

Департамент внутренней и кадровой политики Белгородской области  
Областное государственное автономное профессиональное  
образовательное учреждение  
**«Белгородский индустриальный колледж»**

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Сердюкова Н.А.

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

по специальности  
13.02.02 Теплоснабжение и теплотехническое оборудование

Разработчик:  
Преподаватель  
Белгородский индустриальный  
колледж  
Прохорова К.К.

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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 13.02.02 Теплоснабжение и теплотехническое оборудование в соответствии с обязательной нагрузкой в количестве 172 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:

ОК1 - понимать сущность и социальную значимость своей будущей профессии, проявлять к ней устойчивый интерес;

ОК2 - организовывать собственную деятельность, выбирать типовые методы и способы выполнения профессиональных задач, оценивать их эффективность и качество;

ОК3 - принимать решения в стандартных и нестандартных ситуациях и нести за них ответственность;

ОК4 - осуществлять поиск и использование информации, необходимой для эффективного выполнения профессиональных задач, профессионального и личностного развития;

ОК5 - использовать информационно-коммуникационные технологии в профессиональной деятельности;

ОК6 - работать в коллективе и команде, эффективно общаться с коллегами, руководством, потребителями;

ОК7 - брать на себя ответственность за работу членов команды (подчинённых), за результат выполнения заданий;

ОК8 - самостоятельно определять задачи профессионального и личностного развития, заниматься самообразованием, осознанно планировать повышение квалификации;

ОК9 - ориентироваться в условиях частой смены технологий в профессиональной деятельности.

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

Целью данных 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 почерком 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
<b>Раздел 1.</b>	<b>Введение. Вводно-коррективный курс</b>	<b>6</b>
Тема 1.1.	Формы обращения, приветствия. Речевой этикет. Местоимения, глаголы to be, to have. Модальные глагола	6
<b>Раздел 2.</b>	<b>Страна изучаемого языка</b>	<b>12</b>
Тема 2.1.	Географическое положение Великобритании. PresentSimple.	4
Тема 2.2.	Столица страны изучаемого языка. PastSimple	4
Тема 2.3.	Экономика страны изучаемого языка.FutureSimple.	4
<b>Раздел 3.</b>	<b>Деловая поездка за рубеж</b>	<b>14</b>
Тема 3.1.	В аэропорту. На вокзале. Страдательный залог времен Simple. Present Simple Passive.	4
Тема 3.2.	Оформление документов. Паспортный и таможенный контроль. Страдательный залог времен Simple. Past Simple Passive	4
Тема 3.3	Вгостинице. Future Simple Passive	2
	<b>Контрольная работа</b>	<b>2</b>
	<b>Итоговое занятие</b>	<b>2</b>
<b>Раздел 4.</b>	<b>Электротехника</b>	<b>40</b>
Тема 4.1	Числа и математические действия. Закон Ома. Электрическая цепь. Времена группы Continuous	4
Тема 4.2.	Последовательные и параллельные цепи.Времена группы Perfect	6
Тема 4.3	Электрические измерительные приборы. PresentPerfectи PastSimpleв сравнении	6
Тема 4.4.	Резисторы. Времена группы Perfect.	4
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
	<b>Контрольная работа</b>	<b>2</b>
	<b>Дифференцированный зачет</b>	<b>2</b>

#### 3 курс

№ п\п	Тема	Кол-во часов
<b>Раздел 5.</b>	<b>Материаловедение</b>	<b>22</b>
Тема 5.1.	Металлы, применяемые в машиностроении и приборостроении. Passive Voice группы Continuous	6
Тема 5.2	Свойства металлов. PassiveVoiceгруппы Continuous	4
Тема 5.3.	Способы обработки металлов. Прокатка. Экструзия. Пассивный залог группы Perfect.	4
Тема 5.4.	Волочение и ковка как металлургические процессы. Пассивный залог группы Perfect.	4
	<b>Контрольная работа</b>	<b>2</b>

	<b>Итоговое занятие</b>	<b>2</b>
<b>Раздел 6.</b>	<b>Технологические процессы. Сварочное производство.</b>	<b>30</b>
Тема 6.1	Технология производства сплавов Инфинитив	4
Тема 6.2.	Технология производства стали. Инфинитив. Формы инфинитива. Инфинитив	6
Тема 6.3	Методы тепловой обработки стали. Инфинитив страдательного залога	4
Тема 6.4.	Сварочное производство. Инфинитивные обороты. Сложное дополнение.	4
Тема 6.5.	Типы сварки. Газовая сварка. Электродуговая сварка. Правила перевода инфинитивных оборотов в технических текстах	4
Тема 6.6.	Правила безопасности в сварочном производстве	4
	<b>Контрольная работа</b>	<b>2</b>
	<b>Дифференцированный зачет</b>	<b>2</b>

#### 4 курс

№ п\п	Тема	Кол-во часов
<b>Раздел 7.</b>	<b>Основы теплоснабжения</b>	<b>34</b>
Тема 7.1.	Функции кондиционирования воздуха (Англ) Причастие I (Simple) (Нем) Причастие I. Образование и употребление	6
Тема 7.2	Термометры. Принципы их устройства (Англ) Причастие I (Perfect) (Нем) Причастие II. Образование и употребление.	6
Тема 7.3.	Единицы измерения тепла (Англ) Причастие страдательного залога. (Нем) Полная и краткая форма причастия I и II .	6
Тема 7.4.	Давление паров. Насыщенный и перегретый пар (Англ) Причастие II (Нем) Причастные обороты.	6
Тема 7.5	Газ (англ) Виды причастий (нем) Причастные обороты	6
	<b>Контрольная работа</b>	<b>2</b>
	<b>Итоговое занятие</b>	<b>2</b>
<b>Раздел 8.</b>	<b>Охлаждение. Замораживание.</b>	<b>14</b>
Тема 8.1	Охлаждение. Замораживание (Англ) Причастные обороты (Нем) Распространенные определения.	6
Тема 8.2	Охлаждающий термоэлемент (Англ) Причастные обороты (Нем) Распространенные определения.	6
	<b>Дифференцированный зачет</b>	<b>2</b>

#### 4. Содержание практических занятий

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

#### Практическая работа № 1.

Тема: Speech Etiquette. (Речевой этикет. Формы знакомства и приветствия.)

Цель: совершенствование лексических навыков

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

Задание: выписать выражения, составить мини диалоги

<b>Формы приветствий</b>	
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, сэръ!
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!
<b>Продолжение приветствий</b>	
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).
<b>Знакомство</b>	
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 ...
<b>Ответ на представление</b>	
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.
<b>Примеры знакомств</b>	
Allow me to introduce myself. My name is Victor Pirogov. I'm a reader at Moscow University. I understand we're working in the same field and I was hoping we could discuss certain problems.	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.

**Тема:** Speech Etiquette. (Речевой этикет. Формы знакомства и приветствия).

**Цель:** Употребление известной и новой лексики при составлении монологов, при инсценировке диалогов

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



**Задание:** Представить себя аудитории по плану, прочитать, перевести и инсценировать диалоги

Образец:

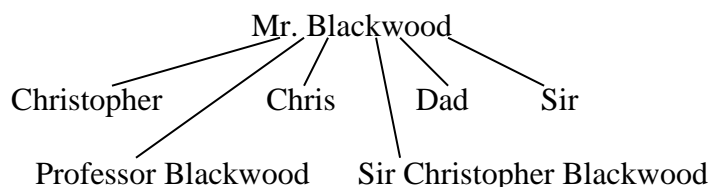
1. **Greeting.** (Hi/Hello/Good afternoon ..)
2. **Spelling the name.** (My name is spelled ...)
3. **Place of living.** (I'm from ...)
4. **Age.** (I'm...)
5. **Occupation.** (I'm a student at ...)

**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 (full name)состоит из 2-х ,3-х и 4-х компонентов(Jack London, William Makepeace Thackeray, Agatha Mary Clarissa Christie.
- Вежливое обращение к незнакомому человеку начинается с извинения за причиняемые беспокойства.
- «Excuse me» - «Извините»  
«Pardon me» - «Простите»  
«I beg your pardon» - «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**



#### **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.

(Неожиданная встреча бывших соучеников)

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: So do mine.

(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?

(Выражение благодарности приятелю)

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 № 3.**

Тема: Great Britain (Географическое положение страны изучаемого языка). Present Simple.

Цель: 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 Present Simple

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. Edinburgh 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.

#### Vocabulary:

1.	official	официальный
2.	To consist of	состоять из
3.	Island	остров
4.	to be separated by	отделяться
5.	to be washed by	омываться
6.	to be surrounded by	быть окружённым
7.	the English Channel	Ла-Манш
8.	to be made up of	состоять из
9.	mountainous	горный
10.	range	горный хребет
11.	chain	горная цепь
12.	to be occupied by	быть занятым
13.	pasture	пастбище
14.	to include	включать в себя что-либо
15.	to be abundant in=to be rich in	быть богатым чем-либо
16.	tributary	приток реки
17.	valley	долина
18.	famous	знаменитый
19.	to be known	быть известным
20.	all over the world	по всему миру (во всём мире)
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, Edinburgh, Cardiff, Belfast, The Cheviot Hills, Pennine Range, Scafell Pike, The Cumbrian Mountains, The North West Highlands, The Grampians, Ben Nevis, The Southern Uplands, The Thames, The Severn

Задание № 2 Прочитать и законспектировать образование и употребление Present Simple

### 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

Английский глагол 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 **-y** с предшествующей гласной, то **-y** 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?

Тебе нравится рок?

**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.

Джим изучает французский.

We **live** in Boston.

Мы живем в Бостоне.

- Общеизвестные факты:

The Earth **is** round.

Земля – круглая.

The Volga **is** the longest river in Europe.

Волга – самая длинная река в 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.

Самолет взлетает в 14:30.

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

Когда вы увидите большой зеленый дом, поверните налево.

#### Практическая работа № 4.

Тема: Great Britain (Географическое положение страны изучаемого языка). Present Simple.

Цель: 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) ***Edinburgh***
  - 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
  - c) 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 end 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. Раскройте скобки, употребляя глаголы в 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?

### **Практическая работа № 5.**

Тема: Great Britain (Географическое положение страны изучаемого языка). Present Simple.

Цель: совершенствование лексических и грамматических навыков

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

Задание: прочитать дополнительный текст по теме, подготовить устное сообщение, выполнить упражнение

Great Britain is well-known for its beautiful cities and castles. There are lots of places to visit. One of which is Stonehenge. It is a place with enormous stones. It is considered to be built by a magician called Merlin, but the scientists think that Romans built it. It is forbidden to come close to the stones or walk between them. But the view itself is amazing.

Other places to visit are the world famous towns: Oxford and Cambridge. Cities are famous for its universities. There you can feel the atmosphere of British student life.

One of the most popular cities in the country is Edinburgh. It is the largest city in Scotland. The Edinburgh Castle was built in the 12th century and was the residence for the local monarchs. Tourists are allowed to visit the castle, see its halls and feel the beauty of the place. The city is wonderful for its cafes and restaurants to try local cuisine.

The name of the Loch-Ness monster is known all around. And the Loch-Ness Lake is among the first places to see for the tourist. The story began when a couple saw an animal coming out of the lake. The journalist who was told this story called it a monster and spent a lot of time longing to see the monster coming out.

And lots of people did the same. So if you are brave enough — visit the place. At least the lake itself is extremely beautiful and breathtaking.

For those who are fond of Harry Potter there is a wonderful place to see — the Durham Cathedral. It is the world-famous castle known as Hogwarts for the most of the world.

So these are places you can see while visiting Great Britain.

#### **Полезные выражения:**

lots of places to visit — много мест, чтобы посмотреть

to be well— known for — быть широко известным за что-либо

it is forbidden to do sth — запрещено делать что— то

to be built by — быть построенным кем-либо

to come close — подходить близко

to feel the atmosphere — почувствовать атмосферу

residence for the local monarchs — резиденция местных монархов

to try local cuisine — попробовать местную кухню

to come out of (the lake) — выйти, появиться из (озера)

### **Практическая работа № 6**

Тема: London. (Лондон). Past Simple.



Цель: 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.

### **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:

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 английский глагол 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?

Ты помыл руки?

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 здорового кота, сидящего на столе

### Практическая работа № 7

Тема: London. (Лондон). Past Simple.

Цель: познакомиться с основными достопримечательностями Лондона

Перечень оборудования для проведения работы: 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 occurred 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 Past Simple.

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 really (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.

Цель: развитие лексических навыков, совершенствование грамматических навыков

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

Задание № 1 перевести текст

#### Britain's economy

##### Vocabulary:

**to be based on** – быть основанным на

**private enterprise** – частное предприятие

**employment** – занятость, наем

**to be engaged** – быть нанятым  
**to contribute** – способствовать  
**exploiting** - разработка  
**self-sufficient** – самодостаточный  
**to remain** – оставаться  
**to make up** - составлять  
**to expect** – 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:

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?

Мы пойдем на пляж?

**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.

Я вас не подведу.

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

Фред не согласится нам помочь.

**Случаи употребления Future Simple:**

- Указание на простое действие в будущем:

**We'll return** in 4 hours.

Мы вернемся через 4 часа.

It **will not be** easy to convince him.

Его будет нелегко убедить.

- 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

Перечень оборудования для проведения работы: 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 worrying! Your blood analysis is excellent." He is a very good doctor.

Сравните употребление Present Simple, Past Simple и Future Simple

Упражнение. Раскройте скобки, употребляя глаголы в Present Simple, Past Simple или Future Simple.

1. I (to go) to bed at ten o'clock every day. 2. I (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.

### Практическая работа № 10.

Тема: AT A RAILWAY STATION / НА ВОКЗАЛЕ. Present Simple Passive

Цель: совершенствование лексических и грамматических навыков

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

Задание I

#### 1. Прочитайте слова

booking-office – касса

compartment – купе

dining-car – вагон-ресторан

fast train – скорый поезд

left-luggage office – камера хранения

localtrain– местный поезд

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? – Где находится касса?

Where is the left-luggage office, please? – Где находится камера хранения?

2.Прочитайте диалоги.



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.

Seat reservations are free.

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

A Доброе утро. Чем могу помочь?

B Когда ближайший поезд до Линкольна сегодня вечером?

A В 9.25 с платформы 4.

B Когда поезд прибудет в Линкольн?

A Поезд прибывает ровно в 12.00 по расписанию.

B В поезде есть вагон-ресторан?

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

6.2

B Билет до Стокгольма, пожалуйста.

A Только до Стокгольма или туда и обратно?

B Только в один конец.

A Билет стоит 32 доллара.

B Мне нужно пересаживаться?

A Нет, это прямой поезд.

B Когда мы прибудем на место?

A Поезд прибывает в 6.35.

6.3.

B Извините, где находится касса?

A Прямо, в главном зале вокзала.

B А здесь есть камера хранения?

A Да, на первом этаже, первый поворот налево.

Задание II

Раскройте скобки, употребляя глаголы в Present Simple Passive.

(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: At the Airport (В аэропорту). Present Simple Passive

Цель: совершенствование лексических навыков



Перечень оборудования для проведения работы: 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:**

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

**Check-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:**

<b>Can I see your ticket and passport, please?</b>	<b>Могу я посмотреть ваш паспорт и билет?</b>
<b>How many bags are you checking?</b>	<b>Сколько сумок вы регистрируете?</b>

<b>Would you like a window or an aisle seat?</b>	<b>Вы хотите место у окна или в проходе?</b>
<b>Do you have a carry-on bag? (a bag or purse to take on the airplane)</b>	<b>У вас есть ручная кладь?</b>
<b>The charge for the overweight luggage is 6\$ per kilo</b>	<b>Сбор за сверхнормативный багаж 6 долларов за килограмм</b>
<b>Your suitcase is 5 kilos overweight.</b>	<b>Перевес вашей сумки составляет 5 кг</b>
<b>You may keep valuables, medicines, cameras or delicate items in your hand luggage.</b>	<b>Вы можете оставить в ручной клади драгоценности, лекарства, фотоаппарат или хрупкие предметы</b>

**Вопросы, которые вы можете задать на регистрации**

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

**Information desk / Справочное бюро**



<b>Where's the check-in counter for American Airlines?</b>	<b>Где находится стойка регистрации на Американские авиалинии?</b>
<b>Is there a shuttle bus that goes between terminals?</b>	<b>Ездит ли автобус между терминалами?</b>
<b>How much time before my flight should I check in?</b>	<b>За сколько времени начнется регистрация на рейс?</b>
<b>Where do I collect my baggage?</b>	<b>Где я должен получить мой багаж?</b>
<b>Is my flight on time?</b>	<b>Мой рейс вылетает вовремя?</b>
<b>Where can I find a taxi?</b>	<b>Где я могу найти такси?</b>

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**). Много 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

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

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

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

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

<b>What time do we take off?</b>	<b>В какое время мы вылетаем?</b>
<b>Please put your seat-belts and turn off all electronic devices. Our plane is ready to take off</b>	<b>Пристегните, пожалуйста, ремни безопасности и отключите все электронные приборы. Наш самолет готов к взлету</b>
<b>Our flight is expected to take off on time.</b>	<b>Наш рейс вылетит по расписанию.</b>

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 пригодиться следующие фразы:

<i>How do I get to luggage claim?</i>	<i>Как пройти к выдаче багажа?</i>
<i>At which carousel will our luggage be?</i>	<i>На какой багажной ленте будет выдаваться наш багаж?</i>
<i>My baggage is broken, and some things are missing</i>	<i>Мой багаж поврежден, и некоторых вещей не хватает.</i>
<i>Where do I collect my baggage?</i>	<i>Где я должен получить свой багаж?</i>
<i>Here is my claim tag.</i>	<i>Вот моя багажная квитанция</i>
<i>I can't find my baggage</i>	<i>Я не могу найти свой багаж</i>
<i>I didn't receive the claim tag when I checked in</i>	<i>Мне не выдали багажную квитанцию при регистрации</i>



<i>May I use this baggage cart?</i>	<i>Можно взять эту багажную тележку</i>
<i>I've lost my suitcase</i>	<i>Я потерял свой чемодан</i>
<i>Could you help me locate my luggage? Here are the luggage stickers</i>	<i>Не могли бы вы помочь мне найти мой багаж? Вот мои багажные бирки</i>

### Практическая работа № 12.

Тема: На таможне

Цель: употребление и понимание новых слов, формирование умения у обучающихся работать в парах, совершенствование грамматических навыков

Перечень оборудования для проведения работы: 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. Next please.

Задание № 2 Раскройте скобки, употребляя глаголы в 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 ЕС  
All passports Все паспорта  
Wait behind the yellow line Ждите за жёлтой чертой  
Please have your passport ready Пожалуйста, подготовьте 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.
<b>Номера:</b>	
single room	одноместный номер
twin room	двухместный номер с двумя кроватями
double room	двухместный номер с одной двуспальной кроватью
<b>Категории номеров (по комфортности):</b>	

<b>Standard room</b>	стандартный номер
<b>Superior room</b>	номер повышенной комфортности
<b>Junior suite room</b>	номер "полулюкс"
<b>Suite room</b>	номер "люкс"

**Классификация проживания по типу питания:**

<b>B&amp;B - bed and breakfast</b>	питание: завтрак
<b>HB - half board</b>	полупансион (как правило, завтрак и ужин)
<b>FB - full board</b>	трёхразовое питание
<b>All inclusive</b>	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
▶ Здание парламента	Buckingham palace
▶ Билет	hand luggage
▶ Упаковывать вещи	the Thames
▶ Британский музей	the Houses of Parliament
▶ Нести багаж	to pack bags
▶ Букингемский дворец	a ticket
▶ Ручная кладь	the British Museum
▶ Достопримечательности	a window seat
▶ Местоуокна	places of interest

**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	Westminster Abbey
▶ Регистрация	a window seat
▶ Номеррейса	a boarding card
▶ Вестминстерское Аббатство	to be situated on
▶ Место в центре	Trafalgar Square
▶ Располагаться на	flight number
▶ Пассажиры	check-in desk
▶ Здание парламента	the United Kingdom
▶ Соединенное Королевство	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.**

Тема: Дифференцированный зачет

Цель: контроль знаний и умений обучающихся

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

**Контрольные задания к дифференцированному зачету**

**II курс II семестр**

**Вариант I**

**GREAT BRITAIN**

The official name of this country is the United Kingdom of Great Britain and Northern Ireland (the UK for short). It is situated on the British Islands and comprises England, Scotland, Wales, and Northern Ireland.

The population of Great Britain is over 69 million. The majority of the UK population (almost 92%) lives in cities and towns.

The country is washed by the North and Irish seas and by the Arctic and Atlantic Oceans. The English Channel separates the country from the European continent.

The highest mountain of the country Ben Nevis is in Scotland.

Britain has several rivers, but they are not very long. The longest river is the Severn, but the deepest and the most important one is the Thames.

The country climate is mild due to the Atlantic Ocean, the Gulf Stream warm waters and the mountains. The country weather often changes.

The UK is one of the most highly developed industrial powers in the world. It holds one of the leading places among the European countries. The country is not rich in mineral resources. That is why it has to import some goods, raw materials, gas and oil.

The capital of the country is London. It is the largest political, cultural and industrial center of the country, as well as one of the largest sea ports in the world.

Britain is the country with old cultural traditions and customs. The official languages of the state are English, Welsh, Scottish and Gaelic. The national symbol of the country is the Union Jack- the National Flag having 3 red and white crosses on the dark blue field.

The United Kingdom is a constitutional monarchy. Officially the head of the state is the Queen. Her power is not absolute, it is limited by the Parliament. The British Parliament is one of the oldest Parliaments in the world. It consists of two chambers: the House of Commons and the House of Lords.

There are several political parties in the country. The largest and the most influential of them are the Conservative (the Tory), the Liberal (the Whigs) and the Labour parties.

**Задание №1.** Дополните следующие предложения.

1. The official name of Great Britain is .....
2. The United Kingdom comprises.....
3. The country territory is .....
4. The UK is one of the most densely .....
5. It is a constitutional .....
6. The official head of the state is .....
7. The House of Commons and the House of Lords are .....
8. The British Prime Minister is .....
9. English is ..... of the state.
10. London is ..... It is the country .....
11. Great Britain is one of the world's .....
12. It is also one of the most .....

**Задание №2.** Ответьте на предложенные вопросы.

1. Give the official name of Great Britain.
2. What does it consist of?
3. What is the highest mountain in the UK?
4. Name the longest rivers of the country.
5. What is the national symbol of the country?
6. Who is formal\real head of the state?
7. Who heads the country government?
8. How many chambers does the British Parliament have?
9. What are the largest political parties of the UK?

**Упражнение 1.** Раскройте скобки, употребляя гла-голы в Present, Past или Future Simple.

1. I (to go) to bed at ten o'clock every day. 2. I (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.

**Упражнение 2.** Ответьте на вопросы, используя слова в скобках

1. Do many tourists come to Britain? (is visited)
2. Where is the 'garden of England'? (is situated)
3. Does it snow in the mountains of Wales? (are covered with)
4. What language do people in Scotland speak? (is spoken)
5. Are there many seas around the country? (is surrounded by / is washed by)
6. Do they make world-famous crafts and clothes in Scotland? (are made)
7. Do many people know about the beautiful mountains and lakes of Wales? (are known all over the world)
8. Why is the green colour a symbol of Northern Ireland? (is covered)

**Контрольные задания к дифференцированному зачету  
II курс II семестр**

## Вариант II

### Упражнение 1. Выбрать правильный вариант

1. London is the capital of
  - Scotland
  - Great Britain
  - America
2. St. Paul 's Cathedral is
  - a church
  - a fortress
  - a museum
3. The Great Fire of London take place in
  - 1666
  - 1796
  - 1904
4. The largest park in London is
  - Regent's Park
  - Hyde Park
  - St. James's Park
5. The queen lives in
  - Buckingham Palace
  - The Tower of London
  - Westminster Abby
6. London is situated on the river
  - Volga
  - Thames
  - Seven
7. The Tower of London now is
  - prison
  - a museum
  - the Zoo
8. The Heart of London is
  - Westminster
  - the West End
  - the City
9. St. Paul's Cathedral was built in the 17th century by
  - Admiral Nelson
  - William the Conqueror
  - Sir Christopher Wren
10. Big Ben is
  - bell
  - the clock
  - a tower

### Упражнение 2. Перевести текст, выполнить упражнения

#### Big Red London Buses

What is the best-known symbol of London? Big Ben? St Paul's Cathedral? Can it be the big red London double-decker bus?

It certainly can be. Every day, thousands of Londoners use the big red buses to move around the town. Every tourist knows that a one-day London bus pass can be used on all bus routes. London bus can offer a wonderful way to see the sights of Britain's capital city.

Since 1911 the big red motor bus has been London's 'king of the road'. The idea of the 'double-decker' is much older than the motor bus. Until the 1930s the 'double-decker' bus had no roof. Some passengers sat inside, and the rest travelled on the roof. It was too bad if it was raining! But then all new buses became equipped with roofs over the upper deck.

Today the only open-topped buses are the special tourist buses.

The most popular buses are those from the 'Routemasters' which date from the 1950s and 60s. It is popular because it has an open platform at the back end and passengers can climb on and off when they want, even if the bus is moving (though this is not recommended!). These buses were designed specially for London, by people who knew what London needed. They have served their purpose well!

1. Match the English words and expressions with their Russian equivalents.

- 1) best-known a) оборудовать
- 2) bus pass b) соответствовать цели
- 3) route c) пассажиры
- 4) to offer d) рекомендовать
- 5) to equip e) хорошо известный
- 6) to climb on/off f) садиться/сходить (об автобусе и т.п.)
- 7) sights g) быть созданным
- 8) passengers h) маршрут, путь
- 9) to be designed i) достопримечательности
- 10) to serve the purpose j) автобусный билет the purpose ,
- 11) to recommend к) предлагать

Choose the right answers.

- 1) How do the Londoners use the big red buses?
  - a) They use them to move to another countries.
  - b) They use them to move around town.
  - c) They don't use them at all.
- 2) What kind of a London bus pass offers a wonderful way to see the sights?
  - a) a one-day bus pass
  - b) a seven-days bus pass
  - c) a three-days bus pass
- 3) How were all new buses equipped?
  - a) They were equipped with upper decks.
  - b) They were equipped with roofs.
  - c) They were equipped with new wheels.
- 4) How are open-topped buses used?
  - a) as special tourist buses
  - b) as special buses for workers
  - c) as special buses for students
- 5) Why is the 'Routemaster' the most popular bus?
  - a) Because it is the fastest bus.
  - b) Because it is the warmest bus.
  - c) Because passengers can climb on and off when they want in this bus.

Are these sentences true (T) or false (F)?

- a) Since 1911 the red motor bus has been London's 'king of the road'.
- b) Thousands of Londoners use the big red buses to move to other countries.
- c) A one-day London bus pass is used only on one bus route.



- d) London bus offers a wonderful way to see the sights of Britain's capital.
- e) New buses were equipped with floors.
- f) The special tourist buses are open-topped.
- g) The Routemaster has an open platform at the back end.
- h) Passengers can climb on and off the bus only when it is not moving.

Translate this sentence: These buses were designed specially for London

### Упражнение 3 Выбрать правильный вариант.

I ... (like / am liked) this place.

What books by Charles Dickens ... (translated / are translated) into Belarussian?

Who ... (protects / is protected) animals?

This city ... (is visited / visited) by many people.

Who ... (gives / is given) bad marks in your class?

Our house ... (made / is made) of wood.

Our holiday ... (is begun / begins) next week.

Pupils ... (are given / give) textbooks by the teacher.

The holiday ... (celebrated / is celebrated) every year.

## II курс 4 семестр

### Практическая работа № 1.

Тема: «Числа и математические действия. Закон Ома».

Цель: введение и закрепление новой лексики

Перечень оборудования для проведения работы: 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 (умножить на 2 — multiply by two)
- разделить — divide (делить на 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 по-английски 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 —  $\sqrt{\quad}$  — 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 greater than 5
$\frac{1}{4}$	fractions	дробь	$\frac{1}{4}$	one fourth
			$1\frac{1}{4}$	one and one fourth
%	percent	процент	2%	two per cent
			2.5%	two per cent point five
°	degrees	градусы	$90^\circ$	ninetydegrees
1.666	decimals	десятичная дробь	1.666	one point six sixsix
			0.25	nought point two five

**Задание:** выполните упражнения.

*Упражнение № 1. Запишите примеры по-английски.*

$11 \times 2$        $6 \times 8$        $7 \times 6$        $4 \times 9$   
 $6 \times 4$        $7 \times 7$        $81 : 9$        $12 \times 3$

*Упражнение № 2. Дайте письменный вариант следующих числительных:*

a) 30 ; 13 ; 200 ; 21<sup>st</sup>; 13<sup>th</sup> ; 3.67 ; 2/3 ;  
 b) 5/8 ; 1/4; 2 3/7 ; 1/3 tons ; 2 1/2 pounds ; 1/2km

*Упражнение 3. Запишите даты по образцу :*

16.6.99. – June the sixteenth nineteen ninety-nine .  
 3.5.72. ; 12.7.89. ; 5.4.91. ; 17.11.97. ; 1.2.80. ; 5.12.00. ; 7.4.01. .

### Практическая работа № 2.

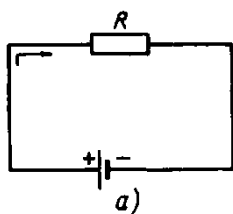
**Тема:** Электрическая цепь

**Цель:** развитие навыков чтения с полным пониманием содержания, совершенствование грамматических навыков

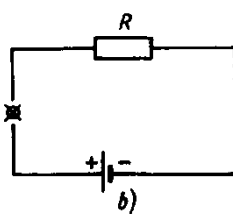
**Перечень оборудования для проведения работы:** тетрадь, письменные принадлежности, словарь.

**Задание №1:** перевести текст, пересказать

### Electric Circuit.



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.

Fig.1

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.

Мы с папой сейчас рыбачим.

**Образование Present Continuous**

Утвердительные предложения:

I am playing	We are playing
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 глагол to be в настоящем времени и причастие настоящего 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:*

Личные местоимения 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 – **jumping**, live – **living**

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

Why **are** you **laughing**?

Почему ты смеешься?

**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.

Он всегда на меня орет.

- 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

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

Задание № 1 Перевести текст

#### **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  $I \times R_2$ ;  $IR_2$  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 have started</b> the motor. Я запустил двигатель.	<b>I had started</b> the motor before the engineer came. Я запустил двигатель до того, как пришёл инженер.	<b>I shall have started</b> the motor before the engineer comes. Я запущу двигатель до того, как придёт инженер.
He <b>has written exercises today</b> . <b>Он написал упражнения сегодня</b> . <b>We have just spoken about you</b> . <b>Мы только что говорили о вас</b> .	He <b>had written exercises by 5 o'clock</b> . <b>Он написал упражнения к пяти часам</b> .	He <b>will have written</b> exercises by five o'clock. Он напишет упражнения к 5 часам.
Образуется при помощи глагола to have в форме Present Indefinite + Participle II смыслового глагола.	Образуется при помощи глагола to have в форме Past 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. Переведите предложения на русский язык.

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, словарь.

Задание № 1: описать электрические цепи, используя следующие вопросы

Questions:

1. What type of circuit has the main line and the parallel branches?
2. What type of circuit is used in order to have the same value of current in all the elements?
3. What type of circuit is used in order to have the same value of voltage in all the elements?
4. What does a trouble in the main line result in?
5. What does a trouble in a branch result in?
6. What does no current in a series circuit result from?
7. What is the difference between series and parallel circuits?

**Задание № 2**

1. *Поставьте глагол в форму 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. *Раскройте скобки, употребив глагол в форме 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: Последовательные и параллельные цепи

Цель: активизация новой лексики по теме, совершенствование грамматических навыков

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

### **Практическая работа № 6.**

Тема: Электрические измерительные приборы

Цель: развитие лексических и грамматических навыков

Перечень оборудования для проведения работы: 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:

Present Perfect всегда употребляется с привязкой ко времени настоящему, в то время как действие, описанное в предложении в Past Simple, 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 № 7.**

Тема: Электрические измерительные приборы

Цель: закрепление лексических и грамматических навыков

Перечень оборудования для проведения работы: 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. Now it'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) his arm.
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) to bed.
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 № 8.**

Тема: Резисторы

Цель: совершенствование лексических и грамматических навыков

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

Задание № 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  $P = ExI = IRxI = I^2R$  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 Выполните упражнения

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 № 9.

Тема: Резисторы

Цель: совершенствование лексических и грамматических навыков

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

Задание: выполнить упражнения

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

**4. Закончите предложения, выбрав правильный вариант:**

- 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.
- When current passes through a resistor
  - a) its temperature drops.
  - b) its temperature rises
- 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 Present Perfect:**

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's gone to the shop.
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 № 10.**

Тема: Электрические элементы

Цель: формирование умения у обучающихся самостоятельно работать с текстом, совершенствование лексических и грамматических навыков

Перечень оборудования для проведения работы: 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.

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.

## Задание № 2 Прочитать, сделать конспект

### Типы вопросов в английском языке

#### 1. Вопрос к подлежащему (question to the subject).

В таком вопросительном предложении порядок слов прямой (неизменный), 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 модальный 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? – Он был вчера в театре?

#### 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? – Что бы ты хотел почитать? When did you leave the house? – Когда ты ушел из дома?

#### 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 — or. Примеры: They finished writing the article at 5 p.m. – Они закончили писать статью в 5 вечера. Did they finish writing the article in the morning or at night? – Они закончили писать статью утром или вечером? Did they finish writing or reading the article? – Они закончили писать или читать статью?

#### 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 неизменным 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 № 11.**

Тема: Электрические элементы

Цель: совершенствование лексических и грамматических навыков

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

Задание: задайте 10 собственные вопросы к тексту

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.

### **Практическая работа № 12.**

Тема: Электрические элементы

Цель: совершенствование лексических и грамматических навыков

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

Задание:

### **Практическая работа № 13.**

Тема: Конденсаторы

Цель: отработка лексико-грамматических навыков

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

Задание: прочитайте текст, сделайте письменный перевод, составьте 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 № 14.

Тема: Конденсаторы

Цель: отработка лексико-грамматических навыков

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

Задание: выполнить упражнения

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

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:

- A capacitor is used
  - to supply voltage.
  - to increase the voltage output.
  - to store energy.
- The main parts of a capacitor are
  - insulators only.
  - metal plates only.
  - metal plates and insulators between them.
- The function of insulators is
  - to store energy.
  - to isolate the metal plates.
  - to prevent a short between the metal plates.
- The capacity of a capacitor depends on
  - the size of the plates.
  - 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.

**3. Раскройте скобки, поставив глаголы в Past Perfect:**

*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.

**4. Раскройте скобки, употребляя глаголы в 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 № 15.**

Тема: Конденсаторы

Цель: отработка лексико-грамматических навыков

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

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 № 16.

Тема: Проводники и изоляторы

Цель: совершенствование лексических навыков

Перечень оборудования для проведения работы: 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	заставить кого-л. (что-л.) делать что-л.
thus	таким образом, так
difficulty	трудность
rubber	резина
since	так как
to decrease	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 into Russian. Mind *since*

- Copper conductors are widely used since they are much cheaper than silver ones.
- A minimum voltage drop is produced in copper wire conductors since they have a low resistance.
- A bulb connected to an open circuit does not light since an open circuit has no current.

### **Практическая работа № 17.**

Тема: Проводники и изоляторы

Цель: развитие навыков чтения с извлечением необходимой информации

Перечень оборудования для проведения работы: 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 распространённые 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 № 18.

Тема: Проводники и изоляторы. Выполнение лексических и грамматических упражнений

Цель: отработка лексико-грамматических навыков

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

Задание: выполнить лексические упражнения к тексту **Conductors and Insulators**(см. практическую работу № 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 № 19**

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 №2. 2 курс 4 семестр.**

I Variant

**1. Напишите 3-ю форму следующих глаголов**

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. Переведите предложения на русский язык**

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. Раскройте скобки употребляя глаголы в 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. Раскройте скобки употребляя глаголы в 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)

**Практическая работа № 20**

Тема: Дифференцированный зачёт

Цель: Контроль лексических и грамматических навыков, словарного запаса обучающихся.

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

**Контрольные задания к дифференцированному зачету**

**II курс III семестр**

**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  $P = E \times I = IR \times I = I^2R$  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 Present Perfect Tense

**Present Perfect** образуется с помощью вспомогательного глагола **to have (has – для 3 л. ед. ч.)** и третьей формы основного глагола.

**have\has + V3**

He **has written** to his friend    Он написал своему другу.

**Present Perfect** 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).

<b>Утвердительная форма</b>	He <b>has finished</b> his letter
<b>Отрицательная форма</b>	<b>Has he finished</b> his letter?
<b>Вопросительная форма</b>	He <b>has not finished</b> his letter

Можно делать сокращения: 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.)

**Present Perfect** можно употреблять, если речь идёт о недалёком прошлом:

I **have seen** him this morning                      Я видел его сегодня утром

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

I **have been** busy this afternoon                      Я был занят сегодня днём

(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 Present Perfect:**

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's gone to the shop.
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 III семестр**

**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:**

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 связано 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:

**now**меняетсяна**then**:

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**меняетсяна**that/ those**,

**Here**меняетсяна**there**,



**yesterday** меняется на **the day before**,

**today** меняется на **that day**,

**tomorrow** меняется на **(the) next day** или **the following day**,

**ago** меняется на **before** или **earlier** (слово **ago** может и не заменяться),  
к выражениям **last week/ last year** прибавляется **the + 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 Past Perfect:**

*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. Раскройте скобки, употребляя глаголы в 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.

## **III курс 5 семестр**

### **Практическая работа № 1.**

Тема: Металлы, применяемые в машиностроении (Metals)

Цель: отработка лексико-грамматических навыков

Перечень оборудования для проведения работы: 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 slow increase 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, применяемые в машиностроении. (Metals)

**Цель:** закрепление лексических навыков

**Перечень оборудования для проведения работы:** 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, применяемые в машиностроении. (Metals) Выполнение лексических и грамматических упражнений

Цель: закрепление лексических и грамматических навыков

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

Задание: выполнить упражнения

#### I. 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. Раскройте скобки, употребляя глаголы в 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: Свойства металлов. Metal Properties

Цель: совершенствование лексических навыков, развитие техники перевода

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

Задание: перевести слова и текст.

*№ 1. Перевести слова с помощью словаря*

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. Перевести текст*

#### 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 № 5.

Тема: Свойства металлов. Metal Properties

Цель: совершенствование лексических навыков

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

Задание: выполнить упражнения

1. Ответить на вопросы к тексту METAL 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. Найти следующие слова и выражения в тексте METAL PROPERTIES

- 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

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 3 o'clock everything had been prepared.
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 № 6.**

Тема: Способы обработки металлов. Прокатка. Экструзия. (Metalworking: rolling, extrusion)

Цель: развитие навыков перевода технических текстов, активизация лексических навыков

Перечень оборудования для проведения работы: 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, extrusion, 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, or 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 cold working. 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 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, ...

Упражнение 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 № 7.**

Тема: Способы обработки металлов. (Metalworking: rolling, extrusion)

Цель: развитие навыков перевода технических текстов, развитие грамматических навыков

Перечень оборудования для проведения работы: 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?

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

**Практическая работа № 8.**

Тема: Drawing and Forging. Волочение и ковка как металлургические процессы

Цель: развитие навыков перевода технических текстов

Перечень оборудования для проведения работы: 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

Упражнение. 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 № 9.**

Тема: Drawing and Forging. Drawing and Forging. Волочение и ковка как металлургические процессы

Цель: развитие навыков перевода технических текстов

Перечень оборудования для проведения работы: 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.

1. Найти следующие слова и выражения в тексте Drawing and Forging (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

### **Практическая работа № 10**

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 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. Раскройте скобки, употребляя глаголы в 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

**4. 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 3 o'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 было написано 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.

**3. Переведите предложения на русский язык, обращая внимание на страдательный залог**

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 № 11

Тема: Итоговое занятие

Цель: Контроль лексических и грамматических навыков, словарного запаса обучающихся.

Перечень оборудования для проведения работы: 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

particular – редкий, особенный, специфический

property – свойство, качество

pure – чистый; беспримесный

rarely – 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

### Шкурс бсеместр

#### Практическая работа № 1.

Тема: Технология производства сплавов (Alloys)

Цель: совершенствование лексических и грамматических навыков

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

Задание № 1: перевести текст

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.);
- после выражений: 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: Технология производства сплавов (Alloys)

Цель: совершенствование лексических навыков

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

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	Typical uses
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.	Dental fillings.
Babbitt metal ("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.	Decorative statues, musical instruments.
Cast iron	Iron (96–98%), carbon (2–4%), plus silicon.	Metal structures such as bridges and 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, decorative items.
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	Connecting electrical

	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.	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 smaller amounts of carbon, nickel, manganese, molybdenum, and other metals.	Jewelry, medical tools, tableware.
Stellite	Cobalt (67%), chromium (28%), tungsten (4%), nickel (1%).	Coating for cutting tools such as saw teeth, lathes, and chainsaws.
Sterling silver	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's metal	Bismuth (50%), lead (26.7%), tin (13.3%), cadmium (10%).	Solder, melting element in fire sprinkler systems.

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. Here 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 № 3

Тема: Технология производства стали. (Steel)

Цель: совершенствование навыков перевода технических текстов

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

Задание 1: 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 can 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?

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 been written

Сравните употребление **Active Infinitive** и **Passive Infinitive**  
to write — to be written

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

I am glad **to be helped**. — Рад, что мне помогают.

Сравните употребление **Indefinite Infinitive** и **Perfect Infinitive**  
to write — to have written  
I am glad **to see** you. — Рад видеть вас. (Рад, что вижу вас.)  
I am glad **to have seen** you. — Рад, что повидал вас

#### Практическая работа № 4

Тема: Технология производства стали. (Steel)

Цель: совершенствование лексических навыков

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

Задание: выполнить упражнения

Упражнение 1. Перевести слова и выражения

- Сплав железа и углерода
- Прочный и жесткий
- Легко корродирует
- Нержавеющая сталь
- Низкое содержание углерода
- Ковкость
- Листовое железо, проволока, трубы
- Конструкционные стали
- Пригодны дляковки и сварки
- Твердый и хрупкий
- Режущие инструменты
- Хирургические инструменты
- Инструментальная сталь
- Упрочнять
- Добавление марганца

Упражнение 2. 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

Упражнение 3. Переведите на русский язык, обращая внимание на 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.

Упражнение 4. 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 by the scene I witnessed.

I moved — зд. растроган



## Практическая работа № 5

Тема: Методы тепловой обработки стали. METHODS OF STEEL HEAT TREATMENT

Цель: совершенствование навыков перевода технических текстов

Перечень оборудования для проведения работы: 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

Тема: Методы тепловой обработки стали. METHODS OF STEEL HEAT TREATMENT

Цель: закрепление лексических навыков

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

Задание: выполнить упражнения

1. Написать перевод слов  
to immerse, to apply, intermediate, oxide film, annealing, cracking
2. Перевести слова и выражения
  - Температура нормализации
  - Мелкозернистая структура
  - Быстрое охлаждение
  - Закаленная сталь
  - Состав стали
  - Окисная плёнка
  - Индикатор температуры
  - Медленное охлаждение

3. 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. to go    |

4. Заполните пропуски, используя инфинитив или спрягаемый глагол там, где это требуется.

to need — to call — to make — to help — to go

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.

### Практическая работа № 7.

Тема: Сварочное производство

Цель: совершенствование лексических и грамматических навыков

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

Задание 1: 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**.

Задание 2: рассмотреть таблицу, переписать

Complex Object			
They	1) want wish would like expect	имя существительное (mother, Ann)  или  местоимение в косвенном падеже	to read
	2) see watch notice hear feel make let	me us you you him them her it	read или reading

1) They want Ann to read well.

2) They make me read more often.

They hear her reading at the lesson.

## Практическая работа № 8.

Тема: Сварочное производство

Цель: совершенствование лексических и грамматических навыков

Перечень оборудования для проведения работы: 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

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 Mir kitchen," my father said to me. — My father wanted ... 8. "It will be very good if you study English," said my mother to me. — My mother wanted ... 9. "Bring 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 ... 11. The biology teacher said to us: "Collect some insects in summer." — The biology teacher wanted ... 12. "Don't eat ice cream before dinner," said our mother to us. Our mother did not want ...

## Практическая работа № 9.

Тема: Типы сварки. Газовая сварка. (Types of Welding. Gas Welding)

Цель: развитие навыка перевода технических текстов

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

Задание № 1 прочитать текст, переписать в тетрадь, перевести, используя словарь, ответить письменно на вопрос

### 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.

**What are the principles of gas welding?**

Задание 2. Выполнить упражнение

1. We looked at the sky and saw \_\_\_\_ in the clouds.
  - a) the plane disappear
  - b) the plane to be disappearing
  - c) the plane to disappear
2. We expect the Chinese delegation \_\_\_\_\_ tomorrow.
  - a) leaving
  - b) to leaving
  - c) to leave
3. Mr. Smith didn't want his daughter \_\_\_\_\_ an actress.
  - a) become
  - b) to become
  - c) becoming
4. We expected \_\_\_\_\_ in water polo championship.
  - a) them to take part
  - b) they to take part
  - c) them take part
5. Mrs. Edwards usually \_\_\_\_ at home when he feels sick.
  - a) let her son stay
  - b) lets her son stay
  - c) lets het son to stay
6. Betty felt \_\_\_\_ to tremble.
  - a) her hands begin
  - b) her hands to begin
  - c) her hands to beginning
7. Linda is being very rude. I have never heard \_\_\_\_ to her mother like that before.
  - a) that she talks
  - b) her talk
  - c) her to talk
8. I don't want \_\_\_\_ your grandfather. It's very impolite of you.
 

that you disturb  
you disturb  
you to disturb
9. The children are making too much noise. I'd like \_\_\_\_ quiet.
  - a) they to be
  - b) them to be
  - c) that they be
10. The last drop makes \_\_\_\_\_.
  - a) the cup run over
  - b) the cup running over
  - c) the cup to run over

### **Практическая работа № 10**

Тема: Газовая сварка. Gas Welding

Цель: закрепление лексических и грамматических навыков

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

Задание: перевести дополнительный текст по теме, составить тематический словарь к тексту, слова выучить, выполнить упражнение

#### **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.

**Упражнение 1 .** Раскройте скобки, используя сложное дополнение. Переведите.

I want (she) to be my wife.

My brother taught ( I ) to swim and dive.

They would like (we) to read aloud.

Bob advised (she) to stay for another week.

We expect (he) to arrive at noon.

I heard (you) open the door.

Dad always makes ( I ) go fishing with him every weekend.

Our parents expect (we) to stop quarreling.

Sara never lets (he) drive her car.

I saw (you) cross the street.

**Упражнение 2. Поставьте «to» там, где необходимо.**

We heard the lorry ... stop near the house.

I want my elder sister ... take me to the zoo.

I believe the Internet ... be the greatest invention ever.

The teacher doesn't let us ... use our mobile phones.

They didn't expect her ... be late.

The police officer made him ... tell the truth.

I would like you ... admit your fault.

Swan believes Vicky ... be the best manager in our store.

Nick persuaded me ... go in for sports.

We saw Jacob ... break the window.

I consider this sculpture ... be a masterpiece.

She noticed Mary suddenly ... turn pale.

### Практическая работа № 11.

Тема: Электродуговая сварка. Arc Welding

Цель: совершенствование лексических и грамматических навыков

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

Задание: перевести текст, выписать и выучить выделенные слова, ответить на вопрос после текста, выполнить упражнения

#### 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.**

### What does arc welding require?

**Упражнение 1.** Найти следующие слова и выражения в тексте (см. практ. раб. № 7,9,11)

- Сварка давлением
- Тепловая сварка
- Болтовое (клепанное) соединение
- Процесс сварки
- Зависеть от свойств металла
- Имеющееся оборудование
- Сварочный электрод
- Плавкий материал
- Дефектный сварной шов
- Непрерывная подача электрического тока
- Электрическая дуга
- Источник электрического тока

**Упражнение 2.** Перефразируйте предложения, используя сложное дополнение.

Н-р: I want that she will cook mushroom soup. (Я хочу, чтобы она приготовила грибной суп.) – I want her to cook mushroom soup.

1. The children were laughing and enjoying themselves on the beach. Their parents saw them. – Their parents saw ... .
2. They said: “He is an expert in our industry.” – They consider ... .
3. The bike disappeared in the forest. The policeman noticed it. – The policeman noticed ... .
4. Elvis said to his son: “Don’t watch horror films.” – Elvis doesn’t let ... .
5. “Mummy, please, buy me that doll”, said the little girl. – The little girl would like ... .
6. Dad says that I can travel to China with you. – Dad allows ... .
7. He swears a lot. Many people heard that. – Many people heard ... .
8. “Bring me some water from the well,” my grandmother said. – My grandmother wanted ... .
9. Somebody was watching me. I felt that. – I felt ... .
10. Daniel said: “Helen, you can go to a night club tonight.” – Daniel let ... .

### Практическая работа № 12.

Тема: Правила безопасности в сварочном производстве. Welding safety rules

Цель: совершенствование навыков перевода технических текстов

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

Задание: выписать правила, перевести

#### Welding safety rules

#### *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.

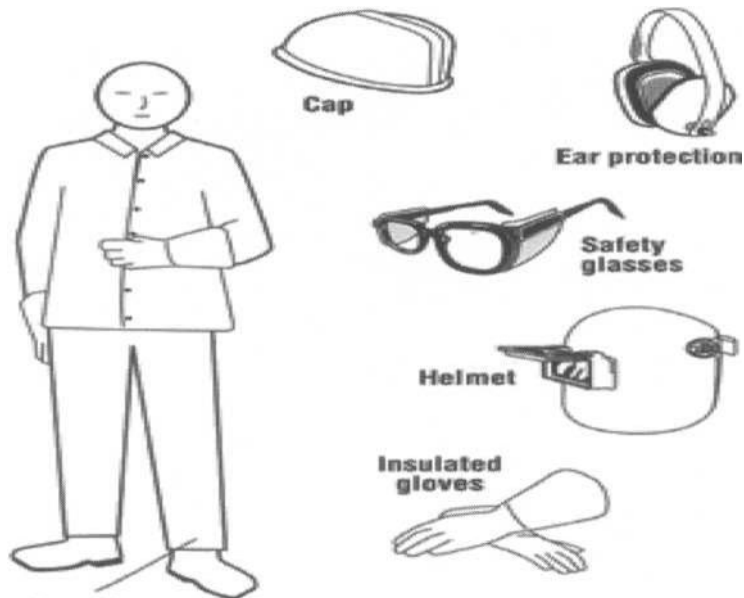
4. Gloves, apron and a cap must be worn.

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.



No cuffs

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 № 13.

Тема: Правила безопасности в сварочном производстве. Welding safety rules

Цель: развитие навыков чтения с извлечением необходимой информации

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

Задание: прочитать, выполнить упражнения

#### **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.

*№1 Найдите русское значение слов и выражений из диалога*

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 Найдите значение слов и выражений из диалога*

путь наименьшего сопротивления, поражение электрическим током, соображения безопасности, защитный колпак, обученный персонал, наносить вред, грубое обращение.

*№3 Ответить на вопросы*

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 № 14**

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 (3 курс 6 семестр)**

*Вариант 1.*

#### **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

The project to be finished

#### **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 № 15

Тема: Дифференцированный зачёт

Цель: Контроль умений и навыков практического владения английским языком.

Перечень оборудования для проведения работы: 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	a. Прокатка
2. Shape	b. Экструзия
3. Drawing	c. Волочение
4. Rolling	d. Ковка
5. To determine	e. Выполнять
6. Billet	f. Заготовка
7. Gap	g. Отверстие
8. Extrusion	h. Штамп
9. Forging	i. Устанавливать
10. To perform	j. Форма
11. To harden	k. Делаться твёрдым
12. Die	l. 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

### 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. **He 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	a. Растрескивание
2. Treatment	b. Погружать
3. To immerse	c. Отжиг, отпуск
4. Brittle	d. Оксидная плёнка
5. Tempering	e. Промежуточный
6. To apply	f. Применять
7. Intermediate	g. Хрупкий, ломкий
8. To depend on	h. Обработка
9. Oxide film	i. Закалка
10. Annealing	j. 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).

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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.

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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.

**IV курс 7 семестр**

**Практическая работа № 1.**

Тема: Функции кондиционирования воздуха. (Functions of Air-conditioning)

Цель: совершенствование лексических и грамматических навыков

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

Задание 1: Прочитайте текст, запомните определение терминов **heat**, **cold** и **temperature**.

*What is heat?*

Heat is a form of energy and is due to the motion of the molecules of which all substances are composed. The effect of adding heat to a substance is simply to increase the speed at which its molecules move, and thereby their energy.

*What is cold?*

Cold is a rather vague term used to denote a comparative lack of heat.

*What is temperature?*

Temperature is a measure of the intensity of heat in a substance and of its ability to pass its heat into anything at a lower temperature than itself.

*How is temperature measured?*

It is done by taking advantage of one of two facts: firstly that the electrical resistance at the junction of two different metals (a thermocouple) varies according to the temperature, and secondly that the volume of a body varies with its temperature. In the first case a constant voltage is applied to the junction of the two metals, and the resulting current is measured with an ammeter calibrated in degrees of temperature; as the temperature at the junction varies, so will the current flowing and therefore the indicating hand on the dial of the instrument. The distance between the thermocouple and the indicator is immaterial, and this form of measurement is very suited to remote temperature reading.

Задание 2: Прочитать, законспектировать, выучить

### ПРИЧАСТИЕ I

Причастие I (Participle I) - неличная форма глагола, обладающая свойствами глагола, прилагательного и наречия. Соответствует формам причастия и деепричастия в русском языке.

#### Формы причастия

	active	passive
Indefinite	asking	being asked
Perfect	having asked	having been asked

**Participle I Indefinite** обозначает действие, одновременное с действием глагола-сказуемого.

*While translating difficult texts we use a dictionary.* Переводя трудные тексты, мы пользуемся словарём.

**Participle I Perfect** обозначает действие, предшествующее действию, выраженному глаголом-сказуемым.

*Having read the book I returned it to the library.* Прочитав книгу, я вернул её в библиотеку.

#### Функции причастия I

В предложении причастие I (**Participle I**) может быть:

1. **Определением.** В этой функции употребляется только **Participle I Indefinite**, которое соответствует русскому причестию настоящего времени в той же функции.

*A smiling girl.* Улыбающаяся девочка.

*A swimming man.* Плывущий человек.

*The men building our house with me are my friends.* Люди, строящие наш дом вместе со мной, - мои друзья.

*The house being built in our street is a new building of school.* Дом, строящийся на нашей улице - это новое здание школы.

2. **Обстоятельством.** В этой функции Participle I Indefinite Active чаще всего стоит в начале предложения и переводится на русский язык деепричастием несовершенного вида.

*Translating the article he consulted the dictionary.* Переводя статью, он пользовался словарём.

Перед таким причастием в функции обстоятельства часто стоят союзы **when** или **while**. Такие словосочетания переводятся либо деепричастным оборотом (или деепричастием) с опущением союза, либо придаточным предложением, которое начинается с союзов "когда", "в то время как".

*While translating the article the student consulted the dictionary.* Переводя статью, студент пользовался словарём. / Когда студент переводил статью, он пользовался словарём.



**Participle I Indefinite Passive** переводится на русский язык обстоятельством придаточным предложением.

*Being built of wood the bridge could not carry heavy loads.* Так как мост был построен из дерева, он не мог выдержать больших нагрузок.

**Participle I Perfect Active** переводится деепричастием совершенного вида.

*Having built a house he began building a greenhouse.* Построив дом, он начал строить парник.

Participle I Indefinite Passive в функции обстоятельства (времени, причины) переводится обстоятельством придаточным предложением. При этом в качестве подлежащего русского придаточного предложения употребляется подлежащее английского предложения.

*Having been built of concrete, the house was cold in winter.* Так как дом был построен из бетона, зимой в нём было холодно.

3. **Частью сказуемого.** Participle I Indefinite Active может быть частью сказуемого.  
They are playing chess. Они играют в шахматы.

## Практическая работа № 2.

Тема: Функции кондиционирования воздуха. (Functions of Air-conditioning)

Цель: совершенствование лексических и грамматических навыков

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

Задание: выполнить упражнения

### 1. Прочитайте слова, переведите.

Energy, term, heat, motion, substance, molecules, temperature, measure, electric, resistance, thermocouple, voltage, resulting current, ammeter, calibrate, degree, to vary, indicating hand, dial, indicator, immaterial, reading.

### 2. Прочитайте слова

а) обращая внимание на суффиксы и приставки:

to heat – heater – heating – overheat – superheat;

to calibrate – calibrator – calibration;

to vary – variation – various – variable – varying;

to indicate – indicator – indication – indicating;

to measure – measure – measurement – measurable;

to move – movement – motion – moving – movable;

molecule – molecules – molecular;

electric – electrical – electricity;

resistance – resistant – resistor;

immaterial – material;

reading – to read – reader.

б) выберите из списка слов существительные, обозначающие действие, и переведите их;

в) назовите существительные, обозначающие орудие (прибор).

3. **Образуйте от следующих глаголов существительные, обозначающие прибор (орудие) и процесс действия:**

to move, to resist, to indicate, to calibrate, to heat, to measure, to read, to boil.

4. **Найдите в тексте английские эквиваленты следующим русским словам и словосочетаниям:**

движение молекул, электрический ток, индикаторная стрелка, градуированная шкала, измерение сопротивления, термopара, результирующий ток, недостаток (нехватка), тепла, постоянное напряжение, электрическое сопротивление, показание температуры, интенсивность тепла, место соединения, увеличить скорость

**5. Прочитайте следующие предложения и переведите на русский язык:**

1. Any substance is composed of molecules.
2. Term is a word denoting philosophical, technical and other definitions.
3. Thermocouple is the junction of two different metals.
4. Temperature is a measure of the intensity of heat in a substance.
5. Heat is a form of energy.
6. Energy is a form of existence of substance.
7. Indicator is a device with calibrated scale.
8. Ammeter is a device indicating strength of current.
9. Heat and cold are temperature characteristics.
10. Voltage is a value of electric current.

**6. Прочитайте вопросы, обращая внимание на интонацию, и дайте ответ.**

1. What is heat?
2. Ammeter is a device indicating temperature, isn't it?
3. Temperature isn't a measure of the intensity of heat in a substance, is it?
4. Is energy a form of existence of substance or temperature characteristics?
5. What is thermocouple?
6. Can we say that term is a word denoting philosophical, technical and other definitions?
7. Voltage is temperature characteristic, isn't it?
8. What is voltage?
9. When do we use ammeter?
10. Thermocouple is a device with calibrated scale, isn't it?

**7. 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: Функции кондиционирования воздуха. (Functions of Air-conditioning)

Цель: совершенствование лексических и грамматических навыков

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

Задание:

**1.** Вспомните значения следующих английских слов и подберите к ним русские эквиваленты.

- a) air conditioning
- b) environment
- c) close control
- d) provide
- e) supply of air
- f) removal of air
- j) contaminated air
- h) space heating
- i) residential buildings
- j) installations

1. жилые дома
2. тщательное регулирование
3. отопление помещения
4. установки
5. окружающая среда
6. кондиционирование воздуха
7. обеспечивать вывод воздуха
8. загрязненный воздух
9. подача воздуха

2. Подберите русские эквиваленты к следующим английским словам и словосочетаниям.

humidity  
 purity  
 department stores  
 sound knowledge  
 excess heat  
 cleaning of air  
 fumes  
 hazardous to health  
 modern amenities  
 economical source  
 commercial buildings  
 humidify

1. увлажнять
2. универсальные магазины
3. чистота
4. глубокие знания
5. очистка воздуха
6. экономичный источник
7. коммерческие здания
8. запахи, испарения
9. опасный для здоровья
10. современные удобства
11. влажность
12. избыток тепла

3. Прочтите текст.

#### *All-year Air Conditioning*

Air conditioning implies the control of temperature, humidity, purity and motion of the air in an enclosure. In our modern world of science and highly developed technology- air conditioning is of a great significance for industrial processes as well as for human comfort. As an example it must be mentioned that during the manufacture of extremely delicate equipment such as inertial guidance systems for rockets, airplanes or submarines both temperature and humidity must be closely controlled and air purity provided at an extremely high level.

Air conditioning for human comfort is employed in both large and small installations, such as theatres, office buildings, department stores, residences, airplanes, railways, cars and submarines. According to their purpose air conditioning systems may be described as winter,

summer and all- year systems. Considering their basic design they are called unit or central air conditioners.

All-year air-conditioning systems must provide means for performing all the processes required for winter and summer air conditioning. The basic pieces of equipment are the filters, preheat coils, humidifiers, dehumidifiers, reheat coils, additional cooling coils, fans and controls. The control of air purity can be achieved in various degrees. As a minimum control some sort of filtering must be done near the entrance of the air-conditioning system. Possibly the most efficient filtering device is the electrostatic precipitator.

4. 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 № 4.**

Тема: Термометры. Принципы их устройства (Thermometers)

Цель: совершенствование лексических и грамматических навыков

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

Задание: прочитать текст, выполнить упражнения

#### **THERMOMETERS**

Прочитайте текст, запомните принцип устройства термометров.

Most other thermometers take advantage of the fact that the volume of a substance changes with temperature. Liquids, usually mercury or spirit, can be enclosed in a glass tube. The variation of volume with a temperature change is shown by an alteration in the height of the liquid in the ube, which is itself marked with degrees of temperature.

The variation of volume with temperature is not the same with all materials and this fact is taken advantage of in the dial type of thermometer where the difference in expansion of the two parts of a bimetal strip results in a torque which can be used to operate the pointer on a circular dial. This is a principle used in the recording thermometer or thermograph.

What temperature scales are used?

Only two temperature scales are of importance, the Centigrade and the Fahrenheit. On the former, the freezing point of water at atmospheric pressure is denoted by 0 °C and its boiling point by 100 °C; there are therefore 100 Centigrade degrees between these two temperature levels. On the latter the freezing point is 32°F and the boiling point 212°F, so that the difference between the two levels is 180°F. Hence a change of temperature of 1 °C is the same as a change of 1.8°F. To convert from °C to °F and vice versa the following equations are used: °F = (9/5 x °C) + 32 and °C = (°F – 32) x 5/9 These rules apply whether the temperature is above or below freezing but, of course, a minus sign must be used below 0°. Care must be taken when converting a temperature difference compared with an actual temperature. For instance, a temperature difference of, say, 9°F would be the same as a difference of 5°C, whereas an actual temperature of 9°F would be the same as – 12.8°C.

**Упражнение.** Переведите предложения на русский язык.

1. We saw the child's shining eyes.
2. The girl watched the falling snow.
5. The cars filling the street moved very slowly.
7. The pupils taking part in the competition must be here at 4 o'clock.
9. We watched the birds flying in the sky.

10. Suddenly they noticed a cloud of smoke rising into the air.

### Практическая работа № 5.

Тема: Термометры. Принципы их устройства (Thermometers)

Цель: совершенствование лексических и грамматических навыков

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

Задание: выполнить упражнения

#### 1. Прочитайте слова

Thermometer, volume, liquid, mercury, spirit, to enclose, tube, variation, alternation, dial, expansion, bi-metal, strip, result in, torque, pointer, circular, thermograph, scale, Centigrade, Fahrenheit, atmospheric, freezing point, boiling point, the same, to convert, vice versa, equation, minus, sign, actual.

#### 2. Прочитайте следующие интернациональные слова и переведите их:

thermometer, thermograph, scale, minus, bi-metal, expansion, mercury, tube, variation, alternation, Centigrade, Fahrenheit, actual, atmospheric, spirit.

#### 3. Образуйте однокоренные слова и переведите их.

Liquid, spirit, point, circular, freeze, boil, convert, equation, expansion, difference.

#### 4. Найдите в группе (а) слово, равное по значению в группе

(б):

а) заключать, приводить к, такой же, наоборот, знак, вращающий момент, диск (циферблата), полоса (лента), спирт, уравнение, жидкость, ртуть, объем, шкала.

б) sign, strip, volume, to enclose, torque, liquid, to result in, vice versa, dial, equation, the same, mercury, scale, spirit.

#### 4. Употребите подходящее по смыслу слово.

1. Measuring temperature we use two scales ... and ...

2. To make a thermometer we take liquids usually ... or ... enclosed in a glass ...

3. The ... of volume of liquid depends on temperature change.

4. ... of a substance changes with temperature.

5. The freezing point of water at ... pressure is denoted by 0 °C.

Ключ: Volume, atmospheric, spirit, tube, mercury, Centigrade, Fahrenheit, variation.

5. Раскройте скобки, употребляя глаголы в Present Participle или Perfect Participle.

Сравните употребление

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 № 6.

Тема: Термометры. Принципы их устройства. (Thermometers)

Цель: закрепление лексических и грамматических навыков

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

Задание 1: Напишите об устройстве термометра.

Задание 2: Прочитайте, законспектируйте, выполните упражнение

#### ПРИЧАСТИЕ II

Причастие II (Participle II) - неличная форма глагола (III основная форма глагола), имеет одну неизменяемую форму со страдательным значением и обозначает действие, которое испытывает на себе лицо или предмет. Оно соответствует в русском языке причастию страдательного залога.

Причастие II правильных глаголов имеет ту же форму, что и Past Indefinite, и образуется при помощи прибавления суффикса -ed к основе глагола to ask - asked, to help - helped.

Подобно причастию I, причастие II обладает свойствами глагола, прилагательного и наречия. Как и глагол, оно обозначает действие. Время действия, обозначаемое причастием II, определяется временем действия глагола-сказуемого или контекстом.

The book discussed yesterday was interesting. Книга, обсуждавшаяся вчера, была интересной.

The books discussed at the lessons are always interesting. Книги, обсуждаемые на уроках, всегда интересны.

Функции причастия II

В предложении причастие II может быть:

Определением.

Lost time is never found again. Потерянное время никогда не вернётся (дословно - не найти).

A written letter lay on the table. Написанное письмо лежало на столе.

They are reconstructing the house built in the 18th century. Они реставрируют здание, построенное в 18 веке.

Обстоятельством. Перед причастием II в функции обстоятельства могут стоять союзы if, unless, when. В таком случае английское причастие переводится обстоятельством придаточным предложением, в котором подлежащее то же, что и в главном предложении.

If built of the local stone, the road will serve for years. Если построить дорогу (Если дорога построена) из местного камня, она будет служить долгие годы.

**Упражнение.** Переведите на русский язык, обращая внимание 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 № 7.

Тема: Единицы измерения тепла. (Thermal units)

Цель: совершенствование лексических и грамматических навыков

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

Задание 1: Прочитайте текст. Запомните определение сочетаний **absolute temperature, latent heat, sensible heat, specific heat.**

What is absolute temperature?

On the absolute temperature scale (which may be in either Centigrade or Fahrenheit degrees) 0°C represents the lowest attainable temperature at which the internal energy of all substances is zero. This temperature is – 273.1°C or – 459.6 °F; hence to convert Centigrade temperatures to °C absolute we add 273.1 and to convert Fahrenheit temperatures to °F absolute we add 459.6

What is the latent heat of a substance?

The amount of heat which has to be added to unit weight of the substance to change its state from solid to liquid (latent heat of fusion) or from liquid to vapour (latent heat of vaporization). It is used in overcoming intermolecular forces and no change in temperature results.

What is sensible heat?

It is heat which results in a change in temperature; when unit weight of a substance is heated by 1° the gain in sensible heat is equal to the specific heat.

What is specific heat?

The amount of heat that has to be added to a substance to produce a given rise in temperature varies according to the nature of the substance. The specific heat of a substance is the ratio of the amount of heat which will raise the temperature of a given weight of it by 1° to the amount of heat which will produce the same rise in temperature in the same weight of water. It is independent of the temperature scale used. By definition the specific heat of water itself is 1.

Задание 2: Выполнить упражнения

*Переведите предложения на русский язык, обращая внимание на сложные дополнения с причастие прошедшего времени.*

1. He wants the documents sent by airmail.
2. They want the goods shipped on Monday.
3. I saw the letters received.
4. I must have my shoes cleaned.
5. She wants to have these documents sent off at once.
6. Why have you had the walls of your room painted blue?
7. They showed us a list of the goods sold.
8. I found the key lost.
9. I heard it was said for several times.
10. He wants the work done immediately.

*Переведите предложения на русский язык, обращая внимание на сложное дополнение с причастием настоящего времени.*

1. The captain watched the sailors unloading the steamer.
2. I saw the workers packing the goods.
3. We watched them repairing the car.
4. I heard him shouting something from the opposite shore.
5. He watched them going down the mountain.
6. We saw him walking along the bank of the river.
7. The people watched the goods being discharged.
8. I saw the girl reading a book.
9. The children watched the boys playing football.
10. I saw her talking with a woman.

**Практическая работа № 8.**

Тема: Единицы измерения тепла. (Thermal units)

Цель: совершенствование лексических и грамматических навыков

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

Задание 1. Прочитайте текст. Запомните единицы измерения тепла

What units are used for measuring heat?

The British thermal unit (Btu) is used by engineers in the UK and the USA; the calorie is used in scientific work and generally wherever the metric system is in use. The Btu is the amount of heat which will raise the temperature of 1 lb of water by 1°C. There are two calories: the small calorie, or gramme-calorie, which is the amount of heat required to raise the temperature of 1 gramme of water by 1°C and the great calorie or Kilocalorie (Kcal) which is 1000 times as great, i.e. the amount of heat required to raise the temperature of 1 kilogramme (Kg) of water by 1°C. A frigorie is exactly the name as the kilocalorie and is used by European writers to denote the power of removing heat possessed by a refrigerating plant. 1 Kcal = 3.968 Btu = 4.18 J. The joule (J) is the SI (international measure system) unit of heat, but it is not yet in general commercial use.

Задание 2. Выполнить упражнения

Выберите из скобок требующуюся форму причастия, переведите предложения

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) Russian 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.

**Практическая работа № 9.**

Тема: Единицы измерения тепла. (Thermal units)

Цель: совершенствование лексических и грамматических навыков

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

Задание: выполнить лексические и грамматические упражнения

1. Прочитайте слова и переведите.

Absolute, attainable, internal, zero, British thermal unit (Btu), calorie, metric, lb (pound), gramme-calorie, kilocalorie (Kcal), frigorie, European, refrigerating plant, joule (J), commercial, weight, latent heat, fusion, vaporization, intermolecular, sensible heat, specific heat, nature.

2. Прочитайте слова с помощью транскрипции, напишите их и переведите.

[ˈweɪt], [ˈwei], [ˈleɪt(ə)nt], [ˈveɪpəraɪz], [ˈsensəbl], [ˈkæləri], [ˈæbsəlu:t], [əˈteɪnəbl], [ˈfrɪdʒəri], [ˈziərəʊ], [paʊnd].

3. Запомните сокращения.

C° = Centigrade; F° = Fahrenheit;

Btu = British thermal unit; Btu/h = hour; Btu/min

Lb = pound, lbft = pound per foot

Kcal = kilocalorie

Kg = kilogramme

J = joule

SI = international measure system

Ft = foot (30.48 cm)

U.K. = the United Kingdom

0° = zero degrees

A = ampere

i.e. = that is

hp = horsepower

kw = kilowatt

4. Прочитайте словосочетания и переведите их.



Temperature – high temperature, low temperature, absolute temperature, attainable temperature, actual temperature, required temperature, Centigrade temperature, Fahrenheit temperature.

Calorie – small calorie, great calorie, gramme-calorie, kilocalorie.

Unit – British thermal unit, unit of heat, plant unit, work unit.

Heat – specific heat, sensible heat, latent heat, heat exchange, heat sink, heat energy.

Energy – heat energy, electric energy, wind energy, solar energy, tidal energy, internal energy, atomic energy, kinetic energy, potential energy, mechanical energy, nuclear energy.

### **Практическая работа № 10.**

Тема: Давление паров. Насыщенный и перегретый пар. Vapour pressure. Superheated vapour, saturated vapour.

Цель: формирование лексических и грамматических навыков

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

Задание 1: Прочитайте и переведите текст. Запомните разницу между superheated vapour и saturated vapour.

Every liquid produces a vapour as the molecules near its surface free themselves from the attraction of their neighbours and fly off into space. This vapour exerts pressure on any containing vessel and the amount of pressure exerted by the vapour of any particular liquid depends solely on the temperature of the liquid surface; the higher the temperature, the greater the pressure. For any liquid a graph can be drawn showing the relationship between this vapour pressure and the temperature of the liquid surface.

*How can gas be liquefied?*

When heat is removed from a gas its temperature is lowered until it reaches a value corresponding to the pressure (see above) after which further removal of heat liquefies the gas. Alternatively, an increase in pressure combined with removal of heat makes it possible to liquefy the gas without reducing its temperature.

*What is superheated vapour?*

It is vapour removed from contact with its liquid and at a temperature higher than that which corresponds to its pressure as indicated by the temperature-pressure-vapour relationship for that particular substance.

*What is saturated vapour?*

It is vapour whose temperature and pressure are in accordance with the temperature-vapour-pressure relationship for the particular substance. Vapour in contact with its liquid is saturated.

Задание 2: Переведите на русский язык, обращая внимание на причастия.

1. The boy lay sleeping when the doctor came. 2. The broken arm was examined by the doctor. 3. While being examined, the boy could not help crying. 4. Having prescribed the medicine, the doctor went away. 5. The medicine prescribed by the doctor was bitter. 6. The dress bought at the department store was very beautiful. 7. While using a needle, you should be careful not to prick your finger. 8. While crossing the street, one should first look to the left and then to the right. 9. People watching a performance are called an audience. 10. Being very ill, she could not go to school. 11. The first rays of the rising sun lit up the top of the hill. 12. The tree struck by lightning was all black and leafless. 13. Being busy, he postponed his trip. 14. The door bolted on the inside could not be opened. 15. Having been shown the wrong direction, the travellers soon lost their way. 16. The room facing the garden is much more comfortable than this one. 17. Having descended the mountain, they heard a man calling for help. 18. Flushed and excited, the boy came running to his mother. 19. He stood watching the people who were coming down the street shouting and waving their hands.

### Практическая работа № 11.

Тема: Давление паров. Насыщенный и перегретый пар. Vapour pressure. Superheated vapour, saturated vapour.

Цель: совершенствование лексических и грамматических навыков

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

Задание: выполнить упражнения

1. What is the numerical relationship between heat units and units of mechanical work?

This can be expressed as follows:

1 Btu = 778 lbft. Thus, for example, the energy given up by a weight of 77.8 lb in falling 10 ft is sufficient to heat 1 lb of water through 1 °F. Again, since a horsepower (hp) is the rate of production of energy of an engine doing 33,000 lbft of work per minute, 1 hp = 33.000/778 or 42.4 Btu/min and therefore 2,545 Btu/h. The kilowatt (kw), (not kilowatt hour) is another unit of power and 1 kW = 1.34 hp or 3.410 Btu/h. Further, 1 kcal = 4.18 J, and 1 J/s = 1 W.

2. Прочитайте следующие слова, переведите:

vapour, attraction, space, exert, contain, vessel, particular, graph, relationship, remove, correspond, alternatively, indicate, saturate, rate, power, pressure, kilowatt.

3. Прочитайте однокоренные слова, обратите внимание на словообразующие элементы.

Vapour – vaporize – vaporization

Attract – attractive – attraction

Contain – container – containment

Correspond – correspondence – correspondent

Indicate – indicator – indication

Saturate – saturator – saturation

Power – powerful – powerless

4. От существительных образуйте глаголы и переведите их на английский язык.

Пар, притяжение, показание, насыщение, давление, соответствие, связь, сила.

Ключ: vapour, attraction, indication, saturation, pressure, correspondence, relationship, power.

5. 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, делаю, 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 № 12.

Тема: Давление паров. Насыщенный и перегретый пар. Vapour pressure. Superheated vapour, saturated vapour.

Цель: совершенствование лексических и грамматических навыков

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

Задание: выполнить упражнения

**Восстановите два слова цепочки, назовите глагол и существительное. Переведите их.**

1. ... – attractive – ...

2. ... – indicator – ...
3. ... – saturation – ...
4. ... – relative – ...
5. ... – pressing – ...

**Заполните пропуски подходящими по смыслу словами.**

1. Every liquid produces ... (vapour, gas, fog).
2. For any liquid a ... can be drawn (table, picture, graph).
3. The higher the temperature of a liquid surface, the greater the ... (power, pressure, speed).
4. Vapour in contact with its liquid is ... (dissipated, saturated, overheated).
5. The rate of production of energy is ... (voltage, resistance, horsepower).
6. The kilowatt is another unit of ... (weight, velocity, power).

**Ответьте на следующие вопросы:**

1. What does every liquid produce?
2. What is saturated vapour?
3. What is superheated vapour?

**Замените придаточные предложения времени причастными оборотами (не опускайте союз when).**

1. You must have much practice when you are learning to speak a foreign language.
2. When you speak English, pay attention to the order of words.
3. When you are copying English texts, pay attention to the articles.
4. When you begin to work with the dictionary, don't forget my instructions.
5. Be careful when you are crossing a street.
6. When you are leaving the room, don't forget to switch off the light.
7. When they were travelling in Central Africa, the explorers met many wild animals.

### **Практическая работа № 13.**

Тема: Газ. (Gas)

Цель: формирование лексических навыков

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

Задание: Прочитайте текст, переведите

**Запомните, что:**

– gas is a kind of air like substance (used chiefly of those that do not become liquid or solid at ordinary temperatures);

– vapour (steam mist) – gaseous form to which certain substances may be reduced by heat.

**What is a perfect gas?**

It is one which behaves in accordance with the gas law,  $PV = MRT$ , where P = absolute pressure, V = volume, M = mass, T = absolute temperature, and R is a constant for the particular gas depending on its molecular weight.

The volume is directly proportional to the temperature and inversely proportional to the pressure. Oxygen, nitrogen, air and hydrogen are examples of gases which are almost perfect at moderate temperatures and pressures. The gases commonly used in refrigeration are not perfect under normal operating conditions. With the exception of carbon dioxide, their deviations from the gas law are not great at the temperatures and pressures normally prevailing in the low pressure side of a vapour compression refrigerating plant.

**What is the difference between gas and vapour?**

The gaseous substance in contact with the liquid from which it is formed is known as a vapour and it is still called a vapour if superheated to some extent. At still higher temperatures it is known as a gas but there is no sharp line of demarcation.

**What is critical temperature?**

Although in general a vapour may be liquefied by increasing its pressure up to the saturation value corresponding to the temperature, this is not so if the temperature is above a

certain level. For any vapour this temperature above which no pressure will produce liquefaction, is called its critical temperature.

### **What is critical pressure?**

The critical pressure of a vapour is the pressure required to liquefy it at the critical temperature and is the highest pressure on the temperature – pressure graph for saturated vapour. At temperatures above critical the pressure exerted by a vapour depends on the weight of it in a given space.

**Упражнение.** Переведите на русский язык, обращая внимание на независимый причастный оборот.

1. The article translated, the young woman had nothing to do.
2. The door closed, he couldn't enter the room.
3. The next morning, it being Sunday, they all went to church.
4. The hour being late, Ann went to bed.
5. There being a strong wind, the flight was put off.
6. The keys having been lost, the man couldn't open the door.
7. Supper being over, they hurried home.
8. You can set your mind at ease, all being well.
9. Radio was invented in Russia, its inventor being the Russian scientist A.S. Popov.
10. Then they heard the noise of the plane, its shadow passing over the open glade.

## **Практическая работа № 14.**

Тема: Газ. (Gas)

Цель: совершенствование лексических навыков

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

**Задание:** выполните упражнения

1. прочитайте слова, переведите:

proportional, inversely proportional, oxygen, nitrogen, hydrogen, moderate, refrigeration, carbon dioxide, deviation, prevailing, gaseous, superheated, demarcation, saturated, exerted, condition, liquid, pressure.

2. Укажите в упражнении 1: а) существительные, б) причастия, в) прилагательные.

3. Дайте соответствующий перевод следующим английским словам:

demarcation (line) prevailing proportional moderate inversely superheated (gas) perfect (gas) oxygen

кислород разграничение идеальный перегретый пропорциональный умеренный преобладающий обратно

4. От данных слов образуйте однокоренные слова и переведите их на русский язык:

behave, refrigerate, operate, saturate, superheat, press, vapour, produce, liquid, form.

5. Из данных слов составьте словосочетания и переведите их на русский язык:

1) temperature – critical, moderate, absolute, ground, indoor; 2) gas – refrigerated, superheated, liquefied, city, dry, fuel; 3) proportional – directly, inversely, mean; 4) steam – dead, gaseous, dry, direct, wast.

**Повторите употребление**

**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 № 15

Тема: Газ. (Gas) Выполнение лексических и грамматических упражнений

Цель: совершенствование лексических навыков

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

Задание: выполните упражнения

**Письменно ответьте на следующие вопросы:**

1. What is gas? 2. What is a perfect gas? 3. What is the difference between gas and vapour? 4. What is critical temperature? 5. What is critical pressure?

**Выполнить письменный перевод**

Another indispensable part of modern amenities is gas supply. It has come now to be of a very wide use. With an intensive exploration of finding natural gas it has gradually replaced the manufacture in its utilization. At the present time natural gas is put to large-scale economic use.- The principal utilization of natural gas is as a clean, convenient, economical source of heat.-In homes it is used for cooking, water heating, refrigeration for food as well as for space heating. Nowadays most of the homes are heated by natural gas and the number of gas-supplied homes was increasing at a rate limited chief 1 y by the ability of the steel industry to produce the pipe through which the gas is transported. Natural-gas supply is used also as a heat source in commercial establishments such as restaurants and bakeries for cooking and in stores, offices and other commercial buildings for heating and comfort cooling.

**Сгруппируйте следующие предложения по трем темам:**

A. Air Conditioning. B. Gas Supply. C. Ventilation.

1. Gas supply has come to be very widely used. 2. In industrial buildings three types of ventilation are in use so as to control dangerous gases and dusts. 3. In buildings such as homes, the leakage of air through cracks in doors and windows is usually sufficient. 4. As for the purpose air-conditioning system may be described as winter, summer and all-year. 5. The main utilization of natural gas is as a clean, convenient, economical source of heat. 6. Natural gas supply is used also as a heat source in commercial establishments. 7. Certain industrial process requirements and human comfort are the two major factors to be considered when designing air-conditioning system. 8. Air conditioning is meant for the control of temperature, humidity, purity and motion of the air in an enclosure. 9. The main purpose of ventilation is to carry away excess heat and odours.

**Переведите следующие сочетания слов:**

heat supply; clothing surface, heating system, air valve, wall partitions, steam system, air conditioning, hot-water system, heating equipment, distribution units, building construction, panel heating, room height, heat-storing capacity.

**Объедините два предложения в одно, используя перфектное причастие I.**

Н-р: 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.)

She went to her car and drove off. She had closed the door of the house.

I sent him an SMS. I had tried phoning him many times.

We moved to Florida. We had sold our cottage.

His head was aching at night. He had studied all day.

He knew all the goals by heart. He had seen that match several times.

## Практическая работа № 16.

Тема: Контрольная работа

Цель: контроль лексических и грамматических навыков

Перечень оборудования для проведения работы: тетрадь, 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:

She sat (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. Feeling bad I stayed at home.

### 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

Having done this job

#### 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. 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. Feeling bad I stayed at home

## Практическая работа № 17.

Тема: Итоговое занятие

Цель: контроль лексических и грамматических навыков

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

Задания: Выполнить упражнения

**Прочитайте следующие предложения и переведите на русский язык:**

1. Any substance is composed of molecules.
2. Term is a word denoting philosophical, technical and other definitions.
3. Thermocouple is the junction of two different metals.
4. Temperature is a measure of the intensity of heat in a substance.
5. Heat is a form of energy.
6. Energy is a form of existence of substance.
7. Indicator is a device with calibrated scale.
8. Ammeter is a device indicating strength of current.
9. Heat and cold are temperature characteristics.
10. Voltage is a value of electric current.

**В соответствии с содержанием текста дополните незаконченные предложения одним из данных вариантов**

(a, b, c, d).

1. Air conditioning implies...
  - a) ...rapid loss of heat.
  - b) ...the transmission of energy in the form of waves.
  - c) ...provision for the expansion of the water.
  - d) ...the control of temperature, humidity, purity and motion of the air.
2. The basic pieces of air-conditioning equipment are...
  - a) ...stokers, coal furnaces and boilers.
  - b) ...filters, pre-heat coils, humidifiers, reheat coils, fans and controls,
  - c) ...boilers and a system of pipes,
  - d) ...systems of steel and copper pipes.

**Раскройте скобки, употребив причастие настоящего времени в активной и пассивной форме.**

1. (To impress) by the film, they kept silent.
2. (To lose) the book, the student couldn't remember the topic.
3. He spent the whole day (to read) a book.
4. (To travel) around America for a month, she returned to England.
5. He watched Mike (to go) out of the door and (to cross) the street.
6. The question (to discuss) now is very important.
7. (To pack) in the beautiful box the flowers looked very lovely.
8. (To descent) the mountains, they heard a man calling for help.
9. (To reject) by everybody he became a monk.
10. (To show) the wrong direction, the travelers soon lost their way.

## IV курс 8 семестр

### Практическая работа № 1.

Тема: Охлаждение. Замораживание. REFRIGERATION

Цель: формирование лексических навыков

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

Задание: Прочитайте текст. Запомните определение термина refrigeration. Ответьте на вопрос: How does a thermocouple operate?

**What is refrigeration?** Refrigeration is the transfer of heat from a substance to be cooled to somewhere else. As heat flows naturally from any body into any other colder body with which it is in contact, refrigeration is simple when a supply of some suitable colder substance is available. For example, fish can be cooled by packing ice around them. Where a suitable colder substance is not available then one has to be produced, a complicated procedure involving the expenditure of energy: it is a process of this kind that is usually implied when the term refrigeration is used. Nearly all refrigerating plants utilize the lowering of temperature which results from the controlled evaporation of a liquefied gas. When only small refrigerating effects are required they can be obtained by the direct application of electricity through a suitable thermocouple.

**How does such a thermocouple operate?** In its simplest form a thermoelectric cooling device consists of pairs of semiconductor blocks connected in series and arranged as a sandwich, one face of which becomes hot and the other cold when a suitable direct current is applied. Therefore in effect, heat is taken from one side and discharged on the other an ample heat sink being provided for its removal.

**What is a heat sink?** A heat sink is a means for disposing of unwanted heat, usually by using it to increase the temperature of water, which is then run to waste.

#### **Упражнения:**

1. *Прочитайте и переведите слова.*

Piston, to push, heater, ultimately, refrigeration, to transfer, expenditure, to imply, refrigerating plant, to result from, controlled evaporation, thermocouple, device, semiconductor block, in series, face, direct current, in effect, to discharge, sink.

### **Практическая работа № 2.**

Тема: Охлаждение. Замораживание. REFRIGERATION

Цель: совершенствование лексических навыков

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

Задание: выполнить упражнения

1. *К указанным ниже глаголам подберите подходящие существительные, переведите на русский язык:*

а) to compress, to heat, to transfer, to convert, to push, to generate, to cool.

б) liquid, molecules, current, gas, energy, face.

2. *Закончите предложения и переведите их на русский язык.*

1. Fish can be cooled ... 2. Refrigeration is the transfer ... 3. Heat is taken from one side and ... 4. A heat sink is a ...

3. *Ответьте на вопросы.*

1. What does the compression of gas produce? 2. What is refrigeration? 3. How do all refrigerating plants operate? 4. How does a thermocouple operate?

4. *Словам под буквой а) подберите соответствующий перевод из б):*

а) semiconductor charge face plant to result from to result in heater in series thermocouple evaporation refrigeration

б) охлаждение приводить к обогреватель поверхность, сторона последовательно термопара заряд испарение вытекать из полупроводник завод, установка

5. *Прочитайте и переведите слова, обращая внимание на способы их образования:*

а) to conduct – conductor – semiconductor – conductance – conductivity; б) to charge – charge – chargeable – discharge – recharge; в) vapour – vaporize – vaporization – evaporation; г) refrigerate – refrigerator – refrigeration; д) to heat – heat – heater – overheat – superheat – superheater – superheating – overheating.



### Практическая работа № 3

Тема: Охлаждение. Замораживание. REFRIGERATION Выполнение лексических и грамматических упражнений

Цель: закрепление лексических навыков

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

Задание: выполнить упражнения

Упражнение 1. Прочитайте и переведите слова

Disposing, unwanted, waste, trade name, thermocooling, unit, in.square, electronics, instrumentation, viable, vaporize, nozzle, equipment, spray, corrosive, toxic, noninflammable, in-line, means, recovery, reliquefaction, recompressed.

Упражнение 2. Прочитайте и переведите слова, обращая внимание на словообразовательные элементы.

a) reuse, recovery, reliquefaction, recompression, reconstruct; б) thermocooling, thermocouple, thermonuclear, thermodynamic; в) discharge, dispose, dislocate, distribute, distrust, disalt; г) unwanted, unknown, unemployment, uncontrolled.

Упражнение 3. Переведите и запомните следующие сокращения:

A = ampere

a.c. = alternating current

d.c. = direct current

Btu/h = British thermal units per hour

Btu/min = British thermal units per minute

cal. = calorie

ft = foot-feet

hp = horsepower

in = inch

J = Joule

kcal = kilocalorie

KW = kilowatt

KV = kilovolt

lb = pound

lbf = pound per foot

C° = Centigrade

F° = Fahrenheit

Упражнение 4. Переведите на английский язык следующие словосочетания и предложения:

1. Теплоотвод представляет собой способ удаления нежелательной теплоты.

2. Фригистор – просто торговая марка, присвоенная термоохлаждающему устройству. 3. ... часто требующихся в электронике, контрольноизмерительных приборах, ... 4. Они могут производить очень низкие температуры. 5. Термоэлектрическое охлаждение в настоящий момент нерентабельно с экономической точки зрения только при малой мощности, ....

Упражнение 5. Выберите из скобок требующуюся форму причастия.

1. Read the (translating, translated) sentences once more. 2. Name some places (visiting, visited) by you last year. 3. I picked up the pencil (lying, lain) on the floor. 4. She was reading the book (buying, bought) the day before. 5. Yesterday we were at a conference (organizing, organized) by the pupils of the 10th form. 6. (Taking, taken) the girl by the hand, she led her across the street. 7. It was not easy to find the (losing, lost) stamp. 8. I shall show you a picture

(painting, painted) by Hogarth. 9. Here is the letter (receiving, received) by me yesterday. 10. Do you know the girl (playing, played) in the garden? 11. The book (writing, written) by this scientist is very interesting. 12. Translate the words (writing, written) on the blackboard. 13. We could not see the sun (covering, covered) by dark clouds. 14. The (losing, lost) book was found at last. 15. (Going, gone) along the street, I met Mary and Ann. 16. Look at the beautiful flowers (gathering, gathered) by the children. 17. His hat (blowing, blown) off by the wind was lying in the middle of the street. 18. "How do you like the film?" he asked, (turning, turned) towards me. 19. When we came nearer, we saw two boys (coming, come) towards us. 20. I think that the boy (standing, stood) there is his brother.

#### **Практическая работа № 4**

Тема: Охлаждающий термоэлемент FRIGISTOR

Цель: формирование лексических навыков

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

**Задание:** Прочитайте текст. Запомните, что: – corrode means to wear away, destroy slowly by chemical action or disease; – corrosion means corroding or being corroded.

What is a frigistor? Frigistor is simply the trade name to a thermo-cooling device manufactured by one particular manufacturer.

What are the advantages of thermoelectric cooling? The device is small in size: a 15 A unit typically measuring less than 1 in. square x ¼ in. thick (25 mm x 6 mm). Because of their small size they are very suited to the small refrigerating effects often required in electronics, in instrumentation and for some medical purposes. They can produce very low temperatures: -130 °F (-90 °C), and lower in some circumstances. Thermoelectric cooling is at the moment only viable, from the economic standpoint, in the smaller powers although this position will improve as their use increases enabling manufacturing costs to be reduced.

How is the evaporation of a liquid used to produce cold? A liquefied gas is allowed to vaporize through a controllable nozzle in such a way that the latent heat of vaporization is taken from the substance to be cooled.

How is this accomplished? In the simplest equipment the liquefied gas is allowed to discharge at a controlled rate through spray nozzles situated in the space to be cooled. It follows that the gas used must be inexpensive (since it is discharged to waste), free from corrosive or toxic effects, non-inflammable and have as high a latent heat as possible. Nitrogen is the gas most commonly used with this system which has advantages where fairly short period of refrigeration is required, as in transport or overnight storage. The principle is also used in one form of in-line deep freeze equipment except that in this application means are usually provided for the recovery and reliquefaction of the gas used. The use of liquid nitrogen for refrigeration is increasing, but the most common method of large scale and small scale refrigeration is where the gas used does not come into actual contact with the substance to be cooled and in which the gas is recompressed and again liquefied for re-use.

How can this be done? By using one of two systems: 1. The vapour compression system. 2. The absorption system.

#### **Практическая работа № 5**

Тема: Охлаждающий термоэлемент FRIGISTOR

Цель: совершенствование лексических навыков

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

**Задание:** выполнить упражнения

Упражнение 1. Прочитайте и переведите слова

Disposing, unwanted, waste, trade name, thermocooling, unit, in.square, electronics, instrumentation, viable, vaporize, nozzle, equipment, spray, corrosive, toxic, noninflammable, in-line, means, recovery, reliquefaction, recompressed.

Упражнение 2. Прочитайте и переведите слова, обращая внимание на словообразовательные элементы.

а) reuse, recovery, reliquefaction, recompression, reconstruct; б) thermocooling, thermocouple, thermonuclear, thermodynamic; в) discharge, dispose, dislocate, distribute, distrust, disalt; г) unwanted, unknown, unemployment, uncontrolled.

Упражнение 3. Переведите и запомните следующие сокращения:

A = ampere

a.c. = alternating current

d.c. = direct current

Btu/h = British thermal units per hour

Btu/min = British thermal units per minute

cal. = calorie

ft = foot-feet

hp = horsepower

in = inch

J = Joule

kcal = kilocalorie

KW = kilowatt

KV = kilovolt

lb = pound

lbf = pound per foot

C° = Centigrade

F° = Fahrenheit

Упражнение 4. Переведите на английский язык следующие словосочетания и предложения:

1. Теплоотвод представляет собой способ удаления нежелательной теплоты.

2. Фригистор – просто торговая марка, присвоенная термоохлаждающему устройству. 3. ... часто требующихся в электронике, контрольноизмерительных приборах, ... 4. Они могут производить очень низкие температуры. 5. Термоэлектрическое охлаждение в настоящий момент нерентабельно с экономической точки зрения только при малой мощности, ...

Упражнение 5. Выберите из скобок требующуюся форму причастия.

1. Read the (translating, translated) sentences once more. 2. Name some places (visiting, visited) by you last year. 3. I picked up the pencil (lying, lain) on the floor. 4. She was reading the book (buying, bought) the day before. 5. Yesterday we were at a conference (organizing, organized) by the pupils of the 10th form. 6. (Taking, taken) the girl by the hand, she led her across the street. 7. It was not easy to find the (losing, lost) stamp. 8. I shall show you a picture (painting, painted) by Hogarth. 9. Here is the letter (receiving, received) by me yesterday. 10. Do you know the girl (playing, played) in the garden? 11. The book (writing, written) by this scientist is very interesting. 12. Translate the words (writing, written) on the blackboard. 13. We could not see the sun (covering, covered) by dark clouds. 14. The (losing, lost) book was found at last. 15. (Going, gone) along the street, I met Mary and Ann. 16. Look at the beautiful flowers (gathering, gathered) by the children. 17. His hat (blowing, blown) off by the wind was lying in the middle of the street. 18. "How do you like the film?" he asked, (turning, turned) towards me. 19. When we came nearer, we saw two boys (coming, come) towards us. 20. I think that the boy (standing, stood) there is his brother.

## Практическая работа № 6

Тема: Охлаждающий термоэлемент FRIGISTOR Выполнение лексических и грамматических упражнений

Цель: совершенствование лексических навыков

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

Задание: 1) напишите о: The advantages of thermoelectric cooling.

2) выполнить упражнение

**Раскройте скобки, употребив причастие настоящего времени в активной и пассивной форме.**

1. (To impress) by the film, they kept silent.
2. (To lose) the book, the student couldn't remember the topic.
3. He spent the whole day (to read) a book.
4. (To travel) around America for a month, she returned to England.
5. He watched Mike (to go) out of the door and (to cross) the street.
6. The question (to discuss) now is very important.
7. (To pack) in the beautiful box the flowers looked very lovely.
8. (To descent) the mountains, they heard a man calling for help.
9. (To reject) by everybody he became a monk.
10. (To show) the wrong direction, the travelers soon lost their way.

### **Практическая работа № 7.**

Тема: Дифференцированный зачёт

Цель: Контроль умений и навыков практического владения английским языком.

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

### **Контрольные задания к дифференцированному зачету**

#### **IV курс**

#### **Вариант I**

#### **1. Прочтите текст и ответьте на вопросы:**

- 1) What makes panel heating so very comfortable?
- 2) What are the most common systems of heating?
- 3) What does a hot-water system consist of?
- 4) What is the most widely used system of heating?

#### **Panel Heating**

Heating is concerned with heating supply to produce a desired temperature for maintaining comfort, health or efficiently of the occupants. The most widely used system of heating is the central heating where the fuel is burned in one place – the basement or a specially designed room from which steam, hot water or warm air is distributed.

There are two most common systems of heating – hot water and steam. Both systems are widely used nowadays.

A hot-water system consists of the boilers and a system of pipes connected to radiators suitably located in rooms to be heated. The pipes, usually of steel or copper, feed hot water to radiators or connectors which give up the heat to the room. The water, now cooled, is returned to the boiler for reheating.

As for steam system, steam is generated and led to the radiators through or by means of steel or copper pipes. The steam gives up its heat to the radiators and the radiators to the room and the cooling of the steam condenses it to water. The condensate is returned to the boiler by a pump.

Panel heating is a method of introducing heat to rooms in which the emitting surface are concealed in the floor, walls or ceiling.

Application of panels is restricted by structural details. Other factors are type of furniture or equipment location, large glass areas, room height, climate and first cost.

As for fuels used for heating buildings they include coal, oil, manufactured and natural gases and wood. There are two other sources: electricity and steam.

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

1. Panel heating system	a. Медные трубы
2. boiler	b. Центральное отопление
3. Copper pipes	c. Паровое отопление
4. Central heating	d. размещать
5. Hot-water heating system	e. Поддерживать, сохранять
6. Steam heating system	f. Панельное отопление
7. to locate	g. Система водяного отопления
8. to maintain	h. котёл

**3. Переведите 2, 3, 4 абзацы в письменной форме.**

**Причастие настоящего времени (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 y:

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 дееспричастием.

**Причастие прошедшего времени (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

to teach 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 требующую 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 does air conditioning imply?
- 2) What is the purpose of ventilation?
- 3) What are the basic pieces of air conditioning equipment?
- 4) What are three types of ventilation widely used?

#### **All-year Air Conditioning**

Air conditioning implies the control of temperature, humidity, purity and motion of the air in an enclosure. In our modern world of science and highly developed technology air conditioning is of a great significance for industrial processes as well as for human comfort. As an example it must be mentioned that during the manufacture of extremely delicate equipment such as inertial guidance systems for rockets, airplanes or submarines both temperature and humidity must be closely controlled and air purity provided at an extremely high level.

Air conditioning for human comfort is employed in both large and small installations, such as theatres, office buildings, department stores, residences, airplanes, railways, cars and submarines. According to their purpose air conditioning systems may be described as winter, summer and all-year systems. Considering their basic design they are called unit or central air conditionings.

All-year air conditioning systems must provide means for performing all the processes required for winter and summer air conditioning. The basic pieces of equipment are the filters, preheat coils, humidifiers, dehumidifiers, reheat coils, additional cooling coils, fans and controls. The control of air purity can be achieved in various degrees. As a minimum control some sort of filtering must be done near the entrance of the air-conditioning system. The most efficient filtering device is the electrostatic precipitator.

As far as ventilation is concerned the modern theory to this effect can be summed up in the statement that for places of general assembly the purpose of ventilation is to carry away excess heat and odours and that normally 10 cu. ft per minute of outside air per person is sufficient to

accomplish this objective. In buildings such as homes, the leakage of air through cracks in doors and windows is usually sufficient to meet this equipment. Although ventilation was formerly concerned with the supply of fresh air to and the removal of hot and contaminated air from the space it gradually came to be associated with cleaning of air.

Industrial buildings often present special problems in ventilation. There are certain industrial processes that are accompanied by the production of air-born dust, fumes, toxic vapours and gases which are hazardous to the health of workers. Three types of ventilation are in use so that to control dangerous gases and dusts: exhaust systems, dilution systems and combinations of both. The contaminated air is exhausted at high velocity from hoods which have sufficient entrance velocity to pick up the contaminants.

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

1. Air conditioning	a. Подача воздуха
2. Supply of air	b. влажность
3. Removal of air	c. Опасный для здоровья
4. Contaminated air	d. увлажнять
5. humidity	e. Кондиционирование воздуха
6. purity	f. чистота
7. Hazardous to health	g. Загрязнённый воздух
8. humidify	h. Вывод воздуха

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

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Причастие настоящего времени образуется путем прибавления суффикса -ing к инфинитиву глагола без частицы to:

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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

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2. <http://school-collection.edu.ru> – аудио файлы
3. [www.britishcouncil.org/learnenglish](http://www.britishcouncil.org/learnenglish)
4. <http://lessons.study.ru>
5. [www.eun.org](http://www.eun.org)
6. [www.usembassy.ru/english.htm](http://www.usembassy.ru/english.htm) Все для учителей английского!
7. [www.vestnik.edu.ru](http://www.vestnik.edu.ru) Журнал Вестник образования.