. When does a direct current flow?
- 4. What type of current is called an alternating current?

- 5. What poe of current is called a direct current?
- 6. What is called the frequency of current?
- 7. What device is used to transform a.c. power from one voltage to another?
- 8. Is it often necessary to change a.c. into d.c.?

# Read about frequency, answer the question that follows.

# Frequency

The number of cycles per second is the frequency of an alternating current. There are two frequencies: the standard for Europe is 50 cycles per second while the standard for the USA is 60 cycles per second. A standard frequency has a great advantage since different systems can be interconnected.

What is the advantage of a standard frequency?

## Практическая работа № 19

<u>Тема</u>: Контрольная работа

<u>Цель</u>: Контроль лексических и грамматических навыков, словарного запаса обучающихся. <u>Перечень оборудования для проведения работы</u>: тетрадь для контрольных работ, письменные принадлежности, словарь.

# Контрольная работа №2. 2 курс 4 семестр.

#### I Variant

# 1. Напишите 3-юформуследующихглаголов

To be, to see, to buy, to sell, to play, to open, to read, to cut.

# 2. Напишите данные предложения в Present Perfect Tense

- 1. She (be) to London several times.
- 2. Jane isn't at home. She (go) shopping.
- 3. My friend is a writer. He (write) many books.
- 4. The train (stop). Let's go for a work.
- 5. We already (do) this exercise.

# 3. Переведитепредложениянарусскийязык

- 1. He had written a letter by 5 o'clock.
- 2. Have you seen this film?
- 3. We have never smoked cigarettes.
- 4. My mum has bought a new car.
- 5. I haven't seen you for ages.

# 4. Раскройтескобкиупотребляяглаголыв Present Perfect, Past Perfect или Future Perfect

- 1. I ... my homework by 6 o'clock tomorrow. (to do)
- 2. Tom ... from the cinema by 5 o'clock yesterday. (to return)
- 3. When I came home my mother ... already ...dinner. (to cook)
- 4. Who ... this article? (to write)
- 5. ... you ...the book? (to find)?
- 6. I ... this work by next Sunday.(to do)

### II Variant

### 1. Напишите глаголы, данные в скобках в Present Perfect

- 1. My bicycle isn't here. Somebody (take) it.
- 2. My little brother (eat) my sandwich.
- 3. John and Richard just (go away).
- 4. You (make) a mistake.
- 5. They never (be) abroad.

# 2. Напишите 3-ю форму данных глаголов:

To study, to do, to win, to have, to write, to swim, to stop, to drink.

# 3. Переведите данные предложения на русский язык

- 1. She hasn't done it this month.
- 2. They have lived there for the last five years.
- 3. Have you heard that story before?
- 4. After I had taken a shower I went to bed.
- 5. My friend had finished the translation by the evening.

# 4. Раскройтескобкиупотребляяглаголыв Present Perfect, Past Perfect или Future Perfect

- 1. How many pages ... you ... by 5 o'clock tomorrow? (to read)
- 2. I ... a book today. (to buy)
- 3. The students ... already ... the text. (to translate)
- 4. Ann told me that she ... an interesting film. (to see)
- 5. I ... my homework by time you come. (to do)
- 6. Yesterday I found the book which I ... in summer. (to lose)

# Практическаяработа № 20

Тема: Дифференцированный зачёт

<u>Цель</u>: Контроль лексических и грамматических навыков, словарного запаса обучающихся. <u>Перечень оборудования для проведения работы</u>: тетрадь для контрольных работ, письменные принадлежности, словарь.

# Контрольные задания к дифференцированному зачету

# II курс Вариант I

# 1. Прочтите текст и ответьте на следующие вопросы:

- 1) What is a resistor used for?
- 2) When does the temperature of a resistor rise?
- 3) What element is used to change the value of voltage?
- 4) What types of resistors do you know?
- 5) What does an open resistor result in?
- 6) What is the difference between a fixed resistor and a variable resistor?
- 7) What resistors have a variable value?

#### Resistors

A resistor is one of the most common elements of any circuit. Resistors are used:

- 1. to reduce the value of current in the circuit;
- 2. to produce IR voltage drop and in this way to change the value of the voltage.

When current is passing through a resistor its temperature rises high. The higher the value of current the higher is the temperature of a resistor.

Each resistor has a maximum temperature to which it may be heated without a trouble. If the temperature rises higher the resistor gets open and opens the circuit.

Resistors are rated in watts. The watt is the rate at which electric energy is supplied when a current of one ampere is passing at a potential difference of one volt. A resistor is rated as a 1-W resistor if its resistance equals 1,000,000 ohms and its current-carrying capacity equals 1/1,000,000 amp, since P = ExI = IRxI = I2R where P - power is given in watts, R - resistance is given in ohms and I - current is given in amperes.

If a resistor has a resistance of only 2 ohms but its current-carrying capacity equals 2,000 amp, it is rated as a 8,000,000-W resistor.

Some resistors have a constant value - these are fixed resistors, the value of other resistors may be varied - these are variable resistors.

## 2. Совместите слова из левой колонки с их переводом из правой:

capacity	скорость, степень
power	производить
heat	емкость

rate	варьировать(ся)
to produce	мощность
to change	теплота, нагрев
to vary	высокий
low	менять(ся)
high	постоянный
fixed	переменный
variable	низкий

## 3. Переведите в письменной форме абзацы 1,2,3.

# 4. Закончите предложения, выбрав правильный вариант:

- 1. A resistor is used
  - a) to measure the resistance.
  - b) to reduce the current.
  - c) to change the resistance.
  - d) to produce IR voltage drop.
- 2. When current passes through a resistor
  - a) its temperature drops.
  - b) its temperature rises
- 3. Resistors are rated
  - a) in ohms.
  - b) in volts.
  - c) in watts.
- 4. Power is given
  - a) in amperes.
  - b) in watts.
- 5. Fixed resistors have
  - a) a constant value.
  - b) a variable value.
- 6. The value of a variable resistor
  - a) is fixed.
  - b) is varied.
- 7. The higher the value of current,
  - a) the lower is the temperature of a resistor.
- b) the higher is the temperature of a resistor.

# Правила образования PresentPerfectTense

PresentPerfectобразуется с помощью вспомогательного глагола tohave (has – для 3 л. ед. ч.). и третьей формы основного глагола.

#### have\has + V3

He has written to his friend Оннаписалсвоемудругу.

**PresentPerfect** используется, когда речь идёт о действии, которое уже совершилось до момента речи, но имеет непосредственное отношение к данному моменту

He has finished his letter Он закончил своё письмо.

(То есть к данному моменту он уже закончил писать письмо и оно готово к отправлению).

Утвердительная форма	He has finished his letter
Отрицательная форма	Has he finished his letter?
Вопросительная форма	He has not finished his letter

Можноделатьсокращения: I have = I've, he has = he's

You have written to your friend You've written to your friend.

You have not written to your friend You haven't written to your friend.

Можно делать сокращение такого типа:

**Have** you ever **been** to London? Вы когда-нибудь были в Лондоне?

Yes I **have.** Да, был.

(То есть вместо того чтобы дать полный ответ, можно написать только начало ответа.)

PresentPerfectможно употреблять, если речь идёт о недалёком прошлом:

I have seen him this morning Явиделегосегодняутром

(такое предложение можно сказать только утром того же дня).

I have been busy this afternoon Ябылзанятсегодняднём

(такое можно сказать только до 6 часов вечера).

Настоящее время группы **perfect** употребляется со следующими наречиями неопределённого времени:

Ever когда-либо. Never никогда. Already уже.

Lately в последнее время (за последние дни/недели). Recently в последнее время (за последние месяцы/годы).

Yet ещё/уже. Just только что. Once однажды.

В вопросительной форме вместо already пишется yet в значении уже:

I **have** already **done** my homework Я уже сделал своё домашнее задание.

**Have** you **done** your homework yet? Ты уже сделал своё домашнее задание

# Упражнение 1. Поставьте предложения в PresentPerfect:

- 1. She....(just break) a vase.
- 2. We.....(already clean) the room.
- 3. I....(just make) the bed.
- 4. He.....(phone) his friend.
- 5. It....(start) raining.
- 6. A little girl.....(cut) her finger.

# Упражнение 2. Что обозначает -'s— (has или is)? Напиши предложения без сокращений:

- 1. She'sgonetotheshop.
- 2. She's very angry.
- 3. I think Emily's right.
- 4. He's lived here for ten years.
- 5. He's always hungry.
- 6. What's happened?

### Контрольные задания к дифференцированному зачету

# II курс

# Вариант II

# 1. Прочтите текст и ответьте на следующие вопросы:

- 1. What is a capacitor used for?
- 2. What are the main parts of a capacitor?
- 3. What is the function of insulators?
- 4. What does the capacity of a capacitor depend on?
- 5. What is the difference between a fixed capacitor and a variable one?
- 6. What should be done in order to change a capacitor?

#### **Capacitors**

A capacitor is one of the main elements of a circuit. It is used to store electric energy. A capacitor stores electric energy provided that a voltage source is applied to it.

The main parts of a capacitor are metal plates and insulators. The function of insulators is to

isolate the metal plates and in this way to prevent a short.

In the diagram one can see two common types of capacitors in use nowadays: a fixed capacitor and a variable one. The plates of a fixed capacitor cannot be moved; for this reason its capacity does not change. The plates of a variable capacitor move; its capacity changes. The greater the distance between the plates, the less is the capacity of a capacitor. Variable capacitors are commonly used by radiomen; their function is to vary the frequency in the circuit. Fixed capacitors are used in telephone and radio work.

Fixed capacitors have insulators produced of paper, ceramics and other materials; variable capacitors have air insulators. Paper capacitors are commonly used in radio and electronics; their advantage is their high capacity: it may be higher than 1,000 picofarad.

Besides, electrolyte capacitors are highly in use. They also have a very high capacity: it varies from 0.5 to 2,000 microfarad. Their disadvantage is that they change their capacity when the temperature changes. They can operate without a change only at temperatures not fewer than -40°C.

Common troubles in capacitors are an open and a short. A capacitor stops operating and does not store energy in case it has a trouble. A capacitor with a trouble should be substituted by a new one.

2. Совместите слова из левой колонки с их переводом из правой:

2. Cobinectific choose its medon kononkii c iix nepebogom iis npabon.	
capacitor	частота
insulator	преимущество
frequency	недостаток
distance	прилагать, применять
advantage	двигать(ся)
disadvantage	конденсатор
plate	причина
to apply	расстояние
to move	изолятор
to prevent	анод (лампы)
reason	предотвращать
providedthat	при условии что

## 3. Переведите в письменной форме абзацы 1,2,3.

## 4. Закончите предложения, выбрав правильный вариант:

- 1. A capacitor is used
  - a) to supply voltage.
  - b) to increase the voltage output.
  - c) to store energy.
  - 2. The main parts of a capacitor are
    - a) insulators only.
    - b) metal plates only.
    - c) metal plates and insulators between them.
  - 3. The function of insulators is
    - a) to store energy.
    - b) to isolate the metal plates.
    - c) to prevent a short between the metal plates.
  - 4. The capacity of a capacitor depends on
    - a) the size of the plates.
    - b) the distance between the plates.
    - c) the material of the insulators.
  - 5. The capacity of a fixed capacitor

- a) is constant.
  - b) is varied.
  - 6. The plates of a variable capacitor
    - a) can be moved.
    - b) cannot be moved.
- 7. Electrolyte capacitors have
  - a) a very low capacity.
  - b) a very high capacity.
- 8. In case a capacitor has a trouble
  - a) it operates.
  - b) it stops operating.

# Правила образования PastPerfectTense

Прошедшее время группы **Perfect** используется, когда речь идёт о действии, которое уже произошло до определённого момента в прошлом и это действие связанно с этим моментом, а не с моментом речи (то есть с настоящим моментом). Прошедшее время группы **Perfect** образуется при помощи глагола **to have** в форме прошедшего времени и третьей формы смыслового глагола:

#### had + V3

I heard that he **had left** New York.

Я слышал, что он оставил Нью-Йорк.

I had read the book by five o'clock yesterday. Вчера я прочёл книгу к пяти часам вечера.

Когда используется Past Perfect, то некоторые слова меняются, например:

#### nowменяетсянаthen:

He say she doesn't know about it now. Он говорит, что не знает об этом сейчас.

He said he hadn't known about it then. Он сказал, что он не знал об этом тогда.

Меняются также некоторые другие слова:

This/ these меняетсянаthat/ those.

Here меняетсянаthere.

yesterday меняетсянаthe day before,

today меняетсянаthat day,

tomorrow меняетсяна(the) next dayилиthe following day,

ago меняется на before или earlier (слово ago может и не заменяться),

квыражениямlast week/ last year прибавляетсяthe + before.

В некоторых случаях с использованием when или as soon as кажется, что речь идёт о Past Perfect, но на самом деле это Past Indefinite например:

When he saw us he came toward us. Когда он нас увидел, то пошёл по направлению к нам.

## Упражнение 1. Раскройте скобки, поставив глаголы в PastPerfect:

Образец: Mr And Mrs Davis were in an airplane.

They were very nervous as the plane took off because they had never flown before (fly).

- 1. My best friend, Kevin, was no longer there. He ... (go) away.
- 2. The local cinema was no longer open. It ... (close) down.
- 3. Mr Johnson was no longer alive. He ... (die).
- 4. I didn't recognize Mrs Johnson. She ... (change) a lot.
- 5. Bill no longer had his car. He ... (sell) it.
- 6. The woman was a complete stranger to me. I ... (see) before.

# Упражнение 2. Раскройтескобки, употребляяглаголыв Past Simple или Past Perfect:

- 1. Tom (to return) from the cinema at five o'clock.
- 2. Tom (to return) from the cinema by five o'clock.
- 3. I (to finish) my homework at seven o'clock.

- 4. I (to finish) my homework by seven o'clock.
- 5. He (to think) that he (to lose) the money.
- 6. Ann (to tell) me that she (to see) an interesting film.

# 3 курс 5семестр Практическая работа № 1.

<u>Тема:</u>Металлы

<u>Цель</u>: отработка лексико-грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: прочитать и перевести текст, составить 10 вопросов к тексту

#### Metals

Metals are materials most widely used in industry because of their properties. The study of the production and properties of metals is known as metallurgy.

The separation between the atoms in metals is small, so most metals are dense. The atoms are arranged regularly and can slide over each other. That is why metals are malleable (can be deformed and bent without fracture) and ductile (can be drawn into wire). Metals vary greatly in their properties. For example, lead is soft and can be bent by hand, while iron can only be worked by hammering at red heat.

The regular arrangement of atoms in metals gives them a crystalline structure, irregular crystals are called grains. The properties of the metals depend on the size, shape, orientation, and composition of these grains. In general, a metal with small grains will be harder and stronger than one with coarse grains.

Heat treatment such as quenching, tempering, or annealing controls the nature of the grains and their size in the metal. Small amounts of other metals (less than 1 per cent) are often added to a pure metal. This is called alloying (легирование) and it changes the grain structure and properties of metals.

All metals can be formed by drawing, rolling, hammering and extrusion, but some require hot-working.

Metals are subject to metal fatigue and to creep (the slowincrease in length under stress) causing deformation and failure. Both effects are taken into account by engineers when designing, for example, airplanes, gas-turbines, and pressure vessels for high-temperature chemical processes. Metals can be worked using machine-tools such as lathe, milling machine, shaper and grinder.

The ways of working a metal depend on its properties. Many metals can be melted and cast in moulds, but special conditions are required for metals that react with air.

## Перевести слова с помощью словаря и выучить

Property, metallurgy, separation, dense, arrangement, to slide, malleable, bent, to fracture, ductile, to draw, wire, lead, iron, grain, treatment, quenching, tempering. to hammer, extrusion, metal fatigue, stress

## Практическая работа № 2.

Тема: Металлы

Цель: закрепление лексических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

- 1. Ответить на вопросы к тексту Металлы (см. Прак. Раб. № 1)
  - 1. What are metals and what do we call metallurgy?
  - 2. Why are most metals dense?
  - 3. Why are metals malleable?

- 4. What is malleability?
- 5. What are grains?
- 6. What is alloying?
- 7. What is crystalline structure?
- 8. What do the properties of metals depend on?
- 9. What changes the size of grains in metals?
- 10. What are the main processes of metal forming?
- 11. How are metals worked?
- 12. What is creeping?
- 2. Перевести слова

Property, metallurgy, separation, dense, arrangement, to slide, malleable, bent, to fracture, ductile, to draw, wire, lead, iron, grain, treatment, quenching, tempering. to hammer, extrusion, metal fatigue, stress

- 3. Найдите следующие слова и выражения в тексте Металлы (см. Прак. Раб. № 1)
  - 1. Свойства металлов
  - 2. Расстояние между атомами
  - 3. Правильное расположение
  - 4. Сильно отличаются по своим свойствам
  - 5. Кристаллическая структура
  - 6. Размер зерен
  - 7. Форма зерен
  - 8. Закалка
  - 9. Отжиг
  - 10. Волочение
  - 11. Прокатка
  - 12. Ковка
  - 13. Экструзия
  - 14. Структура и свойства зерен
  - 15. Горячая обработка
  - 16. Усталость металла
  - 17. Ползучесть металла
  - 18. Плавка и отливка формы
  - 19. Способы обработки металлов

### Практическая работа № 3.

Тема: Металлы. Выполнение лексических и грамматических упражнений

<u> Цель:</u> закрепление лексических и грамматических навыков

<u>Перечень оборудования для проведения работы:</u> тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

# <u> І. Закончите следующие предложения</u>

- 1. Metals are...
- 2. Metallurgy is...
- 3. Most metals are...
- 4. The regular arrangement of atoms in metals...
- 5. Irregular crystals...
- 6. The properties of the metals depend ....
- 7. Metals with small grains will be ....
- 8. ...controls the nature of the grains in the metal.
- 9. Alloying is ....
- 10. All metals can be formed by ....
- 11. Creep is ....
- 12. Metals can be worked using ....

#### II. Объясните на английском значения следующих слов

- 1. malleability;
- 2. crystalline structure;
- 3. grains;
- 4. heat treatment;
- 5. alloying;
- 6. creep.

## III. Раскройтескобки, употребляяглаголыв Present, Past или Future Simple Passive.

- 1. Bread (eat) every day.
- 2. The letter (receive) yesterday.
- 3. I (give) a very interesting book at the library.
- 4. This work (to) tomorrow.
- 5. His new book (finish) next year.

# IV. Выберите правильную форму страдательного залога (Present or Past Continuous Passive):

- 1. The flowers... at the moment. A) are watered, b) were being watered, c) are being watered
- 2. ...the homework when the teacher entered the room? A) was being done, b) were being done, c) are done
- 3. When I called dinner... . A) was being cook,b) is being cooked, c) was being cooked
- 4. The anecdote... when he came. A) was being told, b) was told, c) was being tell
- 5. Look! A house... . a) was decorated, b) is being decorated, c) are being decorated
- 6. A letter... to Mr.Morton when his wife came in. A)is being dictated, b)was being dictated, c)was dictated
- 7. This book...there now. A) is being sold, b) was being sold, c) is sold, d) was sold
- 8. Don't enter the room. Student Ivanov... now. A) is examined, b) is being examined,
- c) are being examined
- 9. New books...in the library now. A) is being discuss, b) are being discussed,
- c) was discussed
- 10. A meeting... there. A) is being held, b) is being hold, c) was being held

#### Практическая работа № 4

Тема: Сталь. Steel

Цель: совершенствование навыков перевода технических текстов

<u>Перечень оборудования для проведения работы:</u> тетрадь, письменные принадлежности, словарь.

Задание: перевести текст, выписать и перевести слова, ответить на вопросы

#### Steel

The most important metal in industry is iron and its alloy — steel. Steel is an alloy of iron and carbon. It is strong and stiff, but corrodes easily through rusting, although stainless and other special steels resist corrosion. The amount of carbon in a steel influences its properties considerably. Steels of low carbon content (mild steels) are quite ductile and are used in the manufacture of sheet iron, wire, and pipes. Medium-carbon steels containing from 0.2 to 0.4 per cent carbon are tougher and stronger and are used as structural steels. Both mild and medium-carbon steels are suitable for forging and welding. High-carbon steels contain from 0.4 to 1.5 per cent carbon, are hard and brittle and are used in cutting tools, surgical instruments, razor blades and springs. Tool steel, also called silver steel, contains about 1 per cent carbon and is strengthened and toughened by quenching and tempering.

The inclusion of other elements affects the properties of the steel. Manganese gives extra strength and toughness. Steel containing 4 per cent silicon is used for transformer cores or electromagnets because it has large grains acting like small magnets. The addition of chromium

gives extra strength and corrosion resistance, so we can get rust-proof steels. Heating in the presence of carbon or nitrogen-rich materials is used to form a hard surface on steel (case-hardening). High-speed steels, which are extremely important in machine-tools, contain chromium and tungsten plus smaller amounts of vanadium, molybdenum and other metals.

Alloy, carbon, to corrode, rusty, stainless, to resist, considerably, tough, forging, welding, brittle, cutting tools, surgical instruments, blade, spring, inclusion, to affect, manganese, silicon, rust, nitrogen, tungsten

## General understanding:

- 1. What is steel?
- 2. What are the main properties of steel?
- 3. What are the drawbacks of steel?
- 4. What kinds of steel do you know? Where are they used?
- 5. What gives the addition of manganese, silicon and chromium to steel?
- 6. What can be made of mild steels (medium-carbon steels, high-carbon steels)?
- 7. What kind of steels car be forged and welded?
- 8. How can we get rust-proof (stainless) steel?
- 9. What is used to form a hard surface on steel? 10. What are high-speed steels alloyed with?

# Практическая работа № 5

Тема: Сталь. Steel

<u> Цель:</u> совершенствование навыков перевода технических текстов

<u>Перечень оборудования для проведения работы:</u> тетрадь, письменные принадлежности, словарь.

Задание: перевести текст, выписать и перевести слова, ответить на вопросы

#### METHODS OF STEEL HEAT TREATMENT.

Quenching is a heat treatment when metal at a high temperature is rapidly cooled by immersion in water or oil. Quenching makes steel harder and more brittle, with small grains structure. Tempering is a heat treatment applied to steel and certain alloys. Hardened steel after quenching from a high temperature is too hard and brittle for many applications and is also brittle. Tempering, that is re-heating to an intermediate temperature and cooling slowly, reduces this hardness and brittleness. Tempering temperatures depend on the composition of the steel but are frequently between 100 and 650 °C. Higher temperatures usually give a softer, tougher product. The colour of the oxide film produced on the surface of the heated metal often serves as the indicator of its temperature.

Annealing is a heat treatment in which a material at high temperature is cooled slowly. After cooling the metal again becomes malleable and ductile (capable of being bent many times without cracking).

All these methods of steel heat treatment are used to obtain steels with certain mechanical properties for certain needs.

## Vocabulary:

to immerse, to apply, intermediate, oxide, annealing, cracking *General understanding:* 

- 1. What can be done to obtain harder steel?
- 2. What makes steel more soft and tough?
- 3. What makes steel more malleable and ductile?
- 4. What can serve as the indicator of metal temperature while heating it?
- 5. What temperature range is used for tempering?
- 6. What are the methods of steel heat treatment used for?

#### Практическая работа № 6

<u>Тема:</u> Сталь. Steel. Выполнение лексических и грамматических упражнений

Цель: закрепление лексических навыков

<u>Перечень оборудования для проведения работы:</u> тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

1. Написать перевод слов

Alloy, carbon, to corrode, rusty, stainless, to resist, tough, forging, welding, brittle, cutting tools, surgical instruments, blade, spring, inclusion, to affect, manganese, silicon, rust-nitrogen, tungsten, to immerse, to apply, intermediate, oxide, annealing, cracking

- 2. Найти в тексте следующие слова и выражения
  - Сплав железа и углерода
  - Прочный и жесткий
  - Легко коррозирует
  - Нержавеющая сталь
  - Низкое содержание углерода
  - Ковкость
  - Листовое железо, проволока, трубы
  - Конструкционные стали
  - Пригодны для ковки и сварки
  - Твердый и хрупкий
  - Режущие инструменты
  - Хирургические инструменты
  - Инструментальная сталь
  - Упрочнять
  - Добавление марганца

#### Переведите предложения на русский язык, обращая внимание на страдательный залог

- 1. The work was finished on time.
- 2. What museums were visited last year?
- 3. Invitations have been sent to all students.
- 4. The letter has just been received.
- 5. By 3o'clock everything had been prepare.
- 6. I was being asked when the bell rang.
- 7. I must go. I am being waited.
- 8. My father will be operated on.

# Практическая работа № 7.

Тема: Способы обработки металлов. Metalworking

<u>Цель</u>: развитие навыков перевода технических текстов, активизация лексических навыки <u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: перевести текст, выписать и перевести слова, выполнить упражнение

# **Metalworking**

Metals are important largely because they can be easily deformed into useful shapes. Literally hundreds of metalworking processes have been developed for specific applications, but these can be divided into five broad groups: rolling, <u>extrusion</u>, drawing, forging, and sheet-metal forming. The first four processes subject a metal to large amounts of strain. However, if deformation occurs at a sufficiently high temperature, the metal will recrystallize—that is, its deformed grains will be consumed by the growth of a set of new, strain-free grains. For this reason, a metal is usually rolled, extruded, drawn, of forged above its recrystallization

temperature. This is called hot working, and under these conditions there is virtually 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 <u>cold working</u>. Cold working hardens metal and makes the part stronger. However, there is a definite limit to the strain that can be put into a cold part before it cracks.

Useful, shape, extrusion, drawing, forging, sheet, to subject, amount, condition, perform, to harden, at least, common, billet, orifice, die, cross, section, window, frame, tube, hollow, initial, thick-walled, mandrel, impact, loosely, fitting, ram, force, gap, to determine

Упражнение. Допишите одну из трех форм глагола:

- 1. to take,..., taken
- 2. to sell, sold, ...
- 3. ..., was/were, been
- 4. ...; had, had
- 5. To cut,..., cut
- 6. ..., ate, eaten
- 7.to build,..., built
- 8. to be,..., been
- 9...., went, gone
- 10. to see, saw, ...

#### Практическая работа № 8.

Тема: Способы обработки металлов. Metalworking

<u>Цель:</u> развитие навыков перевода технических текстов, развитие грамматических навыков <u>Перечень оборудования для проведения работы:</u> тетрадь, письменные принадлежности, словарь.

Задание: перевести текст, ответить на вопросы

### **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—usually to take the metal from a cast ingot down to a sheet or bar. The most common rolled product is sheet. With high-speed computer control, it is common for several stands of rolls to be combined in series, with thick sheet entering the first stand and thin sheet being coiled from the last stand at linear speeds of more than 100 kilometres (60 miles) per hour. Similar multistand mills are used to form coils of wire rod from bars. Other rolling mills can press large bars from several sides to form I-beams or railroad rails.

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 converts a billet of metal into a length of uniform cross section by forcing the billet to flow through the orifice of a die. In forward extrusion the ram and the die are on opposite sides of the workpiece. Products may have either a simple or a complex cross section; examples of complex extrusions can be found in aluminum window frames.

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), the workpiece is placed in the bottom of a hole (the die), 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. When toothpaste tubes were made of a lead alloy, they were formed by this process.

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?

## Практическая работа № 9.

<u>Тема:</u> Способы обработки металлов. Metalworking. Выполнение лексических и грамматических упражнений

<u> Цель:</u> совершенствование лексико-грамматических навыков

<u>Перечень оборудования для проведения работы:</u> тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнение

- 1. Найдите следующие выражения в тексте Metalworking (см. прак.раб №7-8)
  - Могут легко деформироваться
  - Нужные формы
  - Подвергать большим деформациям
  - Зерна, свободные от деформации
  - Температура перекристаллизации
  - Пластическая деформация сжатия
  - Самый обычный процесс обработки металла
  - Самое обычное изделие проката
  - Отверстие фильеры
  - Первоначальный
  - Сложное сечение
  - Пустотелые детали
  - Свободно входящий плунжер
  - Зазор между плунжером и штампом
  - Толщина стенки
- 2. Раскройте скобки, выбирая требующуюся форму глагола.
- 1. At the station they will (meet, be met) by a man from the travel bureau. 2. She will (meet, be met) them in the hall upstairs. 3. The porter will (bring, be brought) your luggage to your room.
- 4. Your luggage will (bring, be brought) up in the lift. 5. You may (leave, be left) your hat and coat in the cloakroom downstairs. 6. They can (leave, be left) the key with the clerk downstairs.
- 7. From the station they will (take, be taken) straight to the hotel. 8. Tomorrow he will (take, be taken) them to the Russian Museum.

# Практическая работа № 10.

Tema: Drawing and Forging. Волочение и ковка

<u>Цель:</u> развитие навыков перевода технических текстов

<u>Перечень оборудования для проведения работы:</u> тетрадь, письменные принадлежности, словарь.

Задание: перевести текст, выписать и перевести слова

## **DRAWING**

Drawing consists of pulling metal through a die. One type is wire drawing. The diameter reduction that can be achieved in such a die is limited, but several dies in series can be used to obtain the desired reduction. Deep drawing starts with a disk of metal and ends up with a cup by pushing the metal through a hole (die). Several drawing operations in sequence may be used for one part. Deep drawing is employed in making aluminum beverage cans and brass rifle cartridges from sheet.

#### SHEET METAL FORMING

In stretch forming, the sheet is formed over a block while the workpiece is under tension. The metal is stretched just beyond its yield point (2 to 4 percent strain) in order to retain the new shape. Bending can be done by pressing between two dies. (Often a part can be made equally well by either stretch forming or bending; the choice then is made on the basis of cost.) Shearing is a cutting operation similar to that used for cloth. In these methods the thickness of the sheet changes little in processing.

Each of these processes may be used alone, but often all three are used on one part. For example, to make the roof of an automobile from a flat sheet, the edges are gripped and the piece pulled in tension over a lower die. Next a mating die is pressed over the top, finishing the forming operation, and finally the edges are sheared off to give the final dimensions.

to pull, reduction, to achieve, in series, beyond, yield point, to retain, to bend, shearing, edge, to grip, lower die, upper die, forming, operation, dimension, required increase, open-die forging, hammering, within, to enclose, rod, bar, involved, tolerance, upsetting, blow, coining, imprint

# Практическая работа № 11.

**Tema:** DrawingandForging. Волочение и ковка

<u> Цель:</u> развитие навыков перевода технических текстов

<u>Перечень оборудования для проведения работы:</u> тетрадь, письменные принадлежности, словарь.

Задание: перевести текст ответить на вопросы

#### **FORGING**

Forging is the shaping of a piece of metal by pushing with open or closed dies. It is usually done hot in order to reduce the required force and increase the metal's plasticity.

Open-die forging is usually done by hammering a part between two flat faces. It is used to make parts that are too big to be formed in a closed die or in cases where only a few parts are to be made and the cost of a die is therefore unjustified. The earliest forging machines lifted a large hammer that was then dropped on the work, but now air- or steam-driven hammers are used, since these allow greater control over the force and the rate of forming. The part is shaped by moving or turning it between blows. A forged ring can be formed by placing a mandrel through the ring and deforming the metal between the hammer and the mandrel. Rings also can be forged by rolling with one roll inside the ring and the other outside.

Closed-die forging is the shaping of hot metal within the walls of two dies that come together to enclose the workpiece on all sides. The process starts with a rod or bar cut to the length needed to fill the die. Since large, complex shapes and large strains are involved, several dies may be used to go from the initial bar to the final shape. With closed dies, parts can be made to close tolerances so that little finish machining is required.

Two closed-die forging operations given special names are upsetting and coining. Coining takes its name from the final stage of forming metal coins, where the desired imprint is formed on a smooth metal disk that is pressed in a closed die. Coining involves small strains and is done cold to enhance surface definition and smoothness. Upsetting involves a flow of the metal back upon itself. An example of this process is the pushing of a short length of a rod through a hole, clamping the rod, and then hitting the exposed length with a die to form the head of a nail or bolt.

General understanding:

- 1. How can the reduction of diameter in wire drawing be achieved?
- 2. What is sheet metal forming and where it can be used?
- 3. What is close-die forging?
- 4. What is forging?
- 5. What are the types of forging?
- 6. What types of hammers are used now?
- 7. Where are coining and upsetting used?
- 8. What process is used in wire production?

9. Describe the process of making the roof of a car.

# Практическая работа № 12.

<u>Tema:</u>DrawingandForging. Волочение и ковка. Выполнение лексических и грамматических упражнений. Повторение

<u> Цель:</u> совершенствование лексико-грамматических навыков

<u>Перечень оборудования для проведения работы:</u> тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

- 1. Найти следующие слова и выражения в тексте DrawingandForging (см.практ.раб №10-11)
  - Протягивание металла через фильеру
  - Волочение и ковка
  - Уменьшение диаметра
  - Толщина листа
  - Растягивать выше точки текучести
  - Сохранить новую форму
  - Края отрезаются
  - Конечные размеры
  - Уменьшить необходимое усилие
  - Увеличить пластичность металла
  - Воздушные или паровые молоты
  - Сила и скорость штампования
  - Внутри стенок двух штампов
  - Отделочная работа
  - Малые допуски
- 2. Переведите на английский, употребляя глаголы в Present, Past или Future Simple Passive.

Мне рассказали — Мне рассказывают — Мне расскажут

Мне показали — Мне показывают — Мне покажут

Ее привели — Ее приводят — Ее приведут

Нас спросили — Нас спрашивают — Нас спросят

Нам ответили — Нам отвечают — Нам ответят

Нас послали — Нас посылают — Нас пошлют

Им дали — Им дают — Им дадут

Ему помогли— Ему помогают — Ему помогут

Ему посоветовали — Ему советуют — Ему посоветуют

Его забыли — Его забывают — Его забудут

Его вспомнили — Его вспоминают — Его вспомнят

Нас пригласили — Нас приглашают — Нас пригласят

Нас поправили — Нас поправляют — Нас поправят

Его позвали — Его зовут — Его позовут

# Практическая работа № 13.

Тема: Улучшение свойств металлов

Цель: совершенствование лексических навыков, развитие техники перевода

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: перевести слова и текст.

№ 1.Перевестисловаспомощьюсловаря

Feature, to provide, improvement, property, eliminate, porosity, directional, to segregate, casting, elongated, to weaken ,transverse, flow, finished, thinning, fracture, strain hardening, brass, beverage, can, to exhibit, flaws, inclusion, refining, to avoid, to undergo, tensile ductility

№ 2.Перевеститекст

#### **METAL PROPETIES**

An important **feature** of hot working is that it **provides** the **improvement** of mechanical **properties of** metals. Hot-working (hot-rolling or hot-forging) **eliminates porosity, directionality,** and **segregation** that are usually present in metals. Hot-worked products have better ductility and toughness than the unworked **casting.** During the forging of a bar, the grains of the metal become greatly **elongated** in the direction of flow. As a result, the toughness of the metal is greatly improved in this direction and **weakened** in directions **transverse** to the flow. Good forging makes the flow lines in the **finished** part oriented so as to lie in the direction of maximum stress when the part is placed in service.

The ability of a metal to resist thinning and fracture during cold-working operations plays an important role in alloy selection. In operations that involve stretching, the best alloys are those which grow stronger with strain (are strain hardening) — for example, the copper-zinc alloy, brass, used for cartridges and the aluminum-magnesium alloys in beverage cans, which exhibit greater strain hardening.

Fracture of the workpiece during forming can result from **inner flaws** in the metal. These flaws often consist of nonmetallic **inclusions** such as oxides or sulfides that are **trapped** in the metal during **refining**. Such inclusions can be **avoided** by proper manufacturing procedures.

The ability of different metals to **undergo** strain varies. The change of the shape after one forming operation is often limited by the **tensile ductility** of the metal. Metals such as copper and aluminum are more ductile in such operations than other metals.

# Практическая работа № 14.

Тема: Улучшение свойств металлов

Цель: совершенствование лексических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

- 1. Ответить на вопросы к текстуМЕТАL PROPETIES
- 1. What process improves the mechanical properties of metals?
- 2. What new properties have hot-worked products?
- 3. How does the forging of a bar affect the grains of the metal? What is the result of this?
- 4. How are the flow lines in the forged metal oriented and how does it affect the strength of the forged part?
- 5. What are the best strain-hardening alloys? Where can we use them?
- 6. What are the inner flaws in the metal?
- 7. Can a metal fracture because of the inner flaw?
- 8. What limits the change of the shape during forming operations?
- 2. <u>Найти следующие слова и выражения в тектсе METAL PROPETIES</u>
  - Важная особенность горячей обработки
  - Улучшение механических свойств
  - Необработанная отливка
  - Направление максимального напряжения
  - Способность сопротивляться утончению и разрушению
  - Проявлять большее деформационное упрочнение
  - Разрушение детали при штамповке
  - Внутренние дефекты в металле

- Неметаллические включения
- Способность металлов подвергаться деформации
- Ограничивается пластичностью металла при растяжении

# Практическая работа № 15

<u>Тема</u>: Контрольная работа

<u>Цель</u>: Контроль лексических и грамматических навыков, словарного запаса обучающихся. <u>Перечень оборудования для проведения работы</u>: тетрадь для контрольных работ, письменные принадлежности, словарь.

# Контрольная работа №1 3 курс 5 семестр

Вариант 1.

# 1. Допишите одну из трех форм глагола:

- 1. to take,..., taken
- 2. to sell, sold, ...
- 3. ..., was/were, been
- 4. ...; had, had
- 5. to cut,..., cut
- 6. ..., ate, eaten
- 7.to build,..., built
- 8. to be,..., been
- 9...., went, gone
- 10. to see, saw, ...

# 2. Раскройтескобки, употребляяглаголыв Present, Past или Future Simple Passive.

- 1. Bread (eat) every day.
- 2. The letter (receive) yesterday.
- 3. I (give) a very interesting book at the library.
- 4. This work (to) tomorrow.
- 5. His new book (finish) next year.

# 3. Выберите правильную форму страдательного залога (Present or Past Continuous Passive):

- 1. The flowers... at the moment. A) are watered, b) were being watered, c) are being watered
- 2. ...the homework when the teacher entered the room? A) was being done, b) were being done, c) are done
- 3. When I called dinner... . A) was being cook,b) is being cooked, c) was being cooked
- 4. The anecdote... when he came. A) was being told, b) was told, c) was being tell
- 5. Look! A house... . a) was decorated, b) is being decorated, c) are being decorated
- 6. A letter... to Mr. Morton when his wife came in. A)is being dictated, b)was being dictated, c)was dictated
- 7. This book...there now. a) is being sold, b) was being sold, c) is sold, d) was sold
- 8. Don't enter the room. Student Ivanov... now. a) is examined, b) is being examined,
- c) are being examined
- 9. New books...in the library now. a) is being discuss, b) are being discussed,
- c) was discussed
- 10. A meeting... there. A) is being held, b) is being hold, c) was being held

# <u>4.Переведите предложения на русский язык, обращая внимание на страдательный залог</u>

1. The work was finished on time.

- 2. What museums were visited last year?
- 3. Invitations have been sent to all students.
- 4. The letter has just been received.
- 5. By 3o'clock everything had been prepare.
- 6. I was being asked when the bell rang.
- 7. I must go. I am being waited.
- 8. My father will be operated on.

Вариант 2.

# 1.Напишите 3ю форму данных глаголов

To close, to put, to operate, to be, to come, to take, to give, to lose.

# 2. Переведите на английский язык выделенные глаголы

- 1.A lot of houses построено in Moscow and other cities.
- 2. When былонаписано this letter?
- 3. This question обсуждался when we came in.
- 4. Where are the students? They экзаменуются now in the next room.
- 5.The steam engine изобрели in 1769.

# <u>3. Переведите предложения на русский язык, обращая внимание на страдательный залог</u>

- 1. The lecture is attended by many students.
- 2. A new bicycle has been bought for him.
- 3. The film will be seen soon.
- 4. English is spoken in many countries.
- 5. The report was being discussed the whole evening.
- 6. The book has been read.
- 7. The plan of our trip had been discussed before the director came.
- 8. The exams will have been passed by the beginning of July.

# Практическая работа № 16

Тема: Итоговое занятие

<u>Цель</u>: Контроль лексических и грамматических навыков, словарного запаса обучающихся. <u>Перечень оборудования для проведения работы</u>: тетрадь для контрольных работ, письменные принадлежности, словарь.

Задание: выполнить упражнения

Перевести названия металлов:

Gold, silver, iron, aluminium, copper, steel, brass, tin, zinc, lead, nickel, platinum, titanium, mercury, bronze

Перевести текст, используя словарный минимум после текста

Metals are a group of elements that share certain properties. They conduct heat and electricity well, which is why cooking pans and electrical wires are made of metal.

They are also strong and can be shaped easily;

this is why they are used to make structures such as bridges.

Although there are many similarities between metals, there are also differences that determine how suitable a metal is for a particular use.

Of the 109 elements known today, 87 are metals. They are rarely used in their pure state.

They are usually mixed with other metals or nonmetals to form combinations known as alloys.

alloys – сплав; лигатура, примесь although – хотя, если бы даже; несмотря на то, что certain – точный, определённый conduct (conducted, conducted) – проводить; служить проводником electrical wires – электропроводка electricity – электричество

раттісиlar — редкий, особенный, специфический ргоретту — свойство, качество риге — чистый; беспримесный гагеly — редко, нечасто shape (shaped, shaped) — придавать форму; делать по какому-л. образцу share (shared, shared) — делить similarity — подобие, сходство state — состояние, положение structure — строение, структура; конструкция, устройство suitable — годный, подходящий, пригодный, применимый, соответствующий use (used, used) — использовать, применять, употреблять

# 3 курс 6семестр Практическая работа № 1.

Тема: Сплавы

<u> Цель</u>: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1: перевеститекст

An alloy is a mixture of metals or a mixture of a metal and another element. Alloys are defined by a metallic bonding character. An alloy may be a solid solution of metal elements (a single phase) or a mixture of metallic phases (two or more solutions). Intermetallic compounds are alloys with a defined stoichiometry and crystal structure. Zintl phases are also sometimes considered alloys depending on bond types (see also: Van Arkel-Ketelaar triangle for information on classifying bonding in binary compounds).

Alloys are used in a wide variety of applications. In some cases, a combination of metals may reduce the overall cost of the material while preserving important properties. In other cases, the combination of metals imparts synergistic properties to the constituent metal elements such as corrosion resistance or mechanical strength. Examples of alloys are steel, solder, brass, pewter, duralumin, bronze and amalgams.

The alloy constituents are usually measured by mass. Alloys are usually classified as substitutional or interstitial alloys, depending on the atomic arrangement that forms the alloy. They can be further classified as homogeneous (consisting of a single phase), or heterogeneous (consisting of two or more phases) or intermetallic.

Задание № 2: Прочитать, законспектировать, сделать упражнение

Запомните случаи, в которых инфинитив употребляется без частицы "to":

- после модальных глаголов;
- после глаголов to let и to make;
- в сложном дополнении после глаголов восприятия: (to see, to hear, to feel, etc.);
- послевыражений: I would rather... You had better...

Упражнение. Вставьте частицу to перед инфинитивом, где необходимо.

1. I like ... dance. 2. I'd like ... dance. 3. I shall do all I can ... help you. 4. She made me ... repeat my words several times. 5. I saw him ... enter the room. 6. She did not let her mother ... go away. 7. Do you like ... listen to good music? 8. Would you like ... listen to good music? 9. That funny scene made me ... laugh. 10. I like ... play the guitar. 11. My brother can ... speak French. 12. We had ... put on our overcoats because it was cold. 13. They wanted ... cross the river. 14. It is high time for you ... go to bed. 15. May I ... use your telephone? 16. They heard the girl... cry out with joy. 17. I would rather ... stay at home today. 18. He did not want ... play in the yard any more. 19. Would you like ... go to England? 20. You look tired. You had better ... go home. 21. I wanted ... speak to Nick, but could not ... find his telephone number. 22. It is time ... get up. 23. Let me ... help you with your homework. 24. I was planning ... do a lot of things yesterday. 25.

I'd like ... speak to you. 26. I think I shall be able ... solve this problem. 27. What makes you ... think you are right?

# Практическая работа № 2.

Тема:Сплавы

<u> Цель</u>: совершенствование лексических навыков

Перечень оборудования для проведения работы: тетрадь, письменные принадлежности,

Задание: перевести таблицу, выписать виды сплавов

# Some common alloys and what we use them for

There are zillions of different alloys used for zillions of different purposes. We've listed 20 of the more common (or otherwise interesting) ones in the table below. There are lots of different variations on most alloys and the precise mixture can vary widely, so the percentage figures you see quoted in different books will often not agree exactly.

Alloy	Components	Typicaluses
Alnico	Iron (50%+), aluminum (8–12%), nickel (15–25%), cobalt (5–40%), plus other metals such as copper and titanium.	Magnets in loudspeakers and pickups in electric guitars.
Amalgam	Mercury (45–55%), plus silver, tin, copper, and zinc.	Dentalfillings.
Babbittmetal ("whitemetal")	Tin (90%), antimony (7–15%), copper (4–10%).	Friction-reducing coating in machine bearings.
Brass	Copper (65–90%), zinc (10–35%).	Door locks and bolts, brass musical instruments, central heating pipes.
Bronze	Copper (78–95%), tin (5–22%), plus manganese, phosphorus, aluminum, or silicon.	Decorativestatues, musicalinstruments.
Castiron	Iron (96–98%), carbon (2–4%), plussilicon.	Metal structures such as bridgesand heavy-duty cookware.

Cupro-nickel (coppernickel)	Copper (75%), nickel (25%), plus small amounts of manganese.	Coins.
Duralumin	Aluminum (94%), copper (4.5–5%), magnesium (0.5–1.5%), manganese (0.5–1.5%).	Automobile and aircraft body parts, military equipment.
Gunmetal	Copper (80–90%), tin (3–10%), zinc (2–3%), and phosphorus.	Guns, decorativeitems.
Magnox	Magnesium, aluminum.	Nuclear reactors.
Nichrome	Nickel (80%), chromium (20%).	Firework ignition devices, heating elements in electrical appliances.
Nitinol	Nickel (50–55%), titanium (45–50%).	Shape-memory alloy used in medical items, spectacle frames that spring back to shape, and temperature switches.
Pewter	Tin (80–99%) with copper, lead, and antimony.	Ornaments, used to make tableware before glass became more common.
Solder	Varies. Old-fashioned solders contain a mixture of tin (50-70%), lead (30-50%), copper, antimony, and other metals.  Newer solders dispense with lead for health reasons. A typical modern solder has 99.25 percent tin and 0.75 percent copper.	Connecting electrical components into circuits.
Steel (general)	Iron (80–98%), carbon (0.2–2%), plus other metals such as chromium, manganese, and vanadium.	Metal structures, car and airplane parts, and many other uses.
Steel (stainless)	Iron (50%+), chromium (10–30%), plus	Jewelry, medicaltools,

	smaller amounts of carbon, nickel, manganese, molybdenum, and other metals.	tableware.
Stellite	Cobalt (67%), chromium (28%), tungsten (4%), nickel (1%).	Coating for cutting tools such as saw teeth, lathes, and chainsaws.
Sterlingsilver	Silver (92.5%), copper (7.5%).	Cutlery, jewelry, medical tools, musical instruments.
Whitegold (18 carat)	Gold (75%), palladium (17%), silver (4%), copper (4%)	Jewelry.
Wood'smetal	Bismuth (50%), lead (26.7%), tin (13.3%), cadmium (10%).	Solder, melting element in fire sprinkler systems.

# Практическая работа № 3.

Тема: Сплавы

<u>Цель</u>: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1 Перевести названия сплавов с помощью словаря

wood's alloy

gamma-phase alloy

alpha-phase alloy

dental alloy

copper alloy

light metal alloy

tenacious alloy

weld alloy

three-component alloy

alloy in experimental production

hard alloy

cesium alloy

coinage alloy

castable alloy

forged alloy

mushy alloy

amorphous alloy

uranium alloy

base alloy

iron alloy

sheet alloy bronze alloy chrome alloy ageing alloy jewellery alloy native alloy secondary alloy substitution alloy virgin alloy niobium alloy

## Задание № 2. Выполнить упражнение

Замените выделенные части предложения инфинитивными оборотами.

• E.g. The boy had many toys which he could play with The boy had many toys to play with

1. Here is something which will warm you up. 2. Mere is a new brush which you will clean your teeth with. 3. Here are some more facts which will prove that your theory is correct. 4. Here is something which you can rub on your hands. It will soften them. 5. Here are some screws with which you can fasten the shelves to the wall. 6. Here are some tablets which will relieve your headache. 7. Here are some articles which must be translated for tomorrow. 8. Who has a pen or a pencil to spare? I need something I could write with.

# Практическая работа № 4.

<u>Тема:</u>Металлы в сварных конструкциях

<u>Цель</u>: совершенствование лексических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: прочитать и перевести текст, составить 10 вопросов к тексту

### **Metals**

Metals are materials most widely used in industry because of their properties. The study of the production and properties of metals is known as metallurgy.

The separation between the atoms in metals is small, so most metals are dense. The atoms are arranged regularly and can slide over each other. That is why metals are malleable (can be deformed and bent without fracture) and ductile (can be drawn into wire). Metals vary greatly in their properties. For example, lead is soft and can be bent by hand, while iron can only be worked by hammering at red heat.

The regular arrangement of atoms in metals gives them a crystalline structure, irregular crystals are called grains. The properties of the metals depend on the size, shape, orientation, and composition of these grains. In general, a metal with small grains will be harder and stronger than one with coarse grains.

Heat treatment such as quenching, tempering, or annealing controls the nature of the grains and their size in the metal. Small amounts of other metals (less than 1 per cent) are often added to a pure metal. This is called alloying (легирование) and it changes the grain structure and properties of metals.

All metals can be formed by drawing, rolling, hammering and extrusion, but some require hotworking.

Metals are subject to metal fatigue and to creep (the slowincrease in length under stress) causing deformation and failure. Both effects are taken into account by engineers when designing, for example, airplanes, gas-turbines, and pressure vessels for high-temperature chemical processes. Metals can be worked using machine-tools such as lathe, milling machine, shaper and grinder.

The ways of working a metal depend on its properties. Many metals can be melted and cast in moulds, but special conditions are required for metals that react with air.

Перевести слова с помощью словаря и выучить

Property, metallurgy, separation, dense, arrangement, to slide, malleable, bent, to fracture, ductile, to draw, wire, lead, iron, grain, treatment, quenching, tempering. to hammer, extrusion, metal fatigue, stress

Задание № 2: прочитать, законспектировать, выучить

Формы инфинитива			
Active Passive			
Simple	to write	to be written	
Continuous	to be writing		
Perfect	to have written	to have written to have been written	

# Сравнитеупотребление Active Infinitive и Passive Infinitive

to write — to be written

I am glad **to help** you. — Радпомочь. (Рад, что я помогаю).

Iamglad**tobehelped**. — Рад, что мне помогают.

# Сравнитеупотребление Indefinite Infinitive и Perfect Infinitive

to write — to have written

I am glad **to see** you. — Радвидетьвас. (Рад, чтовижувас.)

I am glad **to have seen** you. — Рад, чтоповидалвас

# Практическая работа № 5.

<u>Тема:</u> Металлы в сварных конструкциях

<u>Цель</u>: совершенствование лексических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

### І. Закончите следующие предложения

- 1. Metals are...
- 2. Metallurgy is...
- 3. Most metals are...
- 4. The regular arrangement of atoms in metals...
- 5. Irregular crystals...
- 6. The properties of the metals depend ....
- 7. Metals with small grains will be ....
- 8. ...controls the nature of the grains in the metal.
- 9. Alloying is ....
- 10. All metals can be formed by ....
- 11. Creep is ....
- 12. Metals can be worked using ....

# II. Объясните на английском значения следующих слов

- 1. malleability;
- 2. crystalline structure;
- 3. grains;
- 4. heat treatment;
- 5. alloying;
- 6. creep.

III. Переведитенарусскийязык, обращаявниманиена Active Infinitive и Passive Infinitive.

1. To play chess was his greatest pleasure. 2. The child did not like to be washed. 3. Isn't it natural that we like to be praised and don't like to be scolded? 4. Which is more pleasant: to give or to be given presents? 5. Nature has many secrets to be discovered yet. 6. To improve your pronunciation you should record yourself and analyse your speech. 7. This is the book to be read during the summer holidays. 8. To be instructed by such a good specialist was a great advantage. 9. He is very forgetful, but he doesn't like to be reminded of his duties.

# Практическая работа № 6.

<u>Тема:</u> Станки для обработки металлов

<u>Цель</u>: развитие лексических навыков, навыков перевода

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1 Прочитать перевести текст, выучить слова

## **MACHINE-TOOLS**

Machine-tools are used to shape metals and other ma-terials. The material to be shaped is called the workpiece. Most machine-tools are now electrically driven. Machine- tools with electrical drive are faster and more accurate than hand tools: they were an important element in the development of mass-production processes, as they allowed individual parts to be made in large numbers so as to be interchangeable.

All machine-tools have facilities for holding both the workpiece and the tool, and for accurately controlling the movement of the cutting tool relative to the workpiece. Most machining operations generate large amounts of heat, and use cooling fluids (usually a mixture of water and oils) for cooling and lubrication.

Machine-tools usually work materials mechanically but other machining methods have been developed lately.

They include chemical machining, spark erosion to machine very hard materials to any shape by means of a continuous high-voltage spark (discharge) between an electrode and a workpiece. Other machining methods include drilling using ultrasound, and cutting by means of a laser beam. Numerical control of machine-tools and flexible manufacturing systems have made it possible for complete systems of machine-tools to be used flexibly for the manufacture of a range of products.

## Vocabulary:

```
machine-tools — станки
electrically driven — сэлектроприводом
shape — форма
workpiece — деталь
accurate — точный
development — развитие
toallow — позволять, разрешать
interchangeable — взаимозаменяемый
facility — приспособление
relative — относительный
amount — количество
fluid — жидкость
tolubricate — смазывать
sparkerosion — электроискровая обработка
discharge — разряд
by means of — посредством
beam [bi:m] — луч
drilling — сверление
```

```
flexible [ flekssbl] — гибкий range — ассортимент, диапазон
```

# Задание № 2 Выполнить упражнение

Переведите на русский язык, обращая внимание на Perfect Infinitive.

1. The child was happy to have been brought home. 2. Jane remembered to have been told a lot about Mr. Rochester. 3. The children were delighted to have been brought to the circus. 4. I am sorry to have spoilt your mood. 5. Maggie was very sorry to have forgotten to feed the rabbits. 6. I am awfully glad to have met you. 7. Sorry to have placed you in this disagreeable situation. 8. I am very happy to have had the pleasure of making your acquaintance. 9. I am sorry to have kept you waiting. 10. Clyde was awfully glad to have renewed his acquaintance with Sondra. 11. Sorry not to have noticed you. 12. I am sorry to have added some more trouble by what I have told you. 13. When Clyde looked at the girl closely, he remembered to have seen her in Sondra's company. 14. I remembered to have been moved 1 by the scene I witnessed.

1 moved — зд. растроган

# Практическая работа № 7.

<u>Тема:</u> Станки для обработки металлов

<u> Цель</u>: совершенствование лексических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: перевести текст, выучить слова, ответить на вопросы, выполнить упражнения

#### Lathe

Lathe is still the most important machine-tool. It produces parts of circular cross-section by turning the workpiece on its axis and cutting its surface with a sharp stationary tool. The tool may be moved sideways to pro-duce a cylindrical part and moved towards the workpiece to control the depth of cut. Nowadays all lathes are power- driven by electric motors. That allows continuous rotation of the workpiece at a variety of speeds. The modern lathe is driven by means of a headstock supporting a hollow spindle on accurate bearings and carrying either a chuck or a faceplate, to which the workpiece is clamped. The movement of the tool, both along the lathe bed and at right angle to it, can be accurately controlled, so ena¬bling a part to be machined to close tolerances. Modern lathes are often under numerical control.

### Vocabulary:

```
lathe — токарный станок circular cross-section — круглое попереч¬ное сечение surface — поверхность stationary — неподвижный, стационар-ный sideways — в сторону variety — разнообразие, разновидность depth — глубина headstock — передняя бабка spindle — шпиндель chuck — зажим, патрон faceplate — планшайба lathebed — станина станка toenable — давать возможность tolerance — допуск
```

### General understanding:

- 1. What are machine-tools used for?
- 2. How are most machine-tools driven nowadays?
- 3. What facilities have all machine-tools?
- 4. How are the cutting tool and the workpiece cooled during machining?
- 5. What other machining methods have been devel-oped lately?

- 6. What systems are used now for the manufacture of a range of products without the use of manual labour?
- 7. What parts can be made with lathes?
- 8. How can the cutting tool be moved on a lathe?
- 9. How is the workpiece clamped in a lathe?
- 10. Can we change the speeds of workpiece rotation in a lathe?
- 11. What is numerical control of machine tools used for?

# **Exercise Find English equivalents in the text:**

- 1. обрабатываемый материал;
- 2. электропривод;
- 3. более точный;
- 4. отдельные детали;
- 5. процесс массового производства;
- 6. приспособления для держания резца и детали;
- 7. операции по механической обработке детали;
- 8. высоковольтный разряд;
- 9. сверление ультразвуком;
- 10. резание с помощью лазерного луча;
- 11. гибкие производственные системы;
- 12. детали круглого сечения;

## Практическая работа № 8.

Тема: Фрезерный и токарный станки

Цель: совершенствование лексичксих навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: прочитать текст, перевести, ответить на вопросы

### MILLING MACHINE

In a milling machine the cutter (φpesa) is a circular device with a series of cutting edges on its circumfer¬ence. The workpiece is held on a table that controls the feed against the cutter. The table has three possible movements: longitudinal, horizontal, and vertical; in some cases it can also rotate. Milling machines are the most versatile of all machine tools. Flat or contoured surfaces may be machined with excellent finish and ac¬curacy. Angles, slots, gear teeth and cuts can be made by using various shapes of cutters.

# **Drilling and Boring Machines**

To drill a hole usually hole-making machine-tools are used. They can drill a hole according to some specification, they can enlarge it, or they can cut threads for a screw or to create an accurate size or a smooth finish of a hole.

Drilling machines (сверлильныестанки) are different in size and function, from portable drills to radial drilling machines, multispindle units, automatic production machines, and deephole-drilling machines.

Boring (расточка) is a process that enlarges holes pre-viously drilled, usually with a rotating single-point cut-ter held on a boring bar and fed against a stationary workpiece.

#### Grinders

Grinders (шлифовальныестанки) remove metal by a rotating abrasive wheel. The wheel is composed of many small grains of abrasive, bonded together, with each grain acting as a miniature cutting tool. The process gives very smooth and accurate finishes. Only a small amount of material is removed at each pass of the wheel, so grinding machines require fine wheel regulation. The pressure of the wheel against the workpiece is usually very light, so that grinding can be carried out on fragile materials that cannot be machined by other conventional devices.

Vocabulary:

milling machine — фрезерныйстанок

series — серия, ряд

cutting edge — режущийкрай, острие

circumference — окружность

to feed— подавать

longitudinal— продольный

horizontal— горизонтальный

vertical— вертикальный

versatile— универсальный

flat— плоский

contoured— контурный

angle— угол

slot— прорезь, паз

gearteeth — зубы шестерни

drill— дрель, сверло, сверлить

hole [houl] — отверстие

to enlarge — увеличивать

thread — резьба

portable — портативный

unit — единица, целое, узел

previously — ранее

to slide — скользить

stroke — ход

lateral — боковой

displacement — смещение

straight — прямой

idle — на холостом ходу

workshop — цех, мастерская

to mount — крепить

holder — держатель

to execute — выполнять

simultaneous — одновременный

multiple — многочисленный

grinder — шлифовальный станок

wheel [wi:l] — круг, колесо

bonded — скрепленый

to remove — удалять,

fine — точный

conventional — обычный

device — устройство, прибор

fragile ['fraecfeail] — хрупкий

## General understanding:

- 1. What is the shape of a cutter in a milling machine?
- 2. What moves in a milling machine, a table or a cutter?
- 3. What possible movements has the table of a milling machine?
- 4. What kind of surfaces and shapes may be machined by a milling machine?
- 5. What can we use a drilling machine for?
- 6. What kinds of drilling machines exist?
- 7. What is rotated while boring, a cutter or a work-piece?
- 8. Describe the work of a shaper (planer).
- 9. What must be done to execute multiple simultane-ous cuts on a planer?
- 10. What is the working tool in a grinder?
- 11. Can we obtain a very smooth surface after grind—ing and why?

#### 12. Can we grind fragile materials and why?

# Практическая работа № 9.

<u>Тема:</u> Фрезерный и токарный станки

Цель: развитие навыков перевода

Перечень оборудования для проведения работы: тетрадь, письменные принадлежности,

Задание: прочитать, перевести текст, выполнить упражнения

## **Shapers and Planers**

The shaper (поперечно-строгальныйстанок) is used mainly to produce different flat surfaces. The tool slides against the stationary workpiece and cuts on one stroke, returns to its starting position, and then cuts on the next stroke after a slight lateral displacement. In general, the shaper can make any surface having straight- line elements. It uses only one cutting-tool and is relatively slow, because the return stroke is idle. That is why the shaper is seldom found on a mass production line. It is, however, valuable for tool production and for workshops where flexibility is important and relative slowness is unimportant.

The planer (продольно-строгальныйстанок) is the largest of the reciprocating machine tools. It differs from the shaper, which moves a tool past a fixed workpiece because the planer moves the workpiece to expose a new section to the tool. Like the shaper, the planer is intended to produce vertical, horizontal, or diagonal cuts. It is also possible to mount several tools at one time in any or all tool holders of a planer to execute multiple simultaneous cuts.

## Translate into English.

- 1. Токарный станок все еще остается самым важным станком.
- 2. Все современные токарные станки оборудованы электроприводами.
- 3. Движение инструмента контролируется с высокой точностью.
- 4. Электропривод позволяет обрабатывать заготов ку на различных скоростях.

# Практическая работа № 10.

Тема: Фрезерный и токарный станки. Выполнение лексических и грамматических упражнений

<u> Цель</u>: совршенствование лексического и грамматического материала

Перечень оборудования для проведения работы: тетрадь, письменные принадлежности, словарь.

## Задание № 1: перевести слова с использованием технического словаря

lathe tool, auto lathe, lathe tools, semi-automatic lathe, throw lathe, lathe foe oval pieces, heavy-duty lathe, shaping lathe, dead centre lathe, standard lathe, center lathe, chucking lathe, wood-turning lathe, bar lathe, peeling lathe, slide lathe, center lathe chuck, apron lathe, portable lathe, prior art lathe, front-loaded lathe, spindle lathe, vehicle-mounted lathe, turret lathe, doubleend lathe, high-speed lathe, multioperation lathe, precision lathe, tubing cut-off lathe, multicut lathe

### Задание № 2. Выполнить упражнение

Закончите следующие предложения, выбирая подходящий инфинитив из правой колонки

1. San Francisco is a nice place \_\_ a. to cook 2. The job of a teacher is \_\_ students. b. to visit 3. It is very easy \_\_ spaghetti. c to pay 4. Sharon wants \_\_ to the beach. d. to teach 5. I need more money \_\_ for my books. e. togo Заполните пропуски, используя инфинитив или спрягаемый глагол там, где это требуется. to make to need to call to help Have you ever made plans for a vacation? There are many things to do ahead of time. For example, it's important (1) hotel reservations. It is also essential (2) \_\_ the airline to make sure your flights are arranged. You also (3) \_\_ to take appropriate clothing for the climate of your destination. Sometimes, it is a good idea (4) \_\_ to a travel agent. They can (5) \_\_ you solve any problems related to your trip.

Чтобы закончить предложения, вставьте слова из правой колонки.

1. The \_\_ includes Saturday and Sunday
2. Basketball and baseball are both \_\_ b. happy
3. She wasn't sad. She was very \_\_ c weekend
4. A \_\_ is a show that makes people laugh
5. A \_ has many actors and actresses
4. A \_ is a show that makes people laugh
6. sports
6. soap opera

# Практическая работа № 11

<u>Тема</u>: Контрольная работа

<u>Цель</u>: Контроль лексических и грамматических навыков, словарного запаса обучающихся. <u>Перечень оборудования для проведения работы</u>: тетрадь для контрольных работ, письменные принадлежности, словарь.

# Контрольная работа (3 курс 6 семестр)

Вариант1.

# 1.Переведите на русский язык фразы с инфинитивом

To send the letter

To drive a car

To build the house

To perform the task

To develop a program

To calculate the results

To construct a plant

To receive a signal

## 2. Переведите на русский язык фразы с инфинитивом в страдательном залоге

The new device to be introduced

The problem to be discussed

The method to be used

The computers to be sold

The question to be asked

## 3.Переведите предложения, обращая внимание на инфинитив

- 1. The workers will use powerful machinery to assemble these huge units.
- 2. He was happy to be working with the famous scientist.
- 3. Sputniks do not need any additional energy to move along their orbit.
- 4. She wanted to be answered at once.
- 5. Where is the work to be done?

# 4.Переведите предложения на русский язык, обращая внимание на сложное дополнение

- 1. He wanted us to visit his college.
- 2. We hope you to show good results.
- 3. Everybody knows him to be working on a new book.
- 4. Many people like to watch the sun rise.
- 5. I hear her come in.

Вариант 2

## 1. Напишите данные местоимения в объектном падеже

He, I, she, we, they, you

### 2.Переведите данные фразы, обращая внимание на инфинитив

To use new technology

To listen to a story

To work for a computer company

The plan to be discussed

The data to be used

The information to be changed

The operation to be done

The new devices to be tested

Theprojecttobefinished

# 3.Переведите предложения на русский язык, обращая внимание на сложное дополнение

- 1. They want their son to become a computer operator.
- 2. It is not easy for me to learn English.
- 3. The students heard the bell ring.
- 4. My parents allowed me to come late.
- 5. Let us visit our relatives.

# Практическая работа № 12

Тема: Дифференцированный зачёт

Цель: Контроль умений и навыков практического владения английским языком.

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

# Контрольные задания к дифференцированному зачету

# III курс Вариант I

# 1. Прочтите текст и ответьте на следующие вопросы:

- 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?

## **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. Aluminium 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), 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 aluminium beer cans.

# 2. Совместите слова из левой колонки с их переводом из правой:

1. Orifice	а. Прокатка
2. Shape	b. Экструзия
3. Drawing	с. Волочение
4. Rolling	d. Ковка
5. To determine	е. Выполнять
6. Billet	f. Заготовка
7. Gap	g. Отверстие
8. Extrusion	h. Штамп
9. Forging	і. Устанавливать
10. To perform	ј. Форма
11. To harden	k. Делаться твёрдым
12. Die	1. Поперечное сечение
13. Cross section	m. Промежуток, зазор

## 2. Переведите в письменной форме 1, 2, 3 абзацы.

### 3. Выпишите из текста следующие словосочетания:

- 1) Могут легко деформироваться
- 2) Нужные формы
- 3) Подвергаться большим деформациям
- 4) Зёрна свободные от деформации
- 5) Температура перекристаллизации
- 6) Пластическая деформация сжатия
- 7) Самый обычный процесс обработки металла
- 8) Самое обычное изделие проката
- 9) Отверстие штампа
- 10) Первоначальный
- 11) Сложное сечение
- 12) Пустотелые детали
- 13) Свободно входящий плунжер
- 14) Зазор между плунжером (пуансоном) и штампом
- 15) Толщина стенки

## Сложноедополнение (The Complex Object)

В английском языке существуют так называемые синтаксические комплексы, т. е. сочетания двух или нескольких слов, представляющие собой единое синтаксическое целое (один член предложения).

Наиболее распространенным синтаксическим комплексом является сложное дополнение (the Complex Object).

Каждый синтаксический комплекс состоит из именной части (существительного или местоимения) и глагольной части (инфинитива, герундия или причастия) и может быть развернут в целое придаточное предложение, где именная часть комплекса будет подлежащим, а глагольная — сказуемым.

Сложное дополнение может состоять из прямого дополнения и инфинитива: I want you to visit me in the evening. Я хочу, чтобы вы навестили меня вечером. Pete wants me to write the letter. Петя хочет, чтобы я написал это письмо. После глаголов see, hear, watch, make, feel, let в сложном дополнении инфинитив употребляется без частицы to:

I saw him come into the house. Я видел, что он вошел в дом. Не heard me open the door. Он слышал, что я открыла дверь.

Сложное дополнение не имеет точного соответствия в русском языке и переводится на русский язык дополнительным придаточным предложением с союзами что, чтобы (если в сложное дополнение входит инфинитив) и как (если в сложное дополнение входит причастие настоящего времени).

Упражнение 1. Закончите предложения, употребляя сложное дополнение. E.g. "Bring me a book," said my brother to me.

My brother wanted me to bring him a book.

- 1. The teacher said to the pupils: "Learn the rule." The teacher wanted ...
- 2. "Be careful, or else you will spill the milk," said my mother to me. My mother did not want ...
  - 3. "My daughter will go to a ballet school," said the woman. The woman wanted ...
  - 4. The man said: "My son will study mathematics." —The man wanted ...
  - 5. "Oh, father, buy me this toy, please," said the little boy. The little boy wanted ...
  - 6. "Wait for me after school," said Ann to me. Ann wanted ...
  - 7. "Fix the shelf in the kitchen," my father said to me. My father wanted ...
- 8. "It will be very good if you study English," said my brother to me. —My brother wanted ...
- 9. "Fetch me some water from the river, children," said our grandmother. Our grandmother wanted ...
  - 10. "Come to my birthday party," said Kate to her classmates. Kate wanted ...

# Упражнение 2. Перепишите следующие предложения, употребляя сложное дополнение вместо придаточных дополнительных предложений.

E.g. I expect that she will send me a letter.

I expect her to send me a letter.

I know that he is a great scientist.

I know him to be a great scientist.

- 1. I know that my friend is a just man.
- 2. I expect that he will understand your problem and help you to solve it.
- 3. I expected that she would behave quite differently.
- 4. I did not expect that my brother would forget to send her flowers.
- 5. He knows that my mother is a very kind woman.
- 6. She expected that her brother would bring her the book.
- 7. I know that your uncle is an excellent mathematician.
- 8. People expect that the 21st century will bring peace on the Earth.
- 9. We know that it is true.
- 10. I never expected that he would be a politician.

# Контрольные задания к дифференцированному зачету III курс Вариант II

# 1. Прочтите текст и ответьте на следующие вопросы:

- 1) What can be done to obtain harder steel?
- 2) What makes steel more soft and tough?
- 3) What makes steel more malleable and ductile?
- 4) What can serve as the indicator of metal temperature while heating it?
- 5) What temperature range is used for tempering?
- 6) What are the methods of steel heat treatment used for?

# METHODS OF STEEL HEAT TREATMENT

Quenching is a heat treatment when metal at a high temperature is rapidly cooled by immersion in water or oil.

Quenching makes steel harder and more brittle, with small grains structure.

Tempering is a heat treatment applied to steel and certain alloys. Hardened steel after quenching from a high temperature is too hard and brittle for many applications and is also brittle. Tempering, that is re-heating to an intermediate temperature and cooling slowly, reduces this hardness and brittleness. Tempering temperatures depend on the composition of the steel but are frequently between 100 and 650 °C. Higher temperatures usually give a softer, tougher product. The colour of the oxide film produced on the surface of the heated metal often serves as the indicator of its temperature.

Annealing is a heat treatment in which a material at high temperature is cooled slowly. After cooling the metal again becomes malleable and ductile (capable of being bent many times without cracking).

All these methods of steel heat treatment are used to obtain steels with certain mechanical properties for certain needs.

2. Совместите слова из левой колонки с их переводом из правой:

1. quenching	а. Растрескивание
2. Treatment	b. Погружать
3. To immerse	с. Отжиг, отпуск
4. Brittle	d. Оксидная плёнка
5. Tempering	е. Промежуточный
6. To apply	f. Применять
7. Intermediate	g. Хрупкий, ломкий
8. To depend on	h. Обработка
9. Oxide film	і. Закалка
10. Annealing	ј. Отпуск после закалки
11. cracking	k. Зависеть от чего-либо

# 3. Переведите текст в письменной форме.

## 4. Выпишите из текста следующие словосочетания:

- 1) Температура нормализации
- 2) Мелкозернистая структура
- 3) Быстрое охлаждение
- 4) Закалённая сталь
- 5) Состав стали
- 6) Оксидная плёнка
- 7) Индикатор температуры
- 8) Медленное охлаждение

## Сложное дополнение (The Complex Object)

В английском языке существуют так называемые синтаксические комплексы, т. е. сочетания двух или нескольких слов, представляющие собой единое синтаксическое целое (один член предложения).

Наиболее распространенным синтаксическим комплексом является сложное дополнение (the Complex Object).

Каждый синтаксический комплекс состоит из именной части (существительного или местоимения) и глагольной части (инфинитива, герундия или причастия) и может быть развернут в целое придаточное предложение, где именная часть комплекса будет подлежащим, а глагольная — сказуемым.

Сложное дополнение может состоять из прямого дополнения и инфинитива: I want you to visit me in the evening. Я хочу, чтобы вы навестили меня вечером. Pete wants me to write the letter. Петя хочет, чтобы я написал это письмо. После глаголов see, hear, watch, make, feel, let в сложном дополнении инфинитив употребляется без частицы to:

I saw him come into the house. Я видел, что он вошел в дом. Не heard me open the door. Он слышал, что я открыла дверь.

Сложное дополнение не имеет точного соответствия в русском языке и переводится на русский язык дополнительным придаточным предложением с союзами что, чтобы (если в сложное дополнение входит инфинитив) и как (если в сложное дополнение входит причастие настоящего времени).

Упражнение 1. Закончите предложения, употребляя сложное дополнение. E.g. "Bring me a book," said my brother to me.

My brother wanted me to bring him a book.

- 1. The teacher said to the pupils: "Learn the rule." The teacher wanted ...
- 2. "Be careful, or else you will spill the milk," said my mother to me. My mother did not want ...
  - 3. "My daughter will go to a ballet school," said the woman. The woman wanted ...
  - 4. The man said: "My son will study mathematics." —The man wanted ...
  - 5. "Oh, father, buy me this toy, please," said the little boy. The little boy wanted ...
  - 6. "Wait for me after school," said Ann to me. Ann wanted ...
  - 7. "Fix the shelf in the kitchen," my father said to me. My father wanted ...
- 8. "It will be very good if you study English," said my brother to me. —My brother wanted ...
- 9. "Fetch me some water from the river, children," said our grandmother. Our grandmother wanted ...
  - 10. "Come to my birthday party," said Kate to her classmates. Kate wanted ...

# Упражнение 2. Перепишите следующие предложения, употребляя сложное дополнение вместо придаточных дополнительных предложений.

E.g. I expect that she will send me a letter.

I expect her to send me a letter.

I know that he is a great scientist.

I know him to be a great scientist.

- 1. I know that my friend is a just man.
- 2. I expect that he will understand your problem and help you to solve it.
- 3. I expected that she would behave quite differently.
- 4. I did not expect that my brother would forget to send her flowers.
- 5. He knows that my mother is a very kind woman.
- 6. She expected that her brother would bring her the book.
- 7. I know that your uncle is an excellent mathematician.
- 8. People expect that the 21st century will bring peace on the Earth.
- 9. We know that it is true.
- 10. I never expected that he would be a politician.

# 4 курс 7 семестр Практическая работа № 1.

Цель: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: переписать текст в тетрадь, перевести, выписать выделенные слова, выучить

#### **WELDING**

**Welding** is a process when metal parts **are joined**together by the application of heat, pressure, or a combination of both. The processes of welding can be divided into two main groups:

- pressure welding, when the weld is achieved by pressure and
- heat welding, when the weld is achieved by heat. Heat welding is the most common welding process used today.

Nowadays welding is used instead of **bolting**and **riveting**in the construction of many types of structures, including bridges, buildings, and ships. It is also a basic process in the **manufacture of machinery** and in the motor and **aircraft industries**. It is necessary almost in all productions where metals are used.

The welding process **depends** greatly on the **properties of the metals**, **the purpose** of their application and the available equipment. Welding processes are classified according to the sources of heat and pressure used.

The welding processes widely employed today include **gas welding**, **arc welding**, and **resistance welding**. Other **joining processes** are **laser welding**, and **electron-beam welding**.

# Практическая работа № 2.

**Тема**: Сварка

<u>Цель</u>: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1: выполнить упражнения

1. перевести слова с помощью словаря, выучить

to join, pressure, welding, heat welding, instead, bolting, riveting, basic, to manufacture, to depend, purpose, available equipment, source, gas welding, arc welding, resistance welding, laser welding, electron-beam, welding flame, edge, simultaneously, filler, wire, rod, to melt, joint, advantage, to require, surface, coated, flux, fusible, to shield, touching, tip

- 2. ответить письменно на вопросы
- 1. How can a process of welding be defined?
- 2. What are the two main groups of processes of welding?
- 3. How can we join metal parts together?
- 4. What is welding used for nowadays?
- 5. Where is welding necessary?
- 6. What do the welding processes of today include?

Задание № 2: выполнить упражнение

Переведите на русский язык, обращая внимание на причастия.

- 1. Everybody looked at the dancing girl. 2. The little plump woman standing at the window is my grandmother. 3. The man playing the piano is Kate's uncle. 4. Entering the room, she turned on the light. 5. Coming to the theatre, she saw that the performance had already begun. 6. Looking out of the window, he saw his mother watering the flowers. 7. Hearing the sounds of music, we stopped talking. 8. She went into the room, leaving the door open. 9. Working at his desk, he listened to a new CD. 10. Running into the road, the young man stopped a taxi. 11. Looking through the newspaper, she noticed a photograph of her boss. 12. Using chemicals, the firemen soon put out the fire in the forest.
  - Практическая работа № 3.

Тема: Сварка Выполнение лексических и грамматических упражнений

<u> Цель</u>: отработка навыков произношения, совершенствование лексического минимума по теме

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1: прочитать слова, ознакомиться с их переводом, составить словарь терминов в алфавитном порядке

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welding — сварка, заварка, сваривание
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сварка муфт — sleeve welding
сварка труб — tube welding
сварка встык — butt welding
правая сварка — backhand welding
печная сварка — furnace pressure welding
сварка чугуна — cast-iron welding
ручная сварка — hand welding
сварка взрывом — explosion welding
сварка трением — friction welding
газовая сварка — gas welding
верхняя сварка — overhead welding
ударная сварка — percussion welding
сварка на весу — unsupported welding
сварка внапуск — side-lap welding
сварка взакрой — split welding
плотная сварка — seal welding
угловая сварка — angled welding
сварка изнутри — internal welding
сварка снаружи — external welding
сварка на полу — floor welding
шаговая сварка — step welding
сварка отливок — cast welding
сварка каскадом — cascade welding
холодная сварка — cold welding
сварка на спуск — downhill welding
лазерная сварка — laser welding
линейная сварка — seam welding
сварка вразброс — skip sequence welding
сварка металлов — metal welding
торцовая сварка — edge welding
сварка — thermal sealing
сварка впритык — jump-welding
дуговая сварка — arc-welding
активная сварка — active splicing
прутковая сварка — bar sealing
магнитная сварка — magnetic sealing
сварка тянуть шов — to deposit a run
импульсная сварка — impulse sealing
непрерывная сварка — continuous strip sealing
сварка торцевой шов — beaded seam
радиационная сварка — radiant sealing
сварка лучом лазера — laser banding
сварка горячим газом — hot gas sealing
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сварка слева направо — back hand method автоматическая сварка — auto-welding

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сварка угольной дугой — carbon-arc process
высокочастотная сварка — high-frequency heat sealing
сварка форсирование дуги — arc force control
атомно-водородная сварка — atomic hydrogen process
сварка электронным вихрем — electronic tornado
сварка плетей труб в нитку — welding-up of pipe sections
рельефная контактная сварка — projection resistance
непрерывная ленточная сварка — band sealing
сварка экструдируемым прутком — molten-bead sealing
сварка токами высокой частоты — radio frequency sealing
сварка под флюсом; пайка под флюсом — solvent sealing
сварка с помощью светового импульса — light pulse banding
контактное уплотнение; контактная сварка — contact sealing
сварка миниатюрных деталей лазерным лучом — laser microjoining
сварка в вертикальном положении сверху вниз — down hill dra
 weld — сварной шов
лёгкая сварка — light closing weld
сварка за раз — layer weld
точечная сварка — spot weld
сварка мостиком — bridge weld seam
клиновая сварка — wedge weld
газовольфрамовая сварка — gas tungsten arc weld
сварка рычажным контактом — bar weld
сварка сдвоенным электродом — parallel-gap weld
зигзагообразная точечная сварка — staggered spot weld
сварка лазерным лучом, лазерная сварка — laser-beam weld
сварка лазерным лучом; лазерная сварка — laser weld
многоточечная сварка несколькими электродами — multiple weld electrode spot
сварка горизонтальной и вертикальной поверхностей — horizontal weld on vertical
холодносварное соединение; холодная сварка; непровар — cold weld
сварка порошковой проволокой; сварка трубчатым электродом — flux-cored weld
точечное сварное соединение встык с накладкой; точечная сварка — bridge spot weld
наплавленный сварной слой; наплавленный сварной шов; сварка подушкой — pad weld
герметичный сварной шов; уплотняющий сварной шов; уплотнённая сварка — seal weld
стыковое сварное соединение с отбортовкой двух кромок; бортовая сварка — double-
flanged butt weld
шов нахлёсточного соединения с продолговатым отверстием; сварка в прорез — slot weld
шов, полученный при дуговой сварке под флюсом; дуговая сварка под флюсом —
submerged arc weld
- welder — сварщик, сварочный агрегат
вакуумная сварка электронным лучом — vacuum electron beam welder
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## Практическая работа № 4.

Тема: Газовая и электродуговая сварка.

Цель: развитие навыка перевода технических текстов

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание № 1 перевести текст, используя словарь

Gas Welding

Gas welding is a non-pressure process using heat from a gas flame. The flame is applied directly to the metal edges to be joined and simultaneously to a filler metal in the form of wire or rod, called the welding rod, which is melted to the joint. Gas welding has the advantage of using

equipment that is portable and does not require an electric power source. The surfaces to be welded and the welding rod are coated with flux, a fusible material that shields the material from air, which would result in a defective weld.

# Arc Welding

Arc-welding is the most important welding process for joining steels. It requires a continuous supply of either direct or alternating electrical current. This current is used to create an electric arc, which generates enough heat to melt metal and create a weld.

Arc welding has several advantages over other welding methods. Arc welding is faster because the concentration of heat is high. Also, fluxes are not necessary in certain methods of arc welding. The most widely used arc-welding processes are shielded metal arc, gas-tungsten arc, gas-metal arc, and submerged arc.

Задание № 2. Прочитать, законспектировать

# Причастие настоящего времени (ThePresentParticiple, ParticipleI)

Причастие настоящего времени образуется путем прибавления суффикса -ing к инфинитиву глагола без частицы to:

to play играть - playing

to read читать - reading

Перед суффиксом -ing одна согласная, если она стоит после краткой ударной гласной, удваивается:

to get получать - getting

to run бегать - running

to compel заставлять - compelling

to prefer предпочитать - preferring

В глаголах to die умирать, to lie лежать, to tie связывать буква i перед суффиксом -ing переходит в у:

to die-dying - умирающий, умирая

to lie-lying - лежащий, лежа

totie-tying - связывающий, связывая

Причастие настоящего времени переводится на русский язык либо действительным причастием настоящего времени, либо деепричастием.

## Причастиепрошедшеговремени (The Past Participle, Participle II)

Причастие прошедшего времени правильных глаголов образуется путем прибавления суффикса -ed к инфинитиву глагола без частицы to. Читается этот суффикс так же, как суффикс -ed прошедшего неопределенного времени правильных глаголов.

To finish заканчивать -finished законченный

To civilize цивилизовать -civilized цивилизованный

Причастие прошедшего времени неправильных глаголов чаще всего образуется путем изменения корневой гласной или всей основы глагола:

To write писать - written написанный

To see видеть - seen увиденный

Toteach обучать - taught обученный

В словарях после неопределенной формы неправильных глаголов обычно даются формы прошедшего неопределенного времени и причастия прошедшего времени.

На русский язык причастие прошедшего времени обычно переводится страдательным причастием совершенного вида.

### Практическая работа № 5.

Тема: Газовая и электродуговая сварка.

<u>Цель</u>: развитие лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

№1. Ответить на вопросы:

- 1. What are the principles of gas welding?
- 2. What kinds of welding can be used for joining steels?
- 3. What does are welding require?
- 4. What is the difference between the arc welding and shielded-metal welding?

N2. Найти следующие слова и выражения в тексте Welding, GasWeldingandArcWelding (см. практ.раб.N2 1, 4)

- Сварка давлением
- Тепловая сварка
- Болтовое(клепаное) соединение
- Процесс сварки
- Зависеть от свойств металлов
- Имеющееся оборудование
- Сварочный электрод
- Плавкий материал
- Дефектный сварной шов
- Непрерывная передача электрического тока
- Электрическая дуга
- Источник электрического тока

№ 3Переведите на русский язык, обращая внимание на причастия.

1.Everybody looked at the dancing girl. 2. The little plump woman standing at the window is my grandmother. 3. The man playing the piano is Kate's uncle. 4. Entering the room, she turned on the light. 5. Coming to the theatre, she saw that the performance had already begun. 6. Looking out of the window, he saw his mother watering the flowers. 7. Hearing the sounds of music, we stopped talking. 8. She went into the room, leaving the door open. 9. Working at his desk, he listened to a new CD. 10. Running into the road, the young man stopped a taxi. 11. Looking through the newspaper, she no ticed a photograph of her boss. 12. Using chemi cals, the firemen soon put out the fire in the forest.

№ 4 Переведите на русский язык, обращаявнимание на Past Participle.

1. She put a plate of fried fish in front of me. 2. The coat bought last year is too small for me now. 3. Nobody saw the things kept in that box. 4. My sister likes boiled eggs. 5. We stopped before a shut door. 6. Tied to the tree, the goat could not run away. 7. They saw overturned tables and chairs and pieces of broken glass all over the room. 8. This is a church built many years ago. 9. The books written by Dickens give us a realistic picture of the 19th century England.

### Практическая работа № 6.

<u>Тема:</u> Газовая и электродуговая сварка. Выполнение лексических и грамматических упражнений

<u>Цель</u>: закрепление лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: перевести дополнительный текст по теме, составить тематический словарь к тексту, слова выучить, выполнить упражнение

№ 1. Welding processes

## Arc welding

These processes use a welding power supply to create and maintain an electric arc between an electrode and the base material to melt metals at the welding point. They can use either direct (DC) or <u>alternating</u> (AC) current, and consumable or non-consumable electrodes. The welding region is sometimes protected by some type of inert or semi- inert gas, known as a shielding gas, and filler material is sometimes used as well.

## Gas welding

The most common gas welding process is oxyfuel welding, also known as oxyacetylene welding. It is one of the oldest and most versatile welding processes, but in recent years it has become less popular in industrial applications. It is still widely used for welding pipes and tubes, as well as repair work. It is also frequently well-suited, and favored, for fabricating some types of metal-based artwork. Oxyfuel equipment is versatile, lending itself not only to some sorts of iron or steel welding but also to brazing, braze-welding, metal heating (for bending and forming), and also oxyfuel cutting.

The equipment is relatively inexpensive and simple, generally employing the combustion of acetylene in oxygen to produce a welding flame temperature of about 3100 °C. The flame, since it is less concentrated than an electric arc, causes slower weld cooling, which can lead to greater residual stresses and weld distortion, though it eases the welding of high alloy steels. A similar process, generally called oxyfuel cutting, is used to cut metals. Other gas welding methods, such as air acetylene welding, oxygen hydrogen welding, and pressure gas welding are quite similar, generally differing only in the type of gases used. A water torch is sometimes used for precision welding of small items such as jewelry. Gas welding is also used in plastic welding, though the heated substance is air, and the temperatures are much lower.

- № 2. Переведите на русский язык, обращая внимание на ParticipleI и ParticipleII.
- 1. a) A letter sent from St. Petersburg today will be in Moscow tomorrow.
- b) He saw some people in the post office sending telegrams.
- c) When sending the telegram, she forgot to write her name.
- 2. a) Some of the questions put to the lecturer yesterday were very important.
- b) The girl putting the book on the shelf is the new librarian.
- c) While putting the eggs into the basket, she broke one of them.
- 3. a) A fish taken out of the water cannot live.
- b) A person taking a sunbath must be very careful.
- c) Taking a dictionary, he began to translate the text.
- 4. a) A line seen through this crystal looks double.
- b) A teacher seeing a mistake in a student's dictation always corrects it.
- c) Seeing clouds of smoke over the house, the girl cried, "Fire! Fire!"
- 5. a) The word said by the student was not correct,
- b) The man standing at the door of the train carriage and saying goodbye to his friends is a well-known musician.
  - c) Standing at the window, she was waving her hand.
  - 6. a) A word spoken in time may have very important results.
  - b) The students speaking good English must help their classmates.
  - c) The speaking doll interested the child very much.
  - d) While speaking to Nick some days ago, I forgot to ask him about his sister.

### Практическая работа № 7.

Тема: Другие виды сварки упражнений

<u> Цель</u>: совершенствование навыков перевода технических текстов

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: перевести текст с помощью словаря, выполнить упражнение

#### OTHER TYPES OF WELDING

Non-Consumable Electrode Arc welding

As a non-consumable electrodes tungsten or carbon electrodes can be used. In gas-tungsten arc welding a tungsten electrode is used in place of the metal electrode used in shielded metal-arc welding. A chemically inert gas, such as argon, helium ['hi:li9m], or carbon dioxide is used to shield the metal from oxidation. The heat from the arc formed between the electrode and the metal melts the edges of the metal. Metal for the weld may be added by placing a bare wire in

the arc or the point of the weld. This process can be used with nearly all metals and produces a high-quality weld. However, the rate of welding is considerably slower than in other processes.

### Gas-Metal Arc

In gas-metal welding, abare electrode is shielded from the air by surrounding it with argon or carbon dioxide gas and sometimes by coating the electrode with flux. The electrode is fed into the electric arc, and melts off in droplets that enter the liquid metal of the weld seam. Most metals can be joined by this process.

Упражнение. Выберитеизскобоктребующуюсяформупричастия.

1. a) The girl (writing, written) on the blackboard is our best pupil, b) Everything (writing, written) here is quite right. 2. a) We listened to the girls (singing, sung) Rus- sian folk songs, b) We listened to the Russian folk songs (singing, sung) by the girls. 3. a) The girl (washing, washed) the floor is my sister, b) The floor (washing, washed) by Helen looked very clean. 4. a) Who is that boy (doing, done) his homework at that table? b) The exercises (doing, done) by the pupils were easy. 5. a) The house (surrounding, surrounded) by tall trees is very beautiful, b) The wall (surrounding, surrounded) the house was very high. 6. Read the (translating, translated) sentences once more. 7. Name some places (visiting, visited) by you last year. 8. I picked up the pencil (lying, lain) on the floor. 9. She was reading the book (buying, bought) the day before. 10. Yesterday we were at a conference (organizing, organized) by the pupils of the 10th form. 11. (Taking, taken) the girl by the hand, she led her across the street. 12. It was not easy to find the (losing, lost) stamp. 13. I shall show you a picture (painting, painted) by Hogarth. 14. Here is the letter (receiving, received) by me yesterday. 15. Do you know the girl (playing, played) in the garden? 16. The book (writing, written) by this scientist is very interesting. 17. Translate the words (writing, written) on the blackboard. 18. We could not see the sun (covering, covered) by dark clouds. 19. The (losing, lost) book was found at last. 20. (Going, gone) along the street, I met Mary and Ann. 21. Look at the beautiful flowers (gathering, gathered) by the children. 22. His hat (blowing, blown) off by the wind was lying in the middle of the street. 23. "How do you like the film?" he asked, (turning, turned) towards me. 24. When we came nearer, we saw two boys (coming, come) towards us. 25. I think that the boy (standing, stood) there is his brother.

## Практическая работа № 8.

Тема: Другие виды сварки упражнений

<u> Цель</u>: совершенствование навыков перевода технических текстов

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: перевести текст с помощью словаря, выполнить упражнение

## Submerged Arc

Submerged-arc welding is similar to gas-metal arc welding, but in this process no gas is used to shield the weld. Instead of that, the arc and tip of the wire are submerged beneath a layer of granular, fusible material that covers the weld seam. This process is also called electroslag welding. It is very efficient but can be used only with steels.

### Resistance Welding

In resistance welding, heat is obtained from the resistance of metal to the flow of an electric current. Electrodes are clamped on each side of the parts to be welded, the parts are subjected to great pressure, and a heavy current is applied for a short period of time. The point where the two metals touch creates resistance to the flow of current. This resistance causes heat, which melts the metals and creates the weld. Resistance welding is widely employed in many fields of sheet metal or wire manufacturing and is often used for welds made by automatic or semi-automatic machines especially in automobile industry.

Упражнение. Раскройтескобки, употребляяглаголыв Present Participle или Perfect Participle.

Сравнитеупотребление Present Participle и Perfect Participle buying — покупая

having bought — купив

1. (to do) his homework, he was thinking hard. 2. (to do) his homework, he went for a walk. 3. (to sell) fruit, he looked back from time to time, hoping to see his friends. 4. (to sell) all the fruit, he went to see his friends. 5. (to eat) all the potatoes, she drank a cup of tea. 6. (to drink) tea, she scalded her lips. 7. (to run) in the yard, I fell and hurt my knee. 8. (to look) through some magazines, I came across an interesting article about UFOs. 9. (to write) out and (to learn) all the new words, he was able to translate the text easily. 10. (to live) in the south of our country, he cannot enjoy the beauty of St. Petersburg's White Nights in summer. 11. (to talk) to her neighbour in the street, she did not notice how a thief stole her money. 12. (to read) the story, she closed the book and put it on the shelf. 13. (to buy) some juice and cakes, we went home. 14. (to sit) near the fire, he felt very warm.

## Практическая работа № 9.

<u>Тема:</u> Другие виды сварки упражнений. Выполнение лексических и грамматических упражнений

<u> Цель</u>: совершенствование навыков перевода технических текстов

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: перевести слова с помощью словаря, ответить на вопросы, выполнить упражнения

gas-tungsten, edge, bare, rate, gas-metal arc, considerably, surrounding, carbon dioxide, droplet, beneath, layer, weld seam, resistance, clamp, sheet, fusible, granular, semi-automatic, to create, to submerge

General understanding:

- 1. What is the difference between the arc-welding and non-consumable electrode arc welding?
  - 2. What are the disadvantages of the non-consumable electrode arc welding?
  - 3. How is electrode protected from the air in gas- metal arc welding?
  - 4. What is submerged arc welding?
  - 5. What is the principle of resistance welding?
  - 6. Where is semi-automatic welding employed?

Найти следующие слова и выражения в тексте OTHERTYPESOFWELDING (см. практ.раб. № 7,8)

- Вольфрамовый электрод
- Инертный газ
- окисление
- высококачественный сварочный шов
- скорость сварки
- аргон, гелий, углекислый газ
- жилкий металл
- слой плавкого материала в виде гранул
- листовой металл
- полуавтоматические сварочные автоматы

Переведите следующие русские причастия и деепричастия на английский язык. Приносящий, принесенный, принося, принеся, переводящий, переведенный, переводя, переведя, давая, написав, читающий, берущий, данный, прочитав, сделанный, пьющий, сказанный, будучи потерянным, нарисовав, написавший, делая, взятый, взяв, рисуя, выпитый, сделав, идя, пишущий, прочитанный, дав, рисующий, делающий, нарисованный, выпив, говорящий, беря, написанный, читая, идущий, дающий, сказав, сидевший, посмотрев, будучи забыт, строящий, строящийся, играя, поиграв, рассказанный, рассказавший, видя, принесший, будучи принесенным, построенный, продав.

## Практическая работа № 10.

<u>Тема:</u>Правила безопасности в сварочном производстве

<u> Цель</u>: совершенствование навыков перевода технических текстов

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выписать правила, перевести

# Weldingsafetyrules

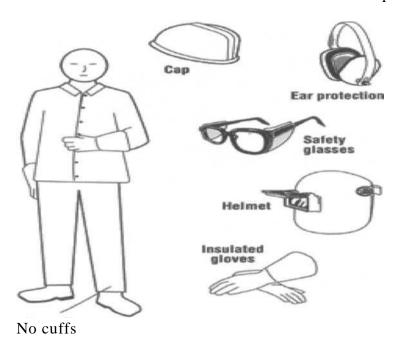
#### Read and translate the text

## Welding Safety Rules Protective clothing

- 1. A mask or helmet must be worn in electric arc welding. (In gas welding goggles can be used.)
- 2. Clothes must be kept dry and clean.
- 3. Thick, heavy boots must be worn. These must be made of some insulating material such as rubber or leather.
- 4. Gloves, apron and a cap must be worn.
- 5. Overalls must have long sleeves and no pockets or cuffs.

# Workshop

- 6. The floor must be made of concrete.
- 7. There must be a metal container on the floor for the sparks.



## Rubber-soled safety shoes



### Electric shock can kill:

- install and earth the welding unit in accordance with applicable standards;
- do not touch live electrical parts with bare skin, wet gloves or wet clothing;
- insulate yourself from earth and the workpiece;
- ensure your working stance is safe.

## Fumes and gases can be dangerous to health:

- keep your head out of the fumes;
- use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.

# Arc rays - can injure eyes and burn skin:

- protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing;
- protect by-standers with suitable screens or curtains.

### Fire hazard:

• sparks (spatter) can cause fire. Make sure therefore that there are no inflammable materials nearby.

### Noise:

- protect your ears. Use earmuffs or other hearing protection;
- warn by-standers of the risk.

**Malfunction:** call for expert assistance in the event of malfunction.

# Практическая работа № 11.

<u>Тема:</u>Правила безопасности в сварочном производстве

<u> Цель</u>: совершенствование навыков перевода технических текстов

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: прочитатьиперевестидиалог

# **Safety and Scheduled Maintenance Protect Your Welding Assets**

Q: What can I do to avoid electrical shocks?

A: Wet working conditions must be avoided, because water is an excellent conductor and electricity will always follow the path of least resistance. Even a person's perspiration can lower the body's resistance to electrical shock. Poor connections and bare spots on cables further increase the possibility of electrical shock, and therefore, daily inspection of these items is recommended. Equipment operators should also routinely inspect for proper ground connections.

Q: How can I inspect and maintain my wire feeder?

A: Periodically inspect the electrode wire drive rolls. If dirty, remove the drive rolls and clean with a wire brush. Deformed drive rolls should be replaced. Drive rolls should be changed, adjusted or cleaned only when the wire feeder is shut off. In addition, check the inlet and outlet guides and replace if they are deformed from wire wear. Remember that when power is applied to a wire feeder, fingers should be kept away from the drive roll area.

Q: What are some important electrode safety considerations?

A: Welding power sources for use with MIG and TIG welding normally are equipped with devices that permit on/off control of the welding power output. If so, the electrode becomes electrically hot when the power source switch is ON and the welding gun switch is closed. Never touch the electrode wire or any conducting object in contact with the electrode circuit, unless the welding power source is off. Welding power sources used for shielded metal arc welding (SMAW or Stick welding) may not be equipped with welding power output on/off control devices. With such equipment, the electrode is electrically hot when the power switch is turned ON.

Q: How should I store my gas cylinders?

A: Cylinders should be securely fastened at all times. Chains are usually used to secure a cylinder to a wall or cylinder cart. When moving or storing a cylinder, a threaded protector cap must be fastened to the top of the cylinder. This protects the valve system should it be bumped or dropped. Cylinders should not be stored or used in a horizontal position. This is because some cylinders contain a liquid which would leak out or be forced out if the cylinder was laid in a flat position. Also, welding guns and other cables should not be hung on or near cylinders. A gun

could cause an arc against the cylinder wall or valve assembly, possibly resulting in a weakened cylinder or even a rupture.

Q: How can I tell if my regulator is faulty?

A: The following symptoms indicate a faulty regulator: Leaks - if gas leaks externally. Excessive creep - if delivery pressure continues to rise with the downstream valve closed. Faulty gauge - if gauge pointer does not move off the stop pin when pressurized, nor returns to the stop pin after pressure release. Do not attempt to repair a faulty regulator. It should be sent to your designated repair center, where special techniques and tools are used by trained personnel.

Q: What are some tips for a safe welding environment?

A: The area surrounding the welder will be subjected to light, heat, smoke, sparks and fumes. Permanent booths or portable partitions can be used to contain light rays in one area. The heat and sparks given off are capable of setting flammable materials on fire. Therefore, welding should not be done in areas containing flammable gases, vapors, liquids or dusty locations where explosions are a possibility. Metals with plating, coatings or paint that come near the region of the arc may give off smoke and fumes during welding. These fumes may pose a health hazard to the lungs, therefore an exhaust hood or booth should be used to remove fumes from the area. When welding in confined spaces, such as inside tanks, large containers or even compartments of a ship, toxic fumes may gather. Also, in an enclosed room, breathable oxygen can be replaced by shielding gases used for welding or purging. Care must be taken to ensure enough clean air for breathing. In many companies, it is routine to provide welders with air masks or self-contained breathing equipment.

Q: How should an operator dress for optimum safety?

A: Gloves and clothing should be flame-resistant. Clothing made from a dark-colored, tightly woven material is best suited for welding. Gauntlet-type leather gloves should be worn to protect the hands and wrists. Shirt collars and shirt cuffs should be buttoned, and open front pockets are not advisable as they may catch sparks. Also, operators should never store matches or lighters in their pockets. Pants cuffs are not recommended, as they will also catch sparks. Tennis shoes do not qualify as adequate foot protection. High-top leather shoes or boots are absolutely necessary.

Q: Is there a daily maintenance schedule I should follow?

A: Below is a general engine drive routine daily maintenance schedule, but it should be modified according to a company's specific conditions. By following a regimen of appropriate and thorough maintenance and safety, a welder from Miller Electric can run dependably for decades. Designed to withstand rough use, these machines use high quality components and are tested for durability.

### Практическая работа № 12.

<u>Тема:</u>Правила безопасности в сварочном производстве. Выполнение лексических и грамматических упражнений

<u>Цель</u>: совершенствование лексических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

№1 Найти русское значение слов и выражений из диалога SafetyandScheduledMaintenanceProtectYourWeldingAssets (см.практ.раб. №11)

electrical shock, daily inspection, wire brush, power sources, flammable gases, cylinder cart, toxic fumes, open front pockets, toxic substances, flat position, airborne substance, trained personnel, air mask, flame-resistant.

№2 Найтизначениесловивыраженийиздиалога Safety and Scheduled Maintenance Protect Your Welding Assets

путь наименьшего сопротивления, поражение электрическим током, соображения безопасности, защитный колпак, обученный персонал, наносить вред, грубое обращение.

№3 Ответитьнавопросы

1. What should be inspected daily by a welding operator to avoid electric shock?

- 2. What should be cleaned/changed/replaced while maintaining wire feeder?
- 3. Why shouldn't you touch the electrode wire when the welding power source is on?
- 4. Why shouldn't cylinders be stored or used in a horizontal position?
- 5. Should you try to repair a faulty regulator yourself?
- 6. What are booths and partitions used for?
- 7. What shouldn't a welder store in his pockets?

№4 Обобщите информацию из текста, используя следующие незаконченные предложения в качестве плана

- 1. To avoid electrical shocks a welder should/shouldn't... (inspect, repair, etc.)
- 2. The following things should be remembered when inspecting and maintaining wire feeder ....
- 3. To use and store electrodes safely, one should/shouldn't ....
- 4. Gas cylinders should be stored in the following way: ....
- 5. If the regulator is faulty, you can observe the following: ....
- 6. Safe welding environment is obtained by ....
- 7. Welding operators should be dressed in ....
- 8. To keep welding equipment running for decades, operator should do some operations on a regular basis, such as ....

# Практическая работа № 13.

<u>Тема:</u>Автоматизация в промышленности

<u>Цель</u>: совершенствование лексических навыков, навыков перевода технических текстов <u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: перевести текст с помощью словаря, выполнить упражнение

#### **AUTOMATION**

Automation is the system of manufacture performing certain tasks, previously done by people, by machines only. The sequences of operations are controlled auto- J matically. The most familiar example of a highly automated system is an assembly plant for automobiles or other complex products.

The term automation is also used to describe nonmanufacturing systems in which automatic devices can operate independently of human control. Such devices as automatic pilots, automatic telephone equipment and automated control systems are used to perform various operations much faster and better than could be done by people.

Automated manufacturing had several steps in its I development. Mechanization was the first step necessary in the development of automation. The simplification of work made it possible to design and build machines that resembled the motions of the worker. These specialized machines were motorized and they had better production efficiency.

### **Automation in Industry**

Many industries are highly automated or use automation technology in some part of their operation. In communications and especially in the telephone industry dialling and transmission are all done automatically. Railways are also controlled by automatic signalling devices, which have sensors that detect carriages passing a particular point. In this way the movement and location of trains can be monitored.

Not all industries require the same degree of automation. Sales, agriculture, and some service industries are difficult to automate, though agriculture industry may become more mechanized, especially in the processing and packaging of foods.

The automation technology in manufacturing and assembly is widely used in car and other consumer product industries.

Nevertheless, each industry has its own concept of automation that answers its particular production needs.

Упражнение. Замените придаточные определительные предложения причастными

оборотами.

1. All the people who live in this house are students. 2. The woman who is speaking now is our secretary. 3. The apparatus that stands on the table in the corner of the laboratory is quite new. 4. The young man who helps the professor in his experiments studies at our university. 5. People who borrow books from the library must return them in time. 6. There are many pupils in our class who take part in all kinds of extracurricular activities.

# Практическая работа № 14.

Тема: Автоматизация в промышленности

<u> Цель</u>: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

№1. Перевести слова с помощью словаря, выписать в тетрадь, выучить

Automation, previously, sequence, assembly plant, nonmanufacturing, device, resemble, efficiency, flyball governor, steam engine, household thermostat, facilitate, punched, aid, dimension

№2. Ответить на вопросы к тексту Automation (см.практ.раб.№13)

General understanding:

- 1. How is the term automation defined in the text?
- 2. What is the most "familiar example" of automation given in the text?
- 3. What was the first step in the development of automaton?
- 4. What were the first robots originally designed for?
- 5. What was the first industry to adopt the new integrated system of production?
- 6. What is feedback principle?
- 7. What do the abbreviations CAM and CAD stand for?
- 8. What is FMS?
- 9. What industries use automation technologies?
- №3. 1. Напишите следующие глаголы в форме причастий.

Причастие I Перфектное причастие I Причастие II

work

read

leave

go

laugh

- 2. Распределите следующие предложения по группам.
  - 1. The garden was full of children, laughing and shouting. (Сад был полон детей, смеющихся и кричащих.)
  - 2. Could you pick up the broken glass? (Ты не мог бы поднять разбитый стакан?)
  - 3. The woman sitting by the window stood up and left. (Женщина, сидевшая у окна, встала и ушла.)
  - 4. I walked between the shelves loaded with books. (Я прошел между полками, нагруженными книгами.)
  - 5. Be careful when crossing the road. (Будь осторожен, переходя дорогу.)
  - 6. Having driven 200 kilometers he decided to have a rest. (Проехав 200 км, он решил отдохнуть.)
  - 7. If invited, we will come. (Если нас пригласят, мы придем.)
  - 8. I felt much better having said the truth. (Мне стало гораздо лучше, когда я сказал правлу.)
  - 9. He looked at me smiling. (Он взглянул на меня, улыбаясь.)
  - 10. She had her hair cut. (Она подстригла свои волосы.)
  - 11. Built by the best architect in town, the building was a masterpiece. (Построенное лучшим архитектором города, здание было шедевром.)

12. Not having seen each other for ages, they had much to talk about. (Не видя друг друга вечность, им было много о чем поговорить.)

Причастие I:

Перфектное причастие I:

Причастие II:

## Практическая работа № 15.

<u>Тема:</u>Автоматизация в промышленности. Выполнение лексических и грамматических упражнений

<u>Цель</u>: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

№1. Найти следующие слова и выражения в тексте Automation (см.практ.раб.№13)

- Автоматические устройства
- Автоматизированное производство
- Выполнять простые задачи
- Как легкие, так и тяжелые детали
- Интегрированная система производства
- Принцип обратной связи
- Механизм может разгоняться и тормозить
- Компьютер автоматически посылает команды
- Высокоавтоматизированная система
- Непроизводственная система

№2. Объедините два предложения в одно, используя причастие I.

H-p: He was jumping down the stairs. He broke his leg. – He broke his leg jumping down the stairs. (Он сломал ногу, прыгая вниз по лестнице.)

- 1. Tom was watching the film. He fell asleep.
- 2. The pupils opened their textbooks. They looked for the answer.
- 3. Julia was training to be a designer. She lived in Milan for 3 years.
- 4. They are vegetarians. They don't eat meat.
- 5. Jane was tidying up her bedroom. She found some old letters.

Объедините два предложения в одно, используя перфектное причастие І.

H-p: He handed in his test. He had written all the exercises. – Having written all the exercises, he handed in his test. (Написав все упражнения, он передал свою контрольную.)

- 1. She went to her car and drove off. She had closed the door of the house.
- 2. I sent him an SMS. I had tried phoning him many times.
- 3. We moved to Florida. We had sold our cottage.
- 4. His head was aching at night. He had studied all day.
- 5. He knew all the goals by heart. He had seen that match several times.

### Практическая работа № 16.

Тема: Контрольная работа

<u>Цель</u>: Контроль лексических и грамматических навыков, словарного запаса обучающихся.

<u>Перечень оборудования для проведения работы</u>: тетрадь для контрольных работ, письменные принадлежности, словарь.

Контрольная работа 4 курс 7 семестр

# Контрольная работа Вариант 1.

# 1.Переведите причастия на русский язык

Спрошенный, спрашивающий; пишущий, написанный; читаемый, читающий; делающий, сделанный; изобретающий, изобретенный.

# 2.Переведите следующие словосочетания на русский язык:

The workers building new houses

The film shown to the children

The work done by a teacher

Having been at home

Having asked a question

# 3.Выберите нужную форму причастия:

Shesat (smiled, smiling). 2. The explanation (giving, given) was not complete. 3. What is the name of the girl (speaking, spoken) over the telephone? 4. Houses (building, built) many years ago are not comfortable. 5. (Being, been) tired I went to bed.

# 4.Переведите данные предложения на русский язык:

1.The transmission system selected for everyday use is based on the operation of telecommunication and computers. 2. The energy lost in the capacitors appears in the form of heat. 3. Having performed calculations a computer displays results. 4.Solving problems one should follow the instructions. 5. FeelingbadIstayedathome.

# Контрольная работа Вариант 1.

# 1.Переведите причастия на английский язык:

Прочитанный, читающий; ремонтируя, отремонтированный; продающий, проданный; начинающий, начатый; обнаруженный, обнаруживая.

# 2.Переведите следующие словосочетания на русский язык:

The device used by engineers

The discussed problems

The student studying foreign language

Having been at the college

Havingdonethisjob

# 3.Выберите нужную форму причастия:

1. Materials (having, had) very high resistance are called insulators. 2. The figures (mentioned, mentioning) in his report were published in the latest scientific journal. 3.Be careful (driving, driven) a car at night.

# 4.Переведитеданныепредложениянарусскийязык:

1. The transmission system selected for everyday use is based on the operation of telecommunication and computers. 2. The energy lost in the capacitors appears in the form of heat. 3. Having performed calculations a computer displays results. 4. Solving problems one should follow the instructions. 5. FeelingbadIstayedathome

# Практическая работа № 17

Тема: Итоговое занятие

<u>Цель</u>: Контроль лексических и грамматических навыков, словарного запаса обучающихся. <u>Перечень оборудования для проведения работы</u>: тетрадь для контрольных работ, письменные принадлежности, словарь.

#### Variant I

# What is welding and what do welders do?

Welding is the most economical and efficient way to join metals permanently. It is the only way of joining two or more pieces of metal to make them act as a single piece. Welding is vital to our economy. It is often said that over 50% of the gross national product of the U.S.A. is related to welding in one way or another. Welding ranks high among industrial processes and involves more sciences and variables than those involved in any other industrial process. There are many ways to make a weld and many different kinds of welds. Some processes cause sparks and others do not even require extra heat. Welding can be done anywhere... outdoors or indoors, underwater and in outer space. Nearly everything we use in our daily life is welded or made by

equipment that is welded. Welders help build metal products from coffeepots to skyscrapers. They help build space vehicles and millions of other products ranging from oil drilling rigs to automobiles. In construction, welders are virtually rebuilding the world, extending subways, building bridges, and helping to improve the environment by building pollution control devices. The use of welding is practically unlimited. There is no lack of variety of the type of work that is done.

Welders are employed in many industry groups. Machinery manufacturers are responsible for agricultural, construction, and mining machinery. They are also involved in bulldozers, cranes, material handling equipment, food-processing machinery, papermaking and printing equipment, textiles, and office machinery.

The fabricated metals products compiles another group including manufacturers of pressure vessels, heat exchangers, tanks, sheet metal, prefabricated metal buildings and architectural and ornamental work. Transportation is divided into two major groups: manufacturers of transportation equipment except motor vehicles; and motor vehicles and equipment. The first includes shipbuilding, aircraft, spacecraft, and railroads.

The second includes automobiles, trucks, buses, trailers, and associated equipment.

A small group of welders belongs to the group of repair services. This includes maintenance and repair on automobiles or refers to the welding performed on industrial and electrical machinery to repair worn parts.

The mining, oil extraction, and gas extraction industries form yet another group. A large portion of the work involves drilling and extracting oil and gas or mining of ores, stone, sand and gravel.

Welders are also employed in the primary metals industries to include steel mills, iron and steel foundries, smelting and refining plants. Much of this work is maintenance and repair of facilities and equipment. Another group is the electrical and electronic equipment companies. Welding done by this group runs from work on electric generators, battery chargers, to household appliances. Public administration employs welders to perform maintenance welding that is done on utilities, bridges, government armories and bases, etc. Yet another group involves wholesale and retail establishments. These would include auto and agricultural equipment dealerships, metal service centers, and scrap yards.

Probably the smallest group of welders, but perhaps those with the biggest impact on the public are the artist and sculptors. The St. Louis Arch is possibly one of the best known. But there are many other fountains and sculptures in cities and neighborhoods around the world.

## While-reading activity

Find the English equivalents for the following words and word combinations: валовой национальный продукт, на открытом воздухе, в помещении, космический корабль, горное оборудование.

*True or false?* 

- 1. Welding is an important process employed by modern industry.
- 2. All welding processes are similar.
- 3. All welding processes require work pieces to be heated.
- 4. The smallest group of welders belongs to the group of repair services.
- 5. Welding is the only way to join metals.

### After-reading activity

Make up a summary of the text using the following sentences as a beginning:

1. Welding is.... 2. Welding ranks... 3. There are many kinds... 4. Welding can be made... 5. Welders can... 6. The use of welding is... 7. Welders are employed in ....

## Vocabulary

journeyman (person) наемныйквалифицированныйрабочий apprentice ученик

plate working обработка листового металла

blueprint 1) делать светокопию, копировать чертеж 2) делать разметку

brazing пайка твердым припоем (из меди и цинка)

GTA (gas tungsten arc) welding сварка неплавящимся электродом

TIG (ungsteninertgaswelding) дуговая сварка вольфрамовым электродом в среде инертного газа

SMAW (shieldedmetalarcwelding) дуговая сварка покрытым металлическим электродом

SAW (submerged arc welding) (дуговая) сварка под флюсом

resistance welding (контактная) сварка сопротивлением

flux соге флюсовая сердцевина ( порошковой проволоки )

metal core металлический сердечник

shift work (по)сменная работа, работа по сменам

# Variant II Welding Skills

A Welder permanently joins pieces of metal with metal filler, using heat and/or pressure. Welders join parts being manufactured, they build structures and repair broken or cracked parts, according to specifications.

# Job Related Skills, Interests and Values

- using and maintaining tools, material handling equipment and welding equipment;
- reading and interpreting blueprints;
- acquiring thorough knowledge of arc, gas and resistance welding theory;
- laying out, cutting and forming metals to specifications;
- preparing the work site;
- fitting sub-assemblies and assemblies together and preparing assemblies for welding ;
- welding using **shielded metal arc welding**, gas metal arc welding, **gas tungsten arc welding**, flux core or metal core arc welding, submerged arc welding and plasma arc welding processes;
  - carrying out special processes such as welding studs and brazing;
  - ensuring quality of product/process before, during and after welding;

## What Preparation and Training Do You Need?

To become a Welder you should complete Grade 12 with credits in mathematics (particularly technical math) and some shop courses. In Ontario, welding is an unrestricted trade; completion of an apprenticeship could take approximately 3 years including 3 periods of 8 weeks (720 hours) in-school theory. Upon successful completion of the training agreem ent, you will receive a Certificate of Apprenticeship.

### What's Your Future as a Welder?

Most workers in this occupation work full-time, sometimes in shift work, usually indoors. Those with the ability to work with high-technology welding applications may have better employment opportunities. The bulk of employment opportunities are predicted to occur in the non-electrical, machinery, construction and metal-fabricating industries. Some workers will become self-employed. Examples of companies that employ welders include:

- Fabricating shops;
- Manufacturers of structural steel and platework;
- Construction industries;
- Boilers:
- Heavy machinery contractors;
- Aircraft contractors;
- Ship building and other transportation contractors;
- Specialized welding shops.

#### Wage Rate

• as an apprentice you would start at a wage rate less than that of a

## journeyperson

- this rate increases gradually as you gain competency
- the wage range for fully qualified welders according to the Peel Halton

Dufferin HRDC Wage Book is between \$9.50/hr to \$16.18/hr, with a median salary of \$12.50/hr.

### After reading activity

Revise the information of Unit1 and make a list of the things welders should be able to do and places they can work at.

## **Self-Rating**

Ask Yourself: Is Working as a Welder For You?

Are you good at preparing and planning a job from start to finish?

Yes No

Can you look at a diagram or shop drawing and visualize how things come together?

Yes No

Do you like figuring out what's wrong with something and then repairing it?

Yes No

Are you able to bend, stretch, kneel, stand for long periods and lift material and supplies?

Yes No

Would it bother you to work around dangerous gases and intense heat?

Yes No

Do you have good hand/eye coordination to guide a welding arc along the edges of metal? Yes No

## If you answered Yes to most of these questions, welder may be for you! Lead-in

You already know what sort of skills you should have to be a welder. Now think of the answers to the following questions:

- 1. How long should a person be trained to become a skilled welder?
- 2. Do you think that a welder should be able to use all kinds of welding?
- 3. What is more interesting to you personally: welding techniques, welding inspection (other)?

### Vocabulary

technique 1) техника, способ, техническиеприемы 2) метод; методика,

case study учебный пример; разбор конкретного случая

shielded metal arc welding дуговая сварка покрытым металлическим электродом arc welding электродуговая сварка

submerged arc welding дуговая сварка под флюсом

oxyfuel газоплазменный

electric resistance welding (контактная) сварка сопротивлением

tensile test испытание на растяжение

bending test испытание на изгиб

impact test испытание на ударную вязкость

discontinuity отсутствие непрерывности, нарушение последовательности; несплошность

volumetric объемный

hardness твердость, прочность; сопротивляемость (механическим воздействиям)

tension натяжение; растяжение, растягивание, удлинение

site welding монтажные сварочные работы

heat flow тепловой поток

heat treatment термическая обработка

welding metallurgy металлургия сварки

hardenability 1) закаливаемость 2) прокаливаемость 3) способность к закаливанию weldability свариваемость

non-ferrous цветной (о металле), не содержащий железа

filler metal присадочный металл

alloy сплав

ASME сокр. от AmericanSocietyofMechanicalEngineers Американское общество инженеров-механиков

AWS сокр. от American Welding Society Американское сварочное общество

Match the words from the list below with their definitions

- a) alloy, b) joint, c) inspection, d) welding, e) laser, f) design, g) property, h) course, j) plasma, k) arc.
  - 1. To contrive, to formulate, to project, to draw, to plan, to sketch out;
- 2. Joining pieces of metal (or nonmetal) at faces rendered plastic or liquid by heat or pressure (or both).
- 3. a) A junction or mode of joining parts together; b) the place where two things are joined together
- 4. The luminous arc or bridge across a gap between two electrodes when an electric current is sent through them.
  - 5. a) A careful, narrow or critical examination or survey; b) an official examination.
- 6. An instrument which amplifies light waves by stimulation to produce a powerful, coherent beam of monochromatic light, an optical maser.
- 7. Metal blended with some other metallic or nonmetallic substance to give it special qualities, such as resistance to corrosion, greater hardness, or tensile strength.
  - 8. A planned programme of study.
  - 9. Peculiar or inherent quality.
- 10. A hot, ionized gas containing approximately equal numbers of positive ions and electrons.

### Reading and Speaking

Imagine you are a trying to choose a welding course to your needs. Which one will you choose if your needs are like these:

- 1. You have to know how to carry out mechanical tests.
- 2. You are interested in welding ferrous alloys and non ferrous alloys.
- 3. You want to introduce computers in your welding process.
- 4. You are new to welding and would like to be introduced to basic welding processes.
- 5. You want to learn how to choose the right type of welding for your specific purposes.
- 6. You want to be a highly qualified and certified expert in the field of welding.
- 7. You want to be familiar with welding standards

# 4 курс 8 семестр Практическая работа № 1.

Тема:Промышленные роботы

Задание: прочитать текст, ответить на вопросы

### ROBOTS IN MANUFACTURING

Today most robots are used in manufacturing operations. 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. Usually 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 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 a 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 are too heavy and difficult to handle,
  - 4. the operation allows the robot to be used on two or three shifts.

General understanding:

- 1. How are robots used in 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 robot manipulate in robotic processing operation?
- 5. What is the most common application of robots in automobile manufacturing?
- 6. What operations could be done by robot in 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 for the human workers conditions?

### Практическая работа № 2.

<u>Тема:</u>Промышленные роботы

<u>Цель</u>: совершенствование лексических и грамматических навыков

<u>Перечень оборудования для проведения работы</u>: тетрадь, письменные принадлежности, словарь.

Задание: выполнить упражнения

№1. Перевести слова с помощью словаря

Handling, transfer, location, pick up, arrangement, to utilize, gripper, to grasp, spot welding, continuous, arc welding, spray painting, frame, spray-painting gun, grinding, polishing, spindle, manual, labour, hazardous, shift

### №2. Инфинитив с частицей to и без частицы to

1. Выберитеправильный вариант

I am	ready to you now.		
0	to talk		
0	talk		
	indy wants her current job.		
0	toquit		
0	quit 1. He expects a special gift on his birthday.		
0	to present		
0	to be presented		
_	present 2. He must for such an outrageous behavior.		
0	apologize		
0	to apologize		
0	to have apologized 3. His uncle seems the walls at the moment.		
0	to be painted		
0	to be painting		
0	to paint 4. We should about it one more time.		
0	think		
0	to have thought		
0	to think 5. A notorious gangster is said in the US.		
0	to have been killed		
0	to have killed		
0	to kill  6. He claims one million dollars last year.		
0	to win		
0	to be winning		
0	to have won 7. He suggested to the cinema.		
0	going		
0	to have gone		
0	to go		
	8. Andrea claims for his manufacturer for 6 years.		
0	to worked		
0	to have been working		
0	to work		

	9. She returned to his office for some extra money.
0	to have asked
0	to be asking
0	to ask 10. We saw them
0	kiss
0	have kissed
0	to kiss 11. We are leaving in 20 minutes the bus to Liverpool.
0	to catch
0	to have caught
0	to be catching 12. Unfortunately, I don't have enough money this trip.
0	afford
0	to have afforded
0	to afford 13. He offered me my bag but I told him it wasn't heavy.
0	to have carried
0	to carry
0	to be carrying 14. You'd better a sleep.
0	to have
0	have had
0	have 15. Why did he refuse the invitation?
0	to have accepted
0	have been accepted
0	to accept 16. She wants why you decided the meeting earlier.
0	to know / leave
0	know / leave
0	to know / to leave 17. I'd rather home than any other minute here.
0	to go / to stay
0	go / stay
0	go / to stay 18. She explained how photos and them to the Internet.
0	take / to upload

take / upload

to take / upload

# Практическая работа № 3

<u>Тема</u>: Дифференцированный зачёт

<u>Цель</u>: Контроль лексических и грамматических навыков, словарного запаса обучающихся. <u>Перечень оборудования для проведения работы</u>: тетрадь для контрольных работ, письменные принадлежности, словарь.

# Контрольные задания к дифференцированному зачету IV курс

#### ту курс Вариант І

### 1. Прочтите текст и ответьте на вопросы:

- 1)How can a process of welding be defined?
- 2) What are the two main groups of processes of welding?
- 3)How can we join metal parts together?
- 4) What is welding used for nowadays?
- 5) Where is welding necessary?
- 6) What do the welding processes of today include?
- 7) What are the principles of gas welding?
- 8) What kinds of welding can be used for joining steels?
- 9) What does are welding require?
- 10) What is the difference between the arc welding and shielded-metal welding?

### **WELDING**

Welding is a process when metal parts are joined together by the application of heat, pressure, or a combination of both. The processes of welding can be divided into two main groups:

- pressure welding, when the weld is achieved by pressure and
- heat welding, when the weld is achieved by heat. Heat welding is the most common welding process used today.

Nowadays welding is used instead of bolting and riveting in the construction of many types of structures, including bridges, buildings, and ships. It is also a basic process in the manufacture of machinery and in the motor and aircraft industries. It is necessary almost in all productions where metals are used.

The welding process depends greatly on the properties of the metals, the purpose of their application and the available equipment. Welding processes are classified according to the sources of heat and pressure used.

The welding processes widely employed today include gas welding, arc welding, and resistance welding. Other joining processes are laser welding, and electron-beam welding-

### Gas Welding

Gas welding is a non-pressure process using heat from a gas flame. The flame is applied directly to the metal edges to be joined and simultaneously to a filler metal in the form of wire or rod, called the welding rod, which is melted to the joint. Gas welding has the advantage of using equipment that is portable and does not require an electric power source. The surfaces to be welded and the welding rod are coated with flux, a fusible material that shields the material from air, which would result in a defective weld.

### Arc Welding

Arc-welding is the most important welding process for joining steels. It requires a continuous supply of either direct or alternating electrical current. This current is used to create an electric arc, which generates enough heat to melt metal and create a weld.

Arc welding has several advantages over other welding methods. Arc welding is faster because the concentration of heat is high. Also, fluxes are not necessary in certain methods of arc welding. The most widely used arc-welding processes are shielded metal arc, gas-tungsten arc, gas-

metal arc, and submerged arc.

2. Совместите слова из левой колонки с их переводом из правой:

1. To melt	а. Сварка давлением
2. To manufacture	b. Сварка нагреванием
3. Resistance welding	с. Изготовлять
4. Heat welding	d. Газосварка
5. Laser welding	е. Электродуговая сварка
6. Electron-beam welding	f. Контактная сварка
7. surface	g. Лазерная сварка
8. bolting	h. Плавить
9. Pressure welding	і. Поверхность
10. fusible	ј. пламя
11. flame	k. Плавкий
12. Gas welding	1. Скрепление болтами

## 3. Переведите тексты Gas Welding и Arc Welding в письменной форме.

## 5. Выпишите из текста следующие словосочетания:

- 1) Сварка давлением
- 2) Тепловая сварка
- 3) Болтовое (клепаное) соединение
- 4) Процесс сварки
- 5) Зависеть от свойств металлов
- 6) Имеющееся оборудование
- 7) Сварочный электрод
- 8) Плавкий материал
- 9) Дефектный сварочный шов
- 10) Непрерывная подача электрического тока
- 11) Электрическая дуга
- 12) Источник электрического тока

## Причастиенастоящеговремени (The Present Participle, Participle I)

Причастие настоящего времени образуется путем прибавления суффикса -ing к инфинитиву глагола без частицы to:

to play играть - playing

to read читать - reading

Перед суффиксом -ing одна согласная, если она стоит после краткой ударной гласной, удваивается:

to get получать - getting

to run бегать - running

to compel заставлять - compelling

to prefer предпочитать - preferring

В глаголах to die умирать, to lie лежать, to tie связывать буква i перед суффиксом -ing переходит в у:

to die-dying - умирающий, умирая

to lie-lying - лежащий, лежа

to tie-tying - связывающий, связывая

Причастие настоящего времени переводится на русский язык либо действительным причастием настоящего времени, либо деепричастием.

### Причастиепрошедшеговремени (The Past Participle, Participle II)

Причастие прошедшего времени правильных глаголов образуется путем прибавления суффикса -ed к инфинитиву глагола без частицы to. Читается этот суффикс так же, как суффикс -ed прошедшего неопределенного времени правильных глаголов. to finish заканчивать -finished законченный

to civilize цивилизовать -civilized цивилизованный

Причастие прошедшего времени неправильных глаголов чаще всего образуется путем изменения корневой гласной или всей основы глагола:

to write писать - written написанный

to see видеть - seen увиденный

toteach обучать - taught обученный

В словарях после неопределенной формы неправильных глаголов обычно даются формы прошедшего неопределенного времени и причастия прошедшего времени.

На русский язык причастие прошедшего времени обычно переводится страдательным причастием совершенного или несовершенного вида.

# Упражнение 1. Выберите из скобок требующуюся форму причастия:

- 1. a) The girl (writing, written) on the blackboard is our best pupil.
  - b) Everything (writing, written) here is quite right.
- 2. a) The house (surrounding, surrounded) by tall trees is very beautiful.
  - b) The wall (surrounding, surrounded) the house was very high.
- 3. a) Who is that boy (doing, done) his homework at that table?
  - b) The exercises (doing, done) by the pupils were easy.
- 4. a) The girl (washing, washed) the floor is my sister.
  - b) The floor (washing, washed) by Helen looked very clean.

# Упражнение 2. Замените придаточные определительные предложения причастными оборотами:

Образец: All the people who live in this house are students.

All the people living in this house are students.

1. The woman who is speaking now is our secretary. 2. The apparatus that stands on the table in the corner of the laboratory is quite new.3. The young man who helps the professor in his experiments studies at an evening school for laboratory workers. 4. People who take books from the library must return them in time. 5. There are many pupils in our class who take part in all kinds of extra-curricular activities.

# Контрольные задания к дифференцированному зачету IV курс

# Вариант II

### 1. Прочтите текст и ответьте на вопросы:

- 1) What is the difference between the arc-welding and non-consumable electrode arc welding?
- 2) What are the disadvantages of the non-consumable electrode arc welding?
- 3) How is electrode protected from the air in gas- metal arc welding?
- 4) What is submerged arc welding?
- 5) What is the principle of resistance welding?
- 6) Where is semi-automatic welding employed?
- 7) What are the principles of gas welding?
- 8) What does are welding require?
- 9) What is the difference between the arc welding and shielded-metal welding?

## TYPES OF WELDING

### Non-Consumable Electrode Arc welding

As a non-consumable electrodes tungsten or carbon electrodes can be used. In gas-tungsten arc welding a tungsten electrode is used in place of the metal electrode used in shielded metal-arc welding. A chemically inert gas, such as argon, helium ['hi:li9m], or carbon dioxide is used to shield the metal from oxidation. The heat from the arc formed between the electrode and the metal melts the edges of the metal. Metal for the weld may be added by placing a bare wire in the arc or the point of the weld. This process can be used with nearly all metals and produces a high-quality weld. However, the rate of welding is considerably slower than in other processes.

### Gas-Metal Arc

In gas-metal welding, abare electrode is shielded from the air by surrounding it with argon or carbon dioxide gas and sometimes by coating the electrode with flux. The electrode is fed into the electric arc, and melts off in droplets that enter the liquid metal of the weld seam. Most metals can be joined by this process.

### Submerged Arc

Submerged-arc welding is similar to gas-metal arc welding, but in this process no gas is used to shield the weld. Instead of that, the arc and tip of the wire are submerged beneath a layer of granular, fusible material that covers the weld seam. This process is also called electroslag welding. It is very efficient but can be used only with steels.

### **Resistance Welding**

In resistance welding, heat is obtained from the resistance of metal to the flow of an electric current. Electrodes are clamped on each side of the parts to be welded, the parts are subjected to great pressure, and a heavy current is applied for a short period of time. The point where the two metals touch creates resistance to the flow of current. This resistance causes heat, which melts the metals and creates the weld. Resistance welding is widely employed in many fields of sheet metal or wire manufacturing and is often used for welds made by automatic or semi-automatic machines especially in automobile industry.

2. Совместите слова из левой колонки с их переводом из правой:

2. Cobmeeth ie choba no hebon kohonkh e na nepebogom no npabon.			
1.To shield	а. Аргоно-дуговая сварка		
2. Surface	<ul><li>b. Углекислый газ</li></ul>		
3. Gas-metal arc	с. Сварной шов		
4. Carbon dioxide	d. Плавкий		
5. To melt	е. Полуавтоматическая		
6. To create	f. Создавать		
7. Fusible	g. погружать		
8. To submerge	h. Плавить		
9. Semi-automatic	і. поверхность		
10. Weld seam	ј. заслонять		

# 3. Переведитеабзацы Non-Consumable Electrode Arc welding и Resistance Welding вписьменнойформе.

### 4. Выпишите из текста следующие словосочетания:

- 1) Вольфрамовый электрод
- 2) Инертный газ
- 3) Окисление
- 4) Высококачественный сварочный шов
- 5) Скорость сварки
- 6) Аргон, гелий, углекислый газ
- 7) Жидкий металл
- 8) Слой плавкого материала в виде гранул
- 9) Листовой металл
- 10) Полуавтоматические сварочные станки

## Причастиенастоящеговремени (The Present Participle, Participle I)

Причастие настоящего времени образуется путем прибавления суффикса -ing к инфинитиву глагола без частицы to:

to play играть - playing

to read читать - reading

Перед суффиксом -ing одна согласная, если она стоит после краткой ударной гласной, удваивается:

to get получать - getting

to run бегать - running

to compel заставлять - compelling

to prefer предпочитать - preferring

В глаголах todie умирать, tolie лежать, totie связывать буква і перед суффиксом -ing переходит в v:

to die-dying - умирающий, умирая

to lie-lying - лежащий, лежа

to tie-tying - связывающий, связывая

Причастие настоящего времени переводится на русский язык либо действительным причастием настоящего времени, либо деепричастием.

### Причастиепрошедшеговремени (The Past Participle, Participle II)

Причастие прошедшего времени правильных глаголов образуется путем прибавления суффикса -ed к инфинитиву глагола без частицы to. Читается этот суффикс так же, как суффикс -ed прошедшего неопределенного времени правильных глаголов.

to finish заканчивать -finished законченный

to civilize цивилизовать -civilized цивилизованный

Причастие прошедшего времени неправильных глаголов чаще всего образуется путем изменения корневой гласной или всей основы глагола:

to write писать - written написанный

to see видеть - seen увиденный

toteach обучать - taught обученный

В словарях после неопределенной формы неправильных глаголов обычно даются формы прошедшего неопределенного времени и причастия прошедшего времени.

На русский язык причастие прошедшего времени обычно переводится страдательным причастием совершенного или несовершенного вида.

## Упражнение 1. Выберите из скобок требующуюся форму причастия:

- 1. a) The girl (writing, written) on the blackboard is our best pupil.
  - b) Everything (writing, written) here is quite right.
- 2. a) The house (surrounding, surrounded) by tall trees is very beautiful.
  - b) The wall (surrounding, surrounded) the house was very high.
- 3. a) Who is that boy (doing, done) his homework at that table?
  - b) The exercises (doing, done) by the pupils were easy.
- 4. a) The girl (washing, washed) the floor is my sister.
  - b) The floor (washing, washed) by Helen looked very clean.

# Упражнение 2. Замените придаточные определительные предложения причастными оборотами:

Образец: All the people who live in this house are students.

All the people living in this house are students.

1. The woman who is speaking now is our secretary. 2. The apparatus that stands on the table in the corner of the laboratory is quite new.3. The young man who helps the professor in his experiments studies at an evening school for laboratory workers. 4. People who take books from the library must return them in time. 5. There are many pupils in our class who take part in all kinds of extra-curricular activities.

### 5. Информационное обеспечение обучения

### Основные источники:

- 1. Голубев, А.П. Английский язык для технических специальностей [Текст] = EnglishforTechnicalColleges: учеб.для студентов учреждений СПО / А. П. Голубев, А. П. Коржавый, А. Б. Смирнова. 3-е изд., стер. Москва: Академия, 2013. 208 с. (СПО.Гуманитарные и социально-экономические дисциплины).
- 2. Агеева, Е.А. Английский язык для сварщиков [Текст]: учеб.для студентов учреждений среднего проф. образования / Е. А. Агеева. Москва: Академия, 2018. 240 с. (Профессиональное образование) (ТОП-50).
- 3. Кондратюк, Л.Н. Английский язык: учебное пособие / Кондратюк Л.Н., Левченко В.В., Мещерякова О.В., Широких А.Ю. Москва: Русайнс, 2020. 215 с. ISBN 978-5-4365-2040-7. URL: https://book.ru/book/933501 (дата обращения: 13.09.2019). Текст: электронный.
- 4. Английский язык для технических специальностей: учебное пособие / С.С. Литвинская. Москва: ИНФРА-М, 2020. 252 с. (Среднее профессиональное образование). Текст: электронный. URL: https://new.znanium.com/catalog/product/989248
- 5. Агабекян И.П. Английский язык (среднее профессиональное образование), Издание 16-е, стереотипное, Ростов н/Д: Феникс, 2015. 318с.
- 6. Агабекян И. П. Английский язык для технических вузов: учебное пособие, Издание 15-е, стер. Ростов H/Д: Феникс, 2015. 347c.
- 7. Голицинский Ю.Б. Грамматика. Сборник упражнений. 6-е изд., СПб.: КАРО, 2016. 544c.
- 8. Луговая А.Л. Английский язык для студентов энергетических специальностей: Учеб. Пособие. -4-е изд.,-М.: «Высшая школа», 2016-150с.

### Дополнительные источники:

- 1. Кукушкин, Н.В. Английский язык для колледжей: учебное пособие / Кукушкин Н.В. Москва: Русайнс, 2018. 296 с. URL: https://book.ru/book/931743 (дата обращения: 16.09.2019). Текст: электронный.
- 2. WhattheEnglishweread: Универсальная хрестоматия текстов на английском языке / Сост. Шишкина и др. М.: ТК Велби, Изд-во Проспект, 2003. 792с.
- 3. Иностранный язык: Текстовые задания для аттестации студентов в вузе. Практикум. Выпуск 1/ Под ред. Дмитриева. М.: МИЭМП, 2007. 48с.
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- 5. Кисель, Л.Н. Английский язык профессионального общения. для Машиностроительное оборудование технологии EnglishforProfessionalCommunication. Machine-building Equipment and Technologies: учебноепособие / Л.Н. Кисель. - Минск: РИПО, 2018. - 273 с. -Текст: электронный. - URL: https://new.znanium.com/catalog/product/1055950

## Интернет- ресурсы:

- 1. www.ioso.ru/distant/community
- 2. <a href="http://school-collection.edu.ru">http://school-collection.edu.ru</a> аудио файлы
- 3. www.britishcouncil.org/learnenglish
- 4. <a href="http://lessons.study.ru">http://lessons.study.ru</a>
- 5. www.eun.org
- 6. www.usembassy.ru/english.htm Все для учителей английского!

7. www.vestnik.egu.ru Журнал Вестник образования.