Учреждение образования

«Брестский государственный технический университет»

Факультет экономический

Кафедра лингвистических дисциплин и межкультурных коммуникаций

СОГЛАСОВАНО	СОГЛАСОВАНО
Заведующий кафедрой	Декан факультета
_____В.И.Рахуба	_____В.В.Зазерская
«26» 12 2024 г.	«26» 12 2024 г.

ЭЛЕКТРОННЫЙ УЧЕБНО-МЕТОДИЧЕСКИЙ КОМПЛЕКС

по учебной дисциплине

ИНОСТРАННЫЙ ЯЗЫК (ОБЩЕЕ ВЛАДЕНИЕ) (АНГЛИЙСКИЙ)

для специальности
6-05-0521-02 Природоохранная деятельность

Составитель: старший преподаватель Колб Е.С.

Рассмотрено и утверждено на заседании Научно-методического совета университета 27.12.2024 г., протокол № 2 .

рег. № УМК 24125-46

ПОЯСНИТЕЛЬНАЯ ЗАПИСКА
к электронному учебно-методическому комплексу
по учебной дисциплине «Иностранный язык (общее владение) (английский)»
для специальности 6-05-0521-02 Природоохранная деятельность

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 (общее владение) (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 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 6-05-0521-02 Природоохранная деятельность дневной формы обучения.

ЭУМК разработан в соответствии со следующими документами:

1. Требованиями кодекса Республики Беларусь «Об образовании» от 13.01.2011г. № 243-З (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. Учебной программой по дисциплине «Иностранный язык (общее владение) (английский)», утвержденной 23.06.2023, регистрационный номер № УД-23-1-049/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 образовательному стандарту высшего образования специальности 6-05-0521-02 Природоохранная деятельность, а также учебно-программной документации образовательных программ высшего образования. Материал представлен на требуемом методическом уровне и адаптирован к современным образовательным технологиям.

УМК разработан в электронном виде.

Структура учебно-методического комплекса по дисциплине «Иностранный язык (общее владение) (английский)»:

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 практическим 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 (общее владение) (английский)».

Краткий паспорт дисциплины

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

Составитель ЭУМК: _____ Е.С.Колб
«24» декабря 2024 г.

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 и промежуточная 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 (общее владение)» 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 (общее владение) (английский)» предусматривает практические занятия в аудитории (под руководством преподавателя) и вне учебной аудитории (самостоятельную работу студентов с последующим контролем преподавателя) на протяжении 2 семестров на 1 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 1 курсе (1, 2 семестр).

Основной целью курса является достижение Порогового уровня самостоятельного владения иностранным языком B1 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 B1:

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 и обратите внимание на то, что они отличаются друг от друга только одним новым словом в одной и 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

соответствующие 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

самостоятельности 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 (общее владение) (английский)».

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 (общее владение) (английский)» являются:

методическая помощь студентам при изучении дисциплины «Иностранный язык (общее владение) (английский)» 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 (общее владение) (английский)» 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.);

проектная работа (подготовка деловой игры; портфолио).

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 потребовалось 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 неопределенными 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 выступить с 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 New Roman, 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 Microsoft Power Point, 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.

Составление портфолио.

Целесообразно создание и использование портфолио в качестве проекта для самостоятельной работы.

По способу обработки и презентации информации выделяют портфолио в бумажном варианте и электронный вариант портфолио.

Портфолио в бумажном варианте, т.е. портфолио документов – это портфель сертифицированных (документированных) индивидуальных образовательных достижений, личностного развития, карьерного продвижения как рецензии, отзывы, резюме, эссе, рекомендательные письма и прочее).

Электронный вариант портфолио, т.е. портфолио-коллектор, портфолио работ – это собрание различных творческих и проектных работ студента, а также описание основных форм и направлений его учебной и творческой активности: участие в научных конференциях, конкурсах, прохождение различного рода практик, спортивных и художественных достижений и др.

Структура портфолио.

Часть 1. «Введение».

1.1. Фото.

1.2. Резюме.

1.3. Цели и задачи портфолио.

1.4. О структуре портфолио.

1.5. Специфические характеристики портфолио.

Часть 2. «Мои достижения».

2.1. «Официальные документы»:

документы об окончании школы;

сертификаты официально признанных международных, региональных и городских олимпиад, конкурсов, фестивалей, иных мероприятий;

документы об участии в грантах, окончании музыкальной, художественной, спортивной или иной школы;

сертификаты о прохождении практик, стажировок, тестирования, участии в проектах и программах;

журнальные, газетные и фото документы и иные документы, свидетельствующие об успехах;

список достижений, который, по тем или иным причинам (забыл, потерял, украли) не может быть задокументирован.

2.2. «Жизненный опыт»:

автобиография;

эссе «Взгляд в прошлое»;

анализ важнейших событий и эпизодов жизни, их оценка, оценка, вес в сегодняшней жизни;

основные этапы становления личности, факторы, события, люди, повлиявшие на это;

газетные, фото, видео и иные кинодокументы, свидетельства очевидцев;

характеристики, отзывы, оценки известных (и не только) лиц о вас;

отзывы с тех мест работы, где вы работали и т.п.).

2.3. «Обучение в вузе, предпрофессиональная и профессиональная подготовка»:

ваши оценки на всех этапах обучения в вузе, комментарии к ним;

любимые предметы, преподаватели, мотивы обучения;

основные периоды и этапы учения;

изменения взглядов на свою будущую профессию, вуз;

список курсовых и дипломных работ;

отзывы преподавателей и научных руководителей, руководителей учебных, преддипломных и дипломных практик;

список мест прохождения практик и выполненных работ.

2.4. «Научная деятельность»:

список научных работ;

научная переписка;

аннотации к своим работам;

рецензии чужих научных трудов, монографий, учебников и учебных пособий;

отзывы на ваши работы;

эссе «О науке» и т.п.

2.5. «Курсы по выбору и творческие работы»:

список дополнительны курсов, оценки, сертификаты, комментарии, приобретенные компетенции;

список или структурированное представление в том или ином виде своих творческих работ, отзывы на них, в том числе в СМИ и т.п.

Часть 3. «Я в мире людей».

3.1. «Участие в общественной жизни»:

характер вашей общественной активности;

занимаемые посты;

проекты и программы, в которых участвовали, их результативность.

3.2. «Друзья», «Любимые люди»:

ваши близкие друзья в вузе и вне его, сфера их занятий, привлекательные черты характера, образ жизни, разделяемые ценности и т.п.;

родные и близкие люди, их личные качества, интересы, сфера занятий, привлекательные черты.

3.3. «Мои кумиры»:

Люди (актеры, ученые, писатели, спортсмены и т.п.), являющиеся для вас, в определенном смысле, эталонами жизни и поведения, их портреты.

3.4. «Хобби, интересы»:

сфера ваших свободных интересов, занятий, хобби, их примеры, иллюстрации;

значение в жизни вообще и в профессиональной жизни, в частности.

Часть 4. «Взгляд на себя и в будущее».

4.1. «Я»:

взгляд на свое «Я», сильные и слабые стороны, мотивацию, интеллект, черты характера, образ жизни.

4.2. «Мои ценности и идеалы»:

то, что вы цените, считаете важным, стремитесь, уважаете.

4.3. «Мир вокруг меня»:

ваша оценка событий происходящих в мире и вокруг вас, тенденций, открывающихся возможностей, возникающих трудностей и опасностей.

4.4. «Мои жизненные планы:

ваше представление о собственной миссии, жизненных и профессиональных целях, стратегии, планах, способах, средствах и времени их достижения и т.п.

4.5. «Мой девиз»:

ваш девиз, кредо на новом этапе жизни.

Часть 5. «Заключение для…».

5.1. Важнейшие аспекты личности;

5.2. Наиболее важные компетенции;

5.3. Важнейшие аспекты опыта;

5.4. Направления взаимодействия с работодателем и/или использования.

Материалы для оценивания портфолио делят на 2 части и заносят в таблицу:

Формальная часть	Неформальная часть
1. Средние оценки по общим дисциплинам. 2. Средние оценки по профессиональным дисциплинам. 3. Средние оценки по специальным дисциплинам. 4. Курсовые работы. 5. Дипломная работа. 6. Практики.	1. Олимпиады. 2. Профессиональные конкурсы. 3. Научные публикации. 4. Методические разработки и публикации (разработка учебного курса, деловой игры, тренинга, конференции, сайта по профессиональной теме).

7. Иностранный язык. 8. Второй иностранный язык. 9. Третий иностранный язык. 10. Любые сертификаты об обучении, связанные с профессией. 11. Обучение за рубежом по направлению университета. 12. Отзывы преподавателей, руководителей учебных практик.	5. Участие в научной конференции. 6. Участие в общественных проектах. 7. Участие в профессиональных проектах. 8. Участие в спортивных мероприятиях. 9. Иные сертификаты, документы. 10. Отзывы, характеристики от руководителей предприятий, организаций.

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 в положении 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

1.1. A NEW PERIOD IN MY LIFE

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 the university! 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 a mixture 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. After 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 stud-

ies. 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 "BrSTU Stars" 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 sleepless nights over a load of 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 you feeling 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 and equations.

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 arsenal 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. Translate into English.

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 штате преподавателей у 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 and preparing 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."

STUDENTS' 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 cannot **cope with the work load of college** he or she immediately starts **lagging behind.** It is easier to **keep pace** with the programe 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 excuse for 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...**

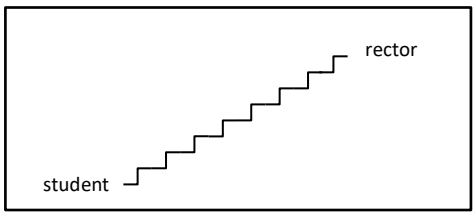
What? A **specialist's certificate**? You mean, I've got a **degree in Economics?** I am happy! It is over! It is over... Is it over? Oh, no...

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, assistant professor, subdean, professor.



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?

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

ANN'S ACADEMY

I. Read and translate the text.

Hello again! Now let me tell you about my Polytechnical Academy. I am really glad that I study here. It is one of the finest country's higher educational institutions. Many famous people have graduated from my Academy, and not only engineers or scientists, but many outstanding writers, actors, showmen and politicians. Studying at our Academy gives a solid background in all spheres of knowledge and prepares for practical work.

Our Academy is quite large and old. It was founded in the 19th century by the famous Russian inventor Vladimir Komarov. First, it was a small department of a large University, but later it was rearranged into an independent institution. Nowadays it is a

large school where more than 5,000 students are **currently enrolled.** About 3,000 **are full-time students,** like me, and the rest **are part time-students.** There are also about **150** graduate students. They **conduct** independent research work and have pedagogical practice.

The **course of study** at my academy lasts five years. There are many faculties in my academy. Here are some of them: the faculty of **industrial automation** and **robotics,** the faculty **of plastics,** the faculty **of machine tools** and the faculty **of metalworking.**

Our academy is large and we have several buildings. One of the buildings is for lectures and seminars only. There are many large halls there so that students of 3-4 groups together can fit in there. And that is more than 100 people. The acoustics [ə'ku:stiks] in such large halls is very good but sometimes it is very **noisy** when students **chat** during the lecture.

We have two laboratory buildings which are **equipped with up-to-date equipment** and there students can **carry on** lab works and conduct various experiments. Many students from my group do their own **research** work.

There are several cafes at the academy. My favourite one is situated in a separate **one-storeyed** building and people say that this is the oldest canteen or student's cafe. The food there is **tasty** and very **affordable.**

There are also several dormitories or hostel buildings where students from other cities live. But you know already that I don't live in a dormitory – I rent an apartment.

Vocabulary:

currently – в настоящее время
to be enrolled – числиться в списках студентов
full-time students – студенты дневного отделения
part time-students – студенты вечернего отделения
to conduct – проводить
course of study – курс обучения
industrial automation – промышленная автоматика
robotics – робототехника
plastics – пластмассы
machine-tools – станки
metalworking – металлообработка
figure ['figə] – фигура, цифра
noisy – шумный
to chat – беседовать, болтать
to be equipped with – быть оборудованным
up-to-date equipment – современное оборудование
carry on – проводить
research work – исследовательская работа
one-storeyed – одноэтажное
tasty ['teɪstɪ] – вкусный
affordable – доступная (to afford – позволять)
classroom – класс, аудитория
lecture hall – лекционный зал
laboratory – лаборатория
gym (gymnasium) – спортзал

semester (term) – семестр
school year – учебный год
course of studies – курс обучения
academy – академия
university – университет
institute – институт
faculty, college, department – факультет
department, chair of... – кафедра
head of the department, chief of the department, chair (man, woman) – зав. кафедрой
substitute – заместитель
teaching instructor (TI) – преподаватель
professor – профессор
dean – декан
Rector – ректор
teaching staff, faculty members – преподавательский состав
full-time student – студент(ка) дневного отделения
part-time student – студент(ка) «вечерник»
student of distant education – студент(ка) «заочник»
student of preparatory courses – слушатель подкурсов, «подкурсник»
undergraduate student – студент 1-4(5) курсов
graduate student – студент 5-6 курсов (магистрант, аспирант)

II. Tell about:
a) your secondary school (college)
b) the faculty of your university
c) your favourite teacher at school.

III. Do you know?
1) When was your University or Academy established?
2) Who was the first Rector?
3) Were there any famous a) scientists, engineers b) politicians c) artists among the graduates of your Institute?
4) How many people are currently enrolled?
5) What is the most popular faculty in your Academy?

IV. Do you agree or disagree with the following statements:
a) Larger schools are better than smaller ones.
b) It is impossible to enter the university if you haven't attended preparatory courses.
c) The best professors are the oldest ones.
d) It is better to live in a dormitory or student hostel than to rent an apartment.
e) Professors always know more than students and teaching instructors.

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 **research work** 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 1,300 students study 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 Department 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 favourite teachers
– 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 enrolled 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 of Belarus, 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 program defined 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 of specialization, 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 get higher education in 27 specialties. The teaching staff numbers more than 600 members including Doctors of Science and Candidates 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 got a 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 a standard of professional training. BSTU is 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 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 range high 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 and Portugal. 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

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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 the University 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.

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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 scientific centres?
2. When was the University founded?
3. Who contributes a lot to the development of science and engineering?
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.

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 [ekspɜːˈtiːz] — 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 one of

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	PREPARE

each student.	
4) A lot of students are getting their _____ at this university.	QUALIFY
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 … .

1.3. 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 accu-

racy 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; il-

lumination, 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 political area
2) to form or make something
3) containing extremely small drops 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 long period
8) a country (a person, a company) that provides particular goods
9) best, most important, or most successful
10) to send goods to another country for sale
11) a large system consisting of many similar parts 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 inter-

national 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 Su-

preme 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	forest
international	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 centre of 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 Sovi-

et 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.

1.4. 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 coun-

try'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 Channel. 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 leg-	DECIDE

islation and law _____.	
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 [r'ɪfə:] – относиться, иметь отношение
2. occupy ['ɔkjupaɪ] – занимать
3. influence ['ɪnfluəns] – влияние, влиять
4. mild [maɪld] – мягкий
5. refresh [rɪ'freʃ] – освежать
6. explorer [ɪks'plɔ:rə] – исследователь
7. monarch ['mɔnək] – монарх
8. powerful ['pauəful] – сильный
9. division [dɪ'vɪʒən] – деление
10. delay [dɪ'leɪ] – откладывать, задерживать
11. defeat [dɪ'fi:t] – отменять
12. support [sə'pɔ:t] – поддерживать
13. emerge [ɪ'mə:dʒ] – появляться
14. appoint [ə'pɔɪnt] – 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. drilling machine ['drɪlɪɳ] [mə'ʃi:n] – сверлильный станок
24. household appliances [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 the north-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 un-

ions.

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 the members 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

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5. pick – join – take – oppose

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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? Do you 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 (Colin MacInnes, 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 1863 the 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 industrialization and 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 night and 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 that a journey on it was 'a form of mild torture which no person would undergo if he could conveniently help it'. Today temperatures 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.

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 en-

tirely 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. ECOLOGY AS A SCIENCE

ECOLOGY

Ecology is the study of the «homes» of animals and plants. Ecologists are interested in where animals and plants live and how they interact with each other. They answer such questions as «What would happen to all the oak trees in a forest if the climate becomes drier?» and «Will there be more greenflies on a tree if the ladybirds are all de-

stroyed by a disease?» Today many people are worried about «Global Warming». They try to predict what will happen to the world, and its animals and plants, if the average temperature of the world goes up. The relationship between man and nature has become one of the major problems facing civilization today. Ecology, a vital philosophical issue, stands at the crossroads of politics, science and economics.

The word «ecology» comes from the Greek words oikos, «house- hold» and logos, «study»; therefore «ecology» means the «study of the household [of nature]».

The word «ecology» is often used as a synonym for the natural environment or environmentalism. Likewise «ecologic» or «ecological» is often taken in the sense of environmentally friendly. The Greek philosopher Theophrastus was one of the first people to discuss the relationship between living things and their environments. German zoologist Ernst Haeckel coined the term oikologie, defined as the relationship of an animal to both its organic and inorganic environment, particularly those plants and animals with which it comes in contact.

Until the early 20th Century, biologists concentrated on descriptive studies of plants and animals. Charles Darwin's theory of evolution, for example, developed from his observations while recording the natural his- tory of plants and animals. As human civilization subdued nature, people stopped perceiving it as the enemy. The near extinction of common species like the beaver led to the beginning of the conservation movement. By the 1930s, nature study became part of the curriculum of most schools, but organisms were still viewed in isolation rather than as communities.

Human development degraded the environment because people did not understand their relationship with it; that we have as much impact on our surroundings as they do on us.

No single individual did more to change this than Rachel Carson. Her book, «Silent Spring» (1962), warned how the abuse of chemicals was destroying wildlife while also harming the human environment. This raised massive public interest in nature. By the 1970s ecology, formerly an obscure science became a household word.

The modern definition of ecology is:

The scientific discipline, that is concerned with the relationship between organisms and their past, present and future environments, both living and non-living. Science, of course, represents a body of knowledge about the world and all its parts. It is also a method for finding new information.

Thus Ecology, or ecological science, is the scientific study of the distribution and abundance of living organisms and how the distribution and abundance are affected by interactions between the organisms and their environment. The word environment refers to everything around us: the air, the water and the land as well as the plants, animals, and microorganisms that inhabit them. The environment of an organism includes both physical properties, which can be described as the sum of local abiotic factors such as solar insolation, climate and geology, as well as the other organisms that share its habitat.

Scope

Ecology is usually considered a branch of biology, the general science that studies living organisms. Organisms can be studied at many different levels, from proteins and nucleic acids (in biochemistry and molecular biology), to cells (in cellular biology), to individuals (in botany, zoology, and other similar disciplines), and finally at the level of populations, communities, and ecosystems, to the biosphere as a whole; these latter strata are the primary subjects of ecological inquiries. Ecology is a multi-disciplinary

science. Because of its focus on the higher levels of the organization of life on earth and on the interrelations between organisms and their environment, ecology draws heavily on many other branches of science, especially geology and geography, meteorology, pedology, chemistry, and physics. Thus, ecology is considered by some to be a holistic science, one that over-arches older disciplines such as biology which in this view become sub-disciplines contributing to ecological knowledge.

Agriculture, fisheries, forestry, medicine and urban development are among human activities that would fall within Krebs' explanation of his definition of ecology: «where organisms are found, how many occur there, and why».

As a scientific discipline, ecology does not dictate what is «right» or «wrong». However, ecological knowledge such as the quantification of biodiversity and population dynamics has provided a scientific basis for expressing the aims of environmentalism and evaluating its goals and policies. Additionally, a holistic view of nature is stressed in both ecology and environmentalism.

Consider the ways an ecologist might approach studying the life of honeybees:

• The behavioral relationship between individuals of a species is behavorial ecology – for example, the study of the queen bee, and how she relates to the worker bees and the drones.

• The organized activity of a species is community ecology; for example, the activity of bees assures the pollination of flowering plants. Bee hives additionally produce honey which is consumed by still other species, such as bears.

• The relationship between the environment and a species is environ- mental ecology – for example, the consequences of environmental change on bee activity. Bees may die out due to environmental changes (pollinator decline). The environment simultaneously affects and is a consequence of this activity and is thus intertwined with the survival of the species.

EXERCISES

A. Comprehension

I. Answer these questions.

1. What does the word ecology come from?
2. Have people always understood the importance of their impact on the nature? Prove your opinion.
3. What does the word environment refer to?
4. Is ecology a science? Why?
5. What does ecology study?
6. Which branches of science is ecology connected with?

II. Decide whether these statements are true or false (T/F).

1. The Greek philosopher Theophrastus coined the term oikologie, defined as the relationship of an animal to both its organic and inorganic environment.
2. By the 1930s nature science had been part of the curriculum of most schools, and organisms were studied in isolation rather than as communities.
3. Ecology is a branch of biology.
4. The environment of an organism constitutes only the other organisms that share its habitat.
5. As a scientific discipline, ecology does not dictate what is «right» or «wrong».
6. Ecology is the study of how living organisms and their nonliving environment

function together.

7. We have not so much impact on our surroundings as they do on us.

III. Give as many definitions of «ecology» from the text as you can.

IV. Give an example of ecological study.

B. Vocabulary

V. Give Russian equivalents of the following expressions:

one of the major problems; to subdue nature; to come in contact; nucleic acids; therefore; to define; descriptive studies of plants; to have impact on; observations; abuse of chemicals; to destroy wildlife; cell; to harm the human environment; pedology; to raise public interest in; distribution and abundance of living organisms; to inhabit; abiotic; solar insolation; drones; pollination; to consume; habitat; consequences of environmental change; to intertwine; survival; to be worried about something.

VI. Translate these words and word combinations into English:

глобальное потепление
физические свойства
почвоведение
ввести термин
естественная среда
насущный вопрос
освещение лучами солнца (инсоляция)
опыление
трутень
покорять природу
распределение организмов
последствия изменений
быть обеспокоенным чем-либо
нуклеиновая кислота
вид
численность организмов
злоупотребление химикатами
цветение
принимать за врага
наблюдение

C. Reading and Discussion

VII. Retell the following text in English. Mention the points of difference between the English and Russian texts in the way of defining ecology, its subject and scope.

Содержание, предмет и задачи экологии

Термин «экология» (от греч. «oikos» – жилище, место обитания и logos – наука) предложил Э. Геккель в 1866 г. для обозначения биологической науки,

изучающей взаимоотношения животных с органической и неорганической средами. С того времени представление о содержании экологии претерпело ряд уточнений, конкретизаций. Однако до сих по нет достаточно чёткого и строгого определения экологии, и все ещё идут споры о том, что такое экология, следует ли её рассматривать как единую науку или же экология растений и экология животных – самостоятельные дисциплины. Не решён вопрос, относится ли биоценология к экологии или это обособленная область науки. Не случайно почти одновременно появляются руководства по экологии, написанные с принципиально разных позиций. В одних экология трактуется как современная естественная история, в других – как учение о структуре природы, в котором конкретные виды рассматриваются лишь как средства трансформации вещества и энергии в биосистемах, в-третьих – как учение о популяции и т.д. Нет необходимости останавливаться на всех существующих точках зрения относительно предмета и содержания экологии. Важно лишь отметить, что на современном этапе развития экологических представлений все более чётко вырисовывается её суть. Экология – это наука, исследующая закономерности жизнедеятельности организмов (в любых её проявлениях, на всех уровнях интеграции) в их естественной среде обитания с учётом изменений, вносимых в среду деятельностью человека. Из этой формулировки можно сделать вывод, что все исследования, изучающие жизнь животных и растений в естественных условиях, открывающие законы, по которым организмы объединяются в биологические системы, и устанавливающие роль отдельных видов в жизни биосферы, относятся к экологическим.

Предметом исследования экологии являются биологические макросистемы (популяции, биоценозы, экосистемы) и их динамика во времени и пространстве. Из содержания и предмета исследований экологии вытекают и её основные задачи, которые могут быть сведены к изучению динамики популяций, к учению о биогеоценозах и их системах. Структура биоценозов, на уровне формирования которых, как было отмечено, происходит освоение среды, способствует наиболее экономичному и полному использованию жизненных ресурсов. Поэтому главная теоретическая и практическая задача экологии заключается в том, чтобы вскрыть законы этих процессов и научиться управлять ими в условиях неизбежной индустриализации и урбанизации нашей планеты. Сейчас уже не вызывает сомнения тот факт, что в природе имеют место экологические механизмы эволюции, исследование которых возможно лишь при совместной работе экологов, генетиков и эволюционистов. На базе экологии развиваются биогеография, молодая наука этология (наука о поведении животных), палеоэкология и т.д. Экологическая трактовка необходима и при решении определенных задач в области физиологии, морфологии, систематики, биогеографии, поскольку любые биологические исследования в той или иной степени изучают жизнь животных и растений в природных условиях. Выясняя характер влияния физических факторов седы на организмы и ответные реакции последних, экология не обходится без таких небиологических наук, как климатология, метеорология, ландшафтоведение (физическая география). Геоморфология и почвоведение также сблизились с экологией, поскольку многие процессы образования и разрушения почв происходят под влиянием деятельности сообществ животных и растений.

biocenology; population; ethology; paleoecology; morphology; systematics; non-biological sciences; climatology; community

VIII. Read and translate the text without a dictionary.

The term «ecology» was coined by the German zoologist, Ernst Haeckel, in 1866 to describe the «economies» of living forms. The theoretical practice of ecology consists of the construction of models of the interaction of living systems with their environment (including other living systems). These models are then tested in the laboratory and the field. (Field-work in ecology also consists of data collection that need not be inspired by any theory.)

Theory in ecology consists of principles used to construct models. Un- like evolutionary theory, ecology has no generally accepted global principles. Contemporary ecology consists of a patchwork of sub-disciplines including population ecology, community ecology, conservation ecology, ecosystem ecology, metapopulation ecology, metacommunity ecology, spatial ecology, landscape ecology, physiological ecology, evolutionary ecology, functional ecology, and behavioral ecology. What is common to all these fields is the view that: (i) different biota interact in ways that can be described with sufficient precision and generality to permit their scientific study; and (ii) eco- logical interactions set the stage for evolution to occur primarily because they provide the external component of an entity's fitness. The latter aspect makes ecology a central part of biology. As van Valen once put it: «Evolution is the control of development by ecology». However, the creation of a unified theoretical framework for evolution and ecology remains the task for the future and will be of no further concern in this entry.

IX. Summarize the text.

X. Speak on one of the topics:

1. The definition of the word «ecology» and its origin.
2. The structure of ecology and its links to other disciplines.

FUNDAMENTAL PRINCIPLES OF ECOLOGY

BIOSPHERE

For modern ecologists, ecology can be studied at several levels: population level (individuals of the same species), biocoenosis level (or community of species), ecosystem level, and biosphere level.

The outer layer of the planet Earth can be divided into several compartments: the hydrosphere (or sphere of water), the lithosphere (or sphere of soils and rocks), and the atmosphere (or sphere of the air). The biosphere (or sphere of life), sometimes described as «the fourth envelope», is all living matter on the planet or that portion of the planet occupied by life. It reaches well into the other three spheres, although there are no permanent inhabitants of the atmosphere. Relative to the volume of the Earth, the biosphere is only the very thin surface layer which extends from 11,000 meters below sea level to 15,000 meters above.

It is thought that life first developed in the hydrosphere, at shallow depths, in the photic zone. Although recently a competing theory has emerged, that life originated around hydrothermal vents in the deeper ocean. Multicellular organisms then appeared and colonized benthic zones. Photosynthetic organisms gradually produced the chemi-

cally unstable oxygen-rich atmosphere that characterizes our planet. Terrestrial life developed later, after the ozone layer protecting living beings from UV rays had been formed. Diversification of terrestrial species is thought to be increased by the continents drifting apart, or alternately, colliding. Biodiversity is expressed at the ecological level (ecosystem), population level (intraspecific diversity), species level (specific diversity), and genetic level. Recently technology has allowed the discovery of the deep ocean vent communities. This remarkable ecological system is not dependent on sunlight but bacteria, utilizing the chemistry of the hot volcanic vents, are at the base of its food chain.

The biosphere contains great quantities of elements such as carbon, nitrogen and oxygen. Other elements, such as phosphorus, calcium, and potassium, are also essential to life, yet are present in smaller amounts. At the ecosystem and biosphere levels, there is a continual recycling of all these elements, which alternate between the mineral and organic states.

While there is a slight input of geothermal energy, the bulk of the functioning of the ecosystem is based on the input of solar energy. Plants and photosynthetic microorganisms convert light into chemical energy by the process of photosynthesis, which creates glucose (a simple sugar) and releases free oxygen. Glucose thus becomes the secondary energy source which drives the ecosystem. Some of this glucose is used directly by other organisms for energy. Other sugar molecules can be converted to other molecules such as amino acids. Plants use some of this sugar, concentrated in nectar to entice pollinators to aid them in reproduction.

Cellular respiration is the process by which organisms (like mammals) break the glucose back down into its constituents, water and carbon dioxide, thus regainnig the stored energy the sun originally gave to the plants. The proportion of photosynthetic activity of plants and other photosynthesizers to the respiration of other organisms determines the specific composition of the Earth's atmosphere, particularly its oxygen level. Global air cur- rents mix the atmosphere and maintain nearly the same balance of elements in areas of intense biological activity and areas of slight biological activity.

Water is also exchanged between the hydrosphere, lithosphere, atmosphere and biosphere in regular cycles. The oceans are large tanks, which store water, ensure thermal and climatic stability, as well as the transport of chemical elements thanks to large oceanic currents.

For a better understanding of how the biosphere works, and various dysfunctions related to human activity, American scientists simulated the biosphere in a small-scale model, called Biosphere II.

EXERCISES

A. Comprehension

I. Answer these questions.

1. Why is the biosphere described sometimes as «the fourth envelope»?
2. Where did life first develop? How?
3. What elements does the biosphere contain?
4. How is light converted into glucose and other sugar molecules?
5. What determines the specific composition of the Earth's atmosphere?
6. How important are the oceans for water cycling?

II. Decide whether these statements are true or false (T/F).

1. The biosphere is sphere of soils and rocks.

2. The ozone layer protects living beings from UV rays.

3. The deep ocean vent communities need sunlight for utilizing the chemistry of the hot volcanic vents.

4. At the ecosystem and biosphere levels, there is a continual recycling of carbon, nitrogen, oxygen and other elements, such as phosphorus, calcium, and potassium.

5. The process of photosynthesis releases carbon.

6. Glucose and other sugar molecules are concentrated in nectar and entice pollinators to aid plants in reproduction.

7. Water and carbon dioxide are the two constituents which cause the process of cellular respiration.

8. Water cycles between the hydrosphere, lithosphere, atmosphere and biosphere.

B. Vocabulary

III. Transcribe the following words.

hydrosphere..... hydrothermal .....
multicellular ..... nitrogen .....
calcium ..... potassium.....
photosynthesis..... molecule .....
amino acids ..... dioxide.....

IV. Give Russian equivalents of the following expressions:

outer layer; living matter; permanent inhabitants; to extend; photic zone; shallow depths; benthic zone; terrestrial life; to drift apart; vent; amino acids; solar energy; to alternate; cellular respiration; to regain; global air currents; to maintain; mammal; intense biological activity; carbon dioxide; to release; secondary energy source; to entice; phosphorus; input; to reach well into.

V. Translate the given words and word combinations into English:

глобальное потепление
физические свойства
почвоведение
освещение лучами солнца (инсоляция)
трутень
покорять природу
распределение организмов
последствия изменений
быть обеспокоенным чем-либо
нуклеиновая кислота
живая материя
приманивать
углекислый газ
глюкоза
калий
воздушный поток
относительно размера земли
выделять
многоклеточный

обеспечивать стабильность

VI. Complete the text with the following words and word combinations.

oxygen, biosphere, energy, free oxygen, environment, carbon, hydrosphere, water, solar energy, plants, lithosphere, photosynthesis, nitrogen, atmosphere

The first step to an understanding the interrelationship of living organisms and their nonliving is to begin with the sun. From it comes most of the on earth. But, it is largely unavailable to animals directly. It must be transmitted to them by green vegetation through a process known as ..... . In this process the is transferred through a substance in the vegetation called chlorophyll (from Greek, chloros, green, and phyllos, leaf) in the presence of water to become and food sugar. Now, animals can receive their energy by eating or other animals (who have eaten plants at some stage). As plants and animals decay, with the help of bacteria and fungi, they release chemicals in the earth, helping to feed plants.

This circulation makes the earth's basic substances – and others move between the earth's main stratums: air (the …….), water (the .....), soil and rocks (the .....) and living organisms (the ……).

C. Reading and Discussion

VII. Retell the following text in English. Mention the points of difference between the English and Russian texts in the presentation and interpretation of facts concerning the biosphere.

Понятие «биосфера»

Содержание понятия «биосфера» не всегда было однозначным. Первоначально биосферами называли гипотетические глобулы, якобы составляющие живую основу всех организмов. Такое понимание продержалось во Франции до середины XVIII века.

Существенно иное представление о биосфере сформулировал в 1875 г. австрийский геолог Э. Зюсс. В монографии «Происхождение Альп» он говорит о «самостоятельной биосфере» как об особой оболочке Земли, образованной живыми организмами. В заключительной главе большого трехтомного труда «Лик Земли» (1909) этот автор пишет, что понятие «биосфера» возникло как следствие идей Ж. Ламарка и Ч. Дарвина о единстве органического мира.

С работ Зюсса датируется начало биологического представления о биосфере, как о совокупности организмов, населяющих Землю, как о живой оболочке планеты. Такого взгляда придерживались многие русские географы, например Н.М.Сибирцев (1899), Д.Н.Анучин (1902), П.И.Броунов (1910), А.А.Григорьев (1948), английский исследователь и философ Дж. Бернал (1969). Французские учёные Э.Леруа (1927) и П.Тейяр де Шарден (1965, 1969) также взяли за основу определение Зюсса, однако трактуют его в идеалистическом плане. Согласно Тейяру, биосфера – живой пласт планеты – одна из стадий воплощения Бога.

Представление Зюсса о биосфере как об особой оболочке земли использовал и В.И.Вернадский (1926), вложив в него, однако, существенно иное, биогеохимическое, содержание. Биосфера, по Вернадскому, – область распространения жизни, включающая наряду с организмами и среду их обитания.

Тейляр де Шарден в сборнике статей «Будущее человека» (1969) выразил своё несогласие с подобной трактовкой, явно противоречащей его идеалистической концепции эволюции.

Разработка биогеохимического представления о биосфере была тесно связана с практической деятельностью В.И. Вернадского в Комиссии Академии наук по изучению естественных производственных сил России (начало 1915 г.).

Зачатки этого представления можно обнаружить уже в высказываниях ученых XVII и XVIII вв., в книге «Космос» А.Гумбольдта и В.В.Докучаева.

В настоящее время оба понимания биосферы, по Зюссу и по Вернадскому, существуют. Н.В. Тимофеев-Ресовский предлагает говорить о биосфере в узком и широком понимании. Представляется более целесообразным употреблять это понятие, вкладывая в него смысл, приданный Вернадским, – область распространения жизни, используя для биосферы в «узком смысле» выражения: «совокупность организмов», «пленка жизни», «живой покров Земли», «биота», «биос».

Верхняя граница биосферы, по Вернадскому (1965), проходит на высоте 15-20 км, охватывая всю тропосферу и нижнюю часть стратосферы: озон находится у полюсов в слое 8-30 км, в тропиках – 15-35 км. Снизу биосфера ограничена отложениями на дне океанов (до глубины свыше 10 км) и глубиной проникновения в недра Земли организмов и воды в жидком состоянии. Подстилающая литосфера, верхняя стратосфера, ионосфера и космическое пространство служат биосфере средой. Основной энергетический источник, обеспечивающий функционирование биосферы, – лучистая энергия Солнца.

Таким образом, биосфера – это особая термодинамическая открытая оболочка Земли, вещество, энергетика и организация которой и обусловливаются взаимодействием её биотического и абиотического компонентов. Она, следовательно, включает совокупность организмов и их остатки, а также части атмосферы, гидросферы и литосферы, населённые организмами и изменяемые их деятельностью.

Важнейшей функцией биосферы является регулярное, возрастающее во времени воссоздание живого вещества по численности, весу и количеству аккумулированной и удерживаемой энергии. Человек воспринимает эту функцию как биологическую продуктивность биосферы, её частей (океан, почвы, пресные воды) или её отдельных экосистем и биогеоценозов (дельты, луга, тайга, поля зерновых и т.д.).

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hypothetical globule; underlying lithosphere; sediments (отложения); radiant energy

VIII. Read the text carefully, without a dictionary. While reading, pay special attention to the words that you don't know: look carefully at the context and see if you can get the idea of what they mean. After reading answer the question: how is the biosphere connected with other components? Point out the information that was new to you.

The term «Biosphere» was coined by Russian scientist Vladimir Vernadsky in the 1929. The biosphere is the life zone of the Earth and includes all living organisms, including man, and all organic matter that has not yet decomposed. Life evolved on earth during its early history between 4,5 and 3,8 billion years ago and the biosphere readily

distinguishes our planet from all others in the solar system. The chemical reactions of life (e.g., photosynthesis-respiration, carbonate precipitation, etc.) have also imparted a strong signal on the chemical composition of the atmosphere, transforming the atmosphere from reducing conditions to and oxidizing environment with free oxygen. The biosphere is structured into a hierarchy known as the food chain whereby all life is dependent upon the first tier (i.e. mainly the primary producers that are capable of photosynthesis). Energy and mass are transferred from one level of the food chain to the next with an efficiency of about 10 %. All organisms are intrinsically linked to their physical environment and the relationship between an organism and its environment is the study of ecology. The biosphere can be divided into distinct ecosystems that represent the interactions between a group of organisms forming a trophic pyramid and the environment or habitat in which they live.

Links to other components:

Atmosphere: Life processes involve a vast number of chemical reactions some of which either extract or emit gases from and to the atmosphere. For example, photosynthesis consumes carbon dioxide and produces oxygen whereas respiration does the opposite. Other examples of biogenic gases in the atmosphere include methane, dimethylsulfide (DMS), nitrogen, nitrous oxide, ammonia, etc.).

Hydrosphere: Water is essential for all living organisms on the Earth and has played a key role in the evolution and sustenance of life on our planet. The biosphere as we know it would not exist without liquid water (for ex- ample, consider Mars). Water is also important for transport the soluble nutrients (phosphate and nitrate) that are needed for plant growth, and for transporting the waste products of life's chemical reactions.

Geosphere: The geosphere and biosphere are intimately connected through soils, which consist of a mixture of air, mineral matter, organic matter, and water. In fact, one could consider soil as composed of all four spheres (atmosphere, geosphere, biosphere, and hydrosphere). Plant activity such as root growth and generation of organic acids are also important for the mechanical and chemical breakdown (weathering) of the geosphere. Anthrosphere: Human population poses a threat to the biosphere by habitat destruction, especially by the destruction of tropical rainforests (deforestation). This process is driving thousands of species each year to extinction and reducing biological diversity

Summarize the text.

IX. Talking points.

1. The biosphere as one of the Earth's compartments.
2. The biosphere functioning.
3. The origin of the word «biosphere» and its brief history.

2.2. BIOSPHERE

The biosphere, also called the ecosphere, is the natural environment of living organisms and is the complex biological epidermis of the Earth whose dimensions are not precisely defined. It consists of the surficial part of the lithosphere, a lower part of the atmosphere, and the hydrosphere. Several ecosystems have been developed within the

biosphere. Each ecosystem is a fundamental division of the total environment consisting of living organisms in a given area and having a balanced cycling of chemical elements and energy flow.

Among the principal resources of which man disposes, are terrestrial ecosystems consisting of soil and water, and associated animal and plant life. Ecosystems are functional environmental units, having balanced cycles of chemical elements, organic materials and energy flow. There is a homeostatic interrelationship between the nonliving media (abiotic compartments) and the living organisms (biotic compartments). However, a significant part of the ecosystems has already been considerably modified by humans, and these processes will continue.

The energy for life is derived from the radiant energy of the sun, which drives the chemical reaction of photosynthesis. The other sources of energy, e.g., geothermal, gravitation, and electrical, are of negligible importance in the total energy flow, but may determine specific conditions of some ecosystems.

Organisms have adjusted during the course of evolution and life to the chemistry of their environment and have developed their biochemistry in close connection to the composition of the natural environment. These phenomena have been easily observed, mainly in microorganisms and plant populations that have evolved tolerance to high concentrations of trace elements either in natural geochemical provinces, or under man-induced conditions.

Most of the chemical elements for life on the land are supplied mainly from the soil overlying the surficial lithosphere (Fig. 1). Although mechanisms of biological selection of chemical elements allow plants to control, to a certain extent, their chemical composition, this barrier is somewhat limited in respect to trace elements. Therefore concentrations of trace elements in plants are often positively correlated with the abundance of these elements in growth media. This creates several problems for plants, animals and humans associated either with deficiency or with excess. Thus, questions of how and how much of an element is taken up by organisms have been hot topics of research in recent decades. Usually the quantitative differences between essential amounts and biological excesses of trace elements are very small. A proper balance between trace and major elements plays a significant role in biochemical processes. The bioavailability of these elements is variable and is controlled by specific properties of abiotic and biotic media as well as by physical and chemical properties of a given element.

The biochemical functions of essential trace elements are already known. A great number of trace elements are known to have a biological role, often as cofactors or part of cofactor in enzymes and as structural elements in proteins. Some of them also are used in several processes of electron transfer. Non-essential elements seem to be involved in vital processes but their biochemical functions are not yet understood. The essentiality of other trace elements, possible at very minor concentrations, may be discovered in the future. Most of trace elements that are essential to humans are also essential to plants. Unfortunately, contents of most elements that may be harmful to humans and animals are not toxic to plants. This has created an increased transfer of some elements in the food chain.

The survival of mankind is a story of food. Both, lack of food and bad quality of food have created throughout the centuries serious problems for people. Nowadays it is calculated that over 3 billion people worldwide suffer from either deficiency or toxicity of some trace elements.

Here is a place to remind Paracelsus' (1538) statement:

All substances are poisonous, there are none which is not a poison; the right dose is what differentiates a poison from a remedy.

The anthroposphere. Many ecosystems have been considerably modified by humans and therefore it has become necessary to distinguish the anthroposphere – the sphere of man's settlement and activity. The anthroposphere does not represent a separate sphere, but may be applied to any part of the biosphere that has been changed under an influence of technical civilization.

While geological, geochemical and biological alterations of the lithosphere have been very slow, changes introduced or stimulated by humans have been accumulated extremely quickly in recent decades of the past century. Anthropogenic changes, associated mainly with chemical pollution, lead most often to a degradation of the natural human environment. Among all chemical pollutants, trace elements are of a special ecological, biological and health significance.

The production of energy and the consumption of natural resources are the main source of trace elements as contaminants. However, agricultural activities and especially application of sewage sludge, manure, mineral fertilizers (NPK), and pesticides also contribute significantly to the trace metal status of agroecosystems.

Bowen (1979) 2 has suggested that when the rate of mining of a given element exceeds the natural rate of its cycling by a factor of ten or more, the element should be considered a potential pollutant. Thus, the potentially most hazardous trace metals to the biosphere may be: Ag, Au, Cd, Hg, Pb, Sb, Sn, Te, W. Also those elements that are essential to plants and humans, such as: Cr, Cu, Mn, and Zn, may be released, in some regions, in excessive amounts.

Exercises

I. Put in the words missed.

1) A significant part of the ecosystems _____ already _____ considerably modified by humans.

2) The other sources of energy, e.g., geothermal, gravitation, and electrical, are of _____ importance in the total energy flow.

3) Although mechanisms of biological _____ of chemical elements allow plants to control, to a certain extent, their chemical composition, this barrier is somewhat limited in _____ trace elements.

4) A _____ balance between trace and major elements _____a significant role in biochemical processes.

5) The biochemical functions of _____ trace elements are already known.

6) Contents of most elements that may be _____ to humans and animals are not toxic to plants.

7) The _____ of mankind is a story of food.

8) Many ecosystems have been considerably modified by _____ and therefore it has become necessary to distinguish the anthroposphere – the sphere of man's settlement and _____.

9) Anthropogenic changes, associated mainly with chemical _____, lead most often to a degradation of the _____ human environment.

10) The production of energy and the _____of natural resources are the main source of trace elements as contaminants.

11) The potentially most _____ trace metals to the biosphere may be: Ag, Au, Cd, Hg, Pb, Sb, Sn, Te, W.

II. Make a summary of the text.

2.3. BIODIVERSITY

BIODIVERSITY

Biodiversity is a word that describes the variety of living things. «Bio» (from a Greek word) refers to living and «diversity» refers to differences and variety. Living organisms express their diversity in hundreds of different ways – both external and visible and internal and invisible.

There are 3 kinds of biodiversity

• Variety of genes

Poodles, beagles, and rottweilers are all dogs – but they're not the same because their genes are different. It's the difference in our genes that makes us all different.

• Variety among species

Scientists group living things into distinct kinds of species. For example, dogs, dragonflies, and daisies are all different species.

• Variety of ecosystems

Coral reefs, wetlands, and tropical rain forests are all ecosystems. Each one is different, with its own unique species living in it. Genes, species, and ecosystems working together make up our planet's biodiversity.

There is genetic diversity within a species, which results in the differences between you and your brothers and sisters and cousins and grandparents even though we all members of the human race – the species Homo Sapiens. Genetic diversity means that an Ethiopian looks different from a Scandinavian or a Japanese person and that inherited diseases run in some families, but not in others. Genetic diversity is the reason why Siamese cats have different body shape and hair colouring from the black and white moggy next door.

There is evolutionary diversity, which has given rise to all the different species of animals and plants on this Earth and is genetic diversity on a wider scale. This is also known as species diversity.

Each species is adapted – and sometimes highly specialised – to survive in a particular environment or range of environments. Only the human species, through cultural and racial diversity and technology, seems to have adapted itself to survive in almost every environment on the Earth.

Ecologists call the role a species plays in its environment a «niche» – like an actor playing the villain, the hero or the comic, in a play. The role may be that of a plant colonizing bare ground, a caterpillar consuming that plant or a wasp preying on the caterpillar. Because there are so many possible niches in all the vast inhabitable areas of the Earth, millions of species have evolved to fill them. Hence the wonderful ecosystem diversity of the planet.

Adaptation by different species to widely separated, but similar types of environments and niches, has led to convergent evolution, where organisms have a similar life style and appearance but are not related. The diversity is there despite superficial similarities.

Lastly, there is cultural diversity, which people will argue is not part of biodiversity. But if you think of it as being the result of evolution and adaptation then it surely is. It applies mostly to us – Homo Sapiens – and is something learned from family, tribal and national groups. Cultural diversity helps the survival process by binding groups together and passing on traditions which help people live in their local environment.

In 1992 the world's government leaders met at a convention in Rio de Janeiro, in Brazil – the country that holds the largest, but fast disappearing, rainforest. The purpose of the convention was to discuss the growing concern, amongst scientists of all nations, about the rapid extinction of the world's non-human fauna and flora, the depletion of the world's resources and the causes and effects of global warming. Various decisions were made, out of which arose the UK's Local Agenda 21 and the Biodiversity Action Plan.

In July 1997, the World's leaders met again, to look at where they had got in terms of reducing the so-called Greenhouse Gases which cause glob- al warming. Not very far, it seems.

How can we study the biodiversity around us? One way is to keep a Nature Diary.

Many of the world's different plants and animals are under severe threat of extinction. Many species are lost already.

A species is said to be extinct when it has not been seen for over 50 years. Dinosaurs became extinct 65 million years ago but, in the last 50 years, more animals and plants have become extinct, because of hunting and loss of habitat. Globally, many hundreds of species will face extinction in a very few years without intensive conservation, education and environ- mental management and policy-making.

Exotic species are animal and plant species that find themselves outside their native habitat. Scientists have recorded 1,75 million species on our planet and estimate another 5 to 100 million unrecorded species! The educated guess stands at 12,5 million.

These species cause changes to the ecosystem and sometimes destroy other species native to that ecosystem. For example, zebra mussels came from Europe to the Great Lakes of North America in the ballast of ships. They spread like a plague in the waterways of the continent, attaching themselves to existing mussels and killing them. Breeding quickly, they clog up hydro-electric genera- tors, encrust the hulls of boats and erode pipes in water treatment plants.

Living organisms are made up of cells. Scientists have found a way to copy, or clone, the information, or genes found in cells to make new plants and animals. But no one knows if it is totally safe to take genes from one species and add them another. Well-known examples of genetic manipulation include Dolly the sheep – the first cloned mammal, and adding the genes of a toad or a spider to vegetables.

Exercises

A. Comprehension

I. Answer these questions.

1. What language does the word «biodiversity» come from?
2. How many types of diversity do you know? Explain the difference between them.
3. Can each species adapt itself to survive in almost all environment on Earth? Prove your statement.

4. What does the author compare an ecological niche with? Why?

5. Is cultural diversity a part of biodiversity?

6. What is being done to stop the rapid extinction of the world's non-human fauna and flora?

7. How can you define an extinct species? Give examples.

8. What method of making new plants and animals have you learned from the text?

II. Define the term «exotic species» and its value for an ecosystem.

III. Place these sentences in the correct order by referring to the information in the text.

1. Evolutionary diversity has given rise to all the different species of animals and plants on Earth.

2. Because there are so many possible niches in all the vast inhabitable areas of the Earth, millions of species have evolved to fill them.

3. Living organisms express their diversity in hundreds of different ways – both external or visible and internal or invisible.

4. Many of the world's different plants and animals are under severe threat of extinction.

5. Cultural diversity helps the survival process by binding groups together and passing on traditions which help people live in their local environment.

6. Genetic diversity within a species results in the differences between you and your brothers and sisters and cousins and grandparents even though we all members of the human race.

7. Living organisms are made up of cells.

8. Only the human species, through cultural and racial diversity and technology, seems to have adapted itself to survive in almost every environment on Earth.

B. Vocabulary

IV. Transcribe the following words.

species.....Homo Sapiens .....

Ethiopian .....Siamese .....

caterpillar .....wasp .....

niche .....dinosaurs.....

plague .....fauna .....

V. Give Russian equivalents of the following expressions:

Biodiversity

inherited diseases

to consume

rapid extinction

plague

cell

variety

hair colouring

to prey

to destroy
to estimate
toad
genetic diversity
caterpillar
rainforest
mussel
to reduce

VI. Match these definitions with the words from Exercise 5.

1) to eat or drink;
2) a microscopic unit of living matter;
3) soft white substance that forms on teeth and that encourages the growth of harmful bacteria;
4) hot, wet forest in tropical areas;
5) quick dying out;
6) number or range of different things;
7) to hunt, to take;
8) rough- skinned, frog- like animal;
9) to calculate the value, cost;
10) to break to pieces, make useless, put an end to.

C. Reading and Discussion

VII. Retell the following text in English. Mention the points of difference between the English and Russian texts in the presentation and interpretation of facts concerning biodiversity.

Кратко о биоразнообразии

Биоразнообразие – сокращенное от «биологическое разнообразие» – означает разнообразие живых организмов во всех его проявлениях: от генов до биосферы. Вопросам изучения, использования и сохранения биоразнообразия стало уделяться большое внимание после подписания многими государствами Конвенции ООН о биологическом разнообразии в 1992 г. в Рио-де Жанейро.

Существует три основных типа биоразнообразия:

– генетическое разнообразие, отражающее внутривидовое разнообразие и обусловленное изменчивостью особей;

– видовое разнообразие, отражающее разнообразие живых организмов (растений, животных, грибов и микроорганизмов). В настоящее время описано около 1,7 миллиона видов, хотя их общее число, по некоторым оценкам, составляет до 50 млн.;

– разнообразие экосистем охватывает различия между типами экосистем, разнообразием сред обитания и экологических процессов. Отмечают разнообразие экосистем не только по структурным и функциональным составляющим, но и по масштабу – от микробиогеоценоза до биосферы.

Иногда в отдельную категорию выделяют разнообразие ландшафтов, отражающее особенности территориального устройства и влияние местных,

региональных и национальных культур общества.

Все типы биологического разнообразия взаимосвязаны между собой: генетическое разнообразие обеспечивает разнообразие видов. Разнообразие экосистем и ландшафтов создает условия для образования новых видов. Повышение видового разнообразия увеличивает общий генетический потенциал живых организмов биосферы. Каждый вид вносит свой вклад в разнообразие – с этой точки зрения не существует бесполезных и вредных видов.

Распределение видов по поверхности планеты неравномерно. Разнообразие видов в естественных средах обитания максимально в тропической зоне и уменьшается с увеличением широты. Самые богатые видовым разнообразием экосистемы – дождевые тропические леса, которые занимают около 7 % поверхности планеты и содержат более чем 90 % всех видов.

В геологической истории Земли в биосфере постоянно происходило возникновение и исчезновение видов – все виды имеют конечное время существования. Вымирание компенсировалось появлением новых видов, и в результате, общее число видов в биосфере возрастало. Вымирание видов – естественный процесс эволюции, который происходит без вмешательства человека.

В настоящее время под воздействием антропогенных факторов происходит сокращение биологического разнообразия за счет элиминации (вымирания, уничтожения) видов. В последнее столетие под влиянием человеческой деятельности скорость вымирания видов во много раз превысила естественную (по некоторым оценкам в 40000 раз). Происходит необратимое и некомпенсированное разрушение уникального генофонда планеты.

Элиминация видов в результате деятельности человека может происходить по двум направлениям – прямое истребление (охота, промысел) и косвенное (разрушение среды обитания, нарушение трофических взаимодействий). Чрезмерный промысел – наиболее очевидная прямая причина прямого сокращения численности видов, однако он гораздо менее влияет на вымирание, чем косвенные причины изменения среды обитания (например, вследствие химического загрязнения реки или вырубки леса).

Для учета видов, находящихся на грани вымирания, во многих странах создаются Красные Книги – списки редких и исчезающих видов живых организмов. Для сохранения и поддержания биологического разнообразия создаются особо охраняемые природные территории (заповедники, национальные парки и др.), генетические банки данных. Сохранение отдельного вида возможно лишь при условии охраны его среды обитания со всем комплексом входящих в нее видов, климатических, геофизических и других условий. Особую роль играет при этом сохранение средообразующих видов (видов-эдификаторов), которые формируют внутреннюю среду экосистемы. Создание особо охраняемых природных территорий направлено на охрану не только отдельных видов, но и целых комплексов и ландшафтов.

Заповедники служат также для оценки и мониторинга состояния биоразнообразия. Единой системы мониторинга состояния биоразнообразия на сегодняшний день в России не существует. Наиболее полный и постоянный контроль за изменением компонентов биоразнообразия осуществляется в заповедниках. Ежегодно заповедники готовят отчеты о состоянии экосистем («Летописи природы») – сводки данных о состоянии заповедных территорий,

охраняемых популяций растений и животных. Некоторые заповедники ведут «Летописи природы» более 50 лет, которые включают в себя непрерывные ряды данных по численности животных, биологическому разнообразию, динамике экосистем, а также приводятся данные по климатическим наблюдениям.

Часть заповедников России входит в состав международной сети биосферных заповедников, специально созданных для мониторинга состояния биоразнообразия, климатических, биогеохимических и других процессов в масштабах Биосферы.

Причин необходимости сохранения биоразнообразия много: потребность в биологических ресурсах для удовлетворения нужд человечества (пища, материалы, лекарства и др.), этический и эстетический аспекты (жизнь самоценна) и т.д. Однако главная причина сохранения биоразнообразия состоит в том, что оно выполняет ведущую роль в обеспечении устойчивости экосистем и Биосферы в целом (поглощение загрязнений, стабилизация климата, обеспечение пригодных для жизни условий). Биоразнообразие выполняет регулирующую функцию в осуществлении всех биогеохимических, климатических и других процессов на Земле. Каждый вид, каким бы незначительным он не казался, вносит свой вклад в обеспечение устойчивости не только «родной» локальной экосистемы, но и Биосферы в целом.

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convention; distribution; latitude (широта); genesis, emergence (возникновение); reduction (сокращение); irreversible (необратимый); extermination (исчезновение); on the verge of extinction; national park, reserve (заповедник).

VIII. Read the text carefully, without a dictionary. While reading, pay special attention to the words that you don’t know: look care- fully at the context and see if you can get the idea of what they mean. After reading answer the question: what problem is life on the Earth now faced with? Point out the information that was new to you. Summarize the text.

Biodiversity or Biological Diversity is the sum of all the different species of animals, plants, fungi, and microbial organisms living on the Earth and the variety of habitats in which they live. Scientists estimate that upwards of 10 million and some suggest more than 100 million of different species inhabit the Earth. Each species is adapted to its unique niche in the environment, from the peaks of mountains to the depths of deep-sea hydrothermal vents, and from polar ice caps to tropical rain forests.

Biodiversity underlies everything from food production to medical re- search. Humans of the world overuse at least 40,000 species of plants and animals on a daily basis. Many people around the world still depend on wild species for some or all of their food, shelter, and clothing. All of our domesticated plants and animals came from wild-living ancestral species. Close to 40 percent of the pharmaceuticals used in the United States are either based on or synthesized from natural compounds found in plants, animals, or microorganisms.

The array of living organisms found in a particular environment together with the physical and environmental factors that affect them is called an ecosystem. Healthy ecosystems are vital to life: they regulate many of the chemical and climatic systems that make available clean air and water and plentiful oxygen. Forests, for example, regulate the amount of carbon dioxide in the air, produce oxygen as a byproduct of photosynthesis (the process by which plants convert energy from sunlight into carbohydrate energy), and control rainfall and soil erosion. Ecosystems, in turn, depend on the continued

health and vitality of the individual organisms that compose them. Removing just one species from an ecosystem can prevent the eco- system from operating optimally.

Perhaps the greatest value of biodiversity is yet unknown. Scientists have discovered and named only 1. 75 million species and less than 20 percent of those are estimated to exist. And of those identified, only a fraction has been examined for potential medicinal, agricultural, or industrial value. Much of the Earth's great biodiversity is rapidly disappearing, even before we know what is missing. Most biologists agree that life on Earth is now faced with the most severe extinction episode since the event that drove the dinosaurs to extinction 65 million years ago. Species of plants, animals, fungi, and microscopic organisms such as bacteria are being lost at such alarming rates that biologists estimate that three species go extinct every hour. Scientists around the world are cataloging and studying global biodiversity in hopes that they might better understand it, or at least slow the rate of loss.

IX. Talking points:

1. Biodiversity as distinct from other forms of diversity.
2. Biodiversity problem.

ECOLOGICAL NICHE

The concept of the ecological niche is an important one; it helps us to understand how organisms in an ecosystem interact with each other. The concept is described by Odum as follows:

The ecological niche of an organism depends not only on where it lives but also on what it does. By analogy, it may be said that the habitat is the or- ganism's «address», and the niche is its «profession», biologically speaking.

Here are a few examples to help you understand what we mean when we (ecologists) use the term «ecological niche»:

Oak trees live in oak woodlands; that's common sense. The oak wood- land is the habitat. So if Odum was writing a letter to an oak tree he would address the letter to:

Sir Deciduous Oak Tree, The Oak Forest, England, U.K.

What do oak trees do? If you can answer that question you know the oak trees «profession» or its ecological niche. Perhaps you think that oak trees just stand there looking pretty and not doing very much, but think about it.

Oak trees:

1) absorb sunlight by photosynthesis;
2) absorb water and mineral salts from the soil;
3) provide shelter for many animals and other plants;
4) act as a support for creeping plants;
5) serve as a source of food for animals;
6) cover the ground with their dead leaves in the autumn.

These six things are the «profession» or ecological niche of the oak tree; you can think of it as being a kind of job description. If the oak trees were cut down or destroyed by fire or storms they would no longer be doing their job and this would have a disastrous effect on all the other organisms living in the same habitat.

Hedgehogs in the garden also have an ecological niche. They rummage about in the flowerbeds eating a variety of insects and other invertebrates which live underneath the dead leaves and twigs in the flowerbeds. That is their profession. They are covered

in sharp spines which protect them from predators, so being caught and eaten is not a part of their job description.

However, hedgehogs cannot groom themselves properly. All those spines on their backs make a superb environment or microhabitat for fleas and ticks. Hedgehogs put nitrogen back into the soil when they urinate! I don't know how much nitrogen they put into the soil but it probably helps the plants if they do. I think that they eat my slugs, so that reduces the effect

which slugs have on the flowers.

So the idea of an ecological niche is very simple. You just need to know where the animal or plant lives and what it does.

Exercises

A. Comprehension

I. Give the author's definition of the ecological niche. Mention the comparison of the author and your opinion on the reasons.

II. Prove the importance of the concept of the ecological niche. Illustrate it in some examples:

a) determine the oak trees' habitat and profession;

b) define the ecological niche of hedgehogs.

III. Write a summary of the text making special mention of the facts you personally found new, interesting, etc.

B. Vocabulary

IV. Give Russian equivalents of the following expressions:

woodlands
to absorb
disastrous effect
tick
to groom
oak
soil
to rummage
invertebrate
sharp spine
hedgehog
creeping plant
flowerbed
twig
flea

V. Match these definitions with the words from Exercise 4.

1) ground, earth, esp. the upper layer of earth in which plants, trees, etc. grow;
2) to take or suck in;
3) a needle-like part on some animals or plants with a fine cutting edge;

4) a small jumping insect that feeds on the blood of human beings and some animals;

5) a plot of land on which flowers are grown;

6) turn thins over, move things about, while looking for something;

7) a small spider-like parasite that fastens itself on the skin and sucks blood;

8) an insect-eating animal covered with spines, that rolls itself into up a ball to defend itself;

9) to clean the fur and skin;

10) not having a backbone or spinal column;

11) growing along the ground (of plants), over the surface of a wall, etc.;

12) a small new, young growth on or at the end of a plant or bush;

13) an area of land covered with growing trees (not so intensive as a forest);

14) the result, which causes great or sudden misfortune; terrible accident.

VI. Use the words from exercise 1 in your own sentences or situations.

C. Reading and Discussion

VII. Read the text carefully, without a dictionary. While reading, pay special attention to the words that you don't know: look carefully at the context and see if you can get the idea of what they mean. After reading answer the questions: 1) What definition of the niche does G.E. Hutchinson suggest? 2) What is the distinction between fundamental and realized niches? Point out the information that was new to you. Summarize the text.

For a species to maintain its population, its individuals must survive and reproduce. Certain combinations of environmental conditions are necessary for individuals of each species to tolerate the physical environment, obtain energy and nutrients, and avoid predators. The total requirements of a species for all resources and physical conditions determine where it can live and how abundant it can be at any one place within its range. These requirements are termed abstractly the ecological niche.

G.E. Hutchinson (1958) suggested that the niche could be modeled as an imaginary space with many dimensions, in which each dimension or axis represents the range of some environmental condition or resource that is required by the species. Thus, the niche of a plant might include the range of temperatures that it can tolerate, the intensity of light required for photosynthesis, specific humidity regimes, and minimum quantities of essential soil nutrients for uptake.

A useful extension of the niche concept is the distinction between fundamental and realized niches. The fundamental niche of a species includes the total range of environmental conditions that are suitable for existence without the influence of interspecific competition or predation from other species. The realized niche describes that part of the fundamental niche actually occupied by the species.

The following diagram shows a hypothetical situation where a species distribution is controlled by just two environmental variables: temperature and moisture. The green and yellow areas describe the combinations of temperature and moisture that the species requires for survival and reproduction in its habitat. This resource space is known as the fundamental niche. The green area describes the actual combinations of these two variables that the species utilizes in its habitat. This subset of the fundamental niche is known as the realized niche.

VIII. Retell the following text in English. Mention the points of difference between the English and Russian texts in the presentation and interpretation of facts concerning ecological niche.

Экологическая ниша – место, занимаемое видом (точнее – его популяцией) в сообществе (биоценозе). Взаимодействие данного вида (популяции) с партнёрами по сообществу, в которое он входит в качестве сочлена, определяет его место в круговороте веществ, обусловленном пищевыми и конкурентными связями в биоценозе.

Термин «экологическая ниша» предложен американским учёным Дж. Гринеллом (1917). Трактовка экологической ниши как положения вида в цепях питания одного или нескольких биоценозов была дана английским экологом Ч. Элтоном (1927). Подобное толкование понятия «экологическая ниша» позволяет дать количественную характеристику экологической ниши для каждого вида или для его отдельных популяций. Для этого сопоставляют в системе координат обилие вида (число особей или биомассу) с показателями температуры, влажности или любого другого фактора среды. Таким путём можно выделить зону оптимума и пределы выносимых видом отклонений – максимум и минимум каждого фактора или совокупности факторов. Как правило, каждый вид занимает определённую экологическую нишу, к существованию в которой он приспособлен всем ходом эволюционного развития. Место, занимаемое видом (его популяцией) в пространстве (пространственная экологическая ниша), чаще называют местообитанием.

Рассмотрите взаимодействие между двумя факторами среды на примере простого графика, отражающего зависимость распространения некоторых кустарников и травянистых растений от содержания в почве кальция и органического вещества. У каждого вида проявляются различные предпочтения: черемуха встречается только в пределах узкого диапазона содержания кальция; распространение волчьей лапы, напротив, ограничено строго определенным содержанием органического вещества; разные виды фиалки выдерживают более широкий диапазон органики и кальция. Отметьте, что предпочтения у фиалок перекрываются мало: белая фиалка растет на почве с более высокой концентрацией кальция и низкой – органики. Поэтому в природе эти виды встречаются в разных местах, избегая конкуренции друг с другом. Этот факт служит иллюстрацией одного из фундаментальных положений экологии – принципа конкурентного исключения (принципа Гаузе): если два вида обладают одинаковыми требованиями к качеству среды обитания (произрастания), то рано или поздно один из видов неизбежно вытесняет другой. Поэтому эволюция близких видов обычно идет таким образом, что у них формируются несколько различные предпочтения по отношению к внешней среде.

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coordinate system; rate (показатель); limit of tolerance (предел отклонений); content (содержание); maheleb (черемуха); violet (фиалка); the principle of competitive exclusion (принцип конкурентного исключения); external environment (внешняя среда).

IX. Translate the text without a dictionary.

In ecology, a niche is a term describing the relational position of a species or

population in an ecosystem. More formally, the niche includes how a population responds to the abundance of its resources and enemies (e.g., by growing when resources are abundant, and predators, parasites and pathogens are scarce) and how it affects those same factors (e.g., by reducing the abundance of resources through consumption and contributing to the population growth of enemies by falling prey to them). The abiotic or physical environment is also part of the niche because it influences how populations affect, and are affected by, resources and enemies.

The description of a niche may include descriptions of the organism's life history, habitat, and place in the food chain. According to the competitive exclusion principle, no two species can occupy the same niche in the same environment for a long time.

The term «Niche» was coined by the naturalist Joseph Grinnell in 1917, in his paper «The niche relationships of the California Thrasher». However, it wasn't until 1927 that Charles Elton, a British ecologist, gave the first working definition of the niche concept. He was credited of saying «when an ecologist sees a badger, they should include in their thoughts some definitive idea of the animal's place in the community to which it belongs, just as if they had said «there goes the vicar».

The niche concept was popularized by the zoologist G. Evelyn Hutchinson in 1957. Hutchinson wanted to know why there are so many different types of organisms in any one habitat.

The full range of environmental conditions (biological and physical) under which an organism can exist describes its fundamental niche. As a result of pressure from, and interactions with, other organisms (e.g. superior competitors) species are usually forced to occupy a niche that is narrower than this and to which they are mostly highly adapted. This is termed the realized niche. G.E.Hutchinson also defined the ecological niche as a «Hypervolume». This term defines the multi-dimensional space of resources (i.e., light, nutrients, structure, etc.) available to (and specifically used by) organisms.

Different species can hold similar niches in different locations and the same species may occupy different niches in different locations. The Australian grasslands species, though different from those of the Great Plains grass- lands, occupy the same niche. Once a niche is left vacant, other organisms can fill into that position. For example, the niche that was left vacant by the extinction of the tarpan has been filled by other animals (in particular a small horse breed, the konik). When plants and animals are introduced into a new environment, they can occupy the new niches or niches of native organisms, outcompete the indigenous species, and become a serious pest.

X. Talking points:

1. The concept of the ecological niche and its types.
2. The origin of the term and its brief history.
3. The examples of the term's application.

THE ECOSYSTEM CONCEPT

The first principle of ecology is that each living organism has an ongoing and continual relationship with every other element that makes up its environment. An ecosystem can be defined as any situation where there is interaction between organisms and their environment.

An ecosystem, a contraction of «ecological» and «system», refers to the collection of components and processes that comprise, and govern the behavior of, some de-

fined subset of the biosphere. The term is generally understood to refer to all biotic and abiotic components, and their interactions with each other, in some defined area, with no conceptual restrictions on how large or small that area can be.

There are two main components of all ecosystems: abiotic and biotic.

Abiotic, or nonliving, components of an ecosystem are its physical and chemical components, for example, rainfall, temperature, sunlight, and nutrient supplies.

One of the problems with modern society is that it changes environ- mental conditions, making regions hotter or drier, for example. Such changes can make life more difficult, if not impossible, for other organisms. Biotic components of an ecosystem are its living things – fungi, plants, animals, and microorganisms. Organisms live in populations, groups of the same species occupying a given region. Populations never live alone in an ecosystem. They always share resources with others, forming a community (a group of organisms living in the given area).

The ecosystem is composed of two entities, the entirety of life, the biocoenosis and the medium that life exists in, the biotope. Within the eco- system, species are connected by food chains or food webs. Energy from the sun, captured by primary producers via photosynthesis, flows upward through the chain to primary consumers (herbivores), and then to secondary and tertiary consumers (carnivores), before ultimately being lost to the system as waste heat. In the process, matter is incorporated into living organisms, which return their nutrients to the system via decomposition, forming biogeochemical cycles such as the carbon and nitrogen cycles.

The concept of an ecosystem can be applied to units of variable size, such as a pond, a field, or a piece of deadwood. A unit of smaller size is called a microecosystem. For example, an ecosystem can be a stone and all the life under it. A mesoecosystem could be a forest, and a macroecosystem a whole ecoregion, with its drainage basin.

The main questions when studying an ecosystem are:

• Whether the colonization of a barren area could be carried out.

• Investigation of the ecosystem's dynamics and changes.

• The methods of which an ecosystem interacts at local, regional and global scale.

• Whether the current state is stable.

• Investigating the value of an ecosystem and the ways and means that interaction of ecological systems provide benefit to humans, especially in the provision of healthy water.

Ecosystems have become particularly important politically, since the Convention on Biological Diversity – ratified by more than 175 countries – defines «the protection of ecosystems, natural habitats and the maintenance of viable populations of species in natural surroundings» as one of the binding commitments of the ratifying countries. This has created the political necessity to spatially identify ecosystems and somehow distinguish among them. The CBD defines an «ecosystem» as a «dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit».

For this purpose, ecosystems can be characterized and mapped as physiognomic ecological units, originally developed for vegetation classification. Each vegetation structure reflects ecological conditions. Each ecosystem thus defined, hosts assemblages of species with survival strategies that can survive under its conditions. This is not only true for plant species, but for all species, flora, fauna and fungi alike, as each species responds to the characteristic ecological conditions of each location. This principle allows us to map ecosystems using the UNESCO physiognomic ecological classification sys-

tem, the Land Cover Classification Systems (LCCS) developed by the FAO and the United States National Vegetation Classification sys- tem (USNVC). The size and scale of an ecosystem can vary widely. It may be a whole forest, a community of bacteria and algae in a drop of water, or even the geobiosphere itself. As most of these borders are not rigid, ecosystems tend to blend into each other. As a result, the whole earth can be seen as a single ecosystem, while a lake can be divided into several ecosystems, depending on the scale used.

Early conceptions of this unit showed a structured functional unit in equilibrium of energy and matter flows between its constituent elements. Others considered this vision limited, and preferred to understand an ecosystem in terms of cybernetics. From this point of view an ecological system is a functional dynamic organization, or what was also called «steady state». Steady state is understood as the phase of an ecological system's evolution when the organisms are «balanced» with each other and their environment. This balance is achieved or «regulated» through various types of interactions, such as predation, parasitism, mutualism, commensalism, competition, and amensalism. Introduction of new elements, whether abiotic or biotic, into an ecosystem tend to have a disruptive effect. In some cases, this can lead to ecological collapse and the death of many native species. The branch of ecology that gave rise to this view has become known as systems ecology. Under this deterministic vision, the abstract notion of ecological health at- tempts to measure the robustness and recovery capacity for an ecosystem; that is, how far the ecosystem is away from steady state.

Ecosystems are often classified by reference to the biotopes concerned.

The following ecosystems may be defined:

• As continental ecosystems, such as forest ecosystems, meadow ecosystems such as steppes or savannas), or agro-ecosystems

• As ecosystems of inland waters, such as lentic ecosystems such as lakes or ponds; or lotic ecosystems such as rivers

• As oceanic ecosystems.

Another classification can be done by reference to its communities, such as in the case of a human ecosystem.

Exercises

A. Comprehension

I. Answer these questions.

1. What are main components of all ecosystems?
2. What size units can the concept of an ecosystem be applied to?
3. How have ecosystems gained political importance?
4. Can an ecological system be called a steady state? Why?

II. Decide whether these statements are true or false (T/F).

1. Components and processes of an ecosystem govern the behavior of some defined subset of the biosphere.
2. The ecosystem is composed of two entities, the entirety of life, the biotope and the medium that life exists in, the biocoenosis.
3. Energy from the sun is ultimately lost to the system as waste heat.
4. Decomposition is the first stage of biogeochemical cycles such as the carbon

and nitrogen cycles.

5. The Convention on Biological Diversity was ratified by more than 75 countries.

6. The whole earth can be seen as a single ecosystem.

7. Predation, parasitism, mutualism, commensalism, competition, and amensalism are the elements, which cause a disruptive effect to an ecosystem.

III. Give various definitions of the term «ecosystem».

IV. Classify ecosystems by reference to the biotopes concerned.

B. Vocabulary

V. Transcribe the following words:

abiotic.....fungi.....
tertiary consumers.....mutualism.....
mesoecosystem.....cybernetics.....
parasitism.....mutualism.....
commensalism.....amensalism.....
meadow.....steppe.....
lotic .....savanna.....

VI. Give Russian equivalents of the following expressions:

biotic; abiotic; rainfall; nutrient supplies; fungi; population; food chain; entity; primary consumer; steady state; predation; mutualism; ecological collapse; to share resources; to compose; pond; to apply; abstract notion; ecological health; to measure the robustness and recovery capacity; to at- tempt; meadow; steppe; lentic; lotic.

VII. Translate the given phrases into English.

количество осадков
использованная теплота
луг
третичный консумент
пруд, искусственный водоем
хищничество
грибки (грибок)
проточная вода
пищевая цепь
стоячая вода
предпочитать
состояние окружающей среды
морская водоросль
взаимодействовать
разложение, гниение
понятие, концепция
измерять устойчивость экосистемы
паразитизм

VIII. Complete the passages with the following words and word combinations. Each word/phrase can be used more than once.

biodiversity; ecosystem; food chain; population; community; food web; competition; biotic factors

An ……. is a place where nature creates a unique mix of air, water, soil and a variety of living organisms to interact and support each other.

…..... means the rich variety of life forms in nature. Many of the world's different plants and animals are under severe threat of extinction. Many species are lost already.

An ….. is a more or less independent part of the biosphere. e.g. a forest, lake, river, grassland, ocean. Although some animals might move between ecosystems, most of them remain in their own preferred environment. …… are conveniently divided into two part which are the place (habitat) and the living things (community). It is difficult to think of one without the other: e.g. an oak forest is an ecosystem, but if you take away the community of animals and plants, there would be no oak trees, so the habitat would not be the same.

The …… consists of all the animals and plants living in one habitat. Different animals and plants will effect each other by competition, predation, grazing, sheltering and so on. So that we can understand these inter- actions, we need to look at populations of each species to find out if they are increasing or decreasing.

The ….. of animals and plants in an ecosystem is divided up into one ..... of each species. So in a forest there may be a of oak trees, a population of squirrels, a ….. of greenfly and so on. The size of any one ….. may be influenced by the climatic, abiotic and biotic factors.

……. are the effects which the animals and plants have on each other and on the habitat itself. In an oak forest, the oak trees affect the soil by removing water and nutrients, they affect the climate inside the forest and shelter other things from extremes of temperature etc. and they are a source of food for insect, birds and squirrels. Living things all have an effect on each other but they also have effects on the climate and soil. The climate inside an oak forest is milder than outside because the oak trees provide shelter. Fungi and bacteria in the soil are important because they return nutrients to the soil by decomposing dead plant and animal material.

A …… is a very simple diagram to show how energy flows through an ecosystem. e.g. Grass → Cow → Human. This …….. shows energy from the sun is used by grass, the cow gets its energy by eating the grass, and then we get energy by eating the cow or drinking its milk. Life is not quite so simple; we also eat other things, so a does not tell the complete story.

A ……. is an enormous chart to try and show all the feeding relationships in a single ecosystem/community. A ……. diagram lets you predict what will happen to one animal population if another population gets bigger or smaller. Ladybirds eat greenfly; so if the ladybird population gets smaller, they will eat fewer greenfly and therefore the greenfly population will get bigger.

….. Plants and animals compete with each other. This is a kind of race, if you win you survive, if you lose you die. Plants compete for physical space, for nutrients and water from the soil and for sunlight. Animals compete for territory, for food, and for mates.

C. Reading and Discussion

IX. Read the text carefully, without a dictionary. While reading, pay special attention to the words that you don't know: look carefully at the context and see if you can get the idea of what they mean. After reading answer the question: What trophic levels is an ecosystem composed of? Point out the information that was new to you. Summarize the text.

How Ecosystems Work

The living portion of an ecosystem is best described in terms of feeding levels known as trophic levels. Green plants make up the first trophic level and are known as primary producers. Plants are able to convert energy from the sun into food in a process known as photosynthesis. In the second trophic level, the primary consumers – known as herbivores – are animals and insects that obtain their energy solely by eating the green plants. The third trophic level is composed of the secondary consumers, flesh-eating or carnivorous animals that feed on herbivores. At the fourth level are the tertiary consumers, carnivores that feed on other carnivores. Finally, the fifth trophic level consists of the decomposers, organisms such as fungi and bacteria that break down dead or dying matter into nutrients that can be used again.

Some or all of these trophic levels combine to form what is known as a food web, the ecosystem's mechanism for circulating and recycling energy and materials. For example, in an aquatic ecosystem algae and other aquatic plants use sunlight to produce energy in the form of carbohydrates. Primary consumers such as insects and small fish may feed on some of this plant matter, and are in turn eaten by secondary consumers, such as salmon. A brown bear may play the role of the tertiary consumer by catching and eating salmon. Bacteria and fungi may then feed upon and decompose the salmon carcass left behind by the bear, enabling the valuable nonliving components of the ecosystem, such as chemical nutrients, to leach back into the soil and water, where they can be absorbed by the roots of plants. In this way nutrients and the energy that green plants derive from sunlight are efficiently transferred and recycled throughout the ecosystem.

In addition to the exchange of energy, ecosystems are characterized by several other cycles. Elements such as carbon and nitrogen travel throughout the biotic and abiotic components of an ecosystem in processes known as nutrient cycles. For example, nitrogen traveling in the air may be snatched by a tree-dwelling, or epiphytic, lichen that converts it to a form useful to plants. When rain drips through the lichen and falls to the ground, or the lichen itself falls to the forest floor, the nitrogen from the raindrops or the lichen is leached into the soil to be used by plants and trees. Another process important to ecosystems is the water cycle, the movement of water from ocean to atmosphere to land and eventually back to the ocean. An ecosystem such as a forest or wetland plays a significant role in this cycle by storing, releasing, or filtering the water as it passes through the system.

Every ecosystem is also characterized by a disturbance cycle, a regular cycle of events such as fires, storms, floods, and landslides that keeps the ecosystem in a constant state of change and adaptation. Some species even depend on the disturbance cycle for survival or reproduction. For example, longleaf pine forests depend on frequent low-intensity fires for reproduction. The cones of the trees, which contain the reproductive structures, are sealed shut with a resin that melts away to release the seeds only under high heat.

X. Read the text. Discuss what it has to say about: a) humans' benefit from healthy ecosystems; b) approaches to natural resources managing. Give your opinion on the problem raised by the author.

Ecosystem Management

Humans benefit from these smooth-functioning ecsystems in many ways. Healthy forests, streams, and wetlands contribute to clean air and clean water by trapping fast-moving air and water, enabling impurities to settle out or be converted to harmless compounds by plants or soil. The diversity of organisms, or biodiversity, in an ecosystem provides essential foods, medicines, and other materials. But as human populations increase and their encroachment on natural habitats expands, humans are having detrimental effects on the very ecosystems on which they depend. The survival of natural ecosystems around the world is threatened by many human activities: bulldozing wetlands and clear-cutting forests – the systematic cutting of all trees in a specific area – to make room for new housing and agricultural land; damming rivers to harness the energy for electricity and water for irrigation; and polluting the air, soil, and water.

Many organizations and government agencies have adopted a new approach to managing natural resources – naturally occurring materials that have economic or cultural value, such as commercial fisheries, timber, and water-in order to prevent their catastrophic depletion. This strategy, known as ecosystem management, treats resources as interdependent ecosystems rather than simply commodities to be extracted. Using advances in the study of ecology to protect the biodiversity of an ecosystem, ecosystem management encourages practices that enable humans to obtain necessary resources using methods that protect the whole ecosystem. Because region- al economic prosperity may be linked to ecosystem health, the needs of the human community are also considered.

Ecosystem management often requires special measures to protect threatened or endangered species that play key roles in the ecosystem. In the commercial shrimp trawling industry, for example, ecosystem management techniques protect loggerhead sea turtles. In the last thirty years, populations of loggerhead turtles on the southeastern coasts of the United States have been declining at alarming rates due to beach development and the ensuing erosion, bright lights, and traffic, which make it nearly impossible for female turtles to build nests on beaches. At sea, logger- heads are threatened by oil spills and plastic debris, offshore dredging, injury from boat propellers, and getting caught in fishing nets and equipment. In 1970 the species was listed as threatened under the Endangered Species Act.

When scientists learned that commercial shrimp trawling nets were trapping and killing between 5000 and 50,000 loggerhead sea turtles a year, they developed a large metal grid called a Turtle Excluder Device (TED) that fits into the trawl net, preventing 97 percent of trawl-related logger- head turtle deaths while only minimally reducing the commercial shrimp harvest. In 1992 the National Marine Fisheries Service (NMFS) implemented regulations requiring commercial shrimp trawlers to use TEDs, effectively balancing the commercial demand for shrimp with the health and vitality of the loggerhead sea turtle population.

XI. Retell the following text in English. Mention the points of difference between

the English and Russian texts in the presentation and interpretation of facts, concerning the ecosystem concept.

Экосистема – основное понятие экологии

Экология рассматривает взаимодействие живых организмов и неживой природы. Это взаимодействие, во-первых, происходит в рамках определенной системы (экологической системы, экосистемы) и, во-вторых, оно не хаотично, а определенным образом организовано, подчинено законам. Экосистемой называют совокупность продуцентов, консументов и детритофагов, взаимодействующих друг с другом и с окружающей их средой посредством обмена веществом, энергией и информацией таким образом, что эта единая система сохраняет устойчивость в течение продолжительного времени. Таким образом, для естественной экосистемы характерны три признака:

1) экосистема обязательно представляет собой совокупность живых и неживых компонентов;

2) в рамках экосистемы осуществляется полный цикл, начиная с создания органического вещества и заканчивая его разложением на неорганические составляющие;

3) экосистема сохраняет устойчивость в течение некоторого времени, что обеспечивается определенной структурой биотических и абиотических компонентов.

Примерами природных экосистем являются озеро, лес, пустыня, тундра, суша, океан, биосфера. Как видно из примеров, более простые экосистемы входят в более сложно организованные. При этом реализуется иерархия организации систем, в данном случае экологических. Таким образом, устройство природы следует рассматривать как системное целое, состоящее из вложенных одна в другую экосистем, высшей из которых является уникальная глобальная экосистема – биосфера. В ее рамках происходит обмен энергией и веществом между всеми живыми и неживыми составляющими в масштабах планеты. Грозящая всему человечеству катастрофа состоит в том, что нарушен один из признаков, которым должна обладать экосистема: биосфера как экосистема деятельностью человека выведена из состояния устойчивости. В силу своих масштабов и многообразия взаимосвязей она не должна от этого погибнуть, она перейдет в новое устойчивое состояние, изменив при этом свою структуру, прежде всего неживую, а вслед за ней неизбежно и живую. Человек как биологический вид меньше других имеет шанс приспособиться к новым быстро изменяющимся внешним условиям и скорее всего исчезнет первым.

Итак, экосистема является важнейшей структурной единицей

устройства окружающего мира. Основу экосистем составляют живое вещество, характеризующееся биотической структурой, и среда обитания, обусловленная совокупностью экологических факторов.

XII. Translate the text without a dictionary.

«Ecosystem» means organisms living in a particular environment, such as a forest or a coral reef, and the physical parts of the environment that affect them. The term eco-

system was coined in 1935 by the British ecologist Sir Arthur George Tansley, who described natural systems in «constant interchange» among their living and nonliving parts.

The ecosystem concept fits into an ordered view of nature that was developed by scientists to simplify the study of the relationships between organisms and their physical environment, a field known as ecology.

At the top of the hierarchy is the planet's entire living environment, known as the biosphere. Within this biosphere are several large categories of living communities known as biomes that are usually characterized by their dominant vegetation, such as grasslands, tropical forests, or deserts. The biomes are in turn made up of ecosystems. The living, or biotic, parts of an ecosystem, such as the plants, animals, and bacteria found in soil, are known as a community. The physical surroundings, or abiotic components, such as the minerals found in the soil, are known as the environment or habitat.

Any given place may have several different ecosystems that vary in size and complexity. A tropical island, for example, may have a rain forest eco- system that covers hundreds of square miles, a mangrove swamp ecosystem along the coast, and an underwater coral reef ecosystem. No matter how the size or complexity of an ecosystem is characterized, all ecosystems exhibit a constant exchange of matter and energy between the biotic and abiotic community. Ecosystem components are so interconnected that a change in any one component of an ecosystem will cause subsequent changes throughout the system.

XIII. Talking points:

1. The definition and composition of an ecosystem.
2. The description of an ecosystem's living portion in terms of feeding levels known as trophic levels.
3. Ecosystem management.

TYPES OF ECOSYSTEMS

- Aquatic ecosystem
- Arctic Tundra
- Boreal Forest
- Urban ecosystem

Aquatic Ecosystem

An aquatic ecosystem is an ecosystem located in a body of water. Com- munities of organisms that are dependent on each other and on their environment live in aquatic ecosystems. The two main types of aquatic ecosystems are marine ecosystems and freshwater ecosystems.

Types of Aquatic Ecosystems

Aquatic ecosystems can be divided into two general types: marine eco- systems and freshwater ecosystems.

Marine Ecosystems

Marine ecosystems cover approximately 71 % of the Earth's surface and contain approximately 97 % of the planet's water. They generate 32 % of the world's net primary production. They are distinguished from freshwater ecosystems by the presence of

dissolved compounds, especially salts, in the water. Approximately 85 % of the dissolved materials in seawater are sodium and chlorine. Seawater has an average salinity of 35 parts per thousand (ppt) of water. Actual salinity varies among different marine ecosystems.

Marine ecosystems can be divided into the following zones: oceanic (the relatively shallow part of the ocean that lies over the continental shelf); profundal (bottom or deep water); benthic (bottom substrates); intertidal (the area between high and low tides); estuaries; salt marshes; coral reefs; and hydrothermal vents (where chemosynthetic sulphur bacteria form the food base).

Classes of organisms found in marine ecosystems include brown algae, dinoflagellates, corals, cephalopods, echinoderms, and sharks. Fish caught in marine ecosystems are the biggest source of commercial foods obtained from wild populations.

Environmental problems concerning marine ecosystems include unsustainable exploitation of marine resources (for example overfishing of certain species), water pollution, and building on coastal areas.

Freshwater Ecosystems

Freshwater ecosystems cover 0,8 % of the Earth's surface and contain 0,009 % of its total water. They generate nearly 3 % of its net primary production. Freshwater ecosystems contain 41 % of the world's known fish species.

There are three basic types of freshwater ecosystems:

• Lentic: slow-moving water, including pools, ponds, and lakes.

• Lotic: rapidly-moving water, for example streams and rivers.

• Wetlands: areas where the soil is saturated or inundated for at least part of the time. Lake ecosystems can be divided into zones: pelagic (open offshore waters); profundal; littoral (nearshore shallow waters); and riparian (where the lake meets the sea). Two important subclasses of lakes are ponds, which typically are small lakes that intergrade with wetlands, and reservoirs. Many lakes, or bays within them, gradually become enriched by nutrients and fill in with organic sediments, a process called eutrophication. Eutrophication is accelerated by human activity within the catchment area of the lake.

The major zones in river ecosystems are determined by the river bed's gradient or by the velocity of the current. Faster moving turbulent water typically contains greater concentrations of dissolved oxygen, which sup- ports greater biodiversity than the slow moving water of pools. The food base of streams within riparian forests is mostly derived from the trees, but wider streams and those that lack a canopy derive the majority of their food base from algae. Anadromous fish are also an important source of nutrients. Environmental threats to rivers include loss of water, dams, chemical pollution and introduced species.

Wetlands are dominated by vascular plants that have adapted to saturated soil. Wetlands are the most productive natural ecosystems because of the proximity of water and soil. Due to their productivity, wetlands are often converted into dry land with dikes and drains and used for agricultural purposes. Their closeness to lakes and rivers means that they are often developed for human settlement.

Wetlands are the interface between dry or terrestrial habitats and aquatic environments including streams, lakes and seas. Around the Great Lakes they take four basic forms. Swamps are a cross between forest and aquatic ecosystems, inhabited by woody species: conifers, hardwoods or shrubs. Bogs are characterized by acidic, peaty soils with little water movement and feature flora such as blueberries, orchids and carnivorous plants. Fens are similar to bogs, but with more water movement their soils are

less acidic. The dominant plants are sedges and low shrubs.

Wetlands are important because they act as natural sponges, absorbing water so it moves more slowly through the system. This prevents flooding and shoreline erosion. In the 19th Century people thought that anything obstructing rivers would increase flooding, so they frequently removed islands and wetlands to let water move more readily through urban areas. Such practices actually increased the problem.

More recently some cities have begun to let wetlands regenerate. Wet- land construction is commonly a part of housing developments, though often at the expense of more complex pre-existing natural habitats.

Wetlands are also well-designed to filter out pollution, particularly nitrogen and phosphorous. They are also useful for removing heavy metals. Industries are experimenting with constructing wetlands for this purpose.

Meanwhile wetlands exceed other temperate habitats in that they pro- duce as much oxygen, per area, as tropical rainforest.

Besides, wetlands provide a natural nursery for many species of native plants and wildlife. More than 40 species of birds nest in Point Pelee's marsh and 66 species of dragonflies and damselflies breed there. These habitats also provide a major food source for humans and animals. They also offer recreation in the form of canoeing, birdwatching and fishing.

Pond Ecosystem

This is a specific type of freshwater ecosystem that is largely based on the autotrophic algae which provide the base trophic level for all life in the area. The largest predator in a pond ecosystem will normally be a fish and in-between range smaller insects and microorganisms. It may have a scale of organisms from small bacteria to big creatures like water snakes, beetles, water bugs, and turtles.

Functions of Aquatic Ecosystems

Aquatic ecosystems perform many important environmental functions. For example, they recycle nutrients, purify water, attenuate floods, recharge ground water and provide habitats for wildlife. Aquatic ecosystems are also used for human recreation, and are very important to the tourism industry, especially in coastal regions.

The health of an aquatic ecosystem is degraded when the ecosystem's ability to absorb a stress has been exceeded. A stress on an aquatic ecosystem can be a result of physical, chemical of biological alterations of the environment. Physical alterations include changes in water temperature, water flow and light availability. Chemical alterations include changes in the loading rates of biostimulatory nutrients, oxygen consuming materials, and toxins. Biological alterations include the introduction of exotic species. Human populations can impose excessive stresses on aquatic ecosystems.

Abiotic Characteristics of Aquatic Ecosystems

An ecosystem is composed of biotic communities and abiotic environmental factors, which form a self-regulating and self-sustaining unit. Abiotic environmental factors of aquatic ecosystems include temperature, salinity, and flow. The amount of dissolved oxygen in a water body is frequently the key substance in determining the extent and kinds of organic life in the water body. Fish need dissolved oxygen to survive. Conversely, oxygen is fatal to many kinds of anaerobic bacteria.

The salinity of the water body is also a determining factor in the kinds of species found in the water body. Organisms in marine ecosystems tolerate salinity, while many freshwater organisms are intolerant of salt. Freshwater used for irrigation purposes often absorb levels of salt that are harmful to freshwater organisms.

Biota of Aquatic Ecosystems

The organisms (also called biota) found in aquatic ecosystems are either autotrophic or heterotrophic.

Autotrophic Organisms

Autotrophic organisms are producers that generate organic com- pounds from inorganic material. Algae use solar energy to generate biomass from carbon dioxide and are the most important autotrophic organisms in aquatic environments. Chemosynthetic bacteria are found in benthic marine ecosystems. These organisms are able to feed on hydrogen supplied in water that comes from volcanic vents. Great concentrations of animals that feed on this bacteria are found around volcanic vents. For example, there are giant tube worms (Riftia pachyptila) 1,5 min length and clams (Calyptogena magnifica) 30 cm long.

Heterotrophic Organisms

Heterotrophic organisms consume autotrophic organisms and use the organic compounds in their bodies as energy sources and as raw materials to create their own biomass. Euryhaline organisms are salt tolerant and can survive in marine ecosystems, while stenohaline or salt intolerant species can only live in freshwater environments

Exercises

A. Comprehension

I. Answer these questions.

1. What does the term «aquatic ecosystem» mean?
2. What types of aquatic ecosystems do you know? Characterize briefly each one, pointing out the difference between them.
3. What percentage of the Earth's surface does each of the ecosystems cover?
4. Name the zones of marine ecosystems and classes of organisms found there.
5. Do marine ecosystems have any environmental problems? Prove your statement.
6. What types can freshwater ecosystems be divided into?
7. What have you learned about lentic ecosystems and the process of eutrophication?
8. What determines the major zones in river ecosystems?
9. What does the proximity of water and soil of wetlands lead to?
10. How can you characterize wetlands?
11. How important are wetlans?
12. Why is pond ecosystem a specific type of freshwater ecosystems?
13. What functions do aquatic ecosystems perform?
14. How do physical, chemical of biological alterations of the environment influence health of an aquatic ecosystem?
15. What do you know about (a) autotrophic organisms and (b) heterotrophic organisms?

II. Match the beginning of each sentence from the left column with the rest part of it in the right column.

1. Aquatic ecosystems
2. Lotic ecosystems

3. Marine ecosystems
4. Pond ecosystems
5. Wetlands
6. Freshwater ecosystems
7. Lentic ecosystems

a) contain 41 % of the world's known fish species.

b) generate 32 % of the world's net primary production.

c) contain slow-moving water, including pools, ponds, and lakes.

d) contain rapidly-moving water, for ex- ample streams and rivers.

e) are the most productive natural eco- systems because of the proximity of water and soil.

f) may have a scale of organisms from small bacteria to big creatures like water snakes, beetles, water bugs, and turtles.

g) recycle nutrients, purify water, attenuate floods, recharge ground water and provide habitats for wildlife.

III. Write a summary of the text, using the words from Vocabulary Exercises.

B. Vocabulary

IV. Transcribe the following words:
aquatic marine chlorine reservoir estuaries saturated anaerobic

V. Give Russian equivalents of the following words and word combinations:
Freshwater
continental shelf
marsh
exploitation
littoral
velocity
vascular plants
hydrogen sulphide
primary production
salinity
saturated soil
pelagic
riparian
canopy
attenuate
dissolved compounds
benthic
unsustainable
wetland
sediments
proximity
raw materials

VI. Find in the text English equivalents of the following words and expressions.

Translate the sentences which contain them.

1) морской; 2) производство сырых материалов; 3) пресноводный; 4) хлор; 5) обитающий на дне (бентический); 6) прилив и отлив (на море, океане); 7) коралловые рифы; 8) сода; 9) нерациональное использование морских ресурсов; 10) чрезмерный промысел (перелов); 11) отдаленный от берега; 12) прибрежный; 13) органические отложения; 14) область водосбора; 15) растворенный кислород; 16) расти- тельный покров; 17) сосудистое растение; 18) болото, трясина; 19) осока; 20) солёность; 21) эвригалинный (выносящий различную солёность); 22) скорость, быстрота; 23) зарастание водоема.

C. Reading and Discussion

VII. Read the text carefully, without a dictionary. While reading, pay special attention to the words that you don't know: look carefully at the context and see if you can get the idea of what they mean. After reading define each region of the aquatic biome. Mention the points of difference between the texts «Aquatic ecosystem» and «The aquatic biome». Summarize the text.

The Aquatic Biome

Water is the common link among the five biomes and it makes up the largest part of the biosphere, covering nearly 75 % of the Earth's surface. Aquatic regions house numerous species of plants and animals, both large and small. In fact, this is where life began billions of years ago when amino acids first started to come together. Without water, most life forms would be unable to sustain themselves and the Earth would be a barren, desert-like place. Although water temperatures can vary widely, aquatic areas tend to be more humid and the air temperature on the cooler side.

The aquatic biome can be broken down into two basic regions, freshwater (i.e, ponds and rivers) and marine (i.e., oceans and estuaries).

Freshwater Regions

Freshwater is defined as having a low salt concentration – usually less than 1 %. Plants and animals in freshwater regions are adjusted to the low salt content and would not be able to survive in areas of high salt concentration (i.e., ocean). There are different types of freshwater regions: ponds and lakes, streams and rivers, and wetlands. The following sections describe the characteristics of these three freshwater zones.

Ponds and Lakes

These regions range in size from just a few square meters to thousands of square kilometers. Scattered throughout the earth, several are remnants from the Pleistocene glaciation. Many ponds are seasonal, lasting just a couple of months (such as sessile pools) while lakes may exist for hundreds of years or more. Ponds and lakes may have limited species diversity since they are often isolated from one another and from other water sources like rivers and oceans. Lakes and ponds are divided into three different «zones» which are usually determined by depth and distance from the shoreline.

The topmost zone near the shore of a lake or pond is the littoral zone. This zone is the warmest since it is shallow and can absorb more of the Sun's heat. It sustains a fairly diverse community, which can include several species of algae (like diatoms), rooted and floating aquatic plants, grazing snails, clams, insects, crustaceans, fishes, and amphibians. In the case of the insects, such as dragonflies and midges, only the egg and larvae stages are found in this zone. The vegetation and animals living in the littoral zone are food for other creatures such as turtles, snakes, and ducks.

The near-surface open water surrounded by the littoral zone is the limnetic zone. The limnetic zone is well-lighted (like the littoral zone) and is dominated by plankton, both phytoplankton and zooplankton. Plankton are small organisms that play a crucial role in the food chain. Without aquatic plankton, there would be few living organisms in the world, and certainly no humans. A variety of freshwater fish also occupy this zone.

Plankton have short life spans – when they die, they fall into the deep-water part of the lake/pond, the profundal zone. This zone is much colder and denser than the other two. Little light penetrates all the way through the limnetic zone into the profundal zone. The fauna are heterotrophs, meaning that they eat dead organisms and use oxygen for cellular respiration.

Temperature varies in ponds and lakes seasonally. During the summer, the temperature can range from 4°C near the bottom to 22°C at the top. During the winter, the temperature at the bottom can be 4°C while the top is 0°C (ice). In between the two layers, there is a narrow zone called the thermocline where the temperature of the water changes rapidly. During the spring and fall seasons, there is a mixing of the top and bottom lay-ers, usually due to winds, which results in a uniform water temperature of around 4°C. This mixing also circulates oxygen throughout the lake. Of course, there are many lakes and ponds that do not freeze during the winter, thus the top layer would be a little warmer.

Streams and Rivers

These are bodies of flowing water moving in one direction. Streams and rivers can be found everywhere – they get their starts at headwaters, which may be springs, snowmelt or even lakes, and then travel all the way to their mouths, usually another water channel or the ocean. The characteristics of a river or stream change during the journey from the source to the mouth. The temperature is cooler at the source than it is at the mouth. The water is also clearer, has higher oxygen levels, and fresh- water fish such as trout and heterotrophs can be found there. Towards the middle part of the stream/river, the width increases, as does species diversity – numerous aquatic green plants and algae can be found. To- ward the mouth of the river/stream, the water becomes murky from all the sediments that it has picked up upstream, decreasing the amount of light that can penetrate through the water. Since there is less light, there is less diversity of flora, and because of the lower oxygen levels, fish that require less oxygen, such as catfish and carp, can be found.

Wetlands

Wetlands are areas of standing water that support aquatic plants. Marshes, swamps, and bogs are all considered wetlands. Plant species adapted to the very moist and humid conditions are called hydrophytes. These include pond lilies, cattails, sedges, tamarack, and black spruce. Marsh flora also includes such species as cypress and gum. Wetlands have the highest species diversity of all ecosystems. Many species of amphibians, reptiles, birds (such as ducks and waders), and furbearers can be found in the wetlands. Wetlands are not considered freshwater ecosystems as there are some, such as salt marshes, that have high salt concentrations – these support different species of animals, such as shrimp, shellfish, and various grasses.

Visit our gallery of wetlands images, which illustrate the amazing diversity of wetland ecosystems.

Marine Regions

Marine regions cover about three-fourths of the Earth’s surface and include oceans, coral reefs, and estuaries. Marine algae supply much of the world’s oxygen sup-

ply and take in a huge amount of atmospheric carbon di- oxide. The evaporation of the seawater provides rainwater for the land.

Oceans

The largest of all the ecosystems, oceans are very large bodies of water that dominate the Earth's surface. Like ponds and lakes, the ocean regions are separated into separate zones: intertidal, pelagic, abyssal, and benthic. All four zones have a great diversity of species. Some say that the ocean contains the richest diversity of species even though it contains fewer species than there are on land.

The intertidal zone is where the ocean meets the land – sometimes it is submerged and at other times exposed, as waves and tides come in and out. Because of this, the communities are constantly changing. On rocky coasts, the zone is stratified vertically. Where only the highest tides reach, there are only a few species of algae and mollusks. In those areas usually submerged during high tide, there is a more diverse array of algae and small animals, such as herbivorous snails, crabs, sea stars, and small fishes. At the bottom of the intertidal zone, which is only exposed during the lowest tides, many invertebrates, fishes, and seaweed can be found. The intertidal zone on sandier shores is not as stratified as in the rocky areas. Waves keep mud and sand constantly moving, thus very few algae and plants can establish themselves – the fauna includes worms, clams, predatory crustaceans, crabs, and shorebirds.

The pelagic zone includes those waters further from the land, basically the open ocean. The pelagic zone is generally cold though it is hard to give a general temperature range since, just like ponds and lakes, there is thermal stratification with a constant mixing of warm and cold ocean currents. The flora in the pelagic zone includes surface seaweeds. The fauna includes many species of fish and some mammals, such as whales and dolphins. Many feed on the abundant plankton.

The benthic zone is the area below the pelagic zone, but does not include the very deepest parts of the ocean (see abyssal zone below). The bottom of the zone consists of sand, slit, and/or dead organisms. Here temperature decreases as depth increases toward the abyssal zone, since light cannot penetrate through the deeper water. Flora are represented primarily by seaweed while the fauna, since it is very nutrient-rich, include all sorts of bacteria, fungi, sponges, sea anemones, worms, sea stars, and fishes.

The deep ocean is the abyssal zone. The water in this region is very cold (around 3°C), highly pressured, high in oxygen content, but low in nutritional content. The abyssal zone supports many species of invertebrates and fishes. Mid-ocean ridges (spreading zones between tectonic plates), often with hydrothermal vents, are found in the abyssal zones along the ocean floors. Chemosynthetic bacteria thrive near these vents because of the large amounts of hydro- gen sulfide and other minerals they emit. These bacteria are thus the start of the food web as they are eaten by invertebrates and fishes.

Coral Reefs

Coral reefs are widely distributed in warm shallow waters. They can be found as barriers along continents (e.g., the Great Barrier Reef off Australia), fringing islands, and atolls. Naturally, the dominant organisms in coral reefs are corals. Corals are interesting since they consist of both algae (zooanthellae) and tissues of animal polyp. Since reef waters tend to be nutritionally poor, corals obtain nutrients through the algae via photosynthesis and also by extending tentacles to obtain plankton from the water. Besides corals, the fauna includes several species of microorganisms, invertebrates, fishes, sea urchins, octopuses, and sea stars.

Estuaries

Estuaries are areas where freshwater streams or rivers merge with the ocean. This mixing of waters with such different salt concentrations creates a very interesting and unique ecosystem. Microflora like algae, and macroflora, such as seaweeds, marsh grasses, and mangrove trees (only in the tropics), can be found here. Estuaries support a diverse fauna, including a variety of worms, oysters, crabs, and waterfowl.

VIII. Speak on the basic components of an aquatic ecosystem by referring to the picture and the information given below.

Экосистема – это комплекс всех организмов и неживых элементов, в результате взаимодействия которых потоком энергии в данном месте создается стабильная структура и круговорот веществ.

Основные компоненты водной экосистемы (рисунок):

1) поступающая энергия от Солнца;

2) климат и физические факторы;

3) неорганические вещества;

4) органические соединения;

5) производители органических соединений, или продуценты (от лат. producentis – создающий) – укорененные растения и мельчайшие водоросли (фитопланктон, от греч. phyton – растение, plankton – блуждающий);

6) потребители первичные, или консументы первичные (от лат. consume– потребляю), питающиеся растениями – зоопланктон (животный планктон), моллюски, личинки, головастики;

7) потребители вторичные, или консументы вторичные – хищные насекомые и рыбы;

8) детрит (от лат. deferere – изнашиваться) – продукты распада и разложения организмов;

9) разрушители, деструкторы, редуценты (от лат. reducentis – возвращающий), детритофаги (от греч. phagos – пожиратель), сапротрофы (от греч. sapros – гнилой и trophe – питание) – донные бактерии и грибы, личинки, моллюски, черви.

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producer; plankton; molluscum; larva (личинка); frog larva; detritus; decay product (продукт распада); reducer; detritus consumer; saprotroph

IX. Translate the text without a dictionary.

Rivers, lakes, wetlands, and estuaries are an important part of the global ecosystem. Rivers connect the land surface and atmosphere to the ocean, delivering about 40,000 km3 of water per year from land to ocean. Water en route to the oceans forms wetlands, lakes, and eventually coastal estuaries. Together these surface waters represent about 5–10 % of the global terrestrial surface area. The aquatic ecosystems that have developed in these surface waters provide habitat for diverse flora and fauna species (much of which is endemic to very small regions), transport nitrogen, carbon, phosphorus, sediments and numerous other elements, and support diverse biogeochemical activity. Together the aquatic ecosystems provide services, both to humans and the natural system, far beyond their limited boundaries.

Fresh water is vital to human life and economic well-being. Humans currently use more than 50 % of the available global runoff. Societies ex- tract vast quantities of wa-

ter from rivers, lakes and wetlands to supply the requirements of power generation, flood control, irrigation, and urban, industrial, and agricultural uses. Traditionally, this human use of water has been at the expense of equally vital benefits of water in sustaining healthy aquatic ecosystems. For example, at present 30 % of the world's population does not have access to clean water, as a result of poor water management, and under current trends of global change and population growth two thirds of the population may be subject to moderate to high water stress .

There is growing recognition, however, that the many economically valuable commodities and services to society provided by functionally in- tact and biologically complex aquatic ecosystems have not been included in evaluation of the importance of aquatic ecosystems. These services include flood control, transportation, recreation, purification of human, industrial, and agricultural wastes, habitat for plants and animals, and production of fish and other foods and marketable goods.

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runoff – сток; sustain – поддерживать; commodity – товар; intact – нетронутый

X. Talking points:
1. Marine ecosystems.
2. Freshwater ecosystems.
3. The biota and biome of aquatic ecosystems.
4. Functions of aquatic ecosystems.

2.4. MY FUTURE SPECIALITY AND ITS IMPORTANCE FOR THE ECONOMIC DEVELOPMENT OF THE REPUBLIC OF BELARUS

CAREER OPPORTUNITIES

I. Make sentences using the words.
MAZ
Gefest
Atlant
Beltelecom
Velcom
McDonalds
EPAM systems inc
Stroytrest №8
produces / makes ...
specializes in ...
operates in ...
provides…
sells ...
's competitors are..
offers ...
is a leading…

II a. Read the text and find out which jobs Greg Mortensen does or has done.
How to move a mountain – the story of Greg Mortensen

It's been over fifteen years since Greg Mortensen attempted to climb K2, the world's second highest mountain. At the time, Greg was working as a trauma nurse in the USA, but his adventure in the Himalayas set him on a new **career path**.

During the climb, 50-years old Greg became ill and lost the rest of his group. He walked to a local village and while recovering there, he realized that the children in the village did not have a proper school. **He made the decision** to return to the USA and concentrate on raising money so that a school could be built in the village. When he got home, his life **changed direction** dramatically. He **gave up** his house, lived in the back of his car, and wrote hundreds of letters to celebrities asking for money. However, at first he had little success.

Greg's luck changed when a student in his mother's class in a school in Wisconsin found out that one penny would buy a pencil for a child in South Asia. Together the class collected more than 62,000 pennies. Next, a Seattle IT specialist saw an article about Greg's experience on K2 and sent him a cheque for $12,000.

Since then Greg has **spent** six months of every year in the area, building over 60 schools. In 2006 he **completed** a best-selling book, Three Cups of Tea, about his adventures.

II b. Read the text again. Then work with a partner and answer these questions.

1. When and where did Greg Mortensen's life change?
2. What were his fundraising methods?
3. How does Greg spend his time now?

II c. Match the words or phrases in bold in the text in IIa to these definitions.

1. stopped having or doing
2. finished
3. a planned series of jobs or professions
4. took a different way
5. decided (to do something)
6. give all your attention to something
7. passed (time)

III. Work with a partner. Look at the quotations from people talking about their careers. Take turns to use a word or phrase in brackets in the correct form to report what each person said.

Example: A. I chose to go to BrSTU and not BSU.

B. He made the decision to go to Oxford and not Cambridge. I chose to go to BrSTU and not BSU. (make the decision)

I finished my studies in 2012. (complete)

I trained in an architect's studio for two years. (spend)

I'm going to study medicine, go abroad for some work experience, do my exams, and qualify as a family doctor. (career path)

I left my job in the city and moved to the country. (give up)

I was studying math, but I hated it, so I tried drama and became an actor in- stead. (change direction)

All I want to do is paint. (concentrate on)

ENGINEERING

Engineering is one of the most rewarding professions in the world. A degree in any engineering field can take you all over the world and help you make a nice salary. An engineering degree doesn't just teach you how to be a great engineer, but rather a great manager, businessman, and entrepreneur. Each new project will improve your skills, teach you how to solve various problems and utilize resources and materials to the best of your abilities. As you start to develop as a professional, you will be working on bigger projects, building higher buildings and helping people.

Being an engineer means you are paid to create and innovate each and every day. During their careers, engineers have to tackle various projects regardless of their area of expertise or education. What's better than that? Whether you're into physics, construction or something else, you will always have the necessary tools to develop your own systems and projects

Engineering degrees are highly respected and engineers are needed all over the world. This means that you can literally work wherever you desire or travel as you would like. Whether you've finished a mechanical, electrical or civil engineering school, your services will be in a high demand.

Like we mentioned earlier, engineers are needed literally everywhere in the world. This means that when you lose one job, there are bound to be a list of other companies hiring. Engineering student who works with software and technology can expect quite a large salary including benefits.

Practically every engineering profession involves hands-on work that will keep you involved throughout the day. You can sit behind a computer if you would like, but getting out there and making new stuff is a breeze in engineering. This makes the profession so much more interesting as students can start developing their own pro- jects before they complete respective university programs.

If you hold one particular engineering degree, that doesn't mean you can't transfer and work in a completely different specialty. Engineering graduate can work wherever he likes regardless of his field of study! Those who are interested in this profession have to be flexible; they have to understand various technical and industrial aspects, to work with various data and perhaps even be involved in the management process and training.

Being an engineer means that you gain a lot of respect just from having the title. Whenever you tell someone you are an engineer, they will know they can trust you to get the job done. While the job has high requirements and presumes continuous development over time, the general public will be grateful.

There are so many engineering jobs out there that wherever you want to work, in whatever industry, you can surely find something good. Even if you can't find a right company in your country, you can search for employment abroad.

ENVIRONMENTAL ENGINEERING

Environmental engineering is a great career for someone who enjoys identifying environmental problems and designing solutions to repair them. Environmental engineers truly understand what the term “being green“ is all about and they use this principle along with engineering, soil science, biology and chemistry to develop solutions to fix air, land and water problems.

An environmental engineering career may include improving recycling, waste disposal and public health. Environmental engineers also address global issues, such as

climate change and pollution as well as perform safety inspections on oil and gas production.

Environmental engineers are professional problem-solvers who focus on the natural environment. They dig – sometimes literally – into the causes of environmental issues like acid rain, pollution, climate change, waste management and ozone layer depletion. Once environmental engineers understand the cause of the problem, they search for ways to fix it. To develop the knowledge and skills necessary to succeed in solving problems like unsafe drinking water, global climate change and public health threats, aspiring environmental engineers need a college education.

Environmental engineering is a great green career path because the goal of these professionals' work is to help the environment. They use their knowledge of science and engineering to repair damage to an ecological system, or to prevent that system from being harmed in the first place. Sometimes this work entails designing new or improved containment systems for hazardous waste. Other times, environmental engineers look for new methods of generating energy. They develop solutions that range from water reclamation procedures to recycling practices and from sustainable systems for reducing pollution to methods of protecting animal habitats from harm.

Many environmental engineers enjoy working outdoors, though they often have to divide their time between working in the natural environment, collaborating with project partners in offices and presenting ideas at seminars. If there's a particular eco- logical threat that concerns you, pursuing a career as an environmental engineer may allow you to specialize in studying and solving that issue.

2.5. ENVIRONMENTAL PROBLEMS

CURRENT ENVIRONMENTAL PROBLEMS

Environmental problems have become one of the most urgent problems of modern society. More and more people suffer from air and water pollution. Nature also suffers from land and nuclear pollution. The reasons for such environmental problems are numerous.

Among them increasing number of cars in the streets, factory waste, millions of cut down trees, destroyed habitats of animals, contaminated rivers and seas. All these problems mainly arise due to human careless activities and gradually destroy our planet. If we look closely, we'll notice that not only one city is under danger, but the majority of world population. Fortunately, there are many ways to suspend these problems. If everybody starts caring about the planet we live on, many environmental problems can be solved. For example, if we start recycling paper and cardboard, we can save lots of trees. If we start using public transport more than private cars, we can have less air pollution.

Our planet Earth is only a tiny part of the universe, and it is so far the only place where human beings can live. We always polluted our surroundings. But until now pollution was not such a huge problem. People lived in the countryside and couldn't produce such amount of pollution that would lead to a dangerous situation on a global scale. With the development of industrial cities, which create huge amounts of pollutants, the problem has become real. Nowadays our planet is in serious danger. Global warming, acid rains, air and water pollution, overpopulation are the problems that

threaten human lives on the Earth. Every year world industry pollutes the air that we breathe with. A great number of cities suffer from smog.

Rainforests are cut down. Their disappearance upsets the oxygen balance. As a result, some rare species of animals, birds, fish and plants are extinct. A lot of seas, rivers and lakes are filled with poison like industrial and nuclear wastes, chemical fertilizers and pesticides. The pollution of air and the world's ocean, destruction of the ozone layer is the result of man's careless interaction with nature, a sign of the ecological crisis.

A human being is able not only to create but also to destroy. Especially our earth suffers badly from pernicious actions of man. This applies to both people's neglectful attitude to the nature – dropping of cigarette ends, rubbish on the earth – and industrial factories and natural appearances (e.g. acid rains). Factories regularly emit harmful chemicals into the air. Petrol and gas, that are used by our drivers, also leave much to be desired. Apart from air pollution, water and soil are subjected to pollution as well. When such fuels as coal and oil burn, they emit very dangerous smoke. A person destroys not only environment, plants, animals, but also himself. Faster and faster man's health starts worsening; children of weak immune system are being given birth. Forests are being cut down, and animals from the Red Book are gradually dying out. What will be next in our world of progressive technology remains undecided. Let's protect the nature.

People should consider their attitude to the environment. Some progress has already been made in this direction. Numerous conferences have been held by a lot of agencies to discuss problems facing ecologically poor regions including the Aral Sea, the South Urals, Kuzbass, Donbass and Chernobyl. Greenpeace is also doing much to preserve the environment. What can we do to save our planet? First of all, people should switch to alternative forms of power, such as solar power or wind power. Secondly, the use of atomic power must be banned. Thirdly, we need to recycle. It's the art of turning waste into new products. What will be next in our world of progressive technology remains undecided. Let's protect the nature, Nature is our friend.

ATMOSPHERE POLLUTION

What is the atmosphere? It is only the thing that keeps you from being burned to death every day, helps to bring the rain that our plants need to survive, not to mention it holds the oxygen that you need to breath. Essentially, the atmosphere is a collection of gases that makes the Earth habitable.

The atmosphere consists of 78% nitrogen, 21% oxygen, 1% water vapor, and a minute amount of other trace gases like argon, and carbon monoxide. All of these gases combine to absorb ultraviolet radiation from the Sun and warm the planet's surface through heat retention.

The mass of the atmosphere is around 5×1018 kg. 75% of the atmospheric mass is within 11 km of the surface. While the atmosphere becomes thinner the higher you go, there is no clear line demarcating the atmosphere from space; however, the Karman line, at 100 km, is often regarded as the boundary between atmosphere and outer space. The effects of reentry can be felt at 120 km. Over the vast history of the Earth there have been three different atmospheres or one that has evolved in three major stages. The first atmosphere came into being as a result of a major rainfall over the entire planet that caused the buildup of a major ocean. The second atmosphere began to develop around

2.7 billion years ago. The presence oxygen began to appear apparently from being released by photosynthesizing algae. The third atmosphere came into play when the planet began to stretch its legs, so to speak. Plate tectonics began constantly rearranging the continents about 3.5 billion years ago and helped to shape long-term climate evolution by allowing the transfer of carbon dioxide to large land-based carbonate stores. Free oxygen did not exist until about 1.7 billion years ago and this can be seen with the development of the red beds and the end of the banded iron formations. This signifies a shift from a reducing atmosphere to an oxidizing atmosphere. Oxygen showed major ups and downs until reaching a steady state of more than 15%. The Earth's atmosphere performs a couple of cool optical tricks. The blue color of the sky is due to Rayleigh scattering which means as light moves through the atmosphere, most of the longer wavelengths pass straight through. Very little of the red, orange and yellow light is affected by the air; however, much of the shorter wavelength light blue is absorbed by the gas molecules. The absorbed blue light is then radiated in every direction. So, no matter where you look, you see the scattered blue light. The atmosphere is also responsible for the aurora borealis.

Auroras are caused by the bombardment of solar electrons on oxygen and nitrogen atoms in the atmosphere. The electrons literally excite the oxygen and nitrogen atoms high in the atmosphere to create the beautiful light show we know as an aurora. The atmosphere is divided into 5 major zones. The troposphere begins at the surface and extends to between 7 km at the poles and 17 km at the equator, with some variation due to weather. The stratosphere extends to about 51 km. The mesosphere extends to about 85 km. Most meteors burn up in this zone of the atmosphere. The thermosphere extends up to between 320 and 380 km. This is where the International Space Station orbits. The temperature here can rise to 1,500 °C. The exosphere is the last bastion of the atmosphere. Here the particles are so far apart that they can travel hundreds of km without colliding with one another. The exosphere is mainly composed of hydrogen and helium.

WATER POLLUTION PROBLEMS: A REAL ISSUE

Water covers over 70 % of the Earth‟s surface and is a very important resource for people and the environment. Water pollution affects drinking water, rivers, lakes and oceans all over the world. This consequently harms human health and the natural environment. Here you can find out more about water pollution and what you can do to prevent it. Sewage is the term used for wastewater that often contains faeces, urine and laundry waste. There are billions of people on Earth, so treating sewage is a big priority.

Sewage disposal is a major problem in developing countries as many people in these areas don‟t have access to sanitary conditions and clean water. Untreated sewage water in such areas can contaminate the environment and cause diseases such as diarrhea. Sewage in developed countries is carried away from the home quickly and hygienically through sewage pipes. Sewage is also treated in water treatment plants and the waste is often disposed into the sea. It is mainly biodegradable and most of it is broken down in the environment. In developed countries, sewage often causes problems when people flush chemical and pharmaceutical substances down the toilet. Moreover, when people are ill, sewage often carries harmful viruses and bacteria into the environment causing health problems. can cause huge problems. Litter items such as 6-pack ring packaging can get caught in marine animals and may result in death. Different items take different lengths of time to degrade in water:

Cardboard – takes 2 weeks to degrade; newspaper, photodegradable packaging – 6 weeks; foam – 50 years; styrofoam – 80 years; aluminium – 200 years; plastic packaging – 400 years; glass – it takes so long to degrade that we don‟t know the exact time.

Industry is a huge source of water pollution, it produces pollutants that are extremely harmful to people and the environment. Many industrial facilities use freshwater to carry away waste from the plant and into rivers, lakes and oceans. Briefly, pollutants from industrial sources include:

Asbestos – This pollutant is a serious health hazard and carcinogenic. Asbestos fibres can be inhaled and cause illnesses such as asbestosis, mesothelioma, lung cancer, intestinal cancer and liver cancer.

Lead – This is a metallic element and a non-biodegradable substance and can cause health and environmental problems. Lead is harmful to the health of many animals, including humans, as it can inhibit the action of bodily enzymes.

Mercury – This is a metallic element and a non-biodegradable sub-stance. It is hard to clean up once the environment is contaminated.

Nitrates – The increased use of fertilisers means that nitrates are more often being washed from the soil and into rivers and lakes. This can cause eutrophication, which can be very problematic to marine environments.

Phosphates – The increased use of fertilisers can cause eutrophication, which can be either very problematic to marine environments.

Sulphur – This is a non-metallic substance that is harmful for marine life.

Petrochemicals – This is formed from gas or petrol and can be toxic to marine life.

Radioactive Waste is produced from industrial, medical and scientific processes that use radioactive material. Nuclear waste can have detrimental effects on marine habitats. Nuclear waste comes from a number of sources, e.g. operations conducted by nuclear power stations produce radioactive waste. Nuclear-fuel reprocessing plants in northern Europe are the biggest sources of man-made nuclear waste in the surrounding ocean. Radioactive traces from these plants have been found as far away as Greenland. Mining and refining of uranium and thorium are also causes of marine nuclear waste.

Oceans are polluted by oil on a daily basis from oil spills, routine shipping, run-offs and dumping. An oil spill from a tanker is a severe problem because there is such a huge quantity of oil being spilt into one place, and it causes a very localized problem but can be catastrophic to local marine wildlife such as fish, birds and sea otters. Oil cannot dissolve in water and forms a thick sludge in the water. No doubt this suffocates fish, gets caught in the feathers of marine birds stopping them from flying and blocks light from photosynthetic aquatic plants.

A tank or piping network that has at least 10 per-cent of its volume underground is known as an under-ground storage tank (UST). They often store substances such as petroleum, that are harmful to the surrounding environment should it become contaminated.

Atmosphere Deposition is the pollution of water caused by air pollution. In the atmosphere, water particles mix with carbon dioxide, sulphur dioxide and nitrogen oxides, this forms a weak acid. Air pollution means that water vapour absorbs more of these gases and becomes even more acidic. When it rains the water is polluted with these gases, this is called acid rain. When acid rain pollutes marine habitats such as rivers and lakes, aquatic life is harmed.

An increase in water temperature can result in the death of many aquatic organ-

isms and disrupt many marine habitats. For example, a rise in water temperatures causes coral bleaching of reefs around the world.

Eutrophication is when the environment becomes enriched with nutrients. This can be a problem in marine habitats such as lakes as it can cause algal blooms.

Fertilisers are often used in farming, sometimes these fertilisers run-off into near-by water causing an increase in nutrient levels. This causes phytoplankton to grow and reproduce more rapidly, resulting in algal blooms. This bloom of algae block sunlight from photosynthetic marine plants under the water surface and disrupts normal ecosys-tem functioning and causes many problems. The algae may use up all the oxygen in the water, leaving none for other marine life. This results in the death of many aquatic or-ganisms such as fish, which need the oxygen in the water to live.

The various processes for treating polluted water are industrial water treatment, denitrification, septic tanks and ozone waste water treatment.

Before raw sewage can be safely released back into the environment, it needs to be treated correctly in a water treatment plant. In a water treatment plant, sewage goes through a number of chambers and chemical processes to reduce the amount and toxici-ty of the waste. The sewage first goes through a primary phase. This is where some of the suspended, solid particles and inorganic material is removed by the use of filters. The secondary phase of the treatment involves the reduction of organic, this is done with the use of biological filters and processes that naturally degrade the organic waste material. The final stage of treatment is the tertiary phase; this stage must be done be-fore the water can be reused. Almost all solid particles are removed from the water and chemical additives are supplied to get rid of any left-over impurities.

Denitrication is an ecological approach that can be used to prevent the leaching of nitrates in soil, this in turn stops any ground water from being contaminated with nutri-ents. Fertilisers contain nitrogen, and are often applied to crops by farmers to help plant growth and increase the yield. Bacteria in the soil convert the nitrogen in the fertilizer to nitrates, making it easier for the plants to absorb. Immobilization is a process where the nitrates become part of the soil organic matter. When oxygen levels are low, another form of bacteria then turns the nitrates into gases such as nitrogen, nitrous oxide and ni-trogen dioxide. The conversion of these nitrates into gas is called denitrification. This prevents nitrates from leaching into the soil and contaminating groundwater.

Septic Tanks treat sewage at the place where it is located, rather than transporting the waste through a treatment plant or se-wage system. Septic tanks are usually used to treat se-wage from an individual building. Untreated sewage from a property flows into the septic tank and the solids are separated from the liquid. Solid material is separated depending on their density. Heavier particles settle at the bottom of the tank whereas lighter particles, such as soap scum, will form a layer at the top of the tank. Biological processes are used to help degrade the solid materials. The liquid then flows out of the tank into a land drainage system and the remaining solids are filtered out.

Ozone Wastewater Treatment is a method that is increasing in popularity. An ozone generator is used to break down pollutants in the water source. The generators convert oxygen into ozone by using ultraviolet radiation or by an electric discharge field. Ozone is a very reactive gas that can oxidise bacteria, moulds, organic material and other pollutants found in water. Using ozone to treat wastewater has many benefits. In particular, kills bacteria effectively and oxidises sub-stances such as iron and sulphur so that they can be filtered out of the solution. There are no nasty odours or residues produced from the treatment. Ozone converts back into oxygen quickly, and leaves no

trace once it has been used.

Virtually all types of water pollution are harmful to the health of humans and animals. Water pollution may not damage our health immediately but can be harmful after long term exposure.

Reading Comprehension

1. Define if the statements are true or false:

1) With industrialization the water keeps getting clean.

2) People who are just out to enjoy themselves on the sea throw their waste overboard or have a leaky engine.

3) The fuel of tankers hardly causes serious damage to beaches and coral.

4) The fertilizer and insecticides soak into the ground and get caught in a water system or river.

5) Water pollution doesn't affect people's life.

Language Development

1. Form the words from the given ones below and fill in the gaps.

1) poison	adjective
2) dump	noun
3) prevent	noun
4) leak	adjective
5) agriculture adjective	adjective
6) industry adjective	adjective
7) treat noun	noun
8) generate noun	noun
9) suppress noun	noun
10) mortal noun	noun

1) The general public needs to learn more information about primary ____. 2) Infant_____ is defined as the number of infant deaths.

3) Some ships have _____ engines and as a result the fuel gets all over marine life.

4) A diversity of _____ substances comes from farmers when they spray their fields the fertilizer. 5) Consequently, they have immune system _____, which leads to a diverse series of health issues.

6) A lot of factories do illegal _____ which hurts wildlife.

7) A _____ is a machine which produces electricity. 8) Domestic households, _____and _____ practices produce wastewater that can cause pollution of many lakes and rivers.

9) _____ is medical attention given to a sick or injured person or animal.

! Discourse markers

Discourse means „pieces of language longer than a sentence". Some words and expressions are used to show how discourse is constructed. They can show the connection between what the speaker is saying and what has al-ready been said or what is going to be said; they can help to make clear the structure of what is being said; they can indicate what speakers think about what they are saying or what others have said. There a very large number of them. Here a few most common examples. Some of these words and expressions have more than one use; for more information, look in a good diction-

ary. Some discourse markers are used mostly in informal speech or writing; others are more common in a formal style. Note that a discourse marker usually comes at the beginning of a clause.

To balance two contrasting facts or ideas we use on the other hand, while, whereas.

To emphasise a contrast we use however, nevertheless.

To point that the main point is as follows we use anyway, anyhow, at least.

To show the structure of what we are saying we use first(ly), first of all, second(ly), third(ly) etc; lastly, finally, to begin/start with; in the first/second/third place.

When you want to add something you say moreover (very formal), in addition, another thing is, besides, in any case.

To generalize things use on the whole, in general, generally speaking=virtuallyl.

To give examples use for instance, for example, e.g., in particular.

To show logical consequence use therefore, as a result, consequently, so, then.

To persuade use after all, no doubt.

To sum up the ideas use in conclusion, to sum up, briefly, in short.

2. Look through the text, find and highlight the markers. Translate the sentences.

3. Find and learn Russian equivalents for the following words and expressions.

1) detrimental effects	a)
2) electric discharge field	b)
3) nasty odours or residues	c)
4) reproductive failure	d)
5) sewage pipes	e)
6) left-over impurities	f)
7) soap scum	g)
8) flush down	h)
9) coral bleaching	i)
10) thick sludge	j)

4. Find and learn English equivalents for the following words and expressions:

1) “цветение воды”, вызванное массовым развитием водорослей	a)
2) просачиваться	b)
3) растворимые минералы и соли	c)
4) субпродукты	d)
5) подавление иммунной системы	e)
6) острое отравление	f)
7) морские организмы	g)
8) выщелачивание/вымывание нитратов	h)
9) детская смертность	i)
10) санитарные условия	j)
11) ферменты в организме	k)

5. Translate the following article from English into Russian.

Virtually all types of water pollution are harmful to the health of humans and animals. Water pollution may not damage our health immediately but can be harmful after long term exposure. As we see, different forms of pollutants affect the health of animals

in different ways:

Firstly, heavy metals from industrial processes can accumulate in near-by lakes and rivers. These are toxic to marine life such as fish and shellfish, and subsequently to the humans who eat them. Heavy metals can slow development; result in birth defects and some are carcinogenic.

Secondly, industrial waste often contains many toxic compounds that dam-age the health of aquatic animals and those who eat them. Some of the toxins in industrial waste may only have a mild effect whereas other can be fatal. They can cause immune suppression, reproductive failure or acute poisoning.

Thirdly, microbial pollutants from sewage often result in infectious diseases that infect aquatic life and terrestrial life through drinking water. Microbial water pollution is a major problem in the developing world, with diseases such as cholera and typhoid fever being the primary cause of infant mortality.

Fourthly, organic matter and nutrients causes an increase in aerobic algae and de-pletes oxygen from the water column. This causes the suffocation of fish and other aquatic organisms.

Fifthly, sulfate particles from acid rain can cause harm the health of marine life in the rivers and lakes it contaminates, and can result in mortality.

And finally, suspended particles in freshwater reduces the quality of drinking wa-ter for humans and the aquatic environment for marine life. Suspended particles can of-ten reduce the amount of sunlight penetrating the water, disrupting the growth of photo-synthetic plants and micro-organisms.

Discuss the following questions in small groups:

1. Dumping into the rivers is cheap and easy.
2. Limited usage of fertilizer and insecticides doesn't cause any harm.
3. We cannot do anything about water pollution because such a problem is not to solve. 4. Prepare a presentation on the topic being discussed.

CHERNOBYL CATASTROPHE

On the 26th of April 1986 a catastrophe broke out 12 kilometres off the Belarus-ian border. It was the major break-down of the power unit at the Chernobyl nuclear power station. It is the most severe catastrophe throughout the entire world history of the atomic energy use by its scale, complexity and long-term consequences.

As the result of the explosion of the failed reactor a huge amount of radioactive substances was released into the atmosphere. Later on they left the large fall-out «spots» on the ground surface. 23% of the territory of Belarus, 4,8% of the territory of the Ukraine and 0,5% of the territory of Russia were contaminated.

The radiation situation was determined by radionuclides with the period of half-decay from 8 days till 24390 years.

After the Chernobyl accident Belarus has become the zone of the ecological dis-aster. The situation got worse because radioactive contamination coincided with the formerly existing zones of high chemical pollution. 260,000 hectares of agricultural lands are forbidden to use for farming purposes. Thousands of hectares of forests are contaminated with radioactive elements. The Chernobyl catastrophe has affected the destinies of millions of people. The radioactive contamination of the ecosystems has created the conditions for making it impossible to conduct the agricultural production

and manage forestry in the normal way for many decades.

In order to decrease the influence of radiation on the people considerable work was done during the post-accident period. Measures were taken to evacuate the people from the most dangerous districts, to provide for their medical check-up and treatment. Various measures were carried out — radioactive decontamination, agricultural treatment of soil, provision of clean food. However, these measures are not enough yet. And international co-operation in this field serves the interests of the entire mankind.

ACID RAIN

Task 1. Pronounce the following words correctly and learn their meaning.

1. damage ['dæmɪʤ] - ущерб, урон
2. hazard ['hæzəd] - риск, опасность
3. precipitation [prɪsɪpɪˈteɪʃn] - выпадения осадка
4. dissolve [dɪˈzɒlv] - растворять
5. emissions [ɪˈmɪʃn] - излучение, выброс
6. fossil fuels [fɒsl ˈfjuːəlz] - ископаемые виды топлива
7. fumes [fjuːmz] - выхлопные газы
8. decay [dɪˈkeɪ] - распадаться, разлогаться
9. dissolve [dɪˈzɒlv] - растворять
10. droplets [ˈdrɒplɪtz] - капли, брызги
11. fraction [frækʃn] - крупица, частица
12. devastating [ˈdevəsteɪtɪŋ] - разрушительный
13. vulnerable [ˈvʌln(ə)rəb(ə)l] - уязвимый
14. loch [lɒk] - озеро
15. extinction [ɪksˈtɪŋkʃn] - вымирание
16. mortality [mɔːˈtælɪtɪ] - смертность
17. collapse [kəˈlæps] - разрушение, крушение
18. electric utilities [ɪˈlektrɪk juːˈtɪlɪtɪz] - электроснабжение

Task 2. Read the text.

ACID RAIN

Damage caused by acid rain has been well-documented leading to it being labelled as an environmental hazard. Acid rain can be defined as precipitation that is abnormally acidic due to it containing dissolved pollutants, which make it capable of causing great environmental harm. Typical rain will have a pH of around 5.5 whereas the pH of acid rain is much lower at around 4.0 due to it containing dis-solved sulphur dioxide or nitrogen oxides, which are acidic pollutants.

How Does Acid Rain Affect the Atmosphere?

The majority of the emissions of sulphur dioxide and nitrogen oxides come from human activities such as burning of fossil fuels or vehicle exhaust fumes. However, a small fraction of emissions exist from natural processes such as decaying vegetation and volcanic activity.

These emissions of sulphur dioxide and nitrogen oxide diffuse into the atmosphere and dissolve in water droplets in clouds forming sulphuric acid and nitric acid respectfully. Clouds containing these acidic droplets can then be transported by winds before precipitation occurs, creating acid rain through a process known as wet deposition. Alternatively, some of the pollutant particles may not become dis-solved in cloud water

to form acid rain so instead return to Earth's surface through dry deposition.

How Does Acid Rain Affect the Water Cycle?

After being released from clouds as precipitation, acid rain reaches the Earth's surface and a large fraction of it is transported to rivers and lakes through surface runoff or by groundwater flow. Here, it mixes with the existing water and increases the acidity of the water body with this drop in pH being particularly dramatic when large volumes of rainfall enter a relatively small water body.

In addition to rainfall, acid rain can also be deposited from the atmosphere as acid snow when temperatures are cold enough. This form of acid deposition can be particularly devastating to the natural environment as it will accumulate on the ground before suddenly melting to release a large volume of acidic water into the surrounding landscape.

How Does Acid Rain Affect Plant Growth and Ecosystems?

Living organisms suffer directly from acid rain falling in their habitat with species living in confined aquatic environments being particularly vulnerable as they cannot migrate to less acidic waters. Whilst some species have a high tolerance to acidic conditions, others cannot survive even very small changes in pH. For example, the increased acidity in several lochs in Galloway, Scotland in the 1900s led to the local extinction of several of the local fish populations.

The waxy outer layer of plant leaves can also become damaged by acid rain and the inability to photosynthesise efficiently makes the plant weak with an increased chance of mortality. The initial loss of key species in an ecosystem due to their high sensitivity to acid rain can result in the subsequent loss of further species who were dependent on the key species for their own survival, and this may result in the col-lapse of entire ecosystems.

How Does Acid Rain Affect Human Health?

Acid rain and the pollutant particles of sulphur dioxide and nitrogen oxide that it is formed from have been linked to human health problems including asthma, heart disease and eye irritation. In addition to forming acid rain, nitrogen oxides are also known to be involved in a reaction which creates tropospheric ozone which is known to cause respiratory problems in humans.

In answering the question on how does acid rain affect the environment, one will discover a whole host of environmental problems and impacts on humans. To pre-vent further damage from acid rain, it is important that we identify the main sources of sulphur dioxide and nitrogen oxide pollution and cut these emissions to meet higher air quality standards. Cutting emissions from these polluting sectors such as electric utilities and vehicles requires cleaner technologies to be used which can scrub out the pollutant gases and prevent them from causing environmental damage [13].

Task 3. Complete the following sentences.

1.Damage caused by acid rain has been well-documented leading to it being labelled as an environmental _____.

2. Acid rain can be defined as precipitation that is abnormally acidic due to it containing _____.

3. The majority of the emissions of sulphur dioxide and nitrogen oxides come from human activities such as burning of fossil fuels or vehicle exhaust_____.

4. This form of acid deposition can be particularly devastating to the natural environment as it will accumulate _____.

5. Inability to photosynthesise efficiently makes the plant weak with an in-creased chance of_____.

6. The initial loss of key species in an ecosystem due to their high sensitivity to acid rain can result in the subsequent loss of _____.

7. To prevent further damage from acid rain, it is important that we cut the emissions to meet higher air quality_____.

Possible answers: fumes; hazard; on the ground; further species; standards; dissolved pollutants; mortality

Task 4. Find the synonym to the first word in each row.

1. dissolve – evolve – distribute – solubilize
2. damage – benefit – detriment – feature
3. decay – smolder – recover – freeze
4. vulnerable – devastating – strange – unprotected
5. emissions – purity – radiation – ambiguity

Task 5. Find the antonym to the first word in each row.

1. droplets — splashes - drought – silence
2. fossil fuels – emissions – fumes – gas
3. mortality – lethality - death rate - birth rate
4. fraction – stone – grain - chunk
5. precipitation – sludge – aridity – vegetation

Task 6. Answer the following questions.

1. Can acid rain be defined as precipitation?
2. What is the pH acid rain?
3. How does acid rain affect the Atmosphere?
4. The majority of the emissions of sulphur dioxide and nitrogen oxides come from human activities, don't they?
5. How can clouds be transported by winds?
6. How does acid rain affect the water cycle?
7. Does large fraction of acid rain is transported to rivers and lakes through surface runoff?
8. Does acid rain can also be deposited from the atmosphere as acid snow?
9. How does acid rain affect plant growth and ecosystems?
10. The increased acidity in several lochs in Galloway, Scotland in the 1900s led to the local extinction of several of the local fish populations, didn't it?
11. How does acid rain affect human health?
12. What emissions should we cut to meet higher air quality standards?

Task 7. Find the connectors in the text "Acid Rain'' and divide them into columns or schemes depending on their type.

Task 8. Write an essay "Acid Rain and its impact'' using different types of connectors.

TOXIC WASTES

INTRODUCTION

The unwanted poisonous by-products of human activity, toxic wastes can arise from many sources. Atmospheric pollution, for example, is caused by automobiles, power plants, and incinerators. Acid rain is produced when oxides of sulfur, carbon, and nitrogen from burning fossil fuels combine with moisture in the air, producing hazardous acids. Discarded industrial solvents include low-molecular weight material such as benzene and carbon tetrachloride and high-molecular weight organic materials such as PCBs (polychlorinated biphenyls), which were used in the past for hydraulic fluids and in electrical transformers and capacitors. Dioxins are the unwanted by-products of the manufacture of herbicides. Heavy-metal residues from copper or silver mining can contaminate groundwater or streams and lakes and become concentrated in fish. Radioactive wastes are generated by nuclear power reactors, the manufacture of nuclear weapons, and, at low levels, by the industrial and medical application of radioisotopes.

TOXIC WASTE EFFECTS

In 1981 approximately 264 million tons of waste were produced in the United States about 5.5 million tons were considered hazardous. During 1986 the United States generated about 1,770,000 cubic feet (50,000 cubic meters) of low-level solid and liquid radioactive waste.

Many toxic wastes can harm humans, animals, or plants. Significant exposure to lead in paints and gasoline can lead to nervous disorders. Organic toxic wastes can lead to liver and kidney inflammation. Others, such as PCBs, are suspected of causing birth defects. Some organic materials, such as benzene, are known to cause cancer in laboratory animals and are listed as possible cancer-producing agents in humans. Moderately high levels of copper, silver, and other heavy metals are detrimental to the growth of algae.

Some toxic wastes cause ecological imbalances. The insecticide DDT (dichlorodiphenyltrichloroethane), for example, almost wiped out the American bald eagle population and reduced many other bird populations. It destroyed the birds' ability to develop a sufficiently strong egg shell to assure hatching. Because of DDT's threat to bird populations severe restrictions were imposed in 1972 on its use in the United States. Other laws required the reduction of lead in gasoline and the termination of PCB production. DDT is still used in developing countries for its effectiveness against the malaria-carrying mosquito.

TREATMENT AND DISPOSAL

Depending on the type of waste, toxic wastes can be treated chemically, biologically, or by combustion. An acid spill, for example, may be treated with lime or bicarbonate to neutralize the acid. Oil spills at sea are often treated with an emulsifier to disperse the oil in the water, thereby reducing the adverse effects on beaches and on wildlife. Effective methods of biological treatment of toxic wastes are still undergoing development. Organisms that can survive the toxicity and degrade the toxic wastes in a reasonable amount of time have not been found, but advances in genetic engineering may change this situation.

Combustion and other high-temperature treatments are the major methods used to reduce the toxicity of wastes. Processes involving plasma technology are used for specific toxic wastes. These processes use high temperatures to ionize a mixture of air and fuel gases. When combined with these ionized gases, hot toxic gases from the waste are decomposed into relatively harmless components. Plasma treatment at temperatures

above 1,650° F (900° C) can diminish the toxicity of gas emissions such as dioxin vapor by about ten times the reduction that results from conventional combustion treatments.

Incineration of liquid wastes is the primary method of toxic waste treatment in the United States. It usually involves injecting the waste as small droplets into a burner. A fixed-hearth process, by which both liquid and solid wastes can be handled, is also used. The waste is treated in two stages. It is first partially burned with insufficient air and then burned again with excess air at higher temperatures to destroy the gases released during the first stage.

Another widely used process involves incineration in a rotary kiln. This is used for solids, liquids, their mixtures (slurries), and wastes in containers. Some hazardous wastes are disposed of directly as fuel in industrial boilers or cement kilns.

Liquid toxic wastes must be stored temporarily before disposal. Steel drums are used for short-term storage. Materials less subject to corrosion, such as glass or ceramic, are often required for long-term storage. Ocean dumping and the use of landfills are no longer permitted for the disposal of hazardous waste in the United States.

In the United States high-level nuclear wastes containing plutonium or uranium are either sent to reprocessing plants or stored near the nuclear facility site until disposal. Vitrification, a disposal procedure developed in recent years, is a process that embeds nuclear wastes in glasslike substances that are stable for thousands of years. These erosion-resistant blocks are then stored in underground salt mines or stable rock formations. Vitrification has been highly developed in France where nuclear energy is used extensively for electricity production. In the United States low-level radioactive wastes are currently stored at sites in three states—South Carolina, Nevada, and Washington—often after considerable volume reduction by compacting. Some low-level radioactive wastes are also incinerated.

In the United States performance standards and permit requirements for thermal toxic waste destruction are determined by the Environmental Protection Agency (EPA). Current incinerator standards require the removal of at least 99.99 percent of the principal organic hazardous constituents and 99 percent of the hydrogen chloride in exhaust gases. Separate standards apply to solid particles (dust and ash) emitted during incineration. Radioactive wastes are regulated by the EPA, the Department of Energy (DOE), and the Nuclear Regulatory Commission (NRC). Each state is responsible for its own waste and interstate cooperation regarding disposal facilities is encouraged. Toxic waste regulation in Canada is monitored by the Ministry of the Environment, while the Atomic Energy Control Board manages radioactive waste.

2.6. NATURE CONSERVATION

SAVE THE PLANET

Task 1. Pronounce the following words correctly and learn their meaning.

1. decisive [dɪˈsaɪsɪv] - решающий
2. clue up [kluː] - разгадка
3. long-haul [lɒŋ hɔːl] - долгий
4. biodiversity [baɪəʊdaɪˈvɜː(r)sɪti] - биоразнообразие
5. input [ˈɪnpʊt] - входные данные
6. grain [greɪn] - зерно
7. legume [ˈlegjuːm] - бобовые

8. struggle [strʌgl] - борьба
9. drastic [ˈdræstɪk] - радикальный
10. landfill [ˈlændfɪl] - свалка
11. drastic [ˈdræstɪk] - радикальный
12. marine [məˈriːn] - морской
13. upcycling [ʌpˈsaɪklɪŋ] - повторный цикл
14. estimate ['estɪmeɪt] - оценивать
15. leftover [ˈleftəʊvə] - остатки
16. consumer [kən'sjuːmə] - потребитель
17. decline [dɪ'klaɪn] - снижаться, уменьшаться
18. halte [hɔːlt] - останавливать
19. daunting [ˈdɔːntɪŋ] - пугающим
20. kickstart ['kɪkstɑːt] - толчок к действию
21. internship [ɪnˈtɜːnʃɪp] - стажировка

Task 2. Read the text

SAVE THE PLANET

We are the first generation to know we're destroying the world, and we could be the last that can do anything about it. Speaking up is one of the most powerful things you can do especially if it's to the right people. We've been promised a better world – but our leaders are not on track to deliver. We need decisive action now.

1. Keep yourself informed

One of the best things you can do is to keep yourself informed – the more you know the better. It leaves you better equipped to have those conversations with your friends and family and the people you want to influence. Get yourself clued up on the facts, stay up to date with recent news on the state of our natural world and work out what you can do.

We have the world at our fingertips, so learn from influential people, keep up with the news and research organisations that are working to make our planet a better place.

2. Travel responsibly

One of the most efficient ways of lowering your environmental impact is by travelling responsibly. This means, whenever you can, choosing a more sustainable way to get from A to B - walk or cycle when you can.

Transport is one of the most polluting sectors. But holidaying closer to home can make a big impact on your carbon footprint. One short haul return flight can ac-count for 10% of your yearly carbon emissions, and long-haul flights can completely determine your carbon impact.

3. Eat sustainably

Food production is a major driver of wildlife extinction. What we eat contributes around a quarter of global greenhouse gas emissions and is responsible for almost 60% of global biodiversity loss.

Farming animals for meat and dairy requires space and huge inputs of water and feed. Today, one of the biggest causes of forest loss is the expansion of agricultural land for animal feed production, such as soy. Producing meat creates vastly more carbon di-

oxide than plants such as vegetables, grains and legumes.

Moving away from a meat-dominated diet towards a more plant-based diet can lower your impact on the environment. Vegetarian and vegan foods are massively on the rise and becoming far more common in restaurants, cafes and supermarkets, so you'll rarely struggle.

Not only that, but cutting down on meat and dairy products can reduce your weekly food bills.

4. Reduce your waste

We need to make wasting our resources unacceptable in all aspects of our life. Every product we buy has an environmental footprint and could end up in landfill. The impact of plastic pollution on our oceans is becoming increasingly clear, having drastic impacts on marine life.

Recycling what we can reduces the amount of new materials we are making, and upcycling is a creative way to make old items into something more valuable. This could be reusing a jam jar as a candle holder, or using old tins as plant pots – the possibilities are endless!

It's not just the products we buy. It's estimated that a third of all food produced in the world is lost or wasted. Do your bit by eating up leftovers and use any ingredients you have spare to make interesting meals. Try to waste as little food as possible, and compost the organic waste you can't eat.

5. Watch what you buy

We can all do more to be more conscious about what we buy, and where we buy it from. Buying less will save you money, reduce waste and improve your environmental footprint. Living a less consumerist lifestyle can benefit you and our planet.

Use your purchasing power and make sure your money is going towards positive change. By supporting eco-friendly products which are less damaging to the environment, you're encouraging companies to source and produce their products in a sustainable way.

6. Find ways to donate

Our amazing supporters are helping us to restore nature and tackle the main causes of nature's decline, particularly the food system and climate change.

There are lots of ways to give. Become a member of WWF, adopt an animal, take on a challenge for Team Panda or encourage your family and friends to donate by setting up a Facebook birthday fundraiser.

7. Read the living planet report

WWF's most comprehensive study to date, the Living Planet Report 2022, shows global wildlife populations have plummeted by 69% on average since 1970. This means that nature loss is not being halted, let along reversed.

The solutions exist, but time is running out to act. We're now in a race to bring our world back to life - and we know it's a race we can win.

8. Volunteer for your world

Volunteering can be daunting, and expensive if you don't know where to look. But it doesn't need to be this hard to do good.

Often local nature reserves or parks are looking for regular volunteers, which can give you practical conservation experience as well as helping to restore nature your local area.

We want everyone to have the opportunity to help and kickstart a career in conservation. We have a network of youth internship schemes across the world where you

can work on a placement with a WWF team or with one of our projects in the field. It's an exciting opportunity to be able to work in the front line of nature conservation [14].

Task 3. Insert the missed parts of the following sentences.

1. One of the most efficient ways of lowering your _____is by travelling responsibly.
2. Transport is one of the most _____sectors.
3. One short haul return flight can account for _____of your yearly carbon emissions.
4. What we eat contributes around a quarter of global _____gas emissions.
5. Producing meat creates vastly more _____than plants such as vegetables, grains and legumes.
6. WWF's most comprehensive study to date, the Living Planet Report 2022, shows global wildlife populations have plummeted by ____ on average since 1970.
7. Often local nature reserves or parks are looking for regular _____, which can give you practical _____as well as helping to restore nature your local area.

Possible answers: polluting; 10%; carbon dioxide; greenhouse; environmental impact; 69%; conservation experience; volunteers.

Task 4. Find the synonym to the first word in each row.

1. clue up – key – shackle – earrings
2. marine – sandy – sea – windy
3. leftover – food – staff – garbage
4. biodiversity - similarity - variety – peculiarity
5. consumer – user – customer - follower

Task 5. Find the meaning to each of the words.

1. drastic – a) roughly calculate or judge the value
2. upcycling – b) seeming difficult to deal with in prospect
3. estimate – c) be in something for the long haul
4. input – d) to try very hard to do, achieve, or deal with something that is difficult or that causes problems
5. daunting – e) likely to have a strong or far-reaching
6. biodiversity –to be involved in an activity or situation for a long time, rather than just a few days, weeks
7. long-haul – f) a system of trash and garbage disposal in which the waste is buried between layers of earth to build up low-lying land
8. struggle – g) the variety of plant and animal life in the world or in a particular habitat
9. landfill – h) to recycle (something) in such a way that the resulting product is of a higher value than the original item

Task 6. Answer the following questions.

1. What are the main steps to save the planet according to the text?
2. One of the most efficient ways of lowering your environmental impact is trav-

elling responsibly, isn't it?

3. What is the main polluting sector?

4. What contributes around a quarter of global greenhouse gas emissions?

5. What leads to one of the biggest causes of forest loss?

6. The impact of plastic pollution on our oceans is becoming increasingly clear, having drastic impacts on marine life, isn't it?

WAYS TO PROTECT THE ECOLOGY

Environmental protection is the practice of protecting the natural environment by individuals, organizations and governments. Its objectives are to conserve natural resources and the existing natural environment and, where possible, to repair damage and reverse trends.

Due to the pressures of overconsumption, population growth and technology, the biophysical environment is being degraded, sometimes permanently. This has been recognized, and governments have begun placing restraints on activities that cause environmental degradation. Since the 1960s, environmental movements have created more awareness of the various environmental problems. There is disagreement on the extent of the environmental impact of human activity and even scientific dishonesty occurs, so protection measures are occasionally debated.

Approaches with Regards to Environmental Protection Times are ever changing. It is crucial for societies, countries and organizations to avoid resistance and adapt to the needs of all living species and resources. Key concepts of conservation pertain to sustainability of resources and species, the longevity of individual product usage and the concerned domino effects that reckless usage of resources is creating. Sustainable developments, ecological restorations alongside animal welfare are not only all- important aspects when discussing conservation and change but it also provides a valid reason as a topic of concern and awareness. By educating current and upcoming generations, and equipping them with the necessary knowledge and tools, change to help replenish the environment and a healthier living style as a society is bound to reap great results.

Conserving and Improving Our Surrounding Environment

Human beings are the domineering organisms in the ecological system. For this reason, we can protect ecology by improving water quality, reducing environmental pollution, protecting biodiversity, and limiting the destruction of natural resources. Humans have all the capabilities and resources needed for the necessary steps to help improve the ecological communities so as to regenerate the natural systems and to encourage ecological stability. Acts such as pollution reduction, environmental conservation, wildlife protection, and reducing exhaustive natural resource exploitation can significantly protect the world's ecology.

Recovery, Replacement and Control Measures

Natural and less toxic recovery, replacement and control measures can be instituted to avoid the damages of the environment's delicate nature that host the various intricate processes existent among living and non-living things. This can include acts such as exploiting renewable energy sources, afforestation, establishing pollution regulation policies, allowing for natural breeding, and restoration of destroyed natural resources as well as habitats.

Restoration of wetlands and controlling invasive species are perfect examples of restoration and control measures respectively, which can help protect ecology. A good

example of replacement is the use of wetlands and marshes to filter water impurities and other toxins instead of solely depending on water treatment plants.

Management of Natural Resources

Natural resource management encompasses protection of endangered species, forestation, protection of aquatic habitats, the practice of organic farming, and controlled exploitation of natural resources. Bringing back species that are on the verge of extinction is a wonderful way of protecting ecology because they can be used in future ecological studies. On the other hand, forest management practices play an important role in sustaining healthy forest ecosystems and preserve certain species of trees. Organic or natural approaches that use natural predators and enemies for pest control protects the ecology of pests, limits the problems associated with pesticide, and relieve crop damage by pests. Additionally, properly managing aquatic habitats ensures that nursery grounds for fish and other aquatic life forms are protected, and controlled exploitation of natural resources limits the destruction of the ecosystem.

Creating Awareness, Education and Advocacy

Educative campaigns and advocacy create awareness that can help people understand the value of ecology. It is a simple way of establishing a workable solution towards conserving and protecting both abiotic and biotic elements. It enables people to make conscious efforts of not only thinking about the past and present but also the future so that we can use resources sustainably while at the same time conserving them for the future generations. This can be done through environmental campaigns, education, and discussions.

INTERNATIONAL COOPERATION IN THE FIELD OF ENVIRONMENTAL PROTECTION

Harmonization of international environmental relations is one of the main ways out of the global community of ecological crisis. High priority to the environmental factor in international relations is increasing and is associated with progressive deterioration of the biosphere. They become environmental imperatives and define new norms and rules of interaction between states. Therefore, the problem of harmonizing relations of society and nature, protection of the environment has assumed global importance. The development of effective international mechanisms would ensure judicious use of the planet's resources and their protection would help preserve the ecological balance.

It is a recognized fact that it is necessary to implement the joint efforts of the environmental action of all countries. Currently no country is able to solve their environmental problems alone or by cooperating with several countries. We need a clear concerted action by all countries and their coordination on the basis of international law. The solution to all these problems is possible only on the basis of international cooperation undertaken on a multilateral basis. Forms of such cooperation are the organization of scientific and practical meetings; the establishment of international organizations; the conclusion of official contracts and agreements, coordinating joint efforts for the protection of nature and the work of the public international parties and organizations (the “green” and “environmentalists”). In the world there are a significant number of international environmental organizations that conduct a variety of scientific studies of the impacts of human activities on climate, atmosphere, hydrosphere, soil, flora and fauna, predictions of earthquakes and tsunamis, biological and genetic consequences of environmental pollution. Implementing these projects by such organizations as UNEP (UN Environment Programme), established in 1973, which coordinates all activities in the

field of environmental protection, is developing a program for further joint action in this area, WMO (World Meteorological Organization), UNESCO (United Nations Educational, Scientific and Cultural Organization), WHO (World Health Organization), ECE (European Economic Commission), IMO (International Maritime Organization), IORP (International Organization on Radiological Protection), the IUCN (International Union for Conservation of Nature, Natural resources), founded in 1948, MODM (International Council for the Exploration of the Sea), IOC (International Organization for Climate Change), WWF (World Wildlife Fund), founded in 1961, the Club of Rome, founded in 1968, Greenpeace, founded by the Canadian conservationists in 1971, WCE (World Commission on the Environment), founded in 1983. International cooperation in the field of environmental protection is one of the important places in the foreign policy of any country. At the present stage of human development, the ultra-high level of impact on the environment doesn't always have predictable effects. Environmental education, training and culture of citizens are determined not only by the nature of the state, but the welfare and health of the nation. Discussion concerning environmental protection often focuses on the role of government, legislation and law enforcement. However, in its broadest sense, environmental protection may be seen to be the responsibility of all the people and not simply that of government. Decisions that impact the environment will ideally involve a broad range of stakeholders including industry, indigenous groups, environmental group and community representatives. Gradually, environmental decision-making processes are evolving to reflect this broad base of stakeholders and are becoming more collaborative in many countries. Many constitutions acknowledge the fundamental right to environmental protection and many international treaties acknowledge the right to live in a healthy environment. Also, many countries have organizations and agencies devoted to environmental protection. There are international environmental protection organizations, such as the United Nations Environment Programme.

Although environmental protection is not simply the responsibility of government protection acts, most people view these agencies as being of prime importance in establishing and maintaining basic standards that protect both the environment and the people interacting with it.

MODERN ECOLOGICAL THEORY AND RESEARCH

Ecology's Influence in the Social Sciences and Humanities

Human Ecology

Human ecology began in the 1920s, through the study of changes in vegetation succession in the city of Chicago. It became a distinct field of study in the 1970s. This marked the first recognition that humans, who had colonized all of the Earth's continents, were a major ecological factor. Humans greatly modify the environment through the development of the habitat (in particular urban planning), by intensive exploitation activities such as logging and fishing, and as side effects of agriculture, mining, and industry. Besides ecology and biology, this discipline involved many other natural and social sciences, such as anthropology and ethnology, economics, demography, architecture and urban planning, medicine and psychology, and many more. The development of human ecology led to the increasing role of ecological science in the design and management of cities.

In recent years human ecology has been a topic that has interested organizational researchers. Hannan and Freeman argue that organizations do not only adapt to an environment. Instead it is also the environment that selects or rejects populations of organizations. In any given environment (in equilibrium) there will only be one form of organization (isomorphism). Organizational ecology has been a prominent theory in accounting for diversities of organizations and their changing composition over time.

James Lovelock and the Gaia Hypothesis

The Gaia theory, proposed by James Lovelock, in his work «Gaia: A New Look at Life on Earth», advanced the view that the Earth should be regarded as a single living macro-organism. In particular, it argued that the ensemble of living organisms has jointly evolved an ability to control the global environment – by influencing major physical parameters as the composition of the atmosphere, the evaporation rate, the chemistry of soils and oceans – so as to maintain conditions favorable to life.

This vision was largely a sign of the times, in particular the growing perception after the Second World War that human activities such as nu- clear energy, industrialization, pollution, and overexploitation of natural resources, fueled by exponential population growth, were threatening to create catastrophes on a planetary scale. Thus Lovelock's Gaia hypothesis, while controversial among scientists, was embraced by many environmental movements as an inspiring view: their Earth-mother, Gaia, was «becoming sick from humans and their activities».

Conservation and Environmental Movements

Since the 19th century, environmentalists and other conservationists have used ecology and other sciences (e.g., climatology) to support their advocacy positions. Environmentalist views are often controversial for political or economic reasons. As a result, some scientific work in ecology directly influences policy and political debate; these in turn often direct ecological research.

Ecology and Global Policy

Ecology became a central part of the World's politics as early as 1971, UNESCO launched a research program called Man and Biosphere, with the objective of increasing knowledge about the mutual relationship between humans and nature. A few years later it defined the concept of Biosphere Reserve. In 1972, the United Nations held the first international conference on the human environment in Stockholm, prepared by Rene Dubos and other experts. This conference was the origin of the phrase «Think Globally, Act Locally». The next major events in ecology were the development of the concept of biosphere and the appearance of terms «biological diversity» – or now more commonly biodiversity – in the 1980s. These terms were developed during the Earth Summit in Rio de Janeiro in 1992, where the concept of the biosphere was recognized by the major international organizations, and risks associated with reductions in biodiversity were publicly acknowledged.

Then, in 1997, the dangers the biosphere was facing were recognized from an international point of view at the conference leading to the Kyoto Protocol. In particular, this conference highlighted the increasing dangers of the greenhouse effect – related to the increasing concentration of green- house gases in the atmosphere, leading to global changes in climate. In Kyoto, most of the world's nations recognized the importance of looking at ecology from a global point of view, on a worldwide scale, and to take into account the impact of humans on the Earth's environment.

Exercises

A. Comprehension

I. Answer these questions.

1. When was human impact on the environment first recognized?
2. How do humans modify their environment?
3. What was the result of the human ecology development?
4. When did the term «biodiversity» appear and was recognized?
5. What increasing dangers for the biosphere were acknowledged in 1997?

II. Speak on the origin of the phrase «Think Globally, Act Locally». Expand it, showing your opinion.

III. Make a summary of the text.

B. Vocabulary

IV. Give Russian equivalents of the following words and word combinations:

to argue
logging
equilibrium
controversial
on a worldwide scale
mining
recent
perception
ensemble
objective
to reject
to take into account
to reject
advocacy
mutual relationship

V. Find synonyms of these expressions among the words and word combinations from the previous exercise.

1) to claim, say, make a case, contend;
2) contentious, divisive, hot;
3) latest, up to date, contemporary, current, fresh;
4) group, company, collection;
5) purpose, aim, goal, intention;
6) awareness, observation, acuity;
7) to decline, refuse, eliminate, disallow, deny;
8) cutting down, deforestation;
9) minerals removal, taking out;
10) balance, stability;
11) support, encouragement, promotion;
12) take into consideration, bear in mind, consider.

VI. Find in the text English equivalents of the following words and expressions. Translate the sentences which contain them.

1) вырубка леса; 2) побочный эффект: 3) утверждать, приводить аргументы; 4) отвергать; 5) баланс, равновесие; 6) группа, множество; 7) осознание, понимание; 8) противоречивый; 9) цель; 10) в мировом масштабе; 11) принимать во внимание, в расчет.

DISCIPLINES OF ECOLOGY

Ecology is a broad discipline comprised of many sub-disciplines. A common, broad classification, moving from lowest to highest complexity, where complexity is defined as the number of entities and processes in the system under study, is:

• Physiological Ecology (or ecophysiology) and Behavioral ecology ex- amine adaptations of the individual to its environment.

• Population ecology (or autecology) studies the dynamics of populations of a single species.

• Community ecology (or synecology) focuses on the interactions be- tween species within an ecological community.

• Ecosystem ecology studies the flows of energy and matter through the biotic and abiotic components of ecosystems.

• Landscape ecology examines processes and relationship across multiple ecosystems or very large geographic areas.

Ecology can also be sub-divided according to the species of interest into fields such as animal ecology, plant ecology, insect ecology, and so on. An- other frequent method of subdivision is by biome studied, e.g., arctic ecology (or polar ecology), tropical ecology, desert ecology, etc. The primary technique used for investigation is often used to subdivide the discipline into groups such as chemical ecology, genetic ecology, field ecology, statistical ecology, theoretical ecology, and so forth. Note that these different systems are unrelated and often applied at the same time; one could be a theoretical plant community ecologist, or a polar ecologist interested in animal genetics.

Population ecology is a major subfield of ecology – one that deals with the dynamics of species populations and how these populations interact with the environment. The older term, autecology refers to the roughly same field of study, coming from the division of ecology into autecology – the study of individual species in relation to the enviromentand synecology – the study of groups of organisms in relation to the environment – or community ecology. Odum considered that synecology should be divided into population ecology, community ecology, and ecosystem ecology, defining autecology as essentially «species ecology». However, biologists have for some time recognized that the more significant level of organization of a species is a population, because at this level the species gene pool is most coherent. In fact, Odum regarded «autecology» as no longer a «present tendency» in ecology (i.e., an archaic term), although included «species ecology» – studies emphasizing life history and behaviour as adaptations to the environment of individual organisms or species – as one of four subdivisions of ecology.

The development of the field of population ecology owes much to the science of demography and the use of actuarial life tables. Population ecology has also played an important role in the development of the field of conservation biology especially in the

development of population viability analysis (PVA) which makes it possible to predict the long-term probability of a species persisting in a given habitat patch (e.g., a national park). While essentially a subfield of biology, population ecology provides many interesting problems for mathematicians and statisticians, which work mainly in the study of population dynamics.

Urban ecology is the subfield of ecology which deals with the interaction of plants, animals and humans with each other and with their environment in urban or urbanizing settings. Analysis of urban settings in the context of ecosystem ecology (looking at the cycling of matter and the flow of energy through the ecosystem) can result in healthier, better managed communities. Studying the factors which allow wild plants and animals which survive (and sometimes thrive) in built environments can also create more livable spaces.

Urban ecology also involves the study of the effects of urban development patterns on ecological conditions. Emphasis is also placed on planning com- munities with environmentally sustainable methods via design and building materials in order to promote a healthy and biodiverse urban ecosystem.

Exercises

A. Comprehension

I. Give a common, broad classification of many sub-disciplines of ecology.

II. Divide the discipline of ecology into fields according to the species of interest.

III. Define the major subfield of ecology.

IV. Answer these questions.
1. How can the term «complexity» be defined?
2. What science does population ecology interact with?
3. What does urban ecology deal with?

V. Summarize the text.

B. Vocabulary

VI. Give Russian equivalents of the following words and word combinations:
Frequent
Unrelated
sustainable
flow of matter
coherent
urban setting

multiple
long-term
viability

VII. Find in the text English equivalents of the following words and expressions. Translate the sentences which contain them.

1) поток энергии; 2) изучать, исследовать; 3) применять; 4) генофонд; 5) значимый, важный; 6) таблица смертности для страхования жизни; 7) сохраняться, продолжать существовать; 8) включать в себя; экологически рациональный; 9) способствовать, поддерживать; 10) уделять большое внимание чему-либо.

VIII. Find synonyms of these expressions among the words and word combinations from previous exercises.

1) to study, research, explore;
2) regular, repeated, recurrent;
3) numerous, manifold, various;
4) to support, encourage, help;
5) vital capacity, vitality;
6) to include, comprise, contain;
7) lasting, continuing, long-standing;
8) current, stream, flood;
9) logical, reasoned, rational, sound;
10) to survive, endue, last.

C. Reading and Discussion

IX. Read the text. Speak on the following points; 1) population dynamics; 2) factors influencing population growth; 3) several basic controls govern population size; 4) population decline and extinction; 5) human impact.

Population Ecology

A population is a group of individuals of the same species living in the same geographic area. The study of factors that affect growth, stability, and decline of populations is population dynamics. All populations undergo three distinct phases of their life cycle:

- growth;
- stability;
- decline.

Population growth occurs when available resources exceed the number of individuals able to exploit them. Reproduction is rapid, and death rates are low, producing a net increase in the population size.

Population stability is often proceeded by a «crash» since the growing population eventually outstrips its available resources. Stability is usually the longest phase of a population’s life cycle.

Decline is the decrease in the number of individuals in a population, and eventually leads to population extinction.

Nearly all populations will tend to grow exponentially as long as there are re-

sources available. Most populations have the potential to expand at an exponential rate, since reproduction is generally a multiplicative process. Two of the most basic factors that affect the rate of population growth are the birth rate, and the death rate. The intrinsic rate of increase is the birth rate minus the death rate.

Two modes of population growth. The Exponential curve (also known as a J-curve) occurs when there is no limit to population size. The Logistic curve (also known as an S-curve) shows the effect of a limiting factor (in this case the carrying capacity of the environment).

The environment is the ultimate cause of population stabilization. Two categories of factors are commonly used: physical environment and bio- logical environment. Three subdivisions of the biological environment are competition, predation, and symbiosis.

Physical environment factors include food, shelter, water supply, space availability, and (for plants) soil and light. One of these factors may severely limit population size, even if the others are not as constrained. The Law of the Minimum states that population growth is limited by the resource in the shortest supply.

Extinction is the elimination of all individuals in a group. Local extinction is the loss of all individuals in a population. Species extinction occurs when all members of a species and its component populations go extinct. Scientists estimate that 99 % of all species that ever existed are now extinct. The ultimate cause of decline and extinction is environmental change. Changes in one of the physical factors of the environment may cause the decline and extinction; likewise the fossil record indicates that some extinctions are caused by migration of a competitor.

Dramatic declines in human population happen periodically in response to an infectious disease. Bubonic plague infections killed half of Europe's population between 1346 and 1350, later plagues until 1700 killed one quarter of the European populace. Smallpox and other diseases decimated indigenous populations in North and South America.

Human populations have continued to increase, due to use of technology that has disrupted natural populations. Destabilization of populations leads to possible outcomes:

– population growth as previous limits are removed;

– population decline as new limits are imposed.

Agriculture and animal domestication are examples of population in- crease of favored organisms. In England alone more than 300,000 cats are put to sleep per year, yet before their domestication, the wild cat ancestors were rare and probably occupied only a small area in the Middle East.

X. Read and translate the text without a dictionary. Summarize the text.

Population ecology is the branch of ecology that studies the structure and dynamics of populations.

The term «population» is interpreted differently in various sciences:

• In human demography a population is a set of humans in a given area.

• In genetics a population is a group of interbreeding individuals of the same species, which is isolated from other groups.

• In population ecology a population is a group of individuals of the same species inhabiting the same area.

Interbreeding is seldom considered in ecological studies of populations. The ex-

ceptions are studies in population genetics and evolutionary ecology. Populations can be defined at various spatial scales. Local populations can occupy very small habitat patches like a puddle. A set of local populations connected by dispersing individuals is called a metapopulation. Populations can be considered at a scale of regions, islands, continents or seas.

Even the entire species can be viewed as a population.

Populations differ in their stability. Some of them are stable for thousands of years. Other populations persist only because of continuous immigration from other areas. On small islands, populations often get extinct, but then these islands can be recolonized. Finally, there are temporary populations that consist of organisms at a particular stage in their life cycle. For example, larvae of dragonflies live in the water and form a hemipopulation (term of Beklemishev). The major problem in population ecology is to derive population characteristics from characteristics of individuals and to derive population processes from the processes in individual organisms:

Main axiom of population ecology: organisms in a population are eco- logically equivalent. Ecological equivalency means:

1. Organisms undergo the same life-cycle
2. Organisms in a particular stage of the life-cycle are involved in the same set of ecological processes

The rates of these processes (or the probabilities of ecological events) are basically the same if organisms are put into the same environment (however some individual variation may be allowed).

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interbreeding – скрещивание; at spatial scales – территориально; undergo – подвергаться; dragonfly – стрекоза

XI. Retell the following text in English.

Популяция – это часть вида (состоит из особей одного вида), занимающая относительно однородное пространство и способная к саморегулированию и поддержанию определенной численности. Каждый вид в пределах занимаемой территории, таким образом, распадается на популяции. Если рассматривать воздействие факторов среды обитания на отдельно взятый организм, то при определенном уровне фактора (например, температуры) исследуемая особь либо выживет, либо погибнет. Картина меняется при изучении воздействия того же фактора на группу организмов одного вида. Одни особи погибнут или снизят жизненную активность при одной конкретной температуре, другие – при более низкой, третьи – при более высокой. Таким образом, можно дать еще одно определение популяции: все живые организмы, для того чтобы выжить и дать потомство, должны в условиях динамичных режимов экологических факторов существовать в виде группировок, или популяций, т.е. совокупности совместно обитающих особей, обладающих сходной наследственностью.

Важнейшим признаком популяции является занимаемая ею общая территория. Но в пределах популяции могут быть более или менее изолированные по разным причинам группировки. Поэтому дать исчерпывающее определение популяции затруднительно из-за размытости границ между отдельными группами особей. Каждый вид состоит из одной или нескольких популяций, и популяция, таким образом, – это форма существования вида, его наименьшая эволюционирующая единица. Проявляя заботу о сохранении вида, человек

должен прежде всего думать о сохранении популяции. Для популяций различных видов существуют допустимые пределы снижения численности особей, за которыми существование популяции становится невозможным. Точных данных о критических значениях численности популяций в литературе нет. Приводимые значения разноречивы. Остается, однако, несомненным факт, что чем мельче особи, тем выше критические значения их численности. Для микроорганизмов это миллионы особей, для насекомых – десятки и сотни тысяч, а для крупных млекопитающих – несколько десятков. Численность не должна уменьшаться ниже пределов, за которыми резко снижается вероятность встречи половых партнеров. Критическая численность также зависит от других факторов. Например, для некоторых организмов специфичен групповой образ жизни (колонии, стаи, стада). Группы внутри популяции относительно обособлены. Могут иметь место такие случаи, когда численность популяции в целом еще достаточно велика, а численность отдельных групп уменьшена ниже критических пределов. Например, колония (группа) перуанского баклана должна иметь численность не менее 10 тыс. особей, а стадо северных оленей – 300–400 голов.

Структура популяций

Для понимания механизмов функционирования и решения вопросов использования популяций большое значение имеют сведения об их структуре. Различают половую, возрастную, территориальную и другие виды структуры. В теоретическом и прикладном планах наиболее важны данные о возрастной структуре, под которой понимают соотношение особей (часто объединенных в группы) различных возрастов.

У животных выделяют следующие возрастные группы:

• ювенильная группа (детская);

• сенильная группа (старческая, не участвующая в воспроизводстве);

• взрослая группа (особи, осуществляющие репродукцию).

Обычно наибольшей жизнеспособностью отличаются популяции, в которых все возраста представлены относительно равномерно. Такие популяции называют нормальными. Если в популяции преобладают старческие особи, это однозначно свидетельствует о наличии отрицательных факторов в ее существовании, нарушающих воспроизводительные функции. Такие популяции рассматривают как регрессивные, или вымирающие. Требуются срочные меры по выявлению причин такого состояния и их исключению. Популяции, представленные в основном молодыми особями, рассматриваются как внедряющиеся, или инвазионные. Жизненность их обычно не вызывает опасений, но велика вероятность вспышек чрезмерно высокой численности особей, поскольку в таких популяциях не сформировались трофические и другие связи. Особенно опасно, если такие популяции представлены видами, которые здесь ранее отсутствовали. В таком случае популяции обычно находят и занимают свободную экологическую нишу и реализуют свой потенциал размножения, интенсивно увеличивая численность. Если популяция находится в нормальном или близком к нормальному состоянию, человек из нее может изымать то количество особей или биомассу (последний показатель обычно используется применительно к растительным сообществам), которая прирастает за промежуток времени между изъятиями. Ясно, что изыматься должны прежде всего особи после продуктивного возраста (окончившие размножение). Если преследуется цель получения определенного продукта, то возраст, пол или другие характеристики

популяций корректируются с учетом поставленной задачи.

К числу важнейших свойств популяций относится динамика свойственной им численности особей и механизмы ее регулирования. Всякое значительное отклонение численности особей в популяциях от оптимальной связано с отрицательными последствиями для ее существования. В связи с этим популяции обычно имеют адаптационные механизмы, способствующие как снижению численности, если она значительно превышает оптимальную, так и et восстановлению, если она уменьшается ниже оптимальных значений.

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juvenile; senile; adult; reproduction; regeneration (восстановление)

XII. Read the text carefully, without a dictionary. While reading, pay special attention to the words that you don't know: look carefully at the context and see if you can get the idea of what they mean. After reading answer the questions: 1) How can an urban area be defined and characterized? 2) What does the term «urbanization» imply? 3) How can urbanization be measured? 4) Can urbanization be planned? How? 5) What's the difference between urban ecology and urban sociology?

An urban area is an area with an increased density of human-created structures in comparison to the areas surrounding it. This term is at one end of the spectrum of suburban and rural areas. An urban area is more frequently called a city or town.

Urban areas are created and further developed by the process of urbanization. Measuring the extent of an urbanized area helps in analyzing population density and urban sprawl, and in determining urban and rural populations.

Unlike an urban area, a metropolitan area includes not only the urban area, but also satellite cities plus intervening rural land that is socio-economically connected to the urban core city, typically by employment ties through commuting, with the urban core city being the primary labor market. This makes metropolitan areas a less relevant statistic for determining per capita land usage and densities.

Urbanization or urbanization is the increase over time in population or extent of cities and towns. Urbanization has profound effects on the ecology of a region and on its economy.

Measures of Urbanization

It can thus represent a level of urban population relative to total population of the area, or the rate at which the urban proportion is increasing. Both can be expressed in percentage terms, the rate of change expressed as a percentage per year, millennia or period between censuses. Urbanization can result from either:

• an increase in the extent of urban areas;

• an increase in the density of urban areas.

For instance, the United States or United Kingdom have a far higher urbanization level than China, India or Nigeria, but a far slower annual urbanisation rate, since much less of the population is living in a rural area while in the process of moving to the city. Australia is at the opposite of the former two in terms of urbanization rate but also the latter three in urbanisation level, making it one of the most urbanised countries in the world.

The rate of urbanisation over time is distinct from the rate of urban growth, which is the rate at which the urban population or area increases in a given period relative to its own size at the start of that period. The urbanisation rate represents the increase in the proportion of the urban population over the period.

In terms of a place, urbanisation means increased spatial scale and/or density of settlement and/or business and other activities in the area over time. The process could occur either as natural expansion of the existing population (usually not a major factor since urban reproduction tends to be lower than rural), the transformation of peripheral population from rural to urban, incoming migration, or a combination of these.

Urban Sprawl

The increase in spatial scale is often called «urban sprawl». It is frequently used as a derogatory term by opponents of large-scale urban peripheral expansion especially for low-density urban development on or beyond the city fringe. Sprawl is considered unsightly and undesirable by those critics, who point also to diseconomies in travel time and service pro- vision and the danger of social polarisation through suburbanites' re- mote- ness from inner-city problems.

With any form of mass human migration, negative environmental side effects have the ability to occur. In the 19th and early 20th centuries, much of America became rapidly urbanized. Problems in the cities, such as poor sanitation, led to many people migrating from the cities into undeveloped land.

The most striking immediate change accompanying urbanization is the rapid change in the prevailing character of local livelihoods as agriculture or more traditional local services and small-scale industry give way to modern industry and urban and re- lated commerce, with the city drawing on the resources of an ever-widening area for its own sustenance and goods to be traded or processed into manufactures.

Research in urban ecology finds that larger cities provide more specialized goods and services to the local market and surrounding areas, function as a transportation and wholesale hub for smaller places, and accumulate more capital, financial service provi- sion, and an educated labor force, as well as of- ten concentrating administrative func- tions for the area in which they lie. This relation among places of different sizes is called the urban hierarchy.

Urbanization can be planned or organic. Planned urbanization, i.e.: new town or the garden city movement, is based on an advance plan, which can be prepared for mili- tary, aesthetic, economic or urban design reasons. Unplanned (organic) cities are the oldest form of urbanization. Examples can be seen in many ancient cities; although with exploration came the collision of nations, which meant that many invaded cites took on the desired planned characteristics of their occupiers. Many ancient organic cities expe- rienced redevelopment for military and economic purposes, new roads carved through the citys, and new parcels of land were cordoned off serving various planned purposes giving cities distinctive geometric features. Municipal authorities and UN agencies pre- fer to see urban infrastructure installed before urbanization occurs. landscape planners are responsible for landscape infrastructure (public parks, sustainable urban drainage systems, greenways, etc.) which can be planned before urbanization takes place, or af- terward to revitalized an area and create greater livability within a region.

Urban sociology is the sociological study of the various statistics among the pop- ulation in cities. Chiefly the study of urban areas where industrial, commercial and resi- dential zones converge. This practice sheds light on the influence of the city scape envi- ronment in burghal areas of poverty in response to several different languages, a low quality of life, several different ethnic groups and a low standard of police guardianship that all amount to social disorganization.

There are many areas of study in urban sociology. Among them are population, geopolitics, economics etc.

urban sprawl – неконтролируемая застройка прилегающих к городу территорий

XIII. Retell the text in English. State your opinion on the problem raised by the author concerning the obscure nature of urban ecology.

Городская экология

Экологическая теория была введена в городские исследования Чикагской школой. Она основывается на органической аналогии, в частности на попытках применения теории естественного отбора Ч. Дарвина к социальной жизни. Город определяется как окружающая среда (environment), подобная тому, что обнаруживается в природе. Все элементы такой среды взаимозависимы и приводятся в движение природными силами, наиболее важной из которых является конкуренция. Конкуренция между социальными группами за обладание ценными городскими ресурсами, в особенности землей, приводит к господству наиболее приспособленных групп. Конкуренция также поощряет дальнейшее разделение труда, что содействует более эффективной социальной организации и, таким образом, обеспечивает большую способность к адаптации. Кроме того, конкурентная борьба ведет к появлению ряда суб-сред (sub-environments) или природных территорий в пределах города. Каждую из этих территорий занимает определенная социальная группа, адаптируясь к ней во многом так же, как различные виды растений и животных адаптируются к специфической природной среде. Город и окружающая среда тяготеет к равновесию, и любое его нарушение сталкивается с силами, восстанавливающими равновесие. Примером этого является так называемый процесс преемственности: если социальная группа (определяемая в значительной степени расовыми или национальными характеристиками) покидает определенную природную территорию, то ее место будет занято другой группой, которая будет подвержена воздействию тех же экологических сил, что в конечном счете приводит, например, к тому же уровню делинквентности. Городские экологи применяли свою теорию при проведении множества эмпирических исследований.

Наилучшей иллюстрацией использования понятий конкуренции, природных территорий и преемственности является теория концентрических зон. Основное допущение городской экологии заключается в том, что социальная структура города формируется лежащими в ее основе естественными и безличными силами. Следовательно, этим предполагается, что социальная структура не подвержена значительному индивидуальному вмешательству, такому как планирование. Экологи утверждали, что культура также играет второстепенную роль, что она имеет значение только тогда, когда экологические силы уже достигли состояния равновесия. Пренебрежение проблемами культуры и убежденность в том, что города функционируют подобно природным окружающим средам, привели к критике городской экологии и, в конечном счете, к ее упадку.

XIV. Talking points:

1. Population ecology as the subfield of ecology that deals with the dynamics of species populations.

2. Population ecology as the study of how populations interact with the environment. Populations' structure.

3. Urban ecology as the study of the effects of urban development pat- terns on ecological conditions.

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 И ПРОМЕЖУТОЧНАЯ АТТЕСТАЦИЯ

Текущая аттестация проводится в целях периодического контроля и оценки результатов учебной деятельности обучающихся по учебной дисциплине.

Текущая аттестация проводится в виде тестирования (в технической форме через Google Classroom или на бумажном носителе).

Текущая аттестация включает:

– в первом семестре: выполнение теста по темам 1.1-1.4, 2.1 учебной программы (Тест № 1);

– во втором семестре: выполнение теста по темам 2.2-2.6 учебной программы (Тест № 2).

Промежуточная аттестация:

Обучающиеся допускаются к промежуточной аттестации по учебной дисциплине при условии успешного прохождения текущей аттестации, предусмотренной в текущем семестре.

Допуском к сдаче зачета в первом семестре является успешное выполнение 2/3 тестового задания (Тест № 1).

Допуском к сдаче экзамена во втором семестре является успешное выполнение 2/3 тестового задания (Тест № 2).

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;

– работы в семестре, предусматривающей выполнение студентом всех требований к практическим занятиям**.**

Форма итогового контроля знаний студентов во 2 семестре – **экзамен**.

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.

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

ОБРАЗЦЫ ГРАММАТИЧЕСКИХ ТЕСТОВ

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

ОБРАЗЕЦ ТЕКУЩЕЙ АТТЕСТАЦИОННОЙ РАБОТЫ

Task 1. Match the words with their translations.

1. profound	a. ель
2. lodge	b. ива
3. mature tree	c. молодое деревце, саженец
4. timber	d. пень
5. understory/ undergrowth	e. пруд
6. pond	f. древесина
7. poplar	g. домик
8. stump	h. глубокий
9. to hasten	i. зрелое дерево
10. sapling	j. подлесок
11. to maintain	k. тополь
12. willow	l. ускорять, торопиться
13. stream	m. поддерживать, сохранять
14. spruce	n. ручей, течение

Task 2. Find pairs of synonyms.

1. pool, wood, understory, base of tree, timber, pond, stump, undergrowth;

2. to maintain, small house, sapling, to speed up, to save, lodge, to hasten, young tree;

3. grown tree, to produce, mature tree, to modify, fur tree, to create, spruce, to change.

Task 3. Answer the questions.

1. What types of ecosystem engineers do you know? Explain them. (2-3 sentences);

2. What can you say about beavers as ecosystem engineers? Describe their activi-

ties. (3-4 sentences);

3. What are two main components of all ecosystems? Explain them (3-4 sentences).

4. What kinds of ecosystems according to the biotopes (habitat) do you know? Give the examples (2-3 sentences).

Task 4. Give English equivalents.

Количество осадков, использованная теплота, луг, хищничество, грибок, проточная вода, пищевая цепь, стоячая вода, предпочитать, состояние окружающей среды, морская водоросль, взаимодействовать, разложение/гниение, измерять устойчивость экосистемы.

СЛОВАРНЫЙ ДИКТАНТ ПО ТЕМЕ „THE SCIENCE OF ECOLOGY“

subdue – подчинять, покорять
nucleic acid – нуклеиновая кислота
therefore – поэтому, следовательно
define – определять
to have an impact (up)on – иметь влияние на
observation – наблюдение
abuse – неправильное употребление или (ис)пользование
destroy wildlife – разрушать живую природу
cell – клетка
harm – причинять вред
environment – окружающая сред
pedology – почвоведение
raise – поднимать, повышать
distribution – распределение, распространение
abundance – 1) обилие, изобилие, большое количество; 2) численность, относительное содержание (число особей на единицу пространства)
inhabit – жить, населять, обитать, проживать, существовать
abiotic – 1) абиотический; 2) неживой; нежизненный
solar insolation – освещение (предмета) лучами солнца
drone – трутень (в пчелином улье)
pollination – опыление
consume – потреблять, расходовать, поглощать, тратить
habitat – родина, место распространения, ареал (животного, растения); естественная среда
natural habitat – естественная среда обитания
consequences – последствия
intertwine – 1) а) переплетать, сплетать (with); б) переплетаться, сплетаться; 2) закручиваться, скручиваться; запутываться
survival – выживание, переживание
worry about – беспокоиться о чем-л. или о ком-л.

СЛОВАРНЫЙ ДИКТАНТ ПО ТЕМЕ „TYPES OF ECOSYSTEMS“

rainfall – 1) количество осадков; to measure rainfall – измерять коли- чество осадков annual, yearly rainfall – годовое количество осадков average; rainfall – среднее количество осадков measurable rainfall – умеренное количество осадков normal rainfall – нормальное количество осадков; 2) ливень

nutrient – питательное вещество

fungi – грибы

entity – существо, организм; организация

steady state – установившееся состояние, устойчивое состояние

predation (= predatism) – хищничество

share – делить, распределять; разделять compose – составлять

apply – применять, использовать, употреблять (to)

notion – идея, представление, понятие

robustness – здоровье, сила (характеристика живых существ); б) крепость, прочность, надежность (о предметах)

recovery – восстановление, выздоровление, излечение (благоприятный результат лечения), исцеление, пробуждение (после наркоза)

capacity – способность

attempt – пытаться, стараться, стремиться, прилагать усилия, про- бовать, делать попытку

meadow – луг, луговина; низина, пойменная земля

lentic – стоячий (о воде) lotic – проточный (о воде) steppe – степь

freshwater – пресноводный

primary production – производство сырых материалов

dissolved compound – растворённое соединение

salinity – соленость

marsh – болото, топь

saturated soil – водонасыщенный грунт

sustainable – экологически рациональный; способный существовать, не нанося ущерба окружающей среде; «устойчивый»

exploitation – использование, употребление, эксплуатация

pelagic – пелагический, морской, океанический

littoral – прибрежный; приморский

riparian – прибрежный, находящийся на берегу, относящийся к берегу

velocity – скорость; быстрота

canopy – 1) покров; 2) листовой [древесный] полог

proximity – 1) близость, соседство; 2) схожесть, близость

attenuate – истощенный

raw materials – 1) сырой материал; 2) сырье

hydrogen-sulphide – сероводород

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. Удовлетвори-тельный (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

СЛОВАРЬ-МИНИМУМ ПО ТЕМАМ 1 СЕМЕСТРА

training – обучение
higher educational establishment – высшее учебное заведение
to establish – основать, учреждать
full – time students – студенты дневной формы обучения
part – time students – студенты заочной формы обучения
undergraduate – студент
curriculum – учебная программа, учебный план
to enable – позволять, делать возможным
to conduct – проводить
research work – исследовательская работа
construction – строительство
mechanical engineering – машиностроение
civil engineering – гражданское строительство
educational facilities – образовательные объекты и средства
workshop – мастерская
intake – прием (студентов)
faculty – факультет
to graduate from – окончить (учебное заведение)
to be awarded with a diploma – получить диплом
access to the database – доступ к базе данных
teaching staff – преподавательский состав
specialty – специальность
to carry out – выполнять
distance learning – дистанционное обучение
to satisfy demands – удовлетворять требования
preparatory courses – подготовительные курсы
bachelor's degree – степень бакалавра
master's degree – степень магистра
competence – компетенция
up-to-date equipment – современное оборудование
patents on inventions – патенты на изобретения
conveniences – удобства
recreational facilities – рекреационные объекты, места для отдыха
to reveal abilities – раскрывать способности
to supervise – контролировать, руководить
dormitory – общежитие
canteen – столовая
take part in international projects – принимать участие в международных проектах
to participate in conferences – участвовать в конференциях
to cooperate with universities – сотрудничать с университетами

partnership – партнерство
mutually useful – взаимовыгодный
to do (did, done) well at school – хорошо учиться в школе
to enter the University – поступить в университет
to take (took, taken) an exam – сдавать (держать) экзамен
to pass exams successfully – сдать экзамены успешно
to fail in an exam – завалить, не сдать экзамен
society – общество
social life – общественная жизнь
to miss classes – пропускать занятия
to attend classes – посещать занятия
attendance – посещаемость
to perform duties – выполнять обязанности
to acquire proper knowledge – приобретать надлежащие знания
to achieve goals – достичь целей
to neglect studies – пренебрегать учёбой
different subjects – различные предметы
housing – жильё
opportunity – возможность
dormitory – студенческое общежитие
to rent a flat – снимать квартиру
to get (be) tired – уставать
week-day – будний день
day off – выходной
to offer – предлагать
annual contest – ежегодный конкурс
advantage – преимущество
to make new acquaintances – заводить новые знакомства
event – событие
to conduct events – проводить мероприятия
competitions – соревнования
skill – навык, умение
to share one`s experience – делиться опытом
to broaden the mind – расширить кругозор
timetable – расписание, график
to revise topics – просматривать темы
to share the room – делить комнату
roommate – сосед по комнате
groupmate – одногруппник
canteen – столовая
report – доклад
to prefer – предпочитать
library – библиотека
sovereign – суверенный
to border on – граничить с
to occupy – занимать (пространство, время)
to stretch – простираться
terrain – местность

coniferous – хвойный
meadow – луг
rare – редкий
reserve – заповедник
peat – торф
potassium – калий
gravel – гравий
clay – глина
competitive – конкурентный
favorable – благоприятный
flax – лён
livestock – домашний скот
to conduct – вести, руководить; проводить
expenditure – расход, потребление
cooperation – сотрудничество
extensive – обширный
highway – автомагистраль, шоссе
toll – сбор, дань, пошлина
industry – индустрия, промышленность, производство
urban – городской
agriculture – сельское хозяйство
trade – торговля
network – сеть (совокупность дорог, каналов)
landmark – достопримечательность
vehicle – транспортное средство
to refer – обращаться, ссылаться
to comprise – включать, содержать
island – остров
to occupy – занимать
to influence – оказывать влияние
current –течение
infrequent – нечастый
monarchy – монархия
legislation –законодательство
institution – учреждение
issue – вопрос, проблема
to represent – представлять
chamber – палата
majority – большинство
support – поддержка
to appoint – назначать
mining – горная промышленность
construction – строительство
abundant – богатый, изобилующий
beverage – напиток
insurance – страхование
stockbroking – биржевое маклерство
consultancy – консалтинг

livestock – домашний скот
poultry – домашняя птица
to damage – наносить ущерб

СЛОВАРЬ-МИНИМУМ ПО ТЕМАМ 2 СЕМЕСТРА

subdue – подчинять, покорять
nucleic acid – нуклеиновая кислота
therefore – поэтому, следовательно
define – определять
to have an impact (up)on – иметь влияние на
observation – наблюдение
abuse – неправильное употребление или (ис)пользование
destroy wildlife – разрушать живую природу
cell – клетка
harm – причинять вред environment – окружающая среда
pedology – почвоведение
raise – поднимать, повышать
distribution – распределение, распространение
abundance – 1) обилие, изобилие, большое количество; 2) численность, относительное содержание (число особей на единицу пространства) inhabit – жить, населять, обитать, проживать, существовать
abiotic – 1) абиотический; 2) неживой; нежизненный solar insolation – освещение (предмета) лучами солнца drone – трутень (в пчелином улье)
pollination – опыление
consume – потреблять, расходовать, поглощать, тратить
habitat – родина, место распространения, ареал (животного, растения); естественная среда
natural habitat – естественная среда обитания
consequences – последствия
intertwine – 1) а) переплетать, сплетать (with); б) переплетаться, сплетаться; 2) закручиваться, скручиваться; запутываться
survival – выживание, переживание
worry about – беспокоиться о чем-л. или о ком-л.
outer layer – наружный слой
living matter – живая материя
permanent inhabitant – постоянный житель, обитатель (о людях и животных)
extend – 1) простираться; 2) распространяться photic zone – световая зона (толщи воды) shallow depths – небольшая глубина
benthic (= benthonic) – бентический, бентосный, обитающий на дне
terrestrial life – флора и фауна суши
drift apart – разойтись
vent – 1) отверстие; выход; 2) отверстие клоаки
solar energy – солнечная энергия, энергия Солнца
alternate – сменять, сменять друг друга (with); чередовать(ся), колебаться (between); делать попеременно
cellular respiration – клеточное дыхание
regain – обретать снова; возвращать себе; восстанавливать

air current – воздушная струя; воздушный поток
maintain – поддерживать, удерживать, сохранят
mammal – млекопитающее
intense – сильный, интенсивный
carbon dioxide – углекислота, углекислый газ
release – выброс; высвобождение; секреция; высвобождать; выделять
secondary energy source – вторичный источник энергии
entice – 1) соблазнять; 2) переманивать
phosphorus – фосфор
input – 1) вход; 2) расход, потребление
underlying – 1) лежащий или расположенный под чем-либо; 2) основной; лежащий в основе
radiant – излучающий
biodiversity – биоразнообразие
variety – многообразие, разнообразие
inherited disease – наследственная болезнь
caterpillar – гусеница
prey – ловить, охотиться
rainforest – тропический лес; влажные джунгли
extinction – 1) угасание; 2) вымирание; исчезновение
rapid – быстрый, скорый, стремительный
destroy – разрушать, рушить, сносить; ликвидировать; стирать с лица земли
mussel – мидия
plague – 1) эпидемическое заболевание с большой смертностью; 2) чума; 3) вспышка массового размножения вредных животных
estimate – оценивать; приблизительно подсчитывать
reduce – ослаблять, понижать, сокращать, уменьшать
toad – жаба
woodland – лесистая местность
oak – дуб
hedgehog – еж; тж. дикобраз
absorb – всасывать, впитывать; абсорбировать; поглощать
soil – грунт, земля, почва
creeping plant – ползущее растение
disastrous – бедственный, гибельный, пагубный (to)
rummage – тщательно осматривать, искать; обыскивать (rummage about, rummage in)
flowerbed – клумба
tick – клещ
invertebrate – беспозвоночное животное
wig – веточка, прут, хворостинка; ветвь, ветка
groom – холить; приводить в надлежащий вид; наводить лоск
spine – 1) а) спинной хребет; позвоночник; б) гребень, хребет (горы); 2) корешок (книги); 3) сердцевина; основа, суть, сущность; 4) игла, колючка, шип
flea – блоха
create – порождать, производить, создавать, творить
modify – видоизменять, трансформировать, модифицировать; подправлять, корректировать, вносить поправки

profound – сильный, глубокий; непомерный, чрезвычайный

influence – влияние, действие, воздействие

autogenic – аутогенный

allogenic – аллогенный

obviously – 1) явно, заметно; 2) а) явно, ясно, очевидно, понятно; б) банально, тривиально

lodge – хатка (бобра)

poplar – тополь

willow – ива; ивняк; древесина ивы

stump – пень

undergrowth – подлесок, подлесье

timber – лесоматериалы; строевой лес; древесина

hasten – 1) спешить, торопиться, делать (что-либо) в спешке, второпях; поспешать (сделать что-либо); 2) торопить, поторапливать; подгонять

understory – подрост; подлесок, мелколесье

sapling – молодое деревце

spruce – 1) ель; 2) хвойное дерево

pond – пруд; маленькое озеро

stream – поток, река, ручей; струя, течение

rainfall – 1) количество осадков; to measure rainfall – измерять количество осадков annual, yearly rainfall – годовое количество осадков average; rainfall – среднее количество осадков measurable rainfall – умеренное количество осадков normal rainfall – нормальное количество осадков; 2) ливень

nutrient – питательное вещество

fungi – грибы

entity – существо, организм; организация

steady state – установившееся состояние, устойчивое состояние

predation (= predatism) – хищничество

share – делить, распределять; разделять

compose – составлять

apply – применять, использовать, употреблять (to)

notion – идея, представление, понятие

robustness – здоровье, сила (характеристика живых существ); б) крепость, прочность, надежность (о предметах)

recovery – восстановление, выздоровление, излечение (благоприятный результат лечения), исцеление, пробуждение (после наркоза)

capacity – способность

attempt – пытаться, стараться, стремиться, прилагать усилия, пробовать, делать попытку

meadow – луг, луговина; низина, пойменная земля

lentic – стоячий (о воде)

lotic – проточный (о воде)

steppe – степь

freshwater – пресноводный

primary production – производство сырых материалов

dissolved compound – растворённое соединение

salinity – соленость

marsh – болото, топь

saturated soil – водонасыщенный грунт

sustainable – экологически рациональный; способный существовать, не нанося ущерба окружающей среде; «устойчивый»

exploitation – использование, употребление, эксплуатация

pelagic – пелагический, морской, океанический

littoral – прибрежный; приморский

riparian – прибрежный, находящийся на берегу, относящийся к берегу

velocity – скорость; быстрота

canopy – 1) покров; 2) листовой [древесный] полог

proximity – 1) близость, соседство; 2) схожесть, близость

attenuate – истощенный

raw materials – 1) сырой материал; 2) сырье

hydrogen-sulphide – сероводород

latitude – широта

boreal forest – тайга, бореальный лес

genus – 1) род; 2) сорт; вид, род

harsh continental climate – резко континентальный климат

icecap – ледниковый покров (в горах); полярный лед

average temperature – средняя температура

vary – изменять(ся), менять(ся)

humid – влажный, мокрый, сырой, отсыревший

precipitation – 1) осаждение, преципитация; 2) осадки; атмосферные осадки; 3) выпадение осадков

evaporation – испарение

laciate – замораживать, превращать в лед

moist – сырой; влажный, мокрый

lichen – лишайник

larch – лиственница

evergreen – 1) вечнозеленый; 2) вечнозеленое растение

resistant – резистентный; устойчивый; невосприимчивый

commence – начинать(ся)

desiccation – высушивание; сушка

aspen – тополь, осина

rowan – рябина

nvigorate – давать силы, укреплять; вселять энергию

cone – 1) конус; 2) колбочка (сетчатки глаза); 3) бугорок (зуба); 4) шишка

rodent – грызун

carnivorous – плотоядный

hibernation – а) зимняя спячка; б) зимовка

weasel – ласка, горностай

lynx – рысь

omnivor (= omnivore) – всеядное животное

racoon – енот; мех енота

thrush – дрозд

raptor – хищник

frequent – частый; часто встречающийся, повторяющийся; обычный

unrelated – неродственный

multiple – множественный, сложный, со сложной структурой

coherent – соединённый, связанный, сцеплённый

longterm – долгосрочный; длительный, долговременный

viability – жизнеспособность; жизненность, жизнестойкость

discrete – отдельный; обособленный; изолированный; отличный

barely – просто, только

assume – 1) принимать, брать на себя (ответственность, управление и т.п.); 2) принимать (характер, форму); 3) прикидываться, симулировать, притворяться); 4) присваивать, предъявлять претензию, заявлять права на что-либо.

density – густота, плотность, сосредоточенность (определенного количества каких-либо единиц в определенном районе); концентрация uneven – неровный, негладкий; шероховатый

separate – отделять, разделять; разъединять; отсоединять

adjacent – расположенный рядом, смежный, соседний (to)

edge – кромка, край; грань, граница; cutting edge – острый край

adjoin – граничить, прилегать, примыкать, соседствовать

uzzy – 1) пористый, рыхлый; 2) а) пушистый; ворсистый; б) о волосах завитой, вьющийся, пушистый; 3) неясный, туманный, смазанный

distinct – отдельный; особый, индивидуальный; отличный (от других – from)

measurement – снятие мерок, измерение (действие), обмер

explicit – ясный, подробный; подробно разработанный; высказанный до конца; явный; определенный, точный

parcel – 1) часть (только в сочетаниях) – part and parcel, instalment; 2) участок земли

current – текущий, данный, современный

observe – наблюдать, замечать, обращать внимание

altitude – высота; высота над уровнем моря

blossom – цвести; распускаться; расцветать

gradually – исподволь, мало-помалу, понемногу, постепенно

launch – запускать; пускать в ход

defect – покинуть, изменить; отступаться (от веры, убеждений и т.п.) breakthrough – 1) прорыв; breakthrough charge – атака с целью прорыва; 2) достижение, открытие, победа (научная и т.п.)

reject – отвергать, отклонять; отказывать(ся)

logging – заготовка и транспортировка леса; количество срубленного леса

equilibrium – баланс, равновесие, устойчивость; равновесность

advocacy – защита, охрана

objective – цель; стремление

efficacious – действенный, эффективный

breeding – разведение, размножение (животных, растений)

derivative – дериват, производное (происшедшее от чего-либо ранее существовавшего)

Guinea pig – морская свинка (Cavia porcellus)

be at odds – находиться в противоречии, не соответствовать

crimson – малиновый, темно-красный, кармазинный

bioleaching – биовыщелачивание (руд)

eliminate – устранять, исключать

target – цель, мишень

accessible – доступный (to); достижимый

malady – болезнь; заболевание, расстройство

cancer – рак

mould – плесень; плесенный грибок

ointment – мазь, притирание

pathway – 1) тропа; тропинка; дорожка; дорога, путь; 2) направление, траектория

to splice genes – соединять гены

enhancement – повышение, прирост, увеличение

trait – характерная черта, особенность

cadaver – труп

expedient – целесообразный, соответствующий, подходящий, надлежащий, выгодный

mitigate – смягчать, уменьшать (строгость, суровость; наказание); умерять, сдерживать (жар, пыл); облегчать (боль, страдание)

sophisticated – 1) лишенный простоты, естественности, наивности; изощренный, утонченный; 2) сложный, замысловатый; усовершенствованный

cripple – 1) а) получать травму (конечности), травмировать (конечность) (особ. ногу); б) калечить, лишать трудоспособности; 2) хромать, ковылять 3) портить, приводить в негодность; наносить ущерб

progeny – потомство; отпрыск, потомок

test tube – пробирка

substitution – замена, замещение

jelly-fish – медуза

conjugation – соединение, объединение

extraneous – внешний, поступающий извне; посторонний, чуждый

(to) current – 1) струя; поток, течение; 2) течение (времени); ход событий и т.п.); 3) ток

transduction – преобразование

uterus – матка

remain unaware – остаться в неведении

admission – госпитализация, приём больного в стационар

disorder – нарушение, расстройство (какой-л. функции организма)

apparent – видимый, видный

pinpointing – точное определение местонахождения

affected – поражённый, травмированный contaminate – заражать, инфицировать

warrant – удостоверение, свидетельство, гарантия

pacemaker – водитель ритма, электрокардиостимулятор

fracture – перелом; разрыв мягких тканей

pivot point – точка [ось] поворота

radio-opaque – рентгеноконтрастный

assessment – определение, установление (например, сроков беременности); оценка (жизнеспособности)

pressure wave – волна сжатия; продольная волна

elbow – локоть

vertebra – позвоночник

assay – оценивать, анализировать

fertility – плодородие; изобилие (в области животного и растительного мира)

fabric – ткань, материал, материя
nonviable – нежизнеспособный
blood clotting – свёртывание крови
compatibility – совместимость, совместность, сочетаемость
healing – исцеление, излечение
wire – проволока
valve – заслонка, клапан
preliminary – предварительный
premature – преждевременный, ранний
trigger – запускать; инициировать
bioresorbable – биологический саморазрушающийся
dissolve – разлагать(ся); 2) растворять(ся)

4.2. УЧЕБНАЯ ПРОГРАММА ДИСЦИПЛИНЫ

Учреждение образования
«Брестский государственный технический университет»

Р-1 2023

УТВЕРЖДАЮ
Первый проректор БрГТУ
_____ М.В.Нерода
23.06. 2023

Регистрационный № УД-23-1-049 /уч.

Иностранный язык (общее владение) (английский)

Учебная программа учреждения высшего образования по учебной дисциплине для специальности:

6-05-0521-02 Природоохранная деятельность

2023 г.

Учебная программа составлена на основе учебного плана, разработанного на основе типового учебного плана, для специальности 6-05-0521-02 Природоохранная деятельность (утвержденного Министерством образования Республики Беларусь 20.02.2022, регистрационный № 6-05-05-011/пр.); с учетом типовой учебной программы для высших учебных заведений № ТД–СГ.013/тип. от 15.04.2008.

СОСТАВИТЕЛЬ:
Шпудейко Л.Н., старший преподаватель кафедры иностранных языков, магистр педагогических 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 20.06.23);

Научно-методическим советом БрГТУ
(протокол № 6 от 23.06.2023);

Согласовано по ОУП Борисюк Ю.Н.

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 (общее владение) (английский)» формируются следующие компетенции:

– УК-3. Осуществлять коммуникации на иностранном языке для решения задач межличностного и межкультурного взаимодействия.

В результате изучения дисциплины 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.

Учебная дисциплина взаимосвязана с циклом общенаучных и общепрофессиональных дисциплин. Данная дисциплина тесно связана с последующим курсом обучения иностранному языку и находит логическое продолжение в дисциплине «Иностранный язык (профессиональная лексика) (английский)».

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		
6-05-07521-02	Природоохранная деятельность	1	1	112	3	48	–	–	48	–	–	зачет
		1	2	110	3	48	–	–	48	–	–	экзамен

1. СОДЕРЖАНИЕ УЧЕБНОГО МАТЕРИАЛА

МОДУЛЬ 1. Социально-бытового и социокультурного общения.

ТЕМА 1.1. Новый этап в моей жизни:

Изучающее чтение:

1) Студенческая жизнь – новый этап в моей жизни.

Ознакомительное чтение:

1) Рабочий день студента.

Грамматический материал: имя существительное; артикль; местоимения.

ТЕМА 1.2. БрГТУ в системе высшего образования Республики Беларусь:

Изучающее чтение:

1) Брестский государственный технический университет (история, структура, специальности).

Ознакомительное чтение:

1) Высшее образование в Великобритании.

2) Британские университеты. Грамматический материал: имя прилагательное, наречие, степени сравнения; имя числительное.

ТЕМА 1.3. Республика Беларусь в современном мире:

Изучающее чтение:

1) Республика, в которой я живу (географическое положение, климат, население, культура, экономика, экология, праздники и традиции Беларуси).

Ознакомительное чтение:

1) Мой родной город.

Грамматический материал: спряжение глаголов to be, to have в Present, Past, Future Indefinite; оборот there + to be.

ТЕМА 1.4. Социально-политический портрет Великобритании:

Изучающее чтение:

1) Что я знаю о стране изучаемого языка (географическое положение, климат, население, политическая система и государственное устройство, экономика, обычаи и традиции, культура).

Ознакомительное чтение:

1) Соединенное Королевство.

2) Соединенные Штаты Америки.

Грамматический материал: времена группы Indefinite, Continuous, Perfect и Perfect Continuous действительного залога.

МОДУЛЬ 2. Профессионального общения.

ТЕМА 2.1. Экология как наука:

Изучающее чтение:

1) Экология.

Ознакомительное чтение:

1) Экология. Принципы экологии.

Грамматический материал: времена группы Indefinite, Continuous и Perfect страдательного залога; особенности перевода пассивных конструкций на русский язык.

ТЕМА 2.2. Биосфера:

Изучающее чтение:

1) Биосфера.

Ознакомительное чтение:

1) Биосфера.

Грамматический материал: условные предложения I, II, III, смешанного типов.

ТЕМА 2.3. Биологическое разнообразие. Экосистемы:

Изучающее чтение:

1) Биоразнообразие.

2) Экологическая ниша.

3) Разновидности экологических ниш. Экосистема.

Ознакомительное чтение:

1) Биоразнообразие.

2) Как функционируют экосистемы.

3) Управление экосистемами.
4) Виды экосистем.
5) Экосистема водно-болотных угодий, торфяников.
Грамматический материал: модальные глаголы.

ТЕМА 2.4. Моя специальность и ее значение для экономического развития Республики Беларусь:
Изучающее чтение:
1) Профессия инженера.
Ознакомительное чтение:
1) Будущее профессии инженера.
Грамматический материал: инфинитив, инфинитивные обороты, особенности перевода на русский язык.

ТЕМА 2.5. Экологические проблемы:
Изучающее чтение:
1) Экологические проблемы.
2) Загрязнение атмосферы.
3) Загрязнение воды. Природа загрязнения воды.
Ознакомительное чтение:
1) Насущные проблемы экологии.
2) Чернобыльская катастрофа.
3) Токсичные отходы.
4) Кислотные дожди.
Грамматический материал: герундий, герундиальные конструкции, особенности перевода на русский язык.

ТЕМА 2.6. Охрана окружающей среды:
Изучающее чтение:
1) Спасите планету.
2) Проблема охраны окружающей среды должна быть всемирной.
Ознакомительное чтение:
1) Современные экологические теории и исследования.
2) Подразделы экологии.
Грамматический материал: причастие I, II; особенности перевода на русский язык.

2.1 УЧЕБНО-МЕТОДИЧЕСКАЯ КАРТА УЧЕБНОЙ ДИСЦИПЛИНЫ
для дневной формы получения высшего образования для специальности:
6-05-0521-02 ПРИРОДООХРАННАЯ ДЕЯТЕЛЬНОСТЬ

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: 1) Студенческая жизнь – новый этап в моей жизни. Ознакомительное чтение: 1) Рабочий день студента. Грамматический материал: имя существительное; артикль; местоимения.			8		10	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: 1) Брестский государственный технический университет (история, структура, специальности). Ознакомительное чтение: 1) Высшее образование в Великобритании. 2) Британские университеты. Грамматический материал: имя прилагательное, наречие, степени сравнения; имя числительное.			10		14	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.3	Республика Беларусь в современном мире: Изучающее чтение: 1) Республика, в которой я живу (географическое положение, климат, население, культура, экономика, экология, праздники и традиции Беларуси). Ознакомительное чтение: 1) Мой родной город. Грамматический материал: спряжение глаголов to be, to have в Present, Past, Future Indefinite; оборот there + to be.			10		12	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
1.4	Социально-политический портрет Великобритании: Изучающее чтение: 1) Что я знаю о стране изучаемого языка (географическое положение, климат, население, политическая система и государственное устройство, экономика, обычаи и традиции, культура). Ознакомительное чтение: 1) Соединенное Королевство. 2) Соединенные Штаты Америки. Грамматический материал: времена группы Indefinite, Continuous, Perfect и Perfect Continuous действительного залога.			10		12	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
2.1	Экология как наука: Изучающее чтение: 1) Экология. Ознакомительное чтение: 1) Экология. Принципы экологии. Грамматический материал: времена группы Indefinite, Continuous и Perfect страдательного залога; особенности перевода пассивных конструкций на русский язык.			10		16	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
	2-й семестр						
2.2	Биосфера: Изучающее чтение: 1) Биосфера. Ознакомительное чтение: 1) Биосфера. Грамматический материал: условные предложения I, II, III, смешанного типов.			6		10	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.3	Биологическое разнообразие. Экосистемы: Изучающее чтение: 1) Биоразнообразие. 2) Экологическая ниша. 3) Разновидности экологических ниш. Экосистема. Ознакомительное чтение: 1) Биоразнообразие. 2) Как функционируют экосистемы. 3) Управление экосистемами. 4) Виды экосистем. 5) Экосистема водно-болотных угодий, торфяников. Грамматический материал: модальные глаголы.			16		16	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: 1) Профессия инженера. Ознакомительное чтение: 1) Будущее профессии инженера. Грамматический материал: инфинитив, инфинитивные обороты, особенности перевода на русский язык.			6		10	Фронтальный/ индивидуальный опрос. Выполнение упражнений (перевод, ответы на вопросы, реферирование/ составление аннотаций). Беседа по теме.
2.5	Экологические проблемы: Изучающее чтение: 1) Экологические проблемы. 2) Загрязнение атмосферы. 3) Загрязнение воды. Природа загрязнения воды. Ознакомительное чтение: 1) Насущные проблемы экологии. 2) Чернобыльская катастрофа.			12		14	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
	3) Токсичные отходы. 4) Кислотные дожди. Грамматический материал: герундий, герундиальные конструкции, особенности перевода на русский язык.						
2.6	Охрана окружающей среды: Изучающее чтение: 1) Спасите планету. 2) Проблема охраны окружающей среды должна быть всемирной. Ознакомительное чтение: 1) Современные экологические теории и исследования. 2) Подразделы экологии. Грамматический материал: причастие I, II; особенности перевода на русский язык.			8		12	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.).

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:

1) Агабекян, И. П. Английский для технических вузов / И. П. Агабекян, П. И. Коваленко. – Ростов-на-дону: Феникс, 2002. – 302 с.

2) Бобылева, С. В. Английский язык для экологов и биотехнологов: учебное пособие / С.В. Бобылева, Д.Н. Жаткин. – М. : Изд. «Флинта», Изд. «Наука», 2010. – 192 с.

3) Голицынский, Ю. Б. Упражнения по грамматике английского языка / Ю.Б.Голицынский. – Санкт- Петербург: КАРО, 2006.

4) Дорощук, Т. А. Пособие по английскому языку для студентов специальности «Водоснабжение, водоотведение и охрана водных ресурсов» : учеб. пособие / Т. А. До-

рошук, Н. В. Кистень, М. В. Борушко, Ю. А. Манец ; УО «Брестский государственный технический университет». – Брест, 2006. – 40 с.

5) Дорощук, Т. А. Практикум по изучающему чтению на английском языке : учеб. пособие / Т. А. Дорощук, Е. П. Черепенко, Л. Н. Шпудейко ; УО «Брестский государственный технический университет». – Брест, 2006. – 50 с.

6) Дубровская, С. Г. Английский язык для технических вузов / С. Г. Дубровская, Т.А. Дубина. – Москва: ИАСВ, 2007.

7) Мусихина, О. Н. Английский язык для строителей / О. Н. Мусихина, О. Г. Гисина, В. Л. Яськова. – Ростов-на-Дону: Феникс, 2004.5)

8) Новик, Д. В Методические рекомендации по развитию навыков устной речи по английскому языку для студентов технических специальностей : учеб. пособие / Д. В. Новик, И. И. Гайдук ; УО «Брестский государственный технический университет». – Брест, 2010. – 36 с.

9) Орловская, И. В. Учебник английского языка для технических университетов и вузов / И. В. Орловская, Л. С. Самсонова, А. И. Скубриева. – Москва: МГТУ им. Н.Э. Баумана, 2008.

10) Рахуба, В. И. Практикум по грамматике английского языка : учеб. пособие / В. И. Рахуба ; УО «Брестский государственный технический университет». – Брест, 2008.

11) Синявская, Е. В. Пособие по английскому языку для II курса инженерно-строительных и автодорожных вузов / Е. В. Синявская, Э. С. Улановская. – Москва: Высшая школа, 1981.

12) Хведченя, Л. В. Грамматика английского языка / Л. В. Хведченя. – Минск: Издательство Гревцова, 2011. – 489 с.

13) Хоменко, С. А. Английский язык для студентов технических вузов. Часть 2. / С. А. Хоменко, В. Ф. Скалабан, А. Г. Крупеникова, Е. В. Ушакова.– Минск: Вышэйшая школа, 2004. – 207 с.

14) Новый англо-русский словарь / под. ред. В. К. Мюллера. – Москва: Русский язык: Медиа, 2011. – 946 с.

15) Владимиров, В. А. Англо-русский словарь по гидротехнике / В. А. Владимиров, М. Ф. Губин, Б. Ф. Горюнов [и др.]. – Москва: Русский язык, 1983. – 148 с.

16) Онлайн словарь [Электронный ресурс]. – Режим доступа: www.ldoceonline.com/ – Дата доступа: 12.04.2023.

17) Онлайн упражнения для самостоятельного изучения [Электронный ресурс]. – Режим доступа: www.englishclub.net – Дата доступа: 10.04.2023.

18) Онлайн энциклопедия [Электронный ресурс]. – Режим доступа: https://www.britannica.com/science – Дата доступа: 10.04.2023.

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:

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.

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) подготовка докладов на научно-практические конференции;

5) подготовка к зачету, экзамену.

Самостоятельная работа студентов без контроля преподавателя осуществляется в объеме 126 часов, из них в 1 семестре – 64 часа, во 2 семестре – 62 часа.

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.

– Вводные слова и предложения.

– Интернациональные слова.

5. Реферирование и аннотирование текстов.

6. Подготовка презентаций.

7. Подготовка к зачету.

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.

5. Реферирование и аннотирование текстов.

6. Подготовка презентаций.

7. Подготовка к экзамену.

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4. Дорощук, Т. А. Практикум по изучающему чтению на английском языке : учеб. пособие / Т. А. Дорощук, Е. П. Черепенко, Л. Н. Шпудейко ; УО «Брестский государственный технический университет». – Брест, 2006.

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ПРОТОКОЛ СОГЛАСОВАНИЯ УЧЕБНОЙ ПРОГРАММЫ ПО ДИСЦИПЛИНЕ «ИНОСТРАННЫЙ ЯЗЫК (ОБЩЕЕ ВЛАДЕНИЕ) (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)
Основы природо-охранной деятель-ности	Природо обустройства		Рассмотрена и рекомендована к утверждению протокол № 10 от 03.05.2023

Содержание учебной программы
согласовано с выпускающей кафедрой

И.о. заведующего выпускающей кафедрой,
кандидат технических наук, доцент К.А. Глушко

ДОПОЛНЕНИЯ И ИЗМЕНЕНИЯ К УЧЕБНОЙ ПРОГРАММЕ

Регистрационный № УД-23-1-049/уч. от 23.06.2023

Иностранный язык (общее владение) (английский)

для специальности:

6-05-0521-02 Природоохранная деятельность

(дневная форма получения высшего образования)

на 2023-2024 учебный год

№ п/п	Дополнения и изменения	Основание
1.	Для специальности 6-05-0521-02 Природоохранная деятельность 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»

Учебная программа пересмотрена и одобрена на заседании кафедры лингвистических дисциплин и межкультурных коммуникаций (протокол №2 от 17 октября 2023 г.).

Заведующий кафедрой,
кандидат филологических наук, доцент _____ В.И.Рахуба

УТВЕРЖДАЮ
Декан факультета инженерных систем и экологии
кандидат технических наук, доцент _____ О.П.Мешик

3.2. Перечень средств диагностики результатов учебной деятельности.

ТЕКУЩАЯ АТТЕСТАЦИЯ проводится в целях периодического контроля и оценки результатов учебной деятельности обучающихся по учебной дисциплине.

Текущая аттестация проводится в виде тестирования (в технической форме через Google Classroom или на бумажном носителе).

Текущая аттестация включает:

– в первом семестре: выполнение двух тестов по темам 1.1-1.4, 2.1 учебной программы (Тест № 1 – темы 1.1-1.3; Тест № 2 – темы 1.4, 2.1);

– во втором семестре: выполнение двух тестов по темам 2.2-2.6 учебной программы (Тест № 3 – темы 2.2-2.4; Тест № 4 – темы 2.5-2.6).

ПРОМЕЖУТОЧНАЯ АТТЕСТАЦИЯ:

Обучающиеся допускаются к промежуточной аттестации по учебной дисциплине при условии успешного прохождения текущей аттестации, предусмотренной в текущем семестре.

Допуском к сдаче зачета в первом семестре является успешное выполнение 2/3 тестовых заданий (Тест № 1 и Тест № 2).

Допуском к сдаче экзамена во втором семестре является успешное выполнение 2/3 тестовых заданий (Тест № 3 и Тест № 4).

ДОПОЛНЕНИЯ И ИЗМЕНЕНИЯ К УЧЕБНОЙ ПРОГРАММЕ

Регистрационный № УД-23-1-049/уч. от 23.06.2023

Иностранный язык (общее владение) (английский)

для специальности:

6-05-0521-02 Природоохранная деятельность

(дневная форма получения высшего образования)

на 2024-2025 учебный год

№ п/п	Дополнения и изменения	Основание
1.	Для специальности 6-05-0521-02 Природоохранная деятельность 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»

Учебная программа пересмотрена и одобрена на заседании кафедры лингвистических дисциплин и межкультурных коммуникаций (протокол №8 от 26 апреля 2024 г.).

Заведующий кафедрой,
кандидат филологических наук, доцент _____ В.И.Рахуба

УТВЕРЖДАЮ
Декан факультета инженерных систем и экологии
кандидат технических наук, доцент _____ О.П.Мешик

3.2. Перечень средств диагностики результатов учебной деятельности.

ТЕКУЩАЯ АТТЕСТАЦИЯ проводится в целях периодического контроля и оценки результатов учебной деятельности обучающихся по учебной дисциплине.

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– во втором семестре: выполнение двух тестов по темам 2.2-2.6 учебной программы (Тест № 3 – темы 2.2-2.4; Тест № 4 – темы 2.5-2.6).

ПРОМЕЖУТОЧНАЯ АТТЕСТАЦИЯ:

Обучающиеся допускаются к промежуточной аттестации по учебной дисциплине при условии успешного прохождения текущей аттестации, предусмотренной в текущем семестре.

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