Учреждение образования

«Брестский государственный технический университет»

Факультет экономический

Кафедра лингвистических дисциплин и межкультурных коммуникаций

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ЭЛЕКТРОННЫЙ УЧЕБНО-МЕТОДИЧЕСКИЙ КОМПЛЕКС
по учебной дисциплине
ИНОСТРАННЫЙ (АНГЛИЙСКИЙ) ЯЗЫК

7-07-0732-02 Инженерные сети, оборудование зданий и сооружений (профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна)

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ПОЯСНИТЕЛЬНАЯ ЗАПИСКА
к электронному учебно-методическому комплексу
по учебной дисциплине «Иностранный язык(Английский)»
для специальности
7-07-0732-02 Инженерные сети, оборудование зданий и сооружений (профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна)

Актуальность изучения дисциплины

Статус иностранного языка как общеобразовательной дисциплины, реально востребуемой в практической и интеллектуальной деятельности специалиста, является в современном поликультурном и многоязычном мире особенно значимым. Иностранный язык рассматривается не только в качестве средства межкультурного и профессионального общения, но и средства формирования личности как субъекта национальной и мировой культуры.

Цель и задачи дисциплины

Главная *цель* обучения иностранному языку заключается в формировании иноязычной коммуникативной компетенции будущего специалиста, позволяющей использовать иностранный язык как средство межличностного и профессионального общения. Достижение главной цели предполагает комплексную реализацию познавательной, развивающей, воспитательной и практической целей.

В качестве стратегической интегративной компетенции в процессе обучения иностранным языкам выступает коммуникативная компетенция в единстве всех составляющих: языковой, речевой, социокультурной, компенсаторной, учебно-познавательной компетенций.

Основными *задачами* изучения дисциплины являются:

– унификация полученных ранее умений и навыков чтения текстов на расширенном языковом материале;

– формирование умений и навыков чтения и понимания текстов по специальности в ситуациях поиска смысловой информации;

– владение профессиональной лексикой;

– знакомство с историей и культурой страны изучаемого языка.

В результате изучения дисциплины «Иностранный язык» студент должен:

знать:

– особенности системы изучаемого иностранного языка в его фонетическом, лексическом и грамматическом аспектах;

– социокультурные нормы бытового и делового общения в современном поликультурном мире;

– историю и культуру страны изучаемого языка;

– основные формы культурной коммуникации;

уметь:

– вести общение профессионального и социокультурного характера на иностранном языке, сочетая диалогические и монологические формы речи;

– читать литературу на иностранном языке по профилю обучения (изучающее, ознакомительное, просмотровое и поисковое чтение);

– использовать иностранный язык в качестве инструмента профессиональной деятельности: перевод, реферирование и аннотирование профессионально ориентированных и научных текстов, выступление с публичной речью;

– использовать стилистические нормы иностранного языка в соответствии с ситуацией профессиональных и деловых взаимоотношений;

владеть:

– навыками чтения и перевода со словарем иностранной литературы по правилам речевого этикета;

– рациональным и эффективным языковым поведением в ситуациях межкультурной коммуникации.

Краткое описание электронного учебно-методического комплекса (для кого предназначен, на основании каких документов разработан)

Электронный учебно-методический комплекс предназначен для студентов специальности 7-07-0732-02 «Инженерные сети, оборудование зданий и сооружений (профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна»

ЭУМК разработан в соответствии со следующими документами:

1. Требованиями кодекса Республики Беларусь «Об образовании» от 13.01.2011г. № 243-3 (с дополнениями и изменениями).

2. Положением об учебно-методическом комплексе на уровне высшего образования, утвержденным постановлением Министерства образования Республики Беларусь №167 от 26.07.2011 г. «Об утверждении положений об учебно-методических комплексах по уровням основного образования».

3. Учебными программами по дисциплине «Иностранный язык (английский)» для студентов специальности 7-07-0732-02 «Инженерные сети, оборудование зданий и сооружений (профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна», утвержденной 29.06.2023, регистрационный номер № УД-23-1-048/уч.

Цели ЭУМК

Основной целью ЭУМК является повышение исходного уровня владения иностранным языком и формирование у обучающихся иноязычных компетенций, позволяющих им решать социально-коммуникативные задачи в сфере электронной коммерции, формирование навыков говорения, чтения и письма, развитие грамматических навыков.

Содержание и объем ЭУМК полностью соответствуют образовательным стандартам высшего образования специальности, а также учебно-программной документации образовательных программ высшего образования. Материал представлен на требуемом методическом уровне и адаптирован к современным образовательным технологиям.

ЭУМК разработан в электронном виде.

Структура учебно-методического комплекса по дисциплине «Иностранный язык»:

Теоретический раздел ЭУМК представлен методическими рекомендациями по изучению дисциплины и отдельных ее тем, а также по организации управляемой самостоятельной работы студентов.

Практический раздел ЭУМК содержит методические материалы к прак-

тическим занятиям, аутентичные тесты и материалы по изучаемым темам;

Раздел контроля знаний ЭУМК содержит перечень самостоятельного изучения студентами, вопросы к зачету, образцы тестов;

Вспомогательный раздел ЭУМК включает учебную программу по дисциплине «Иностранный язык».

Краткий паспорт дисциплины

	семестр	семестр	семестр
	1	2	3
Практические (семинарские) занятия (часов)	48	48	48
Зачет (+/-)	+	–	+
Экзамен (+/-)	–	+	–

ПЕРЕЧЕНЬ МАТЕРИАЛОВ В УЧЕБНО-МЕТОДИЧЕСКОМ КОМПЛЕКСЕ

Электронный учебно-методический комплекс содержит:

1. ТЕОРЕТИЧЕСКИЙ РАЗДЕЛ
1.1. Методические рекомендации по изучению дисциплины
1.2. Методические рекомендации по организации самостоятельной работы студентов

2. ПРАКТИЧЕСКИЙ РАЗДЕЛ
2.1. Материалы для практических занятий по дисциплине

3. РАЗДЕЛ КОНТРОЛЯ ЗНАНИЙ
3.1. Виды контроля
3.1.1. Текущий контроль
3.1.2. Рубежный контроль
3.1.3. Промежуточный контроль (устная и письменная форма)
3.1.4. Текущая аттестация
3.1.5. Итоговый контроль
3.2. Тесты и контрольные работы
3.3. Критерии оценивания работы студентов

4. ВСПОМОГАТЕЛЬНЫЙ РАЗДЕЛ
4.1. Словари
4.2. Учебная программа дисциплины

1. ТЕОРЕТИЧЕСКИЙ РАЗДЕЛ

1.1. МЕТОДИЧЕСКИЕ РЕКОМЕНДАЦИИ ПО ИЗУЧЕНИЮ ДИСЦИПЛИНЫ

Целью практического курса «Иностранный язык» является формирование и развитие профессиональной коммуникативной компетенции, позволяющей осуществлять коммуникативную деятельность на иностранном языке в профессиональной сфере общения и развитие лингвистической компетенции, включающей в себя знание и владение стандартными лексическими средствами и грамматическими структурами, присущими языку сферы профессионального общения в области экономики.

Учебный план дисциплины «Иностранный язык» предусматривает практические занятия в аудитории (под руководством преподавателя) и вне учебной аудитории (самостоятельную работу студентов с последующим контролем преподавателя) на протяжении 3 семестров на 1 и 2 курсе.

В своей концепции учебный курс опирается на разработанные Советом Европы «Общеевропейские компетенции владения иностранным языком».

Данный курс предусматривает наличие навыков элементарного владения иностранным языком на Предпороговом уровне А2. Наряду со стартовым тестированием, могут быть использованы методы самооценки для определения начального уровня языковой компетенции. С этой целью рекомендуется ответить на следующие вопросы:

Анкета для определения соответствия уровню А2

Я понимаю на слух отдельные фразы и наиболее употребительные слов в высказываниях?

Я понимаю на слух основную информацию о себе и своей семье, о покупках, о месте проживания, о работе?

Я понимаю на слух общее содержание простых, четко произнесенных и небольших по объему сообщений и объявлений?

Я могу прочитать и понять короткие простые тексты?

Я могу найти конкретную информацию в простых текстах повседневного общения: в рекламах, проспектах, меню, расписаниях?

Я могу прочитать простые письма личного характера?

Я умею общаться в простых типичных ситуациях, требующих непосредственного обмена информацией?

Я умею поддержать предельно краткий разговор на бытовые темы?

Я могу, используя простые фразы и предложения, рассказать о своей семье и других людях, условиях жизни, учебе, настоящей или прежней работе?

Я умею писать простые короткие записки и сообщения?

Я умею писать несложные письма личного характера (например, выразить кому-либо свою благодарность за что-либо)?

Исходя из целей и задач обучения, формулируются конечные требования к уровню знаний и умений по отдельным видам речевой деятельности и языковым

аспектам на 1и 2 курсе (1, 2, 3 семестр).

Основной целью курса является достижение Порогового уровня самостоятельного владения иностранным языком В1 и закрепление на данном уровне. Курс направлен на практическое овладение навыками аудирования, понимание письменного текста, диалогической и монологической речи, а также продуктивное овладение грамматическим материалом в рамках изучаемых лексических тем.

Требования к итоговым умениям и навыкам на уровне В1:

Понимание	Аудирование	Понимание основных положений четко произнесенных высказываний в пределах литературной нормы на базе изученных тем. Понимание общего содержания адаптированных радио- и телепрограмм о текущих событиях, а также передач, связанных с личными или профессиональными интересами.
	Чтение	Понимание текстов, построенных на частотном языковом материале повседневного и профессионального общения. Понимание описаний событий, чувств, намерений в письмах личного характера.
Говорение	Диалог	Умение общаться в большинстве ситуаций, возникающих во время пребывания в стране изучаемого языка. Участие (без предварительной подготовки) в диалогах на базе изученных тем.
	Монолог	Умение строить простые связные высказывания о личных впечатлениях, событиях, мечтах, надеждах и желаниях. Умение кратко обосновать и объяснить свои взгляды и намерения, рассказать историю или изложить сюжет книги или фильма и выразить к этому свое отношение.
Письмо	Письмо	Умение писать простые связные тексты на изученные темы, письма личного характера.

С целью формирования навыков аудирования на иностранном языке согласно вышепреведенной шкале уровней для самооценки, опубликованной в официальной брошюре Совета Европы, рекомендуется выполнить следующие упражнения:

Прослушайте текст, постарайтесь понять его содержание, разделите на смысловые части и дайте заголовок к каждой части.

Прослушайте текст, составьте план.

Прослушайте начало текста, дайте свой вариант того, как могут развиваться события в тексте дальше и т. д.

Прослушайте предложение и определите значение нового слова по контексту (словообразовательным элементам, на основе знания одного из значений, по этимологии, звукоподражательным элементам).

Установите на слух тождество в парах слов.

Прослушайте предложения и постарайтесь понять их смысл, не обращая внимания на определения, выраженные незнакомыми словами.

Прослушайте омонимы в предложениях и определите их значения.

Прослушайте синонимы в предложениях и определите их значения.

Прослушайте исходные предложения и различные варианты их лексико-грамматического перефразирования, определите выраженную в них мысль.

Прослушайте ряд предложений u обратите внимание на то, что они отличаются друг от друга только одним новым словом в одной u той же позиции. Установите смысл этих предложений.

В списке слов отметьте те, которые вы услышали в предложениях. Назовите их вслух.

В списке русских слов отметьте очередность воспринятых на слух иноязычных эквивалентов.

Прослушайте омонимы и найдите в списке соответствующие им слова на родном языке.

Прослушайте предложения на иностранном языке, укажите лексические ошибки, допущенные в процессе их перевода на русский язык. (Текст русских предложений прилагается).

Прослушайте предложения, произнесенные в быстром темпе, и запишите их. Затем проверьте правильность своих записей при более медленном чтении предложений диктором.

Прослушайте предложения, произнесенные диктором в быстром темпе, и переведите их на родной язык. При повторном (таком же быстром или более медленном) прослушивании исправьте ошибки в переводе.

Отметьте в списке синонимы или антонимы слов, которые вы услышали в произнесенных диктором предложениях.

С целью формирования навыков диалогической речи на иностранном языке рекомендуется выполнить следующие упражнения:

Подготовьте набор ключевых слов и словосочетаний, уместных в большинстве типичных ситуаций, которые могут быть при поездке в страну изучаемого языка.

Составьте на основе этого материала свои реплики разных типов (побуждения, реагирования) и организуйте их в микродиалоги, реализующие различные языковые намерения.

Составьте диалог по одной теме, но для разных ситуаций общения.

Составьте тематический диалог из микродиалогов с добавлением необходимых объединяющих реплик.

Подберите картинки/фотографии к интересующей вас ситуации общения и составьте к ним микродиалоги.

Составьте диалог по прочитанному тексту.

Подумайте, с какими сложностями вы можете столкнуться в различных ситуациях, которые могут быть при поездке в страну изучаемого языка, и составьте микродиалоги, позволяющие их решить.

С целью формирования навыков монологического высказывания на иностранном языке рекомендуется выполнить следующие упражнения:

Подготовьте или воспользуйтесь готовыми списками выражений отношения (нравиться, разочарование, предпочтение, волнения и т.п.), интереса.

Определите ряд событий в тексте или фильме, которые оказались для вас эмоционально значимыми. Выразите свое отношение к ним, используя соответ-

ствующие фразы-клише.

Практикуйте использование этих фраз, до тех пор, пока подбор соответствующего слова для выражения ваших эмоций не перестанет вызывать затруднения.

Подготовьте список союзов и выражений, объясняющих вашу точку зрения.

Подготовьте простые предложения, выражающие ваш интерес к некоторому явлению и простые предложения, объясняющие этот интерес. Объедините их в одно сложное предложение.

С целью формирования навыков чтения на иностранном языке рекомендуется выполнить следующие упражнения:

Прочтите текст, разделите его на смысловые части, подберите названия к каждой из них.

Повторно прочтите текст и перечислите вопросы, освещаемые в нем.

Соедините простые предложения с помощью подчинительных союзов.

Определите и изучите новые грамматические явления в тексте.

Прочтите предложения и найдите в них многозначные слова. Укажите новые для вас значения этих слов.

Переведите авторскую прямую речь в косвенную.

Составьте предложения из самостоятельно выбранных ключевых фраз.

С целью формирования навыков письма на иностранном языке рекомендуется выполнить следующие упражнения:

Подготовьте набор ключевых слов и словосочетаний, уместных в большинстве типичных писем личного характера.

Подготовьте список союзов и выражений, объясняющих вашу точку зрения.

Подготовьте простые предложения, выражающие ваш интерес к некоторому явлению и простые предложения, объясняющие этот интерес. Объедините их в одно сложное предложение.

Составьте план простого письма-благодарности, запроса.

Подберите фразы для формального и неформального начала и завершения письма.

1.2. МЕТОДИЧЕСКИЕ РЕКОМЕНДАЦИИ ПО ОРГАНИЗАЦИИ САМОСТОЯТЕЛЬНОЙ РАБОТЫ СТУДЕНТОВ

Студент в процессе обучения должен не только освоить учебную программу, но и приобрести навыки самостоятельной работы, которая способствует развитию ответственности и организованности, творческого подхода к решению проблем учебного и профессионального уровня, поскольку студент должен уметь планировать и выполнять свою работу.

Самостоятельная работа студентов является одной из основных форм аудиторной и внеаудиторной работы при реализации учебных планов и программ. Самостоятельная работа определяется как индивидуальная или коллективная учебная деятельность, осуществляемая без непосредственного участия педагога, но по его заданиям и под его контролем.

При определении содержания самостоятельной работы студентов учитывается уровень самостоятельности абитуриентов и требования к уровню самостоя-

тельности выпускников для того, чтобы за период обучения искомый уровень был достигнут.

Для организации самостоятельной работы необходимы следующие условия:

– готовность студентов к самостоятельному труду;

– наличие и доступность необходимого учебно-методического и справочного материала;

– консультационная помощь.

Формы самостоятельной работы студентов определяются при разработке рабочих программ учебных дисциплин содержанием учебной дисциплины, учитывая степень подготовленности студентов.

Видами заданий для внеаудиторной самостоятельной работы являются:

Для овладения знаниями:

– чтение текста (учебника, дополнительной литературы), составление плана текста, графическое изображение структуры текста, конспектирование текста, выписки из текста, работа со словарями и справочниками, ознакомление с нормативными документами, учебно-исследовательская работа, использование аудио- и видеозаписей, компьютерной техники и Интернета и др.

Для закрепления и систематизации знаний:

– работа с конспектом лекции, обработка текста, повторная работа над учебным материалом (учебника, дополнительной литературы, аудио и видеозаписей, составление плана, составление таблиц для систематизации учебною материала, ответ на контрольные вопросы, заполнение рабочей тетради, аналитическая обработка текста (аннотирование, рецензирование, реферирование, конспект-анализ и др), подготовка мультимедиа сообщений/докладов к выступлению на семинаре (конференции), подготовка реферата, составление библиографии, тематических кроссвордов, тестирование и др.

Для формирования навыков и развития умений:

– решение задач и упражнений по образцу, решение вариативных задач, решение ситуационных (профессиональных) задач, подготовка к деловым играм, проектирование и моделирование разных видов и компонентов профессиональной деятельности, рефлексивный анализ профессиональных умений с использованием аудио- и видеотехники и др.

Таким образом, самостоятельная работа всегда завершается какими-либо результатами. Это выполненные задания, упражнения, решенные задачи, написанные сочинения, заполненные таблицы, построенные графики, подготовленные ответы на вопросы.

Цели и задачи.

Целью самостоятельной работы студентов является овладение фундаментальными знаниями, профессиональными умениями и навыками деятельности по профилю, опытом творческой, исследовательской деятельности. Данный учебно-методический материал ориентирован на достижение главной цели: повышение результативности самостоятельной работы студентов, развитие способности к самостоятельному получению знаний, освоению коммуникативных компетенций по учебной дисциплине «Иностранный язык».

В ходе выполнения самостоятельной работы студент научится активно, целенаправленно приобретать новые знания и развивать коммуникативные умения без прямого участия в этом процессе преподавателей; самостоятельно анализировать современные учебно-методические материалы; закреплять пройденный материал посредством анализа, сравнения, обсуждения и описания реалий согласно тематике.

Указанная цель требует реализации ряда задач, таких как:

приобретение конкретных знаний, формирование навыков и развитие речевых умений по иностранному языку, в соответствии с темами, заявленными в учебной программе дисциплины;

систематизация и закрепление полученных теоретических знаний и практических умений обучающихся;

развитие познавательных способностей и активности студентов: творческой инициативы, самостоятельности, ответственности и организованности;

формирование самостоятельности мышления, способностей к саморазвитию,

самосовершенствование и самореализация;

развитие исследовательских умений;

реализация универсальных учебных действий с использованием информационно-коммуникационных технологий.

Информация, полученная в результате самостоятельного изучения обозначенного материала, будет необходима для написания реферата, сочинения, подготовки презентации, более продуктивной работы на практических занятиях, а также успешного прохождения всех этапов контроля знаний. Помимо анализа библиографического списка литературы, поощряется самостоятельное нахождение и изучение дополнительной литературы и электронных источников.

При этом целями и задачами самостоятельной аудиторной работы по дисциплине «Иностранный язык» являются:

методическая помощь студентам при изучении дисциплины «Иностранный язык» по темам, выносимым на самостоятельное изучение;

активизация употребления профессиональной лексики в речи студентов, связанной с конкретными специальностями;

обучение логичному и последовательному изложению своих мыслей в соответствии с предложенной ситуацией, максимально приближенной к реальной жизни, и в пределах освоенного лексико-грамматического материала;

применение сформированных навыков при работе с аутентичными материалами;

развитие творческих способностей студентов, активизация мыслительной деятельности, повышение положительной мотивации к изучению иностранного языка;

отработка навыков работы со специальными тематическими словарями, с научными справочными пособиями, а также навыков реферирования;

оказание методической помощи при написании рефератов, сочинений.

Цели и задачи внеаудиторной самостоятельной работы студентов:

закрепление, углубление, расширение и систематизация знаний, полученных во время занятий;

самостоятельность овладения новым учебным материалом;

формирование навыков самостоятельного умственного труда;

овладение различными формами самоконтроля;

развитие самостоятельности мышления;

развитие коммуникативных умений в сфере профессионального общения;

воспитание способности к самоорганизации, творчеству.

Самостоятельная работа может осуществляться индивидуально или группами студентов в зависимости от цели, объема, конкретной тематики самостоятельной работы, уровня сложности, степени развития умений студентов.

Контроль результатов внеаудиторной самостоятельной работы студентов может осуществляться в пределах времени, отведенного на обязательные учебные занятия по дисциплине и внеаудиторную самостоятельную работу студентов по дисциплине. Используется устная, письменная и смешанная формы контроля.

По дисциплине «Иностранный язык» практикуются следующие виды и формы самостоятельной работы студентов:

подготовка к практическим занятиям;

подготовка к контрольным работам, зачетам и экзаменам;

отработка изучаемого материала по печатным и электронным источникам;

выполнение контрольных, самостоятельных работ;

тестирование в учебных компьютерных классах по материалам, разработанным преподавателем;

индивидуальные исследовательские задания (подготовка кратких сообщений, докладов, рефератов и др.);

подготовка к участию в научно-практических конференциях;

подготовка и оформление мультимедийных презентаций в соответствии с учебными разделами и темами, а также слайдового оформления и видеосопровождения докладов;

написание сочинений;

самостоятельное составление заданий (кроссвордов, викторин, контрольных упражнений) по изучаемой теме;

работа над выполнением наглядных пособий (схем, таблиц, коллажей и др.).

Рекомендации по выполнению самостоятельной работы:

Изучение теоретического материала.

Изучение тематических текстов на иностранном языке, лексических и грамматических комментариев к ним, а также указанной в библиографии литературы и интернет-ресурсов с целью расширения знаний по той или иной теме необходимо осуществлять с учетом следующих пунктов:

прежде чем приступить к работе, требуется четко определить цели задания, что поможет осуществить самоконтроль в конце работы;

ход работы проводить «пошагово» и не приступать к следующему пункту, не пройдя предыдущий;

при работе с литературными источниками выделять главное, обращая особое внимание на классический иностранный язык;

в конце работы проверить достигнута ли цель и сколько времени потребо-

валось для её достижения.

В зависимости от цели просмотрового чтения и степени полноты извлечения информации выделяют четыре подвида просмотрового чтения:

1. Конспективное – для выделения основных мыслей. Оно заключается в восприятии только наиболее значимых смысловых единиц текста, составляющих логико-фактологическую цепочку.

2. Реферативное – для выделения основных мыслей. При этом читающего интересует только самое основное в содержании материала, все подробности опускаются как несущественные для понимания главного.

3. Обзорное – для определения существа сообщаемого. Оно направлено на выделение главной мысли текста, причем задачи сводятся в основном к ее обнаружению на основе структурно-смысловой организации текста. Понимание главной мысли, выраженной имплицитно, в данном случае практически невозможно. Интерпретация прочитанного ограничивается вынесением самой общей оценки содержанию и определением соответствия текста интересам студентов.

4. Ориентировочное – для установления наличия в тексте информации, представляющей для читающего интерес или относящееся к определенной проблеме. Основная задача читающего – установить, относится ли данный материал к интересующей его теме.

Грамматический анализ непонятных предложений текста на иностранном языке. Бегло просмотрите текст и постарайтесь понять, о чем идет речь.

При вторичном прочтении определите тип непонятного предложения и функции всех его составляющих по внешним признакам.

При наличии сложносочиненного или сложноподчиненного предложения разделяйте его по формальным признакам на самостоятельные и придаточные, выделяйте инфинитивные, причастные и деепричастные обороты.

Если в предложении есть служебные слова, используйте их для членения предложения на смысловые группы.

В каждом отдельном предложении сначала находите сказуемое или группу сказуемого, затем подлежащее или группу подлежащего. Если значение этих слов неизвестно, обращайтесь к словарю.

Глагол-сказуемое обычно стоит на втором месте. Сказуемое можно найти по:

– по личным местоимениям;

– по вспомогательным и модальным глаголам в личной форме;

– по неправильным глаголам;

– по суффиксам.

Помните, что существительные употребляются в функции подлежащих только без предлогов.

Найдя подлежащее и сказуемое, проверьте, согласуются ли они в лице и числе. Поняв значение главных членов, выявляйте последовательно второстепенные члены предложения, сначала в группе сказуемого, а затем в группе подлежащего.

Если предложение длинное, определите слова и группы слов, которые можно временно опустить для выяснения основного содержания предложения. Не ищите сразу в словаре все незнакомые слова, а заменяйте их вначале неопреде-

ленными местоимениями и наречиями (кто-то, какой-то, как-то, где-то и др.).

Внимательно присмотритесь к словам, имеющим знакомые вам корни, суффиксы, приставки. Попытайтесь установить значение этих слов. При этом обратите внимание на то, какой частью речи являются такие слова, а затем подбирайте соответствующий русский эквивалент.

Слова, оставшиеся непонятными, ищите в словаре, соотнося их значение с контекстом.

Подготовка доклада.

Требование к студентам по подготовке и презентации доклада.

Доклад – это сообщение с целью обобщить знания по заданной теме, систематизировать материал, проиллюстрировать примерами, сформировать навыки самостоятельной работы с научной литературой и прессой, познавательный интерес к научному познанию.

Студент в ходе презентации доклада отрабатывает умение самостоятельно обобщить материал и сделать выводы в заключении, свободно ориентироваться в материале и отвечать на дополнительные вопросы слушателей. Работа студента над докладом-презентацией включает отработку у него навыков ораторского искусства и развитие умений организовывать и проводить диспут.

Тема доклада должна быть согласована с преподавателем и соответствовать теме занятия. Докладом также может стать презентация реферата студента, соответствующая теме занятия. Материалы при его подготовке должны соответствовать научно-методическим требованиям ВУЗа и быть указаны в докладе. Иллюстрации должны быть достаточными, но не чрезмерными.

Студент обязан подготовить сообщение и выступитьс докладом в строго отведенное преподавателем время, и в указанный им срок. Необходимо соблюдать регламент, оговоренный при получении задания.

Инструкция докладчикам и содокладчикам.

Докладчики и содокладчики – основные действующие лица. Они во многом определяют содержание, стиль и динамичность данного занятия. Действующие лица должны:

уметь сообщать новую информацию;

использовать технические средства;

знать и хорошо ориентироваться в теме всей презентации (семинара);

уметь дискутировать и быстро отвечать на вопросы;

четко выполнять установленный регламент: докладчик – от 10 мин.; содокладчик – 5 мин.; дискуссия – 10 мин;

иметь представление о композиционной структуре доклада.

Необходимо помнить, что выступление состоит из трех частей: вступление, основная часть и заключение.

Рекомендуется составить тезисы для беседы или устного сообщения в заданной ситуации общения. Эффективно также составить список вопросов для обсуждения с воображаемым или реальным собеседником.

Написание реферата.

Тема реферата предлагается преподавателем в соответствии с изучаемым материалом.

Объем текстовой части реферата (не считая титульного листа, содержания, списка литературы) должен составлять 5–8 листов формата А4 (шрифт: Times-NewRoman, кегль 14, междустрочный интервал полуторный, поля стандартные: верхнее – 2 см, нижнее – 2 см, левое – 3 см, правое – 1,5 см).

Обязательные части реферата: титульный лист, текстовая часть и список литературы (не менее 4 наименований). Вступление, основная часть и заключение также являются необходимыми блоками реферата.

Написание сочинений.

Тема сочинения предлагается преподавателем в соответствии с изучаемым разделом; также допускается написание сочинения по теме, сформулированной самостоятельно, но в таком случае необходимо ее согласование с преподавателем. Объем сочинения должен составлять 240–280 слов. Сочинение сдается в указанный в графике срок.

Требования к оформлению.

Сочинение сдается на листе бумаги или в специально заведенной для этой цели тонкой тетради (не толще 48 листов), в рукописном или распечатанном виде. Сочинение оформляется произвольно; обязательно только указание темы сочинения.

Инструкция по подготовке сочинения.

Разделите текст на смысловые абзацы в соответствии с предложенным в задании планом.

В первом абзаце сформулируйте проблему, которую вы будете обсуждать, однако не повторяйте тему сочинения слово в слово. Представьте, что ваш читатель не знает, о чем пойдет речь, и попытайтесь объяснить ему проблему другими словами.

Выделите положительные и отрицательные стороны проблемы, подумайте о разумных аргументах, в поддержку обеих точек зрения. Помните, что вы должны выразить не только свою точку зрения, но и противоположную. Также не забудьте объяснить, почему вы не согласны с другой точкой зрения.

Старайтесь соблюдать баланс между абзацами. Используйте слова-связки, чтобы помочь читателю проследить за логикой ваших рассуждений.

В последнем абзаце сделайте обобщающий вывод по данной проблеме. Вы можете также окончательно сформулировать свое мнение или предложить пути решения данной проблемы.

Написание письма.

В процессе профессионального общения написание писем является одной из наиболее часто встречающихся задач. Темы для деловых писем предлагаются преподавателем, также допускается написание письма по теме, сформулированной самостоятельно, но в таком случае необходимо ее согласование с преподавателем.

Перед написанием письма проводится подготовительная работа. Студент анализирует тексты писем, определяет характер каждого письма (личное, семейное, деловое, проблемное; письмо с выражением благодарности; поздравление, приглашение и т.д).

На подготовительном этапе просматриваются приведенные речевые формулы, используемые в письме, и отмечаются различные способы выражения благодарности и признательности. Кроме того, составляются различные тематические письма для заданных ситуаций письменного общения.

Непосредственно при написании письма используйте следующий алгоритм действий:

Определите, кому могут быть адресованы названные формы письменного обращения.

Определите характер письма по его структуре (описание, сообщение, повествование, уведомление, выражение благодарности за что-либо, приглашение).

Составьте письмо по предложенному плану, ориентируясь на конкретный тип адресата, коммуникативную задачу и ситуацию написания письма.

Подготовка презентации.

Демонстрационная презентация (длительностью от 10 до 20 мин.) выполняется в программах MicrosoftPowerPoint, Prezi и других.

Возможно (но необязательно) использование дополнительных фото-, видео- или аудиоматериалов. Выполнение презентации осуществляется в устной форме (сдача текстовой части доклада не требуется).

Виды презентаций и их структура.

Можно выделить 3 вида презентаций:

1. информационная презентация;
2. презентация-идея;
3. презентация-ревью.

Для определения вида будущей презентации сформулируйте цель своего выступления, ответив себе на вопросы: зачем я выступаю, что я хочу получить в результате, что должны продумать или сделать слушатели после моей речи? Это главный вопрос. Правильный ответ на него – 50% успешной презентации.

Для информационной презентации достаточно того, что аудитория просто получит новые данные. Информационная презентация самая простая по своей сути, и требования к ней минимальны: она должна содержать в себе вступление, основную часть и завершение.

Во вступлении должно быть приветствие, тема и, возможно, цель выступления, имя выступающего, название организации, которую он представляет. Часто визуальные компоненты сопровождают или даже заменяют эту часть выступления.

В основной части информационной презентации главное – это соблюдение логики речи, а, следовательно, структурирование доклада, в частности разделение его на части.

Завершение также может быть предельно кратким: резюме вышесказанного и благодарность за внимание.

Цель презентации-идеи: изменить отношение слушателей и убедить их предпринять конкретные действия, связанные с темой. Алгоритм формирования убедительной презентации – «4П». Алгоритм включает в себя 4 блока:

1. Положение. В первой части докладчик рассказывает о ситуации, связанной с его предложением. Ситуация должна быть близка и понятна аудитории. Этот раздел должен быть относительно коротким – 5-10% всего выступления.

2. Проблема. Этот отрезок презентации должен показать проблематику. Очень важно, чтобы поднятые оратором проблемы действительно были важны для слушателей. Задача презентации только актуализировать потребности слушателей и вывести на первый план среди множества других наших ежедневных потребностей.

3. Перспектива. В этом разделе докладчику нужно показать, как усугубится описанная проблема, если не принять меры прямо сейчас.

4. Предложение. Следует предложить свой продукт или идею. При этом важно наглядно показать, как именно предлагаемая идея поможет выйти из сложившейся ситуации, ответить на вопрос, чем этот способ решения лучше, чем другие, привести аргументы и доказательства – то есть сделать свою презентацию убедительной.

Заканчиваться презентация-идея должна призывом к конкретным действиям, которые можно легко реализовать. Выступление будет особенно убедительным, если сделать презентацию с использованием качественных слайдов. Для убеждения стоит использовать яркие иллюстрации и графики, подтверждающие слова выступающего, так как 80% информации мы получаем через зрительный канал.

Презентация-ревью – это отчет о проделанной работе. Фактически, целью таких презентаций является убеждение слушателей в том, что Вы грамотный специалист в своей области, максимально качественно выполнивший свой объем работы и достойны высокой оценки.

Самостоятельная подготовка заданий.

При необходимости самостоятельно составить задание по изучаемой теме следует в первую очередь определиться с типом задания. Это может быть кроссворд, викторина, текст с пробелами, сопоставление, ролевая игра и другие виды заданий, включая контрольные тесты и упражнения. По желанию студентов это может быть даже проект деловой игры.

Одним из интересных и творческих вариантов заданий является викторина.

Викторина – это вид игры, смысл которой заключается в том, чтобы угадывать правильные ответы на устные или письменные вопросы из разных областей знаний. Есть большое количество разных видов викторин. Они могут отличаться друг от друга условиями и правилами, тематикой, типами и сложностью вопросов.

Правила выполнения викторины должны быть просты. Сложные правила приходится долго разъяснять, и в результате теряется интерес. Но и в том случае, когда человек включится в викторину, он будет путаться, сбиваться и тем самым нарушать темп проведения викторины или разрушать ее.

Викторина должна охватывать всех. Не должно быть таких ситуаций, когда

одни участники вовлечены в процесс викторины, а другие оказываются вположении пассивных наблюдателей.

Еще одним элементом викторин являются награды победителям. Здесь есть несколько психологических моментов, которые следует учитывать:

приз должен соответствовать уровню и сложности викторины;

вариант вручения призов всем участникам игры возможен, но при этом основной приз должен оставаться основным, а остальные носить характер утешительных и отличаться от главного;

приз не обязательно должен быть материальным. Он может быть чисто символическим, в виде венка, торжественно возлагаемого на голову победителя, шуточной медали с соответствующей надписью и т.п.;

само представление приза как цели, к достижению которой будут стремиться соревнующиеся, может нести в себе элемент викторины, если его представить в скрытом виде, как «темный приз».

2. ПРАКТИЧЕСКИЙ РАЗДЕЛ

2.1. МАТЕРИАЛЫ ДЛЯ ПРАКТИЧЕСКИХ ЗАНЯТИЙ ПО ДИСЦИПЛИНЕ

АНГЛИЙСКИЙ ЯЗЫК

A NEW PERIOD IN MY LIFE. ABOUT MYSELF

I. Read and translate the text.

Let me introduce myself to you. My name is Dima. My surname is Petrov. I'm from Pinsk. At the age of six, I went to school and always did well at school. My favourite subjects at school were Maths and English, besides I was good at sport. This year I've finished secondary school and entered BrSTU. I worked hard to become a student of BrSTU that is why I passed entrance tests successfully.

Who can forget the first day at the university when one turns from an applicant who has passed entrance exams into a first-year student? I did it! I entered, I got in to theuniversity! A solemn ceremony in front of the university building and serious people making speeches. Do you happen to know who they are? Who? The rector, vice-rectors, deans,subdeans? Heads of departments and senior lecturers? Some of them must be professors, some – associate or assistant professors, but, of course, all of them have high academic degrees.

So now I'm a first-year student. Students are the future of every country. They are young citizens of our society, full of infinite energy and progressive ideas, fantastic plans and noble ambitions, hopes and dreams. Student life is the brightest period of our life. It is amixture of studies and great fun. I know that my parents (ex-students) miss those old good days of their student life.

There are several reasons why student life is exciting. First of all, students learn what they need for their future profession. It's even better if the student really enjoys the direction he or she chose. Secondly, being a student doesn't mean to work and study all the time. They get plenty of free time for their hobbies and favourite pastimes. Thirdly, students' social life is very interesting.

Certainly, a student has certain duties to perform. It goes without saying that the primary student duty is studying hard and acquiring proper knowledge for the future career. He must attend all the classes at college, do all the work at the right time, be punctual and disciplined. It can help the student achieve his goals and become diligent and perseverant. If he doesn't neglect his studies he will receive rich dividends in his future work. My classes begin at 8:10.We have lectures in different subjects.

As a rule we have three or four classes a day. Sometimes it is very hard to wait till they end. Usually I don't miss my classes because I want to pass my exams successfully.Occasionally I have to stay at the University till 5 or even 6 o'clock in the evening because I go to the library to get ready for my practical classes or to write a report.

As I'm from Pinsk and I study in Brest so I need some housing. There are two opportunities for me: I can live in a dormitory or rent a flat. I decided to live in a dormitory and I think it is even more interesting to be a student if you live in a dormitory. Af-

ter the sessions you can play the guitar and sing songs. The ones, who like dancing, go to local discos. Others get together simply to chat and discuss the topics they've learned.

As a rule I have no free time on week-days. So by the end of the week I get very tired. My regular day off is Sunday. It is a day of freedom from routine duties and studies. I can do whatever I wish and go wherever I want. But I must admit that every day off needs some special planning. Time passes quickly and if you have no plans be sure to get no results. Our University offers plenty of opportunities and ways to enjoy one's free time. In your free time you can practice signing, music and choreography.And the annual contest"BrSTUStars"helps to reveal the talents of first- year students. Our Student Club consists of 13 creative collectives, which take an active part in city, regional and national events. The Students' Club is the centre where the students can spend their time to the best advantage and make new acquaintances.

The Club offers various activities to the students who want to show their creativity.

You can join university amateur societies and groups or try out themselves as script writers, producers and actors at University shows and festivals. This social life broadens the mind, develops your talents and communication skills.

I also believe that a good student should also go in for sports to stay in good health and mood. They say: "A sound mind lives in a sound body." The University Sports Club offers a choice of 14 sport societies for the students to enjoy exercise in their free time. Every year the University Sports Club and the Department of Physical Training jointly conduct more than 50 athletic events: university competitions and champion- ships among teachers and students in indoor soccer, table tennis, chess, aerobic, and track-and-field. The Citadel Alpinist Club is one of the most attractive centers of campus social life. It has united the students and staff, as well as University graduates, who are always eager to share their experience with newcomers. The Club chronicle keeps records of many climbing expeditions to the most picturesque places in the Carpathians, Caucasus, and Crimea as well as boating and skiing trips throughout Belarus. In 2010 the Alpinist Club participated in the third category difficulty climbing, and won the second prize in the Regional sport climbing championship.

Student life is never boring. It is always full of excitement and interesting experiences. Finally I'd like to say that it is absolutely great to be a student!

II. Find in the text (ex.I) English equivalents for the following Russian words and word combinations.

Первокурсник, любимое времяпрепровождение, свободное время, успешно сдать экзамены, очень уставать, как говорится, соревноваться, доцент, студент дневного отделения.

III. They say that it is a poor soldier who does not want to become a general. Name the steps of the social ladder which a student must pass to climb up to the position of the rector. Use the words from the list below, placing one word on one step.

Dean, assistant lecturer, head of department, vice-rector, associate professor, assistant professor, subdean, professor.

IV. Match the words with similar meanings.

hostel	term
semester	to finish
to introduce	to like
to leave	to present
to prefer	dormitory

V. Match the words with opposite meanings.

to pass	to fail
to like	to hate
easy	difficult
lazy	hard-working
strong	weak

VI. Match the English idioms in the left column with their Russian equivalents.

to go into details	начать с азов
to drum something into somebody's head	как дважды два – четыре
a brain twister	куриные мозги
two and two make four	вдаваться в подробности
a stumbling block	головоломка
the key word	легко даваться
the brain of a pigeon	ключевое слово
to come easy	камень преткновения
to start from scratch	вдолбить что-либо в голову

VII. Speak in class what you feel when:

you get a bad mark; you fall behind the group; you fail in an examination; you read up for an examination late at night; you miss classes; you come late to classes; you keep up with the rest of the group; you catch up with the rest; you spend sleeplessnights over a loadof books; you look up every word in your dictionary when reading an English book.

VIII. Read the text and share your experience of dealing with exam stress with your groupmates.

How to Deal with Exam Stress

Exam season can bring on levels of stress and burnout that can hinder your studies. Here are some handy tips on how to manage your anxiety Exam stress affects most students in varying ways. It is important to manage this stress and find little ways of helping to eliminate the risk of burnout.

For some students, exams can be a breeze; revision is second nature to them and they could ace an exam with their eyes closed. But for others, sweaty palms and heart palpitations are just a part of the territory, and it seems that nothing is more impossible than sitting down and revising. Here are some handy tips that can help to dissipate stress and make sure you can get through exam season.

1. Take regular breaks and schedule in fun things to look forward to Even the most intense exam timetables will allow a little time for a study break.

This can include 20-minute breaks during your revision day, and longer activities that you can look forward to. Go out for dinner with friends, go to the cinema, attend a gig, anything that you like doing in your spare time that will take your mind off exams. Spending a little time away from the books will leave youfeeling more refreshed and relaxed the next time you revise.

2. Exercise and get outdoors

Easily one of the most frustrating things about exam season is that it seems to occur just as the weather brightens up. Use this to your advantage and go out for a walk, or a run, or head to the gym or swimming pool. As well as keeping you healthy, exercise is known to boost your mood and can help to make you more productive while revising.

3. Don’t (always) listen to others

As the old saying goes: "comparison is the thief of joy". While it is helpful to discuss topics with fellow students and often to revise together, try not to compare other peoples' revision to your own. Chances are you’re doing just fine, and listening to other people talk about what they’ve learnt will only stress you out and may make you feel like you aren't progressing as well as them. Plus, if they themselves are stressed this can rub off on to you and other people’s stress is not what you need right now.

4. Speak to someone

If the stress gets to a point where it is overwhelming, and is affecting your day-to-day life, try and speak to someone about it. Your university or school should have a service where you can speak to people about your concerns, and will be able to offer more advice on how to manage it. If that seems like too big a step, open up to a family member or a friend about the pressure you feel. You’ll be amazed to know that you aren’t alone in feeling like this.

10 quick ways to help eliminate exam stress

Watch a film, a TV show or listen to a podcast or comedian that makes you laugh.

Drink some herbal tea or a hot chocolate. It’s a well known fact that hot drinks are known to soothe the soul (avoid too much caffeine though!).

A shower or a bath can help to relieve stress.

Cook or bake something. Just the thought of having something delicious to eat can bring you joy. As a bonus side note, try and cook something healthy too. You can’t feed your mind well, if you don’t feed your body well.

Get some sleep. The virtues of a good night’s sleep during exam season should not be underestimated.

Keep things in perspective. Yes, exams are important. But you are so much more than your exam results.

Avoid other stressed people. You know the ones I mean. The ones with cue cards outside of the exam hall, frantically trying to remember key dates andequations.

They will do nothing for your stress levels.

Avoid the exam "post-mortem”. You don’t need to know how other people fared in the exam. You’ve done your best, you can’t go back and change your answers so the second you step out of the exam hall, focus on your next exam.

Be flexible. While having a revision time table is one of the best tools in your ar-

senal for exam success, don't be too hard on yourself if you don't stick to it. If you accidentally oversleep, don't write the day off.

Write down everything you feel like you need to do and try and tick one thing off.

Just the act of feeling like you are in control of your revision can help.

IX. TranslateintoEnglish.

1. Она поступила в университет прошлым летом и закончит его только через четыре года.

2. Лучше не пропускать занятия, а то можно быстро отстать от группы.

3. Мой любимый предмет, конечно же, английский.

4. Староста нашей группы получает стипендию.

5. Больше всего я боюсь провалить экзамен по математике.

6.В штатепреподавателейу нас три профессора, четыре доцента, пять старших преподавателей и семь ассистентов.

7. В эту сессию будет пять зачётов и четыре экзамена.

X. Read and translate the story. Answer and discuss in class the questions below. Continue the story.

It took a couple of weeks for classes to get settled, and then we got down to the nitty-gritty. As homework began pouring in, and tests loomed on the horizon, I realized that my study skills were very poor and that it was going to be a challenge in itself to teach myself to study. I experimented with several tactics, trying to find out what would work for me. I started out in the bedroom with the door closed, but it seemed the phone was always ringing. I managed to get my work done, but I was not pleased with this frustrating situation.Later I tried going outside andpreparing somewhere in the yard. I ended up chatting with a neighbour, petting her dog. Clearly, something had to be changed. As my workload increased, so did my frustration.

Quite by accident, however, I found the solution to my problem...

Find the English equivalents to the Russian words and phases.

На это ушла пара недель, прийти в норму, засесть за что-либо, повседневная работа, наваливаться, маячить, слабые навыки, вызов, экспериментировать с чем-либо, обнаружить, начинать (разг.), удаваться, оканчиваться, удручающая ситуация, выходить из дома, болтать, работа накапливалась, разочарование, совершенно случайно, решение проблемы.

Answer the questions and express your opinion on the following.

1. What advice would you give to a friend of yours if he or she had to deal with the problem of distraction?

2. What tactics do you personally choose to get yourself organised and sit down to work?

3. Discuss in class the problem of getting oneself organised and concentrated when doing one's homework.

XI. BrSTU offers a choice of 14 sport societies for the students to enjoy exercise in their free time. Which of them are you going to visit and why? Write a short essay (10-12 sentences).

Sport Societies and Clubs:

• arm wrestling

• basketball
• table tennis
• indoor soccer
• handball
• volleyball
• judo
• karate
• aerobics
• kick-boxing
• tourism
• chess
• swimming
• Citadel Alpinist Club.

XII. The Students' Club is the centre where our students can spend their time to the best advantage and make new acquaintances.? What its line is the most interesting for you? Write a short essay (10-12 sentences).

BrSTU amateur societies and groups

Vocal line:

• pop-group
• vocal school
• vocal group «Kaliada»
• vocal group «Ramonki»
• vocal group «Vivat»
• vocal group «Krasuni»
• folk music group

Dance line:

• sport dance group «Tim-Wei»
• folk dance group
• school of variety show dancing
• club of historical dance «The Medieval meadow»

Instrumental music line:

• group of violinists
• instrumental music group

Clubs

• Theatre group "The Word"
• "What? Where? When?" Club (brain ring games)
• KVN club (a comedy club)
• Journalistic club "The Feather."

COLLEDGE LIFE

I. Read the text, consult a dictionary to find the meaning of the words in bold

type, learn them by heart.

The merry-go-round of **college life** is something that one never forgets. It's a fascinating, fantastic, fabulous experience, irrespective of the fact whether one is a **full-time or a part-time student.**

Who can forget the first day at the university when one turns from an **applicant** who has **passed entrance exams** into a **first-year student?** I did it! I **entered, I got in to the university!** A solemn ceremony in front of the **university building** and serious people **making speeches:** the **rector, vice-rectors, deans, subdeans, heads of departments** and **senior lecturers**. Some of them must be **professors, some – associate** or **assistant professors, lecturers and tutors,** but, of course, all of them have **high academic degrees.**

The **monitors** hand out **student membership cards, student record books** and **library cards** – one feels like a real person. First celebrations and then days of hard work. So many **classes,** so many new **subjects to put on the timetable!** The **curriculum** seems to be developed especially for geniuses. **Lectures, seminars** and **tutorials.** Home **preparations;** a real avalanche of **homeworks.**

If one can not **cope with the work load of college** he or she immediately starts **lagging behind.** It is easier to **keep pace** with the programme than to **catch up with it** later. Everyone tries hard to be, or at least to look, **diligent.** First **tests and examination sessions.** The first **successes** and first **failures: "I have passed!" or "He has not given me a pass!"**Tears and smiles. And a long-awaited **vacation.**

The merry-go-round runs faster. **Assignments, written reproductions, compositions, synopses, papers.** Translations **checked up** and **marked.**"Professor, I have never **played truant, I had a good excusefor missing classes**". Works **handed in** and **handed out**. **Reading up for exams**. "No, professor, I have never **cheated –** no **cribs**. I just **crammed**".

Junior students become **senior.** Still all of them are one family – **undergraduates. Students' parties** in the **students' club.** Meeting people and parting with people. You know, Nora is going to **be expelled** and Dora is going to **graduate with honours. Yearly essays, graduation dissertations, finals...**

What? A **specialist's certificate**? You mean, I've got a **degree in Economics?** I am happy! It is over! It is over... Is it over? Oh, no...

A **postgraduate course,** a **thesis,** an **oral,** and **a degree in Economics.** The first of September. Where are the students of the **faculty of economics?** Is it the **economics department?** Oh, how nice...

II. Do the following tasks.

1. Say a few words about your university: say what it is called, speak about its faculties and their specializations.

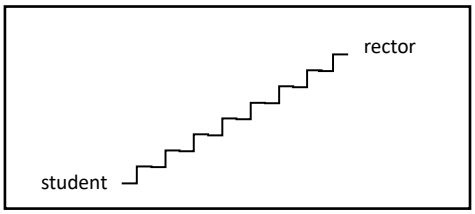
2. Would you compare college life with a merry-go-round or with something else?

3. What do you think of the first months at the university?

4. They say that it is a poor soldier who does not want to become a general. Name the steps of the social ladder which a student must pass to climb up to the position of the rector. Use the words from the list below, placing one word on one step.

Dean, assistant lecturer, head of department, vice-rector, associate professor, as-

sistant professor, subdean, professor.



A NEW PERIOD IN MY LIFE

I. Pronounce the words correctly and learn their meaning.

1. housing [hauzɪη] –жильё
2. opportunity [ɔpə'tju:nɪtɪ] – возможность
3. dormitory, students hostel ['dɔmɪtrɪ] [hɔstl] –студенческоеобщежитие
4. to rent a flat (an apartment) [ə'pa:tmənt] – снимать квартиру
5. usually ['ju:ʒuəlɪ] –обычно
6. rather ['ra:ðə] – довольно
7. enough [ɪn∧f] –достаточно
8. completely [kɔm'pli:tlɪ] – полностью, совершенно
9. toserve [sə:v] – обслуживать
10. while [waɪl] –пока, в то время как
11. to prefer [prɪ'fə:] –предпочитать
12. to miss [mɪs] –пропускать
13. successfully [sək'sesfulɪ] –успешно
14. canteen [kæ:n'ti:n] –столовая
15. back [bæk] – обратно
16. break [breɪk] –перерыв
17. report [rɪ'pɔ:t] –доклад
18. tired [tąɪəd] –усталый
19. admit [əd'mɪt] –соглашаться
20. disposal [dɪs'pəuzl] –возможность распорядиться
21. recreation [rekrɪ'eɪʃn] –отдых
22. facilities [fə'sɪlɪtɪz] –возможности, условия
23. tokeepfit[kɪ:pfɪt]–быть бодрым, здоровым
24. advantage [əd'va:ntɪdʒ] –польза

II. Read the text.

A New Period in My LifeMy name is Dima Ivanov. On leaving school I entered Brest State Technical University.

Brest State Technical University is one of the largest scientific and educational

centers in the western part of Belarus. It enables training of highly qualified specialists and conducts fundamental scientific research in the areas of construction, architecture, electronics, mechanical engineering, economy and ecology. Now I am a first-year student of Civil Engineering DepartmentI think Civil Engineering is a very important branch of national economy. The purpose of Civil Engineering is to construct and reconstruct residential and industrial buildings, bridges, schools, palaces and hospitals. This requires the use of new building methods and new building materials. That is why we must know all the latest achievements of science and engineering. I entered the university to be provided with a high standard of theoretical and practical knowledge.

I am a student of Technical University. My parents live in Grodno and I study in Brest so I need some housing. There are two opportunities for me: I can live in a dormitoryor rent a flat . I decided to live in a dormitory.

A compact university campus is set in beautiful surroundings, with plenty of green space to relax. The campus offers a range of facilities to satisfy students' day-to-day needs:

Recreation and Wellness Center

four student dormitories

a bank

a chemist's shop

a laundry

a store

3 gyms

Located on the campus, the café "Zodchie" provides freshly made hot and cold food.

My classes begin at 8:10.We have lectures in different subjects. As a rule we have three or four classes a day. Sometimes it is very hard to wait till they end. Usually I don't miss my classes because I want to pass my exams successfully.Occasionally I have to stay at the University till 5 or even 6 o'clock in the evening because I go to the library to get ready for my practical classes or to write a report. There is a good library in our University. It is on the ground floor. The library is open from 9 a.m. till 6 p.m. It is accessible to all the students and teachers free of charge. Subscription to the library is conducted according to a student's identity card. I have got a membership card and I can borrow books from the library. I can use books in the reading-room or take them on a loan. I can take books home for a certain number of days. The entire stock is represented in the author and classified catalogues. The newly acquired books are always displayed on the stands.

The library possesses more than 700,000 books, magazines and other printed works. Foreign literature is in English, French, German, Polish, Spanish, and other languages. There is a good selection of books for professional training. A special place among the library holding belongs to the reference collection.

As a rule I have no free time on week-days. So by the end of the week I get very tired. My regular day off is Sunday. It is a day of freedom from routine duties and studies. I can do whatever I wish and go wherever I want. But I must admit that every day

off needs some special planning. Time passes quickly and if you have no plans be sure to get no results. Our University offers plenty of opportunities and ways to enjoy one's free time. The Students' Club is the center where the students can spend their time to the best advantage and make new acquaintances. The Club offers various activities to the students who want to showtheir creativity. They can join university amateur societies and groups or try out themselves as script writers, producers and actors at University shows and festivals.

The University Sports Club offers a choice of 14 sport societies for the students to enjoy exercise in their free time.

Every year the University Sports Club and the Department of Physical Training conduct more than 50 athletic events. The Citadel Alpinist Club is one of the most attractive centres of campus social life. It has united the students and staff, as well as University graduates, who are always eager to share their experience with newcomers. The Club chronicle keeps records of many climbing expeditions to the most picturesque places in the Carpathians, Caucasus, and Crimea as well as boating and skiing trips throughout Belarus. In 2010 the Alpinist Club participated in the third category difficulty climbing, and won the second prize.

III. Complete the sentences:

1. On leaving school I entered…

---

2. Brest State Technical University is one of the largest…

---

3. I think Civil Engineering is…

---

4. The purpose of Civil Engineering is…

---

5. A compact university campus is set…

---

6. The campus offers…

---

7. The University Sports Club offers…

IV. Find one synonym to the first word in each row:

1. Opportunity – share – shower – chance

---

2. Usually – nearest – as a rule – latest

---

3. Rather – enough – ready – quarter

---

4. Turn on – serve – switch – prefer

---

5. Completely – usually – finally – entirely

---

6. Prefer – tired – like – different

---

7. Healthy – sound – hard – successful

V. Find the suitable meaning to each word:

1. Need – a) clean, polish, make tidy or smooth
2. Rent – b*)* go away from
3. Brush – c) want, require
4. Leave – d*)* interval (in space or time)
5. Miss – e) occupy or use (land, buildings, etc.) for rent
6. Success – f) fail to hit, hold, catch, reach, see
7. Break – g) person or thing that succeeds

VI. Use sentences in the Past and Future Simple, Continuous or Perfect tense forms.

Example:1. Being happy <u>is</u> one way of being wise.
2. Being happy <u>was</u> one way of being wise.
3. Being happy <u>will be</u> one way of being wise.

<u>Example:</u> 1. Things <u>are not going</u> my way.
2. Things <u>were not going</u> my way.
3. Things <u>will not be going</u> my way.

<u>Example:</u> 1. She <u>has</u> just <u>done</u> some work about the house.
2. She <u>had done</u> some work about the house by 8.
3. She <u>will have done</u> some work about the house before 6.

1. My classes begin at 8:10.

---

2. We leave the house at ten minutes past eight and walk to the nearest bus-stop.

---

3. That is the time to share the latest news.

---

4. We are watching TV now.

---

5. It has made people better.

---

6. I have managed to do everything very well.

VII. Use sentences in the Past and Future Simple, Continuous or Perfect Passive tense forms.

<u>Example:</u> 1. I <u>am woken up</u> by my roommate.
2. I <u>was woken up</u> by my roommate.
3. I <u>shall be woken up</u> by my roommate.

<u>Example:</u> 1. Breakfast <u>is being served</u> now.
2. Breakfast <u>was being served</u>at that time.

Example: 1. The Flat has been rented by him.
2. The flat had been rented by him by August.
3. The flat will have been rented by him before September.

1. The latest news is listened to on the radio.

---

2. The latest news is shared by us.

---

3. The lecture is being presented now.

---

4. The report is being writtenby him now.

---

5. She has just left the house.

---

6. The classes have already begun.

---

7. They have had a lecture in physics.

VIII. Answer the following questions:

1. Where do you live and study?
2. Do you live in a dormitory or in a flat?
3. Who is your best friend at the University?
4. Do you get on well with your group mates?
5. How many classes do you have every day?
6. What subjects are you good at?
7. Where do you have lunch?
8. You don't have much free time on week-days, do you?
9. How often do you go to the library?
10. Do you use any modern means of education?

IX. Discuss the following points of the text in the form of a dialogue. Use all types of questions.

Example: 1. Do hisparents live in Minsk?
2. Where does hestudy?
3. Can he live in a dormitory or in a flat?
4. Who shares the flat with the young man?
5. He studies at the University, doesn’t he?

1. Renting a flat.
2. Morning routine.
3. At the University.
4. Having meals.
5. Leisure time.
6. In the evening.

X. What do you think the authors meant by the following statements? Do you agree or disagree? Give reasons to support your opinion.

1. Only the educated are free (Epictetus, Phrygian Stoic, philosopher, c AD 50-135).

2. The educated differ from the uneducated as much as the living from the dead (Aristotle, one of the most celebrated Greek philosophers, 384-322 BC).

3. Knowledge is power (Francis Bacon, British painter, 1909-1992).

XI. Speak about your working day with your groupmate in the form of a dialogue.

NICK'S USUAL WORKING DAY

I. Read and translate the text.

Hi, nice to meet you all!

My name is Nick Price. I am a freshman at MIT – Massachusetts Institute of Technology. I am not from Boston myself. I was born in Vermilion, Ohio, not far from Cleveland.

My family is not very rich, that is why I can't afford to live on a campus. But it is a rule, that every student must reside during his or her freshman year on the campus. To cover some of the expenses I've got to work part-time on the campus. I work in cafeteria.

Now let me tell you about my usual working day. I wake up at seven in the morning. My alarm-clock radio is tuned to my favourite radio station. My roommate Todd Hall is a football player. He jogs every morning at 6:30. He is still out jogging when I get up. First I take a cold shower and brush my teeth. Then I dress myself up and rush to work – to the University cafeteria. I wash dishes and clean the tables. It is not a very interesting job, I know that, but soon I'll be a cook and will earn more. My boss Suzie is very strict but very nice when you do your job properly.

My first class starts at 11:15. The professor is never late for his classes. The lecture hall we sit in has about 100 seats. MIT is a very big school. I think that it is the best school of science and technology in the US.

At 2:00 p.m. I eat lunch at school cafeteria. The food is free for me because I work there. I am a vegetarian and I don't like drinks with caffeine. I prefer cool filtered water or juice.

Then I have two more classes. I need to go to the library right after the classes to do my homework. There I meet my friends and we talk a lot. Twice a week I play basketball with my friends. I swim once a week. Usually after library we go out to the cafe or just sit outside and talk.

I have dinner at 6:00 p.m. at the little Chinese restaurant not too far from the dormitory or I cook myself in the kitchen in my dorm. My favourite food is salami pizza and potato salad.

After dinner I watch TV or play ping-pong with my friends. When it is Friday, we

go to the football game.

I usually read before I go to bed. It calms me down after the long day. I guess, that's pretty much it for now. See you later!

II. Answer the questions.

1. Where does Nick Price study?
2. What year of study is he in?
3. Is Nick from Boston?
4. Is Nick's family a rich one?
5. What is Nick's job? Do you think he enjoys it?
6. Is Massachusetts Institute of Technology a good school?
7. Where does Nick spend his evenings?
8. What does Nick usually do on Friday nights?

EDUCATION IN BELARUS

I. Before you read the text, talk about these questions.

What institutions does the system of education in the Republic of Belarus include?

What are the most famous educational establishments in our country?

II. Read the following words and learn their meaning.

1)	trend	тенденция, направление
2)	unification	объединение
3)	continuity	непрерывность, преемственность
4)	to embrace	включать
5)	vocational	профессиональный
6)	retraining	переподготовка
7)	compulsory	обязательный
8)	to reveal	раскрывать, показывать
9)	to acquaint	знакомить
10)	elective	факультатив
11)	simultaneously	одновременно
12)	post-graduate	послевузовский
13)	entity	организация, объект
14)	grant	грант
15)	scholarship	стипендия
16)	defense	защита
17)	thesis	научная работа, диссертация

III. Match the words in the box with definitions 1-12.

simultaneously	*compulsory*	*timetable*	*scholarship*
to reveal	*trend*	*continuity*	*elective*
requirement	*certificate*	*unification*	*establishment*

1) an official document that states that the information on it is true

2) an amount of money given by a collegeor other organization to pay for the studies of a person with greatability

3) something that must be done; necessary by law or a rule

4) happening or being done at exactly the same time

5) the place where an organization operates

6) a subject that someone can choose to study as part of a course

7) the generaldirection of changes or developments

8) the state of something without change or interruption

9) something needed or necessary

10) a detailedplanshowing when events or activities will happen

11) to make known or show something that was previously secret

12) the forming of a single thing by bringing together separate parts

IV. Read the text and decide whether it is worth studying English. Use the dictionary to look up unfamiliar words.

The system of education in the Republic of Belarus is based on national traditions and global trends in world education. These guarantee equal access to all educational stages, unification of the requirements, continuity of all training stages and state financial support. The system of education in Belarus embraces a great number of educational establishments.

Today Belarusian educational system includes preschool education, secondary education (primary, basic and general secondary school), vocational education and secondary special education, higher education, postgraduate research education, adult education and retraining.

The system of education in Belarus starts with the preschool education. It is not compulsory in Belarus but around 70% of children attend nursery or kindergarten before they go to school. These institutions are for children under six years. Kindergartens develop physical growth, the ability to communicate, reveal personal qualities and talents. Children who attend kindergarten learn social skills when they play with other children. Such children are better prepared for primary school. Children are taught pre-reading and pre-writing as well as basic mathematics. The children learn to follow a timetable, respect their classmates and teacher. The public nurseries and kindergartens are free of charge but parents should pay for meals.

General secondary education in Belarus starts at the age of 6 and includes three levels: primary, general basic and general secondary. Secondary school starts with primary school where children are taught to read, count, draw, they are given knowledge in maths, nature studies and music. The primary and basic secondary school course is compulsory. It lasts for nine years. Secondary basic school itself acquaints pupils with culture, science, technology. Pupils study obligatory subjects like maths, biology, physics, chemistry, history and attend different electives to enrich their knowledge in favourite subjects as well as define their future profession. On successfully graduating from basic school, young people have the opportunity to continue their education at high school, college or vocational school. Those interested can simultaneously receive secondary education and professional training. The certificate of general secondary or sec-

ondary special education is the document which enables young people to continue their education at the university level.

The Belarusian system of higher education consists of universities, academies, and institutes. Universities and academies offer graduate and post-graduate programs and are engaged in fundamental research. Whereas universities offer education in a wide variety of areas, academies have a narrower specialization. Institutes are also highly specialized and usually have no post-graduate programs. They can function as separate entities or as part of a university.

Most courses run for 4 or 5 years. Higher educational institutions offer full-time (day) and part-time programs. The most common and popular is full-time education. Two-thirds of all students choose this form of education. Grants are available for full-time students and scholarships are awarded to very gifted students. Students who graduate with honors are awarded a "red certificate."

The degree that has been traditionally conferred by Belarusian higher educational institutions is Certified Specialist. It usually requires four or five years of training, success in final state examinations, and defense of a thesis. Graduates of higher education institutions have the possibility of receiving postgraduate education.

The Belarusian state policy for higher education is mainly based on the Constitution of the Republic of Belarus, the Code of the Republic of Belarus on Education, as well as other state decrees and regulations. All types of educational establishments stimulate effectiveness of education according to one's abilities and inclinations and correspond to the state educational standards.

V. Find equivalents to the following Russian word combinations in the text.

1) мировые тенденции
2) доступ ко всем ступеням образования
3) раскрывать личностные качества
4) посещать различные факультативы
5) фундаментальные исследования
6) широкий выбор направлений
7) более узкая специализация
8) функционировать как отдельные объекты
9) выпускные государственные экзамены
10) по способностям и склонностям

VI. Match the words to form word combinations. Make affirmative or negative sentences with each word combination.

national	research
equal	program
financial	knowledge
educational	a timetable
reveal	of a thesis
follow	establishment
to enrich	traditions
fundamental	support
defense	talents

part-time	access

VII. Complete the sentences with appropriate words or phrases from the box.

social skills	*obligatory*	*a "red certificate"*	*basic mathematics*
general	*free of charge*	*pre-school*	*scholarships*
stimulate	*full-time*	*higher education*	*future profession*

1) The system of education in Belarus starts with the _____ education.
2) Children who attend kindergarten learn _____ when they play with other children.
3) Children are taught pre-reading and pre-writing as well as _____.
4) The public nurseries and kindergartens are _____.
5) _____ secondary education in Belarus starts at the age of 6.
6) Pupils study _____ subjects like maths, biology, physics.
7) Secondary basic school helps pupils define their _____.
8) _____ are awarded to very gifted students.
9) The system of _____ consists of universities, academies, and institutes.
10) Students who graduate with honors are awarded _____.
11) Two-thirds of all students choose _____ education.
12) All types of educational establishments _____ effectiveness of education.

VIII. Complete the sentences with correct prepositions.

1) General secondary education in Belarus starts _____ the age of 6.
2) The system of education in Belarus starts _____ the preschool education.
3) Children are given knowledge ____ maths, nature studies and music.
4) Around 70% of children attend nursery or kindergarten _____ they go to school.
5) The Belarusian policy for higher education is mainly based ___ state laws.
6) The certificate of secondary education enables young people to continue their education ___ the university level.
7) Kindergartens are for children _____ six years.
8) The educational policy in the Republic of Belarus guarantees equal access ___ all educational stages.
9) On graduating _____ basic school, young people have the opportunity to continue their education.
10) Universities and academies are engaged ____ fundamental research.

IX. Read the text again and answer the following questions.

1) What stages does Belarusian educational system include?
2) Is preschool education compulsory in our republic?
3) What advantages do kindergartens give to children?
4) Do parents have to pay for public nurseries and kindergartens?

5) How many levels does general secondary education include? What are they? Which of them are compulsory?

6) What is the role of primary school in children's life?

7) What opportunities do pupils have after graduating from basic school?

8) What is the difference between universities and academies?

9) Who can be awarded a "red certificate"?

10) What are the requirement for getting a Diploma of Certified Specialist?

X. Fill in the table with the words given below.

higher education — secondary special education
primary secondary school — general secondary school
vocational education — preschool education
basic secondary school

4-5 years	
1-4 years	
10-16 years old	
6-10 years old	
3-6 years old	

EDUCATION IN MY LIFE. WHY DO WE LEARN ENGLISH?

I. Before you read the text, talk about these questions.

Why do you think English is the world's most widely used language?
What are the advantages of studying English?
Is it important for your future profession to have skills in English?

II. Read the following words and learn their meaning.

1) to communicate — общаться
2) average — обычный
3) access — доступ
4) to strive — стараться, стремиться
5) widespread — широко распространённый
6) to conduct — проводить, осуществлять
7) to consider — считать, полагать
8) majority — большинство
9) option — выбор, возможность
10) content — содержание, контент
11) article — статья
12) to share — делиться, обмениваться
13) competitive — конкурентный
14) to attend — посещать
15) success — успех

III. Match the words in the box with definitions 1-12.

widespread	*content*	*to share*	*employability*
to strive	*to conduct*	*access*	*edge*
to cover	*mobility*	*to attend*	*outnumber*

1) existing in many places or among many people
2) to go officially and usually regularly to a place
3) to organize and perform
4) the opportunity to use something
5) the skills and abilities that allow you to be employed
6) to report the news about a particular important event
7) an advantage over other people
8) the ability to move freely
9) everything that is contained within something
10) to be greater in number than someone or something
11) to put something on a social media website so that other people can see it
12) to try very hard to do something

IV. Read the text and decide whether it is worth studying English. Use the dictionary to look up unfamiliar words.

Nowadays English seems to be the only language that everyone feels the need to study. The reason is that it is the international language of the world which can be used cross-culturally to **communicate** with each other. Obviously, English opens so many doors for the **average** person, allowing **access** to people, places, jobs. It is not only one of the most popular mother tongues in the world but the main foreign language too. This means that two people who come from different countries usually use English as a common language to communicate. That's why everyone **strives** to learn the language in order to get in touch on an international level. Speaking it will help you communicate with people from different countries all over the world, not just English-speaking ones. English is the language which is spoken by perhaps 400 million people. It is a geographically **widespread** languageand it is the official language of more than 60 sovereign states.

The knowledge of English is often important in fields like computing, business and medicine. Up to half of all business deals throughout the world **are conducted** in this language. English is the universal languageof international politics and science. It opens doors to the academic world. Many European universities are becoming highly international: the common working language of visiting scholars, students and professors from all around the world is English. It is generally **considered** that English is the languageof the scientific community. Most of the research and studies you find in any given scientific field will be written in it. For example, roughly 80% of all the journals are published in English, two-thirds of all scientific papers are published in English, and it is reported that only half of scientific **articles** written in English come from English-speaking authors.

On the Internet the **majority** of websites are written and created in English. Even sites in other languages often give you the **option** to translate the site. Learning English can help you communicate more effectively online while also giving you **access** to a much wider choice of **content**. When someone wants **to share** something with as large an audience as possible, English is the most likely language to choose. About 75% of

the world mail correspondence is in English. At least 35% of Internet users are English speakers, and about 70% of the Internet **content** is in English although reliable figures on this are hard to establish.

It's the primary language of the press: more newspapers and books are written in English than in any other language. Half of the world newspapers are in English. Journalists and writers around the world think that a good command of Englishis an increasingly useful skill. Even if you are writing your articles and doing interviews in your own language, with good English you can get background material from international wire services, papers, and magazines from around the world. You can interview foreign diplomats, businessmen, and even get sent **to cover** overseas stories.

English opens doors to employment, education and **mobility**. The knowledge of the English language is vitalin many professions. The ability to speak English increases an individual's **employability** – which is a big plus in today's **competitive** times. Publishing in foreign journals and **attending** international conferencesare some of the key steps to **success** in career. Multinational corporations employ English speakers in offices around the world. All these facts prove the importance of knowing English for professional career. Whether you are aiming to be an engineer or a philosopher knowing English can giveyou a vital **edge** over others. Besides, learning languages broadens the mindand enrichesall of us culturally.

Undoubtedly English has become a constructed international language developing professional and personal relationships. Non-native speakers now **outnumber** native speakers and as a result English belongs to the world rather than to any country. Do you agree with this and accept the fact that if you don't want to get left behind you should learn English?

V. Find the equivalents to the following Russian word combinations in the text.

1) распространённый язык
2) универсальный язык международной политики
3) достоверные данные
4) научное сообщество
5) посещение международных конференций
6) хорошее владение английским языком
7) расширять кругозор
8) обогащать в культурном отношении
9) давать важное преимущество над другими
10) остаться позади

VI. Match the words to form word combinations. Make affirmative or negative sentences with each word combination.

mother	community
international	corporation
academic	skill
visiting	scholar
scientific	figures
reliable	career

useful	world
background	material
professional	tongue
multinational	politics

VII. Complete the sentences with appropriate words from the box.

scientific	*the mind*	*English-speaking*	*access*
command	*professors*	*cross-culturally*	*widespread*
effectively	*material*	*the ability*	*content*

1) English as the international language can be used _____ to communicate with each other.

2) English allows _____ to people, places and jobs.

3) English is a geographically _____ language.

4) The common working language of visiting scholars, students and _____ from all around the world is English.

5) Two-thirds of all _____ papers are published in English.

6) Only half of scientific articles written in English come from _____ authors.

7) Learning English can help you communicate more _____ online.

8) About 70 % of the Internet _____ is in English.

9) A good _____ of Englishis an increasingly useful skill.

10) With good English you can get background _____ from international wire services, papers, and magazines.

11) _____ to speak English increases an individual's employability.

12) Learning languages broadens _____ and enrichesall of us culturally.

VIII. Read the sentences 1)-8). Match the phrases in bold with suitable definitions a)-h). Paraphrase the sentences.

1) Nowadays everyone **feels the need** to study English.

2) Everyone strives to learn the language in order **to get in touch** on an international level.

3) English **opens so many doors for** the average person.

4) Most of all scientific papers **are published** in English.

5) Even sites in other languages often **give you the option** to translate the site.

6) Journalists can get background material from **international wire services, papers, and magazines**.

7) One ofthe key steps to success in careeris **attending** international conferences.

8) Multinational corporations **employ** English speakers in offices around the world.

a) hire

b) outside sources

c) participating in

d) finds it necessary

e) to communicate

f) gives a lot of opportunities to

g) are released

h) allow

IX. Answer the following questions. Use the sentences from the text.

1) Is the English language one of the most popular mother tongues in the world?
2) How many people in the world speak the English language today?
3) Why is it said that English opens doors to the academic world?
4) How many articles written in English come from English-speaking authors?
5) What language option do websites often give you?
6) Why is English called the primary language of the press?
7) Why is a good command of English considered a useful skill for journalists?
8) What are some of the key steps to success in career according to the text?
9) How can you prove that knowledge of English increases an individual's employability?
10) Why is it possible to say that English belongs to the world rather than to any country?

X. Prove that English is important in the modern world. Enumerate at least five advantages of knowing English. Try to use the following words and word combinations:

To begin with
It is true that
First of all
What is more
Besides
Moreover
In addition to this
I can't but agree that
In conclusion I can say that

BREST STATE TECHNICAL UNIVERSITY IN THE SYSTEM OF HIGHER EDUCATION OF THE REPUBLIC OF BELARUS

MY UNIVERSITY

I. Read the following words and word combinations. Learn their meaning.

1)	training	подготовка
2)	conduct research work	проводить исследовательскую работу
3)	construction	строительство
4)	mechanical engineering	машиностроение
5)	full-time students	студенты дневного отделения
6)	teaching staff	преподавательский состав
7)	graduate	выпускник
8)	Civil Engineering	ПГС
9)	Ltd	ООО
10)	extra-mural	заочный
11)	degree	степень

12) dormitory общежитие

II. Read the text Brest State Technical University and decide whether it is a one of the best universities in our country. Prove your opinion.

INTRODUCTION

Brest State Technical University is one of the largest scientific and educational centres in the western part of the Republic of Belarus. BrSTU enables **training** of highly qualified specialists and **conducts** fundamental scientific **researchwork** in the fields of **construction**, architecture, electronics, **mechanical engineering**, economy and ecology.

BRIEF HISTORY

Brest State Technical University began as a Civil Engineering Institute on April 1, 1966.The first intake was 330 full-time students and 110 evening-class students. The teaching staff numbered 32 teachers. In 1969 the number of students reached 2700, namely 1960 **full-time students**, 480 evening-class students, 260 part-time students. The **teaching staff** increased till 186 teachers. In 1989 the institute was reorganized into Brest Polytechnic Institute. Since then Mechanical Engineering, Economics and Electronics Faculties were opened, new specialties appeared; the spectrum of research work has expanded. Now it is the largest technical institution of higher learning in the western region of Belarus. In 2000 Brest Polytechnic Institute was incorporated as a State Technical University. Since its foundation more than 43000 specialists have graduated from the University. At present it is a large educational and scientific centre with its teaching staff, scientists and **graduates** contributing a lot to the development of science and engineering.

GENERAL INFORMATION

Faculties

Being one of the largest educational and scientific centres in the western part of Belarus Brest State Technical University has a broad and constantly developing infrastructure. The training is conducted at 5 faculties:

1) Civil Engineering Faculty

Civil Engineering is one of the oldest faculties of the university.More than 1,300studentsstudy there. The faculty is a part of the International Association of Construction Departments, within the framework of which introduction of new technologies in educational process for training of construction industry specialists is conducted. Students learn to design buildings, organize construction work, build roads and airfields and conduct real estate expertise. You may also become an Architect here, at Faculty of Civil Engineering.

2) Faculty of Engineering Systems and Ecology.

The faculty was established in 1971, its first name was Amelioration. The system of teaching at the faculty combines general theoretical and general engineering training with deep special training. All departments of the faculty have well-equipped laboratories and offices. They are equipped with the latest technical teaching aids, computing techniques, equipment. In the process of teaching students learn about ecological problems, organization of safety activity, and the introduction of effective technologies for natural and waste water purification.

3) Faculty of electronic information systems.

The faculty was established in 2005 as a result of reorganization of the Faculty Mechanical Engineering and Electronics, which had existed since 1984, on the basis of specialties of the electronic information profile.Many professors of the faculty are fluent in English, have repeatedly undergone scientific and training course abroad, and have been conducting their courses in English for many years for students who come to the university with a help of various international exchange programs, undergraduate and graduate students. Since 2013/14 academic year, a group of students (foreign and Belarusian ones) is being trained for the specialty "Automatic Data Processing Systems", the training is conducted in English. Successful graduates of the faculty are offered job positions and also they can find a job independently at the best IT enterprises of Brest and the Republic of Belarus, which are residents of the High Technologies Park:Ltd. "Epol Soft",EPAM systems inc., Ltd. "Tectus Media", etc.

4) Mechanical Engineering Faculty

The Faculty of Mechanical Engineering was established as an electronic mechanical faculty in 1984 with the view of training highly-qualified personnel for the machine-building and electronic industries that are high developing in the western region of the Republic of Belarus based on the specialty "Machine-Building Technologies". The electronic-mechanical faculty was reorganized on August 15, 2005 as a result of which the Faculty of Mechanical Engineering was established. Mechanical Engineering Faculty trains engineers of practical orientation: technologists, designers, mechanics, automation specialists in the field of industrial production, road transport, food production and other branches of the national economy.

5) Faculty of Economics

The Faculty of Economics was established on the 1st of February, 1995. The faculty trains specialists for various fields of economic activity. Effective partnership with many enterprises and organizations of the city have been established, which gives an opportunity to have off-site classes, carry out real

The Department of Pre-University Training

At the Departmebt of Pre-University Training young people can revise and consolidate what they have learnt at secondary school to successfully pass their entrance examinations at the University. Here they are also provided with the guidance in the choice of their future speciality and prospects of professional career. The Faculty offers a wide range of programs to satisfy various demands of young people seeking for extensive study curriculum:

•evening and extramural preparatory courses for high school students; the courses optionally cover mathematics, physics, a foreign language, drawing, and technical drawing;

•short-term pre-university courses covering one subject at a student’s option;

•a full-time or correspondence pre-university course for holders of a secondary education certificate; the course covers several subjects at a student’s option;

•a full-time pre-university for international students.

International students who have no command of the Russian language or whose Russian language proficiency may not yet have reached a suitable standard for study can follow a one-year course at the Pre-University Department. The course provides students with elementary and advanced learning of the Russian language with a specialization in the subjects which are relevant to the students’ chosen line.

The students get higher education in 21 specialities and 29 specializations. The total student population is about 12, 000 people. The training course lasts 4 years and 10 months (or 3 years and 10 months) for full-time students while 5 years and 10 months (or 4 years and 10 months) for part-time students.

Professional and Teaching Staff

The teaching staff numbers more than 500 members. The scientific potential of the University includes 14 Doctors of Science, 152 Candidates (Ph.D.) and experienced academic instructors. Some of them are the scientists known all over the world.

Development Tendencies

One of the main priorities in the University development is further supply of the teaching process with necessary computing equipment and software in addition to the available ones. The university has already got a local computer network of more than 460 computers at all the faculties, departments, scientific centres and specially equipped classrooms. So the students and the University stuff are provided with access to the shareable campus database as well as Internet through satellite and inland channels. In compliance with the above stated priority a lot is being done to introduce advanced technologies into the teaching process for teaching and testing applications. The campus-based Institute of Professional Development and Re-Training gives the University students an opportunity to get a second Diploma of higher education in the line chosen. This enables the University graduates to be awarded with two Diplomas and get qualification in two specialities. It is evident that our future progress depends on the creation of new high technologies and technical equipment of superior quality. Everything will be determined by engineering and a standard of professional training.

Besides, the development of the University is adapted to satisfy the needs of the Belarus Republic and of Brest region in specialists:

- The conditions are being created for highly-qualified training of economists and managers;
- The range of new specialties connected with electronics and computers is being expanded;
- The Scientific Research Institute for the problems of Construction Engineering organized in May 2004 is successfully being developed;
- The process of reformation of the system of the University is being carried out to offer Master and Bachelor programs.

The University main research lines are the following:

– building units and materials, roof coatings, pavements, organization of labour, techniques, design engineering;

– wear-resistant composite materials, resource-saving and material-strengthening technologies in mechanical engineering;

– novel technologies of fuel utilization;

– advanced water distribution and water supply systems, rational nature management schemes;

– environmental protection, ecological security;

– neuron-type computer network systems of artificial intellect; ultrasound technologies, luminescent light-emitters.

University Facilities

BSTU is almost a fifty-year-old educational establishment with its own traditions

which are followed by the University staff in its work by combining science, studies and practice to their best advantage. The University has created all necessary conditions for forming and educating specialists understanding their responsibility and possessing knowledge and competence required for successful creation of the country's future. High-quality technology and successful studying are made possible by the currently available educational facilities: many workshops, laboratories, computer classes fitted out with up-to-date equipment and devices, and a library having a stock of more than 400000 books by native and foreign writers. The campus-based Research Institute was set up to carry out research work on the problems in the construction industry of the country. The specialists of the Institute among whom are the University academic staffs and senior students take an active part in the reconstruction of Brest and rehabilitation of the town's old buildings. Diploma design projects of our students range high at international competitions and research works are awarded with first- and second-degree Diplomas at republican competitions of research works. Some university students take out patents on their inventions and participate in arranging trial production.

Non-Academic Opportunities

On the university campus there are dormitories with all conveniences (shared occupancy in double/triple adjacent rooms). The University has well-developed social services available on the campus. Excellent athletic and recreational facilities are also available on the campus. There are 14 sport societies for those who want to keep themselves fit and enjoy their free time. The University rents modern sports complexes and provides gyms and table-tennis rooms on the campus. Annually, our students take part in open competitions and championships in Belarus and become prize-winners in karate, power-lifting, boxing, arm-wrestling.

Canteens

Canteens provide students and employees with healthy food. On the campus there are also two student cafes, which will offer you varied menu at accessible prices. Located on the campus, the café “Zodchie” provides freshly made hot and cold food.

Hostels

University disposes of four comfortable student hostels, which have gyms, rooms for studies and rest.

*Dispensar*y

Huge attention is paid to student’s health. On the territory of the campus there is sanatorium-dispensary, where students have an opportunity to improve their health. You will be offered various types of massage, electro- and phototherapy, inhalation therapy, mineral and medical bath.

Students' festivals and performances as well as various societies run by the *Students' Club*and the International Students’ Club help students to spend their free time to the best advantage and reveal their creative abilities.

International Contacts

The University develops close contacts with higher educational establishments in Germany, Poland, Ukraine, China, Republic of Korea, France and Russia. We have long-term partner contacts with Bialystock Polytechnic Institute (Poland), Lublin Polytechnic Institute (Poland), Higher Technical Professional School in Biberach(Germany) and Higher Technical School in Ravensburg-Weingarten (Germany), Middle East Technical University (Turkey).This partnership creates an essential basis for mutually

useful training activity and scientific research.

Brest State Technical University actively participates in numerous international projects and programs, communicates with educational and scientific funds including European ones – TACIS, ERASMUS,

The University is a member of the Association of European Civil Engineering Faculties with the participation of civil engineering faculties from non-European countries, AECEF. In 2009 BrSTU joined the Baltic Sea Academy, Hamburg-based organization that unites European universities and academies, with the aim to intensify the University's international cooperation.

The University participates in international innovation exhibitions in Hannover and Saint Petersburg. Research in IT, architecture and construction are carried out at the University. International conferences and seminars are held in the areas of electronics, architecture and construction, ecology, economy, mechanical engineering.

All the above mentioned international partnerships and relations create an essential basis for mutually useful academic activity and scientific researches.

CONCLUSION

The graduates of Brest State Technical University have opportunities to carry out their creative activity in science, engineering and private business in all sectors of our economy as well as of foreign countries. After graduating from Brest State Technical University, a number of students become promising scientists, some of them continue their scientific activity at the University delivering lectures and supervising new lines of scientific research. The university is constantly developing, that's why it has turned into one of the leading educational and scientific centres in the western part of Belarus.

III. Make a presentation about your faculty. You may use information from the English version of official BrSTU website. *http://en.bstu.by*

IV. Write a letter to student studying at foreign university.Describe:

– Structure of your university
– Your faculties
– Specialties and specialization
– Period of studying
– Your favouriteteachers
– Subjects studied at your faculty
– Extra-curricular activities.

V.Translate the following quotations and comment upon them

Education is an admirable thing, but it is well to remember from time to time that nothing that is worth knowing can be taught.

Oscar Wilde

I have no special talent. I am only passionately curious.

Albert Einstein

The philosophy of the school room in one generation will be the philosophy of government in the next.

Abraham Lincoln

A person who won't read has no advantage over one who can't read.

Mark Twain

Education is the most powerful weapon which you can use to change the world.

Nelson Mandela

The function of education is to teach one to think intensively and to think critically. Intelligence plus character - that is the goal of true education.

Martin Luther King

The roots of education are bitter, but the fruit is sweet.

Aristotle

Education is for improving the lives of others and for leaving your community and world better than you found it.

Marian Wright Edelman

An investment in knowledge pays the best interest.

Benjamin Franklin

Give a man a fish and you feed him for a day; teach a man to fish and you feed him for a lifetime.

Maimonides

Education must not simply teach work – it must teach Life.

W. E. B. Du Bois

Formal education will make you a living; self-education will make you a fortune.

Jim Rohn

You can teach a student a lesson for a day; but if you can teach him to learn by creating curiosity, he will continue the learning process as long as he lives.

Clay P. Bedford

VI. Read the text about METU. Compare its structure and facilities with BrSTU.

Middle East Technical University (commonly referred to as METU) is a public technical university located in Ankara, Turkey. The university puts special emphasis on research and education in engineering and natural sciences, offering about 40 undergraduate programs within 5 faculties, and 97 masters and 62 doctorate programs. The main campus of METU spans an area of 11,100 acres (4,500 ha), comprising, in addition to academic and auxiliary facilities, a forest area of 7,500 acres (3,000 ha), and the natural lake Eymir. METU has more than 120,000 alumni worldwide. The official language of instruction at METU is English. Middle East Technical University was founded under the name "Orta Doğu Teknoloji Enstitüsü" (Middle East Institute of Technology) on November 15, 1956, to contribute to the development of Turkey and the surrounding countries of the Middle East, Balkans, and Caucasus, by creating a skilled workforce in the natural and social sciences.

In 1956, the Department of Architecture initiated the first academic program at METU, followed by the Department of Mechanical Engineering in the spring of 1957. At the start of the 1957–1958 academic year, the Faculty of Architecture, the Faculty of Engineering, and the Faculty of Administrative Sciences were established. In 1959, the establishment of the Faculty of Arts and Sciences was completed. The Faculty of Education launched its academic program in 1982.

As of 2010, METU has approximately 23,000 students, of which 15,800 are en-

rolled in undergraduate programs, 4,500 in masters, and 2,700 in doctorate programs.

METU has 42 academic departments, most of which are organized into 5 faculties:

Faculty of Architecture: Architecture, City and Regional Planning, Industrial Design

Faculty of Arts and Sciences: Biology, Chemistry, History, Mathematics, Molecular Biology and Genetics, Philosophy, Physics, Psychology, Sociology, Statistics

Faculty of Economic and Administrative Sciences: Business Administration, Economics, International Relations, Political Science and Public Administration

Faculty of Education: Computer Education and Instructional Technology, Educational Sciences, Elementary Education, Foreign Language Education, Physical Education and Sports, Secondary Science and Mathematics Education

Faculty of Engineering: Aerospace Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical and Electronics Engineering, Engineering Sciences, Environmental Engineering, Food Engineering, Geological Engineering, Industrial Engineering, Mechanical Engineering, Metallurgical and Materials Engineering, Mining Engineering, Petroleum and Natural Gas Engineering

In addition to these, there are the Department of Basic English and the Department of Modern Languages in the School of Foreign Languages; the Technical Vocational School of Higher Education; and, bound directly to the President's Office, the Department of Turkish Language and the Department of Music and Fine Arts.

The University develops close contacts with BrSTU. A number of our students have studied for 1 term in METU due to Erasmus academic mobility programs. In 2017, within Erasmus program, the head of Foreign language department of BrSTU Mr. V.I. Rahuba delivered lectures in Business English at METU.

MY UNIVERSITY. WELCOME TO BREST STATE TECHNICAL UNIVERSITY

I. Pronounce the following words correctly and learn their meaning.

1. graduate ['grædjuət] –выпускник
2. contribute [kən'tribjut] –делать вклад
3. extra-mural ['ekstrə'mjuərəl] –заочный
4. priority [prai'ɔrɪtɪ] –приоритет
5. available [ə'veiləbl] –доступный
6. access ['æksəs] – доступ
7. compliance [kɔm'plaɪəns] –соответствие
8. application [əplɪ'keɪʃən] –применение
9. enable [ɪ'neɪbl] –дать возможность
10. award [ə'wɔ:d] –присуждать, награждать
11. evident ['evɪdənt] –очевидный
12. creation [krɪ'eɪʃn] –создание
13. determine [dɪ'tə:mɪn] –определять
14. advantage [əd'va:ntɪdʒ] –преимущество
15. responsibility [rɪs,pɔnsɪ'bɪlɪtɪ] –ответственность
16. possess [pə'zes] –обладать, владеть

17. require [rɪ'kwaɪə] –требовать
18. facilities [fə'sɪlɪtɪz] –оборудование
19. fit [fɪt] –соответствовать
20. rank [ræŋk] –занимать какое-либо место
21. invention [in'venʃn] –изобретение
22. trial ['traɪəl] –пробный
23. amenities [ə'mi:nɪtɪz] –всё, что соответствует хорошему настроению
24. recreation [rəkrɪ'eʃn] –развлечение, отдых
25. participate [pa:tɪsɪpeɪt] – участвовать

II. Read and translate the text.

The state policy of the Republic of Belarus in the field of higher education is based on three priorities: available education, its quality and the financial efficiency of the activities of higher education institutions (HEI). Ever since it declared its sovereignty, higher education in Belarus has experienced considerable growth. The number of undergraduates has increased from 180 to 475 people per ten thousand citizens. The Belarusian state policy for higher education is mainly based on the Constitution ofBelarus, the Code of the Republic of Belarus on Education, as well as other decrees and regulations of the President and the Council of Ministers of the Republic of Belarus. The state programdefined the order and terms of transition in the various stages of professional training at undergraduate level (4, 4.5 and 5 years). The Code of the Republic of Belarus on Education regulates the professional training of Belarusian citizens and sets out the legal, organizational and financial basis for the national higher education system.The process of receiving higher education includes two stages: The first stage is realized by higher education providing training in areas ofspecialization, confirmed by the corresponding qualification and specialist's diploma (4, 4.5 or 5-year curriculum). The second stage is realized by research and professionally oriented Master's Degree programs, confirmed by a Master's Degree diploma (1 or 2-year curriculum). Graduates of higher education institutions also have the possibility of receiving postgraduate education. On May 14th, 2015, Belarus joined the Bologna Process and the European Higher Education Area (EHEA). The decision was made at the Yerevan Conference of Education Ministers of the EHEA and the Bologna Policy Forum.

Brest State Technical University began as Civil Engineering Institute in 1966 and later was changed into Brest Polytechnical Institute. At present it is a large educational and scientific centre with its teaching staff, scientists and graduates contributing a lot to the development of science and engineering.

Brest State Technical University is one of the largest educational and scientific centres in the western part of Belarus having a broad and constantly developing infrastructure. The University is divided into 8 faculties: Civil Engineering, Engineering Systems and Ecology, Mechanical Engineering, Electronic and Information Systems, Economics, Preparatory Faculty, Faculty of Extra-Mural Studies and Faculty of Innovation, Management and Finance.The students gethigher education in 27 specialties. The teaching staff numbers more than 600 members includingDoctors of Science andCandidates of Science. Some of them are scientists known all over the world.

One of the main priorities in the University development is the further supply of the teaching process with the necessary computing equipment and software in addition

to the available ones. The university has already gota local computer network of more than 500 computers at all the faculties, departments, scientific centres and specially equipped classrooms. So the students and the University stuff are provided with the access to the shareable campus database as well as Internet through satellite and inland channels. In compliance with the above stated priority a lot is being done to introduce advanced technologies into the teaching process for teaching and testing applications.

The campus-based Institute of Further Education and Retraining gives the University students an opportunity to get a second Diploma of higher education in the line chosen. This enables the University graduates to be awarded with two Diplomas and get qualification in two specialties.

It is evident that our future progress depends on the creation of new high technologies and technical equipment of superior quality. Everything will be determined by engineering and astandard of professional training. BSTU is a fifty-year-old educational establishment with itsown traditions which are followed by the University staff in its work by combining science,studies and, practice to their best advantage. The University has created all necessary conditions for forming and educating specialists understanding their responsibility and possessing knowledge and competence required forsuccessful creation of the country's future. High-quality technology and successful studying aremade possible by the currently available educational facilities, many workshops, laboratories, computer classes fitted out with up-to-date equipment and devices, and a library having a stock of more than 700,000 books by native and foreign writers. The campus-based Research Institute was set up to carry out research work on the problems in the construction industry of the country. The specialists of the Institute including the University academic staff and senior students take an active part in the reconstruction of Brest and rehabilitation of the town's old buildings. Diploma design projects of our students rangehigh at international competitions and research works are awarded with the first- and second-degree Diplomas at republican competitions of research works. Our students take out patents on their inventions and participate in arranging trial production. The University has well-developed social services available on the campus. Excellent athletic and recreational facilities are also available on the campus. Students can participate in sports activities to keep themselves fit and enjoy their free time. Students' festivals and performances as well as various societies run by the Students' Club help students to spend their free time to the best advantage and display their creative abilities.

The University develops international contacts in the sphere of science and education with institutes of higher learning in Russia, Ukraine, Poland, Germany, Great Britain, Italy, Spain andPortugal. Our University graduates have opportunities to carry out their creative activity in science, engineering and private business in all sectors of our economy as well as of foreign countries. On graduating the University, a number of students become promising scientists, some of them continue their scientific activity at our University delivering lectures and supervising new lines of scientific research. We are proud of our University and of the fact that it constantly develops turning into one of leading educational and scientific centres in the Western part of Belarus.

III. Complete the sentences:

1. The state policy of the Republic of Belarus in the field of higher education is

based…

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2. The Belarusian state policy for higher education is mainly based on …

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3. Brest State Technical University began…

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4. At present Brest State Technical University is…

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5. The University is divided into 8 faculties:…

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6. The University develops international contacts…

IV. Find the synonym to the first word in each row:

1. award – give – access – enable

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2. determine – extra-mural – decide – compliance

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3. possess – advantage – possible – own

---

4. require – depend – need – combine

---

5. recreation – invention – staff – refreshment

---

6. stock – supply – trial – research

---

7. state – express – carry – deliver

V. Find the suitable meaning to each of the words:

1.graduate – a) high place among competing claims
2.contribute – b) plain or clear to the eyes or mind
3.priority – c) person who holds a university degree

4.available – d) production of the human intelligence
5.application – e) that may be used or obtained
6.evident – f) join with others in giving help, money, etc.
7.creation – g) putting to a special or practical use

VI. Translate the following sentences. Pay attention to the Gerund.

Example:The Institute of Further Education and Retraining gives theUniversity students an opportunity to get a second Diploma.

Институт повышения квалификации и переподготовки даёт студентам университета возможность получить второй диплом.

1. It is evident that our future progress depends on creating new high technologies.

---

2. Everything will be determined by engineering and a standard of professional training.

---

3. BSTU is fifty- year - old education establishment with its own traditions which are followed by the University staff in its work by combining science, studies and practice to their best advantage.

---

4. Correspondence and evening forms of learning are a good opportunity for persons with financial, age, physical and other limitations.

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5. Every establishment occupies its particular niche in training of highly qualified staff for various branches of national economy.

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6. 3 forms of learning available at Belarusian higher educational establishments: full-time, evening and by correspondence.

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7. Full-time learning is the most widespread.

VII. Answer the following questions:

1. Did Brest Technical University begin as a Civil Engineering Institute?
2. What educational establishment is it now?
3. What has a broad and constantly developing infrastructure?
4. How many faculties is it divided into?
5. The students get education in 21 specialties, don't they?

6. What is the total student population?

7. What can you say about the teaching staff?

8. Can you name one of the main priorities of the University?

9. What kind of opportunities do the students have?

10. High - quality teaching and successful studying are made possible by the educational facilities, aren't they?

11. What was set up to carry out research work on the problems in the construction industry of the country?

12. Who takes an active part in the reconstruction of Brest?

13. Do the students take out patents?

14. Are there any recreational facilities at the University?

15. Why are you proud of the university?

VIII. Discuss the following points of the text in the form of a dialogue. Use all types of questions.

Example: 1. Is BSTU one of the largest educational and scientificcentres?

2. When was the University founded?

3. Who contributes a lot to the development of science andengineering?

4. Is the University divided into 7 or 9 faculties?

5. The students get higher education in many specialities,don't they?

1. The foundation of BSTU.

2. The structure of the University.

3. Great opportunities for students.

4. Educational facilities.

5. The achievements of the students.

6.Recreational facilities.

IX. What do you think the authors meant by the following statements? Do you agree or disagree? Give reasons to support your opinion.

1.The educated differ from the uneducated as much as the living from the dead (Aristotle, one of the most celebrated Greek philosophers, 384-322 BC).

2.An education isn't how much you have committed to memory, or even how much you know. It's being able to differentiate between what you do know and what you don't (Anatole France, French novelist and critic, 1844-1924).

3. Education is a progressive discovery of our ignorance (Will Durant, US teacher, philosopher, and historian, 1885-1982).

4. They know enough who know how to learn (Henry Adams,(US historian, essayist, and novelist, 1838-1918).

5. Knowledge is power (Francis Bacon, British painter, 1909-1992).

6. The essence of knowledge is, having it, to apply it; not having it, to confess your ignorance (Confucius, Chinese philosopher, administrator, and moralist, 551 BC-479 BC).

7. Anyone who stops learning is old, whether at twenty or eighty. Anyone who

keeps learning stays young. The greatest thin£ in life is to keep your mind young (Henry Ford, US industrialist and pioneer in car manufacture, 1863-1947).

8. Learning makes a good man better and an ill man worse (Thomas Fuller, English cleric and historian, 1608-61).

X. Speak about the University with your groupmate in the form of a dialogue.

BENEFITS OF EDUCATION

I. Look through the sayings of famous people. Explain how you understand their words.

1) *An investment in knowledge pays the best interest.*(Benjamin Franklin)
2) *Education is what remains after one has forgotten what one has learned in school.*(Albert Einstein)
3) *Education is the most powerful weapon which you can use to change the world.*(Nelson Mandela)

II. Read the following words and learn their meaning.

1)	aspect	аспект, сторона
2)	to allow	позволять
3)	opportunity	возможность
4)	to develop	развивать
5)	to devote to	посвящать
6)	benefit	преимущество, польза
7)	ultimate	окончательный
8)	to enroll in	зачислять в
9)	generation	поколение
10)	society	общество
11)	to contribute to	делать вклад в
12)	wages	заработная плата
13)	device	устройство, прибор
14)	government	правительство
15)	to advance	идти вперёд
16)	improvement	улучшение
17)	life expectancy	продолжительность жизни
18)	to gain	получать, приобретать

III. Match the words in the box with definitions 1-12.

to support	*significant*	*promotion*	*discovery*
income	*to affect*	*to encourage*	*vital*
free	*citizenry*	*poverty*	*compulsory*

1) to provide the necessities of life
2) money which one receives regularly as payment for work or interest from in-

vestments

3) having noticeable importance, effect or influence
4) advancement to a more important rank or position
5) costing nothing, without payment of any kind
6) to influence, to cause some change
7) a group of people who live in a particular city, town, country
8) finding something for the first time
9) to help someone feel able to do something
10) the condition of being extremely poor
11) extremely important
12) something that must be done by law or rules

IV. Read the text. Use the dictionary to look up unfamiliar words.

Education is an important **aspect** that plays a huge role in the modern world. It helps us build opinions on different things in life, make right decisions and understand reality better. It gives us knowledge about the world around us. Education does not only **allow** people to read or write, but also offers them the **opportunity** to have a good life, communicate better, **develop** new technologies and **support** the economy.

Each of us **devotes** a big part of our life **to**education. It starts from childhood, where kids learn everything from what is happening around them. The whole education can be divided into three divisions: primary education, secondary education and higher education. All these divisions have their own importance and **benefits**. Primary education prepares the base which helps throughout the life, secondary education prepares the path for further study and higher education prepares the **ultimate** path to the future.

Primary and secondary education is free and **compulsory** in many countries around the world. In most countries education is compulsory up to the age of 16. Hardly anyone can realize that about 61 million children in the world are not **enrolled in** primary school. Of these kids, 40 million live in **poverty**. It is hard for those people living below the poverty line to even imagine sending their kids to school because education is not **free**. If there is a choice between eating a meal and educating a child, most families choose eating a meal. Boys are often kept out of school so they can work and bring in money for the family, while girls cook and do other things that are needed to keep the family functioning.

Fortunately, more and more people understand how importanteducationis for future **generations**. If there is a deficit of educated people the **society** can't develop. Education **contributes to** individual and social benefits, such as higher **wages**, greater life satisfaction, higher national **income**, healthier population and a better functioning society. It produces **significantimprovements** in health, and **life expectancy**. Countries with an educated **citizenry** are more likely to be democratic and politically stable. Moreover, educated people can effectively contribute to the development of their country by making **discoveries** in various spheres, inventing new **devices** or producing new medicines to cure people. That is why the **governments** of the majority of countries realize the importance of education and pay serious attention to it. Governments all around the world spend money on goodeducationsystems, and people are actively **encouraged** to win scholarships and continue their studies.

And what is the importance of education for individuals? Whether a person is liv-

ing in poverty or among the wealthiest in the world, education is necessary **to advance** in any situation. It is becoming one of the main factors for a person's success in today's society. It develops confidence and builds personality of a person.

What can you do to improve and grow in your career? When it comes to self-improvement, we know a lot of methods. To get fit, you eat right and exercise. To grow your physical strength, you train and lift weights. To improve your memory, you get enough sleep and learn new things. To grow in your career, you've got to deepen your knowledgeand **gain** new skills. People agree that education is the best investment because well-educated people have more opportunities to get a good job which is well-paid. They enjoy respect among their colleagues and have more hopes for **promotion**. So education is the most powerful tool to improve your career.

No matter how difficult it can be to study, it's **vital** to remember that education is a privilege that every person should appreciate. It **affects** our lives significantly and offers us lots of opportunities. It's our choice to use them or not, but it's better to have this choice.

V. Find the equivalents to the following Russian word combinations in the text.

1) принимать правильные решения
2) развивать новые технологии
3) поддерживать экономику
4) путь для дальнейшего обучения
5) черта бедности
6) будущие поколения
7) нехватка образованных людей
8) удовлетворённость жизнью
9) политически стабильный
10) выигрывать стипендию
11) пользоваться уважением среди коллег
12) приобретать новые навыки

VI. Complete the sentences with correct prepositions.

a) Education helps us build opinions _____ different things in life.

b) Education is an important aspect that plays a huge role _____ the modern industrialized world.

c) Each of us devotes a big part of our life _____education.

d) The whole education can be divided _____ three divisions.

e) Higher education prepares the ultimate path _____ the future.

f) Secondary education is free and compulsory _____ many countries.

g) About 61 million children in the world are not enrolled _____ primary school.

h) It is hard for those people living _____ the poverty line to even imagine sending their kids to school.

i) Education contributes _____ individual and social benefits.

j) The governments of the majority of countries realize the importance _____ education.

k) Governments all around the world pay serious attention _____ education and-

spend money _____ goodeducationsystems.

l) Education is becoming one of the main factors for a person's success _____ today's society.

m) Well-educated people enjoy respect _____ their colleagues.

VII. Match the words to form word combinations. Give Russian equivalents to them.

life	Stable
industrialized	scholarships
to make	devices
higher	studies
national	education
politically	decision
to continue	expectancy
to win	skills
significant	world
to deepen	improvement
to invent	income
to gain	knowledge

VIII. Complete the sentences using the words in bold from the text.

1) Education offers people the opportunity _____ new technologies.
2) Education is an important _____ that plays a huge role in modern world.
3) Primary and secondary education is _____ in many countries.
4) Higher education prepares the _____ path to the future.
5) Education contributes to a better functioning _____.
6) Education is important for future _____.
7) _____ all around the world spend money on goodeducationsystems.
8) Education produces significant _____ in life expectancy.
9) Well-educated people have more hopes for _____.
10) To improve your career you've got _____ new skills.

IX. Read the text again and answer the following questions.

1) When does education start in person's life?
2) What is the role of primary education on in our life?
3) Is secondary education compulsory in most countries?
4) Why do children in poor countries have no opportunity to attend primary school?
5) Does the level of education influence the political life of a country?
6) How can educated people contribute to the development of their country?
7) What social benefits of education are listed in the text?
8) Why is education considered to be the best investment?
9) How can education improve your career?
10) Education is a privilege that every person should appreciate, isn't it?

X. Do you know when the International Day of Education is celebrated?

When was it proclaimed? Find this information and try to formulate the aims of celebrating the International Day of Education.

BREST STATE TECHNICAL UNIVERSITY

I. Read and translate the text.

Brest State Technical University (BrSTU) is a large scientific and educational center in the western region of the Republic of Belarus. Here specialists are trained and a large volume of scientific research is carried out in the spheres of civil engineering, architecture, electronics, mechanical engineering, economics and ecology.

Since 2011, the university has a quality management system. The development of the university is taking into account the changing needs of the republic and the region in the specialists: conditions are created for the training of highly qualified specialists; the expansion of the list of specialties is systematically planned.

BrSTU is a member of the Association of European Faculties of Civil Engineering with the participation of faculties of civil construction of non-European countries (AECEF), and is also a member of the Association of the Baltic Sea Academy. The university constantly takes part in international innovation exhibitions in Hannover and St. Petersburg, conducts research in the field of information technology, architecture, construction, ecology, water resources use.

In 2009, BrSTU joined the Baltic Sea Academy, Hamburg-based organization that unites European universities and academies, with the aim to intensify the University's international cooperation.

The Civil Engineering Faculty, as a part of the European Association of similar faculties, is developing and is preparing to give diplomas recognized in the EU countries in the near future to its graduates; the quality of the practical training of specialists is enhanced by combining theoretical training with the industrial practice of students of civil engineering specialties; a transition to a two-level training of specialists - specialists and masters.

Brest State Technical University is a member of the Association of Technical Universities and the Association of Network Cooperation, is a part of a consortium working on 6 projects of Erasmus + program. The University has signed over 130 cooperation agreements with leading foreign universities.

The University has scientific-research laboratories: "Self-stressed constructions", "Artificial neural networks", "Pulsar".

The University participates in international innovation exhibitions and hosts international conferences and seminars in the areas of electronics, information technologies, architecture and construction, ecology, economy, and social sciences.

The active participation of students in the creative life of the university, amateur groups and cultural events contributes to the formation of a comprehensively developed, spiritually moral, creative and socially active personality. It is facilitated by the activities of the department of student initiatives and cultural and leisure activities at the university. Traditional cultural events, holiday concerts, competitions and festivals are organized and held during the academic year.

Amateur groups are created and conduct creative activities in various art genres.

Numerous high awards, diplomas of winners and gratitude for participation in the republican festivals of creativity of students testify to the high performing level, the creative successes of the university teams and students at different art festivals: “ART-vakatsyi”, “F.-ART.by”, “We are Together” "The Palette of Creativity" (Belarus), international choir festivals "Provence" and "Averon" (France), the "European Cup" (Belarus), the festival of university choirs "Universitas cantat" (Poland) and "Paparats Kvetka" (Belarus), festivals of spiritual music "Hajnowka" (Poland), “Derzhavnyi glas”, "Harmony of the times" (Belarus), festivals of art song " Univision" (Azerbaijan), "Russian Song" (Russia) and others.

International relations and main international actions

The University develops close contacts with higher educational establishments in Germany, Poland, Ukraine, China, Republic of Korea, France and Russia.

We have long-term partner contacts with Bialystock Polytechnic Institute (Poland), Lublin Polytechnic Institute (Poland), Higher Technical Professional School in Biberach(Germany) and Higher Technical School in Ravensburg-Weingarten (Germany).

This partnership creates an essential basis for mutually useful training activity and scientific research.

Brest State Technical University actively participates in numerous international projects and programs, communicates with educational and scientific funds including European ones – TACIS, TEMPUS, INTAS, etc.

We are interested in establishing effective mutually beneficial partnership relations with universities all over the world in the following areas of cooperation:

– exchange of faculty members and students;
– joint research activities;
– participation in seminars and other academic events;
– collaboration in technopark areas.

ENGLISH UNIVERSITIES

I. Read the following words and learn their meaning.

1)	excellence	превосходство
2)	available	доступный
3)	destination	пункт назначения, цель
4)	devotion	преданность
6)	maintain	поддерживать
7)	supervision	руководство
8)	mentoring (syn. coaching)	наставничество
9)	curator	куратор
10)	expertise [eksp3:ˈti:z]	экспертный
11)	establishment	учреждение
12)	enroll	зачислять
13)	achievement	достижение
14)	attract	привлекать

15) high-tech — высокотехнологичный
16) pursuit [pəˈsjuːt] — стремление
17) rowing — гребля
18) martial arts — боевые искусства
19) innovative — передовой
20) applicant — абитуриент, кандидат
21) community — сообщество
22) elective — факультативный курс
23) discretion — усмотрение
24) administration — управление, администрирование
25) diverse — разнообразный

II. Match the words in the box with definitions 1-12.

elective	*high-tech*	*mentoring*	*attract*
diverse	*devotion*	*destination*	*expertise*
supervision	*innovative*	*pursuit*	*applicant*

1) a person who formally requests something, especially a job, or to study at a college or university
2) using the most advanced equipment and methods
3) a subject that someone can choose to study as part of a course
4) a place where someone is going
5)love or care for someone or something
6) varied or different, including many different types of things
7) having a high level of skill or knowledge
8) a process of helping and giving advice to a less experienced person
9) responsibility for the good performance of an activity of a person
10)an attempt to achieve something
11) to make people want to visit a place or find out more about something
12) using new methods or ideas

III. Read the text. Use the dictionary to look up unfamiliar words.

The higher education system in the UK has been the basis for higher education standards in other countries for years. English universities are known for their academic **excellence** among numerous other advantages. They have an undisputed reputation for the quality of education with thousands of courses **available** for students. They make up an ideal **destination** for over a million international students from all over the world. Let's have a look at some of them.

Oxford and Cambridge Universities are known throughout the world because of their courses and **devotion** to the quality of education. Oxford is the oldest of these two universities, it is more philosophical, classical, theological.

Oxford University is known as the first university in the English-speaking world. It was opened in 1096. The University of Oxford has **maintained** its status as the leading educational and research centre in Britain. Its specialists conduct research in the field of technology and medicine. A unique feature of the university is the educational system. It is based on **supervision** and **mentoring**, and the maximum attention is paid to the personal preparation of each student. The schedule depends on program and

course. It includes academic studies, meetings with **curators**, sports and recreational activities. Intensity and type of educational process are chosen by students themselves.

There are around 24,000 students currently enrolled at the University of Oxford. This university offers around 350 graduate degree programs, and it is constantly ranked on top of the major worldwide ranking lists. A lot of international students from 150 countries are getting their qualifications at this university. Known for its **expertise** and qualified academic staff, University of Oxford is one of the most favored study destinations for students around the world.

This university offers degree programs in the following fields of study: Humanities, Medical Sciences, Social Sciences and Mathematical, Physical and Life Sciences.

Cambridge University is one of the oldest in the English-speaking world and one of the finest universities in the UK. It has been working in Britain since 1209. The university offers a large variety of courses and professional academic staff. Leading experts of the world work with students in various fields. Here high-quality education in the best British traditions is available. The educational **establishment** has over 18,000 students **enrolled** in its degree programs. This university has a reputation for intellectual **achievements** of its students, and has a status of one of the most successful research institutes in Europe and the world. It has a membership in a variety of international associations.

Cambridge University **attracts** thousands of international students worldwide as well. In the university curatorship is practiced. Such system allows to achieve high academic results. Studying is as **high-tech** as possible. Students in the university are given an opportunity to use the most advanced equipment in academic and research activities. The schedule of lessons is individual for each course and group. A typical Cambridge University student day includes academic **pursuits**, physical activity (sport), creativity and recreation. In addition, circles of theatrical art and music are offered to the attention of students. At the university, students are given an opportunity to play sports. The choice of sports is huge: rugby, horseback riding, **rowing**, parachuting, yachting, yoga, **martial arts**, shooting, etc.

This university offers degree programs in the following fields of study: Arts and Humanities, Biological Sciences, Clinical Medicine, Humanities and Social Sciences, Physical Sciences, Technology.

University College London (UCL) is an ideal and **innovative** place to get a degree. It offers some of the best conditions to study in, with modern facilities and equipment. This university gathers ambitious students from all around the world, with more than 13,000 in staff and 42,000 students from 150 different countries. UCL was founded in 1826 and ever since then it has created generations of successful graduates with 29 Nobel Prize laureates among its graduates.

This university was the first educational institution in Britain, which opened the doors for **applicants** of any race and class, religious convictions, s Today UCL is oneof the most international universities in the country. More female professors than in other universities in Britain work here. A busy college life is one of the features of the ULC. The university organizes more than 180 **communities** and thematic clubs. The program of extra-curricular activities in the college includes conferences, master classes, trips, entertainment, sports. The schedule for each student group provides theoretical, practical classes, profile **electives**. Students organize leisure activities at their own **discretion**.

This university offers degree programs in the following fields of study: Arts & Humanities, Built Environment, Brain Sciences, Engineering Sciences, Laws, Life Sciences, Mathematical & Physical Sciences, Medical Sciences, Population Health Sciences, Social & Historical Sciences.

London School of Economics and Political Science is the best university for specialists in financial and political science. The school is famous for the high quality of education in public **administration**. It offers applied specialties in finance, economics, social policy. This university employs leading professors from several highly ranked universities. Lectures on political science, government management may read the leaders of many countries. Bill Clinton, David Cameron, Angela Merkel, Tony Blair, Dmitry Medvedev, Nelson Mandela and others were in the conference rooms of the London School.

Today, the London School of Economics and Political Science (LSE) unites 9,000 students from 140 countries. The teaching staff of the university is also multinational. Teachers from 45 countries work here. The LSE has 19 research centres. Scientists and students of the university work in the field of political science, law, economics.

The UK is the perfect example of a **diverse** environment where students get to earn their skills and qualifications It goes without saying that Cambridge and Oxford universities are the most respected. Nevertheless, the diplomas of other educational centres, such as Imperial College London, The University of Edinburgh, The University of Manchester and others, create a competitive advantage when applying for a job.

IV. Find equivalents to the following Russian word combinations in the text.

основа стандартов высшего образования
среди множества других преимуществ
преданность качеству образования
в области техники и медицины
на вершине крупнейших мировых рейтингов
членство в различных международных ассоциациях
добиться высоких академических результатов
поколения успешных выпускников
программа внеклассных мероприятий
по собственному усмотрению
прикладные специальности в области финансов
из нескольких высокорейтинговых университетов
Это само собой разумеется
конкурентное преимущество

V. Look at the names of some disciplines studied at English universities. Match the Russian equivalents with them.

Humanities	Гуманитарные и социальные науки
Medical Sciences	Клиническая медицина
Social Sciences	Социальные науки
Mathematical, Physical and Life Sciences	Физика
Arts and Humanities	Технология
Biological Sciences	Антропогенная среда

Clinical Medicine	Законодательство
Humanities and Social Sciences	Математика, физика и ест. науки
Physical Sciences	Технические науки
Technology	Социально-исторические науки
Built Environment	Медицина
Engineering Sciences	Естественные науки
Laws	Наука о здоровье населения
Life Sciences	Искусство и гуманитарные науки
Population Health Sciences	Гуманитарные науки
Social and Historical Sciences	Биология

VI. Complete the sentences with correct prepositions.

1. English universities are known _____ their numerous advantages.
2. Thousands of courses are available _____ students.
3. The educational system is based _____ supervision and mentoring.
4. The schedule depends _____ program and course.
5. _____ addition, circles of theatrical art and music are offered.
6. UCL was founded _____ 1826.
7. Students organize leisure activities _____ their own discretion.
8. The school is famous _____ the high quality of education.
9. The leaders of many countries may read lectures _____ political science and government management.
10. It goes ___ saying that Cambridge and Oxford universities are the most respected.

VII. Underline the correct alternatives.

1. English universities *know / are known* all over the world.
2. Cambridge University *was working / has been working* in Britain since 1209.
3. Students *give / are given* an opportunity to use the most advanced equipment.
4. University College London *was founded / founded* in 1826.
5. Over 18,000 students *enrolled / are enrolled* in the degree programs.
6. Students *are chosen / choose* the type of educational process.
7. UCL *was opened / opened* the doors for applicants of any race and class.
8. Oxford University *was opened / opened* in 1096.
9. This university *is offered /offers* a number of graduate degree programs.
10. The schedule *provides / is provided* theoretical and practical classes.

VIII. In the sentences below fill in the appropriate part of speech derived from the word on the right.

1) English universities are known for their _____advantages.	NUMBER
2) They open their doors for over a million _____ students from all over the world.	NATION
3) The maximum attention is paid to the personal _____ of each student.	PREPARE
4) A lot of students are getting their _____ at this universi-	QUALIFY

ty.	
5) The university offers a large _____ of courses.	VARY
6)This educational _____ has a reputation for its quality of education.	ESTABLISH
7) Cambridge University is one of the most _____ research institutes in Europe.	SUCCESS
8) The intellectual _____ of its students are rated highly.	ACHIEVE
9)Circles of _____ art are offered to the students.	THEATER
10) It offers the best conditions with modern _____ .	EQUIP

IX. Make a short summery of the text. Do it according to the following plan:

1. The title of the text is … .
2. The text is devoted to … .
3. Oxford University is known as … .
4. Cambridge University offers … .
5. University College London was the first educational institution … .
6. London School of Economics and Political Sciences is the best university for….
7. The main idea of the text is … .

MY NATIVE CITY BREST. BREST: REGIONAL CENTRE

I. Before you read the text, talk about these questions.

Why is Brest so popular among tourists today? How is this fact connected with the geographical position?

Brest played an important role in the history of Belarus, didn't it? Explain your answer.

II. Read the following words from the text below and learn their meaning.

1)	greenbelt	зелёный пояс
2)	highway	магистраль
3)	bark	кора
4)	elm	вяз
5)	ford	брод, поток
6)	bog	трясина, болото
7)	rescue	спасение
8)	birch-bark	береста
9)	cape	мыс
10)	to facilitate	способствовать
11)	autonomous	автономный, самоуправляющийся
12)	to annex	присоединять, аннексировать
13)	to consolidate (with)	объединять (с)
14)	enterprise	предприятие
15)	management	управление

16) implementation — реализация
17) advantageous — выгодный
18) location — расположение
19) durable — прочный, длительный
20) consulate — консульство

III. Match the words in the box with definitions 1-12.

advantageous	*ancient*	*highway*	*to annex*
merchant	*facilitate*	*qualitative*	*cooperation*
foodstuff	*innovative*	*valid*	*enterprise*

1) using new methods or ideas
2) a public road, especially an important road that joints cities or towns together
3) helping to make more successful
4) to take possession of an area of a country, usually by force or without permission
5) relating to how good or bad something is
6) very old, having lasted for a very long time
7) a person whose job is to buy and sell products, especially by trading with other countries
8) an organization (a business) that will earn money
9) to make something possible or easier
10) the process of working together to achieve something
11) based on truth or reason, able to be accepted
12) a substance that is used as food or to make food

IV. Read the text. Use the dictionary to look up unfamiliar words.

BREST: REGIONAL CENTRE

Brest surrounded by a large greenbelt is situated in the south-west of the Republic of Belarus, neighboring with Poland and Ukraine. Its territory covers 72.9 square kilometers, about 326 thousand people live there. Being situated on the main Berlin-Moscow railway line and international highway, Brest became a principle border crossing since World War II. Today it links the European Union and the Commonwealth of Independent states.

There are several theories of the city name origin. The most common are as follows. The name of the city comes from: a) the Slavic root “beresta” meaning birch bark, b) the Slavic root “berest” meaning elm, c) the Lithuanian word “brasta” meaning ford.

Different legends exist about the foundation of Brest. According to one of them a Russian merchant who travelled with his caravan in the west, had become stuck in the bog. He covered the way for himself with branches of birch-trees and managed to reach the river bank. Grateful for his wonderful rescue he built a chapel in this place. Later people settled here and called their settlement Berestye from the word “beresta” meaning birch-bark.

In the 11th century Berestye was an ancient Russian trade centre and a fortress, which was situated on the cape formed by the Western Bug River and by the left branch of the river Mukhavets. The development of the city foundation was facilitated by its favourable location on the border with Polish and Lithuanian lands. In the 14-16th cen-

turies Berestye was one of the largest cities in the Great Duchy ofLithuania. In 1390 Berestye was among the first Belarusian cities given the right of autonomous administration under the Magdeburg Law. In 1553 the head of Berestye, Radzivil Chorny, founded the first printing house in Belarus.

During the years of World War I Brest-Litovsk was occupied by German Troops. On March 3, 1918 the Treaty of Brest was signed in the White Palace. Beginning from 1921 Brest-Litovsk, being a part of Western Belarus, was annexed by Poland almost for 20 years. On September 22, 1939 the western part of Belarus was consolidated with the BSSR and Brest became the centre of the region. According to the agreement of the Yalta Conference of February 1945, Brest's status as part of the Belarusian Soviet Socialist Republic was officially recognized. Now it is part of the independent country of Belarus.

Brest today is one of the largest economic and cultural centers of the republic. There are industrial enterprises in the city. Among them we can mention the Electric Test Equipment Plant, The Electric Bulb Plant, the Chemical Goods Plants, and the Knitted-Wear Factory, Joint Venture "Brestgazoapparat" etc. Our enterprises produce electric and gas stoves, furniture, carpets, knitted-wear clothes, foodstuff.

In 1996, at the start of qualitative economic transformations, the first Free Economic Zone was established in the Republic of Belarus. The "Brest" FEZ has become a territory of new possibilities for innovative forms of business management and implementation of promising investment projects with foreign capital.

There is a variety of valid reasons why Brest was specifically chosen as the first place for innovative activities, namely: advantageous geographical location on the EU border, easier access to the CIS/EU markets, close location to automobile, railway, river and air communication routes, availability of production areas with well-developed transportation infrastructure and, last but not least, people with high level of education, professional skills, creative initiative.

The educational system comprises 77 nursery schools, 35 secondary schools, 6 gymnasiums, and 2 lyceums. Young people study at vocational and training schools, at Brest State Pushkin University and Brest State Technical University.

The system of public health includes 28 medical centers. Sport plays a very important role in the city's life. Children attend sports schools for teenagers. There are several sports centers, the Ice Palace, the Rowing Canal, the Sports Manege, the Palace of Water Sports, stadiums, indoor swimming pools and outdoor sports facilities.

The location of the city at the crossroads of the whole Eurasian continent is a good basis for progress in all spheres of life and for the development of durable and perspective international relations. The Russian Federation, Ukraine and the Republic of Poland consulates, which are located in Brest, actually promote cooperation between the people of the countries.

V. Find equivalents to the following Russian word combinations in the text.

международная автомагистраль
пункт пересечения границы
выгодное расположение
право автономного управления
независимая страна

промышленные предприятия
качественные экономические преобразования
перспективные инвестиционные проекты
выгодное географическое положение
хорошая основа для прогресса

VI. Match the words to form word combinations. Make affirmative or negative sentences with each word combination.

build	initiative
trade	activities
printing	continent
industrial	enterprises
foreign	relations
business	management
innovative	centre
creative	a chapel
Eurasian	capital
international	house

VII. Complete the sentences with appropriate words or phrases from the box.

autonomous	*implementation*	*enterprises*	*investment*
advantageous	*highway*	*basis*	*public health*
activities	*high education*	*consulates*	*transformations*

1) Brest is situated on the main Berlin-Moscow railway line and international _____ .

2) Berestye was among the first Belarusian cities given the right of _____ administration under the Magdeburg Law.

3) Nowadays there are several industrial _____ in the city.

4) The first Free Economic Zone "Brest" is associated with the start of qualitative economic _____ .

5) The "Brest" FEZ has become a territory of _____ of promising _____ projects with foreign capital.

6) Brest has an _____ geographical location on the EU border.

7) A great number of innovative _____ are realized in Brest.

8) The system of _____ in Brest comprises two universities.

9) The system of _____ includes 28 medical centres.

10) The location of the city is a good _____ for progress in all spheres of life.

11) The Russian Federation, Ukraine and the Republic of Poland have their _____ in Brest.

VIII. In the sentences below fill in the appropriate part of speech derived from the word on the right.

1) There are different legends about the _____ of Brest.	FOUND
2) People called their _____ Berestye from the word	SETTLE

"beresta".	
3) The _____ location of the city facilitated economic development.	FAVOUR
4) Finally the countries reached an _____ .	AGREE
5) Brest is part of the _____ country of Belarus.	DEPEND
6) The "Brest" FEZ is a territory of great _____.	POSSIBLE
7) There is very little _____ between the tho countries.	OPERATE
8) Great _____ changes have taken place in the economy of the country.	QUALITY
9) The company has suffered from bad _____.	MANAGE
10) The best thing about the _____ of the city is its proximity to the border crossing.	LOCATE

IX. Read the text again and answer the following questions.

1) What advantages can you find in the geographical location of Brest?

2) What are the theories of the city name origin?

3) How many legends do you know about the foundation of Brest? Say a few words about one of them.

4) When did Brest get the right of autonomous administration? How do you understand the meaning of this privilege?

5) When was the first printing house founded in Belarus?

6) What industrial enterprises in Brest are mentioned in the text? Add to the list.

7) What are the aims of the "Brest" FEZ?

8) What are the reasons for the successful economic development of our city?

9) What educational establishments are there in Brest?

10) What sports facilities are available to our citizens?

X. Read the text. Make a short summary.

Places of Interest in Brest

The Brest Fortress over the Bug has become a symbol of the eternal glory of the Soviet Soldiers. It was founded on June 1, 1836. The Citadel is the main fortification of the fortress. It is not merely a remarkable military construction; it is an interesting architectural complex.

The Brest Fortress got universal fame during the Great Patriotic War because it took the first blow for itself. The courage of the soldiers of the fortress will always be in the memory of our descendants. At the dawn June 22, 1941(Sunday), Hitler Germany launched its perfidious attack against the Soviet Union without declaring war. Hitler had counted on the "Blitzkrieg": he expected to rout the Soviet Army Forces in a short period of time.

The garrison of the Brest Fortress had to fight under unbelievably hard conditions. The small fortress area of just four square kilometers was steadily shelled by hundreds of guns while planes with swastika on their wings showered it with bombs. The garrison was short of ammunition, medical supplies and food. They were cut off from the water, which had to be fetched under enemy fire.

The defense lasted for over a month. The fortress walls were tumbling down, the bricks melted and the very earth was scorched, but the fortress stood undaunted. The

Nazi command was outraged. The Hitler forces mounted one attack after another, sustaining heavy losses, but they were powerless to crush the fighting spirit of the fortress defenders.

The Brest Fortress became one of the sacred monuments of the Soviet people, a symbol of its heroism and endurance, a living example of patriotism. The memorial complex "Brest Hero-Fortress" erected on the site is a tribute commemorating the immortal exploit of its garrison. Today the Brest Fortress is the major tourist sight.

Brest Millennium Monument (2009) - was designed by the Belarusian architect Alexei Andreyuk and sculptor Alexei Pavluchuk to commemorate the millennium of Brest, Belarus. It was erected in 2009 at the intersection of Sovietskaya Street and Gogol Street in Brest. The project was financed by the state budget and public donations.

The monument presents a group of bronze statues. The angel of mercy with a cross is standing at the top of a granite column. 3 statues remember the remarkable historic personalities that are associated with Brest: Vladimir Vasilkovich, who put up a tower in the castle of the town in the 13th century, Vytautas the grand duke of Grand Duchy of Lithuania, Mikołaj "the Black" Radziwiłł in whose printing shop the first Belarusian book was printed, 3 more statues represent abstract images: warrior, mother, chronicler (who wrote apparently the Primary Chronicle). The total height is 15.1 m, the height of the angel is 3.8 m, the height of the 6 statues is 3m. the diameter of the base is 8.6 m. In April 2011 a belt of high reliefs appeared around the monument. It depicts history-making episodes of Brest.

Unique **Belovezhskaya Pushcha** lies about 70 km from Brest, less than 1.5 hours off by road. The word Pushcha means in Belarusian a forest, but not any forest can be called pushcha, because it implies a virgin forest. That is the only virgin forest, which survived in Central Europe. Pushcha is the largest wildlife reserve in the south west of Belarus.

Incomparable beauty, rich wildlife world, interesting history of Pushcha attract tourists from all over the world. 55 species of mammals, 214 species of birds, 11 amphibious species, 7 species of reptiles, nearly 30 species of fish live in this unique reserve. The king of Pushcha is the East European aurochs, the biggest animal in Europe. Pushcha is rich in deer, roes, elks, wild boars, otters and beavers.

The museum of Pushcha offers a rich display that includes common species of wildlife. Tourists can see some animals in spacious enclosures. Pushcha is a vast open-air laboratory for survey of wildlife world. Visiting the Brest region, you should necessarily see Belovezhskaya Pushcha to admire the majestic beauty of this virgin forest.

There are some other places to visit or to see in our town: a lot of museums, two theatres, several cinemas, parks and other places where you can have a good time. Brest City Park is 100 years old, but it looks quite new after the recent reconstruction.

Other architectural landmarks of the city are:

– St. Nicolas' Orthodox Cathedral (1903),
– St. Simeon's Orthodox Cathedral (1865),
– Resurrection Orthodox Cathedral (1995),
– St. Nicolas' Garrison Orthodox Cathedral (1856),
– Cross Exaltation Roman-Catholic Church (1856),
– Brest Central Railway Station (1886),

– Soviet Street.

1.1.7. THE REPUBLIC OF BELARUS IN THE MODERN WORLD

THE BELARUSIAN CHARACTER

I. Read and translate the text and do the following tasks.

The formation of the modern national character of Belarusians was influenced by various historical and geographical factors and one of them is specific natural and climatic conditions of Belarus, which are characterized by many kilometers of forests, swamps, isolation of settlements, etc.

Geographically Belarus is located in the center of Europe and this feature played a cruel joke with the Belarusians during the Middle Ages. Neighbouring countries often fought with each other, and at that time Belarus was turning into a "staging post" for them. But the Belarusians managed to achieve peace with small sacrifices. After centuries, all this has transformed into a national trait: a Belarusian is able to come to an agreement with anyone and about anything. It is not for nothing that the national anthem begins with the words: "We, Belarusians, are peaceful people".

One of the characteristic features of Belarusians, which is noted by all foreigners, is endless kindness. The Belarusian will lay the table for you (even if he has no money), will always help you for "thank you" (although he will not refuse to help in return) and is ready to "give the last shirt" if you really ask. It doesn't matter what colour your skin is, what god you believe in and where you come from. You will be accepted as you are. Here, in Belarus you can easily find a cheerful company of Belarusian, African American and Asian among the students. Orthodox Church, Catholic Church and Synagogue can peacefully stand on the same square (as, for example, in Grodno).

Belarusians are the most hardworking people in Europe. This is not surprising because since childhood, young Belarusians have been cultivating responsibility and accuracy in their work. Belarusians, in general, are not prone to laziness and the desire to get as much as possible without making any effort.

Despite many difficulties, the majority of Belarusians continue to love and value their country. This is proved by a large - scale study, as a result of which 79% of respondents aged 18 to 70 said they are proud of Belarus and their nationality.

Belarusian cities are European - style clean and well-groomed. And this is typical not only for Minsk or Brest, where there are many tourists, but also for the towns. The secret here is not in the special infrastructure of cities, but in the fact that Belarusians are prone to cleanliness. For example, in many courtyards of blocks of flats, residents are independently engaged in the improvement of the surrounding territory and planting beautiful trees and flowers.

The Belarusians always remain faithful to high moral values and good traditions: Kolyady, Radonitsa, Kupala, Dozhinki and etc.

All these are unique Belarusian holidays that Belarusians carried through the centuries into the 21st century.

As for the language, there is a stereotype that the Belarusians have completely abandoned their native language and you can only hear it in the Belarusian language lessons at school. This is not entirely true: of course, in the region centres Belarusians

often use Russian for communication, but in small towns a huge number of people continue to speak either exclusively Belarusian or its dialects.

Let us see what has been influencing the formation of the Belarusian national character. We`ll start with the natural and climatic conditions.

The climate in the republic is moderately continental, the breathing of the Baltic sea is constantly felt here. We have no frosts or high temperature jumps in the summertime. Sharp contrasts outside, inside and in the souls are not typical for Belarus.

Our rivers are flat, calm and not very deep. They are homely and dear. Belorussian`s natural scenery is wide, lonely plains covered with hills, and many lakes and forests. The Belarusian character has no somberness and tense readiness for unexpected dangers. The nature of Belarus does not know storms. Therefore, the Belarusians are trustful and optimistic.

Belarus is a country of developed industry, agriculture, science and culture. Belarusian industry produces trucks and tractors, dump trucks, refrigerators, TV sets and dairy products. Also Belarusians produce soil, sand or clay that is why they are patient and hardworking. We must be able of doing much. Diligence and universality help us to survive. Moreover, the Belarusians are undemanding and modest. To a certain degree they are accustomed to poverty.

The advantageous geographical position – on the crossroads from east to west and from north to south – more than once turned into disadvantage. Belarus was the arena of many wars, invasions and aggressions. But so much international contacts influenced the most distinctive features of the Belarusian national character – tolerance and hospitality. Belarusians can hardly be named fatalists, but if there is violence used against them, they have no choice than to reach for a weapon to defend themselves. History proves it too well.

II. Are the sentences true or false according to the text?

1. The formation of the modern national character of Belarusians was influenced by various historical and geographical factors.

2. Geographically Belarus is located in the West of Europe and this feature played a cruel joke with the Belarusians during the Middle Ages.

3. One of the characteristic features of Belarusians, which is noted by all foreigners, is endless laziness.

4. Orthodox Church, Catholic Church and Synagogue can peacefully stand on the same square.

5. Belarusians, in general, are prone to laziness and the desire to get as much as possible without making any effort.

6. Despite many difficulties, the majority of Belarusians continue to love and value their country.

7. The Belarusians always remain faithful to high moral values and good traditions.

8. As for the language, there is a stereotype that the Belarusians have completely abandoned their native language and you can only hear it in the Belarusian language lessons at school.

III. Read the text and say in 2-5 sentences what it is about.

Belarusian customs and traditions

Belarus has deep historical roots in the past that's why its customs and traditions often have a fascinating history. The most ancient Belarusian traditions and holidays can be classified according to four seasons of the year: spring, summer, autumn and winter.

In ancient times the arrival of spring reassured mankind. It was a sign that life would return to the land, crops would grow and existence was assured. Belarus has a remarkable range of spring-time celebrations, for example Calling of Spring. This holiday dates back to the pagan times.

One of the greatest Christian holidays in Belarus has always been Easter Sunday. There are two Easter holidays in Belarus: the Roman Catholic and the Russian Orthodox ones with painted eggs and special pies.

The summer festivities start in July beginning with the greatest holiday Kupalle. The essential part of this celebration is the great fire. The oiled wooden wheel is set on fire to symbolize the sun. According to the belief this fire has a purifying power. Young couples hand in hand must jump it over. One of the main traditions of Kupalle is search for the mythic paparats-kvetka (fern flower). Those, who find it, will enjoy good luck for the whole year and their wishes will come true

Autumn has its own holidays. They are traditionally connected with the end of the harvesting time. In ancient times it has always been the wedding season. That's why so many traditions and customs are connected with marriage, for example match-making, bride-show, wedding itself, special songs, games etc.

In late autumn we have Dziady. It is a day for commemoration of the dead relatives. The special ritual food is cooked for Dziady dinner. According to the tradition part of the food and drink is left in a special plate and glass for the dead. At this day families are going to the cemeteries to take care of the graves.

The winter solstice used to be a time for meditation on the year gone by and of hope for the year to come. That’s why people asked the sun to come back, they sang songs to honor it. Thus the Kaliady holiday appeared, which later became the integral part of Christmas, the greatest holiday in the year.

New Year is widely celebrated all over the country. Preparations to this holiday start a couple of weeks before. The towns and cities of Belarus put on holiday attire; illumination, New Year trees in the squares and New Year fairs add to the holiday mood. The culmination of the festivity is the December 31— January 1 night, when various concerts and open-air merrymaking take place. January 1 is an official holiday. The Belarusian people are proud of the country’s past and its traditional culture.

Answer the questions:

- What are the spring-time celebrations?
- What are the greatest Christian holidays in Belarus?
- What can you say about Kupalle?

AT THE CROSSROADS OF EUROPE. BELARUS. WELCOME TO BELARUS

I. Before you read the text, talk about these questions:

1) Do you know what sign “Made in Belarus” means?

2) Do Belarusians use the Belarusian language in everyday life?

3) Is Belarus an attractive tourist destination? How does free-visa entry support tourism in our country?

II. Read the following words and learn their meaning.

1)	sovereign	суверенный
2)	to border on (with)	граничить с
3)	to occupy	занимать
4)	to stretch for	простираться
5)	terrain	местность
6)	coniferous	хвойный
7)	meadow	луг
8)	rare	редкий
9)	reserve	заповедник
10)	peat	торф
11)	potassium	калий
12)	gravel	гравий
13)	clay	глина
14)	competitive	конкурентный
15)	favorable	благоприятный
16)	flax	лён
17)	livestock	домашний скот
18)	conduct	вести (торговлю)
19)	expenditure	расход, потребление
20)	cooperation	сотрудничество
21)	extensive	обширный
22)	highway	автомагистраль, шоссе
23)	toll	пошлина

III. Match the words in the box with definitions 1-12.

humid	*flora and fauna*	*flat*	*to constitute*
leading	*a capital*	*to export*	*route*
legislative	*a supplier*	*network*	*a deposit*

1) a city which is the centre of a country or other politicalarea
2) to form or make something
3) containingextremelysmalldrops of water in the air
4) having little or no height
5) plants and animals.
6) relating to the making of laws
7) a layer that has formed under the ground, especially over a longperiod
8) a country(a person, a company) that provides particular goods
9) best, most important, or most successful
10) to sendgoods to another country for sale
11) a largesystem consisting of many similarparts that are connected together
12) a particular way or direction between places

IV. Read the text. Use the dictionary to look up unfamiliar words.

The Republic of Belarus is a young sovereign state situated in the eastern part of Europe. It borders in the north and east on Russia, in the west on Poland, in the south on Ukraine, in the northwest on Latvia and Lithuania. Modern Belarus occupies the territory of 207,600 square kilometers and it stretches for 650 km from east to west and for 560 km from north to south. The Republic of Belarus consists of six regions, the largest cities of which are Minsk, Gomel, Brest, Vitebsk, Grodno and Mogilev. The capital and the largest city is Minsk, located in the center of the country.

About 9,5 million people live in Belarus. Ethnic Belarusians constitute about 81% of the population of the country. Russians, Poles, Ukrainians and other nationalities also live in Belarus. About two thirds of people live in urban centers. Today both the Belarusian and Russian languages are official languages of the country.

Belarus has a temperate continental climate with mild humid winters, warm summers and wet autumns. Belarus has a generally flat terrain. Nature is the main landmark of the country. Belarus is the land of vast plains and picturesque hills, thick forests and green meadows, deep blue lakes and flowing rivers. About one third of its territory is covered with forests, mostly coniferous and birch. Belarus is famous for its rich flora and fauna. The country is inhabited by hundreds of rare species of animals and plants, especially in Belovezhskaya Pushcha. It is one of the national symbols of Belarus, the largest forest in Europe and a unique tourist center. The reserve is the major home of European bison, the biggest representative of European fauna.

Belarus is often called the land of rivers and blue lakes. There are more than 20,000 rivers and streams in Belarus, and about 11,000 lakes. Naroch is the largest lake in Belarus. The Dnepr is the longest and the most important river in Belarus. It flows from Russia, through Belarus into Ukraine, providing important shipping channel between the Baltic Sea and the Black Sea.

Natural resources are mainly represented by thirty types of minerals. Peat is in the first place among energy resources. Peat deposits are quite rich and can be found in every region. Potassium salts take the leading position among the minerals. The country is one of the five biggest suppliers of potassium in the world. There are also deposits of coal, oil, gravel, sands and clays in Belarus.

The Republic of Belarus has a significant economic potential which makes it possible to produce competitive industrial and agricultural products. The brand «Made in Belarus» is known in many countries. Belarusians participate actively in leading international economic forums. The most developed branches of industry are machine building, radio-electronics, chemical and food industry. The most important manufactured products are tractors, transport vehicles, trucks, agricultural machinery, metal-cutting machines as well as consumer goods such as bicycles, clocks and watches, refrigerators, TV sets and others.

More than half of the land is used for agriculture. The climatic conditions are favorable for growing potatoes, grains, sugar beet, flax and vegetables. Agriculture specializes in milk and meat production. Livestock production (cattle, hogs, sheep and goats) accounts for more than 50 % of agriculture and is the main source of funds for the development of the agricultural sector of the country.

Belarus exports tractors, heavy lorries, motorcycles, TV and radio-sets, furniture, carpets, textiles, chemicals and foodstuffs. Imports include fuel, natural gas, industrial

raw materials, metal, chemicals, cotton, sugar, vegetable oil, fish products, tea, coffee, wine. Fuel is the largest import expenditure. Russia is the most important trade partner. Belarus also conducts trade with the countries of the European Union (Great Britain, Poland, Germany, Lithuania, the Netherlands, Latvia, Belgium and Norway). There is a positive dynamics in cooperation with the traditional partners in Latin America, such as Brazil, Cuba, Ecuador, and in Asia, notably with China, India, Vietnam, Israel, Korea and Japan.

Due to its geographical position right in the center of Europe our country is an international corridor connecting the West and the East. Belarus has an extensive transportation system, including networks of railroads, highways, air and water routes. The major railroad which was built in 1860s to connect Moscow and Warsaw, runs through Belarus via Minsk and Brest. The M1 is the main road crossing Belarus. It forms a part of European route and is the most important road link in the country connecting Moscow with Poland and Western Europe. There is a system of toll roads in the Republic of Belarus. This technology enables foreign road users to pay tolls.

Belarus has several international airports. Minsk has a modern national airport which accepts international flights from all over Europe. This is the fastest and most comfortable way to get to Belarus, but the most expensive at the same time.

Belarus has a network of water routes that connects the country with the bordering states. Navigation routes are known to go along the Dnepr-Bug Canal, the rivers Sozh, Berezina, Dnepr, Pripyat, Neman and others. They improve water transportation of cargo and passengers by linking the mentioned rivers with the ports on the Baltic Sea and the Black Sea.

Participation in the international organizations enables Belarus to achieve its political goals, contribute to the development of the country and modernize its economy. In 1945 Belarus became a founding member of the United Nations. Today Belarus is a member of over 60 international organizations, among them the United Nations, UNESCO, the World Health Organization, the International Bank for Reconstruction and Development, the International Monetary Fund, the European Bank for Reconstruction and Development, the Customs Union and the Eurasian Economic Union.

Belarus is a presidential republic. State power in the country is formed and realized through three main branches: legislative, executive and judicial. Under the constitution the president is the head of the state and directs the domestic and foreign policy. A two-chamber parliament is the main legislative body of the state. The executive branch is represented by the Council of Ministers headed by the prime minister. The judicial power in the republic consists of three high courts: the Supreme Court, the Supreme Economic Court and the Constitutional Court. The latter is charged with protecting the constitution. It has the power to review the constitutionality of presidential edicts and the decisions of the other two high courts.

As Belarus is situated in the center of Europe, a lot of wars took place on its territory. The World War II is one of the most tragic periods in the history of Belarus. Its territory was occupied by the Nazi for three years. The country lost more than three million people. Belarus also lost more than half of its national wealth, a lot of towns and villages were ruined.

Nowadays, Belarus has become a sovereign independent state with a well-developed industry and agriculture, science and culture. It contributes to the world

peace, friendship and cooperation among nations.

V. Fill in the table below.

Official name	*The Republic of Belarus*
Area	
Administrative centres	
Capital	
Official languages	
Population	
Ethnic groups	
Climate	
Natural resources	
International relationships	
System of government	

VI. Find equivalents to the following Russian word combinations in the text.

суверенное государство
состоять из шести регионов (областей)
умеренный континентальный климат
редкие виды животных и растений
уникальный туристический центр
судоходный канал
природные ресурсы
месторождения угля
экономический потенциал
производить конкурентоспособные товары
животноводство
промышленное сырьё
платные дороги
достичь политические цели
указы президента

VII. Match the words to form word combinations. Give Russian equivalents to them.

sovereign	system
urban	hills
official	symbol
continental	state
flat	resources
picturesque	airport
thick	centre
national	routes
shipping	language
natural	terrain
leading	climate
transportation	channel

navigation international	forest position

VIII. Complete the sentences with correct prepositions. Translate the sentences into Russian.

a) The Republic of Belarus borders _____ Russia, Poland, Ukraine, Latvia and Lithuania.

b) Modern Belarus stretches _____ 650 km from east to west and _____ 560 km from north to south.

c) The Republic of Belarus consists _____ six regions.

d) Minsk is located _____ the centreof the country.

e) About one third of the territory is covered _____ forests.

f) Belarus is inhabited _____ hundreds of rare species of animals and plants.

g) Peat is _____ the first place among energy resources.

h) Belarusians participate _____ leading international economic forums.

i) There is a positive dynamics in cooperation _____ the traditional partners in Latin America.

j) The major railroad in Belarus was built _____ 1860s.

k) Navigation routes go _____ the Dnepr-Bug Canal, the rivers Sozh, Berezina, Dnepr, Pripyat, Neman and others.

l) Participation _____ the international organizations enables Belarus to contribute _____ the development of the country.

m) The executive branch is represented _____ the Council of Ministers.

IX. Read the text again and answer the following questions.

1) Where is the Republic of Belarus situated?
2) What is the territory of the Republic?
3) How many administrative regions are there in Belarus?
4) What is the population of the country?
5) What is the climate of Belarus?
6) What national reserve symbolizes our Republic?
7) What natural resources of Belarus do you know?
8) What are the most developed branches of industry in Belarus?
9) What does agriculture specialize in?
10) Belarus exports various goods, doesn't it? What are they?
11) What is the largest import expenditure?
12) Why is the M1 the main road in the country?
13) What international organizations does Belarus participate in?
14) What can you say about the Republic's political system?
15) How did the World War II influence our country?

X. Make a plan of the text: put the information below in the right order as it is given in the text. Discuss each point of the plan.

1) Industry
2) Nature
3) Geographical position

4) Export, import
5) Population
6) Transportation system
7) Natural resources
8) International organizations
9) Agriculture
10) Political system
11) World war II
12) Climate

XI. Read the text about important facts in the history of our country. Complete the text with additional information about the facts mentioned.

The first written documents of the Belarusian statehood go as far back as 980 AD when Prince Rogvolod began his reign on Polotsk lands, which are the historie and religious center of the Belarusian nation and culture.

From the 13th till the 16th century the territory of contemporary Belarus was the center of a medieval polyethnic state - the Grand Duchy of Litva. The lands of contemporary Belarus, Lithuania, the Ukrainę and a part of Russia comprised this state.

The period that started in the 15th century, when the crusaders expansion was crushed in the west, and lasted until the middle of the 17th century is considered the Golden Age in Belarusian history. This period was marked with significant evolutionary processes in the culture and economy of Belarusian people.

In 1569 the Grand Duchy of Litva and the Polish Kingdom established a political union according to which the Litva-Poland confederation – Rzecz Pospolita – emerged. As a result of three divisions of Rzecz Pospolita in 1772, 1793 and 1795 between three empires – Russia, Austria and Prussia – the Belarusian lands were incorporated into the Russian Empire.

On December 30,1922 the Communist governments of Belarus, Russia, the Ukrainę and Caucasus created the Union of Soviet Socialist Reublics, which included the major part of the former Russian Empire. On August 1991 Belarus declared its independence.

THE REPUBLIC I LIVE IN

I. Pronounce the following words correctly and learn their meaning:

1. divide [di´vaid] – делить
2. include [in´klu:d] – включать
3. promote [prə´məut] – продвигать
4. humidity [hju´miditi] – влажность
5. coniferous [kəu´nifərəs] – хвойный
6. rare [rɛə] – редкий
7. peat [pi:t] – торф
8. gravel [´grævəl] – гравий
9. clay [klei] – глина
10. survey [sə:vei] – обследование
11. recent [´ri:snt] – недавний

12. contribute [kən´tribjut] – способствовать
13. output [´autput] – продукция
14. account [ə´kaunt]– составлять
15. crop [krɔp] – с/х культура
16. barley [´ba:li] – ячмень
17. rye [rai] – рожь
18. flax [flæks] – лён
19. livestock [´laivstɔk] – домашний скот
20. expenditure [iks´penditʃə] – расход
21. conduct [kən´dʌkt] – вести
22. connect [kə´nekt] – связывать
23. serve [sə:v] – служить
24. create [kri´eit] – создавать
25. legislature [´ledʒisleitʃə] – законодательная власть
26. judicial [dʒu´diʃəl] – судебный
27. protect [prə´tekt] – защищать
28. enormous [i´nɔ:məs] – громадный
29. devastation [devəs´teiʃən] – опустошение
30. rapid [´ræpid] – быстрый
31. ancient ['eɪnʃənt] –старинный, древний

II. Read the text.

THE REPUBLIC I LIVE IN

The Republic of Belarus is a country in eastern Europe, bordered in the north and east by Russia, in the south by the Ukraine, in the west by Poland, and in the northwest by the Baltic republics of Lithuania and Latvia. The capital and largest city is Minsk, located in the centre of the country.

The total area of Belarus is 207 600 sq km. Belarus is divided administratively into six provinces, or oblasts, which have the same names as their largest cities: Minsk, Brest, Gomel, Grodno, Mogilev, and Vitebsk.

The population of Belarus is over 9.5 mln. Nearly 80 percent of its people are ethnic Belarusians. Russians make up 12 percent. Smaller groups include Poles and Ukrainians. About two-thirds of Belarus people live in urban centres. The official state languages are Belarusian and Russian. In the early 1900's, two Belarusian poets, Yanka Kupala and Yakub Kolas, helped to promote the use of the Belarusian language in literature. Formerly, most literary works were written in Russian or Polish. About 215 daily newspapers are published in Belarus, 130 in Belarusian. Most Belarusians finish secondary school, and many receive higher education. There are a lot of universities in Belarus. The Belarusian State University in Minsk is the largest one.

Belarus has a temperate continental climate, with cool temperatures and high humidity. Belarus has a generally flat terrain with many forests, lakes, and marshes. There are hundreds of rivers and lakes in the country, the largest of which are the river Dnieper and Lake Naroch. About one-third of the country is covered with forests, mostly coniferous and birch. There is a rich variety of wildlife, including such rare animals as the

European bison in the primal forest reserve of Byelovezhskaya Pushcha.

Belarus was long thought to be poor in minerals, its natural resources limited to peat, gravel, sands, and clays. Recent surveys, however, have uncovered major deposits of coal, oil, and potassium salts.

Belarus has a well-developed economy. Manufacturing contributes most of the country's industrial output. The most important manufactured products are tractors, transport vehicles, trucks, agricultural machinery, metal-cutting machines, as well as consumer goods such as motorcycles and bicycles, clocks and watches, refrigerators, television sets, and others.

Agriculture accounts for about a fourth of Belarus' economic output. The principal crops are potatoes, barley, rye, flax and sugar beet. Nearly 60 percent of the country's total land area is cultivated. Livestock (cattle, hogs, sheep, and goats) accounts for more than half the value of agricultural output in Belarus.

Belarus exports transport equipment, machinery, chemicals, and foodstuff. The major Belarusian exports include tractors to Australia, Canada, New Zealand, and the United States. Imports include fuel, natural gas, industrial raw materials, textiles, and sugar. Fuel is Belarus' largest import expenditure. Russia, which supplies most of the country's fuel imports, is the most important trading partner. Belarus also conducts trade with the Ukraine, Germany, Poland, Lithuania and other countries.

Belarus has an extensive transportation system, including railroad and highway networks connecting its cities with other major European cities. The major railroad, which was built in the 1860s'to connect Moscow and Warsaw, runs through Belarus via Minsk and Brest. The best-quality road in Belarus is that which links Moscow with Warsaw. Buses provide most of the transportation within cities.

Belarus has several international airports, the largest of which is located about 50 km east of Minsk: The airport in Minsk serves airlines from Germany, Austria, Poland, Scandinavia, and other countries.

The Dnieper-Bug Canal and other canals improve water transportation by linking many of the rivers with ports on the Baltic and Black seas.

In 1945, Belarus became a founding member of the United Nations. Now Belarus is a member of over 60 international organizations, most notably the United Nations, the United Nations Educational, Scientific, and Cultural Organization (UNESCO), and the World Health Organization. In 1992 Belarus became a member of the International Bank for Reconstruction and Development, the International Monetary Fund, and the European Bank for Reconstruction and Development.

Belarus is a presidential republic. Under the constitution the president is the head of the state of Belarus and directs domestic and foreign policy. The president creates the Council of Ministers, whose chairman is the country's prime minister. The legislature is a bicameral National Assembly. The judicial system of Belarus consists of three high courts: the Supreme Court, the Supreme Economic Court, and the Constitutional Court. The latter court is charged with protecting the constitution, and its decisions are not subjected to appeal. It has the power to review the constitutionality of presidential edicts and the regulatory decisions of the other two high courts.

The name Belarus is derived from the words Belaya Rus’ (White Russia). The Belarusians trace their history to Kievan Rus, a state founded by East Slavs in the 800's, Belarus made up the northwestern part of Kievan Rus. Belarus became part of Lithuania

in the 1300's. It passed to Poland in the 1500's and to Russia in the late 1700's

Belarus as a sovereign state was established in 1919. In 1922 the Belarusian Soviet Socialist Republic became one of the four founding republics of the Union of Soviet Socialist Republics. In August 1991 Belarus declared its independence.

Nazi Germany occupied Belarus from 1941 to 1944, during World War II. By the summer of 1942 the republic became the location of an extensive partisan movement, which played a major role in undermining the Nazi regime. In 1944 the Soviet Red Army drove out Nazi forces.

As a principal theatre of World War II, Belarus suffered enormous devastation and lost one quarter of its population. Minsk was almost entirely destroyed.

Postwar reconstruction was followed by a period of considerable economic development and rapid industrialization. In the postwar years, Belarus became the major center for the production of tractors and automobiles and an important base for chemicals and other products.Concurrently, the postwar years were marked by rapid urbanization. Minsk developed as the major center of economic, cultural, and political life and the largest urban center with a quarter of the republic's urban residents.

III: Find one synonym to the first word in each row.

1.Rare – unusual – rapid – total

2.Connect – promote – state – join

3.Serve – receive – work for – cover

4.Rapid – rely – quick – quality

5.Notably – nearly – remarkably – domestic

IV. Complete the following sentences.

- Belarus is a country in_____
- The total area of Belarus is _____
- Belarus is divided administratively into _____
- Belarus has a _____
- Belarus has a _____
- Belarus was long thought to be _____
- The most important manufacture products are _____
- Belarus exports _____
- In 1945, Belarus became _____
- Belarus is a _____

Possible answers: eastern Europe; six provinces or oblasts; 207 600 sq. km.; temperate continental climate; poor in minerals; well-developed economy; machinery, foodstuff; machinery, transport equipment; tractors, trucks, agricultural machinery; a founding member of the U.N.; presidential republic.

V. Insert the missed parts of the sentences

- Belarus became _____ of the U.N.
- Under the constitution the president is _____ of the state.
- Belarus as _____ was established in 1919.
- Nazi Germany occupied Belarus _____ during World War II
- By the summer of 1942 the republic became _____ of an extensive partisan movement.
- In 1944 the Soviet Union Red Army _____ Nazi Forces.
- Postwar reconstruction _____ by a period of considerable economic development.
- In the postwar years, Belarus became _____ for the production of tractors and automobiles.
- The postwar years _____ by rapid urbanization.
- Minsk developed as _____ of economic, cultural and political life.

Possible answers: the head; a founding member; the location; a sovereign state; from 1941 to 1944; drove out; was followed; the major centre; were marked; the major centre.

VI. Answer the following questions:

- Where is the Republic of Belarus situated?
- What is the territory of the Republic?
- How is Belarus divided administratively?
- What is the population of the country?
- What is the climate of Belarus?
- What can you say about the natural resources in the Republic?
- Is the economy of Belarus well-developed?
- What can you say about agriculture?
- Belarus exports various goods, doesn't it?
- Is the transportation system in Belarus extensive?
- What international organizations does Belarus participate in?
- What can you say about the Republic’s state system?
- What is the history of our country?
- Did Belarus suffer enormous devastation during World War II?
- Postwar reconstruction was followed by a period of considerable economic development, wasn't it?

VII. Discuss the following points of the text in the form of a dialogue. Use all types of questions.

Example:

- Is the total area of Belarus 207,600 sq km?
- What countries does Belarus border with?
- Is Belarus divided into six or four provinces?
- Who promoted the use of the Belarusian language in literature?

- About one-third of the country is covered with forests, isn't it?
- The geographical position of Belarus.
- The nature and resources of the republic.
- Agriculture and industry.
- Export and transportation system.
- The postwar period.

VIII. What do you think the authors meant by the following statements? Do you agree or disagree? Give reasons to support your opinion.

A man should know something of his own country, too, before he goes abroad (Laurence Terne, Irish-born British writer).

Ask not what your country can do for you - ask what you can do for your country (John Fitzgerald Kennedy, US statesman, thirty-fifth President of the USA).

It is a sweet and seemly thing to die for one's country (Horace, Roman poet).

IX. Speak about Belarus with your groupmate in the form of a dialogue.

PLACES TO VISIT IN BREST

I. Read the text. Make a short summary.

The Brest Fortress over the Bug has become a symbol of the eternal glory of the Soviet Soldiers. It was founded on June 1, 1836. The Citadel is the main fortification of the fortress. It is not merely a remarkable military construction; it is an interesting architectural complex.

The Brest Fortress got universal fame during the Great Patriotic War because it took the first blow for itself. The courage of the soldiers of the fortress will always be in the memory of our descendants. At the dawn June 22, 1941(Sunday), Hitler Germany launched its perfidious attack against the Soviet Union without declaring war. Hitler had counted on the "Blitzkrieg": he expected to rout the Soviet Army Forces in a short period of time.

The garrison of the Brest Fortress had to fight under unbelievably hard conditions. The small fortress area of just four square kilometers was steadily shelled by hundreds of guns while planes with swastika on their wings showered it with bombs. The garrison was short of ammunition, medical supplies and food. They were cut off from the water, which had to be fetched under enemy fire.

The defense lasted for over a month. The fortress walls were tumbling down, the bricks melted and the very earth was scorched, but the fortress stood undaunted. The Nazi command was outraged. The Hitler forces mounted one attack after another, sustaining heavy losses, but they were powerless to crush the fighting spirit of the fortress defenders.

The Brest Fortress became one of the sacred monuments of the Soviet people, a symbol of its heroism and endurance, a living example of patriotism. The memorial complex "Brest Hero-Fortress" erected on the site is a tribute commemorating the immortal exploit of its garrison. Today the Brest Fortress is the major tourist sight.

Brest Millennium Monument (2009) – was designed by the Belarusian architect

Alexei Andreyuk and sculptor Alexei Pavluchuk to commemorate the millennium of Brest, Belarus. It was erected in 2009 at the intersection of Sovietskaya Street and Gogol Street in Brest. The project was financed by the state budget and public donations.

The monument presents a group of bronze statues. The angel of mercy with a cross is standing at the top of a granite column. 3 statues remember the remarkable historic personalities that are associated with Brest: Vladimir Vasilkovich, who put up a tower in the castle of the town in the 13th century, Vytautas the grand duke of Grand Duchy of Lithuania, Mikolaj "the Black" Radziwill in whose printing shop the first Belarusian book was printed, 3 more statues represent abstract images: warrior, mother, chronicler (who wrote apparently the Primary Chronicle). The total height is 15.1 m, the height of the angel is 3.8 m, the height of the 6 statues is 3m. the diameter of the base is 8.6 m. In April 2011 a belt of high reliefs appeared around the monument. It depicts history-making episodes of Brest

Unique **Belovezhskaya Pushcha** lies about 70 km from Brest, less than 1.5 hours off by road. The word Pushcha means in Belarusian a forest, but not any forest can be called pushcha, because it implies a virgin forest. That is the only virgin forest, which survived in Central Europe. Pushcha is the largest wildlife reserve in the south west of Belarus.

Incomparable beauty, rich wildlife world, interesting history of Pushcha attract tourists from all over the world. 55 species of mammals, 214 species of birds, 11 amphibious species, 7 species of reptiles, nearly 30 species of fish live in this unique reserve. The king of Pushcha is the East European aurochs, the biggest animal in Europe. Pushcha is rich in deer, roes, elks, wild boars, otters and beavers.

The museum of Pushcha offers a rich display that includes common species of wildlife. Tourists can see some animals in spacious enclosures. Pushcha is a vast open-air laboratory for survey of wildlife world. Visiting the Brest region, you should necessarily see Belovezhskaya Pushcha to admire the majestic beauty of this virgin forest.

There are some other places to visit or to see in our town: a lot of museums, two theatres, several cinemas, parks and other places where you can have a good time. Brest City Park is 100 years old, but it looks quite new after the recent reconstruction.

Other architectural landmarks of the city are:

– St. Nicolas' Orthodox Cathedral (1903),
– St. Simeon's Orthodox Cathedral (1865),
– Resurrection Orthodox Cathedral (1995),
– St. Nicolas' Garrison Orthodox Cathedral (1856),
– Cross Exaltation Roman-Catholic Church (1856),
– Brest Central Railway Station (1886),
– Soviet Street.

BELARUSIAN ECONOMY

I. Read the text. Use the dictionary to look up unfamiliar words.

Belarus has a rather developed economy. It retained well-developed industrial base following the break-up of the USSR. The country also has a broad agricultural base and a high education level. Among the former republics of the Soviet Union, it had one

of the highest standards of living. Nowadays approximately 5.3 million people contribute to the economy of Belarus. Of this total, 42 percent are employed in industry; 21 percent in agriculture and forestry; 17 percent in culture, education, and health services; 7 percent in trade; 7 percent in transportation, and 6 percent in miscellaneous pursuits.

Official unemployment rate is lower than 1%. Methods of International Labour Organization (international standard) also include job-seekers who are not registered officially. Many unemployed people in Belarus are trying to avoid registration, because of obligatory public works, while unemployment benefits are very low. In July 2012 World Bank concluded that the real unemployment rate is seven times higher than the official rate. Belarus is a member of Commonwealth of Independent States (CIS) and Eurasian Economic Union (EAEU).

The Gross Domestic Product (GDP) in Belarus was worth 62.572 billion US dollars in 2019. The GDP value of Belarus represents 0.09 percent of the world economy. GDP in Belarus averaged 32.27 USD Billion from 1990 until 2015, reaching an all time high of 76.10 USD Billion in 2014 and a record low of 12.14 USD Billion in 1999. The economy of Belarus is world's 72nd largest economy by GDP based on purchasing power parity (PPP), which in 2019 stood at $195 billion, or $20,900 per capita. In 2018, Belarus ranked 53rd out of 189 countries on the United Nations Human Development Index, and is in the group of states with "very high development".

Exports provide 50.52% of Belarus' GDP (Nov.2018) with more than a half of exported goods falling in the industrial products category. Major export items: machinery, transport vehicles, chemicals, petrochemical products, rubber, fibers, mineral products, primary metals, fertilizers, food, agricultural raw materials, as well as IT and transportation services. Belarus also holds about 5% in the world exports of dairy products and about 11% of butter.

Belarus is relatively poor in terms of natural resources. It does not have vast amounts of most of the minerals used in modern industrial production. The country has small reserves of petroleum and natural gas.

In the south-east there are small reserves of hard coal, brown coal, and petroleum, but they are not easily accessible and remain undeveloped. The country has large forest reserves. About one-third of the republic is covered in forest.

Belarus does possess, however, one of the world's largest reserves of potassium salts – discovered in 1949 south of Minsk and exploited from the 1960s around the new mining town and fertilizer-manufacturing centre of Soligorsk. Although exports of potash to other former Soviet republics declined significantly in the 1990s, exports to other countries remained at a high level.

The country also is a world leader in the production of peat, which is especially abundant in the Pripyat Marshes. Peat is used as a mulching material in agriculture. In briquette form it is used as fuel.

Among the other minerals recovered are salt, an important deposit of which, near Mozyr, was opened in the 1980s; building materials, chiefly limestone and, near Grodno, quartz sands for glassmaking, both used locally; and small deposits of gold and diamonds.

Belarus is heavily reliant on oil and gas supplies from Russia. These fuel imports reach Belarus via two major pipelines: the Friendship Pipeline carrying oil, and the Natural Lights Pipeline carrying natural gas. The government is attempting to accelerate

the development of its raw-material base, but Belarus remains dependent on Russia for most of its energy and fossil-fuel requirements.

Belarus is a highly developed industrial country. The main industries include machine building, instrument making, chemicals, timber processing, textile and clothing manufacture, and food processing.

Manufacturing contributes most of the country's industrial output. The country is known for its heavy-duty trucks, transport vehicles, and tractors. Belarus also manufactures computers, engineering equipment, metal-cutting tools, and such consumer goods as clocks and watches, motorcycles, bicycles, refrigerators, radios, television sets and others. Forests yield many wood products, including furniture, matches, plywood and paper goods. Heavy industry is the most highly developed sector of the economy. Machine-building industry is mostly concentrated in Minsk. It makes various types of tractors, heavy-duty trucks, other heavy machinery and electrical equipment. Belarus specializes in truck manufacturing. The Belarusian Autoworks (BELAZ) is one of themajor world manufacturers of mining dump trucks with payload capacity from 25 to 360 tons, as well as the other heavy vehicles, being used in mining and construction branches. The products of BELAZ are supplied to more than 70 countries of the world. Dump trucks are also made in Moghilyov.

During the last years the ICT sector in Belarus receives strong government support and is one of the top-priority economic sectors to develop. Thus, by the special Law issued in 2005, Belarus Hi-Tech Park was established with the main goal to support software industry. HTP Belarus provides special business environment for IT business with incentives unprecedented for European countries.Since 2015, Hi-Tech Park resident-companies are allowed to get involved in new science-intensive activities. Now, any company engaged in IT and related industries (micro-, opto- and nanoelectronics, mechatronics, telecommunications, radar ranging, radio navigation and wireless communication), information protection and establishment of data processing centers can apply for residency within the HTP and benefit from tax-incentives and other advantages it provides. HTP resident-companies can work and provide services in the field of information system analysis, designing and software development (IT consulting, audit, national information networks maintenance, database development and corporate information systems implementation and support). The export share in the total production volume exceeds more than 90 %. Park specialists teach children and teenagers to program.

Such support for the IT sector in 2019 increased the share of the IT sector, which provided half of the GDP growth.The export of IT services in 2017–2019 increased by 2.4 times. Production growth in the first half of 2019 was 166%. The total export of services of HTP residents in 2019 exceeded $2 billion. In January 2020, the HTP registered 758 companies with a total of more than 58 thousand employees. In April 2020, the number of resident companies in the Park was 818 with a total of more than 61 thousand employees. In July 2020, the number of residents of the Park increased by 71 companiesIn October 2020, another 83 companies became residents of the Hi-Tech Park. Thus, in October 2020, the number of residents of the Park totals 969 companies, which employ more than 65 thousand specialists.

Mobile applications developed by HTP residents are used by more than 1 billion people in over 150 countries of the world. Some major international companies have al-

ready opened captive centers or global in-house centers in Belarus: IHS Markit, Playtika, Netcracker, Viber, Yandex, Fitbit, Ciclum, WorkFusion, etc. According to Ernst & Young survey, more than 30% of the Fortune Global 200 companies have worked with HTP residents. The most trending customers are Facebook, Microsoft, Northrop Grumman, PepsiCo, Whirlpool, 3M, Amazon.com, Cisco Systems, HP, Oracle, Xerox, Disney, Intel, Apple and IBM, which have worked with several companies from Belarus.

Agriculture accounts for about a seventh of Belarus' economic output. Belarus has a large amount of farmland. But a short growing season and a lack of fertile soil make farming difficult. Most of Belarus has soils of only moderate fertility, but the better-drained uplands can be productive with fertilizer application. Considerable areas of the swampy lowlands have been drained since the late 19th century, with much of the reclaimed land being used for fodder crops. The agricultural sector in Belarus is dominated by large state and collective farms. State farms operate like government factories, called sovkhozy.

Independent Belarus restructured its banking system into a system consisting of the National Bank of Belarus and a number of commercial banks. Six commercial banks, four formerly state-owned specialized banks Belagroprombank (agricultural sector), Promstroibank (industrial sector), Vneshekonombank (foreign trade), and Belarusbank (savings bank) and two universal banks (Priorbank and Belbusinessbank) dominated the banking system. These banks account for over 80 percent of the banking system outstanding loans and approximately 70 percent of domestic currency deposits. In 1992 Belarus became a member of the International Bank for Reconstruction and Development, the International Monetary Fund, and the European Bank for Reconstruction and Development.

Belarus has an extensive transportation system, including railroad and highway networks connecting its cities with other major European cities. Belarus has several international airports, the largest of which is Minsk-2, located about 50 km east of its capital.

II. Match the words listed below with the definitions that follow.

supermarketcurrencyimportsoutputexpenditureinflation exportscropworkforce-meadowpartnersoil farmlandindustrypasturelivestocksecurityupland

1) The produce of cultivated plants, esp. cereals, vegetables, and fruit.
2) A metal or paper medium of exchange that is in current use in a particular country.
3) Something expended, such as time or money.
4) Goods or services sold to a foreign country or countries.
5) Land used or suitable for farming.
6) Goods or services that are bought from foreign countries.
7) Organized economic activity concerned with manufacture, extraction and processing of raw materials, or construction.
8) A progressive increase in the general level of prices brought about by an expansion in demand or the money supply or by autonomous increases in costs.
9) Cattle, horses, poultry, and similar animals kept for domestic use but not as pets, esp. on a farm or ranch.
10) An area of grassland, often used for hay or for grazing of animals.

11) The act of production or manufacture.

12) An ally or companion.

13) Land covered with grass or herbage and grazed by or suitable for grazing by livestock.

14) A certificate of creditorship or property carrying the right to receive interest or dividend, such as shares or bonds.

15) The top layer of the land surface of the earth that is composed of disintegrated rock particles, humus, water, and air.

16) A large self-service store retailing food and household supplies.

17) An area of high or relatively high ground.

18) The total number of workers employed by a company on a specific job, project, etc.

III. Group the following words into eight synonymous groups:

amount, low-priced, occupation, swamp, cheap, machinery, profession, various, equipment, marsh, pursuit, vast, extensive, miscellaneous, quantity, inexpensive, need, requirement

IV. Group the words that follow into six antonymous groups:

cheap, high, poor, rich, employment, long, private, short, expensive, low, public, unemployment

V. Complete the following sentences with the appropriate terms from the list below.

agriculture, industrial production, CIS countries' markets, energy needs, livestock, farming, farmland, potassium salts, forest reserves, service industries, heavy industry, small businesses, industrial output, trading partner

1. Minerals are used in modern ... .
2. The country has large ... .
3. Belarus possesses one of the world's largest reserves of ... .
4. Belarus generates only about 12 percent of its own ... .
5. Manufacturing contributes most of the country's... .
6. ... is the most highly developed sector of the economy.
7. ... accounts for about a seventh of Belarus' economic output.
8. Belarus has a large amount of ... .
9. A short growing season and a lack of fertile soil make ... difficult.
10. Cattle, hogs, and sheep are the most important ... raised in the country.
11. ... are industries that produce services, not goods.
12. Many individuals and families are starting ... .
13. A great amount of goods produced by Belarusian industries and agriculture is oriented towards the ... .
14. Russia, which supplies most of the country's fuel imports, is the most important ... .

VI. Do you think the following statements are true or false? Discuss your answers in pairs.

1. The national economy of Belarus is well-developed.
2. Belarus has vast amounts of most of the minerals used in modern industrial production.
3. The country has large reserves of petroleum and natural gas.
4. The country is a world leader in the production of peat.
5. Belarus is heavily reliant on oil and gas supplies from Russia.
6. Belarus satisfies all its energy needs.
7. Heavy industry is the least developed sector of the economy.
8. The chief chemical product is potassium fertilizer.
9. The Gomel area is Belarus' leading manufacturing centre.
10. Agriculture accounts for about a half of Belarus' economic output.
11. Belarus has a large amount of farmland.
12. The agricultural sector in Belarus is dominated by private farms.
13. The transition to private farms proved to be slow and difficult.
14. Service industries are well developed in Belarus.
15. Belarus proper consumes most of the goods produced.
16. Belarus has an extensive transportation system

1.1.9 THE SOCIO-POLITICAL PORTRAIT OF THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

GREAT BRITAIN

I. What are the first three things which come into your mind when you hear the words 'Britain' or 'the British? Continue the phrase:

When I think of the British, I think about ….

The following prompts are likely to help you: *bad weather, the royal family, corgi, pubs, cricket, double-decker buses, Shakespeare, Big Ben.*

II. Read the following words and learn their meaning.

1)	to refer	обращаться, ссылаться
2)	to comprise	включать, содержать
3)	island	остров
4)	to occupy	занимать
5)	to influence	оказывать влияние
6)	current	течение
7)	infrequent	нечастый
8)	monarchy	монархия
9)	legislation	законодательство
10)	institution	учреждение
11)	issue	вопрос, проблема
12	to represent	представлять
13)	chamber	палата

14) majority — большинство
15) support — поддержка
16) to appoint — назначать
17) mining — горная промышленность
18) construction — строительство
19) abundant — богатый, изобилующий
20) beverage — напиток
21) insurance — страхование
22) stockbroking — биржевое маклерство
23) consultancy — консалтинг
24) livestock — домашний скот
25) poultry — домашняя птица
26) to damage — наносить ущерб

III. Match the words in the box with definitions 1-12.

to appoint	*issue*	*construction*	*support*
island	*stockbroking*	*to comprise*	*current*
to damage	*mining*	*to influence*	*abundant*

1) existing in large quantities
2) an important subject or problem that people are discussing
3) an area of land that has water around it
4) to officially choose someone for a job
5) to harm or break something
6) the natural flow of air or water in one direction
7) agreement with an idea, group, or person
8) the industry or activity of removing coal and other substances from the earth
9) to consist of particular parts or members
10) the work of building or making something, especially buildings, bridges, etc.
11) to have an effect on people or things
12) the job or activity of buying and selling stocks and shares for other people

IV. Read the text. Use the dictionary to look up unfamiliar words.

GREAT BRITAIN

How much do you know about the United Kingdom? The first thing that comes to one's mind is the weather. It is boring, isn't it? British people don't like it because of its changeability. This feature makes it distinct from the rest of the world. But there are still many interesting facts that make the UK a unique country.

There is an important thing we should know about the UK. Officially the country's name is the United Kingdom of Great Britain and Northern Ireland, but sometimes the name Britain is used to **refer** to the United Kingdom as a whole.The United Kingdom **comprises**four geographical and political parts: England, Scotland, Wales and Northern Ireland. London is the capital and the largest city of the country. It is among the world's leading commercial, financial and cultural centres. Other major cities include Birmingham, Liverpool, Manchester, Belfast, Leeds and others.

The territory of the country is surrounded by water, having only one land border with Ireland. The United Kingdom is separated from the continent by the English Chan-

nel. The country occupies an area of over 242,000 sq km and has a population of over 67 million (2019). The United Kingdom covers most of the British Isles, a collection of over 6,000 **islands** of which Great Britain is the largest. England, Scotland and Wales **occupy** the island of Great Britain. Northern Ireland occupies the north-eastern part of the island of Ireland.

The main factor **influencing** the weather of the British Isles is their position close to the ocean. It means that the UK receives a large amount of rain. On the whole the country has a temperate climate with generally cool temperatures and plentiful rainfall all year round. Atlantic **currents** warmed by the Gulf stream bring mild winters, and British summers are cooler than those on the continent. In general the weather in the UK is often cloudy and rainy, and high temperatures are **infrequent**. In addition the weather conditions are extremely changeable. The English sometimes say you can't plan your day because every moment it can start to rain.

The United Kingdom is a constitutional **monarchy** and parliamentary democracy. The current monarch and the head of the state is Queen Elizabeth II. The monarch undertake various official and representational duties. At the same time the government runs the country. The head of the government is the prime minister (PM) who is the leader of the majority political party. The British Constitution is not based on a single document, it is only partly written and is flexible. Its basic sources are parliamentary **legislation** and law decisions. That's why the country is often said to have an unwritten constitution.

The British Parliament often referred to as the "Mother of Parliaments"is one of the oldest legislatures in the world. It consists of the monarch, the House of Commons and the House of Lords. Parliament is the legislative body of the United Kingdom and the primary lawmaking **institution**.

The work of the two houses of Parliament is similar: making laws, checking the work of the government, discussing the current **issues**. Nevertheless the House of Commons often called simply the Commons is more powerful as it decides which laws will be discussed and passed. The House of Commons is publicly elected from the four political divisions that make up the United Kingdom. The UK voters elect 650 Members of Parliament (MPs) to **represent** their interests in the House of Commons.

The House of Lords often called the Lords is the second **chamber** in the UK Parliament. It is made up of around 800 members. They are not elected. The role of the Lords is generally recognized to be complementary to that of the Commons.

The two main political parties in the United Kingdom are the Conservative Party and the Labour Party. Since 1945 eight general elections have been won by the Conservative party and six by the Labour Party; the great **majority** of the members of the House of Commons have belonged to one of these parties. The Conservative Party developed from the old Tory Party which began in the late 1600's. The Labour Party began in 1900. Much of its support comes from trade unions.

The Liberal Party is the third significant party, but it has never received enough **support** to form the national government. It is much smaller than either the Conservative or the Labour Party.

The party which wins most seats at a general election usually forms the government. The Prime Minister is usually the leader of this party. The Queen **appoints** the Prime Minister after each general election. As the head of the Government, the prime

minister selects the Cabinet, choosing its members from among those in Parliament who generally agree with his intended policies. The largest minority party becomes the official Opposition with its own leader and the "Shadow Cabinet". The leader of the Opposition is elected by his or her fellow party members.

Major segments of the British industry include energy, **mining**, manufacturing and **construction**. One of the strongest components of the British industry is the energy sector. The United Kingdom is a net exporter of energy. In addition to oil, the Kingdom has **abundant** reserves of natural gas, coal, and atomic power. Most of the kingdom's energy resources are concentrated in the North Sea.

The UK has a strong manufacturing tradition that goes back to the origins of the Industrial Revolution. In the XIX century the UK was a world leader in producing key materials associated with the Industrial Revolution: coal, steel, textiles, steam engines and ships. The most important manufactured products today are machinery, fuels, chemicals, food, **beverages**, tobacco. The UK is also the major supplier of vehicles, aerospace products, electrical and electronic equipment. The country is responsible for 10 % of the world's export of services, including banking, **insurance**, **stockbroking**, **consultancy** and computer programming. The main export partners are The USA, Germany, France, Ireland, the Netherlands, Belgium and Spain.

Agriculture in The UK is today intensive, highly mechanized and efficient, producing about 60 % of food needs with only 2 % of the labour force. Around two thirds of production is devoted to **livestock**, one third to arable crops. The livestock products include **poultry**, cattle and sheep, milk, meat, eggs and wool. Farmers grow wheat, barley, oats, potatoes, oilseed rape and sugar beets. British farming corresponds to the world's tendencies in agriculture: farmers have to adopt more environmentally friendly methods such as organic farming. It does not use artificial chemicals that can **damage** the environment and human health. There are several types of farming practiced in the UK: arable farming (growing of crops and cereals), pastoral farming (rearing and production of animals) and mixed farming (the combination of arable and pastoral farming). There is also market gardening which is the production of fruits and vegetables.

The United Kingdom of Great Britain and Northern Ireland is one of the most powerful nations and strongest economies in the world. It occurred to be among the world's first industrialized countries.

V. Fill in the table below.

Official name	*The United Kingdom of Great Britain and Northern Ireland*
Capital	
Major cities	
Area	
Population	
Political divisions	
Climate	
System of government	
Segments of industry	
Agricultural products	
International partners	

VI. Find equivalents to the following Russian word combinations in the text.

a) уникальная страна
b) сухопутная граница
c) расположение недалеко от океана
d) с обильными осадками круглый год
e) чрезвычайно изменчивы
f) нынешний монарх
g) выполнять различные официальные и представительские обязанности
h) законодательный орган
i) обсуждение текущих вопросов
j) товарищи по партии
k) богатые запасы природного газа, угля и атомной энергии
l) электрическое и электронное оборудование
m) экспорт услуг
n) высокомеханизированный
o) экологически чистые методы

VII. Match the words to form word combinations. Find Russian equivalents to them.

environmentally	country
interesting	force
Atlantic	programming
making	changeable
temperate	sector
mixed	rainfall
industrialized	friendly
energy	climate
financial	laws
computer	current
plentiful	farming
intended	policy
weather	fact
extremely	centre
labour	conditions

VIII. In the sentences below fill in the appropriate part of speech derived from the word on the right.

1) The weather in the UK is _____, isn't it?	BORE
2) The United Kingdom consists of four _____ divisions.	POLICY
3)The British Isles is a _____ of over 6,000 islands.	COLLECT
4) High temperatures are _____ in the UK.	FREQUENT
5) The weather on the islands is extremely _____.	CHANGE
6) The British Constitution is based both on a parliamentary legislation and law _____.	DECIDE
7) The two houses of Parliament check the work of the	GOVERN

_____.	
8) The House of Commons is more _____.	POWER
9) Employees join a trade_____in order to have their interests and goals better represented.	UNITE
10) In _____, the Kingdom has reserves of natural gas and coal.	ADD
11) The UK is one of the main _____ of aerospace products.	SUPPLY
12) The UK occurred to be among the world's first_____ countries.	INDUSTRY
13) Mixed farming is the _____ of arable and pastoral farming.	COMBINE
14)Market gardening is the _____ of fruits and vegetables.	PRODUCE

IX. Read the text again and answer the following questions.

1) What is the official name of Great Britain?
2) What are the four geographical and political parts of the UK?
3) What are the largest cities of the country?
4) How does the geographical position influence the weather of the British Isles?
5) Why is the UK often said to have an unwritten constitution?
6) Who is the political leader of the country?
7) Who is the official head of the state?
8) What are the functions of the Houses of Parliament?
9) What are the main political parties in the United Kingdom?
10) What are the major segments of the British industry?
11) What are the most important manufactured products in the UK?
12) What services does the country export nowadays?
13) Which types of farming are practiced in the UK?
14) What does the term 'organic farming' mean?

X. Make a plan of the text: put the information below in the right order as it is given in the text. Discuss each point of the plan.

1) Industry
2) Geographical position and population
3) Parliament and political parties
4) Agriculture
5) Political system
6) Official name
7) Climate

THE ENGLISH CHARACTER

I. Read and translate the text.

Customs and traditions always reflect the character of the nation. It is a common knowledge that every nation has a reputation of this or that kind. Here are **some views on the British character** or the character of the people who live on the British Isles.

The British people are said to be **very polite and well-mannered**. “Please, thank you and Excuse me” are used very often in Britain. They are rather conservative and reserved. They are considered to be the world’s tea drinkers.

Newspapers and TV form our opinion about different countries. So, what do you imagine when you think of Britain and its people?

What are the British like?

- friendly and polite
- conservative and well-mannered
- cold and reserved

People who live in Britain are called British. Many people think that ‘English’ is the same as ‘British’. But England is only one of the four nations in the UK. The Scots, Welsh and Northern Irish are British too. They sometimes get angry when they are called ‘English’.

There are also millions of British people whose parents first came to Britain in the 1950s and 1960s from the Caribbean, India, Pakistan, Hong Kong and other places. Their homes are mainly in the big English cities like London, Birmingham and Manchester.

Foreigners have many ideas what the English are like. For example, many people say that they are **cold and reserved, friendly and well-mannered**. You hardly find a person in England who dislikes tea drinking, home cooking and gardening. Their sense of humour is known all over the world.

As for other characteristics which are associated with the English, they are **egoism, self-confidence, intolerance of outsiders, independence, love of comfort** and a strong belief in private property. **Moderation, the avoidance of extremes,** the choice of middle way is among the essential qualities of the English.

The English have a **strong sense of individualism** which can be explained by the uniqueness of the British which was isolated from the European continent for a long time.

One thing never fail to confuse foreigners when they come to Britain and it is British meals. The English are used to certain food and seem never get tired of it. The legendary English breakfast is a hearty meal and a perfect start to a hard working day. This favourite meal consists of bacon, eggs, tomato, fried bread and a variety of sausages. It is usually finished off with slices of toast spread with orange marmalade and a cup of tea with milk (which is traditionally called English tea) or lemon.

The English are very **fond of tea**. They drink tea four or five times a day, but afternoon tea (which is usually taken at 4 or 5 p.m.) is a special treat.

Dinner is usually at 7 o’clock. It is the most substantial meal of the day and is a very formal one. Many people even wear special clothes for dinner.

The English are said to be **a nation of stay-at-homes**. Their famous saying “There is no place like home” is known all over the world.When the Englishman is free, he likes to be at home with the company of his wife and children. There is another saying which is typical for the English – “The Englishman’s house is his castle.”

Undoubtedly, the English are rather **conservative.** They are proud of their customs and are reluctant to change them in a way. Examples of the English conservatism, such as eating traditional English food or reading a newspaper in the morning are well-known worldwide. On a large scale their conservatism is expressed through the attitude

to the monarchy, for an example. The local conservatism can be easily noticed in private traditions observed at schools and societies.So, Britain is the country of traditions and they make a nation special.

Such are the English as we see them.

Englishmen are also known for their **devotion to animals and pets.** The English firmly believe themselves to be the only nation on the Earth that is really kind to its animals. Contrary to the English, **the Scotts, the Welsh and the Irish are somewhat different.**

The Scotts are rather **kind**, but at first glance not as friendly as the English perhaps. They **like extremes**. Sometimes, they seem to be **gloomy** and grey, whereas quite often they are highly coloured and **extravagant**. The Scotts are probably best known to the world for their traditional costume, **the kilt,** the short skirt worn by men. It has been the dress of Highlanders since old-times and has been very suitable for going through the wet, moorland country.

Wales is the place where national spirit and national pride are more intense than in any other part of the UK. **The Welsh** eagerly wear their national dress on festival occasions. The Welsh language is still preserved and taught in schools side by side with English. The Welsh are known for their **highly developed artistic sense**, as well as a distinguished record in the realm of poetry, singing and drama.

In the Northern Ireland the pace of life is slightly different from the whole of the country. Everything moves slowly, and people are usually not much in a hurry. Most of the Irish are considered to be **hard-headed, business-like, self-conscious and very superstitious.** Another national feature is that they are desperately afraid of being laughed at.

It is may seem difficult to tell an Englishman from an Irishman or a Scottish person and in this case a surname may help. If their surnames start with‘Mac’ or ‘Mc’ (for example, McDonald), this person is sure to come from Scotland or Ireland. The surnames that start with ‘O’ (for example, O’Brien) are always Irish.

II. **Sometimes GB is called a strange island because some customs and manners differ from those accepted in other countries.**

Choose what is usual for Britain.

- to queue in a line waiting for a bus
- to greet a friend as many times as you meet him during a day
- to shake hands each time you meet your friends
- to take off shoes as soon as you enter someone’s home
- to keep a distance talking to a person (to stay at least an arm’s length away)
- to jump the queue waiting for a bus
- to bump into another person

III. **There are some stereotypes about national characters.Translate the sentences into Russian. Use Complex Subject.**

- The Irish are said to be great talkers.
- The Scots are thought to be careful with money.
- The English are considered to be great tea-drinkers.

- The Russians are beleived to be lazy.

Which of the statements are stereotypes?

IV. **Make up sentences about the manners in your country. Use the sentences and the example.**

- Take off your shoes entering someone's home.
- Make way for a girl or older people.
- Give up your seat in favour of older people or other people who need it.
- Say "Good appetite" to people that are having a meal.
- Greet your friends each time you meet them during the day.
- Jump the queue waiting for a service.

V.**Some older people think that today young people are bad-mannered. What makes them think so? What rules do the young people sometimes break? What manners do you consider to be good or bad? Do you always follow these "rules of good behavior"?**

VI.**Can you explain the proverb "When in Rome do as Romans do"? Give the equivalent of the proverb in your language.**

WHAT I KNOW OF THE COUNTRY THE LANGUAGE OF WHICH I STUDY

I. Pronounce the following words correctly and learn their meaning:

1.refer [rˈɪfəː] –относиться, иметь отношение

2.occupy [ˈɔkjupaɪ] –занимать

3.influence [ˈɪnfluəns] –влияние, влиять

4.mild [maɪld] –мягкий

5.refresh [rɪˈfreʃ] –освежать

6.explorer [ɪksˈplɔːrə] – исследователь

7.monarch [ˈmɔnək] – монарх

8.powerful [ˈpauəful] –сильный

9.division [dɪˈvɪʒən] –деление

10. delay [dɪˈleɪ] – откладывать, задерживать

11. defeat [dɪˈfiːt] –отменять

12. support [səˈpɔːt] –поддерживать

13. emerge [ɪˈməːdʒ] –появляться

14. appoint [əˈpɔɪnt] –назначать

15. pick [pɪk] –выбирать

16. oppose [ə'pəuz] – выступать против
17. fellow ['feləu] –товарищ
18. salary ['sælərɪ] –жалованье, оклад
19. criticize ['krɪtɪsaɪz] –критиковать
20. survive [sə'vaɪv] –пережить, уцелеть
21. resource [rɪ'sɔ:s] – ресурсы, возможность
22. harvester ['ha:vɪstə] –уборочная машина
23. drillingmachine ['drɪlɪŋ] [mə'ʃi:n] –сверлильный станок
24. householdappliances [haushəuld] [ə'plaɪənsɪz] –бытовая техника
25. remain [rɪ'meɪn] –оставаться
26. join [dʒɔɪn] – присоединяться

II. Read the text.

The United Kingdom is a country in northwestern Europe. The nation's official name is the United Kingdom of Great Britain and Northern Ireland. When people refer to the country, most of them shorten its name to the United Kingdom, the U.K., Great Britain, or Britain. The United Kingdom consists of four political divisions - England, Scotland, Wales and Northern Ireland. London is the capital and the largest city. The United Kingdom occupies an area of over 244,000 sq km and has a population of over 58 million. About 90 percent of the population of the United Kingdom live in urban areas. The most important cities are London, Birmingham, Liverpool, Manchester, and Leeds.

The United Kingdom covers most of an island group called the British Isles. The British Isles consist of two large islands - Great Britain and Ireland - and thousands of small islands. England, Scotland, and Wales occupy the island of Great Britain. Northern Ireland occupies thenorth-eastern part of the island of Ireland. Britain's longest rivers are the Severn and the Thames. Bristol, Liverpool, London, and other cities are important ports.

The United Kingdom has a mild climate. The climate is influenced by the Gulf Stream, a warm ocean current that flows past the British Isles. Steady southwest winds blow across this current and bring warmth in winter. In summer, the ocean is cooler than the land. Winds over the ocean come to Britain as refreshing breezes. The sea winds also bring plentiful rain. The United Kingdom has rain throughout the year, and rarely is any section of the country dry for as long as three weeks.

The United Kingdom has a rich history. The British started the Industrial Revolution, a period of rapid industrialization that began in the 1700 s. They founded the largest empire in history. They have produced some of the world's greatest scientists, explorers, artists, and political leaders.

The United Kingdom is a constitutional monarchy. Queen Elizabeth II is the head of the state, but the cabinet of senior politicians called ministers actually governs the country. The prime minister is the head of the government.

The Constitution of the United Kingdom is not one document, as are the constitutions of many other countries. Much of it is not even in writing, and so the country is

often said to have an unwritten constitution.

Parliament makes the laws of the United Kingdom. The British Parliament has been called the Mother of Parliaments because many of the world's legislatures have copied features from it.

Parliament is the chief lawmaking body. It consists of the monarch, the House of Commons, and the House of Lords.

Of the two houses that make up Parliament, the House of Commons often called simply the Commons, is by far the more powerful. The House of Commons has 651 members, elected from the four divisions that make up the United Kingdom. A general election must be held at least every five years.

The House of Lords, often called the Lords, was once the strongest house of Parliament, but today it has little power. It can delay, but not defeat, any bill that the Commons is determined to pass. The House of Lords has about 1,200 members. The people do not elect them.

The two largest political parties in the United Kingdom are the Conservative Party and the Labour Party. The Conservative Party developed from the Tory Party, which began in the late 1600's. It has always been one of the main parties in Britain. The Labour Party began in 1900.Much of its support comes from labor unions, called trade unions.

For many years, another party, called the Liberal Party, was the Conservative Party's chief opponent. It developed from the Whig Party, which emerged in the late 1600's. But by the mid-1930's, the Liberal Party had become much smaller than either the Conservative or the Labour party. The Prime Minister is usually the leader of the political party that has the most seats in the House of Commons. The king or queen appoints the prime minister after each general election. The prime minister selects about 100 ministers. From them, the prime minister picks a special group of about 20 ministers to make up the Cabinet. The largest political party in the House of Commons that opposes the party in power is called Her (or His) Majesty's Opposition. The head of that party is the leader of the opposition. The leader is elected by his or her fellow party members but is paid a salary from the government funds. The opposition has the duty of criticizing the government in power and standing ready to set up a new government. For this reason, the leading members of the opposition party are popularly referred to as the Shadow Cabinet.

The United Kingdom is an important manufacturing and trading nation. In fact-Britain can survive only by manufacturing and trading. The country's farms produce only about two-thirds of the food needed by the people. Except for coal, natural gas, and oil, Britain has few natural resources. The country must import about a third of its food and many of the raw materials it needs for manufacturing.

The country is one of the world's largest producers of tractors. Other products include cranes, earth movers, road graders, harvesters, and drilling machines. British factories also make railway equipment, household appliances, and machine tools.

The Industrial Revolution began in Britain's textile industry. Today Britain remains an important producer of cotton and woolen textiles.

Many British farmers practice mixed farming – that is they raise a variety of crops and animals. Britain's most important crops are barley, potatoes, rapeseed, sugar beets and wheat. Sheep are Britain's chief live-stock. Farmers in almost every part of the

country raise sheep for meat and wool. British farmers also raise beef cattle, dairy cattle, and hogs. Chickens are raised mainly in special mass-production plants.

Most of the United Kingdom's trade is with other developed countries. France, Germany, and the United States are Britain's leading customers and suppliers. A growing proportion of the country's trade is with themembers of the European Community, which the United Kingdom joined in 1973. Other trade partners include Canada, Ireland, Japan, Norway, Saudi Arabia, Sweden and Switzerland.

III. Find one synonym to the first word in each row.

1. powerful– influence – strong – refresh

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2. delay – postpone – occupy – refer

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3. support – defeat –mild – help

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4. emerge – leave – appear – appoint

---

5. pick – join – take – oppose

---

6. salary – fellow – explorer – payment

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7. resource – wealth – harvester – division

IV. Find the suitable meaning to each of the words.

1. survive –	a) dividing or being divided
2. remain –	b) assembly which makes laws
3. division –	c) continue to live or exist
4. plentiful –	d) higher in rank, authority
5. rapid –	e) In large quantities
6. senior –	f) moving, happening with great speed
7. legislature –	g) be still present

V. Translate the sentences into Russian. Pay attention to the Infinitive.

Example: The country is often said to have an unwritten constitution. Часто говорят, что в стране нет конституции в письменном виде.

1. A general election must be held at least every five years.

2. The House of Lords can delay, but not defeat, any bill that Commons is determined to pass.

3. From them, the prime minister picks a special group of about 20 ministers to make up the Cabinet.

4. Much of it is not even in writing, and so the country is often said to have an unwritten constitution.

5. His duty is to inform everybody immediately.

6. The opposition has the duty to criticize the government in power and standing ready to set up a new government.

7. Britain can survive only by manufacturing and trading.

VI. Complete the following sentences:

1. The United Kingdom is a country in _____.
2. The U.K. occupies an area of over _____.
3. The U.K. covers most of an island group called_____.
4. The British Isles consist of two large islands – _____.
5. The U.K. has a _____.
6. The sea winds also bring _____.
7. The U.K. has a _____.
8. The country must import _____.
9. A general election must be held at least _____.
10. Many British farmers practice _____.

Possible answers: north-western Europe; 244 000 sq km; plentiful rain; mild climate; rich history; the British Isles; Great Britain and Ireland; a third of its food; every five years; mixed farming.

VII. Insert the missed parts of the sentences:

1. Great Britain covers most of an _____ called the British Isles.
2. The U.K. has _____ throughout the year.
3. The British started the _____ in the 1700s.
4. A cabinet of senior politicians called ministers actually _____ the country.
5. The Constitution of the U.K. is not one _____, as are the constitutions of other countries.
6. Parliament makes the _____ of the country.
7. The House of Lords was once the _____ of Parliament.
8. The Prime Minister is usually the _____ of the political party that has the most seats in the House of Commons.
9. The king or queen appoints the _____ after each general election.
10. The U.K.is an important _____ and trading nation.

Possible answers: Industrial Revolution; rain; island group; manufacturing; prime minister; leader; strongest house; laws; document; governs.

VIII. Answer the following questions:

1. What is the official name of Great Britain?
2. Where are the British Isles situated?

3. What are the four political divisions of the United Kingdom?
4. Why does the United Kingdom have a mild climate?
5. What can you say about the state organization of the United Kingdom?
6. Why is the British Parliament called the Mother of Parliaments?
7. What are the main political parties in the United Kingdom?
8. What is the ruling political party in Great Britain at present?
9. Who is the prime minister in the United Kingdom nowadays?
10. Who was the first woman to hold the office of prime minister of the United Kingdom?
11. Does the United Kingdom rank among the top industrial countries?
12. What British industry did the Industrial Revolution begin in?

IX. Discuss the following points of the text in the form of a dialogue. Use all types of questions.

Example: 1. Does the United Kingdom consist of four political divisions?
2. Where is the UK situated?
3. What country occupies an area of over 244,000 sq km?
4. Do the British Isles consist of two or three large islands?
5. Britain's longest rivers are the Severn and the Thames, aren't they?

1. The geographical position and population.
2. The country's history and state system.
3. The political parties.
4. The industry of the country.
5. British agriculture.
6. The country's trade.

X. What do you think the authors meant by the following statements? Doyou agree or disagree? Give reasons to support your opinion.

1. When people say England, they sometimes mean Great Britain sometimes the United Kingdom, sometimes the British Isles, - but never England (George Mikes, Hungarian-born British writer, 1912-87).

2. But of all nations in the world the English are perhaps the least a nation of pure philosophers (Walter Bagehot, British economist and journalist, 1826-77).

3. England is... a country infested with people who love to tell us what' to do, but who very rarely seem to know what's going on (ColinMacInnes, British novelist, 1914-76).

XI. Read the article and say in 2-5 sentences what it is about.

London Celebrates 150 Years of the Tube

On January 9th 1863the London Underground opened for the first time. Now the Tube is a central part of life in the British capital.

On January 9th, 1863, a steam-powered train left London's Paddington Station. Packed with passengers, it snaked three and a half miles under the soil of London to Farringdon, a station close to the city's financial heartland. Today, the same journey takes place thousands of times every year.

The first half of the 19th Century was a boom period for industrializationand London was changing radically: trade traffic packed the streets, pollution filled the air and the population more than doubled.

Now, as it celebrates its 150th anniversary, the Tube incorporates eleven lines and 270 stations. Some 527 trains each travel 114,500 miles every year, carrying over one billion passengers.

During World War II platforms and stations functioned as makeshift bunkers, where nearly 200,000 slept as bombs rained down on London. By the middle of the Blitz, 2,400 gallons of tea and cocoa were served underground every nightand wash-rooms, libraries and 22,000 bunk beds had been installed.

But the Tube is not always regarded with affection. When the Circle Line opened in 1884 the Times newspaper claimed thata journey on it was ‘a form of mild torture which no person would undergo if he could conveniently help it’. Todaytemperatures in some parts of the network can reach 32°C - too hot to legally transport animals - and the air quality is so bad that one twenty minute journey is deemed the equivalent of smoking a cigarette.

Answer the following questions:

1. How many lines, stations and trains does the London Underground have now?
2. How was the London Underground used during World War II?
3. Does the London Underground make a positive contribution to people’s quality of life?

XII. Speak about Great Britain with your groupmate in the form of a dialogue.

XIII. Read the text. Use the dictionary to look up unfamiliar words.

The UK Economy

The economy of the United Kingdom is highly developed and market-orientated. It is the sixth-largest national economy in the world measured by nominal gross domestic product (GDP), ninth-largest by purchasing power parity (PPP), and twenty second-largest by GDP per capita, comprising 3.3% of world GDP. In 2016, the UK was the tenth-largest goods exporter in the world and the fifth-largest goods importer. It also had the second-largest inward foreign direct investment, and the third-largest outward foreign direct investment. The UK is one of the most globalised economies, and it is composed of England, Scotland, Wales and Northern Ireland. The country's gross domestic product is $2.743 trillion in 2019.

Service industries account for about two-thirds of the United Kingdom's gross domestic product. More than 70 percent of British workers are employed in service industries. The country's service industries are concentrated in and near its largest cities, especially London.

Finance, insurance, and real property is the most important service industry in Britain. This industry accounts for a larger portion of the United Kingdom's GDP than any other industry. Most of the country's financial companies operate in London, one of the world's leading financial cities. Major financial institutions in London include the Bank of England (1), the United Kingdom's national bank, the London Stock Exchange

(2), and Lloyd's of London insurance society (3).

Community, social, and personal services rank second among the service industries in the United Kingdom. This industry employs more British workers than any other service industry. It includes such activities as education and health care, and advertising and data processing.

Wholesale and retail trade is the third most important service industry in Britain. The most valuable wholesale trading activities include the distribution of petroleum and textiles. Aberdeen and London are important centres of petroleum refining and distribution. Leeds is the chief centre of the British clothing industry. Retail trade is centred in London, which has thousands of small shops and attracts millions of tourists yearly. Tourism is another of Britain's important service industries. It is a growing source of income and employment. Other large service industries in the United Kingdom include government, transportation and communication, and utilities.

The United Kingdom is a leading industrial nation. Most British industries are in central England, the London area, the Scottish Central Lowlands, the Newcastle upon Tyne area, and southern Wales. Britain ranks as an important steel producer. It exports nearly half of its finished steel. The rest is used in Britain to make hundreds of products. Much steel is used in automobiles, buses, trucks, and motorcycles. Britain also produces heavy machinery for industry, farming, and mining. The country is one of the world's largest producers of tractors. Other products include cranes, earth movers, road graders, harvesters, and drilling machines. British factories also make railway equipment, household appliances, and machine tools. The city of Sheffield is famous for its high-quality knives and hand tools.

British Aerospace makes a wide range of jet aircraft. It is the largest aerospace company in Europe. Rolls-Royce is world famous for airplane engines as well as luxury automobiles. Space satellites and weapons defense systems are also produced in Britain. Aerospace equipment and heavy machinery are major British exports.

An increasing percentage of Britain's manufactured goods consists of sophisticated electronic equipment. Much of this equipment is exported. Factories produce such items as cable television equipment, data processing equipment, fibre-optic communications systems, radar devices, and undersea telephone cables.

The chemical industry in Britain produces a variety of products – from industrial chemicals to plastics and soap. Britain is the fourth largest exporter of pharmaceuticals. The country's pottery industry is centred in Stoke-on-Trent. Outstanding names in British pottery include Worcester, Spode, and Wedgwood.

The United Kingdom is one of the world's chief centres of printing and publishing. British companies print paper money and postage stamps for many countries. Books published in Britain are exported to countries throughout the world.

The Industrial Revolution began in Britain's textile industry. Today, Britain remains an important producer of cotton and woollen textiles. British manufacturers also make synthetic fibres and fabrics. England's east Midlands region is a centre for the production of lace and knitwear. Cotton and wool are produced in northern England. Scotland produces knitwear and is famous for its fine woollen products. Northern Ireland has a world-wide reputation for its linen goods.

Britain has one of Europe's largest clothing industries. The biggest centres are Leicester, Leeds, London, and Manchester. British clothing has long been famous for its

quality. But today, Britain imports more clothing than it exports because many countries with lower labour costs can produce clothing more cheaply than the British can.

Processing of foods and beverages ranks as one of Britain's major industries. Most processed foods and beverages are consumed in Britain. But some are exported. Scotch whisky has a large world market. Other British industries manufacture bricks and cement, furniture, leather goods, glassware, and paper.

Britain imports about a third of its food supply. The imports include avocados, bananas, oranges, peppers, pineapples, and other items that cannot be easily grown in Britain's climate.

The United Kingdom has about 240,000 farms. About two-thirds of Britain's farmers own the farms on which they live. The rest rent their farms. About half the people who operate or work on farms do so on a part-time basis. Many British farmers practice mixed farming – that is, they raise a variety of crops and animals. Methods of mixed farming vary from farm to farm.In the rough highlands of Scotland, Wales, and western England, grass grows much better than farm crops. There, farmers use most of their land for grazing. The land in southern and eastern England is drier and flatter, and it is more easily worked. Farmers in eastern England use most of their land for raising crops.

Britain's most important crops are barley, potatoes, sugar beets, and wheat. Farmers in southern and eastern England grow almost all the country's sugar beets, and wheat and most of its barley. Potatoes are grown throughout the United Kingdom. Farmers in southern England grow most of Britain's fruits and garden vegetables. One of the most productive regions is the county of Kent in south-eastern England. It is called the Garden of England and is famous for the beautiful blossoms of its apple and cherry orchards in springtime. Farmers in Kent also grow hops, which are used in making beer.

Sheep are Britain's chief livestock. Farmers in almost every part of the country raise sheep for meat and wool. British farmers also raise beef cattle, dairy cattle, and hogs. Chickens are raised mainly in special mass-production plants.

The United Kingdom is a major world producer of petroleum, coal, and natural gas. These three fuels account for about 85 percent of the value of total mineral production in the country. Petroleum is Britain's most valuable mineral. British oil wells produce about 650 million barrels of petroleum a year. In the past, the country had to import petroleum to meet its needs. But during the 1970's, Britain began producing petroleum from wells in the North Sea. Today, Britain's oil wells provide nearly all the petroleum that the country uses and also supply petroleum for export.

Britain's largest coal-mining region lies near the River Trent in central England. Coal from this area is an important source of fuel for the country's electric power plants. Britain obtains natural gas from deposits below the North Sea. These deposits provide enough gas to meet most of the country's needs. Britain's next most important minerals, in order of value, are sand and gravel, limestone, and clays. The Southwest Peninsula has fine china clay, used in making pottery. South-eastern England has large deposits of chalk, used for cement. Other British minerals include sandstone and gypsum.

The United Kingdom ranks as a leading trading nation. Britain once imported chiefly raw materials and exported mostly manufactured products. However, manufactured goods now account for about three-fourths of British imports and also about three-fourths of its exports. Britain exports aerospace equipment, chemicals and pharmaceuti-

cals, machinery, motor vehicles, petroleum, and scientific and medical equipment. Its imports include chemicals, clothing, foods (especially fish, fruit, vegetables, meat, coffee, and tea), machinery, metals, motor vehicles, paper and newsprint, petroleum products, and textiles.

Most of the United Kingdom's trade is with other developed countries. France, Germany, and the United States are Britain's leading customers and suppliers. A growing proportion of the country's trade is with members of the European Union. Other trade partners include Canada, Ireland, Japan, Norway, Saudi Arabia, Sweden, and Switzerland.

The value of Britain's imports of goods usually exceeds the value of its exports. British banks and insurance companies make up part of the difference by selling their services to people and firms in other lands. Another important source of income is the spending by the more than 15 million tourists who visit the United Kingdom each year. The British merchant fleet also brings in money by carrying cargoes for other countries. The income from all these invisible exports exceeds $200 billion a year.

Roads and railways carry most passenger and freight traffic within the United Kingdom. An excellent system of high-speed motorways links major cities and towns. Bus systems provide local and intercity transportation. Lorries carry about 80 percent of the inland freight. An extensive rail network crisscrosses the United Kingdom. The railroads are owned by the government and provide excellent high-speed passenger service, as well as freight hauling.

Britain has a large merchant fleet. The ships in the fleet carry British-made goods to ports throughout the world and bring back needed imports. British ships also carry freight for other countries. There are about 80 ports of commercial significance throughout the United Kingdom. The country's inland waterways are used to carry freight, as well as for recreational boating. The Thames, which flows through London, is Britain's busiest river and one of the busiest in the world.

British Airways, the United Kingdom's largest airline, operates flights to all parts of the world. Smaller airlines provide service within Britain and to other countries. Britain's largest airports are Heathrow and Gatwick, both near London, and those at Birmingham, Glasgow, and Manchester.

Britain has about 100 daily newspapers. About 15 have nation-wide circulation. Their main offices are in London. The Sun and the Daily Mirror have the largest circulations. Other leading papers include The Times, The Guardian, The Daily Telegraph, and The Independent.

The British Broadcasting Corporation (BBC), a public corporation, provides commercial-free radio and television service. The BBC is financed chiefly by yearly licenses that people must buy to own a television set. Television stations controlled by the Independent Television Commission and radio stations controlled by the Radio Authority broadcast commercials.

1. Group the following words into nine synonymous groups.

aggregate	external	leading	national
cheap	foreign	low-cost	naval
chief	gross	low-priced	overseas
commercial	important	main	significant

complex	inexpensive	major	sophisticated
domestic	inland	marine	total
entire	international	mercantile	trading

2. Read the following text and find synonyms for the highlighted words.

The **leading** position of British commerce in world trade during the 18th and 19th centuries resulted largely from the geographical isolation of the British Isles from the wars and political troubles that afflicted the centres of trade on the European continent. The development of the great **trading** companies, colonial expansion, and **naval** control of the high seas were corollary factors. Before the 17th century the **foreign** trade of England was almost completely in the hands of foreigners; wool was the principal export, and manufactured goods were the chief imports. Under the **mercantile** system, which in Great Britain was the prevailing economic theory of the 17th and 18th centuries, the government fostered British **foreign** trade, the development of shipping, and trading companies. As British overseas possessions increased, the raising of sheep for wool and mutton became a major occupation in the colonies; the practice of exporting wool from England and importing manufactured woollen articles was gradually replaced by the import of wool and the manufacture and export of yarns and fabrics. Cotton textiles, iron and steel, and coal soon became **significant** British exports.

3. Group the words that follow into six antonymous groups.

cheap	full-time	low	personal
expensive	high	national	public
foreign	invisible	part-time	visible

4. Fill in the blanks in this passage, using the words from the list.

companies	goods	land
countries	government	petroleum
crops	imports	trade
economy	industry	workforce

The United Kingdom has a developed mixed private and public-enterprise (1) that is largely based on services, especially international trade, and manufacturing. The (2) controls the production of coal, steel, and ships; it also runs certain utilities, the railways, and most civil aviation. The gross national product (GNP) is growing faster than the population, but only slowly. The GNP per capita lags behind those of most other western European (3).

Agriculture accounts for less than 2 percent of the GNP and employs some 2 percent of the (4). Farming is highly mechanized, though farms are not extremely large, and is dominated by the raising of sheep and cattle. Pastures cover about one-half of the land. Arable (5) is limited to less than one-third of the nation's land area, and the United Kingdom is not agriculturally self-sufficient. Chief (6) include barley, wheat, sugar beets, and potatoes.

The mineral (7) accounts for approximately 6 percent of the GNP but employs less than 1 percent of the workforce. Production from oil fields in the North Sea has allowed the United Kingdom to become virtually self-sufficient in (8). The United Kingdom's coal industry, despite its steady decline since the early 1950s, remains one of

the largest and most technologically advanced in Europe.

Manufacturing industries account for one-fifth of the GNP and employ a similar proportion of the workforce. Small (9) predominate, though companies with 500 or more employees employ a larger percentage of the workforce. Major manufactures include motor vehicles, aerospace equipment, electronic data-processing and telecommunication equipment, metal goods, precision instruments, petrochemicals, and other chemicals.

Exports of (10) and services account for as much as a third of the GNP, and the British merchant navy remains one of the world's largest. The European Union, which the United Kingdom joined in 1973, accounted for nearly half of the country's (11) before brexit. Exports to Commonwealth countries also represent a significant share of the United Kingdom's total exports and ordinarily exceed (12).

GREAT BRITAIN: THE LAND OF INSPIRATION

I. Read the text and be ready to discuss it.

Although you may think of Britain as England, it is really three countries in one. Scotland in the North, and Wales in the West, were once separate countries. They have different customs, traditions, languages and, in Scotland's case, different legal and educational systems, all fought over with the English centuries ago, and even now not entirely resolved. Both the Scottish language Gaelic, and particularly Welsh, can still be heard spoken in each country, but nevertheless English is still their main language.

Britain is a deceptively large island and is surrounded by some varied – and very beautiful – coastline, which is worth exploring. Some of the best sandy beaches are found in Devon and Cornwall, where they are washed by shallow Atlantic seas and overlooked by craggy, granite cliffs.

Beyond London, Britain's landscape varies from the soft rolling hills of Southern England, through the flatter expanses of the Midlands, to the dramatic hills and lakes of Northern England, Wales and Scotland.

Historical towns abound in the south. Oxford is a world famous university town dating back to the 12th century. Bath is an elegant spa town built over the remains of a similar Roman settlement.

In the hub of England lies an area steeped in heritage, unspoiled countryside, bijou villages and lively cities competing for attention. This is an area of contrasting landscapes and architectural styles, with meandering rivers and picturesque market towns that have changed little with time. Stratford-upon-Avon, the birthplace of William Shakespeare, and Cambridge with its architectural glories and peaceful, unhurried atmosphere, Nottingham, home to the medieval outlaw Robin Hood and his merry men, must all surely merit a visit too.

Some of the country's most inspiring landscapes await you in the north of England. It is a peaceful and pastoral region boasting no less than five National Parks. In Cumbria you will find the Lake District, a stunning combination of mountains, lakes and rushing streams that have inspired countless poets, artists and writers, including Wordsworth and Beatrix Potter, who lived in the area. The spectacular views of the Lake District are a magnet to fell-walkers, climbers and watersports enthusiasts.

Scotland conjures up images of dramatic mountains, lochs, tartan, bagpipes and

fine malt whisky. Scotland is all this and much more besides... it's a land rich in royal heritage, with turreted castles, Highland games and historical towns and cities

Landscapes in Scotland are breathtaking in their variety, and have sustained and inspired the unquenchable spirit of Scotland.

The soaring Highlands, with deep glens cradling jewel-like lochs attest to the drama and beauty of Scotland's landscapes. Southwards lie high moorland, green rolling hills and scattered abbey ruins of the Lowlands. The Scottish Isles – the Hebrides, the Orkneys and the Shetlands – belong to another peaceful and idyllic world.

If mountains, glens and lochs embody the scenery of the Highlands; clans, tartans and bagpipes, porridge and whisky are its essence.

The cities are just as diverse as the landscapes. Edinburgh, the graceful capital, is dominated by an imposing 12th century castle. In contrast is the Georgian Edinburgh of attractive squares, tree-lined avenues and elegant shopping thoroughfares (renowned for their classic tartans and cashmere sweaters). The city's rich cultural heritage is highlighted by its spectacular International Festival.

Glasgow is the cultural centre of Scotland and its exuberant festivals are widely acclaimed. Housing some of the finest museums and galleries in Europe, the city is great for culture hunters.

Magnificent scenery with imposing castles on just about every vital hill top, a long and colourful history, a country where its people have maintained a separate identity, an ancient language and a passion for their song and poetry... this, unquestionably, is **Wales.**

You'll know you are in a different country as soon as you cross the border from England and see the road signs in English and Welsh. The Welsh word for their country is 'Cymru' meaning 'the land of comrades'. And it goes without saying that you'll find the Welsh open, friendly, and good at making people welcome.

The Welsh people with a rich and ancient culture that is instilled in everyday life even today, are famed for their love of poetry and song. The Welsh gift for singing in harmony is praised worldwide and male choirs can be found almost in every village. The best places to hear their song are at festivals of music, the best known of which is the Eisteddfod.

Yet this is not just a "Land of Song", it is also a land of mountains, a heaven for those invigorated by fresh air and open spaces. The rugged and untamed Snowdonia National Park lies to the north, a favourite with walkers and climbers.

Wales is also renowned for its enchanting castles. There are more castles to the square mile than in any other country in the world. These mighty fortresses and romantic ruins are reminders of historic battles. They were built by Welsh princes as a defence from their neighbours, then more castles were constructed by the Normans, and later still the English to keep the fiery Welsh at bay.

Cardiff, the capital of Wales, is a rich tapestry of culture and history. Wherever you walk in this truly cosmopolitan city you will discover art and architecture that echo many ages and ideals. One of the chief glories of the capital is the magnificent Cardiff Castle, started by the Romans, enhanced by the Normans and lavishly adorned more recently.

If you like impressive castles and nature at its most dramatic, have a love of poetry, song... and British team sports like rugby... Wales will not disappoint you.

Hardly 85 miles from top to bottom, **Northern Ireland** can be explored in just a week. The delightful variety of Northern Ireland's scenery - blue mountains, forest parks, island-studded lakes, and a spectacular coastline - is matched by the country's richly varied cultural inheritance. There are ancient tombs, Celtic crosses, early monasteries, and a range of exciting visitor attractions, which put this heritage into context.

Highlights of the northern coast include the extraordinary volcanic formations of the Giant's Causeway and the oldest licensed whiskey distillery in the world.

Belfast's lively cultural scene, with concert halls, theatres and world-class musical entertainment, draws in visitors from all over. The largest arts festival in the whole of Ireland is held in Belfast each November.

Discover the delightful beauty of Northern Ireland, and you soon realise that this is a country just pretending to be small.

Britain is a land so rich in diversity that it is only the beginning of your journey of discovery. But we do hope that it is a pleasant start - and a taste of things to come!

2.1 MY FUTURE SPECIALITY

HVAC ENGINEERING

Heating, ventilation, and air conditioning (HVAC) systems are an integral part of most contemporary buildings. The professionals who design the systems that control air quality and temperature are known as HVAC engineers. HVAC engineers are a category of mechanical engineers and their work is coordinated with other construction specialists. HVAC engineers often have expertise in trades such as electrical or plumbing that are a part of climate control systems. They must be familiar with federal, state, and local building codes and regulations in order to remain in compliance with the law.

Engineering an effective HVAC system requires the ability to perform heat load and loss calculations and an understanding of how air flows through various types of structures. There is a wealth of considerations for professionals designing systems to fit the special needs of hospitals, restaurants, schools, and areas such as computer rooms.

An HVAC engineer assesses the needs of building occupants (e.g., people, animals, products) and the purpose of a structure in order to design an optimal climate control system. The design encompasses the layout of all the system components and usually includes schematics or other drawings. They choose the appropriate equipment and prepare cost estimates.

HVAC engineers plan and coordinate every aspect of a system installation. They ensure that all safety procedures are followed and that the work is completed according to code. They meet with clients and building inspectors as required. As each step of the installation is completed, the engineer tests the operation. As well as designing climate control systems for new construction, HVAC engineers can conduct performance evaluations of existing systems and recommend improvements to increase efficiency.

An HVAC engineer isn’t the person who shows up at a residence or commercial property to work on the equipment. That’s the HVAC tech. You may interact with a tech, but you’re the one doing some of the more involved things such as:

- designing and constructing HVAC systems
- instructing HVAC techs on the installation of your systems
- recommending solutions to system failures

• developing design prototypes and testing them

• meeting with clients to help determine the direction you need to go with HVAC systems

• solving problems with old HVAC system designs or completely revamping them

• preparing cost estimates for clients

There are a few options when it comes to HVAC engineering jobs.

• Controlsystems: design the unit that controls the HVAC equipment. • Design engineering: be in charge of the design and mechanics of the equipment.

• Sales engineering: network and build relationships with companies that would need the units being designed

Successful HVAC engineers have personal characteristics in common to engineers in other subfields. One of the cool things about being an HVAC engineer is you only need four years of college to break into this field. In college, you'll learn HVAC theory and application, computer aided design (CAD), HVAC systems and analysis, physics, advanced maths, mechanical engineering, and much more.

Here's what you'll need to do to become an HVAC engineer:

• Be really good at math, which is something to keep in mind if you're going into any type of engineering field.

• Get your degree in mechanical engineering, HVAC engineering, architectural engineering, or another closely related field.

The following skills as important:

• Creativity

• Listening

• Mathematical reasoning

• Mechanical ability

• Problem-solving

• Communication skills

• Computer skills

As an HVAC engineer, you may be behind the scenes when it comes to the creature comfort of climate control, but you can pat yourself on the back that it's because of you people are working and living in comfortable atmospheres.

HEATING

Text 1

1. *Найдите русские эквиваленты английских слов.*

1. boiler	a. тепловой насос
2. furnace	b. устройство
3. central heating	c. аккумулирующий цилиндр
4. heat pump	d. теплофикация, централизованное отопление района
5. ductwork	e. горячая проточная вода

6. fluid	f. воздушный фильтр, воздухоочисти-тель
7. heat exchanger	g. труба
8. radiator	h. нагрев сопротивлением, контактный электронагрев; электроотопление
9. supply of heat	i. система каналов, труб; трубопровод
10. storage cylinder	j. воздушный поток, вентиляционная струя
11. hot running water	k. воздушное отопление
12. forced-air heating	l. обратное отопление
13. air cleaner	m. теплообменник
14. resistance heating	n. система распределения
15. fossil fuel	o. бойлер, котел
16. reverse heating	p. газовый нагреватель; газовая плита
17. vent	q. центральное отопление
18. air current	r. входное (выходное) отверстие, вентиляционное отверстие, отдушина; клапан
19. pipe	s. камин, очаг
20. fireplace	t. система отопления, работающая на жидком топливе; бензиновое отопление
21. device	u. печь, очаг; топка
22. distribution system	v. подача тепла, обеспечение теплом
23. oil-fired system	w. электростанция
24. gas heater	x. текучая среда (жидкость или газ)
25. district heating	y. ископаемое топливо
26. generating plant	z. радиатор, батарея (отопления)

2. *Прочитайте и переведите текст.*

CENTRAL HEATING

Heating systems may be classified as central or local. Central heating is often used in cold climates to heat private houses and public buildings. A central heating system provides warmth to the whole interior of a building (or a portion of a building) from one point to multiple rooms.

When combined with other systems in order to control the climate inside a building, the whole system may comprise HVAC (heating, ventilation and air conditioning).

Central heating differs from local heating in that the heat generation occurs in one place, such as a furnace room in a house or a mechanical room in a large building. Such a system contains a boiler, a furnace, or a heat pump to heat water, steam, or air. The most common method of heat generation involves the combustion of fossil fuel in a furnace or a boiler. The resultant heat then gets distributed: by forced air through ductwork, by water circulating through pipes, or by steam fed through pipes. The system also contains radiators to transfer this heat to the air. The term “radiator” in this context is misleading since most heat transfer from a heat exchanger is by convection, not radiation. The radiators may be mounted on walls or buried in the floor to give underfloor heat.

Boiler feedwater or radiator heating systems have a pump to circulate water and ensure an equal supply of heat to all the radiators. The heated water can also be fed

through another (secondary) heat exchanger inside a storage cylinder to provide hot running water.

Forced-air systems send heated air through ductwork. When the weather is warm the same ductwork can be used for air conditioning. The forced air can also be filtered or put through air cleaners.

Heating can also be provided by electric, or resistance heating using a filament that becomes hot when electricity is caused to pass through it. This type of heat can be found in electric baseboard heaters, portable electric heaters, and as backup or supplementary heating for a heat pump (or reverse heating) system.

The heating elements (radiators or vents) should be located in the coldest part of the room, typically next to the windows to minimize condensation and offset the convective air current formed in the room due to the air near the window becoming negatively buoyant due to the cold glass. Cold air draughts can contribute significantly to subjectively feeling colder than the average room temperature. Therefore, it is important to control the air leaks from the outside in addition to proper design of the heating system.

In northern Europe and in urban regions of Russia, where people seldom require air conditioning in homes due to the temperate climate, most new housing comes with central heating installed. Such areas normally use gas heaters, district heating, or oil-fired systems. In the western and southern United States natural-gas-fired central forced-air systems occur most commonly; these systems and central boiler systems both occur in the far northern regions of the USA. Steam heating systems, fired by coal, oil or gas, feature in the USA, Russia and Europe primarily for large buildings. Electrical heating systems occur less commonly and are only practical with low cost electricity or when geothermal heat pumps are used. As for the combined system of a central generating plant and electric resistance heating, the overall efficiency will be less than with direct use of fossil fuels for space heating.

From an energy-efficiency standpoint considerable heat gets lost or goes to waste if only a single room needs heating, since central heating has distribution losses and (in case of forced-air systems particularly) may heat some unoccupied rooms without need. In such buildings which require isolated heating, one may wish to consider non-central systems such as individual room heaters, fireplaces or other devices. Alternatively, architects can design new buildings to use low-energy building techniques which can virtually eliminate the need for heating.

However, if a building does need full heating, combustion central heating offers a more environmentally friendly solution than electric-air central heating or than other direct electric heating devices because most electricity originates using fossil fuels, with up to two-thirds of the energy lost at the power station and in transmission. In Sweden there exist proposals to phase out direct electric heating for this reason. Nuclear and hydroelectric sources reduce energy losses.

In contrast, hot water central heating systems can use water heated in or close to a building using high-efficiency condensing boilers, biofuels, or district heating. Wet underfloor heating has proved to be ideal. This offers relatively easy conversion to the use of developing technologies such as heat pumps and solar systems.

Typical efficiency for central heating is 85-97% for gas-fired heating; 80-89% for oil-fired, and 45-60% for coal-fired heating.

3. *Подберите определения к приведённым слева словам.*

1. fireplace	a) a device that moves heat from one location to another location using the physical concept of mechanical work
2. fossil fuel	b) a closed vessel in which water or other fluid is heated
3. pipe	c) something that is burnt to create energy to produce light and heat in our homes. It has usually been coal, oil or gas.
4. pump	d) an architectural structure to contain a fire for heating and, especially historically, for cooking
5. boiler	e) a device used to convey fluids (liquids and gases) from one location to another

4. *Закончите предложения в соответствии с содержанием текста.*

1. Central heating is used ….
2. … comprises HVAC.
3. In case of central heating heat generation occurs ….
4. Central heating contains … for heating … and it also contains … for heat distribution.
5. … have a pump for … and a heat exchanger for ….
6. Ductwork in forced air systems is used for … and for …in warm weather.
7. Radiators or vents should be located ….
8. Resistance heating uses ….
9. … occur in much of northern Europe and in urban portions of Russia … are common in the western and southern United States, … feature in the USA, Russia and Europe primarily for large buildings.
8. The main disadvantage of central heating and forced-air systems is ….
9. Combustion central heating is more environmentally friendly than electric-air central heating because ….
10. A central heating system has heat loss if ….
11. Hot water central heating systems can use ….
12. Typical efficiencies for central heating are ….

5. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. A central-heating system provides warmth to the whole interior of a building.
2. There is no difference between central and local heating.
3. A central heating system contains a boiler to heat water, steam, or air.
4. The system also contains either ductwork for forced-air systems, or piping to distribute a heated fluid and radiators to transfer this heat to the air.

5. Boiler feedwater systems have a pump to provide hot running water and a secondary heat exchanger to circulate the water and ensure an equal supply of heat to all the radiators.

6. Heating can be electric or resistance.

7. The heating elements should be located in the coldest part of the room, next to the door.

8. Most new housing in Russia comes with natural-gas-fired central forced-air systems installed.

9. Steam heating systems, fired by coal, oil or gas, are used in the USA, Russia and Europe primarily for large buildings.

10. Electrical heating systems are widely used everywhere.

11. From the energy-efficiency point of view forced-air systems are more preferable than central heating ones.

12. Electric-air central heating is less environmentally friendly than combustion central heating.

13. Hot water central heating systems have proved to be ideal.

6. *Расположите следующие слова в логической последовательности в соответствии с содержанием текста.*

A radiator, a furnace room, piping (ductwork), a heat exchanger, a boiler, a heat pump.

7. *Ответьте на вопросы.*

1. What is central heating used for?
2. What's the difference between central and local heating?
3. What are the methods of heat generation?
4. The system contains either ductwork, for forced-air systems, or piping to distribute a heated fluid, doesn't it?
5. What does the system contain to transfer heat to the air?
6. Where may radiators be located?
7. Why should the heating elements be located in the coldest part of the room next to the windows?
8. Why is it important to control air leaks from the outside?
9. What types of heating are common in northern Europe, in the USA?
10. What types of heating systems there exist? What are the main principles of work of each of them?
11. Which of the heating systems is considered to be the most energy-efficient and the most environmentally friendly?

8. *Расскажите о существующих системах отопления, их устройстве, принципе работы и эффективности.*

9. *Прочтите текст, при необходимости воспользуйтесь словарем.*
Ответьте на вопросы:

1. What is space heating?
2. What is the difference between space heating and central heating?
3. What types of space heating devices do you know?
4. What do they operate on?
5. Which space heating device is the safest (the cheapest, the most efficient)?

Space Heating

Space heating is the heating of an area, usually enclosed, such as a house or a room. A space heater keeps the air and surroundings at a comfortable temperature for people or animals, or even plants in a greenhouse. Space heating generally warms a small area, and is usually held in contrast with central heating, which warms many connected spaces at once. Space heating does not include water heating, unless it is used for hydronic heating.

While central boilers that heat buildings and houses heat space, the term "space heater" is normally used to refer to relatively small heaters, especially those that are portable or wall-mounted. These space heaters may use natural gas or propane, but they are most commonly electric. Electric heaters are safer because there is no danger of carbon monoxide poisoning. They are also cheaper to buy. However, they are often far more expensive to operate, because electricity is typically more expensive per unit of heat energy produced than gas or propane. However, a ground source heat pump operating with a coefficient of performance of more than 3 will be cheaper to operate than a gas heater.

Modern electric space heaters usually have ceramic heating elements rather than nichrome wires, and are fan-forced with a blower or a squirrel-cage fan. They distribute heat much more evenly, and allow it to be encased in plastic, nearly eliminating the chance of burns or fire. Window and wall units, often seen in hotel rooms, are permanent space heaters. They often employ heat pumps, which use reverse-cycle air conditioning to transfer heat to the inside from the outside. The domestic incandescent bulb contributes a small but significant amount of heat to domestic interiors. It is important in extremely well-insulated homes, where such bulbs may be left on so as to extend their service life.

Propane space heaters are generally one of two types, radiant (infrared) or circulation-type space heaters. Infrared propane space heaters function to heat objects which in turn heat the surrounding air whereas circulation type space heaters heat the air directly using a fan or a convector. Additionally, propane space heaters are either vented or unvented. Unvented space heaters are low capacity heaters used to heat living areas but are not allowed in bedrooms, bathrooms or confined spaces due to fire danger and the possible accumulation of flue gases at high levels.

Kerosene heaters were once common, but may easily cause a fire, and must be completely cooled before being refuelled.

10. *Прореферируйте текст, используя клише для реферирования, приведенные в приложении 1.*

Text 2

1. *Найдите русские эквиваленты английских слов.*

1. domestic	a. горючее
2. water heater	b. газовая колонка для подогрева воды
3. heat exchanger	c. отходящая (сбросная, использованная) теплота
4. tap water	d. циркулировать, двигаться по кругу
5. geyser	e. сжиженный нефтяной газ
6. potable	f. тепловой насос, обратное тепловое устройство
7. space heating	g. геотермальное отопление
8. fossil fuel	h. электростанция, энергоустановка, силовая установка
9. liquefied petroleum	i. теплообменник
10. natural gas	j. теплофикация, централизованное отопление района
11. fuel oil	k. отопление помещений
12. solid fuels	l. мусоросжигательная печь
13. renewable resources	m. ускоритель; акселератор
14. heat pump	n. бытовой, домашний
15. recycling	o. солнечный обогрев (отопление)
16. waste heat	p. водопроводная вода
17. power plant	q. твердое горючее
18. incinerator	r. питьевой, пригодный для питья
19. solar heating	s. скрытый
20. geothermal heating	t. водонагреватель
21. district heating	u. переработка; повторное использование, возвращение в оборот
22. to circulate	v. природный газ
23. accelerator	w. ископаемое топливо
24. latent	x. расширительный бак
25. expansion tank	y. возобновляемые ресурсы

2. *Прочитайте и переведите текст.*

WATER HEATING AND HOT WATER SUPPLY

Water heating is a thermodynamic process using an energy source to heat water above its initial temperature. Typical domestic uses of hot water are for cooking, cleaning, bathing, and space heating. In industry both hot water and water heated to steam have many uses.

Appliances for providing a more or less constant supply of hot water are known as water heaters, boilers, heat exchangers, or geysers depending on whether they are heating potable (drinking) or non-potable water, in domestic or industrial use, their energy source, and in which part of the world they are found. In domestic installations, potable water heated for other uses than space heating is sometimes known as Domestic Hot Water (DHW).

The term “central heating” applied to the heating of domestic and other buildings indicates that the whole building is heated from a central source, usually an independent

boiler, fired by fossil fuels: natural gas, electricity or fuel oil, liquefied petroleum gas or sometimes solid fuels. These fuels may be consumed directly or by the use of electricity (which may derive from any of the above fuels or from nuclear or renewable sources). Alternative energy such as solar energy, heat pumps, hot water heat recycling, and sometimes geothermal heating may also be used, usually in combination with backup systems supplied by gas, oil or electricity.

In some countries district heating is a major source of water heating. This is especially the case in Scandinavia. District heating systems make it possible to supply all necessary energy for water heating as well as space heating from waste heat from industries, power plants, incinerators, geothermal heating and central solar heating. The actual heating of the tap water is performed in heat exchangers at the consumers' premises. Generally the consumer needs no backup system due to high availability of district heating systems.

In general, a heating system should be designed so that the water will circulate by gravity. In some installations a pump or an accelerator is used to achieve a satisfactory circulation.

When designing a heating system for a large building, it is usual – in the interests of economy and to ensure efficient heating – to first calculate how much heat will be needed to maintain the building at the desired temperature. Then the size of the boiler and the amount of pipe and radiator heating surface required to give out this heat are estimated. For small systems, past experience and "rules-of-thumb" methods are generally a sufficient guide.

A steam or a hot water heating plant consists essentially of a boiler (or a heat exchanger for district heating) which heats water in a closed-water system; radiators, or wall-mounted panels, through which the heated water passes in order to release heat into rooms; and a piping system connecting the former with the latter. Steam or hot water from the boiler is circulated through the piping and radiators in which the steam condenses giving off its latent heat and the water gives out some of its heat, thus warming the rooms. In the usual hot water installation, the boiler, pipes and radiators are kept full of water at all times, and an expansion tank compensates for the increase in volume of water when it is heated and prevents explosions in case too much steam is generated.

3. *Найдите в тексте английские эквиваленты следующих словосочетаний.*

Нагретый до парообразного состояния, постоянная подача воды, в помещениях потребителей, двигаться под действием силы тяжести, выделять тепло, состоять из, циркулировать по трубам, для компенсации увеличения объема воды.

4. *Найдите пары слов, имеющих сходное значение.*

potable	to release
to generate	residential
initial	drinkable
domestic	to carry out
to perform	primary
to give out	to produce

5. *Закончите предложения в соответствии с содержанием текста.*

1. Water heating is a thermodynamic process during which ….
2. … have many uses in industry.
3. Appliances used for providing a more or less constant supply of hot water depend on ….
4. Domestic hot water is ….
5. A boiler is fired by ….
6. District heating systems make it possible ….
7. A heating system should be designed so that ….
8. When designing a heating system for a large building, it is usual to calculate …, to estimate ….
9. A steam or a hot water heating plant consists essentially of a boiler which is meant for …, radiators through which …, and a piping system which ….
10. The rooms are warmed by ….
11. The boiler, pipes and radiators are kept full of ….

6. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Water heating is a mechanical process using an energy source to produce steam.
2. Appliances for providing a more-or-less constant supply of hot water are known as gas heaters.
3. The term “central heating” indicates that the whole building is not heated but only its central part.
4. A boiler may be fired by electricity or fuel oil, natural gas, liquefied petroleum gas or solid fuels.
5. In case of district heating the actual heating of the tap water is performed in heat exchangers at the consumers’ premises.
6. A heating system should be designed so that the water will circulate by carrying capacity.
7. The size of the boiler and the amount of pipe and radiator heating surface are not taken into account when designing a heating system.
8. A boiler heats water in a closed-water system.
9. Radiators connect a boiler and a piping system.
10. Hot water from the boiler is circulated through the piping and radiators in which the water gives out some of its heat warming the rooms.
11. An expansion tank compensates for the increase in volume of water when heated and prevents explosions in case too much steam is generated.

7. *Ответьте на вопросы.*

1. What is water heating?

2. What is hot water used for?
3. What appliances are used to provide a constant supply of hot water?
4. What does the term “central heating” mean?
5. What types of fuel do boilers usually use?
6. What kinds of alternative energy can be used for water heating?
7. What are district heating systems?
8. What is taken into consideration when a heating system for large buildings (for small systems) is designed?
9. What does a steam or a hot water heating plant consist of?
10. How does a hot water heating plant work?

8. *Расскажите об устройстве и принципе работы системы подачи горячей воды и водяного отопления.*

9. *Прочтите текст, при необходимости воспользуйтесь словарем. После прочтения ответьте на вопросы:*

1. What types of water heating appliances are mentioned in the text?
2. Which of them are the most popular in European countries, the USA, New Zealand and Iceland?
3. What are their advantages and disadvantages?

Types of Water Heating Appliances

Water for space heating can be heated by fossil fuels in a boiler. Potable water may be heated in a separate appliance.

Stand-alone appliances for instantaneously heating water for DHW (Domestic Hot Water) are known as tankless heaters, multipoint heaters, geysers or Ascots. Appliances capable of supplying both space heating and DHW are known as combination (or “combi”) boilers. Tankless water heaters, also called combi boilers, continuous flow, on-demand or instant-on water heaters heat the water as it flows through the device, and do not retain any water internally except for that which is in the heat exchanger coil. Tankless heaters are often installed throughout a house at more than one point-of-use (POU), far from the central water heater, or larger models may still be used to satisfy all the hot water needs for an entire house. The main advantages of tankless water heaters are a continuous supply of hot water and energy savings (as compared to a limited flow of continuously heating hot water from conventional tank water heaters). But the rate at which these heaters give a continuous flow of DHW is limited by the thermodynamics of heating water from the available fuel supplies.

Another popular arrangement with higher flow rates (although for limited periods) is to heat water in a pressure vessel capable of withstanding a hydrostatic pressure close to that of the incoming mains supply. These vessels are known as tanks and may incorporate a gas or oil burner heating the water directly. Tank-type water heaters, also called storage water heaters, consist of a cylindrical tank in which water is kept continuously hot and ready for use. Typical sizes range from 75 to 400 litres. These heaters may use electricity, natural gas, propane, heating oil, solar, or other energy sources. Natural gas heaters are most popular in the United States and most European countries, since the gas is often conveniently piped throughout cities and towns and currently is the cheapest to

use. Compared to tankless heaters, storage water heaters have the advantage of using energy (gas or electricity) at a relatively slow rate, storing the heat for later use.

In some localities, solar powered water heaters are used. Their solar collectors are installed outside dwellings, typically on the roof or nearby. Nearly all models consist of flat panels in which water circulates. Other types may use dish mirrors to concentrate sunlight on a collector tube filled with water, brine or other heat transfer fluid. A storage tank is placed indoors or out. Circulation is caused by natural convection or by a small electric pump. At night, or when there is insufficient sunlight, circulation through the panel can be stopped by closing a valve or stopping the circulating pump, to keep hot water in the storage tank from cooling. Depending on the local climate, freeze protection as well as overheating prevention must be added in the design, installation, and operation of solar powered water heaters.

Another type of a solar water heater is the evacuated tube collector. It is usually mounted on a roof, and has a row of glass tubes containing heat conducting rods, typically copper ones. The rods act as heating elements in a circulating loop of antifreeze. The captured heat is transferred into the domestic hot water system by a heat exchanger. This design is smaller and more efficient than traditional flat plate collectors, and works well in very cold climates.

In countries like Iceland and New Zealand, and other volcanic regions, water heating may be done using geothermal heating, rather than combustion.

10. *Прореферируйте текст, используя клише для реферирования, приведенные в приложении 1.*

Text 3

1. *Найдите русские эквиваленты английских слов.*

1. to vaporize	a. жаротрубный котел
2. flue gas	b. медь
3. stainless steel	c. паровое пространство (в резервуаре)
4. wrought iron	d. сгорание
5. copper	e. прямоугольный
6. brass	f. нагрев погружением
7. cast iron	g. виток, катушка; змеевик
8. combustion	h. латунь
9. resistance	i. разборный, секционный котел
10. immersion heating	j. конусообразный, конический
11. fire-tube boiler	k. испарять(ся), распылять
12. water-tube boiler	l. тепловой, термический сифон
13. flash boiler	m. гидронический (использующий жидкости для охлаждения и нагрева)
14. sectional boiler	n. водотрубный котел
15. barrel	o. котел с быстрым разведением паров
16. steam space	p. нержавеющая сталь
17. monotube boiler	q. цельная отливка

18. coil	r. бочка
19. firebox	s. чугун
20. thermic syphon	t. поддерживать огонь (в топке), подбрасывать топливо, топить; шуровать
21. rectangular	u. топочный (дымовой) газ
22. one-piece casting	v. огневое пространство (коробка) котла, топка
23. conical	w. сопротивление
24. to stoke	x. однотрубный котел, бойлер
25. hydronic	y. кованое железо

2. *Прочитайте и переведите текст.*

BOILERS

A boiler is a closed vessel in which water or other fluid is heated. The heated or vaporized fluid exits the boiler and is used in various processes or heating applications.

Boilers have many applications. They can be used in stationary installations to provide heat, hot water, or steam for domestic use or in generators and they can be used in mobile machinery such as trains, ships, and boats to provide steam for locomotion. Using a boiler is a way to transfer stored energy from the fuel source to the water in the boiler, and then finally to the point of end use.

Boilers are mainly made of steel, stainless steel, and wrought iron. In steam models, copper or brass are often used. Cast iron is used for domestic water heaters. Although these are usually termed “boilers”, their purpose is to produce hot water, not steam, and they run at low pressure and try to avoid actual boiling.

The source of heat for a boiler is combustion of wood, coal, oil, or natural gas. Electric steam boilers use resistance or immersion type heating elements.

Boilers can be classified into the following configurations:

1) “Pot boilers” or “Haycock boilers”. It’s a primitive “kettle” where a fire heats a partially filled water container from below. 18th Century Haycock boilers generally produced and stored large volumes of very low pressure steam. They could burn wood or most often, coal and their efficiency was very low.

2) Fire-tube boilers. Here, water partially fills a boiler barrel with a small volume left above to accommodate the steam (steam space). The heat source is inside a furnace or firebox that has to be kept permanently surrounded by the water in order to maintain the temperature of the heating surface just below boiling point. Fire-tube boilers usually have a comparatively low rate of steam production, but high steam storage capacity. Fire-tube boilers mostly burn solid fuels.

3) Water-tube boilers. In this type of boilers water tubes are arranged inside a furnace in a number of possible configurations: often the water tubes connect large drums, the lower of which contain water and the upper ones contain steam; in other cases, such as a monotube boiler, water is circulated by a pump through a succession of coils. This type generally gives high steam production rates, but less storage capacity.

4) Flash boilers are a specialized type of water-tube boilers.

- Fire-tube boilers with a water-tube firebox. Sometimes the two above-mentioned types are combined in the following manner: the firebox contains an assembly of water tubes, called thermic siphons.
- Sectional boilers. In a cast iron sectional boiler, sometimes called a “pork chop boiler”, the water is contained inside its cast iron sections.

Boilers can be solid one-piece casting, rectangular in form; they can be sectional or conical in shape and of wrought or cast iron. For small systems, the first and the last-named types are both cheap and suitable. The sectional boiler has the advantage of possible adding sections should more heat be needed after the initial installation.

The boiler is usually placed at the lowest available point in a building, having regard to the convenience of stoking and fuel delivery.

Boilers can be superheated steam, supercritical steam and hydronic ones. Hydronic boilers are used in generating heat for residential and industrial purposes. They are typical power plants for central heating systems fitted to houses in northern Europe (where they are commonly combined with domestic water heating), as opposed to forced-air furnaces or wood burning stoves which are more common in North America. A hydronic boiler operates by heating water or other fluid to a preset temperature (or in case of single pipe systems, until it boils and turns to steam) and by circulating that fluid throughout the home through radiators, baseboard heaters or through the floors. The fluid is in an enclosed system and is circulated throughout by means of a motorized pump. Most new systems are fitted with condensing boilers for greater efficiency. The name “boiler” can be a misnomer here except for systems using steam radiators because the water in a properly functioning hydronic boiler never actually boils. These boilers are referred to as condensing ones because they condense water vapour in flue gases and capture the latent heat of water vaporization produced during combustion.

3. *Подберите определения к приведённым слева словам.*

1. wood	a) a gaseous mixture consisting mainly of methane
2. coal	b) a yellow-coloured metal made from copper and zinc
3. oil	c) a form of steel containing chromium, resistant to rust
4. natural gas	d) a hard, relatively brittle alloy of iron and carbon
5. brass	e) a hard fibrous material that forms the main substance of the trunk or branches of a tree
6. copper	f) a liquid derived from petroleum, especially for use as a fuel or lubricant
7. cast iron	g) a red-brown metal, the chemical element of atomic number 29
8. stainless steel	h) a combustible black or dark brown rock consisting mainly of carbonized plant matter

4. *Закончите предложения в соответствии с содержанием текста.*

1. A boiler is ….

2. Boilers can be used in ….
3. Cast iron is used ….
4. In pot boilers ….
5. Fire-tube boilers mostly burn …
6. In a cast iron sectional boiler ….
7. The lower drum of a water-tube boiler contains …, the upper one contains ….
8. Boilers are usually placed in….

5. *Ответьте на вопросы.*

1. What is a boiler?
2. Where can boilers be applied?
3. What metals are boilers made of?
4. What are boilers used for?
5. What types of fuel do they use?
6. What configurations of boilers do you know? What is their storage and production capacity?
7. What types of boilers are used in generating heat for residential and industrial purposes? How do they operate?
8. What device helps to circulate the fluid in an enclosed heating system?
9. The water boils in a hydronic system, doesn't it?
10. Why are hydronic boilers called condensing ones?

Text 4

1. *Найдите русские эквиваленты английских слов.*

1. heat sink	a. сантехника, водопроводно-канализационная сеть
2. air conditioner	b. испаритель
3. reversible pump	c. охлаждающее вещество, охладитель
4. drying	d. отвод теплоты
5. refrigerant	e. стандартная настройка
6. to switch	f. абсорбционный тепловой насос
7. default setting	g. перепад (разность) температур
8. evaporator	h. теплоотвод, радиатор-теплосъем-ник
9. to swap	i. режим
10. plumbing	j. менять(ся), обменивать(ся)
11. compression pump	k. реверсивный насос
12. absorption heat pump	l. отопительная нагрузка
13. burnable	m. переключать; направлять, изменять
14. temperature difference	n. подводимая энергия
15. efficiency	o. получить из (чего-л.), извлечь
16. to draw from	p. кондиционер воздуха
17. heat extraction	q. воспламеняемый, горючий
18. input energy	r. эффективность, продуктивность
19. heating load	s. высушивание, сушка

20. mode t. компрессор

2. *Прочитайте и переведите текст.*

HEAT PUMPS

A heat pump is a machine or device that moves heat from one location to another location using the physical concept of mechanical work. Most heat pump technology moves heat from a low temperature heat source to a higher temperature heat sink. Common examples are food refrigerators and freezers, air conditioners, and reversible-cycle heat pumps for providing thermal comfort. Heat pumps can also operate in reverse, producing heat.

Heat pumps can be thought of as a heat engine, which is operating in reverse. One common type of heat pump works by exploiting the physical properties of an evaporating and condensing fluid known as a refrigerant. Since 2001, carbon dioxide, R-744, has increasingly been used as a refrigerant. In residential and commercial applications, the hydrochlorofluorocarbon (HCFC) R-22 is still widely used. In heating, ventilation, and cooling (HVAC) applications, a heat pump normally refers to a vapour-compression refrigeration device that includes a reversing valve and optimized heat exchangers so that the direction of heat flow may be reversed. The reversing valve switches the direction of a refrigerant through the cycle and therefore the heat pump may deliver either heating or cooling to a building. In cooler climate areas the default setting of the reversing valve is heating. The default setting in warmer climates is cooling. As the two heat exchangers, the condenser and evaporator, must swap functions, they operate in both modes. The efficiency of a reversible heat pump is less than that of two separate devices.

In plumbing applications, a heat pump is sometimes used to heat or preheat water for swimming pools or domestic water heaters.

Sometimes when air cooling and water heating are needed, a single heat pump can serve two purposes.

Most commonly, heat pumps draw heat from the air or from the ground (groundwater or soil). Air-source heat pumps do not work well when temperatures fall below around −5°C (23°F).

The heat drawn from the ground is in most cases stored solar heat, and it should not be confused with geothermal heat, though the latter contributes to all heat in the ground. Other heat sources include water of nearby streams and other natural water bodies; and sometimes domestic waste water which is often warmer than the ambient temperature.

In mild climates a heat pump can be used to air-condition the building during hot weather, and to warm the building using heat extracted from outdoor air in cold weather. Air-source heat pumps are generally uneconomic for outdoor temperatures much below freezing. In colder climates, geothermal heat pumps can be used to extract heat from the ground. For economy, these systems are designed for operating in average low winter temperatures and use supplemental heating for extreme low temperature conditions. The advantage of a heat pump is that it reduces the energy required for building heating; often geothermal source systems also supply domestic hot water. Even in places where fossil fuels provide most electricity, a geothermal system may offset gas production since most energy furnished for heating is supplied from the environment, with only 15–30% purchased.

The two main types of heat pumps for heating private and communal buildings are compression heat pumps and absorption heat pumps. Compression heat pumps always operate on mechanical energy (through electricity), while absorption heat pumps may also run on heat as an energy source (through electricity or burnable fuels).

Air source heat pumps are relatively easy and inexpensive to install and therefore they have historically been the most widely used heat pump type. However, one of their disadvantages is the use of the outside air as a heat source or sink. The high temperature differential during periods of extreme cold or heat leads to low efficiency.

Geothermal heat pumps typically have higher efficiencies than air-source heat pumps because they draw heat from the ground or groundwater which is at a relatively constant temperature all year round below a depth of about eight feet (2.5 m). This means that the temperature differential is lower, leading to higher efficiency. The disadvantage is an expensive installation of a ground-source heat pump due to the need for digging trenches to place the pipes that carry the heat exchange fluid. When compared to each other, groundwater heat pumps are generally more efficient than heat pumps using heat from the soil.

3. *Найдите в тексте английские эквиваленты следующих словосочетаний.*

Работать в обратном направлении, энергосберегающий, когда температура опускается ниже 5 °C, работать в двух режимах, приводить к чему-то (быть следствием), круглый год, глубина 8 футов, при сопоставлении, снизить энергопотребление на 40%.

4. *Закончите предложения в соответствии с содержанием текста.*

1. Most heat pump technology moves heat ….
2. In heating, ventilation, and cooling (HVAC) applications, a heat pump ….
3. Heat pumps are used for ….
4. Heat pumps can draw heat from ….
5. The most widely used heat pump type has been ….

5. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. A heat pump is a device used to cool water.
2. Heat pumps use heat from the sun and wind.
3. The heat drawn from the ground is different from geothermal heat.
4. Water heat sources include nearby streams, rivers and even domestic waste water.
5. Air-source heat pumps are the most suitable for being used in low winter temperatures.
6. Air-source heat pumps are less efficient because of the high temperature differential of the air.

6. *Ответьте на вопросы.*

1. What is a heat pump?
2. What is a refrigerant? What fluids are used as refrigerants?
3. What is the function of the reversing valve?
4. How many types of heat exchangers are there? What are they?
5. What are the types of heat pumps for heating private and communal buildings? What do they run on?
6. Why do geothermal heat pumps have higher efficiencies than air-source heat pumps?
7. What types of geothermal pumps do you know?

7. *Расскажите на английском языке*

1) о тепловых насосах, их устройстве;
2) о функциях насосов;
3) о разновидностях насосов, их принципе работы.

8. *a) Переведите следующие слова и словосочетания на русский язык, при необходимости воспользуйтесь словарем:* to troubleshoot, to fix, manuals, to make repairs, to replace, faulty connections, a furnace, a boiler power switch, to check a fuse, to turn a lever counterclockwise, temperature swings, to recalibrate.

b) Прочтите текст. Найдите ответы на следующие вопросы:

1. What is the main thing to do when you are making repairs yourself?
2. What actions will you take to fix problems with your heating system?
3. What instruments or devices will you need?
4. What will you do if you are not sure that you can fix a problem yourself?

How to Troubleshoot a Heating System

Problems with modern heating systems are rare, but when they occur, you want to fix them quickly, before your household's population freezes in place. You can usually troubleshoot and correct the most common ones yourself; and contact a professional for other problems. Always consult the manuals for your heating system and thermostat when you're making repairs yourself.

Instructions

1 If there isn't any heat coming out, set the thermostat switch to the heat setting or to the desired temperature for electric heat.

2 Repair and replace a defective thermostat or faulty connections. Relight the pilot light and press the reset button on the heating unit.

3 Turn on the furnace or boiler power switch or check the fuse. In a low-voltage system, test the transformer and its wiring connections.

4 Increase the amount of time the furnace is turned on to reduce excessive cycling by turning the anticipator lever counterclockwise. Decrease time to reduce the temperature swings by turning the lever clockwise.

5 Test the thermometer with another thermometer to make sure it isn't out of calibration. Re-calibrate any inaccuracies according to manufacturer instructions. If the thermometer is correct, re-calibrate the thermostat.

Text 5

1. *Найдите русские эквиваленты английских слов.*

1. concrete	a. неисправный
2. slab	b. передвигать по кругу
3. medium	c. бетон
4. heat exchanger	d. плесень, грибок
5. fan coil unit	e. ребро, пластина радиатора
6. copper	f. плита
7. fin	g. вентиляторный доводчик
8. combustion	h. побочный продукт
9. mould	i. горение, сжигание
10. byproduct	j. медь
11. faulty	k. средство
12. circulate	l. теплообменник
13. solution	m. средство

2. *Прочитайте и переведите текст.*

HYDRONIC AND STEAM SYSTEMS

Hydronic heating systems are systems that circulate a medium for heating. Hydronic radiant floor heating systems use a boiler or district heating to heat up hot water and a pump to circulate the hot water in plastic pipes installed in a concrete slab. The pipes, embedded in the floor, carry heated water that conducts warmth to the surface of the floor where it distributes energy to the room.

Hydronic systems circulate hot water for heating. Steam heating systems are similar to water heating systems, except steam is used as a heating medium instead of water.

Hydronic heating systems generally consist of a boiler or a district heating heat exchanger, hot water circulating pumps, distribution piping, and a fan coil unit or a radiator located in the room or space. Steam heating systems are similar except no circulating pumps are required.

Steam has the advantage of flowing through the pipes under its own pressure without the need for pumping. For this reason, it had been put into use earlier, before electric motors and pumps became available. Steam is also far easier to distribute than hot water throughout large and high buildings like skyscrapers. However, the higher temperatures at which steam systems operate make them inherently less efficient, as unwanted heat loss is inevitably greater.

Steam pipes and radiators are also prone to producing banging sounds (known as “water hammer”) if condensate fails to drain properly; this is often caused by a building’s foundation settlement and the resultant condensate pooling in pipes and radiators that no longer tilt slightly back towards the boiler.

Hydronic systems are a closed loop; the same fluid is heated and then reheated. Hydronic heating systems are also used with antifreeze solutions in ice and snow melt systems for walkways, parking lots and streets. They are more commonly used in commer-

cial offices and in whole-house radiant floor heating systems, while electric radiant heating systems are more commonly used in smaller “spot warming” applications.

Hydronic systems are being used in construction for several reasons. Among them are the following:

1. They are more efficient and more economical than forced-air systems (although initial installation can be more expensive because of the cost of copper and aluminium).
2. The copper baseboard pipes and aluminium fins take up less room and use less metal than the bulky steel ductwork required for forced-air systems.
3. They provide more even, less fluctuating temperatures than forced-air systems. The copper baseboard pipes hold and release heat over a longer period of time than air does, so the furnace does not have to be switched off and on very often. Copper heats mostly through conduction and radiation, whereas forced air heats mostly through forced convection. Air has much lower thermal conductivity than copper; however, convection results in faster heat loss of air as compared to copper.
4. They do not dry the interior air out much.
5. They do not give off any dust, allergens, mould, or (in case of a faulty heat exchanger) combustion byproducts into the living space.

3. *Найдите в тексте английские эквиваленты следующих словосочетаний.*

Включать, выключать, состоять из, намного легче, по причине, выделять аллергены, предрасположенный к, лучистая система напольного отопления, электрическая система лучистого отопления, пересушивать воздух, побочные продукты сгорания.

4. *Найдите пары слов, имеющих сходное значение.*

room	broken
efficient	inside
faulty	outdoor
interior	include
consist of	effective
outside	space

5. *Подберите определения к приведённым слева словам.*

1. hydronic	a) the vapour into which water is converted when heated
2. steam	b) a mechanical device using suction or pressure to raise or move liquids
3. pump	c) a fuel-burning apparatus or container for heating water
4. pipe	d) denoting a cooling or heating system in which heat is transported using circulating water

5. boiler	e) a tube of metal or plastic used to convey water, gas, oil, or other fluid substances

6. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Hydronic systems circulate steam for heating.
2. Steam heating systems are different from water heating systems.
3. A boiler, hot water circulating pumps, distribution piping, and a radiator are parts of a hydronic heating system.
4. The same fluid is heated and then reheated in hydronic systems.
5. Hydronic and steam systems can't heat large buildings.
6. Hydronic systems are expensive because of the cost of steel required for them.
7. The baseboard copper pipes and aluminium fins take up little room.
8. Hydronic systems do not dry out the interior air and give off allergens, mould and dust.

7. *Ответьте на вопросы.*

1. What systems are called hydronic?
2. What is the difference between hydronic and steam systems?
3. What does a steam heating system consist of?
4. What are the advantages and disadvantages of using steam heating systems?
5. Why are hydronic and steam systems used in construction?

8. *Расскажите на английском языке о системах водяного и парового отопления, их различии и целесообразности применения в современном строительстве.*

9. *a) Переведите следующие слова и словосочетания на русский язык, при необходимости воспользуйтесь словарем:* one-pipe heating systems, an inlet, an outlet, a return pipe, a supply pipe, an appliance, a diaphragm, a safety valve, to replenish, to escape, an open-vent heating system, a sealed water-circulating system.

b) Прочтите текст. Ответьте на вопросы:

1. What is the difference between one-pipe and two-pipe heating systems?

2. What factors are taken into consideration when selecting a heating plant for residences?

3. What is the difference between sealed water-circulating systems and open-vent systems?

3. Do you know what type of heating system is used in your country?

Piping

Piping systems usually used for steam heating are an ordinary one-pipe system and a two-pipe system. In a one-pipe heating system all radiators are connected to the same pipe, which acts both as an inlet for steam and an outlet for condensation water. In a two-pipe system there is a supply pipe and a return pipe for each radiator. The two-pipe

system is expensive, and is not generally used in steam heating except for indirect radiators which always have two connections in order to function properly.

In selecting a heating plant for residences there must be considered the size and the type of building, the climate and the cost of operation.

Engineers in the United Kingdom and in other parts of Europe usually combine the needs for room heating with hot water heating and storage. These systems occur less commonly in the USA. In this country the heated water in a sealed system flows through a heat exchanger in a hot-water tank or a hot water cylinder where it heats water from the water supply system before this water gets to hot water outlets in the house. These outlets may service hot water taps or appliances such as washing machines or dishwashers.

A sealed water-circulating system provides a form of central heating in which the water used for heating usually circulates independently of a building water supply system. A pressure vessel contains compressed gas, separated from the sealed system water by a diaphragm. This allows normal variations of pressure in the system. A safety valve allows water to escape from the system when pressure becomes too high, and a valve can open to replenish water from the water supply system if the pressure drops too low. Sealed systems offer an alternative to open-vent systems, in which steam can escape from the system and get replaced with water from a building water supply system via a central storage system.

Text 6

1. *Найдите русские эквиваленты английских слов.*

1. transfer	a. продувать, спускать воду
2. sealed	b. площадь поверхности
3. hollow	c. передавать
4. pressure	d. установить
5. surface area	e. подающая труба; подводящая труба
6. to attach	f. герметичный; запаянный
7. to set up	g. батарея, радиатор
8. supply pipe	h. прикреплять, присоединять
9. return pipe	i. проникать
10. to seep	j. возвратная (спускная, сливная) труба
11. radiator	k. давление
12. to mount	l. вставлять, монтировать
13. to bleed	m. пустой, полый
14. stub	n. жаростойкий
15. heat-resistant	o. колебание
16. fluctuation	p. заглушка

2. *Прочитайте и переведите текст.*

RADIATORS

The radiator was invented in 1855 by Franz San Galli. He was the first to produce a system of central heating and patented his invention in Germany and the US.

Radiators and convectors are types of heat exchangers designed to transfer thermal energy from one medium to another for the purpose of cooling and heating.

One might expect the term “radiator” to mean devices which transfer heat primarily by thermal radiation, while a device which relied primarily on natural or forced convection would be called a “convector”. In practice, the term “radiator” refers to any of a number of devices in which a liquid circulates through pipes (often with fins or other means of increasing surface area), notwithstanding that such devices tend to transfer heat mainly by convection and might logically be called convectors. The term “convector” refers to a class of devices in which the source of heat is not directly exposed.

In buildings a radiator is a heating device, which is warmed by steam from a boiler, or by hot water pumped through it from a water heater (a boiler). Such radiators transfer the majority of their heat by radiation and by convection.

A conventional hot water radiator consists of a sealed hollow metal container, usually flat in shape. Hot water enters at the top of the radiator by pressure from a pump or by convection.

As it gives out heat, the hot water cools and sinks to the bottom of the radiator and is forced out of a pipe at the other end. The pipe either has a large surface area or attached fins to increase its surface area and contact with the surrounding air. The air near a radiator heats and produces a convection current in the room, drawing in cold air to heat.

If set up improperly, radiators, and their supply and return pipes, can make loud banging noises like someone hammering on the pipes. This is due to either the pipes rubbing on surrounding surfaces while expanding and contracting because of heat changes or to sudden fluctuations of the supplied water pressure. The proper mounting of the radiators and supply pipes will reduce expansion noises, while upward-mounted stub ends with a trapped bubble of air providing a cushion against pressure fluctuations.

Cast iron radiators are no longer common in new construction. They are being replaced mostly with copper pipes which have aluminium fins to increase their surface area. In the U.K., modern domestic radiators tend to be made of sheet steel (often with steel fins), though copper and aluminium are often found in industrial heat exchangers.

A more recent type of heater used in homes is a fan assisted radiator. It contains a heat exchanger into which hot water is fed from the heating system. A thermostatic switch senses the heat and energizes an electric fan which blows air over the heat exchanger.

The advantages of this type of heaters are their small size and even distribution of heat around the room. The disadvantages are the noise produced by the fan, and the need for an electricity supply.

For homes with radiators it is recommended to place heat-resistant reflectors between radiators and exterior walls to keep warmth coming into the room and prevent it from seeping outside.

3. *Подберите определения к приведённым слева словам.*

1. heater	a) the state of pressing or being pressed
2. convection	b) a device for warming the air or water

3. pressure	c) an apparatus with rotating blades that creates a current of air for cooling or ventilation
4. fan	d) transfer of heat with the tendency of hotter and less dense material to rise, and colder to sink under the influence of gravity

4. *Закончите предложения в соответствии с содержанием текста.*

1. San Galli patented his invention ….
2. Radiators and convectors are types of ….
3. The term “radiator” refers to ….
4. The term “convector” refers to ….
5. Hot water enters at the top of a radiator ….
6. If set up improperly, radiators can make loud noises because of ….
7. … will provide a cushion against pressure fluctuations.
8. The most common types of radiators nowadays are ….

5. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Radiators transfer the majority of their heat by gravity.
2. Hot water enters at the top of a radiator, gives out heat, cools down, sinks to the bottom of the radiator and leaves through a pipe at the other end.
3. If set up improperly, radiators whistle.
4. A cushion at the top of a radiator will protect against pressure fluctuations.
5. A more recent type of heater used in homes is a fan assisted radiator.

6. *Ответьте на вопросы.*

1. What is a radiator? Whom was it invented by?
2. What is a convector?
3. What is the function of radiator fins?
4. What is a radiator warmed by?
5. What is the principle according to which radiators operate?
6. What metals are radiators produced of?
7. what are the advantages of fan assisted radiators?

7. *Расположите следующие пункты плана в порядке их упоминания в тексте.*

1. The elements of radiators.
2. Proper and improper mounting.
3. The definitions of the terms “radiator” and “convector”.
4. Fan assisted radiators.
5. The invention of the radiator.

6. Copper-aluminium radiators.
7. Measures to prevent warmth from seeping outside.

8. *Перескажите текст на английском языке, опираясь на пункты плана упражнения 7.*

9. *a) Переведите следующие слова и словосочетания на русский язык, при необходимости воспользуйтесь словарем:* bleeding, a bleed screw, the topmost point of the system, to exclude, a corrosion inhibitor, oxygen, hydrogen, a dripping valve, a leak, loose joint.

b) Прочтите текст. Объясните на английском языке, что такое продувание, как часто и зачем системы отопления необходимо продувать.

Bleeding

All "radiant" (i.e. heat radiates from hot water) systems need to be *bled*, or purged of air, on occasion.

If there is air (or other gases such as hydrogen) trapped inside the radiator, then the water cannot rise to the top, and only the bottom area gets hot. A bleed screw near the top of the radiator allows the trapped air to be "bled" from the system, and thus to restore correct operation. Often radiators located on the upper floors will accumulate more air than those on the lower floors as the air tends to rise to the topmost point in the system. These radiators may have to be bled more often. Usually radiators are bled once or twice per season, or as needed. Another reason to exclude air is to minimize corrosion of pressed steel radiators. Most central heating systems need a corrosion inhibitor added into the circulating hot water, so that the production of hydrogen is minimized. This is created in untreated systems, by the action of the hot water on the iron in the absence of air (making the oxygen atom to leave hydrogen as H_2 when iron oxide is created). If air gets into radiators frequently, this may be a sign of a leak somewhere, such as a dripping valve, or loose joint.

Text 7

1. *Найдите русские эквиваленты английских слов.*

1. mesh	a. отделка
2. film	b. дерево
3. floor covering	c. решетка, сетка
4. finishing	d. микроклимат помещений
5. tile	e. увлажнение
6. wood	f. пленка
7. stone	g. имеющий течь; неплотный, негерметичный; пропускающий
8. indoor climate	h. покрытие пола
9. humidification	i. клещ
10. thermal comfort	j. кафель, плитка
11. forced-air heating	k. переносимый по воздуху
12. leaky	l. тепловой комфорт

13. moisture	m. камень
14. dust	n. воздушное отопление
15. mite	o. влажность, сырость
16. airborne	p. клейкий, липкий, вязкий
17. clammy	q. пыль
18. to plug up	r. отверстие
19. hole	s. заделывать
20. cork	t. (каменная) кладка
21. carpeting	u. пробка, кора пробкового дерева
22. masonry	v. конструкция перекрытий
23. floor system	w. крепить
24. to fasten	x. ковровое покрытие, настил

2. *Прочитайте и переведите текст.*

UNDERFLOOR HEATING

Underfloor heating is a form of central heating which utilizes heat conduction and radiant heat for indoor climate control, rather than forced-air heating which relies on convection. Heat can be provided by circulating heated water or by an electric cable, mesh, or film heaters.

Underfloor heating can be used with concrete and wooden floors, with all types of floor covering (e.g., stone, tile, wood, vinyl, and carpet), and at ground level or upstairs. The choice of floor finishing requires careful consideration, because changes of floor finish may affect its performance.

Radiant heating is arguably superior to convection methods because warm air rises wastefully to the ceiling in convection-heated rooms, warming the upper body (often with some discomfort, particularly to the head) but leaving the lower body cooler.

In contrast, radiant in-floor heating warms the lower part of both the room and the body because when warm air rises from the radiant floor surface, it loses approximately two degrees Celsius at two meters above the floor. This imparts a feeling of natural warmth, since the limbs should ideally be warmer than the head. (The most acceptable indoor climate is one in which the floor temperature ranges between 19 and 29 °C and the air temperature at head level ranges between 20 and 24 °C.)

Humidification may still be needed for thermal comfort with a radiant system, but this humidification is less than that needed for forced-air heating. This is because forced-air systems which are improperly balanced or have leaky ducts can draw in outside air which has low moisture content in the winter. Asthma sufferers may benefit from underfloor heating because it reduces the airborne circulation of both dust and dust mites.

Underfloor heating is invisible from above and does not use valuable wall space with unsightly heating equipment. In a sense, the entire floor is a radiator and because of its area it doesn’t need to reach the high temperatures of a steam radiator. It has a particular advantage in public areas where exposed hot or sharp surfaces can be dangerous and unsightly.

Air infiltration heat loss is reduced significantly as compared to forced-air systems in which duct leakage can drive infiltration of outside air into the building. Heating cold air from the outside requires extra energy and decreases humidity.

If the boiler water temperature in a hydronic system is set to the relatively low temperature required by underfloor heating, rather than the higher temperature typically used in other types of radiators, the boiler may have higher efficiency and lower standby losses. However, it is possible in a boiler designed for condensing operation; in many boilers the water temperature must be set higher and reduced by a mixing valve. Depending on the piping layout and insulation, heat loss in the water distribution system may also be lower because of the lower temperature.

Although electric underfloor heating can deliver almost 100% of the electric energy coming into the heated space of a building, the overall system efficiency of electric heating is low because generating electricity from heat in a power plant is less efficient than using the heat directly. In addition hydronic underfloor systems (and even forced-air systems) can be incorporated as part of an ultra-efficient geo-exchange system, whereas electric underfloor heating can't.

Rooms heated by underfloor heating tend to have much warmer floors than those heated by radiator or forced-air heating. Although many people appreciate this, others who prefer the crisp, cool feeling of a polished wood floor may find such warmth unpleasantly clammy.

Although some people consider a wall radiator unsightly, others prefer the old-fashioned look of a bright copper radiator kept in good shape, especially in a vintage house. Converting from radiator heat to underfloor heat can also mean expensive repairs to plug up unsightly holes in floors and walls.

Although underfloor heating is generally less expensive than radiator heating, insulating flooring (such as carpeting or cork) can reduce the efficiency of underfloor heating to the point where a conversion to underfloor heating may not be financially prudent.

Modern underfloor heating systems are generally either warm water systems or electric systems. Systems can be poured into a masonry mix (called a poured floor system or a wet system) or fastened directly to the subfloor (called a subfloor system or a dry system).

3. *Найдите в тексте английские эквиваленты следующих слов и словосочетаний.*

Бетон, дерево, камень, влиять на характеристики (качество), превосходить что-то в чём-л., открытая поверхность, ремонт чего-л., заделать дырки в полу, черный пол (накат), медь, в хорошем состоянии, старинный дом.

4. *Найдите пары слов, имеющих сходное значение.*

affect	proportional
superior	humidity
balanced	influence
moisture	reasonable
prudent	the best

5. Образуйте слова с противоположным значением.

comfort (n)	possible (adj)
balance (n)	pleasant (adj)
sightly (adj)	properly (adv)
visible (adj)	to increase (v)

6. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Underfloor heating is based mainly on forced-air heating.
2. Underfloor heating can be used with all types of floor covering.
3. Radiant heating is worse than convection methods.
4. The most acceptable indoor climate is one in which the floor temperature ranges between 20 and 24 °C and the air temperature at head level ranges between 19 and 29 °C.
5. Underfloor heating is better for human health.
6. Underfloor heating has a particular advantage in public areas where exposed hot or sharp surfaces can be dangerous and unsightly.
7. Heat loss is less in case of underfloor heating as compared to water heating.
8. Electric underfloor heating has the highest efficiency.
9. Unsightly holes in floors, clammy polished floor and high cost are the main disadvantages of underfloor heating.

7. *Ответьте на вопросы.*

1. What is underfloor heating?
2. What types of floors can underfloor heating be used with?
3. What is the difference between in-floor radiant heating and radiant heating?
4. What are the advantages of underfloor heating as compared with forced-air heating?
5. If the boiler water temperature in a hydronic system is set to the relatively low temperature required by underfloor heating, the boiler has higher efficiency and lower standby losses, hasn’t it?
6. Is hydronic or electric underfloor heating more efficient?
7. What are the disadvantages of underfloor heating?
8. Where can underfloor heating systems be placed?
9. Would you like to have underfloor heating in your house or flat?

8. *Составьте план текста для пересказа.*

9. *Перескажите текст на английском языке по плану задания 8.*

10. *Прочтите текст, при необходимости воспользуйтесь словарем.*

Ответьте на вопросы:

1. What types of underfloor heating systems are mentioned in the text?

2. What are the advantages and disadvantages of underfloor heating?

3. Where is water circulated in a hot water system?

4. Which diameter tubing is the most popular?

5. What types of boilers can be used as a source of heat for any underfloor heating system?

6. Has electric heating any advantages over a warm water system?

Underfloor Heating

During construction, tubing is placed on the floor throughout the room, and later covered with a concrete layer.

The current trend in radiant heating is towards underfloor heating, where warm water is circulated under the entire floor of each room in a building. A network of pipes, tubing or heating cables is buried in the floor, and heat rises into the room. Because of the large area of this type of radiator, the floor only needs to be heated a few degrees above the desired room temperature, and as a result, convection is almost non-existent. These systems are reputed to have a high level of comfort, but are generally difficult to install into existing buildings. For best results, a floor covering that conducts heat well (such as tiles) should be used.

In a hot water system, warm water is circulated through pipes or tubes that are laid into the floor. As it offers a good balance between cost and pressure drop, ⅝-inch (16 mm) diameter tubing is popular: ¾-inch (19 mm) and 1-inch (25 mm) tubing are relatively expensive, and ⅜-inch (10 mm) and ½-inch (13 mm) offer too much resistance, which means more energy consumption is needed to pump the liquid through the pipe; and the ⅝-inch tubing is often the minimum size needed for effective thermosiphon.

However, a system designed to use solar-heated water that circulates by thermosiphon is susceptible to blockage by air bubbles. Bubbles in the water accumulate in the smallest high spots, finally blocking the flow.

Gas, oil, solid fuel, or electric-resistance hot water boilers can be used as the source of heat for any underfloor heating system. Condensing boilers and ground-coupled heat pumps are particularly well-suited as the operation of underfloor heating systems allows them to operate in their most efficient manner.

Wet underfloor heating systems can also be used in reverse, where cold water from a chiller is placed in the system taking heat energy out of the building. However, care is needed to ensure that surfaces' temperatures remain above the air's dew point temperature. Otherwise, slipping hazards or mold growth are a concern.

Electric floor heating systems have very low installation cost for smaller spaces (1-5 rooms) because they are easy to install and have a very low start-up cost. A thermostat is all that is required. Although electric floor heating systems work well as a primary heat source, most systems are installed in the bathroom to add comfort and warmth to cold tiles. Electric floor heating systems are also typically installed in kitchens or in rooms that require additional heat (such as a cold basement or a kids' playroom).

Another advantage of electric underfloor heating over a warm-water system is the floor buildup (its height). Floor buildup can be as little as 1mm. The electric cables are

usually installed onto an insulation board or directly onto the subfloor or padding (under a carpet or laminate); then the floor covering is placed directly over the heating system.

11. *Прореферируйте текст, используя клише для реферирования, приведенные в приложении 1.*

Text 8

1. *Найдите русские эквиваленты английских слов.*

1. gas heating	a. воздуходувка; нагнетательный вентилятор
2. burner	b. устройства воздействия на окружающую среду
3. blower	c. приводить в действие, включать
4. climate-control appliance	d. газовое отопление
5. air duct	e. регулировать
6. to activate	f. выключать, отключать
7. wall-mounted	g. топка, горелка
8. to adjust	h. газовый счётчик, газомер
9. lever	i. воздуховод, воздухопровод; вентиляционный канал
10. gas meter	j. настенный; установленный на стене
11. to shut off	k. рычаг

2. *Прочитайте и переведите текст.*

GAS HEATING

One of the primary concepts of a natural gas heating system is that the capability of an appliance to heat the environment is measured in various ways. For natural gas heating systems, the applicable unit of measurement is British thermal units per hour, which refers to the amount of energy needed to increase the temperature of one pound of water by one degree Fahrenheit. Natural gas can also be computed in cubic meters or feet.

A natural gas heating system is composed of the usual parts found in other kinds of climate control appliances. It has a source for the warm air, which in case of this particular heating system is natural gas. It also has air ducts to distribute heat and a device for controlling the temperature. In case of a natural gas heating system, the temperature is controlled by a thermostat. When the temperature of a particular environment drops, the heating can be turned on automatically or manually to cause a natural gas burner to activate. Most modern heating systems have a wall-mounted thermostat that has the capability of showing the current temperature of the room. The property owner can adjust the lever to set the temperature.

In response to the controls of the thermostat, the burner will switch on and make use of natural gas until it reaches the desired temperature. The natural gas is delivered to the houses through pipes that run underground. The gas enters a house through a gas meter that is often found in the exterior of the building. The gas then circulates within the system causing it to increase in temperature. Once the burner switches off, the blower of the natural gas heating system has the option to continue to work for a while before completely shutting off.

Every natural gas heating system has a furnace blower, which functions to bring in the cool air from a particular part of the house and pushes it through a compartment called a heat exchanger. The air that was warmed by the burner is pushed outward and into the direction of the living area. The delivery of air to and from the heating system occurs through air ducts installed within the building. Aside from the temperature controlling devices, natural gas heating systems have regulators that control the blower. It allows for the property owner to increase heat without blowing air into the space.

3. *Найдите в тексте английские эквиваленты следующих словосочетаний.*

Отрегулировать рычаг, установить температуру, распределять тепло, повысить температуру на один градус, доставлять газ по трубам, выталкивать прохладный воздух через теплообменник, помимо устройств контроля температуры.

4. *Найдите пары слов, имеющих противоположное значение.*

to increase	manually
to activate	artificial
exterior	to reduce
to warm	to shut off
automatically	interior
natural	to cool

5. *Подберите определения к приведённым слева словам.*

1. Celsius	a) an apparatus for burning something
2. heat exchanger	b) a scale for measuring temperature, in which water freezes at 32 degrees and boils at 212 degrees. It is represented by the symbol °F.
3. blower	c) a device for transferring heat from one fluid to another without allowing them to mix
4. Fahrenheit	d) a scale for measuring temperature, in which water freezes at 0 degrees and boils at 100 degrees. It is represented by the symbol °C.
5. burner	e) a mechanical device for creating a current of air

6. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Every natural gas heating system has a source of heat, a heat distribution system, a temperature controlling device, a burner and a blower.
2. Most gas heating systems use petrol.
3. The function of air ducts is to control the temperature.

4. When the temperature of a particular environment drops, the heating can be turned on only by hand.

5. Most modern heating systems have a baseboard thermostat that has the capability of showing the temperature outside the room.

6. Natural gas is delivered to houses through pipes that run underground.

7. A gas meter is used for measuring and recording the amount of gas passed through it.

8. A burner functions to bring in the cool air from a particular part of the house and push it through a heat exchanger.

7. *Ответьте на вопросы.*

1. In what units is the capability of an appliance to heat the environment measured?
2. What components does a gas heating system consist of?
3. What is the function of air ducts?
4. What is a thermostat used for?
5. What is the function of a burner?
6. How is the temperature of the room controlled? What devices are used for this?
7. How does a blower operate?

8. *Составьте план текста для пересказа.*

9. *Расскажите об устройстве системы газового отопления, её основных элементах, о функциях, которые они выполняют, на английском языке. Используйте план упражнения 8.*

10. *a) Переведите следующие слова и словосочетания на русский язык, при необходимости воспользуйтесь словарем:* combustion, induction heating, a household furnace, liquefied petroleum gas, fuel oil, to expel, a chimney, acidic condensate, a condensate pump, ducts, an intermediary distribution system, an air filter, a blower, plenum, foil duct tape, to seal.

b) Прочтите текст и перечислите вопросы, освещаемые в нем.

Furnace

A furnace is a device used for heating. The heat energy to fuel a furnace may be supplied by fuel combustion, by electricity or through induction heating in induction furnaces. A household furnace is installed to provide heat to the interior space through the movement of air, steam, or hot water. The most common fuel sources for modern furnaces include natural gas, liquefied petroleum gas, fuel oil, coal or wood.

Combustion furnaces always need to be vented to the outside. Traditionally, it has been through a chimney, which tends to expel heat and the exhaust. Modern high-efficiency furnaces can be 98% efficient and operate without a chimney. The small amount of waste gas and heat are mechanically ventilated through a small tube on the roof of the house.

Modern household furnaces are classified as condensing or non-condensing based on their efficiency in extracting heat from the exhaust gases. Furnaces with efficiencies

greater than 89% heat extract from the exhaust and in which water vapour in the exhaust condenses are referred to as condensing furnaces. Such furnaces must be designed to avoid corrosion that this highly acidic condensate might cause and they must include a condensate pump to remove the accumulated water.

The flame originates at the burners and is drawn into the heat exchanger. The hot gasses pass through the chambers of the heat exchanger and heat its metal walls. The gasses cool as they transfer the heat to the heat exchanger. The cooled gasses then enter the draught inducer blower and are pushed into the venting pipes and out of the house.

As for heat distribution, the furnace transfers heat to the living space of the building through an intermediary distribution system. If the distribution is through hot water or through steam, then the furnace is termed a boiler. One advantage of a boiler is that the furnace can provide hot water for bathing and washing dishes, rather than requiring a separate water heater. But when the boiler breaks down, both heating and domestic hot water is not available. Most modern "warm air" furnaces use a fan to circulate air to the rooms of the house and to pull cooler air through ducts back to the furnace for reheating. This is called forced-air heating. At the furnace, cool air passes into the furnace, usually through the air filter, through the blower, then through the heat exchanger of the furnace, whence it is blown throughout the building. Air is circulated through metal or plastic ductwork. Unless the ducts and plenum have been sealed using mastic or foil duct tape, the ductwork is likely to have a high leakage of conditioned air into unconditioned spaces. Another cause of wasted energy is the installation of ductwork in unheated areas, such as attics and crawl spaces.

c) Распределите вопросы в последовательности, соответствующей содержанию текста:

1. Why can energy leakages occur?
2. What kinds of fuel are used for furnaces?
3. What components do furnaces have? What are their functions?
4. What types of furnaces are there? What is the difference between them?
5. What is a furnace?

d) Ответьте на поставленные вопросы.

Text 9

1. *Найдите русские эквиваленты английских слов.*

1. resistance heating	a. система отопления с баком-аккумулятором, теплоаккумуляционное электроотопление
2. appliance	b. электрообогрев
3. thermal storage heating	c. нагрев сопротивлением, контактный электронагрев
4. electrical heating	d. нагрев джоулевым теплом, электрическим током, электрический нагрев
5. baseboard electric heating	e. аппарат, прибор; приспособление, устройство
6. space heater	f. печь; очаг

7. radiant heater	g. комнатный электрообогреватель; электрический камин
8. furnace	h. резистор, катушка сопротивления
9. Joule heating	i. напольный электрообогрев
10. electric current	j. источник (блок) электропитания
11. resistor	k. радиационный нагреватель
12. coil	l. тепловая электростанция
13. electric power supply	m. катушка, обмотка
14. fossil-fuelled power plant	n. электрический ток

2. *Прочитайте и переведите текст.*

ELECTRIC HEATING

Electric heating or resistance heating converts electricity directly to heat. This process occurs when an electric current passes through a resistor, a device that turns the current into energy. Common applications include heating houses, cooking, and industrial processes. Electric heat is often more expensive than heat produced by combustion appliances using natural gas, propane, and oil. Electric resistance heat can be provided by baseboard heaters, space heaters, radiant heaters, furnaces, wall heaters, or thermal storage systems.

An electric heater is an electrical appliance that converts electrical energy into heat. The heating element inside every electric heater is simply an electrical resistor, and works on the principle of Joule heating: an electric current through a resistor converts electrical energy into heat energy. Electric heating can also occur through a heat pump, which uses an electric motor to draw heat from a source and to pump it into an area to be heated.

There is a wide variety of devices that provide electric heat. While the basic principles of these devices are the same, the manner in which they deliver heat is different. Radiant heaters (commonly referred to as space heaters) contain a coil that reaches a high temperature and emits heat. Convection heaters produce warm air that is released into the surrounding area through vent holes. Some convection heaters use an electric fan to speed up the airflow. Radiant heating systems use electricity to heat tubes of water, which are generally located under the floor of a building. These tubes of water heat the floor, which then heats the surrounding area.

Mechanics of electrical heating is the following. When electric current passes through a resistor, the moving particles of the current interact with the resistor’s atomic ions so that heat is produced. The resistor creates an electric field that accelerates the charged particles in the electric current, and these particles give up some part of their kinetic energy each time they collide with the atomic ions. The atomic ions absorb this kinetic energy, which manifests itself as heat and causes an increase in the temperature of the resistor. A typical electric heater has many resistors, which pass their heat to the heater’s conductor (typically a series of metal coils). In this manner, energy is transferred from an electric power supply to the resistor and ultimately to the conductor, which then disperses the energy into the surrounding environment.

Electric heating is considered to be environmentally-friendly and economically efficient because of the high conversion rate of electric particles to heat. Modern electric

heating systems can convert nearly all purchased electricity into heat. Many newer electric heating systems have storage capabilities that allow these systems to purchase electricity when the price is low and store that electric energy until it is needed to produce heat. You can calculate the cost of an electric heating system by estimating the system's cost per kilowatt hour, multiplying this number by the heater's efficiency, and then multiplying this quantity by the number of kilowatt hours the system will be used. For an electrical energy customer the efficiency of electric space heating can be 100% because all purchased energy is converted to heat. However, if the power plant supplying electricity is included, the overall efficiency drops. For example, a fossil-fuelled power plant may only deliver 4 units of electrical energy for every 10 units of fuel energy released. Even with a 100% efficient electric heater, the amount of fuel needed for a given amount of heat is more than if the fuel was burned in a furnace or a boiler in the building being heated.

In Sweden the use of direct electric heating has been restricted since the 1980s for this reason, and there are plans to phase it out entirely. Denmark has also banned the installation of electric space heating in new buildings for similar reasons.

3. *Найдите пары слов, имеющих сходное значение.*

to calculate	to prohibit
to heat	amount
quantity	appliance
to convert	to put a limit on
to restrict	to compute
to ban	to warm
device	to transform

4. *Подберите определения к приведённым слева словам.*

1. fuel	a) an appliance fired by gas, oil, or wood in which air or water is heated to be circulated throughout a building in a heating system
2. device	b) material such as coal, gas, or oil that is burned to produce heat or power
3. furnace	c) a thing made or adapted for a particular purpose, especially a piece of mechanical or electronic equipment
4. heater	d) a device which is used to raise the temperature of something, for example, of the air or water

5. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Heat produced by combustion appliances is more expensive than electric heat.
2. An electrical resistor is a heating element inside every electric heater.
3. An electrical resistor converts electrical energy into heat.
4. A conductor receives heat from resistors of an electric heater and disperses its energy into the surrounding environment.
5. Heat is produced when charged particles collide with the conductor's atomic ions.
6. In some countries direct electric heating has been restricted because of high electricity consumption.

6. *Ответьте на вопросы.*

1. What type of heating is called electric heating?
2. What electric heating devices do you know? Do they have any common elements?
3. What principle is their work based on?
4. What are the advantages and disadvantages of electric heating?
5. Why has electric heating been restricted or banned in some countries?
6. How can you calculate the cost of an electric heating system?

7. *Перескажите текст на английском языке по следующему плану.*

1. Overview of Electrical Heating.
2. Mechanics of Electrical Heating.
3. Environmental and Economic Considerations.

8. *a) Переведите следующие слова и словосочетания на русский язык, при необходимости воспользуйтесь словарем:* to plug into a wall socket, a heating coil, a circuit, low-gauge, to wrap, an alloy, to multiply, amperage, semi-permeable, to release, to diffuse, to disperse.

b) Прочтите текст и перечислите вопросы, освещаемые в нем.

How Does an Electric Heating System Work?

Components of Electric Heating

Electric heaters are generally heaters plugged into a wall socket. They're not a very complicated device. Basically, they're made up of a heating coil or element, possibly a fan or parabolic mirror to distribute the heat, and a unit for collecting energy that plugs into your wall and makes a completed circuit. This allows the heater to draw energy from your wall socket.

Basis of an Electric Heater: The Heating Coil

The heating coil is generally a very low-gauge wrapped wire that has a resistor on it. A resistor is an electric component made of wire wrapped around something with a very large amount of ohms, which measure electrical resistance. Many resistors are wires wrapped around a solid mixture of carbon dust and ceramics or resin, along with a plastic coating to hold it all together. These resistors serve to inhibit electrical flow through the wires of the heating coil. The resisting qualities of a heating coil are given by resistance wire, which has a high resistance from being low-gauge and is made of alloys that are highly resistant, such as nickel chrome alloys.

Converting Electrical Energy to Thermal Energy

Joule heating states that the heat produced from a wire is proportional to the resistance of a wire, multiplied by the square of the electrical current of the wire. This means that as the resistance and current of a wire rise, the heat emitted will also rise. Because the resistor of an electric heating coil has an incredibly high resistance, even the relatively low amperage from the wall socket from your home is enough to cause the coil to radiate large amounts of heat. A very easy way of understanding this is by making a connection from the heater to water flowing through pipes. As the water (electricity) flows through the pipes (the coil), the resistor keeps the water in the pipes, causing pressure to appear. Eventually, as the pressure is high enough, the water seeps out of the pipes and is released into the outside, as if the pipes were semi-permeable at high pressures. The released water is analogous to the heat released by the wires.

Dispersing the Heat

The heat created by the electric heater can be diffused across space in many ways. Fans can be used to disperse the hot air caused by the heating coil. The heated air often creates a convention current in an area which disperses the heat across a large area.

c) Распределите вопросы в соответствующей содержанию текста последовательности:

1. What alloys are highly resistant?
2. What does Joule heating state?
3. What is a heating coil?
4. How is the heat created by the electric heater diffused?
5. What is a resistor?

VENTILATION

Text 1

1. *Найдите русские эквиваленты английских слов.*

1. ventilation	a. кратность воздухообмена
2. vents / flues	b. загрязняющее вещество
3. exhaust	c. летучие органические соединения
4. to expel	d. воздухоотводная труба, дымоход; дым, пыль
5. to cause harm	e. воздухообмен
6. occupant	f. интенсивность подачи, скорость по-тока, расход
7. contaminant	g. рециркулирующий (возвратный) воз-дух
8. to dilute	h. освежитель воздуха
9. respirable suspended particles	i. увлажнять
10. volatile organic compounds	j. вытяжка
11. to heat	k. вентиляция, проветривание, движе-ние воздуха
12. to cool	l. котел, бойлер
13. to humidify	m. вдыхаемые взвешенные частицы

14. to treat	n. нагревать. согревать
15. to circulate	o. житель, жилец
16. to prevent	p. водонагреватель
17. return air	q. мера, единица измерения; предел
18. boiler	r. причинять, наносить вред
19. volumetric flow rate	s. обрабатывать, подвергать действию
20. air change	t. предотвращать, не допускать
21. air changes per hour / ventilation rate	u. удалять, убирать, выводить (из)
	v. запрещать
22. measure	w. разбавлять, разводить, разжижать
23. air freshener	x. циркулировать, двигаться по кругу
24. water heater	y. охлаждать
25. to ban	

2. *Прочитайте и переведите текст.*

VENTILATION

Ventilation is the intentional movement of air from outside a building to the inside. It is the *V* in HVAC. The exhausts of clothes dryers and combustion equipment such as water heaters, boilers, fireplaces, and woodstoves are called vents or flues. The vents or flues carry the products of combustion which have to be expelled from a building not causing harm to the occupants of the building. The movement of air between indoor spaces, and not to the outside, is called air transfer.

When people or animals are present in buildings, ventilation is necessary to dilute odours and limit the concentration of carbon dioxide and airborne pollutants such as respirable suspended particles (RSPs) and volatile organic compounds (VOCs). Ventilation air is often delivered to spaces by mechanical systems which may heat, cool, humidify and dehumidify the space. Air movement into buildings can occur due to uncontrolled infiltration of outside air through the building fabric or the use of deliberate natural ventilation strategies. Advanced air filtration and treatment processes such as scrubbing, can provide ventilation by cleaning and recirculating a proportion of the air inside a building.

In certain applications, such as submarines, pressurized aircraft, and spacecraft, ventilation air is also needed to provide oxygen, and to dilute carbon dioxide for survival. Buildings normally have sufficient air leakage to prevent dangerous levels of carbon dioxide. Inadequate ventilation in a densely occupied room can cause the level of carbon dioxide to increase which leads to sleepiness and reduced working efficiency. This is a matter of concern in schools where attentiveness and learning ability may be adversely affected.

In commercial, industrial, and institutional (CII) buildings, and modern jet aircraft, return air is often recirculated to the air handler. A portion of the supply air is normally exfiltrated through the building envelope or exhausted from the building (e.g., toilet or kitchen exhaust) and is replaced by outside air introduced into the return air stream.

The ventilation rate, for CII buildings, is normally expressed by the volumetric flow rate of outside air being introduced to the building. The typical units used are cubic feet per minute (commonly abbreviated as CFM), or, in metric units, liters per second (L/s).

The ventilation rate can also be expressed on a per person or per unit floor area basis, such as CFM/p or CFM/ft², or as air changes per hour.

For residential buildings, which mostly rely on infiltration for meeting their ventilation needs, the common ventilation rate measure is the number of times the whole interior volume of air is replaced per hour, and is called air changes per hour (I or ACH; units of 1/h). ACHs of 0.5 to 1.5 are common in modern U.S. homes under winter design weather conditions.

If smoking is allowed indoors, ventilation air is needed in sufficient quantities to dilute the airborne contaminants. Banning indoor tobacco smoking and the use of candles, air fresheners, incense, and other generators of air contaminants is much more effective for improving indoor air quality.

Combustion (e.g., fireplace, gas heater, candle, oil lamp, etc.) consumes oxygen and produces replaced by carbon dioxide other unhealthy gases and smoke), requiring ventilation air. An open chimney promotes infiltration (i.e. natural ventilation) because of the negative pressure change induced by the buoyant, warmer air leaving through the chimney. The warm air is replaced by heavier, cold air.

Ventilation in a structure is also needed for removing water vapour, produced by respiration, burning, and cooking, and for removing odours, e.g., from a toilet or kitchen. If water vapour is permitted to accumulate, it may damage the structure, insulation, or finishes. When operating, an air conditioner usually removes excess moisture from the air. A dehumidifier may also be appropriate for removing airborne moisture.

3. *Найдите пары слов, имеющих сходное значение.*

pollution	suitable
to ventilate	to expel
appropriate	to air
to remove	contamination
measure	unit

4. *Подберите слова, имеющие противоположное значение со следующими словами и словосочетаниями.*

to heat
to clean
to reduce
inside
to allow
to humidify

5. *Образуйте имена существительные от следующих слов.*

to teat	moist
to ventilate	to move
to filtrate	to measure
to circulate	to sleep

to contaminate	humid
to combust	to press

6. *Найдите в тексте и переведите на русский язык:*

a) существительные, которые обозначают названия химических веществ;
b) аббревиатуры и их значения;
c) единицы измерения кратности воздухообмена.

7. *Найдите в тексте и переведите на русский язык предложения, содержащие причастия.*

8. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Air transfer is the movement of air between indoor spaces.
2. Scrubbing provides ventilation by cleaning and recirculating a proportion of the air inside a building.
3. The ventilation rate for residential buildings is based on a per person or per unit floor area basis.
4. Air conditioners remove water vapour from the air.
5. A dehumidifier is used to make the air less dry.

9. *Ответьте на вопросы:*

1. What is ventilation?
2. What types of pollutants have to be expelled from buildings?
3. What is called “transfer air”?
4. How can air movements into buildings occur?
5. How does scrubbing provide ventilation air?
6. Where and why is ventilation needed?
7. How does ventilation occur in CII buildings?
8. What units are used to express ventilation rate for buildings of different functions?
9. What measures are necessary to undertake for improving indoor air quality?
10. Why is ventilation important?

10. *Дополните приведенный ниже план текста.*

1. The definition of ventilation.
2. Types of contaminants and their influence on people:
a) … ;
b) airborne pollutants (…, VOCs).
3. The way ventilation occurs
    a) in CII buildings;

b) …

4. …

a) for CII buildings;

b) …

5. Measures to improve indoor air quality.

6. The importance of ventilation.

11. *Перескажите текст на английском языке, используя план упражнения 10.*

12. *Прочтите текст, при необходимости воспользуйтесь словарем.*
Ответьте на вопросы:

1. What does the term "indoor air quality" mean?

2. What influences air quality?

3. What methods are used to improve indoor air quality?

4. How is indoor air quality determined?

Indoor Air Quality

Indoor air quality (IAQ) is a term which refers to the air quality within and around buildings and structures, especially as it relates to the health and comfort of occupants.

IAQ can be affected by gases (including carbon monoxide, radon, volatile organic compounds), particulates, allergens, microbial contaminants (mould, bacteria) or any mass or energy stressor that can induce adverse health conditions and diseases.

Source control, filtration and the use of ventilation to dilute contaminants are the primary methods for improving indoor air quality in most buildings.

Determination of IAQ involves the collection of air samples, monitoring human exposure to pollutants, collection of samples on building surfaces and computer modelling of air flow inside buildings. These investigations can lead to the understanding of the sources of the contaminants and ultimately to strategies for removing unwanted elements from the air.

The "green design" movement in the commercial and residential HVAC industry emphasizes paying attention to the issue of indoor air quality throughout the design and construction stages of a building life cycle.

One technique to reduce energy consumption while maintaining adequate air quality is demand controlled ventilation. Instead of setting throughput at a fixed air replacement rate, carbon dioxide sensors are used to control the rate dynamically, based on the emissions of actual building occupants.

One of the ways to ensure healthy indoor air is to provide frequent turnover of interior air by replacement with outside air. In some countries such as the UK, for example, classrooms are required to have 2.5 outdoor air changes per hour. In halls, gym, dining, and physiotherapy spaces, the ventilation should be sufficient to limit carbon dioxide to 1,500 ppm. In the USA, ventilation in classrooms is based on the amount of outdoor air per occupant, not air changes per hour. Dilution of indoor pollutants with outdoor air is effective to the extent that outdoor air is free of harmful pollutants.

The use of air filters can trap some of the air pollutants. Air filters are used to reduce the amount of dust that reaches the wet coils. Dust can serve as food to grow molds on the wet coils and ducts and can reduce the efficiency of the coils.

13. *Прореферируйте текст, используя клише приложения 1.*

Text 2

1. *Найдите русские эквиваленты английских слов.*

1. airborne	a. обработка воздуха; перемещение воздуха; кондиционирование
2. acceptable	b. прямое нагнетание, поступление
3. indoor air quality	c. передвигать(ся) по кругу
4. air handling	d. загрязняющее вещество
5. unit	e. переносимый по воздуху
6. direct injection	f. экономайзер со стороны поступления воздуха
7. exhaust fan	g. устройство, установка, прибор
8. air flow rate	h. качество воздуха внутри помещения
9. contaminant	i. поддерживать, удерживать, сохранять
10. dilution	j. вытяжной вентилятор, вытяжка
11. to circulate	k. приемлемый; допустимый; удовлетворительный
12. wind driven ventilation	l. клапан, заслонка
13. stack	m. адаптивная система вентиляции
14. air-side economizer	n. вентиляционная труба
15. damper	o. расход воздуха
16. demand controlled ventilation	p. разбавление, разжижение
17. mechanical / forced ventilation	q. естественная вентиляция
18. natural ventilation	r. ветровая вентиляция
19. to maintain	s. искусственная (механическая) вентиляция

2. *Прочитайте и переведите текст.*

TYPES OF VENTILATION

Ventilation is required so that the human occupants in buildings are provided with fresh air. The purpose is to provide oxygen and dilute other gases such as CO_2 and human odours. Ventilating is the process of “changing” or replacing air in any space to control temperature or remove moisture, odours, smoke, heat, dust and airborne bacteria. Ventilation includes both the exchange of air to the outside and circulation of air within the building. It is one of the most important factors for maintaining acceptable indoor air quality in buildings. Methods for ventilating a building may be divided into mechanical / forced and natural types. Ventilation is used to remove unpleasant smells and excessive moisture, introduce outside air, and to keep interior building air circulating, to prevent stagnation of the interior air.

Mechanical or forced ventilation occurs through an air handling unit or direct injection into a space by a fan. An exhaust fan can enhance infiltration or natural ventilation, thus increasing the ventilation air flow rate.

Mechanical or forced ventilation is used to control indoor air quality. Excess humidity, odours, and contaminants can often be controlled via dilution or replacement with outside air. However, in humid climates much energy is required to remove excess moisture from ventilation air.

Kitchens and bathrooms typically have mechanical exhaust to control odours and sometimes humidity.

Ceiling fans and table/floor fans circulate air within a room for the purpose of reducing the perceived temperature because of evaporation of perspiration on the skin of the occupants. Because hot air rises, ceiling fans may be used to keep a room warmer in the winter by circulating the warm stratified air from the ceiling to the floor. Ceiling fans do not provide outside air supply.

Natural ventilation occurs when the inside air is changed with outdoor air without using fans or other mechanical systems. Most often natural ventilation is supplied through windows but it can also be achieved by temperature and pressure differences between spaces. Open windows or vents are not a good choice for ventilating a basement or other below ground structures. Allowing outside air into a cooler space below ground can cause problems with humidity and condensation. Natural ventilation is the process of supplying and removing air through indoor space by natural means. There are two types of natural ventilation in buildings: wind driven ventilation and stack ventilation.

These systems use very little energy but care must be taken to ensure the occupants' comfort. In warm or humid months maintaining thermal comfort via natural ventilation can not be possible that's why conventional air conditioning systems are used as backups. Air-side economizers perform the same function as natural ventilation, but they use mechanical systems: fans, ducts, dampers, and control systems to introduce and distribute cool outdoor air.

Demand controlled ventilation (DCV) makes it possible to maintain proper ventilation and improve air quality while saving energy. Demand-controlled ventilation adjusts outside ventilation air based on the number of occupants and the ventilation demands that those occupants create. DCV is part of a building's ventilation system control strategy. It may include hardware, software, sensors and control strategy and is an integral part of a building's ventilation design. Large assembly spaces such as gymnasiums, auditoriums, lecture halls, conference rooms, churches, and theaters are good candidates for DCV. These spaces are designed for large numbers of people with high outside air requirements. DCV is a ventilation control strategy that provides just the right amount of outside air that is needed by the occupants. Active control of the ventilation system can provide the opportunity to control indoor air quality.

Infiltration is separate from ventilation, but is often used to provide ventilation air.

3. *Найдите в тексте английские эквиваленты следующих словосочетаний.*

Воздух в помещении, устранять неприятные запахи, чрезмерная влажность, испарение, потоотделение, запасной вариант, обеспечивать комфорт, устройство регулирования движения воздуха, аппарат для кондиционирования воздуха, датчик, наружный воздух, экономить энергию, жильцы, контролировать качество воздуха.

4. *Подберите определения к приведённым слева словам.*

1. bacteria	a) a quantity representing the amount of water vapour in the atmosphere
2. odour	b) very small organisms causing diseases
3. humidity	c) fine, dry powder consisting of tiny particles of earth or waste matter lying on the ground or on surfaces or carried in the air
4. dust	d) a distinctive smell, especially an unpleasant one

5. *Найдите пары слов, имеющих сходное значение.*

via	correct
space	to take place
proper	room
to improve	by means of
to occur	to make better

6. *Закончите предложения в соответствии с содержанием текста.*

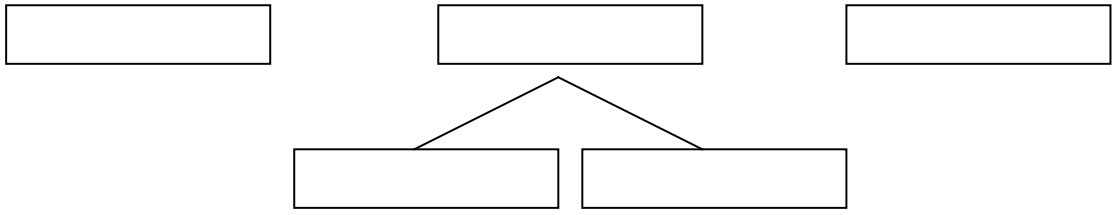
1. Ventilation includes ….
2. Methods for ventilating a building may be divided into ….
3. Ventilation is used ….
4. Mechanical or forced ventilation occurs ….
5. …. are used to control odours and humidity, …. are used to reduce the perceived temperature.
6. Natural ventilation is supplied ….
7. There are two types of natural ventilation in buildings: ….
8. DCV makes it possible ….

7. *Ответьте на вопросы.*

1. What is ventilation?
2. What is ventilation aimed at?
3. What types of ventilation do you know?
4. What is the difference between natural and mechanical systems of ventilation?
5. What spaces is demand controlled ventilation meant for? How does it operate?

8. *Заполните таблицу в соответствии с содержанием текста.*

Types of Ventilation



9. *Перескажите текст на английском языке, используя таблицу упражнения 8.*

10. *a) Переведите следующие слова и словосочетания на русский язык, при необходимости воспользуйтесь словарем:* a fume hood, hazardous, exposure to smth, epoxy coated mild steel, to feed back into, a counter-flow heat exchanger, inbound air flow, outbound air flow, energy recovery ventilators, a stand-alone device.

b) Прочтите текст и перечислите вопросы, освещаемые в нем.

Ventilation Equipment

A fume hood (a fume cupboard) is a large scientific device used in chemistry laboratories and designed to limit people's exposure to hazardous, toxic and unpleasant fumes. Fume hoods were originally manufactured from timber, but now epoxy coated mild steel is the main construction material fume hoods are made of. There are two main types of this unit, ducted and recirculating ones. The principle is the same for both types: air is drawn in from the front (open) side of the cabinet by a fan, and either expelled outside the building or made safe through filtration and fed back into the room. Recirculating fume hoods are used where the design of a building does not permit the fitting of external ductwork, these units generally have a fan mounted on the top (soffit) of the hood, or beneath the worktop. Air is sucked through the front opening of the hood and through a filter, before passing through the fan and being fed back into the workplace.

Heat recovery ventilation (also known as a heat exchanger, air exchanger or air-to-air exchanger) is a ventilation system that employs a counter-flow heat exchanger between the inbound and outbound air flow. HRV provide fresh air and improved climate control, while also saving energy by reducing the heating (or cooling) requirements.

Energy recovery ventilators (ERVs) are closely related; however ERVs also transfer the humidity level of the exhaust air to the intake air.

HRVs and ERVs can be stand-alone devices that operate independently, or they can be built-in, or added to existing HVAC systems. For a small building in which nearly every room has an exterior wall, the HRV/ERV device can be small and provide ventilation for a single room. A larger building would require either many small units, or a large central unit. The only requirements for the building are an air supply, either direct from an exterior wall or ducted to one, and an energy supply for air circulation, such as wind energy or electricity which is necessary for a fan. When used with central HVAC systems, the system is of the forced-air type.

c) Ответьте на вопросы:

1. What types of ventilation equipment do you know? What are they used for?
2. What is the difference between them?
3. What features do they have in common?

Text 3

1. *Найдите русские эквиваленты английских слов.*

1. enclosure	a. равновесие, баланс
2. HVAC design engineer	b. средний

3. heat conduction	c. огороженное пространство
4. evaporative heat loss	d. воздушные течения, потоки
5. equilibrium	e. потеря тепла при испарении
6. mean	f. термический стресс, тепловой стресс
7. velocity	g. инженер по отоплению, вентиляции и кондиционированию воздуха
8. air movement	h. скорость; быстрота
9. insulating clothing	i. сквозняк
10. thermal stress	j. изолирующая спецодежда
11. operative temperature	k. температура воздуха по сухому термометру
12. air dry-bulb temperature	l. расчётная комфортная температура (с учётом рационального и конвективного теплообмена)
13. draught	m. теплопроводность
14. radiant temperature	n. (эквивалентная) температура излучения

2. *Прочитайте и переведите текст.*

THERMAL COMFORT

Human thermal comfort is defined as the state of mind that expresses satisfaction with the surrounding environment. Maintaining thermal comfort for occupants of buildings or other enclosures is one of the important goals of HVAC design engineers.

Thermal comfort is affected by heat conduction, convection, radiation, and evaporative heat loss. Thermal comfort is maintained when the heat generated by human metabolism is allowed to dissipate, thus maintaining thermal equilibrium with the surroundings. Any heat gain or loss beyond this generates the sensation of discomfort. It has been long recognized that the sensation of feeling hot or cold is not just dependent on air temperature alone.

Factors determining thermal comfort include: air temperature, mean radiant temperature, air movement / velocity, relative humidity, insulating clothing, activity levels.

The concept of thermal comfort is closely related to thermal stress. This attempts to predict the impact of solar radiation, air movement, and humidity for military personnel undergoing training exercises or athletes during competitive events.

The ideal standard for thermal comfort can be defined by the operative temperature. This is the average of the air dry-bulb temperature and of the mean radiant temperature at the given place in a room. In addition, there should be low air velocities and no draughts, little variation in the radiant temperatures from different directions in the room, humidity within a comfortable range, and air temperatures at a height of 0.1 m above the floor should not be more than 2 °C lower than the temperature at the place of the occupants' head. The temperatures should also not change too rapidly across either space or time.

In addition to environmental conditions, thermal comfort depends on the clothing and activity level of a person. The amount of clothing is measured against a standard amount that is roughly equivalent to a typical business suit, shirt, and undergarments. Activity level is compared to being seated quietly, such as in a classroom.

3. *Найдите пары слов, имеющих сходное значение.*

equilibrium	equal
surroundings	to acknowledge
equivalent	balance
to change	idea
to recognize	to alter
concept	environment

4. *Найдите соответствующие определения к приведённым слева словам.*

1. operative temperature	a) the temperature of air measured by a thermometer freely exposed to the air but shielded from radiation and moisture
2. radiant temperature	b) a uniform temperature of a radiantly black enclosure in which an occupant would exchange the same amount of heat by radiation plus convection as in the actual nonuniform environment
3. temperature	c) a concept arising from the fact that the net exchange of radiant energy between two objects is approximately proportional to their temperature difference multiplied by their ability to emit and absorb heat
4. dry-bulb temperature	d) the degree or intensity of heat present in a substance or object, esp. as expressed according to a comparative scale and shown by a thermometer

5. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Maintaining thermal comfort for occupants of buildings or other enclosures is one of the important goals of mechanical engineers.
2. Thermal comfort maintains thermal equilibrium with the surroundings.
3. The sensation of feeling hot or cold is dependent on air temperature, air movement and its velocity, relative humidity, insulating clothing, activity levels.
4. The temperatures should change very rapidly across space and time. It helps to harden the body and spirit.
5. The ideal standard for thermal comfort can be defined by humidity.
6. The amount of clothing is roughly equivalent to a typical fur coat, skirt, and tights.
7. Activity level is compared to running quickly or jumping in a classroom.

6. *Ответьте на вопросы.*

1. What affects thermal comfort?
2. What factors determine thermal comfort?
3. Can you give examples of thermal stress?
4. What is operative temperature? How is it calculated?
5. People feel much better if there are draughts in a room and if the air at their head is hotter than the air temperature at their feet, don't they?
6. What are the main characteristics of thermal comfort? How are they determined?

7. *Составьте план текста для пересказа.*

8. *Перескажите текст на английском языке, используя план.*

9. *Прочтите текст, при необходимости воспользуйтесь словарем.*
Ответьте на вопросы:
1. What is called room air distribution?
2. How is HVAC airflow classified?
3. What is the difference between mixing and displacement ventilation systems?
4. What is underfloor air distribution?

Room Air Distribution

Characterizing how air is introduced to, flows through, and is removed from spaces is called room air distribution. HVAC airflow in spaces generally can be classified by two different types: mixing (or dilution) and displacement.

Mixing systems generally supply air in a manner that the air in the entire room is fully mixed. In cooling mode, the cool supply air, typically around 55°F (saturated) at design conditions, exits an outlet at high velocity, inducing room air to provide mixing and temperature equalization. Because the entire room air is mixed, temperature variations are small while the contaminant concentration is fairly uniform throughout the entire room. To enhance the mixing, diffusers are normally used as the air outlets. Most often, the air outlets and inlets are placed in the ceiling, via a ceiling plenum; this arrangement is known as conventional room air distribution.

Displacement ventilation systems supply air directly to the occupied zone. The air is supplied at low velocities to cause minimal induction and mixing. This system is used for the cooling and ventilation of large high spaces, such as auditoria and atria, where energy may be saved if only the occupied zone is treated rather than trying to control the conditions in the entire space. Displacement room airflow presents an opportunity to improve both the thermal comfort and indoor air quality (IAQ) of the occupied space. The displacement outlets are usually located at or near the floor. The system utilizes buoyancy forces (generated by heat sources such as people, lighting, computers, electrical equipment, etc.) in a room to move contaminants and heat from the occupied zone to the return or exhaust grilles above. By doing so, the air quality in the occupied zone is generally superior to that achieved with mixing room air distribution.

If air mixing is encouraged at the floor level, this type of floor-to-ceiling room air distribution is known as underfloor air distribution (UFAD); if mixing is discouraged, it is displacement.

AIR-CONDITIONING

Text 1

1. *Найдите русские эквиваленты английских слов.*

1. air conditioner	a. влажность, сырость
2. contraption	b. установка
3. to consume	c. изобретение
4. to cool	d. снижать, уменьшать
5. humidity	e. регулируемый
6. installation	f. кондиционер воздуха
7. to replace	g. сушить, иссушать, обжигать
8. coolant	h. охлаждать
9. ammonia	i. ослаблять, понижать
10. to lower	j. изобретение, устройство, приспособление
11. adjustable	k. аммиак
12. to reduce	l. заменять, замещать
13. to sear	m. охлаждающее вещество
14. invention	n. потреблять, расходовать
15. to treat	o. обрабатывать, подвергать воздействию

2. *Прочитайте и переведите текст.*

THE HISTORY OF AIR CONDITIONING

The idea of air conditioning started before a machine was created to produce the cooling effect desired. The first attempt at building an air conditioner was made by Dr. John Gorrie (1803-1855), an American physician, in Apalachicola, Florida. During his practice there in the 1830s, Dr. Gorrie created an ice-making machine that essentially blew air over a bucket of ice for cooling hospital rooms of patients suffering from malaria and yellow fever.

In 1881, when President James Garfield was dying, naval engineers constructed a box-like structure containing cloths saturated with melted ice water, where a fan blew hot air overhead. This contraption was able to lower temperature in a room by 20 degrees Fahrenheit but consumed half a million pounds of ice in two months' time.

A close ancestor to the modern air conditioner units was first made in 1902 by an American engineer Willis Carrier. The machine at that time was called the "Apparatus for Treating Air" and was built for the Sackett-Wilhelms Lithographing and Publishing Co. in Brooklyn, New York. Chilled coils were used in the machine to cool air and lower humidity to 55%, although the apparatus was precise enough and the humidity level desired was adjustable.

After the invention by Carrier, air conditioners began to bloom. They first appeared in industrial buildings such as printing plants, textile mills, pharmaceutical manufacturers, and a few hospitals. The first air-conditioned home was that of Charles Gates in Minneapolis in 1914. However, during the first wave of their installation, Carrier's air

conditioning units were large, expensive, and dangerous due to the toxic ammonia that was used as a coolant.

In 1922 Carrier had two breakthroughs - he replaced the ammonia with the benign coolant dielene and added a central compressor to reduce the size of the unit. The next advance was when Carrier sold his invention to movie-theater operators in 1925 at the Rivoli on Broadway in New York City. Soon air conditioners were installed in office buildings, department stores and railroad cars. The United States House of Representatives had air conditioners installed in 1928, with the Senate, White House and Supreme Court following suit in the years after. After World War II, window air conditioners appeared.

Today, air conditioners have been said to be a partial cause for the changes in the South, and for most of us who have experienced its cooling benefits in times of searing heat waves, it is an invention that is hard to live without.

3. *Найдите в тексте английские эквиваленты следующих слов и словосочетаний.*

Снизить влажность до 55%, снизить температуру на 20 градусов по Фаренгейту, первая попытка создания кондиционера, заменить аммиак другой охлаждающей жидкостью, причина изменений.

4. *Найдите в тексте и переведите на русский язык предложения, содержащие глаголы в форме страдательного залога*.

5. *Найдите пары слов, имеющих сходное значение.*

contraption	adaptable
to construct	finding
to consume	to come about
invention	device
adjustable	to use
to appear	to create
to put in	to install

6. *Подберите определения к приведённым слева словам.*

1. coolant	a) an appliance, system, or mechanism designed to extract heat from an area via a refrigeration cycle
2. ammonia	b) the amount of water vapour in the air
3. humidity	c) a fluid which flows through a device in order to prevent its overheating, transferring the heat produced by the device to other devices that utilize or dissipate it
4. air conditioner	d) a compound with the formula NH3. It is normally encountered as a gas with a characteristic pungent odour

7. *Определите, какие утверждения не соответствуют содержанию текста. Дайте обоснование своего ответа. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. It is Dr. Gorrie who was the first to build an air conditioner to cool hospital rooms.
2. The apparatus for treating air was constructed by a Frenchman.
3. Chilled coils were used in the apparatus for treating air to increase humidity by 45 %.
4. First air conditioners were small, cheap and safe.
5. The first air-conditioned home was Bill Gates's.
6. Air conditioners were first installed at schools.
7. In 1922 the size of air conditioning units was reduced due to a central compressor and conditioners became safer.
8. Window air conditioners appeared in 1928.
9. People can easily do without air conditioners.

8. *Спросите и дайте ответы на поставленные вопросы:*

1. when, where and by whom the first attempt at building an air conditioner was made;
2. what advantages and disadvantages the first air conditioners had;
3. if Dr. Gorrie constructed a prototype of the modern conditioner;
4. why Willis Carrier replaced the ammonia with another coolant and added a compressor;
5. how and where people use air conditioning units;
6. why air conditioners are the invention which is hard to live without.

9. *Заполните таблицу фактами из текста.*

Date	Inventors' names	Inventions	Aims of using the invention
…	…	…	…

10. *Перескажите текст, используя таблицу и следующие вводные фразы: As you can see from the title the text touches upon…, according to the text…, as far as I can understand…, if to put all the facts in the chronological order you'll see that….*

11. *Прочтите текст, при необходимости воспользуйтесь словарем. Ответьте на вопросы:*

1. What is an air-conditioner?
2. What do air-conditioners use chemicals for?
3. What are the differences and similarities between refrigerators and air conditioners?
4. What parts do all air-conditioners have? What are their functions?

5. Can you describe the way the working fluid goes through an air-conditioner?

Air-Conditioner

An air-conditioner is an appliance, system, or mechanism designed to extract heat from an area via a refrigeration cycle. In construction, a complete system of heating, ventilation, and air-conditioning is referred to as "HVAC." Its purpose, in a building or an automobile, is to provide comfort during either hot or cold weather.

Air-conditioners and refrigerators work the same way. Instead of cooling just the small, insulated space inside of a refrigerator, an air-conditioner cools a room, a whole house, or an entire business.

Air-conditioners use chemicals that easily convert from a gas to a liquid and back again. This chemical is used to transfer heat from the air inside of a home to the outside air.

The machine has three main parts. They are a compressor, a condenser and an evaporator. The compressor and condenser are usually located on the outside air part of the air conditioner. The evaporator is located on the inside of the house, sometimes as a part of a furnace. That's the part that heats your house.

The working fluid arrives at the compressor as a cool, low-pressure gas. The compressor squeezes the fluid. This packs the molecule of the fluid closer together. The closer the molecules are together, the higher the energy and the temperature of the fluid are. Then the working fluid leaves the compressor as a hot, high pressure gas and flows into the condenser. The fins of the air-conditioner act just like a radiator in a car and help the heat go away, or dissipate, more quickly. When the working fluid leaves the condenser, its temperature is much cooler and it changes from a gas to a liquid under high pressure. The liquid goes into the evaporator through a very tiny, narrow hole. On the other side, the liquid's pressure drops and it begins to evaporate into a gas.

As the liquid changes to gas and evaporates, it extracts heat from the air around it. The heat in the air is needed to separate the molecules of the fluid from a liquid to a gas.

The evaporator also has metal fins which help to exchange the thermal energy with the surrounding air.

By the time the working fluid leaves the evaporator, it is a cool, low pressure gas. It then returns to the compressor to begin its cycle all over again.

Connected to the evaporator is a fan that circulates the air inside the house to blow across the evaporator fins. Hot air is lighter than cold air, so the hot air in the room rises to the top of a room.

There is a vent there where air is sucked into the air-conditioner and goes down the ducts. The hot air is used to cool the gas in the evaporator. As the heat is removed from the air, the air is cooled. It is then blown into the house through other ducts usually at the floor level.

This continues over and over until the room reaches the temperature you need. The thermostat senses that the temperature has reached the right setting and turns off the air conditioner. As the room warms up, the thermostat turns the air conditioner back on until the room reaches the temperature.

12. *Прореферируйте текст, используя клише приложения 1.*

Text 2

1. *Найдите русские эквиваленты английских слов.*

1. comfort	a. фильтр
2. comfortable	b. замысел, план, проект
3. process	c. процесс
4. specification	d. скорость
5. design	e. место жительства
6. filter	f. детализация
7. diffusion	g. кондиционирование воздуха
8. uniform temperature	h. действовать, поступать
9. residence	i. уютный, удобный
10. submarine	j. обеспечивать
11. to ensure	k. отдых, комфорт
12. apparatus	l. подводная лодка
13. velocity	m. распространение
14. to distribute	n. прибор, инструмент
15. to act	o. одинаковая температура
16. air-conditioning	p. распределять

2. *Прочитайте и переведите текст.*

AIR-CONDITIONING

Air-conditioning is the ensuring of purity and humidity throughout the year to maintain healthy and comfortable atmosphere in a building.

Air-conditioning may be divided into two main branches one of which is connected with the processing of materials in industry; the other with human comfort. It has been found that there is an optimum condition of temperature and humidity at which the processing of different materials may be carried out with the minimum of wastage and the maximum quantity of goods of specification quality. The system is therefore designed to produce air of predetermined temperature and moisture content despite all external influences. Such air is filtered free of foreign materials.

Air-conditioning for human comfort may also be divided into two main sections – winter and summer. The systems installed in office buildings can provide control during both seasons. Complete air-conditioning systems provide the following services:

Firstly, they provide air filtration both in winter and summer and remove dust.

Secondly, they provide circulation of the air at low velocity and with proper diffusion to prevent draughts and maintain a uniform temperature and humidity at all parts of the inhabited space.

Thirdly, they supply fresh air from the outside atmosphere.

Fourthly, they heat the air in winter.

Fifthly, they cool the inside air in summer below the level of the outside atmosphere.

Sixthly, they humidify the air in winter to a relative humidity of at least 20-25 per cent.

Seventhly, they dehumidify the air in summer to a relative humidity not exceeding 55 per cent.

The basic pieces of air-conditioning equipment are the filters; preheat coils, humidifiers, reheating coils, additional cooling coils, fans and controls. Since the air purity must be controlled, some sort of filtering must be provided at the entrance of the air-conditioning system.

Air-conditioning for human comfort is used in both large and small spaces, such as theatres, office buildings, department stores, residences, airplanes, railways, cars and submarines.

People feel comfortable when they are neither too cold, nor too warm and when the air around them is not too dry, damp, stuffy or dusty. To bring about these desirable conditions heating or air conditioning apparatus must be able to maintain certain conditions inside the house, whatever the conditions outside may be.

To avoid stuffiness, the air should be given a certain amount of motion. Under winter conditions it must be sufficient enough to distribute heat uniformly throughout the rooms. It must not be too cold at the floor, and it must not be too hot at the ceiling. Warm-air registers bring heated air into a room with a certain velocity which imparts movement to the inside air. An outlet for this air should be provided in order to have good ventilation. In summer it is necessary to provide much greater air motion to change the air in a room from three to ten times per hour. Sometimes a fan is placed in the attic to blow the warm air out and bring the cooler night air through open windows. When it is done, the air in the house can be expected to be changed completely every two or three minutes.

3. *Найдите в тексте английские эквиваленты следующих слов и словосочетаний.*

Товары со спецификацией качества, заданная температура, содержание влаги, посторонние материалы, удалять пыль, предотвращать, офисные здания, жилое пространство, нагревательная катушка, чистота воздуха, фильтрующее устройство, осуществлять, выход для воздуха.

4. *Переведите предложения, обращая внимание на разные функции инфинитива и инфинитивные конструкции.*

1. Air filtration in winter and summer is necessary to remove dust.
2. To avoid stuffiness, the air should be given a certain amount of motion.
3. Under winter conditions there must be sufficient motion to distribute the heat uniformly throughout the rooms.
4. An outlet for this air should be provided in order to have good ventilation.
5. In summer it is necessary to provide much greater air motion to change the air in a room from three to ten times per hour.
6. Sometimes a fan is placed in the attic to blow the warm air out and bring the cooler night air through open windows.
7. If there is a fan in the attic, the air in the house is changed completely every two or three hours.

5. *Закончите следующие предложения в соответствии с содержанием текста.*

1. Air-conditioning is ….
2. Air-conditioning may be divided into two main branches: … .
3. Conditioning for human comfort may also be divided into two main sections ….
4. The basic pieces of air-conditioning equipment are ….
5. Air-conditioning for human comfort is used ….

6. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Air-conditioning is the ensuring of purity and humidity throughout the year to maintain healthy and comfortable atmosphere in a building.
2. Air-conditioning may be divided into five main sections.
3. Complete air-conditioning provides seven services.
4. The control of air purity can not be achieved.
5. As a minimum control some sort of filtering must be done at the entrance of the air-conditioning system.
6. To avoid stuffiness, the air should be given a certain amount of odour.

7. *В соответствии с содержанием текста найдите правильные ответы на вопросы.*

1. When do air-conditioning systems installed in office buildings provide the control of air supply?
2. What is necessary to provide complete air-conditioning?
3. What is necessary for a minimum control of air purity?
4. When do people feel comfortable in a building?
5. What is necessary to avoid stuffiness in a building?
6. What is it necessary to do to change air every 2 or 3 minutes?

8. *Изложите краткое содержание текста на английском языке.*

9. *a) Переведите следующие слова и словосочетания на русский язык, при необходимости воспользуйтесь словарем:* to accumulate, ductwork, a clog, infestation, dust, debris, to switch off, to breathe in, built-in filters, to remove, to plug in, to insert, a screwdriver.

b) Прочтите текст.

How to Clean Ventilation Ducts

Cleaning your air ducts is important. It helps maintain your heating and air conditioning unit. Over time, dust can accumulate within your ductwork and can cause a clog. It can cause your unit to work much harder than it usually would, which can lead to higher energy bills. In addition, the dust is blown all around your house, and you can experi-

ence some allergy related reactions to the excess dust. Under other circumstances - like a rodent or bug infestation - it is recommended that you consult a professional duct cleaning service. However, for simple dust removal, you can perform this task on your own.

You'll need the following things: a broom, a duct cleaning vacuum, screwdrivers.

Instructions

1. Turn off the heat and air unit by switching the thermostat control to the off position. This will ensure that no dust or debris blows out while you are cleaning.

2. Put on a face mask. This will help you from breathing in any dust from the ducts.

3. Remove the vent covers in the rooms where you want to clean the ducts using the screwdrivers. It is recommended that you clean each duct in all the rooms. Under most vent covers there is a vent hole, some have built-in filters. If you have the filters, you must be careful not to damage them while cleaning. Remove the filter out with a flat headed screwdriver and gently brush any built-up dust off of it. Replace each filter after vacuuming each vent.

4. Plug in the duct vacuum and attach all the hoses. The hose lengths can reach 10 to 20 feet. Attaching all the hose lengths together is your best bet as you can feed in as much hose as the vent will take.

5. Turn on the duct vacuum and slowly insert the hose down the duct.

6. Repeat the vacuuming for all of the ducts in every room. This is necessary to ensure that you are getting the maximum amount of removal for the entire length of your duct work.

7. Reattach your vent covers (filters first if there were any) and thoroughly vacuum the areas around the vent covers to make sure you didn't track any dust out while you were working.

c) Ответьте на вопросы:

1. Why is cleaning air ducts important?
2. Why is it necessary to put on a face mask when cleaning air ducts?
3. What instruments are used for cleaning air ducts?
4. When is it recommended that you consult a professional duct cleaning service?

Text 3

1. *Подберите русские эквиваленты к следующим английским словам и словосочетаниям.*

1. pipe	a. жилые дома
2. environment	b. тщательное регулирование
3. close control	c. отопление помещения
4. to provide	d. установки
5. supply of air	e. окружающая среда
6. removal of air	f. труба
7. contaminated air	g. обеспечивать
8. space heating	h. вывод воздуха
9. residential buildings	i. загрязненный воздух
10. installations	j. подача воздуха

11. humidity	k. увлажнять
12. purity	l. универсальные магазины
13. department stores	m. чистота
14. sound knowledge	n. влагопоглотитель; воздухоосушитель
15. excess heat	o. использование, употребление, утилизация
16. utilization	p. экономичный источник
17. fumes	q. коммерческие здания
18. hazardous to health	r. запахи, испарения
19. modern amenities	s. опасный для здоровья
20. economical source	t. современные удобства
21. commercial buildings	u. влажность
22. to humidify	v. избыточное тепло
23. dehumidifier	w. глубокие знания

2. *Прочтите следующие интернациональные слова и, основываясь на значениях слов русского языка, определите их значения.*

Modern, human, technology, comfort, residence, tendency, associate, special, natural.

3. *Прочитайте и переведите текст.*

ALL-YEAR CONDITIONING, VENTILATION, GAS SUPPLY

(1) Air-conditioning implies the control of temperature, humidity, purity and motion of the air in an enclosed space. In our modern world of science and highly developed technology air conditioning is of great importance for industrial processes and for human comfort.

(2) Air-conditioning for human comfort is employed in 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.

(3) All year-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.

(4) In order to establish the size and operation requirements of an air-conditioning system, the maximum probable heating and co-demands have to be calculated. The maximum probable heating demand is usually for winter air conditioning and it involves heating and humidifying. The maximum probable cooling demand is generally for summer applications and requires cooling and dehumidifying. The inside design conditions depend upon the purpose for which air conditioning is used. Certain industrial process requirements and human comfort are the two major factors to be considered. With ever increasing tendency to use air-conditioning a building engineer must have good knowledge of the subject.

(5) As far as ventilation is concerned the purpose of ventilation is to carry away excess heat and odours. In buildings such as homes, the leakage of air through cracks on doors and windows is usually sufficient to meet this requirement. Although ventilation was formerly concerned with the supply of fresh air and the removal of hot and contaminated air from the space it is also associated with air cleaning.

(6) Industrial buildings often present special problems for 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 to control dangerous gases and dusts: exhaust systems, dilution systems and combination of both.

(7) Another indispensable part of modern amenities is gas supply. 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, and refrigeration for food as well as for space heating. Nowadays most of buildings are heated by natural gas and the number of gas-supplied homes is increasing at a rate limited chiefly by the ability of steel industry to produce pipes through which the gas is transported. Natural gas supply is also used as a heat source in commercial establishments, for cooking in restaurants and bakeries, for heating and comfort cooling in stores, offices and other buildings.

4. *Укажите, к каким абзацам текста могут служить заголовками данные предложения. Расположите их согласно последовательности изложения.*

1. Gas supply as an important part of modern amenities.
2. Ventilation for industrial buildings.
3. The importance of air-conditioning for human comfort.
4. The basic parts of equipment for an all-year air-conditioning system.

5. *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 purpose of ventilation is...

a) ... to produce a desired temperature for maintaining comfort, b) ...to supply heat for cooking and space heating, c) ...to maintain air purity at an extremely high level, d) ...to carry away excess heat and odours.

3. The basic pieces of air-conditioning equipment are...

a) ... stokers, coal furnaces and boilers, b) ... filters, preheat coils, humidifiers, reheat coils, fans and controls, c) ... boilers and a system of pipes, d) ... systems of steel and copper pipes.

6. *Сгруппируйте следующие предложения по трем темам:*

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

1. Gas supply has come to be widely used. 2. In industrial buildings three types of ventilation are in use to control dangerous gases and dusts. 3. In such buildings as homes, the leakage of air through cracks in doors and windows is usually sufficient. 4. According to the purpose of usage, air-conditioning systems may be described as winter, summer and all-year ones. 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 systems. 8. Air-conditioning is meant for controlling the temperature, humidity, purity and motion of the air in an enclosed space.

7. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Air-conditioning implies the controlling of temperature, humidity, purity and motion of the air in an enclosed space.
2. According to their purpose, air-conditioning systems may be described only as winter systems.
3. All-year air-conditioning systems must provide means for performing all the processes required for winter and summer air-conditioning.
4. Industrial buildings often present special problems for heating.
5. At present natural gas is put into a large-scale economic use.
6. The principal utilization of natural gas is as a clean, convenient, economical source of heat.

8. *Изложите краткое содержание текста на английском языке.*

9. *Прочтите текст, при необходимости воспользуйтесь словарем. Ответьте на вопросы:*

1. What is the function of refrigeration air-conditioning equipment?
2. What is a dehumidifier?
3. What is the difference between an air-conditioner and a dehumidifier?
4. Where are dehumidifiers commonly used and why?

Humidity Control

Refrigeration air-conditioning equipment usually reduces the absolute humidity of the air processed by the system. The relatively cold (below the dew point) evaporator coil condenses water vapour from the processed air (much like an ice-cold drink will condense water on the outside of a glass), sending the water to a drain and removing water vapour from the cooled space and lowering the relative humidity in the room. Since humans perspire to provide natural cooling by the evaporation of perspiration from the

skin, drier air (up to a point) improves the comfort provided. The comfort air-conditioner is designed to create a 40% to 60% relative humidity in the occupied space. In food-retailing establishments, large open chiller cabinets act as highly effective air dehumidifying units.

A specific type of air-conditioner that is used only for dehumidifying is called a dehumidifier. A dehumidifier is different from a regular air conditioner in that both the evaporator and condenser coils are placed in the same air path, and the entire unit is placed in the environment that is intended to be conditioned (in this case dehumidified), rather than requiring the condenser coil to be outdoors. Having the condenser coil in the same air path as the evaporator coil produces warm, dehumidified air. The evaporator (cold) coil is placed first in the air path, dehumidifying the air exactly as a regular air conditioner does. The air next passes over the condenser coil, rewarming the now dehumidified air. Having the condenser coil in the main air path rather than in a separate, outdoor air path (as with a regular air conditioner) results in two consequences: the output air is warm rather than cold, and the unit is able to be placed anywhere in the environment to be conditioned, without a need to have the condenser outdoors.

Unlike a regular air-conditioner, a dehumidifier will actually heat a room just as an electric heater that draws the same amount of power (watts) as the dehumidifier would. A regular air conditioner transfers energy out of the room by means of the condenser coil, which is outside the room (outdoors). Conversely, with a dehumidifier, no energy is transferred out of the thermodynamic system (room) because the air conditioning unit (dehumidifier) is entirely inside the room. Therefore all of the power consumed by the dehumidifier is energy that is input into the thermodynamic system (the room) and remains in the room (as heat). In addition, if the condensed water has been removed from the room, the amount of heat needed to boil that water has been added to the room. This is the inverse of adding water to the room with an evaporative cooler.

Dehumidifiers are commonly used in cold, damp climates to prevent mold growth indoors, especially in basements. They are also used to protect sensitive equipment from the adverse effects of excessive humidity in tropical countries.

10. *Прореферируйте текст, используя клише приложения 1.*

Text 4

1. *Найдите русские эквиваленты английских слов.*

1. plumbing	a. увеличение тепла
2. economical installation	b. точная регулировка
3. reheater	c. площадь застекления
4. accurate control	d. водоизмерительные счетчики
5. commercial installation	e. текущие (эксплуатационные) расходы
6. small residence	f. время охлаждения
7. heat gain	g. проект с установкой оборудования в центре
8. glass area	h. устройство меньше заданного размера
9. pump	i. устройство кондиционирования воздуха

10. central core plan	j. водопроводное дело
11. air conditioning unit	k. насос
12. oversize unit	l. уровень комфорта
13. undersize unit	m. подогреватель
14. cooling period	n. небольшой жилой дом
15. comfort balance	o. устройство больше заданного размера
16. operating costs	p. заводская установка
17. water saving device	q. экономичная установка

2. *Прочтите следующие интернациональные слова и, основываясь на значениях слов русского языка, определите их значения.*

Economical, control, filter, adequate, accurate, commercial, residence, efficiently, efficiency, efficient, design, orientation, natural, utilization, structure, minimize, conditioning, limit.

3. *Прочитайте и переведите текст.*

CENTRAL AIR-CONDITIONING FOR SMALL RESIDENCES

When designing a small home that is to be air-conditioned, many factors must be considered to achieve economical installation and low operating costs.

A system controlling the temperature, humidity and filtering of the air is adequate for home conditioning.

Units with very accurate controls, like those ones used in industrial or large commercial installations are not required for small residences.

A house to be efficiently and economically air-conditioned should be designed so that the heat gain is as low as possible. This is achieved by proper orientation, location of glass areas, insulation and roof ventilation. Natural elements such as trees, planting and water areas should be utilized to provide shade and cooling.

For the sake of economy and efficiency in small houses the central core plan is often advised. The central service core has the following advantages:

1. Economical structure. 2. Grouped plumbing. 3. Efficient ductwork. 4. Flexibility of plan around core to utilize orientation.

The air-conditioning unit should be located in the center of the plan to minimize ductwork and insulation. Oversize units are as inefficient as undersized conditioning units. The proper unit that operates steadily in cool period surges will provide better results because humidity builds up and destroys the comfort balance during such surges. The ideal interior humidity is 50%.

The cost and availability of electricity and water should be obtained to estimate operating costs of equipment. If water supply is limited or expensive, conditioning systems with water saving devices are necessary.

4. *Ответьте на вопросы.*

← What system is adequate for home conditioning?
← How is heat gain achieved?

← What are the advantages of the plan where air conditioning units are located in the centre?

← What is the ideal interior humidity?

← What is necessary to do if the supply of water is limited?

5. *Прочтите текст, при необходимости воспользуйтесь словарем. Ответьте на вопросы:*

1. What occurs when there is excess humidity in one's house?

2. What level of humidity is considered to be ideal?

3. What parts do dehumidifiers have? What are their functions?

Dehumidifier

When people complain about humidity, for the most part they're talking about relative humidity**.** Depending on temperature, air can hold a fixed amount of water vapour; relative humidity is the ratio of actual vapour in the air to this fixed amount. For example, at a temperature of 68 degrees Fahrenheit (20 degrees Celsius), one cubic meter (35 cubic feet) of air can hold about 18 grams (.6 ounces) of water. This would be a state of saturation, otherwise known as 100 per cent relative humidity.

When humidity seeps into your home, it can make rooms stuffy and perhaps even smell musty. Beyond these superficial discomforts, too much humidity can have some more serious disadvantages, too. An overly humid home can lose its structural integrity, attract pests like silverfish and centipedes, and even make you sick.

In an average home in which the temperature is 68 degrees Fahrenheit, the relative humidity should ideally be between 30 and 50 per cent. If you're struggling to reach that range, a dehumidifier may come in handy. Dehumidifiers remove excess moisture from the air, improving the comfort and health of your home.

Most dehumidifiers can be broken down into five component parts: a fan compressor (it compresses and expands a refrigerant gas like freon to cool the dehumidifier's coils.); a reheater (it captures and collects heat that the cooling process generates.); compressor cooling coils; a reservoir.

How do all these parts fit together to pull moisture from the air? It's fairly simple and very effective:

6. A fan collects air from the surrounding area and pulls it into the dehumidifier.

7. As the air passes through, it comes into contact with the dehumidifier's cooled coils. These coils use condensation to pull moisture from the air. The collected moisture remains on the coils and drips into the dehumidifier's reservoir.

8. The dehumidifier reheats the air and exhausts it back into the room.

A dehumidifier usually has a removable plastic bucket for a reservoir; most buckets also have a place where you can hook up a hose so the collected water can drain straight into a floor drain or pump. This frees you from having to remember to dump out the water. But don't worry too much about the reservoir overflowing - most dehumidifiers also have an automatic shut-off. If you're using a dehumidifier in extremely moist conditions, or if you need to keep your dehumidifier on all the time, you should look into a unit with a built-in condensate pump, which regularly pumps water out of the unit's reservoir rather than simply relying on gravity to empty it as a hose does.

Many dehumidifiers also have a humidistat, which allows you to set your desired level of relative humidity. A humidistat has two parts: a sensing element and a relay ampli-

fier. The sensing element includes two alternate metal conductors, and changes in relative humidity will cause electrical resistance between those conductors. The relay amplifier measures this resistance and sends a signal to turn the dehumidifier on or off. These basic components add up to a device that may make your home feel a whole lot better.

ENVIRONMENTAL PROBLEMS

Text 1

1. *Найдите русские эквиваленты английских слов.*

1. ozone layer	a. ликвидация отходов
2. to take care (of)	b. общественная организация
3. to emit	c. невысокая (приемлемая) себестоимость
4. generations to come	d. поверхностные воды
5. motor vehicle	e. воспаление дыхательных путей
6. manufacturing facilities	f. заботиться (о)
7. to take responsibility	g. огромное количество
8. safe	h. испускать, выделять
9. sulfur dioxide	i. сердечная недостаточность
10. nitrogen dioxide	j. двуокись серы
11. surface water	k. будущие поколения
12. respiratory irritation	l. компания коммунального обслуживания
13. heart failure	m. нести ответственность
14. public body	n. пепел, который нужно зарыть в землю
15. reasonable cost	o. озоновый слой
16. utility company	p. транспортное средство
17. vast amount	q. производственное оборудование
18. waste disposal	r. безопасный
19. ash to be buried	s. двуокись азота
20. soot	t. целлюлозно-бумажный завод
21. threat	u. угроза
22. pulp-and-paper factory	v. проблема, вопрос
23. to dump into	w. сажа, копоть
24. issue	x. выбрасывать

2. *Прочтите следующие слова и, основываясь на значениях слов русского языка, определите их значения.*

Nature, dramatic, nations, generate, location, carbon monoxide, hydrocarbons, geography, authority, operate, condition, industry, individual, atmosphere, substance, problem, harmony, electricity, planet, global, situation.

3. *Прочитайте и переведите текст.*

ENVIRONMENTAL PROBLEMS

1. Introduction. Many years ago man lived in harmony with nature, because industry was not much developed. Today, the contradictions between man and nature are dramatic. Every year world industry emits into the atmosphere about 1000 million tons of soot and other harmful substances. The acid-rain problem has spread rapidly in recent years, and experts fear the situation will worsen if the nations begin to burn more coal to generate electricity. People of many countries suffer from smog. Forests are disappearing. Water pollution in oceans, seas, lakes and rivers, air pollution and the destruction of the ozone layer could lead our planet to a global disaster. The Earth is our home, that's why we must take care of it, for ourselves and for generations to come. We must keep our environment clean.

2. Air pollution. Usually two or three factors combine to form air pollution in any given location. The first factor is large amounts of carbon monoxide and hydrocarbons emitted by motor vehicles concentrated in a relatively small area. The second is the smoke and other pollutants emitted by manufacturing facilities. These two factors can be partially eliminated through pollution-control devices on cars, trucks, and smokestacks.

The third factor that contributes to air pollution – one that cannot be changed – is the combination of weather and geography.

How effective is air pollution control? Most authorities agree that there has been progress since the mid 1980s. A number of countries have cleaner air today than they had twenty years ago. Numerous chemical companies have recognized that they must take responsibility for operating their plants in an environmentally safe manner. Some of them now devote as much as 20 per cent of their capital expenditures to purchasing antipollution devices. However, air levels of sulfur dioxide and nitrogen dioxide – the main elements that cause acid rain – as well as of soot continue to increase.

3. Water pollution. Surface water on our planet remains severely polluted. Currently, the most serious water-quality problems result from the high level of toxic pollutants found in these waters.

Among the serious threats to people posed by these pollutants and respiratory irritation are cancer, kidney and liver damage, anemia, and heat failure. Toxic pollutants also damage fish and other forms of wildlife.

A pulp-and-paper factory was built on the shores of Lake Baikal. As a result, because of water pollution, the world's purest water has been spoiled. The whole ecological system of the lake has changed greatly. Some organisms that can be found only in Lake Baikal are disappearing; trees are dying from soot and gas emissions from the factories.

The Aral Sea was a bright blue sea with a lot of fish. The Amudarya and Syrdarya rivers supplied it with water. But then the water of the rivers was diverted to cotton plantations. As a result the Aral now is in a very dangerous condition. If no immediate measures are taken, the Aral Sea will soon disappear.

The Mediterranean Sea and the North Sea are half dead because great amounts of chemical and nuclear waste were dumped into them.

4. Land Pollution. Air and water quality may be improving, but land pollution is still a serious problem in many areas. The fundamental issues are how to restore damaged or contaminated land at a reasonable cost and how to protect unpolluted land from future damage.

The land pollution problem has been worsening over the past few years, as modern technology has continued to produce increasing amounts of chemical and radioactive waste.

Manufacturers produce and dump more than 100 million tons of contaminated oil, solvents, acids, and sludges each year. Service businesses, utility companies, hospitals, and other industries also dump vast amounts of wastes into the environment.

Individuals contribute to the waste disposal problem. On the average, each of us accounts for approximately 1,547 pounds of garbage each year. A shortage of landfills makes garbage disposal an especially serious predicament. Incinerators are a possible solution to the problem of a landfill shortage, but they bring their own problems with them. They reduce the amounts of garbage but also leave tons of ash to be buried – ash that has a high concentration of harmful substances.

5. Nuclear Power. They say that nuclear power is "cheap, clean and safe". The explosion in Chernobyl shows that it can go wrong. Nuclear weapons could destroy the world. Nuclear weapon tests increase the amount of radiation in the atmosphere. Nuclear power produces high-level radioactive waste which can be dangerous for thousands of years.

Before it's too late, people have to change their way of life. We have to stop ruining the land, water and air.

We can help clean up the planet. Our planet needs immediate help. Each of us must do everything possible to save it.

4. *Переведите на английский язык следующие слова и выражения.*

Окружающая среда, загрязнение, вредные вещества, выбросы в атмосферу, химические и радиоактивные (ядерные) отходы, загрязнение земли, загрязнение воздуха, огромное количество отходов, проблема ликвидации отходов, бытовые отбросы, выбрасывать в атмосферу, сжигать уголь, производить электричество, сбрасывать химические и радиоактивные отходы, наносить ущерб, спасать нашу планету, качество воды и воздуха, зараженная земля, опасное состояние, густой туман, кислотный дождь, разрушать мир, поверхностные воды, производственное оборудование, заботиться о живой природе, ухудшаться.

5. *Закончите следующие предложения в соответствии с содержанием текста.*

1. Every year world industry … into the atmosphere soot and other harmful substances.
2. The acid rain problem will worsen if the nations begin to … more coal to … electricity.
3. The first factor of air pollution is large amounts of … and … emitted by motor vehicles.
4. The second is the … and other pollutants emitted by manufacturing factories.
5. The third factor is the combination of … and … .
6. One of the most serious water quality problems is high level of toxic … found in these waters.

7. Toxic pollutants damage fish and other forms of … .

8. The land pollution problem has been worsening over the past few years, as modern technology has continued to produce a great number of … and … waste.

9. Service businesses utility companies and other … also dump vast amounts of … into the environment.

10. A shortage of landfills makes garbage … an especially serious predicament.

11. … are a possible solution to the problem of a landfill shortage but they leave tons of ash to be buried.

12. Nuclear power produces high-level … which can be dangerous for thousands of years.

6. *Дайте ответы на следующие вопросы в соответствии с текстом.*

1. Why did man live in harmony with nature many years ago?
2. What environmental problems do you know?
3. What causes the acid-rain problem?
4. What are the main factors of air pollution in any given locality?
5. What does one of the most serious water quality problems result from?
6. Why is Lake Baikal in danger?
7. What can you say about the Mediterranean Sea and the North Sea?
8. In what condition is the Aral Sea now and why?
9. What are the two fundamental issues of land pollution?
10. What makes garbage disposal an especially serious predicament?
11. What problems do incinerators bring with them?
12. Why is radioactive and nuclear waste dangerous?

7. *Изложите краткое содержание текста на английском языке.*

8. *a) Переведите следующие слова и словосочетания на русский язык, при необходимости воспользуйтесь словарем:* to troubleshoot, a thorough understanding, computer-aided design, network analysis, mechanical design, heat transference, air flow, to acquire skills, problem-solving, to gain professional experience, to pass exams, to manage projects.

b) Прочтите текст.

HVAC design engineers

An HVAC technician specializes in the installation, maintenance and repair of heating, refrigeration and cooling systems for both residential and industrial buildings.

A licensed HVAC technician specializes in the systems that regulate temperature and humidity in buildings. An HVAC tech is responsible for installing and maintaining heating, air-conditioning and ventilation equipment. The technician also needs to know how to troubleshoot problems that might arise with these systems.

HVAC design engineers create and modify cooling and heating systems in commercial and residential buildings. In some instances, they are responsible for managing other HVAC designers, technicians and mechanics to make sure they’re correctly installing the systems and that there aren’t any problems. They have to keep projects running smoothly and efficiently to complete them in a timely manner.

Becoming an HVAC design engineer requires a thorough understanding of math, science and technology as well as at least a bachelor's degree in mechanical engineering if you are going to work abroad. Through this degree program, they study electronics, computer-aided design, physics, calculus, network analysis, mechanical design and control engineering. Some classes address basic computer skills, while others go into depth regarding heat transference and air flow.

With this background, you'll acquire skills in creative design, design analysis, problem-solving, mechanics, and management. An HVAC technician should have a good grasp of mechanics in order to understand the components involved with the job, such as pipes, ducts, schematics, compressors and wires.

You'll also need a Professional Engineering licensure if you offer services directly to the public. This requires passing your state's Fundamentals of Engineering exam, gaining professional experience and then passing the Principles and Practice of Engineering exam.

Employees are typically looking for someone who can improve HVAC designs using modern standards and techniques. They often want people with a bachelor's degree in mechanical engineering and some experience working with HVAC systems and equipment. Employers also prefer people with skills in communication and teamwork because HVAC engineers attend meetings with clients and manage projects.

c) Ответьте на вопросы:

1. What are HVAC engineers responsible for?
2. What knowledge, skills and experience should they have?
3. What requirements of employers should HVAC engineers meet?

d) Прореферируйте текст, используя клише приложения 1.

Text 2

1. *Найдите русские эквиваленты английских слов.*

5) pollution control stations	a. очень загрязненный район
6) industrial effluents	b. теплоэлектростанции
7) processed water	c. выхлопные газы
8) to treat with chlorine	d. подвергаться очистке
9) to purify	e. современные требования
10) water supply system	f. очистительные сооружения
11) to undergo purification	g. централизованное теплоснабжение
12) heating systems	h. промышленные сточные воды
13) sewer	i. острота проблемы
14) modern requirements	j. обрабатывать хлором
15) a heavily polluted area	k. система водоснабжения
16) district heating	l. канализация
17) heat and power plants	m. системы отопления
18) exhaust fumes	n. обработанная вода
19) to pipe steam underground	o. подавать пар по подземным трубам
20) acuteness of a problem	p. очищать
21) to destroy	q. отравлять

22) to poison г. разрушать

2. *Прочитайте и переведите текст.*

WATER AND AIR POLLUTION PROBLEMS

Water and air pollution are the two main factors that destroy the environment in big cities. Paris has no industry; the Seine is not polluted by industrial effluents but by sewer waters. However, this problem is being solved by building pollution control stations in a Paris suburb. The sewage is channeled into them and cleansed before it goes into the Seine. When visiting these installations, one can often see how pure the processed water is – the engineers who work there drink it quite cheerfully.

Water is purified by mechanical and biological methods. The purified water is treated with chlorine and released into the rivers, whence it enters the water supply systems where it undergoes further and finer treatment.

Air is mainly polluted by heating systems and cars. When you look at a modern city from a hill top you get the impression of vapour (smog) lingering over the city especially when there are no winds which can air the city. However, when there is no wind there is smog. As regarding heating, mazut and gas are used more often than coal and the result is poisoned air in the most modern quarters of the city.

District heating is an effective method. Several heat-and-power plants generate steam, which is piped underground all round the city.

As for cars you know how heavy traffic is in big cities. The slower the traffic, the more exhaust fumes are emitted. The acuteness of the problem depends on how well the country is developed and on the number of cars in cities.

Environmental problems are international in nature. Air masses, water in rivers mix and as a result all people breathe the same air, eat the same contaminated seafood and crops, and drink the same polluted water.

3. *Определите, какие из данных предложений относятся к загрязнению воды, а какие к загрязнению воздуха. Предложения переведите на русский язык.*

1. Air is polluted mainly by heating and cars.
2. The slower the traffic is, the more exhaust fumes are emitted.
3. The problem of air pollution in Paris is being solved by building pollution-control stations.
4. The purified water is treated with chlorine and released into rivers.
5. As regarding heating they have started to use more gas rather than coal.
6. When water enters a water supply system it undergoes finer purification.

4. *Укажите, какое из данных предложений отражает главную мысль текста. Предложения переведите на русский язык.*

1. The problem of air and water pollution will not be solved in future.
2. Water is purified by mechanical and biological methods.
3. The acuteness of the air pollution problem depends on how well the country is developed and on the number of cars.

4. Water and air pollution are the two main factors that destroy the environment in big cities.

5. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Water and air pollution are the two main factors that destroy the environment in big cities.
2. Water is purified by mechanical and biological methods only.
3. The purified water is treated with chlorine and released into rivers.
4. Air is mainly polluted by cars.
5. There is no smog in cities when there is no wind.
6. Water and air pollution problems are a matter of concern of Belarus only.

6. *Ответьте на вопросы.*

1. What are the two main factors that destroy the environment in big cities?
2. How is the problem of pollution being solved in Paris suburbs?
3. What methods are used to purify water?
4. What can you see when you look at a modern city from a hill top?
5. Why is the problem of pollution international?

7. *Изложите краткое содержание текста на английском языке.*

8. *а) Прочитайте текст, озаглавьте его.*

Environmental protection, especially air pollution prevention is one of the main issues of the energy sector today. Acidification of soil and water and the threat of climate change are well-known examples of the environmental challenges that energy companies are facing today.

The development of environmental technology, increasing environmental awareness and improved scientific knowledge of the environmental effects of different pollutants have lead to international and national effects to avoid or reduce the problems.

The acidic deposition still exceeds the critical loads even in the areas of the lowest deposition, i.e. in the Nordic countries. In the southern parts of the Baltic Sea region this factor is higher. The origin of these unbalance including energy resources, is different in different parts of the Baltic Sea region. The northern parts have a lot of clean hydro and safe nuclear power whereas fossil fuels play a dominant role in the southern parts. However the economy in the eastern and southern parts of the Baltic Sea region does not allow undertaking all necessary environmental protection measures, which would be needed. In Estonia, Latvia, Lithuania and Poland 30 per cent reduction of SO_2 emissions and the freezing of No emissions would require investments of 10 billion USD. The critical question is to find the money needed for huge environmental and energy efficiency investments. An increased energy exchange can serve as a solution to this prob-

lem when trying to reach a more balanced situation in environmental protection between the two different areas of the Baltic Sea region.

Because atmospheric pollutants do not recognize national borders, international cooperation is the only way to solve the problem. It is the matter of electricity companies to find practical ways of cooperation. This can be realized in many ways, not only by creating funding systems but also by developing international and national rules in environmental protection measures over a larger area, by stimulating and intensifying the cooperation in field.

b) Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.

1. Environmental protection, especially air pollution prevention is one of the main issues of the energy sector today.
2. There is no difference in environmental protection activities between different regions.
3. The origin of unbalance including energy resources is different in different parts of the Baltic Sea region.
4. The economy of the southern part of the Baltic Sea region allows doing all necessary environmental protection measures.
5. An increased energy exchange can be a solution when trying to reach a more balanced situation in environmental protection between the two different areas of the Baltic Sea region.
6. International cooperation is the only way to solve the problems of pollution.

c) Дайте ответы на следующие вопросы:

1. What environmental challenges are energy companies facing today?
2. Are there any differences between measures taken by different countries and regions in environmental protection?
3. In what countries is the lowest acidic deposition?
4. Can you explain the origin of environmental unbalance in different parts of the Baltic Sea region?
5. What is the decisive factor behind it?
6. What is the only way to solve the problems of atmospheric pollutions now?
7. What is needed to improve the environmental situation in the southern and eastern parts of the Baltic Sea region?
8. Can an increased energy exchange between countries solve this problem?
9. What are the ways to improve the situation?

d) Изложите краткое содержание текста на английском языке.

Text 3

1. *Найдите русские эквиваленты следующих английских слов и словосочетаний.*

1. former state	a. местные власти
2. organic environment	b. удаление сточных вод
3. dangerous pollutant	c. много причин

4. polluting sources	d. очистительное сооружение
5. chemical substance	e. грунтовая вода, подпочвенные воды
6. everyday life	f. коммунальная водопроводная система
7. ground water	g. свалка
8. a great variety of reasons	h. прежнее состояние
9. waste dumps	i. экологически чистая окружающая среда
10. disposal of sewage	j. вторичная очистка
11. underground boring well	k. выкопанный колодец под землей
12. purifying facility	l. непоправимый, безнадёжный
13. public water supply	m. повседневная жизнь
14. local authorities	n. источники загрязнения
15. secondary purification	o. химическое вещество
16. irremediable	p. опасный загрязняющий агент

2. *Прочтите следующие слова и, основываясь на значениях слов русского языка, определите их значения.*

Reservoir, type, stable, identify, accumulate, combat, accurately, formation, expansion, urban, production, complex, composition, drainage, individual, base, transformation, conflict, private, utilization, reproduction, progress.

3. *Прочитайте и переведите текст.*

WATER POLLUTION IN THE USA

Solving the problem of pollution from the technical view-point has turned out to be more difficult than expected.

First of all, it became evident that in certain reservoirs such great qualitative changes had taken place that it was practically very difficult to return them to their former state. Irreversible changes have taken place in the Great Lakes, because the disturbances in the organic environment of the lakes are irremediable.

New types of pollution are being discovered. Not so long ago a stable and dangerous pollutant called PChB (polychlorinated biophenyl) was identified. The danger is doubled because of the fact that PchB accumulates in the bottom sediments and is preserved in rivers for many years after it is no longer dumped into them. The concentration of this pollutant is very great in the Great Lakes, in such rivers as the Hudson, the Connecticut, the Mississippi, the Missouri, the Ohio, the Sacramento, the Rio Grande, and the Yukon.

The difficulties in combatting PChB also lie in the fact that so far it has not been accurately established what kinds of pollutants bring about its formation in reservoirs. The variety of polluting sources is growing. The expansion of urban territories with asphalt-covered roads, the increase in the production and complex composition of chemical substances and their combinations used in everyday life have led to the increased pollution of water resources by the drainage from the territory of cities, towns and villages. Besides that, the sphere of water pollution is broadening. Recently there has appeared a new problem – the pollution of ground water. The pollution of ground water is caused by a great variety of reasons: numerous waste dumps scattered all over the area and ex-

posed to the influence of rainwater, polluted surface reservoirs, the disposal of sewage from factories (waste matter as well), and the use of water on oil-fields.

Water supply at the expense of ground water plays an important role in the lives of many towns and cities and in the production of foodstuffs. The water supply of 12-15 million families depends upon individual underground boring wells, which have no purifying facilities. 71 per cent of the public water supply is based upon the ground water. The complexity of the issue is in the fact that the physico-chemical processes of the ground water transformation are still not fully explored.

Internal economic and political problems are impediments to solving the pollution problem. For several years conflicts have been taking place between private companies, the federal government and the authorities of separate states. Quite often local authorities do not plan building a system of secondary treatment. Discussions are in the progress, while polluted water runs into reservoirs creating a threat to the health of the people, and complicating the secondary utilization of sewage.

The arms race and the energy crisis have an impact on the problem of reproduction of water resources. Attempts to overcome the energy crisis have brought about the postponement of many water purification measures.

The problem of providing the country with water resources is still far from being solved.

4. *Дополните незаконченные предложения одним из данных вариантов в соответствии с содержанием текста. Полученные предложения переведите на русский язык.*

1. Water pollution in the USA because of technological development is … than expected.
a) more difficult
b) the most difficult
c) very difficult

2. The problem of pollution became evident because there were … changes in some reservoirs.
a) some
b) great
c) no

3. New types of pollution ….
a) were being discovered
b) are not so dangerous
c) are being discovered

4. The most dangerous pollutant was PChB because its concentration in rivers ….
a) is not increased for many years
b) is doubled
c) is very great

5. The variety of polluting sources ….
a) is not so great
b) is growing
c) is reducing

6. The pollution of ground water is caused ….
a) by many reasons
b) by production industries
c) only by one reason

7. Public water supply is mostly based upon ….
a) ground water
b) transformation of ground water
c) individual underground boring wells.

8. Quite often local authorities … building a system of secondary purification.
a) plan
b) do not plan
c) planned

9. The arms race and energy crisis have influence on ….
a) secondary water purification
b) water purification measures
c) reproduction of water resources

5. *Определите, соответствуют ли следующие предложения содержанию текста. Обоснуйте свой ответ. Используйте следующие выражения: I can't agree with this, it's false, that may be true, but…, on the contrary, vice versa, I suppose it's true, that's right, I entirely agree with this statement.*

1. Solving the problem of pollution from the technical view-point has turned out to be more difficult than expected.
2. No changes have taken place in the Great Lakes.
3. New types of pollution are being discovered.
4. The variety of polluting sources is keeping going down.
5. Recently there has appeared a new problem – the pollution of ground water in the region.
6. The problem of providing the country with water resources is still far from being solved.

6. *Ответьте на вопросы.*

1. Why have irreversible changes taken place in the Great Lakes?
2. What can you say about PChB?
3. The number of polluting sources is growing, isn’t it?
4. What can you say about the pollution of ground water?

5. What plays an important role in the lives of many towns and cities and in the production of foodstuffs?

6. The problem of providing the country with water resources is still far from being solved, isn't it?

7. *Изложите краткое содержание текста на английском языке.*

8. *a) Переведите следующие слова и словосочетания на русский язык, при необходимости воспользуйтесь словарем:* marshlands, nesting places, species, natural habitat, rare, nuclear fallout, salification, potash industry, woodland, biodiversity, to ratify, floods, snow pack, overflow, to cause damage, consequences.

b) Прочтите текст.

Water and Air Pollution Problems in Belarus

Belarus is the land of more than 10 thousand lakes and 20 thousand rivers. Forests take one third of the territory and are considered the national wealth, while swamps account for 13% of it and are of significant climatic and hydrologic importance. Belarusian marshlands are called "the lungs of Europe", since they produce an enormous amount of oxygen. Besides, they serve as nesting places for rare species of birds and as a natural habitat for rare plants.

As for environmental challenges in Belarus, the most serious environmental issue that Belarus still faces is the 1986 accident of the Chernobyl nuclear power plant. Almost 70% of the nuclear fallout from the plant landed on Belarusian territory and about 20% of the land remains contaminated.

Belarus faces significant air pollution largely because of the development of heavy industries. The most common pollutants are formaldehyde, carbon dioxide, and petroleum-related chemicals. Some cities in Belarus are heavily polluted, especially industrial centers such as Salihorsk and Navapolatsk. In recent years automobile exhaust is becoming the source of about half the air pollution in the cities.

As for water pollution, a serious problem is posed by salification of the water supply by the potash industry. However, all urban and rural dwellers have access to safe drinking water.

The soils also contain unsafe levels of lead, zinc, copper and the agricultural chemical DDT.

Belarus has vast forest areas but little of the country's woodland is protected, in total 4.2 percent of Belarus's land area. Biodiversity, soil pollution and the number of threatened species are areas of concern. The government has ratified international environmental agreements concerning air pollution, biodiversity, environmental modification, and ozone layer protection.

Being situated between other European countries and having flat terrain that is suitable for agricultural use, Belarus is already suffering from consequences of climate changes influencing yield, river flow and average annual temperature rise. Floods represent a significant problem for the country. Sudden and premature dramatic seasonal changes cause snow pack to melt and rivers to overflow, flooding the surrounding terrain. Heavy storms occasionally occur, forcing evacuations that cause great damage on electric grids and great financial damage in general.

c) Ответьте на вопросы:

1. Why is Belarus a unique country?
2. What air (water, soil) pollution problems does Belarus have?
3. What causes environmental pollution problems in Belarus?
4. What are the consequences of climate changes in Belarus?

3. РАЗДЕЛ КОНТРОЛЯ ЗНАНИЙ

3.1. ВИДЫ КОНТРОЛЯ

3.1.1. ТЕКУЩИЙ КОНТРОЛЬ

Для текущего контроля знаний студентам предлагаются следующие виды работ:

– опрос на занятиях;

– проверка домашнего (внеаудиторного дополнительного) чтения;

– выполнение контрольных переводов;

– выполнение лексико-грамматических тестов при прохождении грамматического материала;

3.1.2. РУБЕЖНЫЙ КОНТРОЛЬ

Для рубежного контроля знаний студентам предлагаются следующие виды работ:

– выполнение итоговых упражнений по окончании прохождения тем учебно-профессионального общения;

– выполнение контрольных переводов текстов учебно-профессионального общения;

– выполнение контрольных тестов по окончании прохождения грамматического материала;

– выполнение лексико-грамматических работ или компьютерного тестирования в 1, 2 семестрах.

3.1.3. ПРОМЕЖУТОЧНЫЙ КОНТРОЛЬ (УСТНАЯ И ПИСЬМЕННАЯ ФОРМА)

Промежуточный контроль:

– грамматические тесты;

– лексико-грамматические контрольные работы;

– словарные диктанты;

– тесты на аудирование;

– пересказ и письменное изложение аудио- и видеотекстов;

– эссе;

– сочинение;

– устные опросы/беседы по темам;

– презентация темы с использованием программы Power-Point.

3.1.4. ТЕКУЩАЯ АТТЕСТАЦИЯ

Иностранный язык (английский)

для специальностей:

7-07-0732-02 Инженерные сети, оборудование зданий и сооружений *(профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна)*

7-07-0732-02 Инженерные сети, оборудование зданий и сооружений *(профилизация – Водоснабжение, водоотведение и охрана водных ресурсов)*

6-05-0811-03 Мелиорация и водное хозяйство

(дневная форма получения высшего образования)
(заочная форма получения высшего образования)
(заочная форма получения высшего образования, интегрированного со средним специальным образованием)

на 2024-2025 учебный год

№ п/п	Дополнения и изменения	Основание
1.	Для всех специальностей дневной формы получения высшего образования: Внести в п. 3.2 раздела 3 «Информационно-методическая часть» сведения о текущей и промежуточной аттестации (информация прилагается).	Постановление Министерства образования Республики Беларусь от 13.10.2023 № 319 «Правила проведения аттестации студентов, курсантов, слушателей при освоении содержания образовательных программ высшего образования»
2.	Для специальности 7-07-0732-02 Инженерные сети, оборудование зданий и сооружений (профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна) заочной формы получения высшего образования: Внести в п. 3.2 раздела 3 «Информационно-методическая часть»: – текущая и промежуточная аттестации для данной специальности не предусмотрены.	Постановление Министерства образования Республики Беларусь от 13.10.2023 № 319 «Правила проведения аттестации студентов, курсантов, слушателей при освоении содержания образовательных программ высшего образования»
3.	Для специальности 7-07-0732-02 Инженерные сети, оборудование зданий и сооружений (профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна) заочной формы получения высшего образования, интегрированного со средним специальным образованием: Внести в п. 3.2 раздела 3 «Информационно-методическая часть»: – текущая и промежуточная аттестации для данной специальности не предусмотрены.	Постановление Министерства образования Республики Беларусь от 13.10.2023 № 319 «Правила проведения аттестации студентов, курсантов, слушателей при освоении содержания образовательных программ высшего образования»

3.1.5. ИТОГОВЫЙ КОНТРОЛЬ

Форма итогового контроля знаний студентов в 1 семестре –**зачет**.

Зачет состоит из:

– обязательной зачетной лексико-грамматической контрольной работы или компьютерного тестирования;

– сдачи внеаудиторного чтения в полном объеме;

– работы в семестре, предусматривающей выполнение студентом всех требований к практическим занятиям**.**

Форма итогового контроля знаний студентов во 2 семестре – **экзамен**.

Структура экзамена:

1. Письменный перевод на русский язык отрывка текста экономического содержания со словарем. Объем текста – 1200–1400 печатных знаков. Время подготовки – 45 минут.

2. Передача содержания текста экономического содержания на иностранном языке (объем текста 1000–1200 п. зн.).

3. Монологическое высказывание по одной из тем социально-культурного и бытового общения за весь курс обучения.

3 семестр заканчивается написанием лексико-грамматической контрольной работы и итогового компьютерного теста по пройденным темам за весь курс обучения.

На зачете и на экзамене проверяется практическое владение иностранным языком в объеме требований программы по каждому этапу обучения.

Курсовая работа учебным планом не предусмотрена.

3.2. ТЕСТЫ И КОНТРОЛЬНЫЕ РАБОТЫ

3.2.1. АНГЛИЙСКИЙ ЯЗЫК

ОБРАЗЦЫ ЛЕКСИКО-ГРАММАТИЧЕСКИХ ТЕСТОВ

TEST 1

1. ***Назовите английские эквиваленты следующих слов и словосочетаний:***

Система отопления, распределение тепла, техобслуживание, кондиционирование воздуха, тепловой насос, труба, обратное отопление, котел, теплообменник, печь, электрообогрев, ископаемое топливо, батарея, подача тепла, электростанция, возобновляемые ресурсы, пригодный для питья, переработка (повторное использование), газовое отопление, нержавеющая сталь, сопротивление, однотрубный, горение, передвигать по кругу, неисправный, герметичный, продувать, жаростойкий, распределительная камера возвратного воздуха, газовый счётчик, регулировать, перекрывать, прибор, катушка (обмотка), радиационный нагрев (лучистое отопление), воздушное отопление.

2. ***Выберите правильный вариант ответа.***

1. Forced-air systems send heated air through ….
a) electric wire b) ductwork c) radiators d) a heat pump

2. The process used to get rid of air accumulation in water pipes is known as ….
a) heating b) ventilating c) gas supply d) bleeding

3. … is a device that uses a small amount of energy to move heat from one location to another.
a) a resistor b) a boiler c) a burner d) a heat pump

4. A boiler, a pump, a heat exchanger and radiators are components of ….
a) a central heating system b) a gas heating system c) a furnace

5. Which of the following does not require a vent to remove the products of combustion?
a) forced warm air furnaces with ductwork
b) hot water systems (baseboard or radiators)
c) space heating (floor furnaces, wall furnaces, heaters)
d) heat pumps

6. In our area, the most popular types of systems used to heat and cool residences are:
a) forced warm air furnaces with ductwork
b) hot water systems (baseboard or radiators)

c) space heating (floor furnaces, wall furnaces, heaters)
d) all the above

3. ***Заполните следующую таблицу.***

Types of Heating

	Water heating	Steam heating	Forced-air heating	Gas heating	Electric heating
Components					
Application					
Advantages					
Disadvantages					
Efficiency					

4. ***Подготовьте на английском языке сообщение на тему «Сравнительная характеристика разных видов отопления».***

5. ***Подготовьте проекты по теме «Heating»:***

1. Describe two different types of heating systems for each of the following applications: a house, an office, a commercial garage, a shop, a warehouse and a heavy engineering factory.
2. Sketch the installation of a ducted warm air heating system in a house and describe its operation.
3. Safety precautions taken in buildings occupied by very young, elderly, infirm and disabled people.
4. Thermal resistance of building materials.
5. Gas supply in modern Belarus.

TEST 2

1. ***Назовите английские эквиваленты следующих слов и словосочетаний:***

Загрязняющее вещество, освежитель воздуха, увлажнять, котёл, вдыхаемые взвешенные частицы, жильцы, воздухоотводная труба, качество воздуха внутри помещения, переносимый по воздуху, установка, вытяжка, вентиляционная труба, естественная вентиляция, искусственная вентиляция, газоуловитель, автономное устройство, тепловой комфорт, воздухораспределение.

2. ***Выберите правильный вариант ответа.***

1. The intentional movement of air from outside a building to the inside is called ….
a) heating b) cooling c) ventilation d) humidity

2. … is very effective for improving indoor air quality.
a) indoor tobacco smoking b) the use of air fresheners
c) the use of air contaminants d) banning all the above

3. The ventilation rate for residential buildings is expressed on ….
a) a per person basis b) on a per unit floor area basis
c) a temperature basis d) the basis of air changes per hour

4. Indoor air quality is connected with ….
a) moisture content in the air b) the health and comfort of occupants
c) the quantity of contaminants in the air outside a building
d) all the above

5. Mechanical ventilation is used to control ….
a) evaporation b) indoor temperature
c) indoor air quality d) humidity

6. According to the requirements for thermal comfort, the temperature at a height of 0.1m above the floor ….
a) should be 2 °C lower than the temperature at the place of the occupants' head
b) should be 2 °C higher than the temperature at the place of the occupants' head
c) should not be more than 2 °C higher than the temperature at the place of the occupants' head
d) should not be more than 2 °C lower than the temperature at the place of the occupants' head

3. ***На основе материалов раздела 3 подготовьте на английском языке***
а) сообщение на тему «Ventilation, its types, ventilation equipment»;
б) сообщение на тему «Thermal comfort and indoor air quality».

4. ***Подготовьте проекты по следующим темам:***

1. The design of modern ventilation systems.
2. Air ventilation quality requirements.
3. Access, spatial, visual, aural and thermal comfort needs of the occupants.
4. Sketch and describe the arrangements for natural and mechanical ventilation of buildings. Consider two applications for each system.
5. Describe the appropriate combination of natural and mechanical ventilation for the following: a residence, a basement, a boiler room, an entertainment theatre.

GRAMMAR TESTS

NOUNS AND ARTICLES

I. Choose the proper variant.

1. I used to wear … when I went to school.
a) this glasses
b) these glasses

2. We should protect … from pollution.
a) the environment
b) environment
c) an environment

3. Judy goes to … by bus.
a) work
b) a work
c) the work

4. I saw you yesterday playing … .
a) tennis
b) a tennis
c) the tennis

5. Nigel opened a drawer and took out … .
a) photos
b) a photos
c) some photos
6. Did you learn to play … ?
a) violin
b) a violin
c) the violin

7. I need to buy …
a) a bread
b) a loaf bread
c) a loaf of bread
d) breads

8. I was watching TV at home when suddenly … rang.
a) a doorbell
b) an doorbell
c) doorbell
d) the doorbell

9. Most of the stories that people tell about … aren't true.
a) an Irish
b) the Irish
c) Irish
d) a Irish

10. Why are you listening to … music.
a) so terrible
b) such terrible

c) such a terrible

PRONOUNS

I. Choose the proper variant.

1) When I rang Jane some time last week, she said she was busy … day.
a) that
b) the
c) this

2) There's … use in complaining. They probably won't do anything about it.
a) a few
b) a little
c) few
d) little

3) It's a nice house but there's … garden.
a) no
b) any
c) the

4) I like … classical music but not all.
a) most
b) some
c) no

5) I have hardly … spare time.
a) no
b) some
c) any

6. Have you had enough to eat, or would you like something …?
a) another
b) else
c) new
d) other

7. I can't go out with you. I haven't got …. to wear.
a) anything
b) something
c) nothing

8. Everyone enjoyed … at the picnic.
a) themselves
b) themself

c) himself

9. Have you read … interesting lately?
a) something
b) any
c) anything

10. I can't see my glasses …?
a) anywhere
b) nowhere
c) somewhere

VERBS

I. Choose the proper variant.

1. This isn't my first visit to London. I … here before.
a) I'm
b) I've been
c) I was

2. I've got my key. I found it when … for something else.
a) I looked
b) I've looked
c) I was looking

3. Sorry, I can't stop now.… to an important meeting.
a) I go
b) I'm going
c) I've gone

4. When Michael … the car, he took it out for a drive.
a) had repaired
b) has repaired
c) repaired
d) was repairing

5. … … … the form? – No, not quite.
a) Did you fill in
b) Have you filled in
c) Had you filled in

6. I … you twice yesterday.
a) have phoned
b) had phoned
c) phoned

7. When I got home the children … their homework.
a) were doing
b) was doing
c) did

8. How long … married?
a) have they been
b) did they be
c) do they be

9. When I was 14 years old I … in for tennis.
a) I go
b) I was going
c) I went

10. Who … my scarf? It looks a bit dirty.
a) had been wearing
b) had worn
c) has been wearing
d) wore

MODAL VERBS

I. Choose the proper variant.

1. I… get Sophie on the phone.I've been trying all afternoon.
a) may not
b) must not
c) can not

2. … I have more pie, please?
a) Could
b) Shall
c) Will
d) Would

3. The children are sleeping. We … make a noise.
a) couldn't
b) mustn't
c) needn't
d) wouldn't

4. … you like to go out with us?
a) Do
b) Should
c) Will
d) Would

5. I'm quite happy to walk. You… drive me home.
a) don't
b) haven't
c) mustn't
d) needn't

6. It's rather late. I think you … better go.
a) had
b) have
c) should
d) would

7. The chemist's was open, so luckily I … buy some aspirin.
a) can
b) can't
c) did can
d) was able to

8. … you please tell me the way to Trafalgar Square?
a) Could
b) Shall
c) Would

9. What … I do to improve my speech habits?
a) shall
b) must
c) need

10. You … have kept yourself under control.
a) must
b) had to
c) might

ADJECTIVES AND ADVERBS

I. Choose the proper variant.

1. My brother is four years … than me.
a) older

b) elder
c) more elder

2. They lived in a … house.
a) modern wonderful brick
b) wonderful modern brick
c) brick modern wonderful

3. This government has taken some measures to solve the problems of ….
a) the poor
b) the poor people
c) poor

4. I'm pleased the plan worked so … .
a) good
b) goodly
c) well

5. They performed the experiment ….
a) scientifically
b) scientific

6. I'm getting … .
a) angry
b) angrily

7. We … missed the train.
a) mostly
b) near
c) nearest
d) nearly

8. My new job is great. I like it … better than my old one.
a) more
b) most
c) much
d) very

9. The people here are … than I expected.
a) more nice
b) most nice
c) nicer
d) nicest

10. In fact I feel a … depressed about it sometimes.
a) piece

b) bit
c) quite
d) slightly

INFINITIVE AND GERUND

I. Choose the proper variant.

1. I'm thinking … my job.
a) to change
b) of changing
c) about changing

2. Try …late.
a) not to be
b) don't be
c) not be

3. She lets her daughter … very late.
a) to stay up
b) stay up
c) staying up

4. He was made … back the money?
a) to pay
b) pay
c) paying

5. They enjoyed … .
a) to dance
b) dancing
c) dance
6. I want her … happy.
a) be
b) to be
c) being

7. She's nice… .
a) to talk to her
b) to talk to
c) talking to her

8. This form is … ink.
a) to fill in
b) to be filled in
c) to filled in

9. I sat down … .
a) to rest
b) for resting
c) for to rest

10. She's good at … .
a) sing
b) signing
c) to sing

PREPOSITIONS

I. Choose the proper variant.

1. He saved money … giving up cigarettes.
a) by
b) of
c) with

2. Let's go and have coffee … Marcel's.
a) to
b) at
c) in

3. She looks much younger … this photo.
a) at
b) on
c) in

4. See you ….
a) next Friday
b) on next Friday
c) at next Friday
5. Jill is the person I'm angry … .
a) at
b) about
c) with

6. There was a fall … 10 per cent in prices.
a) at
b) of
c) in
d) by

7. The bus journey costs more now. They've put the fares … .

a) up
b) down
c) out
d) over

8. I’m going to be late … the meeting.
a) at
b) for
c) in
d) to

9. It’s late. How much longer are you going to go … working?
a) along
b) through
c) on
d) with

10. My shoes are dirty. I’d better take them … before I come in.
a) away
b) off
c) through
d) with

3.3. Критерии оценивания работы студентов

1. Оценка перевода.

Уровни	Баллы	Чтение
I. Низкий (рецептивный)	0	Отсутствие перевода или отказ от него
	1	Перевод текста на уровне отдельных словосочетаний и предложений при проявлении усилий и мотивации.
	2	Неполный перевод текста (менее 90 %). Допускаются грубые искажения в передаче содержания. Отсутствует правильная передача характерных особенностей стиля переводимого текста.
II. Удовлетворительный (рецептивно-репродуктивный)	3	Неполный перевод (90 %). Допускаются грубые смысловые и терминологические искажения. Нарушается правильность передачи характерных особенностей стиля переводимого текста.
	4	Полный перевод. Допускаются грубые терминологические искажения. Нарушается правильность передачи характерных особенностей стиля переводимого текста.
III. Средний (репродуктивно-продуктивный)	5	Полный перевод. Допускаются незначительные искажения смысла и терминологии. Не нарушается правильность передачи стиля переводимого текста.
	6	Полный перевод. Отсутствуют смысловые искажения. Допускаются незначительные терминологические искажения. Нарушается правильность передачи характерных особенностей стиля переводимого текста
IV. Достаточный (продуктивный)	7	Полный перевод. Соблюдается точность передачи содержания. Отсутствую терминологические искажения. Допускаются незначительные нарушения характерных особенностей стиля переводимого текста.
	8	Полный перевод. Отсутствуют смысловые и терминологические искажения. В основном соблюдается правильная передача характерных особенностей стиля переводимого текста.
V. Высокий (продуктивный, творческий)	9	Полный перевод. Отсутствуют смысловые и терминологические искажения. Правильная передача характерных особенностей стиля переводимого текста.
	10	Полный перевод. Отсутствуют смысловые и терминологические искажения. Творческий подход к передаче характерных особенностей стиля переводимого текста.

2.Оценка понимания при чтении. Показатели оценки чтения.

Уровни	Балл	Чтение
I. Низкий (рецептивный)	0	Отсутствие ответа или отказ от ответа.
	1	Понимание менее 30% основных фактов и смысловых связей между ними.

	2	Понимание 30% основных фактов и смысловых связей между ними.

II. Удовлетворительный (рецептивно-репродуктивный)	3	Понимание менее 50% основных фактов и смысловых связей между ними.
	4	Понимание 50% основных фактов текста и смысловых связей между ними.
III. Средний (репродуктивно-продуктивный)	5	Понимание большинства основных фактов текста, смысловых связей между ними и отдельных деталей текста.
	6	Понимание всех основных фактов текста, смысловых связей между ними и 50% деталей текста.
IV. Достаточный (продуктивный)	7	Понимание всех основных фактов текста, смысловых связей между ними и 70% деталей текста.
	8	Понимание всех основных фактов текста, смысловых связей между ними и 80% деталей текста.
V. Высокий (продуктивный, творческий)	9	Понимание всех основных фактов текста, смысловых связей между ними и 90% деталей текста.
	10	100-процентное понимание основных фактов текста, смысловых связей между ними и деталей текста.

3. Оценка письменных текстов.

100% – 95% правильных ответов	10 баллов
94,8% – 90% правильных ответов	9 баллов
89,6% – 83% правильных ответов	8 баллов
82,6% – 75% правильных ответов	7 баллов
74,6% – 65% правильных ответов	6 баллов
64,7% – 50% правильных ответов	5 баллов
49,7% – 35% правильных ответов	4 балла
34,7% – 20% правильных ответов	3 балла
19,7% – 10% правильных ответов	2 балла
9,7% – 1,8% правильных ответов	1 балл
1,4% – 0% правильных ответов	0 баллов

Наименьшая положительная оценка – 4 балла – выставляется при правильном выполнении не менее 2/3 заданий. Отсутствие работы или отказ от выполнения соответствуют оценке 0 баллов.

В курсе используется рейтинговая система обучения. Основная идея этой системы – повышение творческого начала всех участников педагогического процесса, максимальная индивидуализация обучения, резкая интенсификация и активизация самостоятельной работы студентов, прежде всего, на основе принципа интегральной многобалльной рейтинговой оценки знаний. Балл рейтинга состоит из суммы балов за посещение практических занятий, активное участие на занятиях, выполнение домашних заданий, творческий подход к выполнению заданий, письменный перевод текстов, сдачу устных тем, участие в СНК, зачет/экзамен.

4. ВСПОМОГАТЕЛЬНЫЙ РАЗДЕЛ

4.1. СЛОВАРИ

РАБОТА С ОБЩИМ СЛОВАРЕМ

Чтобы избежать трудности при нахождении в словаре отдельных слов, устойчивых словосочетаний, идиоматических выражений, определить исходную форму слова необходимо соблюдать последовательность работы с общим словарем:

1 ознакомление с разными типами словарей;

2. повторение алфавита и упражнений, связанных с расположением слов;

3. разъяснение значений помет и определение характера слов;

4. перевод сложных существительных;

5. перевод сложных прилагательных;

6. перевод фразеологических сочетаний;

7. перевод идиоматических выражений;

8. перевод слов, которые не помещены в словаре. Следует иметь в виду, что существуют общие словари с различной численностью слов. В общих словарях приводятся общеупотребительные слова.

Кроме того, существуют технические словари и словари по разным отраслям знаний, в которых можно отыскать необходимые термины.

ЗНАКОМСТВО СО СТРУКТУРОЙ СЛОВАРЯ.

1. Необходимо знать объём словаря;

2. Где находится в словаре алфавит;

3. Краткий фонетический справочник (правила чтения);

4. Транскрипционные и условные знаки;

5. Необходимо ознакомиться с приложениями к словарю (сокращения, географические названия, таблица неправильных глаголов) и уметь пользоваться ими.

6. Знать закономерности словообразования, а именно

а) лексический запас языка растет с помощью приставок;

б) буквы Q, X, Y - заимствованные и потому малопродуктивны;

КАК ПОЛЬЗОВАТЬСЯ АНГЛО-РУССКИМ СЛОВАРЁМ.

Все английские слова расположены в алфавитном порядке.

Каждое слово (в том числе и сложное слово, пишущееся через дефис или раздельно) со всем относящимся к нему материалом образует самостоятельную словарную статью.

При словах иностранного происхождения, сохранивших своё написание и иногда произношение, как, например, fiancée, sou и т.п., даётся указание на происхождение слова (фр., нем., лат. и т.п.)

Все слова даны в английском написании. Американский вариант приводится самостоятельным словом по алфавиту, со ссылкой на английский вариант. Все заглавные слова снабжены фонетической транскрипцией, которая ставится непосредственно после самого слова. Произношение даётся по системе Международ-

ной фонетической транскрипции.

За основу произносительной нормы берётся первый вариант слова, поскольку он обычно является наиболее употребительным.

Каждое заглавное английское слово снабжается грамматической характеристикой в виде аббревиатуры n,a,v и т.п., а также фонетической транскрипцией. Дополнительные грамматические сведения (например, refl., pass. и т.п.) даются после указания части речи или после цифры, если они относятся лишь к данному значению.

Специальные термины, когда это необходимо, снабжаются условными сокращениями (тех., воен. и т.п.). Разговорные выражения, американизмы и т.п. во всех случаях помечаются условными сокращениями (разг., амер. и т.п.). После знака ◊ (ромб) приводятся идиомы, устойчивые сочетания поговорки и пословицы. Неправильно образующиеся формы глаголов, степени сравнения прилагательных или наречий и множественного числа имён существительных приводятся в скобках непосредственно после грамматической аббревиатуры, например:

go (went;gone)
bad (worse;worst)
mouse (pl. mice)

Отдельными приложениями даны:

- Список личных имён,
- Список географических названий,
- Список наиболее употребительных английских сокращений.

4.2. УЧЕБНАЯ ПРОГРАММА ДИСЦИПЛИНЫ

4.2.1. АНГЛИЙСКИЙ ЯЗЫК

К-1 2023

Учреждение образования
«Брестский государственный технический университет»

УТВЕРЖДАЮ
Первый проректор БрГТУ
_____ М.В.Нерода
23.06. 2023

Регистрационный № УД- 23-1-048 /уч.

Иностранный язык (английский)

Учебная программа учреждения высшего образования по учебной дисциплине для специальностей:

7-07-0732-02 Инженерные сети, оборудование зданий и сооружений *(Профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна)*
7-07-0732-02 Инженерные сети, оборудование зданий и сооружений *(Профилизация – Водоснабжение, водоотведение и охрана водных ресурсов)*
6-05-0811-03 Мелиорация и водное хозяйство

2023 г.

Учебная программа составлена на основе учебных планов, разработанных на основе типовых учебных планов, для специальности 7-07-0732-02 Инженерные сети, оборудование зданий и сооружений (утвержденного Министерством образования Республики Беларусь 06.02.2023, регистрационный № 7-07-07-002/пр.); для специальности 6-05-0811-03 Мелиорация и водное хозяйство (утвержденного Министерством образования Республики Беларусь 18.01.2023, регистрационный № 6-05-08-012/пр.); с учетом типовой учебной программы для высших учебных заведений № ТД–СГ.013/тип. от 15.04.2008.

СОСТАВИТЕЛИ:
Шпудейко Л.Н., старший преподаватель кафедры иностранных языков, магистр педагогических наук
Гайдук И.И., старший преподаватель кафедры иностранных языков, магистр педагогических наук
Борушко М.В., старший преподаватель кафедры иностранных языков, магистр технических наук

РЕКОМЕНДОВАНА К УТВЕРЖДЕНИЮ:

Кафедрой иностранных языков
Заведующий кафедрой _____ В.И.Рахуба
(протокол № 10 от 03.05.23);

Методической комиссией факультета инженерных систем и экологии
Председатель методической комиссии _____ В.Г.Новосельцев
(протокол № 7 от 20.X.23);

Научно-методическим советом БрГТУ
(протокол № 6 от 23.06.2023);

Специалист по ОУП Борушко

ПОЯСНИТЕЛЬНАЯ ЗАПИСКА

Статус иностранного языка как общеобразовательной дисциплины, реально востребуемой в практической и интеллектуальной деятельности специалиста, является в современном поликультурном и многоязычном мире особенно значимым. Иностранный язык рассматривается не только в качестве средства межкультурного и профессионального общения, но и средства формирования личности как субъекта национальной и мировой культуры.

Учебная программа разработана на основе Концепции обучения иностранным языкам в системе непрерывного образования Республики Беларусь, концепции языкового образования, концепции учебного предмета «Иностранный язык» с учетом требований государственных образовательных стандартов высшего образования, действующих рекомендаций европейской языковой образовательной политики, а также с учетом типовой учебной программы «Иностранный язык», утвержденной Министерством образования Республики Беларусь 13.02.2023, регистрационный № ТД-СГ.013/тип., и указанными в ней нормативными документами.

Главная цель обучения иностранному языку заключается в формировании иноязычной коммуникативной компетенции будущего специалиста, позволяющей использовать иностранный язык как средство межличностного и профессионального общения. Достижение главной цели предполагает комплексную реализацию познавательной, развивающей, воспитательной и практической целей.

В качестве стратегической интегративной компетенции в процессе обучения иностранным языкам выступает коммуникативная компетенция в единстве всех составляющих: языковой, речевой, социокультурной, компенсаторной, учебно-познавательной компетенций.

Языковая компетенция – совокупность языковых средств.

Речевая компетенция – совокупность навыков и умений речевой деятельности (говорение, письмо, аудирование, чтение), знание норм речевого поведения, способность использовать языковые средства в связной речи в соответствии с ситуацией общения.

Социокультурная компетенция – совокупность знаний о национально-культурной специфике стран изучаемого языка и связанных с этим умений корректно строить свое речевое и неречевое поведение.

Компенсаторная компетенция – совокупность умений использовать дополнительные вербальные средства и невербальные способы решения коммуникативных задач в условиях дефицита имеющихся языковых средств.

Учебно-познавательная компетенция – совокупность общих и специальных учебных умений, необходимых для осуществления самостоятельной деятельности по овладению иностранным языком.

Основными задачами изучения дисциплины являются:

– унификация полученных ранее умений и навыков чтения текстов на расширенном языковом материале;

– формирование умений и навыков чтения и понимания текстов по специальности в ситуациях поиска смысловой информации;

– владение профессиональной лексикой;

– знакомство с историей и культурой страны изучаемого языка.

В результате изучения учебной дисциплины «Иностранный язык» у студентов СПЕЦИАЛЬНОСТЕЙ «МЕЛИОРАЦИЯ И ВОДНОЕ ХОЗЯЙСТВО», «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ТЕПЛОГАЗОСНАБЖЕНИЕ, ВЕНТИЛЯЦИЯ И ОХРАНА ВОЗДУШНОГО БАССЕЙНА)», «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ВОДОСНАБЖЕНИЕ, ВОДООТВЕДЕНИЕ И ОХРАНА ВОДНЫХ РЕСУР-

СОВ)» (дневная форма получения высшего образования) формируются следующие универсальные компетенции:

– УК-3. Осуществление коммуникации на иностранном языке для решения задач межличностного, профессионального и межкультурного взаимодействия.

В результате изучения учебной дисциплины «Иностранный язык» у студентов СПЕЦИАЛЬНОСТИ «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ТЕПЛОГАЗОСНАБЖЕНИЕ, ВЕНТИЛЯЦИЯ И ОХРАНА ВОЗДУШНОГО БАССЕЙНА)» (заочная форма получения высшего образования и заочная форма получения высшего образования, интегрированного со средним специальным образованием) формируются следующие универсальные компетенции:

– УК-3. Осуществление коммуникации на иностранном языке для решения задач межличностного, профессионального и межкультурного взаимодействия.

В результате изучения дисциплины «Иностранный язык (английский)» студент должен:

ЗНАТЬ:

– особенности системы изучаемого иностранного языка в его фонетическом, лексическом и грамматическом аспектах;

– социокультурные нормы бытового и делового общения в современном поликультурном мире;

– историю и культуру страны изучаемого языка;

– основные формы культурной коммуникации.

УМЕТЬ:

– вести общение профессионального и социокультурного характера на иностранном языке, сочетая диалогические и монологические формы речи;

– читать литературу на иностранном языке по профилю обучения (изучающее, ознакомительное, просмотровое и поисковое чтение);

– использовать иностранный язык в качестве инструмента профессиональной деятельности: перевод, реферирование и аннотирование профессионально значимых текстов и научных работ;

– использовать стилистические нормы иностранного языка в соответствии с ситуацией профессиональных или деловых взаимоотношений.

ВЛАДЕТЬ:

– правилами речевого этикета;

– рациональным и эффективным языковым поведением в ситуациях межкультурной коммуникации;

– основными видами монологического высказывания (информирование, пояснение, уточнение).

Учебная дисциплина связана с циклом общенаучных и общепрофессиональных дисциплин.

План учебной дисциплины для дневной формы получения высшего образования

Код специальности (направления специальности)	Наименование специальности (направления специальности)	Курс	Семестр	Всего учебных часов	Количество зачетных единиц	Аудиторных часов (в соответствии с учебным планом УВО)					Академических часов на курсовой проект (работу)	Форма текущей аттестации
						Всего	Лекции	Лабораторные занятия	Практические занятия	Семинары		
6-05-0811-03	Мелиорация и водное хозяйство	1	1	124	3	68	–	–	68	–	–	зачет
		2	2	124	3	68	–	–	68	–	–	экзамен
7-07-0732-02	Инженерные сети, оборудование зданий и сооружений (профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна)	1	1	110	3	48	–	–	48	–	–	зачет
		1	2	110	3	48	–	–	48	–	–	экзамен
		2	3	110	3	48	–	–	48	–	–	зачет
7-07-0732-02	Инженерные сети, оборудование зданий и сооружений (профилизация – Водоснабжение, водоотведение и охрана водных ресурсов)	1	1	110	3	48	–	–	48	–	–	зачет
		1	2	110	3	48	–	–	48	–	–	экзамен
		2	3	110	3	48	–	–	48	–	–	зачет

План учебной дисциплины для заочной формы получения высшего образования

Код специальности (направления специальности)	Наименование специальности (направления специальности)	Курс	Семестр	Всего учебных часов	Количество зачетных единиц	Аудиторных часов (в соответствии с учебным планом УВО)					Академических часов на курсовой проект (работу)	Форма текущей аттестации
						Всего	Лекции	Лабораторные занятия	Практические занятия	Семинары		
7-07-0732-02	Инженерные сети, оборудование зданий и сооружений (профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна)	1	1	100	3	10	–	–	10	–	–	зачет
		1	2	100	3	12	–	–	12	–	–	экзамен
		2	3	100	3	10	–	–	10	–	–	зачет

План учебной дисциплины для заочной формы получения высшего образования, интегрированного со средним специальным образованием

Код специальности (направления специальности)	Наименование специальности (направления специальности)	Курс	Семестр	Всего учебных часов	Количество зачетных единиц	Аудиторных часов (в соответствии с учебным планом УВО)					Академических часов на курсовой проект (работу)	Форма текущей аттестации
						Всего	Лекции	Лабораторные занятия	Практические занятия	Семинары		
7-07-0732-02	Инженерные сети, оборудование зданий и сооружений (профилизация – Теплогазоснабжение, вентиляция и охрана воздушного бассейна)	1	1	100	3	10	–	–	10	–	–	зачет
		1	2	100	3	12	–	–	12	–	–	экзамен
		2	3	100	3	10	–	–	10	–	–	зачет

1. СОДЕРЖАНИЕ УЧЕБНОГО МАТЕРИАЛА

1.1. ДЛЯ СПЕЦИАЛЬНОСТИ «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ТЕПЛОГАЗОСНАБЖЕНИЕ, ВЕНТИЛЯЦИЯ И ОХРАНА ВОЗДУШНОГО БАССЕЙНА)» (дневная форма получения высшего образования):

МОДУЛЬ 1. Социально-бытового и социокультурного общения.

ТЕМА 1.1. Новый этап в моей жизни:
Изучающее чтение: Студенческая жизнь – новый этап в моей жизни.
Ознакомительное чтение: Рабочий день студента.
Грамматика: местоимения: личные, притяжательные, возвратные, указательные.

ТЕМА 1.2. БрГТУ в системе высшего образования Республики Беларусь:
Изучающее чтение: БрГТУ в системе высшего образования Республики Беларусь.
Ознакомительное чтение: 1) Высшее образование в Великобритании. 2) Британские университеты.
Грамматика: глагол: спряжение глаголов to be, to have в Present, Past, Future Indefinite; оборот there + to be.

ТЕМА 1.3. Республика Беларусь в современном мире:
Изучающее чтение: Республика, в которой я живу.
Ознакомительное чтение: Мой родной город.
Грамматика: глагол: времена группы Indefinite (Present, Past, Future) действительного залога.

ТЕМА 1.4. Социально-политический портрет Великобритании:
Изучающее чтение: Что я знаю о стране изучаемого языка.
Ознакомительное чтение: 1) Соединенное Королевство. 2) Соединенные Штаты Америки.
Грамматика: глагол: времена группы Continuous (Present, Past, Future) действительного залога.

МОДУЛЬ 2. Профессионального общения.

ТЕМА 2.1. Моя специальность и ее значение для экономического развития Республики Беларусь:

Изучающее чтение: Профессия инженера.

Ознакомительное чтение: Будущее инженерной профессии.

Грамматика: глагол: времена группы Perfect (Present, Past, Future) действительного залога.

ТЕМА 2.2. Теплогазоснабжение:

Изучающее чтение: 1) Центральное отопление. 2) Электрическое отопление. 3) Газовое отопление. 4) Гидравлические и паровые системы. 5) Водяное отопление и горячее водоснабжение.

Ознакомительное чтение: 1) Радиатора. 2) Бойлеры. 3) Тепловые насосы. 4) Полы с подогревом. 5) Воздушное отопление.

Грамматика: глагол: страдательный залог.

ТЕМА 2.3. Вентиляция:

Изучающее чтение: 1) Вентиляция. 2) Типы вентиляции. 3) Круглогодичное кондиционирование, вентиляция, газоснабжение.

Ознакомительное чтение: 1) Воздухокондиционирование. 2) История воздухокондиционирования.

Грамматика: глагол: согласование времен.

ТЕМА 2.4. Охрана воздушного бассейна:

Изучающее чтение: 1) Проблемы окружающей среды. 2) Проблемы загрязнения воды и воздуха.

Ознакомительное чтение: 1) Экологические проблемы. 2) Проблемы окружающей среды. 3) Экологические проблемы больших городов. 4) Загрязнение атмосферы.

Грамматика: инфинитив, инфинитивные обороты, особенности перевода на русский язык; герундий, герундиальные конструкции, особенности перевода на русский язык; причастие I, II; особенности перевода на русский язык.

1.2. ДЛЯ СПЕЦИАЛЬНОСТИ «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ВОДОСНАБЖЕНИЕ, ВОДООТВЕДЕНИЕ И ОХРАНА ВОДНЫХ РЕСУРСОВ)» (дневная форма получения высшего образования):

МОДУЛЬ 1. Социально-бытового и социокультурного общения.

ТЕМА 1.1. Новый этап в моей жизни:

Изучающее чтение: Студенческая жизнь – новый этап в моей жизни.

Ознакомительное чтение: 1) Рабочий день студента. 2) Мой выходной день.

Грамматика: имя существительное; артикль; местоимения.

ТЕМА 1.2. Республика Беларусь в современном мире:

Изучающее чтение: Республика, в которой я живу.

Ознакомительное чтение: Мой родной город.

Грамматика: глагол; времена действительного залога; страдательный залог.

ТЕМА 1.3. Социально-политический портрет Великобритании:

Изучающее чтение: Что я знаю о стране изучаемого языка.

Ознакомительное чтение: 1) Соединенное Королевство. 2) Соединенные Штаты Америки.

Грамматика: прямая и косвенная речь; согласование времен.

ТЕМА 1.4. БрГТУ в системе высшего образования Республики Беларусь:

Изучающее чтение: БрГТУ в системе высшего образования Республики Беларусь.

Ознакомительное чтение: 1) Высшее образование в Беларуси. 2) Высшее образование в Великобритании. 3) Британские университеты.

Грамматика: глагол: инфинитив; Герундий; причастие I; причастие II.

МОДУЛЬ 2. Профессионального общения.

ТЕМА 2.1. Вода как природный ресурс:

Изучающее чтение: 1) Вода. 2) Качество воды. 3) Грунтовая вода.

Ознакомительное чтение: 1) Круговорот воды. 2) Потребление воды.

Грамматика: модальные глаголы; сослагательное наклонение.

ТЕМА 2.2. Загрязнение воды:

Изучающее чтение: 1) Загрязнение воды. 2) Кислотный дождь. 3) Очистка воды.

Грамматика: имя прилагательное; наречие; степени сравнения.

ТЕМА 2.3. Водоснабжение и водоотведение:

Изучающее чтение: 1) Из истории водоснабжения. 2) Коммунально-бытовое водоснабжение. 3) Водоотведение.

Ознакомительное чтение: 1) История развития водоотведения.

Грамматика: глагол; местоимение; вводные it, there.

ТЕМА 2.4. Очистка сточных вод:

Изучающее чтение: 1) Обработка сточных вод. 2) Водоочистные сооружения. 3) Использование очищенной воды.

Грамматика: союзы.

ТЕМА 2.5. Моя будущая специальность и ее значение в экономическом развитии Республики Беларусь:

Изучающее чтение: 1) Инженерия. 2) Моя будущая профессия. 3) Будущее инженерной профессии.

Грамматика: порядок слов в предложении; числительное.

1.3. ДЛЯ СПЕЦИАЛЬНОСТИ «МЕЛИОРАЦИЯ И ВОДНОЕ ХОЗЯЙСТВО» (дневная форма получения высшего образования):

МОДУЛЬ 1. Социально-бытового и социокультурного общения.

ТЕМА 1.1. Новый этап в моей жизни:

Изучающее чтение: Студенческая жизнь – новый этап в моей жизни.

Ознакомительное чтение: 1) Рабочий день студента.

Грамматика: имя существительное; артикль; местоимения.

ТЕМА 1.2. БрГТУ в системе высшего образования Республики Беларусь:

Изучающее чтение: БрГТУ в системе высшего образования Республики Беларусь.

Ознакомительное чтение: 1) Высшее образование в Великобритании. 2) Британские университеты.

Грамматика: имя прилагательное, наречие, степени сравнения; имя числительное.

ТЕМА 1.3. Республика Беларусь в современном мире:

Изучающее чтение: Республика, в которой я живу.

Ознакомительное чтение: Мой родной город.

Грамматика: спряжение глаголов to be, to have в Present, Past, Future Indefinite; оборот there + to be.

ТЕМА 1.4. Социально-политический портрет Великобритании:

Изучающее чтение: Что я знаю о стране изучаемого языка.

Ознакомительное чтение: 1) Соединенное Королевство. 2) Соединенные Штаты Америки.

Грамматика: времена группы Indefinite, Continuous, Perfect и Perfect Continuous действительного залога.

МОДУЛЬ 2. Профессионального общения.

ТЕМА 2.1. Почва:

Изучающее чтение: 1) Почва. 2) Физические свойства почв.

Ознакомительное чтение: 1) Виды почв. 2) Химические свойства почв. 3) Геодезия.

Грамматика: времена группы Indefinite, Continuous и Perfect страдательного залога; особенности перевода пассивных конструкций на русский язык.

ТЕМА 2.2. Источники воды. Гидротехнические сооружения:

Изучающее чтение: 1) Источники воды. 2) Запасы воды. 3) Накопление и распределение воды для орошения.

Ознакомительное чтение: 1) Вода. 2) Круговорот воды в природе и гидрологический цикл. 3) Из истории строительства плотин. 4) Виды плотин. Строительство арочных плотин. 5) Контрфорсная плотина. Строительство контрфорсных плотин. 6) Насыпи из грунта.

Грамматика: условные предложения I, II, III, смешанного типов.

ТЕМА 2.3. Орошение:

Изучающее чтение: 1) Орошение. 2) Системы орошения. 3) Методы орошения.

Ознакомительное чтение: 1) Автоматизация систем орошения.

Грамматика: модальные глаголы.

ТЕМА 2.4. Моя специальность и ее значение для экономического развития Республики Беларусь:

Изучающее чтение: Профессия инженера.

Ознакомительное чтение: Будущее инженерной профессии.

Грамматика: инфинитив; инфинитивные обороты; особенности перевода на русский язык.

ТЕМА 2.5. Осушение:

Изучающее чтение: Дренаж.

Ознакомительное чтение: 1) Древние строители каналов. 2) Интересные факты о каналах.

Грамматика: герундий; особенности перевода на русский язык.

ТЕМА 2.6. Строительные материалы для мелиоративного и водохозяйственного строительства:

Изучающее чтение: 1) Бетон. 2) Железобетон.

Ознакомительное чтение: 1) Свойства строительных материалов. 2) Из истории бетона. 3) Металлы и бетон.

Грамматика: причастие I, II; особенности перевода на русский язык.

ТЕМА 2.7. Проблемы экологии:

Изучающее чтение: 1) Экологические проблемы. 2) Чернобыльская катастрофа. 3) Загрязнение воздуха. 4) Загрязнение воды. 5) Экосистема торфяных болот (значение, угроза, защита).

Ознакомительное чтение: 1) Кислотные дожди. 2) Спасите планету. 3) Проблема

охраны окружающей среды должна быть всемирной.

1.4. ДЛЯ СПЕЦИАЛЬНОСТИ «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ТЕПЛОГАЗОСНАБЖЕНИЕ, ВЕНТИЛЯЦИЯ И ОХРАНА ВОЗДУШНОГО БАССЕЙНА)» (заочная форма получения высшего образования и заочная форма получения высшего образования, интегрированного со средним специальным образованием):

МОДУЛЬ 1. Социально-бытового и социокультурного общения.

ТЕМА 1.1. БрГТУ в системе высшего образования Республики Беларусь:

Изучающее чтение: БрГТУ в системе высшего образования Республики Беларусь.

Ознакомительное чтение: 1) Высшее образование в Великобритании. 2) Британские университеты.

МОДУЛЬ 2. Профессионального общения.

ТЕМА 2.1. Теплогазоснабжение:

Изучающее чтение: 1) Отопление. 2) Вентиляция. 3) Кондиционирование воздуха.

Грамматический материал: оборот there + to be; спряжение глаголов to be, to have в Present, Past, Future Indefinite; времена группы Indefinite действительного и страдательного залога изъявительного наклонения; особенности перевода пассивных конструкций на русский язык.

ТЕМА 2.2. Централизованное теплоснабжение:

Изучающее чтение: Централизованное теплоснабжение.

Грамматический материал: времена группы Continuous (Present, Past, Future) действительного и страдательного залога изъявительного наклонения.

ТЕМА 2.3. Горячее водоснабжение:

Изучающее чтение: Горячее водоснабжение.

Грамматический материал: времена группы Perfect (Present, Past, Future) действительного и страдательного залога изъявительного наклонения.

ТЕМА 2.4. Моя специальность и ее значение для экономического развития Республики Беларусь:

Изучающее чтение: Профессия инженера.

Ознакомительное чтение: Будущее инженерной профессии.

ТЕМА 2.5. Вентиляция:

Изучающее чтение: 1) Вентиляция. 2) Виды вентиляции.

ТЕМА 2.6. Газоснабжение:

Изучающее чтение: 1) Газоснабжение. 2) Газовое отопление. 3) Гидравлические и паровые системы.

ТЕМА 2.7. Охрана воздушного бассейна:

Изучающее чтение: 1) Проблемы окружающей среды. 2) Проблемы загрязнения воды и воздуха.

Ознакомительное чтение: 1) Экологические проблемы. 2) Проблемы окружающей среды. 3) Экологические проблемы больших городов. 4) Загрязнение атмосферы.

2.1. УЧЕБНО-МЕТОДИЧЕСКАЯ КАРТА УЧЕБНОЙ ДИСЦИПЛИНЫ
для дневной формы получения высшего образования для специальности:
7-07-0732-02 ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ТЕПЛОГАЗОСНАБЖЕНИЕ, ВЕНТИЛЯЦИЯ И ОХРАНА ВОЗДУШНОГО БАССЕЙНА)

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов				Количество часов самост. работы	Форма контроля знаний
		Лекции	Лабораторные занятия	Практические занятия	Семинарские занятия		
1	2	3	4	5	6	7	8
	1-й семестр						
1.1	Новый этап в моей жизни: Изучающее чтение: Студенческая жизнь – новый этап в моей жизни. Ознакомительное чтение: Рабочий день студента. Грамматика: местоимения: личные, притяжательные, возвратные, указательные.			8		14	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.2	БрГТУ в системе высшего образования Республики Беларусь: Изучающее чтение: БрГТУ в системе высшего образования Республики Беларусь. Ознакомительное чтение: 1) Высшее образование в Великобритании. 2) Британские университеты. Грамматика: глагол: спряжение глаголов to be, to have в Present, Past, Future Indefinite; оборот there + to be.			16		18	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.3	Республика Беларусь в современном мире: Изучающее чтение: Республика, в которой я живу. Ознакомительное чтение: Мой родной город. Грамматика: глагол: времена группы Indefinite (Present, Past, Future) действительного залога.			10		16	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.4	Социально-политический портрет Великобритании: Изучающее чтение: Что я знаю о стране изучаемого языка. Ознакомительное чтение: 1) Соединенное Королевство. 2) Соединенные Штаты Америки. Грамматика: глагол: времена группы Continuous (Present, Past, Future) действительного залога.			14		14	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
	2-й семестр						
2.1	Моя специальность и ее значение для экономического развития Республики Беларусь: Изучающее чтение: Профессия инженера. Ознакомительное чтение: Будущее инже-			20		30	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на во-

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов				Количество часов самост. работы	Форма контроля знаний
		Лекции	Лабораторные занятия	Практические занятия	Семинарские занятия		
1	2	3	4	5	6	7	8
	нерной профессии. Грамматика: глагол: времена группы Perfect (Present, Past, Future) действительного залога.						просы, реферирование/ составление аннотаций). Беседа по теме.
2.2	Теплогазоснабжение: Изучающее чтение: 1) Центральное отопление. 2) Электрическое отопление. 3) Газовое отопление. 4) Гидравлические и паровые системы. 5) Водяное отопление и горячее водоснабжение. Ознакомительное чтение: 1) Радиатора. 2) Бойлеры. 3) Тепловые насосы. 4) Полы с подогревом. 5) Воздушное отопление. Грамматика: глагол: страдательный залог.			28		32	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
	3-й семестр						
2.3	Вентиляция: Изучающее чтение: 1) Вентиляция. 2) Типы вентиляции. 3) Круглогодичное кондиционирование, вентиляция, газоснабжение. Ознакомительное чтение: 1) Воздухокондиционирование. 2) История воздухокондиционирования. Грамматика: глагол: согласование времен.			24		28	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.4	Охрана воздушного бассейна: Изучающее чтение: 1) Проблемы окружающей среды. 2) Проблемы загрязнения воды и воздуха. Ознакомительное чтение: 1) Экологические проблемы. 2) Проблемы окружающей среды. 3) Экологические проблемы больших городов. 4) Загрязнение атмосферы. Грамматика: инфинитив, инфинитивные обороты, особенности перевода на русский язык; герундий, герундиальные конструкции, особенности перевода на русский язык; причастие I, II; особенности перевода на русский язык.			24		34	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.

2.2. УЧЕБНО-МЕТОДИЧЕСКАЯ КАРТА УЧЕБНОЙ ДИСЦИПЛИНЫ
для дневной формы получения высшего образования для специальности:
7-07-0732-02 ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ВОДОСНАБЖЕНИЕ, ВОДООТВЕДЕНИЕ И ОХРАНА ВОДНЫХ РЕСУРСОВ)

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов				Количество часов самост. работы	Форма контроля знаний
		Лекции	Лабораторные занятия	Практические занятия	Семинарские занятия		
1	2	3	4	5	6	7	8
	1-й семестр						
1.1	Новый этап в моей жизни: Изучающее чтение: Студенческая жизнь – новый этап в моей жизни. Ознакомительное чтение: 1) Рабочий день студента. 2) Мой выходной день. Грамматика: имя существительное; артикль; местоимения.			8		14	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.2	Республика Беларусь в современном мире: Изучающее чтение: Республика, в которой я живу. Ознакомительное чтение: Мой родной город. Грамматика: глагол; времена действительного залога; страдательный залог.			16		18	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.3	Социально-политический портрет Великобритании: Изучающее чтение: Что я знаю о стране изучаемого языка. Ознакомительное чтение: 1) Соединенное Королевство. 2) Соединенные Штаты Америки. Грамматика: прямая и косвенная речь; согласование времен.			10		16	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.4	БрГТУ в системе высшего образования Республики Беларусь: Изучающее чтение: БрГТУ в системе высшего образования Республики Беларусь. Ознакомительное чтение: 1) Высшее образование в Беларуси. 2) Высшее образование в Великобритании. 3) Британские университеты. Грамматика: глагол: инфинитив; Герундий; причастие I; причастие II.			14		14	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
	2-й семестр						
2.1	Вода как природный ресурс: Изучающее чтение: 1) Вода. 2) Качество воды. 3) Грунтовая вода. Ознакомительное чтение: 1) Круговорот воды. 2) Потребление воды.			20		30	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на во-

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов				Количество часов самост. работы	Форма контроля знаний
		Лекции	Лабораторные занятия	Практические занятия	Семинарские занятия		
1	2	3	4	5	6	7	8
	Грамматика: модальные глаголы; сослагательное наклонение.						просы, реферирование/ составление аннотаций). Беседа по теме.
2.2	Загрязнение воды: Изучающее чтение: 1) Загрязнение воды. 2) Кислотный дождь. 3) Очистка воды. Грамматика: имя прилагательное; наречие; степени сравнения.			28		32	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
	3-й семестр						
2.3	Водоснабжение и водоотведение: Изучающее чтение: 1) Из истории водоснабжения. 2) Коммунально-бытовое водоснабжение. 3) Водоотведение. Ознакомительное чтение: 1) История развития водоотведения. Грамматика: глагол; местоимение; вводные it, there.			16		22	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.4	Очистка сточных вод: Изучающее чтение: 1) Обработка сточных вод. 2) Водоочистные сооружения. 3) Использование очищенной воды. Грамматика: союзы.			16		20	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.5	Моя будущая специальность и ее значение в экономическом развитии Республики Беларусь: Изучающее чтение: 1) Инженерия. 2) Моя будущая профессия. 3) Будущее инженерной профессии. Грамматика: порядок слов в предложении; числительное.			16		20	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.

2.3. УЧЕБНО-МЕТОДИЧЕСКАЯ КАРТА УЧЕБНОЙ ДИСЦИПЛИНЫ
для дневной формы получения высшего образования для специальности:
6-05-0811-03 МЕЛИОРАЦИЯ И ВОДНОЕ ХОЗЯЙСТВО

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов				Количество часов самост. работы	Форма контроля знаний
		Лекции	Лабораторные занятия	Практические занятия	Семинарские занятия		
1	2	3	4	5	6	7	8
	1-й семестр						
1.1	Новый этап в моей жизни: Изучающее чтение: Студенческая жизнь – новый этап в моей жизни. Ознакомительное чтение: 1) Рабочий день студента. Грамматика: имя существительное; артикль; местоимения.			6		8	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.2	БрГТУ в системе высшего образования Республики Беларусь: Изучающее чтение: БрГТУ в системе высшего образования Республики Беларусь. Ознакомительное чтение: 1) Высшее образование в Великобритании. 2) Британские университеты. Грамматика: имя прилагательное, наречие, степени сравнения; имя числительное.			8		10	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.3	Республика Беларусь в современном мире: Изучающее чтение: Республика, в которой я живу. Ознакомительное чтение: Мой родной город. Грамматика: спряжение глаголов to be, to have в Present, Past, Future Indefinite; оборот there + to be.			8		10	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.4	Социально-политический портрет Великобритании: Изучающее чтение: Что я знаю о стране изучаемого языка. Ознакомительное чтение: 1) Соединенное Королевство. 2) Соединенные Штаты Америки. Грамматика: времена группы Indefinite, Continuous, Perfect и Perfect Continuous действительного залога.			8		10	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.1	Почва: Изучающее чтение: 1) Почва. 2) Физические свойства почв. Ознакомительное чтение: 1) Виды почв. 2) Химические свойства почв. 3) Геодезия. Грамматика: времена группы Indefinite, Continuous и Perfect страдательного залога; особенности перевода пассивных кон-			16		8	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов				Количество часов самост. работы	Форма контроля знаний
		Лекции	Лабораторные занятия	Практические занятия	Семинарские занятия		
1	2	3	4	5	6	7	8
	струкций на русский язык.						по теме.
2.2	Источники воды. Гидротехнические сооружения: Изучающее чтение: 1) Источники воды. 2) Запасы воды. 3) Накопление и распределение воды для орошения. Ознакомительное чтение: 1) Вода. 2) Круговорот воды в природе и гидрологический цикл. 3) Из истории строительства плотин. 4) Виды плотин. Строительство арочных плотин. 5) Контрфорсная плотина. Строительство контрфорсных плотин. 6) Насыпи из грунта. Грамматика: условные предложения I, II, III, смешанного типов.			22		10	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
	2-й семестр						
2.3	Орошение: Изучающее чтение: 1) Орошение. 2) Системы орошения. 3) Методы орошения. Ознакомительное чтение: 1) Автоматизация систем орошения. Грамматика: модальные глаголы.			18		12	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.4	Моя специальность и ее значение для экономического развития Республики Беларусь: Изучающее чтение: Профессия инженера. Ознакомительное чтение: Будущее инженерной профессии. Грамматика: инфинитив; инфинитивные обороты; особенности перевода на русский язык.			8		12	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.5	Осушение: Изучающее чтение: Дренаж. Ознакомительное чтение: 1) Древние строители каналов. 2) Интересные факты о каналах. Грамматика: герундий; особенности перевода на русский язык.			12		10	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.6	Строительные материалы для мелиоративного и водохозяйственного строительства: Изучающее чтение: 1) Бетон. 2) Железобетон. Ознакомительное чтение: 1) Свойства строительных материалов. 2) Из истории бетона. 3) Металлы и бетон. Грамматика: причастие I, II; особенности			12		10	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов				Количество часов самост. работы	Форма контроля знаний
		Лекции	Лабораторные занятия	Практические занятия	Семинарские занятия		
1	2	3	4	5	6	7	8
	перевода на русский язык.						по теме.
2.7	Проблемы экологии: Изучающее чтение: 1) Экологические проблемы. 2) Чернобыльская катастрофа. 3) Загрязнение воздуха. 4) Загрязнение воды. 5) Экосистема торфяных болот (значение, угроза, защита). Ознакомительное чтение: 1) Кислотные дожди. 2) Спасите планету. 3) Проблема охраны окружающей среды должна быть всемирной.			18		12	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.

2.4. УЧЕБНО-МЕТОДИЧЕСКАЯ КАРТА УЧЕБНОЙ ДИСЦИПЛИНЫ для заочной формы получения высшего образования и для заочной формы получения высшего образования, интегрированного со средним специальным образованием, для специальности: 7-07-0732-02 ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ТЕПЛОГАЗОСНАБЖЕНИЕ, ВЕНТИЛЯЦИЯ И ОХРАНА ВОЗДУШНОГО БАССЕЙНА)

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов				Количество часов самост. Работы	Форма контроля знаний
		Лекции	Лабораторные занятия	Практические занятия	Семинарские занятия		
1	2	3	4	5	6	7	8
	1-й семестр						
2.1	Теплогазоснабжение: Изучающее чтение: 1) Отопление. 2) Вентиляция. 3) Кондиционирование воздуха. Грамматический материал: оборот there + to be; спряжение глаголов to be, to have в Present, Past, Future Indefinite; времена группы Indefinite действительного и страдательного залога изъявительного наклонения; особенности перевода пассивных конструкций на русский язык.			4		26	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.2	Централизованное теплоснабжение: Изучающее чтение: Централизованное теплоснабжение. Грамматический материал: времена группы Continuous (Present, Past, Future) действительного и страдательного залога изъявительного наклонения.			4		28	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.

Номер раздела, темы	Название раздела, темы	Количество аудиторных часов				Количество часов самост. Работы	Форма контроля знаний
		Лекции	Лабораторные занятия	Практические занятия	Семинарские занятия		
1	2	3	4	5	6	7	8
2.3	Горячее водоснабжение: Изучающее чтение: Горячее водоснабжение. Грамматический материал: времена группы Perfect (Present, Past, Future) действительного и страдательного залога изъявительного наклонения.			2		36	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
	2-й семестр						
1.1	БрГТУ в системе высшего образования Республики Беларусь: Изучающее чтение: БрГТУ в системе высшего образования Республики Беларусь. Ознакомительное чтение: 1) Высшее образование в Великобритании. 2) Британские университеты.			4		26	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.4	Моя специальность и ее значение для экономического развития Республики Беларусь: Изучающее чтение: Профессия инженера. Ознакомительное чтение: Будущее инженерной профессии.			4		36	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.5	Вентиляция: Изучающее чтение: 1) Вентиляция. 2) Виды вентиляции.			4		26	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
	3-й семестр						
2.6	Газоснабжение: Изучающее чтение: 1) Газоснабжение. 2) Газовое отопление. 3) Гидравлические и паровые системы.			4		45	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.7	Охрана воздушного бассейна: Изучающее чтение: 1) Проблемы окружающей среды. 2) Проблемы загрязнения воды и воздуха. Ознакомительное чтение: 1) Экологические проблемы. 2) Проблемы окружающей среды. 3) Экологические проблемы больших городов. 4) Загрязнение атмосферы.			6		45	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.

3. ИНФОРМАЦИОННО-МЕТОДИЧЕСКАЯ ЧАСТЬ

3.1. Перечень литературы (учебной, учебно-методической, научной, нормативной, др.).

3.1.1 ДЛЯ СПЕЦИАЛЬНОСТИ «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ТЕПЛОГАЗОСНАБЖЕНИЕ, ВЕНТИЛЯЦИЯ И ОХРАНА ВОЗДУШНОГО БАССЕЙНА)»:

Основная:

1) Кабешева, Е. В. Английский язык = English / Е. В. Кабешева, Е. М. Гайкова, М. И. Чигринец. – Минск : Вышэйшая школа, 2014. – 175 с.

2) Пузенко, И. Н. Английский язык. Профессиональное общение = Professional communication course : учеб. пособие / И. Н. Пузенко, И. М. Веренич, Н. В. Вербицкая. – Минск : Изд-во Гревцова, 2014. – 272 с.

3) Резько, П. Н. Modern Communication : учебно-методическое пособие по развитию коммуникативных навыков для студентов неязыковых вузов экономических и технических специальностей / П. Н. Резько, Н. А. Боровикова ; Министерство образования Республики Беларусь, Брестский государственный технический университет, Кафедра иностранных языков. – Брест : БрГТУ, 2020. – 105 с.

4) Шпудейко, Л. Н. Иностранный язык (профессиональная лексика) (английский язык): сборник текстов для самостоятельной аудиторной работы студентов специальности 1-33 01 07 Природоохранная деятельность / Л. Н. Шпудейко, И. И. Гайдук, Н. А. Боровикова — Брест: Издательство БрГТУ, 2023. – 70 с.

Дополнительная:

8) Агабекян, И. П. Английский для технических вузов / И. П. Агабекян, П. И. Коваленко. – Ростов-на-дону: Феникс, 2002.

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3.2. Перечень средств диагностики результатов учебной деятельности.

Данный модуль является интегральным и обеспечивает промежуточный и итоговый контроль усвоения содержания программы. Он представляет собой обобщение и систематизацию пройденного учебного материала по всем аспектам языка и видам речевой деятельности.

ПРОМЕЖУТОЧНЫЙ КОНТРОЛЬ осуществляется:

1) по устным темам – в форме монологического высказывания, диалогов, беседы с преподавателем;

2) по текстам – в форме разработанных комплексных заданий, составления аннотаций и рефератов, выборочного письменного перевода;

3) по грамматике – в виде выполнения грамматических упражнений по изученным темам.

ИТОГОВЫЙ КОНТРОЛЬ (дневная форма получения высшего образования):

Зачет выставляется по результатам выполнения программы текущего семестра: выполнение программы практических аудиторных занятий.

К экзамену допускаются студенты, выполнившие программу практических аудиторных занятий.

Структура экзамена:

1) чтение и письменный перевод оригинального профессионально-ориентированного текста с иностранного (английского) языка на родной со словарём. Объём – 1300 печатных знаков. Время выполнения – 45 минут.

2) Реферирование аутентичного или частично адаптированного научно-популярного текста, беседа на иностранном языке по содержанию текста. Объём текста – 1500 печатных знаков. Время подготовки – до 15 минут.

3) Подготовленное высказывание по одной из изученных устных тем и неподготовленная беседа с преподавателем в рамках данной устной темы.

Устные темы для подготовленного высказывания:

1) Новый этап в моей жизни.

2) БрГТУ в системе высшего образования Республики Беларусь.

3) Республика Беларусь в современном мире.

4) Социально-политический портрет страны изучаемого языка.

5) Моя специальность и её значение в экономическом развитии Республики Беларусь.

Оценка учебных достижений студентов на экзамене по иностранному языку производится по 10–балльной шкале.

ИТОГОВЫЙ КОНТРОЛЬ (заочная форма получения высшего образования и заочная форма получения высшего образования, интегрированного со средним специальным образованием):

Зачет выставляется по результатам выполнения программы текущего семестра: выполнение программы практических аудиторных занятий; сдача текстов профессиональной направленности по внеаудиторному чтению объемом 7,5 тыс. печатных знаков.

К экзамену допускаются студенты, выполнившие программу практических аудиторных занятий и сдавшие тексты по специальности объемом 7,5 тыс. печатных знаков по внеаудиторному чтению.

Структура экзамена:

1) Прочитать фонетически правильно отрывок текста по специальности.

2) С помощью словаря письменно перевести на родной язык текст по специальности объемом 1100-1200 печатных знаков. Время подготовки – 45 минут.

3) Прочитать текст общенаучной тематики объемом 900-1000 печатных знаков и передать его содержание на иностранном или русском языке. Время подготовки – 20 минут.

Оценка учебных достижений студентов на экзамене по иностранному языку производится по 10-балльной шкале.

КРИТЕРИИ ОЦЕНКИ ОТВЕТОВ СТУДЕНТОВ НА ЭКЗАМЕНЕ ПО ИНОСТРАННОМУ ЯЗЫКУ:

1) Письменный перевод текста по специальности:

Баллы:

10 – полный, своевременный, безошибочный, стилистически верный перевод.

9 – полный, своевременный, безошибочный перевод с 1-2 стилистическими погрешностями, не ведущими к искажению смысла.

8 – полный, своевременный перевод с 1-2 лексико-грамматическими ошибками, не ведущими к искажению смысла.

7 – полный, своевременный перевод с 3-4 лексико-грамматическими ошибками, не ведущими к искажению смысла.

6 – полный, своевременный перевод с 5-6 лексико-грамматическими ошибками, не ведущими к искажению смысла.

5 – неполный перевод текста (80%) с 7-8 лексико-грамматическими ошибками.

4 – неполный перевод текста (70%) с 9-10 лексико-грамматическими ошибками к.

3 – неполный перевод текста (60%) с 11-12 лексико-грамматическими ошибками.

2 – неполный перевод текста (50%) с большим количеством лексико-грамматических ошибок.

1 – перевод сделан на уровне отдельных слов и словосочетаний.

2) Передача содержания общенаучного текста на иностранном языке:

Баллы:

10 – полное понимание содержания текста с передачей всех деталей смысловых связей в виде логически четко построенного сообщения.

9 – полное понимание содержания текста с передачей всех деталей смысловых связей в виде недостаточно логически оформленного сообщения.

8 – передача содержания текста с недостаточной полнотой.

7 – передача содержания текста, содержащая 1-2 смысловые неточности.

6 – передача содержания текста, содержащая 3-4 смысловые неточности.

5 – ответ, отражающий содержание текста при наличии пропусков информации (не более 20 %).

4 – ответ, отражающий содержание текста при наличии пропусков информации (не более 30 %).

3 – понимание текста в общих чертах (60 %).

2 – фрагментарное понимание содержания текста и неспособность изложить основную идею.

1 – полное непонимание текста.

3) Беседа по изученной устной тематике:

Баллы:

10 – логически построенный, четкий, грамматически правильно оформленный, содержащий разнообразный набор лексики ответ (не менее 25 фраз). Допускаются 1-2 ошибки с самокоррекцией.

9 – логически построенный, четкий, грамматически правильно оформленный, содержащий разнообразный набор лексики ответ (20-25 фраз). Допускаются 2-3 ошибки с самокоррекцией.

8 – высказывания по теме логичны, аргументированы и построены на основе изученного учебного материала (18-20 фраз). Допускаются 3-4 лексико-грамматические ошибки.

7 – речь достаточно разнообразна. Высказывания логичны, однако их построение затрудняется иногда выбором необходимых лексико-грамматических конструкций (не менее 15 фраз). Допускаются 4-5 лексико-грамматические ошибки.

6 – ответ недостаточно полный и аргументированный (10-15 фраз). Допускается 5-6 лексико-грамматических ошибок.

5 – ответ недостаточно полный, требующий дополнительных вопросов со стороны экзаменатора по изученному материалу (8-10 фраз). Допускается 5-6 лексико-грамматических ошибок.

4 – речь на уровне механического высказывания изученного материала по теме (7-8 фраз). Допускается 6-7 лексико-грамматических ошибок.

3 – речь на уровне механического высказывания отдельных предложений. Многочисленные ошибки, затрудняющие понимание смысла высказывания.

2 – речь на уровне отдельных слов и словосочетаний.

1 – неумение и неспособность строить высказывания.

3.3. Методические рекомендации по организации и выполнению самостоятельной работы обучающихся по учебной дисциплине.

Самостоятельная внеаудиторная неуправляемая работа студентов включает следующие виды работ:

1) подготовка домашних заданий (выполнение грамматических упражнений, перевод текстов для изучающего и ознакомительного чтения);

2) использование интернет-сайтов для поиска учебной информации;

3) самостоятельное изучение общенаучной и терминологической лексики;

4) самостоятельное изучение тем, включенных в модуль социально-бытового и социокультурного общения (для заочной формы получения высшего образования и заочной форма получения высшего образования, интегрированного со средним специальным образованием);

5) подготовка докладов на научно-практические конференции;

6) подготовка к зачету, экзамену.

3.3.1. ДЛЯ СПЕЦИАЛЬНОСТИ «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ТЕПЛОГАЗОСНАБЖЕНИЕ, ВЕНТИЛЯЦИЯ И ОХРАНА ВОЗДУШНОГО БАССЕЙНА)» (дневная форма получения высшего образования)

Самостоятельная работа студентов без контроля преподавателя осуществляется в объеме 186 часов, из них в 1 семестре – 62 ч, во 2 семестре – 62 ч, в 3 семестре – 62 ч.

Самостоятельная работа студентов в 1 семестре включает следующие виды работ:

1. Подготовка текстов по специальности для внеаудиторного дополнительного чтения (изучающее, ознакомительное и просмотровое чтение) объемом 7,5 тыс. печатных знаков.

2. Использование интернет-сайтов для поиска текстов по внеаудиторному чтению.

3. Самостоятельное изучение общенаучной и терминологической лексики.

4. Самостоятельное изучение следующих тем по грамматике:

– Имя существительное: образование множественного числа и притяжательного падежа существительных.

– Существительное в функции определения и его перевод на русский язык.

– Местоимение one как заменитель существительного.

– Артикль: определенный и неопределенный. Основные случаи употребления артиклей. Отсутствие артикля.

– Числительные: простые, производные, сложные, количественные, порядковые и дробные. Синтаксические функции числительных.

– Глагол: времена группы Perfect Continuous (Present, Past, Future) действительного залога изъявительного наклонения.

– Модальные глаголы и их эквиваленты.

– Предлоги места, времени, направления.

– Предлоги, совпадающие по форме с наречиями.

– Простое распространенное предложение.

– Прямой и обратный порядок слов в простом распространенном предложении.

– Пунктуация простого предложения.

– Основные случаи словообразования.

5. Подготовка к зачету.

Самостоятельная работа студентов во 2 семестре включает следующие виды работ:

1. Подготовка текстов по специальности для внеаудиторного дополнительного чтения (изучающее, ознакомительное и просмотровое чтение) объемом 7,5 тыс. печатных знаков.

2. Использование интернет-сайтов для поиска текстов по внеаудиторному чтению.

3. Самостоятельное изучение общенаучной и терминологической лексики.

4. Самостоятельное изучение следующих тем по грамматике:

– Отглагольное существительное.

– Союз. Сочинительные и подчинительные союзы.

– Сложное предложение.

– Типы придаточных предложений.

– Союзное и бессоюзное подчинение в придаточных предложениях.

– Пунктуация сложносочиненных и сложноподчиненных предложений.

– Вводные слова и вводные предложения.

– Интернациональные слова.

5. Подготовка к зачету.

Самостоятельная работа студентов в 3 семестре включает следующие виды работ:

1. Подготовка домашних заданий (выполнение грамматических упражнений, пе-

ревод текстов для изучающего и ознакомительного чтения, самостоятельное изучение общенаучной и терминологической лексики).

2. Самостоятельное изучение следующих тем по грамматике:

– Глагол: времена группы Perfect Continuous (Present, Past, Future) действительного залога

– Неличные формы глагола: Инфинитив. Простые и сложные формы инфинитива. Объектный и субъектный инфинитивный обороты.

– Неличные формы глагола: Герундий. Простые и сложные формы герундия. Синтаксические функции герундия в предложении. Герундиальные конструкции. Особенности перевода герундия на русский язык.

– Неличные формы глагола: Причастие I, II. Простые и сложные формы причастия. Независимый причастный оборот.

3. Подготовка к экзамену.

Список литературы для самостоятельной работы:

2. Резько, П. Н. Modern Communication : учебно-методическое пособие по развитию коммуникативных навыков для студентов неязыковых вузов экономических и технических специальностей / П. Н. Резько, Н. А. Боровикова ; Министерство образования Республики Беларусь, Брестский государственный технический университет, Кафедра иностранных языков. – Брест : БрГТУ, 2020. – 105 с.

3. Шпудейко, Л. Н., Гайдук, И. И. Методические указания для самостоятельной аудиторной работы для студентов специальности 1-70 04 02 «Теплогазоснабжение, вентиляция и охрана воздушного бассейна. – Брест.2012. – ч.1 – 47с.

4. Шпудейко, Л. Н., Гайдук, И. И. Методические указания для самостоятельной аудиторной работы для студентов специальности 1-70 04 02 «Теплогазоснабжение, вентиляция и охрана воздушного бассейна.- Брест.2012.- ч.2-49с.

5. Хведченя, Л. В. Грамматика английского языка / Л. В. Хведченя. – Минск: Издательство Гревцова, 2011.

3.3.2. ДЛЯ СПЕЦИАЛЬНОСТИ «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ВОДОСНАБЖЕНИЕ, ВОДООТВЕДЕНИЕ И ОХРАНА ВОДНЫХ РЕСУРСОВ)» (дневная форма получения высшего образования):

Самостоятельная работа студентов без контроля преподавателя осуществляется в объеме 186 часов, из них в 1 семестре – 62 часа, во 2 семестре – 62 часа, в 3 семестре – 62 часа.

Самостоятельная работа студентов в 1 семестре включает следующие виды работ:

1. Подготовка текстов по специальности для внеаудиторного дополнительного чтения (изучающее, ознакомительное и просмотровое чтение) объемом 7,5 тыс. печатных знаков.

2. Использование интернет-сайтов для поиска текстов по внеаудиторному чтению.

3. Самостоятельное изучение общенаучной и терминологической лексики.

4. Самостоятельное изучение следующих тем по грамматике:

– Имя существительное: образование множественного числа и притяжательного падежа существительных.

– Существительное в функции определения и его перевод на русский язык.

– Местоимение one как заменитель существительного.

– Артикль: определенный и неопределенный. Основные случаи употребления артиклей. Отсутствие артикля.

– Числительные: простые, производные, сложные, количественные, порядковые и дробные. Синтаксические функции числительных.

– Глагол: времена группы Perfect Continuous (Present, Past, Future) действительного залога изъявительного наклонения.

– Модальные глаголы и их эквиваленты.

– Предлоги места, времени, направления.

– Предлоги, совпадающие по форме с наречиями.

– Простое распространенное предложение.

– Прямой и обратный порядок слов в простом распространенном предложении.

– Пунктуация простого предложения.

– Основные случаи словообразования.

5. Подготовка к зачету.

Самостоятельная работа студентов во 2 семестре включает следующие виды работ:

1) Подготовка текстов по специальности для внеаудиторного дополнительного чтения (изучающее, ознакомительное и просмотровое чтение) объемом 7,5 тыс. печатных знаков.

2) Использование интернет–сайтов для поиска текстов по внеаудиторному чтению.

3) Самостоятельное изучение общенаучной и терминологической лексики.

4) Самостоятельное изучение следующих тем по грамматике:

– Отглагольное существительное.

– Союз. Сочинительные и подчинительные союзы.

– Сложное предложение.

– Типы придаточных предложений.

– Союзное и бессоюзное подчинение в придаточных предложениях.

– Пунктуация сложносочиненных и сложноподчиненных предложений.

– Вводные слова и вводные предложения.

– Интернациональные слова.

5) Подготовка к зачету.

Самостоятельная работа студентов в 3 семестре включает следующие виды работ:

1. Подготовка домашних заданий (выполнение грамматических упражнений, перевод текстов для изучающего и ознакомительного чтения, самостоятельное изучение общенаучной и терминологической лексики).

2. Самостоятельное изучение следующих тем по грамматике:

– Глагол: времена группы Perfect Continuous (Present, Past, Future) действительного залога

– Неличные формы глагола: Инфинитив. Простые и сложные формы инфинитива. Объектный и субъектный инфинитивный обороты.

– Неличные формы глагола: Герундий. Простые и сложные формы герундия. Синтаксические функции герундия в предложении. Герундиальные конструкции. Особенности перевода герундия на русский язык.

– Неличные формы глагола: Причастие I, II. Простые и сложные формы причастия. Независимый причастный оборот.

3. Подготовка к экзамену.

Список литературы для самостоятельной работы:

1) Резько, П. Н. Modern Communication : учебно-методическое пособие по развитию коммуникативных навыков для студентов неязыковых вузов экономических и технических специальностей / П. Н. Резько, Н. А. Боровикова ; Министерство образования Республики Беларусь, Брестский государственный технический

университет, Кафедра иностранных языков. – Брест : БрГТУ, 2020. – 105 с.

2) Дорощук, Т. А. Пособие по английскому языку для студентов специальности «Водоснабжение, водоотведение и охрана водных ресурсов» : учеб. пособие / Т. А. Дорошук, Н. В. Кистень, М. В. Борушко, Ю. А. Манец ; УО «Брестский государственный технический университет». – Брест, 2006.

3) Прокопюк, О. В. «Treat it Right» : учебно-методическое пособие для самостоятельной и внеаудиторной работы по изучающему чтению на английском языке для студентов специальности 1-70 04 03 Водоснабжение, водоотведение и охрана водных ресурсов / О. В. Прокопюк. – Брест: Издательство БрГТУ, 2016.

4) Хведченя, Л. В. Грамматика английского языка / Л. В. Хведченя. – Минск: Издательство Гревцова, 2011.

3.3.3. ДЛЯ СПЕЦИАЛЬНОСТИ «МЕЛИОРАЦИЯ И ВОДНОЕ ХОЗЯЙСТВО» (дневная форма получения высшего образования):

Самостоятельная работа студентов без контроля преподавателя осуществляется в объеме 112 часов, из них в 1 семестре – 56 ч, во 2 семестре – 56ч.

Самостоятельная работа студентов в 1 семестре включает следующие виды работ:

1. Подготовка домашних заданий (выполнение грамматических упражнений, перевод текстов для изучающего и ознакомительного чтения).

2. Использование интернет–сайтов для поиска учебной информации.

3. Самостоятельное изучение общенаучной и терминологической лексики.

4. Самостоятельное изучение следующих тем по грамматике:

– Имя существительное: образование множественного числа и притяжательного падежа существительных. Существительное в функции определения и его перевод на русский язык.

– Местоимения: личные, притяжательные, возвратные, указательные, вопросительные, относительные и союзные, неопределенные, отрицательные, обобщающие. Местоимения it, one как заменители существительного.

– Артикль: определенный и неопределенный. Основные случаи употребления артиклей. Отсутствие артикля.

– Степени сравнения прилагательных и наречий. Сравнительные конструкции с прилагательными. Место прилагательных и наречий в предложении.

– Числительные: количественные, порядковые, дробные.

– Глагол: видовременные формы действительного и страдательного залогов.

– Согласование времен.

5. Реферирование и аннотирование текстов.

6. Подготовка презентаций.

7. Подготовка к зачету.

Формы контроля самостоятельной работы студентов: опрос на практических занятиях, выполнение индивидуальных заданий.

Самостоятельная работа студентов во 2 семестре включает следующие виды работ:

1. Подготовка домашних заданий (выполнение грамматических упражнений, перевод текстов для изучающего и ознакомительного чтения).

2. Использование интернет-сайтов для поиска учебной информации.

3. Самостоятельное изучение общенаучной и терминологической лексики.

4. Самостоятельное изучение следующих тем по грамматике:

– Повелительное наклонение.

– Модальные глаголы и их эквиваленты.

– Синтаксис: Простое предложение. Порядок слов. Безличные предложения.

– Неличные формы глагола (инфинитив, герундий, причастие I, II): формы,

конструкции, способы перевода на русский язык.

– Отглагольное существительное.

– Союз. Сочинительные и подчинительные союзы.

– Синтаксис: Сложное предложение. Типы придаточных предложений. Союзное и бессоюзное подчинение в придаточных предложениях.

– Условные предложения I, II, III, смешанного типов. Сослагательное наклонение.

– Прямой и обратный порядок слов в сложном предложении.

– Прямая и косвенная речь.

– Предлоги места, времени, направления, инструментальности, причинности, совместности. Предлоги, совпадающие по форме с наречиями. Место предлога в предложении.

– Основные словообразовательные модели.

– Усилительные конструкции.

– Слова-связки.

– Вводные слова и предложения.

– Интернациональные слова.

5. Реферирование и аннотирование текстов.

6. Подготовка презентаций.

7. Подготовка к экзамену.

Формы контроля самостоятельной работы студентов: опрос на практических занятиях, выполнение индивидуальных заданий.

Список литературы для самостоятельной работы:

1) Резько, П. Н. Modern Communication : учебно-методическое пособие по развитию коммуникативных навыков для студентов неязыковых вузов экономических и технических специальностей / П. Н. Резько, Н. А. Боровикова ; Министерство образования Республики Беларусь, Брестский государственный технический университет, Кафедра иностранных языков. – Брест : БрГТУ, 2020. – 105 с.

2) Дорощук, Т. А. Практикум по изучающему чтению на английском языке для студентов специальности 1-74 05 01 «Мелиорация и водное хозяйство» / Т. А. Дорощук, Е. П. Черепенко, Л. Н. Шпудейко. – Брест: Брест. гос. техн. ун-т, 2006. – 51 с.

3) Новик, Д. В. Методические рекомендации по развитию навыков устной речи по английскому языку для студентов 1-2 курсов технических специальностей / Д. В. Новик, И. И. Гайдук. – Брест: Брест. гос. техн. ун-т, 2016. – 34 с.

4) Бурлак, А. И. Учебник английского языка: для студентов архитектурных и инженерно-строительных вузов / А. И. Бурлак. – М: Высшая школа, 1982. – 247 с.

3.3.4. ДЛЯ СПЕЦИАЛЬНОСТИ «ИНЖЕНЕРНЫЕ СЕТИ, ОБОРУДОВАНИЕ ЗДАНИЙ И СООРУЖЕНИЙ (ПРОФИЛИЗАЦИЯ – ТЕПЛОГАЗОСНАБЖЕНИЕ, ВЕНТИЛЯЦИЯ И ОХРАНА ВОЗДУШНОГО БАССЕЙНА)» (заочная форма получения высшего образования и заочная форма получения высшего образования, интегрированного со средним специальным образованием):

Самостоятельная работа студентов без контроля преподавателя осуществляется в объеме 298 ч, из них в 1 семестре – 100 ч, во 2 семестре – 98 ч, в 3 семестре – 100 ч.

Самостоятельная работа студентов в 1 семестре включает следующие виды работ:

1. Подготовка текстов по специальности для внеаудиторного дополнительного чтения (изучающее, ознакомительное и просмотровое чтение) объемом 7,5 тыс. печатных знаков.

2. Использование интернет-сайтов для поиска текстов по внеаудиторному чтению.

3. Самостоятельное изучение общенаучной и терминологической лексики.

4. Самостоятельное изучение следующих тем по грамматике:

– Имя существительное: образование множественного числа и притяжательного

падежа существительных.

– Существительное в функции определения и его перевод на русский язык.

– Местоимение one как заменитель существительного.

– Артикль: определенный и неопределенный. Основные случаи употребления артиклей. Отсутствие артикля.

– Числительные: простые, производные, сложные, количественные, порядковые и дробные. Синтаксические функции числительных.

– Глагол: времена группы Perfect Continuous (Present, Past, Future) действительного залога изъявительного наклонения.

– Модальные глаголы и их эквиваленты.

5. Подготовка к зачету.

Самостоятельная работа студентов во 2 семестре включает следующие виды работ:

1. Подготовка текстов по специальности для внеаудиторного дополнительного чтения (изучающее, ознакомительное и просмотровое чтение) объемом 7,5 тыс. печатных знаков.

2. Использование интернет-сайтов для поиска текстов по внеаудиторному чтению.

3. Самостоятельное изучение общенаучной и терминологической лексики.

4. Самостоятельное изучение следующих тем по грамматике:

– Отглагольное существительное.

– Союз. Сочинительные и подчинительные союзы.

– Сложное предложение.

– Типы придаточных предложений.

– Союзное и бессоюзное подчинение в придаточных предложениях.

– Пунктуация сложносочиненных и сложноподчиненных предложений.

– Вводные слова и вводные предложения.

– Интернациональные слова.

5. Подготовка к экзамену.

Самостоятельная работа студентов в 3 семестре включает следующие виды работ:

1. Подготовка текстов по специальности для внеаудиторного дополнительного чтения (изучающее, ознакомительное и просмотровое чтение) объемом 7,5 тыс. печатных знаков.

2. Использование интернет-сайтов для поиска текстов по внеаудиторному чтению.

3. Самостоятельное изучение общенаучной и терминологической лексики.

4. Самостоятельное изучение следующих тем по грамматике:

– Предлоги места, времени, направления;

– Простое распространенное предложение.

– Прямой и обратный порядок слов в простом распространенном предложении.

– Пунктуация простого предложения.

– Основные случаи словообразования.

5. Подготовка к зачету.

Список литературы для самостоятельной работы:

1) Резько, П. Н. Modern Communication : учебно-методическое пособие по развитию коммуникативных навыков для студентов неязыковых вузов экономических и технических специальностей / П. Н. Резько, Н. А. Боровикова ; Министерство образования Республики Беларусь, Брестский государственный технический университет, Кафедра иностранных языков. – Брест : БрГТУ, 2020. – 105 с.

2) Шпудейко, Л. Н., Гайдук, И. И. Методические указания для самостоятельной аудиторной работы для студентов специальности 1-70 04 02 «Теплогазоснабжение,вентиляция и охрана воздушного бассейна. – Брест.2012. – ч.1 – 47с.

3) Шпудейко, Л. Н., Гайдук, И. И. Методические указания для самостоятельной

аудиторной работы для студентов специальности 1-70 04 02 «Теплогазоснабжение,вентиляция и охрана воздушного бассейна.- Брест.2012.-ч.2-49с.

4) Хведченя, Л. В. Грамматика английского языка / Л. В. Хведченя. – Минск: Издательство Гревцова, 2011.

ПРОТОКОЛ СОГЛАСОВАНИЯ УЧЕБНОЙ ПРОГРАММЫ
ПО ДИСЦИПЛИНЕ «ИНОСТРАННЫЙ ЯЗЫК (АНГЛИЙСКИЙ)»
С ДРУГИМИ ДИСЦИПЛИНАМИ СПЕЦИАЛЬНОСТИ

Название учебной дисциплины, с которой требуется согласование	Название кафедры	Предложения об изменениях в содержании учебной программы учреждения высшего образования по учебной дисциплине	Решение, принятое кафедрой, разработавшей учебную программу (с указанием даты и номера протокола)
Сельскохозяйственные мелиорации. Мелиоративное почвоведение. Мелиоративные и строительные | машины и оборудование. Рекультивация и охрана земель.	Природообустройства		Рассмотрена и рекомендована к утверждению протокол № 10 от 03.05.2023
Отопление. Вентиляция. Теплоснабжение. Газоснабжение.	Теплогазоснабжения и вентиляции		Рассмотрена и рекомендована к утверждению протокол № 10 от 03.05.2023
Гидротехнические сооружения. Водоотведение и очистка сточных вод	Кафедра водоснабжения, водоотведения и охраны водных ресурсов		Рассмотрена и рекомендована к утверждению протокол № 10 от 03.05.2023

Содержание учебной программы
согласовано с выпускающей кафедрой

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