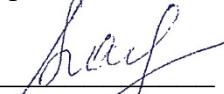


МИНОБРНАУКИ РОССИИ
Ярославский государственный университет им. П.Г. Демидова

Кафедра иностранных языков естественнонаучных факультетов

УТВЕРЖДАЮ

Директор института иностранных языков


И.Н. Касаткина
«11» мая 2022 года

Рабочая программа
«Иностранный язык»

Направление подготовки
06.03.01 Биология

Направленность (профиль)
«Биоинженерия и биотехнология»

Форма обучения
очная

Программа одобрена
на заседании кафедры
протокол № 8 от «13» апреля 2022 года

Программа одобрена
НМК института иностранных языков
протокол № 8 от «20» апреля 2022 года

Ярославль

1. Цели освоения дисциплины

Целью освоения дисциплины «Иностранный язык» является формирование компетенции, позволяющей осуществлять деловую коммуникацию в устной и письменной формах на иностранном языке с учетом особенностей официального и неофициального стилей общения и социокультурных различий.

2. Место дисциплины в структуре образовательной программы

Дисциплина «Иностранный язык» относится к обязательной части Блока 1 образовательной программы.

Для освоения данной дисциплины студенты должны владеть знаниями, умениями и навыками, приобретенными в курсе освоения предмета «иностранный язык» в средней школе.

Полученные в курсе «Иностранный язык» знания необходимы для осуществления деловой коммуникации на иностранном языке, а также для продолжения обучения в магистратуре.

3. Планируемые результаты обучения по дисциплине, соотнесенные с планируемыми результатами освоения образовательной программ

Процесс изучения дисциплины направлен на формирование следующих элементов компетенций в соответствии с ФГОС ВО, ООП ВО и приобретения следующих знаний, умений, навыков и (или) опыта деятельности:

Формируемая компетенция (код и формулировка)	Индикатор достижения компетенции (код и формулировка)	Перечень планируемых результатов обучения
Универсальные компетенции		
УК-4 Способен осуществлять деловую коммуникацию в устной и письменной формах на государственном языке Российской Федерации и иностранном (-ых) языке (ах).	УК-4.1 Осуществляет деловую коммуникацию на иностранном языке с учетом особенностей официального и неофициального стилей общения и социокультурных различий.	Знает фонетический строй, грамматические и лексические структуры устной и письменной речи, особенности культуры стран изучаемого языка, клише делового общения, особенности официального и неофициального стилей общения; Умеет воспринимать иностранную речь в ситуациях устного и письменного делового общения, говорить и писать на иностранном языке на бытовые и профессиональные темы; Владет навыками устной и письменной коммуникации в официальных и неофициальных ситуациях общения.
	УК-4.2 Переводит тексты общего и профессионального назначения с иностранного языка на государственный.	Знает основные средства и приемы перевода лексико-грамматических структур; Умеет выполнять элементарный предпереводческий анализ

		<p>текстов общего и профессионального назначения;</p> <p>Владеет навыками перевода с иностранного на русский язык учебных и аутентичных текстов общего и профессионального назначения.</p>
	<p>УК-4.3 Демонстрирует интегративные умения использовать диалогическое общение для профессиональной коммуникации.</p>	<p>Знает грамматические и лексические структуры диалогической речи, основные средства и приемы ведения диалога;</p> <p>Умеет воспринимать иностранную речь в ситуациях устного общения, говорить на иностранном языке на профессиональные темы;</p> <p>Владеет навыками диалогического общения в профессиональной коммуникации.</p>

4. Объем, структура и содержание дисциплины

Общая трудоемкость дисциплины составляет 5 зачетных единиц, 180 акад. часов.

№ п/п	Темы (разделы) дисциплины, их содержание	Семестр	Виды учебных занятий, включая самостоятельную работу студентов, и их трудоемкость (в академических часах)					Формы текущего контроля успеваемости Форма промежуточной аттестации (по семестрам) Формы ЭО и ДОТ (при наличии)	
			Контактная работа						
			лекции	практические	лабораторные	консультации	аттестационные испытания		самостоятельная работа
1.	Вводно-коррективный курс. Фонетика. Грамматика: предлоги, артикль, существительное, местоимение, прилагательное, наречие, глагол to be. Личные и неличные формы глагола.	1		4		1		2,5	Входное тестирование.
2.	Тема: <i>Как мы изучаем естественные науки. Мой режим дня.</i>	1		6				2,5	Устный опрос.

3.	Грамматика: <i>The Present Simple Tense</i> . Типы вопросов.	1		4		2		2,5	Контрольная работа.
4.	Тема: <i>ЯрГУ им. П.Г. Демидова. Мой биологический факультет.</i>	1		6				2,5	Беседа по теме.
	в том числе с ЭО и ДОТ							2	Обзор по теме ЭУК в LMS Moodle.
5.	Тема: <i>Наука биология. Подразделения биологии.</i>	1		6		1		3,5	Беседа по теме. Самостоятельная работа № 1.
	в том числе с ЭО и ДОТ							2	Обзор по теме ЭУК в LMS Moodle.
6.	Тема: <i>Зарождение жизни. Классификация живых организмов.</i>	1		6		1		3,5	Устный опрос. Самостоятельная работа № 2.
	в том числе с ЭО и ДОТ							2	Обзор по теме ЭУК в LMS Moodle.
7.	Грамматика: <i>The Past Simple Tense</i> . Неправильные глаголы. Модальные глаголы.	1		4		2		2,5	Контрольная работа.
8.	Аттестация.						0,3	3,2	Зачет.
	Итого за 1 семестр 72 часа			36		7	0,3	28,7	
	в том числе с ЭО и ДОТ							6	
9.	Тема: <i>Биология и медицина.</i>	2		6		2		5,8	Доклад. Самостоятельная работа № 3.
10.	Грамматика: <i>The Future Simple Tense</i> . Придаточные предложения условия и времени.	2		4		2		5,8	Контрольная работа.
	Тема: <i>Клеточная теория. Строение клетки.</i>	2		6		2		5,8	Беседа по теме. Самостоятельная работа № 4.
	в том числе с ЭО и ДОТ							2	Обзор по теме ЭУК в LMS Moodle.
12.	Тема: <i>Биохимический состав живых организмов.</i>	2		6		2		5,8	Диктант. Самостоятельная работа № 5.
	в том числе с ЭО и ДОТ							2	Обзор по теме ЭУК в LMS Moodle.
13.	Грамматика: времена группы <i>Continuous, Perfect, Perfect Continuous</i> . Пассивный залог.	2		6		3		5,8	Контрольная работа.

14.	Аттестация.				2	0,5	33,5	Экзамен.
	Итого за 2 семестр 108 часов			28	13	0,5	66,5	
	в том числе с ЭО и ДОТ						4	
	ИТОГО			64	20	0,8	95,2	
	в том числе с ЭО и ДОТ						10	

Содержание разделов дисциплины:

1. Вводно-коррективный курс.
Входное тестирование.
Фонетика. Английский алфавит, фонетическая система, транскрипция.
Грамматика. Особенности английского языка в сравнении с русским. Порядок слов в простом предложении. Предлоги места, времени, направления. Артикль. Существительное. Единственное и множественное число. Исчисляемые и неисчисляемые существительные. Притяжательный падеж имен существительных. Местоимение. Виды местоимений. Особенности их употребления. Прилагательное. Наречие. Степени сравнения. Глагол to be, его формы и функции.
Личные и неличные формы глагола. Инфинитив, причастие и герундий, их формы и функции. Грамматические конструкции с инфинитивом, причастием и герундиальные обороты.
2. Тема: *Как мы изучаем естественные науки. Мой режим дня.* Усвоение и контроль лексики, терминологии, анализ лексико-грамматических особенностей текста, беседа по теме, составление конспекта по теме в письменном виде. Монологические и диалогические высказывания по теме.
3. Видо-временная система английского глагола. Времена группы *Simple Active. The Present Simple Tense*. Особенности структуры вопросительных предложений. Типы вопросов.
4. Тема: *ЯрГУ им. П.Г. Демидова. Мой биологический факультет.* Усвоение и контроль лексики, терминологии, анализ лексико-грамматических особенностей текста, отработка лексико-грамматических моделей, беседа по теме, составление конспекта по теме в письменном виде. Монологические и диалогические высказывания по теме.
5. Тема: *Наука биология. Подразделения биологии.* Усвоение и контроль лексики, терминологии, анализ лексико-грамматических особенностей текста, отработка лексико-грамматических моделей, беседа по теме, составление конспекта по теме в письменном виде. Монологические и диалогические высказывания по теме.
6. Тема: *Зарождение жизни. Классификация живых организмов.* Усвоение лексики, отработка произношения сложной терминологической лексики. Лексико-грамматический анализ текста и отработка речевых моделей для устного высказывания. Развитие навыков высказывания по теме. Формулирование краткого высказывания по теме в письменном виде.
7. *The Past Simple Tense.* Неправильные глаголы и их употребление в разных видо-временных формах. Модальные глаголы и их эквиваленты. Практика по овладению грамматическими структурами.

8. Зачет.
9. Тема: *Погода и климат*. Усвоение специальной лексики по теме. Лексико-грамматический анализ текста. Выступления с докладами по теме «Природные явления». Подготовка устного сообщения по теме.
10. *The Future Simple Tense*. Сложноподчинённые предложения. Придаточные предложения условия и времени. Союзы.
11. Тема: *Экологический кризис. Уничтожение дикой природы*. Усвоение лексики, отработка произношения сложной терминологической лексики. Лексико-грамматический анализ текста и отработка речевых моделей для устного высказывания. Перефраз и интерпретация определенных понятий. Развитие навыков высказывания по теме (устно и письменно). Знакомство с основами аннотирования и реферирования текста на родном и английском языке. Реферирование текста по специальности.
12. Тема: *Отходы и их вторичная переработка*. Усвоение лексики и отработка произношения. Лексико-грамматический анализ текста. Отработка речевых моделей по теме текста. Беседа по теме с использованием разговорных формул и обозначением собственной позиции по проблемным моментам. Работа с дополнительными текстами по данной тематике с постановкой вопросов, анализом, пересказом. Формулирование высказывания по теме.
13. Времена группы *Continuous, Perfect, Perfect Continuous*. Формы пассивного залога. Особенности употребления и перевода пассивных конструкций.
14. Экзамен.

5. Образовательные технологии, в том числе технологии электронного обучения и дистанционные образовательные технологии, используемые при осуществлении образовательного процесса по дисциплине

В процессе обучения используются следующие образовательные технологии:

Вводная лекция-беседа – дает первое целостное представление о дисциплине и ориентирует студента в системе изучения данной дисциплины. Студенты знакомятся с назначением и задачами курса, его ролью и местом в системе учебных дисциплин, дается краткий обзор курса, анализ рекомендуемой учебно-методической литературы. На лекции также объясняются организационные особенности работы в рамках курса.

Практическое занятие – занятие, посвященное освоению конкретных умений и навыков и закреплению полученных при объяснении знаний.

Консультация – вид учебного занятия, являющийся одной из форм контроля самостоятельной работы студентов. На консультациях по просьбе студентов рассматриваются наиболее сложные моменты при освоении материала дисциплины, преподаватель отвечает на вопросы студентов, которые возникают у них в процессе самостоятельной работы.

В процессе обучения используются следующие технологии электронного обучения и дистанционные образовательные технологии:

Электронный учебный курс по дисциплине «Иностранный язык» в LMS Электронный университет Moodle ЯрГУ, в котором:

- осуществляется проведение отдельных мероприятий текущего контроля успеваемости студентов;

- представлены правила прохождения промежуточной аттестации по дисциплине;
- представлены ссылки на учебную литературу, рекомендуемую для освоения дисциплины;
- представлены задания для самостоятельной работы обучающихся по темам дисциплины;
- посредством групповых чатов и форумов осуществляется синхронное и (или) асинхронное взаимодействие между обучающимися и преподавателем в рамках изучения дисциплины.

6. Перечень лицензионного и (или) свободно распространяемого программного обеспечения, используемого при осуществлении образовательного процесса по дисциплине

В процессе осуществления образовательного процесса по дисциплине используются:

программы Microsoft Office и Adobe Acrobat Reader для формирования материалов текущего контроля успеваемости и проведения промежуточной аттестации, для формирования методических материалов по дисциплине.

7. Перечень современных профессиональных баз данных и информационных справочных систем, используемых при осуществлении образовательного процесса по дисциплине (при необходимости)

В процессе осуществления образовательного процесса по дисциплине используются:

1. Автоматизированная библиотечно-информационная система «БУКИ-NEXT»
http://www.lib.uniyar.ac.ru/opac/bk_cat_find.php
2. Электронно-библиотечная система «Юрайт» <https://urait.ru/>
3. Электронно-библиотечная система «Лань» <http://e.lanbook.com/>
4. Электронно-библиотечная система «Консультант Студента»
<https://www.studentlibrary.ru/>

8. Перечень основной и дополнительной учебной литературы, ресурсов информационно-телекоммуникационной сети «Интернет» (при необходимости), рекомендуемых для освоения дисциплины

а) основная литература

1. Английский язык для биологов: активная лексика и устная речь: практикум. / сост. Т.В. Чвягина, Т.П. Шилова; Яросл. гос. ун-т им. П.Г. Демидова – Ярославль: ЯрГУ, 2016. – 46 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20162106%20.pdf>
2. Базовый курс грамматики и лексики английского языка: практикум. / сост. Д.И. Пермякова, Т.В. Шульдешова; Яросл. гос. ун-т им. П.Г. Демидова. – Ярославль: ЯрГУ, 2016. – 55 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20162101.pdf>
3. Биология на английском: метод. указания. / сост. Т.В. Чвягина, Е.А. Невская; Яросл. гос. ун-т им. П.Г. Демидова – Ярославль: ЯрГУ, 2009. – 42 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20092108.pdf>
4. Кожарская Е.Э. Английский язык для студентов естественно-научных факультетов – English for Sciences: учебник для вузов. – М.: Академия, 2012. – 175 с.

б) дополнительная литература

1. Английский язык: развитие навыков чтения текстов по специальности для студентов-биологов и экологов.: практикум. / сост. Т.В. Чвягина, Е.А. Невская, Т.П. Шилова; Яросл. гос. ун-т им. П.Г. Демидова. – Ярославль: ЯрГУ, 2012. – 56 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20122104.pdf>
2. Английский язык и экология: практикум. / сост. Е.А. Невская, Т.П. Шилова; Яросл. гос. ун-т им. П.Г. Демидова. - Ярославль: ЯрГУ, 2008. – 46 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20082105.pdf>
3. Голицынский Ю.Б. Грамматика: сб. упражнений. – СПб.: КАРО, 2003. – 538 с.
4. Голицынский Ю.Б. Грамматика английского языка: сб. упражнений для средней школы. – СПб.: КАРО, 2003. – 187 с.

9. Материально-техническая база, необходимая для осуществления образовательного процесса по дисциплине

Материально-техническая база, необходимая для осуществления образовательного процесса по дисциплине включает в свой состав специальные помещения:

- учебные аудитории для проведения практических занятий (семинаров);
- учебные аудитории для проведения групповых и индивидуальных консультаций;
- учебные аудитории для проведения текущего контроля и промежуточной аттестации;
- помещения для самостоятельной работы;
- помещения для хранения и профилактического обслуживания технических средств обучения.

Специальные помещения укомплектованы средствами обучения, служащими для представления учебной информации большой аудитории.

Помещения для самостоятельной работы обучающихся оснащены компьютерной техникой с возможностью подключения к сети «Интернет» и обеспечением доступа к электронной информационно-образовательной среде ЯрГУ.

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**Приложение №1 к рабочей программе дисциплины
«Иностранный язык»**

**Фонд оценочных средств
для проведения текущего контроля успеваемости
и промежуточной аттестации студентов
по дисциплине**

**1. Типовые контрольные задания и иные материалы,
используемые в процессе текущего контроля успеваемости**

Формы текущего контроля по разделам

Раздел 1. Входное тестирование

I. Present Simple or Present Continuous. Choose the right variant.

1. The boys _____ a game at the moment.

A) have B) having C) are having D) don't have

2. Where _____ you usually _____ in the evening?

A) do ... go B) are ... go C) are ... going D) do ... going

3. He _____ it now.

A) understands B) is understanding C) understanding D) understand

II. Will / be going to. Choose either the Future Simple or be going in the following sentences.

A) will B) be going to

1. You (to come) to my house, please?

2. Why have you got the flowers? Because I (to visit) my teacher.

III. Reflexive pronouns. Fill in the blanks with the words where necessary.

A) myself B) himself C) herself D) itself E) yourself F) ourselves G) themselves H) —

1. We didn't know who that man was. He hadn't introduced _____.

2. My grandparents grow their vegetables _____.

IV. Plural forms. Which 5 words in the list below have mistakes (including spelling mistakes)?

nucleii	places
chairs	citys
boots	mouths
phenomenons	shoes
watchs	men
months	datas

V. Personal pronouns. Fill in the blanks with the appropriate pronouns.

A) he B) she C) it D) they F) him G) her H) them

Children like to invent things and test ____1. Once my cousins made a simple telephone. Francis found two good paper cups. ____2 tied them to a long wire. Caroline, his sister, talked softly into one cup. ____3 heard him through the other cup.

VI. Adjectives. Degrees of comparison. Choose the right variant.

1. Money is _____, but isn't _____ thing in life.

A) important

B) more important

C) the most important

2. China has got _____ population in the world.

A) a large

B) a larger

C) the largest

3. Of the three girls, this one is the _____.

A) pretty

- B) prettier
 C) prettiest
 4. A snail is _____ than a tortoise.
 A) slower
 B) more slow
 C) slowest
 5. The weather was not very _____ yesterday, but it's _____ today.
 A) good
 B) better
 C) the best

VII. Mixture of tenses. Put in the correct auxiliary verb in each sentence.

A) do B) did C) are D) have

1. I ___ not see Andrew yesterday.
2. Why ___ you learning English?
3. What ___ you think of your new teacher? To my mind she is very nice.
4. ___ you angry about what happened?
5. ___ you read a newspaper yesterday?

Раздел 2. Типовые задания по овладению лексикой и развитию навыков устной речи по теме «Как мы изучаем естественные науки. Мой режим дня» (устный опрос).

The Way We Study Sciences

My friend Andrey and I study at Yaroslavl State University. We are first-year students, or *freshmen*, as they put it in America. We enjoy sciences. Do you know that all disciplines are divided into sciences and humanities? Sciences study the natural world around us. Humanities learn the human culture. At school my friend and I enjoyed biology and chemistry. They are sciences. Now we are students of the faculty of biology and ecology. I am doing biology and ecology. Andrey has chosen another speciality. He is doing chemistry. Our faculty is located far from the center of the city. So we have to take a bus to get to the university.

The academic year begins, as a rule, on the first of September and ends in June. It lasts ten months: September, October, November, December, January, February, March, April, May and June. The academic year has two terms: the autumn term and the spring term. The autumn term begins in September and ends in December. It lasts four months or eighteen weeks. The spring term begins in the second week of February and ends, as a rule, in June. Each term ends with examinations, or *exams*. They take place in January and in June, sometimes in July.

We have two holidays a year: winter holidays and summer holidays. The winter holidays are short. They last only two weeks. The summer holidays are long. They last two months. During the holidays we do not study, we have a rest.

We go to the university on week-days: Monday, Tuesday, Wednesday, Thursday, Friday, and Saturday. We do not go there on Sundays. On Sundays we have a rest.

My classes begin at eight-thirty, or at half past eight, in the morning and end at about two or four in the afternoon. As for Andrey, his classes begin at nine and end at about the same time. I take a full course of biology and some parts of chemistry. Andrey takes a full course of chemistry and some parts of biology. Also, all students learn some foreign languages: English, German or French. We have one English lesson a week. At the lesson we check up on our assignment, ask and answer questions, read English texts and translate them into Russian. We listen to English speech and learn to understand it. We also write English.

At the end of each lesson we are given our assignment. I am very attentive in class and always prepare my assignments because I want to know English well. It is not difficult for me: I work at this language regularly. I prepare my assignments together with Andrey. We are not from Yaroslavl. We live in the hall of residence (British) / in the dorms (American). We are roommates.

SPEAK about the way you study sciences. Make up 15 -17 simple sentences.

Раздел 3. Лексико-грамматическая (контрольная) работа по грамматике.

Make up sentences in the Present Simple,

negative sentences,

5 questions of different types:

1. to write, a letter, once a week, he, to his parents.
2. usually, to go, to the country, my parents, for the weekend.
3. to take a bus, we, never, when, we, to go to the University.
4. a newspaper, to get, sometimes, he, for us.
5. to use, a telephone, constantly, she.
6. to go, to the theatre, once a month, we.
7. to tell, us, never, about, she, her childhood.
8. to have, when, to knit, my sister, some spare time, she.
9. to have a rest, every summer, at the seashore, they.
10. a computer, every day, to use, my brother, for studying.

Раздел 4. Типовые задания по овладению лексикой и развитию навыков устной речи по теме «ЯрГУ им. П.Г. Демидова. Мой биологический факультет» (беседа по теме).

About P.G. Demidov Yaroslavl State University

Yaroslavl State University is one of the youngest and at the same time one of the oldest universities in Russia. The history of Yaroslavl State University begins in 1803. The emperor of Russia Alexander I founded the School of Higher Sciences on the money of the famous landlord, scientist-naturalist and the Councillor of State P.G. Demidov. It was later transformed into the Demidov Law Lyceum. In 1918 the Yaroslavl State University was established. Six years later it stopped its activity because of the money problems. But in 1970 began to work again. In 25 years it was given the name of Pavel Grigoriyevich Demidov.

Today P.G. Demidov Yaroslavl State University is one of the best higher educational institutions with more than 7000 students. It has about 70 bachelor's and master's programmes. Students can continue education at a post-graduate school for a candidate's and doctor's degree. In its structure the university has ten faculties: the Law Faculty, the Mathematics Faculty, the Physics Faculty, the Economics Faculty, the History Faculty, the Faculty of Information and Computer Science, the Faculty of Social and Political Sciences, the Psychology Faculty, the Biology and Ecology Faculty, the Faculty of Philology and Communication. Also the University College offers academic programmes in secondary professional education. The teaching process is provided by a professional team of lecturers and instructors, most of them have the degree of candidates and doctors of science. The rector of Yaroslavl State University is Professor Alexander Ilyich Rusakov. Research works are carried out in many fields of science. Students and instructors participate in different scientific conferences and workshops. The university takes part in international exchange projects and has long-term partnerships with higher educational institutions of the USA, Finland, France, England. Demidov Yaroslavl State University provides students with a great variety of facilities, such as libraries, well-equipped laboratories and rooms with Internet access, dorms, gyms.

Answer the questions on the text:

1. Why is the university called the oldest and the youngest institution at the same time?
2. What did Demidov do?
3. How many faculties does the university have?
4. What faculty are you studying at?
5. What facilities does the university provide you with?

Раздел 5. Типовые задания по овладению лексикой и развитию навыков устной речи по

теме «Наука биология. Подразделения биологии» (беседа по теме).

Biology

Biology is *the science of life*. The word “biology” comes from two Greek words: bio – “life” and logos – “discourse” or “study”. Biology includes all the facts and principles which have been derived from a scientific study of living things.

Biology tells us about our body: how it is constructed and how it functions. It gives us important information about other living things and how their lives affect mankind. Knowledge of biology will help you to keep healthy. It will be your guide in solving many of everyday living and scientific problems.

People who are engaged in biology are called biologists. They study the secrets of living things: how they feed, breed and survive. A biologist’s laboratory is a fascinating place. In it you may find powerful microscopes and other instruments. Biologists make great efforts to find out everything that is possible about living things by carrying out experiments. They always keep very complete and accurate records of their observations. Biologists’ discoveries are of great value to all mankind.

Biologists have solved many mysteries of the body. They have discovered how blood circulates, how food is digested and many other secrets of life. They are now working in different fields of biology and their studies may lead to a solution of many problems.

Biologists have made a great contribution to science. They have increased our food supply; they have developed new and better varieties of plants and animals. Scientific methods of farming have given us much more food. Biologists control many diseases. They have saved millions of lives by discovering the causes of these diseases and methods of prevention and cure. Vaccines, penicillin and sulfa are products of the biological laboratory.

The special study of plants, Botany, and of animals, Zoology, are the two great subdivisions of the science of biology. Plants and animals are called organisms, and each different type of animal or plant is called a species, so biology may also be defined as *the science of organisms*.

There are millions of different plants and animals, some of which are invisible to the naked eye. They exist all over the Earth’s surface, often in spite of very difficult conditions – from the icy Arctic and Antarctic to the dry, baking deserts near the Equator. They also live in the seas and oceans, from the shallow waters of warm tropical seas to the gloomy ocean depths.

Most people think that plants are not alive in the same sense that animals are, or that there is some fundamental difference between plant and animal life. But this is not so. Plants and animals have much in common. Their more important points of resemblance are: 1) The living substance of plants and animals is organized into protoplasm. Protoplasm is the basic material of all living systems and its general properties are fundamentally the same in each system both in plants and animals. 2) Both plants and animals consist of microscopic structural units called cells. 3) Certain vital processes take place in plant bodies in the same manner as in animal bodies. These processes are respiration, sensitivity, digestion, growth and reproduction. 4) Both animals and plants can not live without certain necessary conditions. All living things need water, oxygen, food, light and proper temperature.

Both plants and animals are of different shapes, sizes and colours. In fact, the differences are not so many as the likenesses although they are more apparent. Plants get all the energy they need to live from sunlight by the process of photosynthesis. Animals get the energy by eating plants, animals or other organisms. Most animals can move about, and they have senses, such as sight, hearing, touch, smell and taste, which plants lack.

Answer the following questions based on the text “Biology”:

1. What is biology? Define it.
2. What does the word “biology” mean?
3. How are people engaged in biology called?
4. What do biologists study?

5. Why is biology of great value to mankind?
6. What are the two great subdivisions of biology?
7. How is each type of animal or plant called?
8. Where do living things exist?
9. Are plants and animals similar in their fundamental composition?
10. What are the differences and likenesses of plants and animals?
11. How do plants and animals depend on one another?

Раздел 6. Типовые задания по овладению лексикой и развитию навыков устной речи по теме «Зарождение жизни. Классификация живых организмов» (устный опрос).

Compose dialogues for the following imaginary situations:

1. Your friend doesn't believe in evolution. With the help of a time-machine you have managed to take him to the primitive age (several million years back). You see only amphibians and primitive scorpions around. Trace the development of life on the Earth.
2. Your friend's grandmother is religious. She believes man was created by God. Try to make her change her mind. Speak about this problem from a scientific point of view.
3. You are going to be a guide for a group of schoolchildren who have come to visit your faculty. Tell them about the biological museum and what they will see there.
4. Address your teacher with a request to tell about the study of the dolphins in our country and abroad. Ask him what branches of science treat this problem and discuss it all together.
5. Your family has just moved to a new flat. Your mother has placed flowerpots on the cupboard and wardrobe. Ask her to put them on the window-sill and explain why they should be there.
6. Your friend says that our lives depend on how much we have learned about living things around us. What is your opinion? Discuss why it is important to study living things with great care and how men use plants and animals.
7. You are to prepare for an exam in general biology. Now you are learning the system of classification of living organisms, but you have missed this lecture because of being ill. Ask your friend to help you.
8. You are a first-year student of the biological faculty. Today in the botanical laboratory you have seen a portrait of Carl Linneus. Ask your friend, a third-year student, to tell you about Linneus's contribution to the science of biology.
9. You saw a picture of a tiger with a sign "Panthera Tigris". Ask your friend to explain what it means.
10. The teacher points to the tree and asks what it is. One student says that it is a common birch, the other – that it is *Betula verrucosa*. Each insists that he is right. How will you settle their argument?

Раздел 7. Лексико-грамматическая (контрольная) работа по грамматике.

Use the necessary modal verbs:

- 1) When Bob was a child he ... play the piano wonderfully.
- 2) The man ... be a foreigner. He doesn't understand Russian.
- 3) If you're not feeling well you ... stay in bed.
- 4) If you work hard, you ... pass your exam successfully.
- 5) I ... leave now, I have a seminar.
- 6) I ... not do without your help translating this text.
- 7) Take your umbrella with you, it ... rain today.
- 8) We have a lot of food at home so we ... not go shopping today.
- 9) If he doesn't meet you at the station you ... take a taxi.
- 10) She ... not be 35, she has grandchildren.
- 11) The children ... not stay outside alone.
- 12) ... I use your telephone, Mr. Brown? — You certainly
- 13) The train ... arrive in five minutes.
- 14) There was a storm of applause and the singer ... go out on the stage several times.
- 15) My parents are going out to a party tomorrow and I ... stay with my younger brother.

Раздел 9. Типовые задания по овладению лексикой и развитию навыков устной речи по теме «Погода и климат» (доклад).

Find additional information and make a report on the topic “A Natural Phenomenon”.

Раздел 10. Лексико-грамматическая (контрольная) работа по грамматике.

Translate into English. Mind the tense form of the verbs in the subordinate clauses:

1) Я сделаю уроки до того, как он придёт. 2) Если он найдёт время, он поговорит с ней об этом. 3) Посмотри телевизор, пока мама готовит обед. 4) Мы позвоним ей, как только вернёмся из Англии. 5) Она вам не расскажет о своей проблеме, если вы её не попросите.

Раздел 11. Типовые задания по овладению лексикой и развитию навыков устной речи по теме «Экологический кризис. Уничтожение дикой природы» (беседа по теме).

Answer the questions and give your reasons.

Start your answer with: I think (suppose) that...

In my opinion/to my mind...

I must say that...

1. Why is the environmental crisis the international problem?
2. Can people slow down the environmental degradation?
3. Why is the present situation threatening the survival of life itself?

Раздел 12. Типовые задания по овладению лексикой и развитию навыков устной речи по теме «Отходы и их вторичная переработка» (диктант).

Listen and translate these word-combinations in written form:

1. сбрасывать мусор в мусорные ямы, загрязняя природу;
2. отравлять землю, воду и воздух, угрожая нашей пищевой цепи;
3. выбирать биоразлагаемые материалы, чтобы сохранить природу;
4. сокращать отходы, идущие на свалки, и уменьшать загрязнение;
5. поддерживать вторичную переработку, а не производство отходов;
6. покупать продукты, сделанные из вторично перерабатываемых и переработанных материалов;
7. сортировать и собирать мусор для вторичной переработки;
8. использовать мусор как ценный источник сырья для производства электричества;
9. сохранять энергию и природные ресурсы для нашего выживания на Земле;
10. прилагать усилия, чтобы изменить поведение потребителей.

Раздел 13. Лексико-грамматическая (контрольная) работа по грамматике.

Put the verbs in the correct tense forms:

1. At this time tomorrow we (to discuss) your report. 2. How many pages you (to translate) for today? 3. We already (to cover) about ten miles when Peter, who (to look) out of the window, suddenly (to exclaim): "Here is the station!" 4. The lesson (not yet to begin), and the children (to talk) loudly in the corridor now. 5. The old lady is unhappy: she (to look for) her son for three years. 6. The students (to finish) the grammar test by the end of the lesson. 7. When morning came, the storm already (to stop) but the snow still (to fall). 8. I (to wait) for permission to go abroad for three weeks already, but I (not yet to receive) the visa. 9. Johnny noticed that everybody (to look) at him, and he (to feel) shy. 10. I already (to hear) this song several times, but I cannot remember the words. I (to write) them down as soon as I (to hear) this song again. 11. What your friend (to do) now? — She (to have) dinner. She usually (to have) dinner at this time. 12. We (to work) at this factory since 2001. 13. You ever (to be) to the new stadium? - Yes, I (to be) there last Saturday.

Задания, проводимые в ЭУК «Иностранный язык» в LMS Moodle

Раздел 4. Обзор по теме «ЯрГУ им. П.Г. Демидова. Мой биологический факультет»

(проверка сформированности УК-4, индикатор ИД-УК-4.1)

Подготовить обзор темы по следующему плану:

1. изучение наук в университете;
2. ЯрГУ как образовательный и научно-исследовательский центр;
3. биологический факультет и моя специальность.

Раздел 5. Обзор по теме «Наука биология. Подразделения биологии» *(проверка сформированности УК-4, индикатор ИД-УК-4.1)*

Подготовить обзор темы по следующему плану:

1. наука биология (определение, основные понятия, объекты исследования);
2. значение биологии для науки и человечества;
3. научные отрасли биологии.

Раздел 6. Обзор по теме «Зарождение жизни. Классификация живых организмов» *(проверка сформированности УК-4, индикатор ИД-УК-4.1)*

Подготовить обзор темы по следующему плану:

1. этапы развития жизни на Земле;
2. роль классификации в изучении живых организмов;
3. 5 царств живых организмов.

Раздел 11. Обзор по теме «Экологический кризис. Уничтожение дикой природы» *(проверка сформированности УК-4, индикатор ИД-УК-4.1)*

Подготовить обзор темы по следующему плану:

1. основные характеристики экологического кризиса;
2. загрязнение воздуха (кислотный дождь, парниковый эффект);
3. уничтожение мест обитания животных и их вымирание.

Раздел 12. Обзор по теме «Отходы и их вторичная переработка» *(проверка сформированности УК-4, индикатор ИД-УК-4.1)*

Подготовить обзор темы по следующему плану:

1. проблема мусора и её последствия;
2. действия потребителей, способствующие переработке мусора;
3. преимущества вторичной переработки отходов.

Практические задания для самостоятельной работы студентов

Самостоятельная работа № 1

CLOSE RELATIONS

1. *Restore the text (use the words and expressions from the box):*

indistinguishable, in order to, evolved, parasites, nutrient bits, to match, similar, poisonous, close relationships, coexist, beneficial, a stinger, energy, kangaroos, insects.

Creatures evolving in the same place sometimes develop One might masquerade as another, or provide food for another, such as the cleaner wrasse living on a coral reef whose diet consists of other fish's parasites.

Cattle egrets supplement their diet by picking insects off cattle, whether Brahman bulls in India, water buffalo in China's Sichuan province, or wildebeest in Kenya; they have even been seen with ... in Australia. Acacia trees have ... a close

relationship with acacia ants, which are aggressive creatures that swarm herbivores that try to eat their host tree.

A relationship between two organisms may be ... for both parties, or bad or neutral for one but good for the other. Vines use their ability to climb trees to get closer to the sun, their energy source; yet often a vine covers so much of its host tree that the tree withers. The cholera virus, as a much smaller example, needs its host ... replicate and spread, but the host gets nothing but illness from the transaction.

INSECT MASCQUERADE

The drone fly looks just like a bee, and the hornet fly resembles a hornet. Neither fly has ..., but both use their beelike coloring to fool predators into thinking they do and leaving them alone.

Other animals avoid predators or ambush prey by looking like a thorn, a green or dead leaf, lichen, bark, or like poisonous insects. The viceroy butterfly looks a lot like a monarch. Since the monarch butterfly is ... to eat, birds mistaking the viceroy for a monarch will not eat him.

A stick insect is nearly ... when it sits on a branch. Other creatures' camouflage is less thorough but still effective. The chameleon and the pepper moth, for instance, change their appearance ... their surroundings. Some insects, such as grasshoppers, also use behavior as camouflage, for instance by swaying like a leaf in the wind.

PARASITES

Parasites are organisms that get their nutrients from another organism without killing the other organism outright. Ticks that live on deer blood are ...; although not generally harmful for the deer, some of these ticks can spread diseases to humans. Microbes in deer ticks that cause Lyme disease in humans are also parasites. Ticks are the vector for the disease: Vectors are the transportation taken by the bacteria to get to their next host, in this case humans.

DIGESTIVE HELPERS

The bacteria living in human intestines help break down food into nutrients that human bodies can burn for This process helps us use food more efficiently, so that there is less unused material to be emitted as solid waste and methane gas. Digestion of food with help from bacteria is one example of how two organisms can ... peacefully for each other's benefit.

Similarly, the fungus residing in an African termite mound exists in a state of mutual benefit with its termite hosts. Fungus-farming termites in Africa cultivate a single strain of fungus in moist chambers within their mounds. The termites feed the fungus chewed wood and grass pulp that would otherwise be indigestible, and the fungus breaks the pulp down and converts it into ... that the termites can use.

Other species of termites have evolved gut bacteria that help extract nutrients from chewed raw materials, in a manner ... to humans. Most plants have symbiotic fungi living on their roots, helping them to absorb needed nutrients, such as phosphorous and nitrogen, from the soil.

2. Find in the text and write the English equivalents of the following:

дополнять; избегать; ошибиться, приняв одного за другого; обманом убедить что-то сделать; сосуществовать; соответствовать окружению (слиться с окружением); вызывать болезнь; подобный, схожий; вянуть; превращать в...; неразличимый; благотворный, полезный; роиться; переваривание, пищеварение; проживать; не получить ничего, кроме болезни, от этой сделки.

3. Using the text answer the "who"-questions in written form:

- 1) Who makes trees wither?
- 2) What big herbivore lives in Kenya?
- 3) Who hides itself on a branch?
- 4) Who helps human bodies get nutrients?

- 5) Who fools predators into thinking it has a stinger?
- 6) Who lets symbiotic fungi live on its roots helping them to absorb needed nutrients?
- 7) Who can sway like a leaf in the wind?
- 8) Who uses its host to replicate and spread?
- 9) Who helps acacia trees survive?

Самостоятельная работа № 2

SURVIVING THE SEASONS

1. Read the text quickly to understand the general sense. Are these statements about the text true or false?

- 1) In late fall animals get ready for long winter.
- 2) They are busy with storing food and preparing their shelters.
- 3) Several times during cold months the degree of animals' activity can change.
- 4) Hibernating animals need much energy for surviving because all their bodily functions increase.
- 5) Cold-blooded animals stay deep underground throughout the whole winter.

Carrying a nut in its mouth, a chipmunk heads for home. In late summer and early fall chipmunks get ready for the cold months ahead. They store extra food in their burrows, and they eat until they are fat. They also spend much time preparing their underground shelters. A chipmunk's burrow system has a main tunnel up to 15 feet (5 m) long. This tunnel usually goes to a nesting chamber lined with dry leaves and grass. From there shorter tunnels lead to chambers used for storing food. In its snug burrow a chipmunk sleeps through much of the winter.

Just as extremely cold weather is a threat to animals in some climates, extremely hot weather threatens animals in other climates. They, too, survive by sleeping. Soon you will peek into some of the secret shelters that help animals live through extremes of cold or heat.

Many animals survive extremely cold weather by going into *hibernation* - periods of inactivity that occur frequently throughout the winter. Several times during the cold months hibernating animals may arouse and become active, and then they go back into hibernation. During hibernation an animal's heartbeat slows down, as does its rate of breathing. Its body temperature also drops. Different kinds of animals experience different degrees of hibernation. The body temperature of raccoons, for example, drops very little. They may become sluggish, but they sleep only during extremely cold times. The temperatures of some other mammals, such as marmots and ground squirrels, drop very low, and these animals remain in hibernation for long periods. Other animals - reptiles and amphibians, for example - remain completely inactive all winter, or until the weather warms up.

Because all of their bodily functions slow down, hibernating animals require very little energy to stay alive. Their low body temperatures and their reduced need for energy help them survive periods of cold and lack of food.

Marmots, like chipmunks, hibernate in underground burrows. Where winters are harsh, they stay underground for as long as seven months. Twenty or more of these furry animals may live together. In the late summer and early fall members of the marmot colony get ready for the long winter.

They play in the sun, they eat, and they prepare large, comfortable burrows with many entrances. The network of tunnels in a marmot colony may cover an area larger than a football field. Within this area their grass-lined burrows lie several feet under the ground. Each sleeping chamber is large enough for more than one marmot. They often huddle together for warmth.

Ground squirrels, like marmots, spend the winter hibernating for days at a time. If you could pick up one of these little animals near the end of winter, while it was still sleeping, you might think it was dead. It breathes only about three times a minute, and its body for nourishment.

Some kinds of bears hibernate, but their temperature drops only slightly. They make their dens in coves, in hollow logs, or beneath fallen trees. Except for females and their cubs, bears hibernate alone. Every other winter a female bear gives birth in her den two or three furry cubs. The cubs do not hibernate that first winter. They snuggle next to their mother and nurse.

When spring arrives, the mother and her cubs leave the den in search of food. All summer they stuff themselves with roots, grass, berries and nuts. Their bodies become plump, and their fur grows thick. As autumn days shorten, the mother bear and her cubs eat less. They concentrate, instead, on preparing a den. This second winter is the last these cubs will spend with their mother. Next year they will be on their own.

Where winters are cold, some kinds of bats, like some bears, hibernate in coves. There they cling to the ceiling with their sharp claws. When they enter hibernation, their heartbeat slows down, they breathe infrequently, and their body temperature drops. Bats may hibernate for as long as a month at a time.

Unlike the bodies of bats, which are warm-blooded, the bodies of reptiles and amphibians produce very little heat. Cold-blooded creatures survive cold weather by going deep underground. To keep from freezing, they must go below the frost line - the point to which the ground freezes. There, in their hideaways, they remain dormant - completely inactive - until the weather warms up.

In parts of Manitoba, in Canada, the hibernation of large numbers of garter snakes attracts much attention each fall. Thousands of these garter snakes leave their spring and summer homes and travel as far as 10 miles (16 km) to reach the pits where they spend the winter. During their journey these harmless reptiles crawl through yards and houses, along highways and across fields. Their goal is to reach several deep, rock-lined pits, where they can survive Manitoba's bitterly cold winters.

The thousands of snakes that complete the journey crawl into the pits and slide under and between rocks. There they hibernate. Months later - about three weeks after the last snow melts - the garter snakes begin to come out of the pits and return to their warm-weather homes in the marshes.

2. *For each of these words from the text write a definition using **which**, **where** or **when**:*

- 1) underground shelter
- 2) nesting chamber
- 3) hibernating animals
- 4) mammals
- 5) lack of food
- 6) cold-blooded creatures
- 7) the frost line

3. *Find in the text how different animals survive extremely cold weather and give your own examples.*

Самостоятельная работа № 3

KEYSTONE SPECIES AND ECOSYSTEM ENGINEERS

1. *Can you guess what the term "keystone species" means?
Skim the text (read for gist) and give the answer to this question.*

Some species seem to have a stronger influence than others on their ecosystem. Take away the ochre sea star along the Northwest coast of the United States, for instance, and the ecosystem changes dramatically; in the absence of these sea stars, their favourite prey, mussels, takes over and makes it hard for other species that used to live there. Sea stars are known as keystone species, because as top predators they determine ecosystem structure by their eating habits.

If you chop down an aspen tree by a beaver pond, not much will happen; but if you take away a beaver, a wetland might dry out, changing the kind of plants that live there and the animals that rely on them. Because beavers exert their influence by physically altering the landscape, they are known as ecosystem engineers. Even minute organisms can be ecosystem engineers. The massive calcium carbonate structures built by tiny corals radically alter the ecosystem around them, protecting the shoreline and creating a complex habitat in which numerous fish and invertebrate species can live.

SEA OTTERS

Kelp forests off California are so rich in diverse life that they have been called rain forests of the sea. Hundreds of species, from bonito to jellyfish to grebes, depend on these fast-growing sea plants – giant kelp are the world’s largest algae and grow up to 200 feet tall – for food, shelter, or both.

One of those species is the sea otter. The whiskered otter basks on her back like a sunbather at the beach, often secured to a piece of kelp so she will not drift away, as she cracks open snacks of abalone or sea urchin on her stomach. Sea otters are a keystone species of Pacific coastal waters. An otter eats as many as 50 large sea urchins each day. Its feeding limits the population of urchins, which eat giant kelp. Without the balancing presence of sea otters to keep urchin populations down, kelp forests disappear, and with them goes a habitat for fish, worms, abalone, and dozens of other marine species.

After sea otters were hunted to near extinction in the nineteenth century, kelp forests off the Canadian and U.S. Pacific coast suffered major declines. Kelp forests off California decreased by more than 80 percent. With the help of conservation efforts, sea otter populations have recovered to several thousand individuals; nonetheless, wildlife managers are still having a difficult time restoring the kelp forests.

BEAVER ENGINEERS

Beavers are another highly influential species, shaping ecosystems and enabling other species to thrive by engineering water systems. Beaver dams turn streams into wetlands, ponds into lakes. The productivity and biodiversity of the beavers’ environment rises because of the increased moisture.

Wetlands created by beaver dams are often bordered by denser vegetation than surrounding areas. In dry regions, these streamside, or riparian, landscapes support trees and shrubs that shelter migrating birds and resident animals. The roots of plants at water’s edge are dense and deep, controlling erosion and holding moisture in the soil.

Like sea otters, beavers were once intensively hunted for their silky fur. Collecting beaver pelts for the top hat trade was one of the main economic reasons for the opening of the western frontiers of North America, beginning in Canada as early as the late sixteenth century.

At the same time that the beaver population was steadily shrinking, the interior of the North American continent was being carved into farms, and humans, with their man-made irrigation systems, became the ecosystem engineers.

KEYSTONE CONSERVATION

Because of their critical role in shaping ecosystems, keystone species and ecosystem engineers have become a major factor in conservation planning. In smaller African reserves, for example, elephant herds are culled to keep them from having too big an influence on their now-limited ecosystem. Black-tailed prairie dogs in the American interior are hated by farmers but beloved by prairie restorationists because without them many plants and animals will not be able to survive. Nine species, including black-footed ferrets and burrowing owls, depend on the

prairie dog for both food and housing. Dozens of other animals, birds, and plants eat prairie dogs, live in their burrows, or benefit from the soil aeration, grass-cropping, and other things prairie dogs do to their environment. Nonnative ecosystem engineers, such as cordgrass on the West Coast of North America, are seen as particular threats.

2. *Find in the text and write synonyms to the following words:*

to prosper; to change; skin, fur, coat; huge; hole, den; pool; dampness, wetness; to cover, to protect, to hide; border, side; scene, panorama; danger, warning; to diminish, to reduce; algae.

3. *Find in the text and write how sea otters, beavers and black-tailed prairie dogs work as keystone species or ecosystem engineers.*

Самостоятельная работа № 4

THE COLLECTORS OF INDOOR PLANTS

1. *Read the text and formulate its main idea in 2-3 sentences.*

You don't need to read a book to learn about the beauty, variety and popularity of house plants — just look around you. Everywhere you will find them, the impressive indoor gardens in public buildings...tiny pots on windowsills...scores of colourful varieties offered for sale in garden shops.

The first recorded plant collectors were the soldiers in the army of Thothmes III, Pharaoh of Egypt, 3500 years ago. In his Temple at Karnak these soldiers are shown bringing back 300 plants as booty from the campaign in Syria.

Over the centuries many travellers have collected unusual plants from overseas and brought or sent them back to their native countries. There were soldiers, such as the Crusaders, and also merchants, missionaries, sailors, naval surgeons, explorers and so on. These part-time collectors picked up their specimens whilst they were involved in some other profession — the day of the full-time collector did not dawn until the start of the 18th century.

These early part-time collectors provided the first house plants for temperate Europe — plants which needed protection from frost during the winter. Italian sea captains brought back exotic flowering plants from Asia in the early years of the 15th century. Pineapples were sent to Europe from the New World during the 16th century, and other Bromeliads soon followed. Unknown collectors had brought Orange, Lemon and Pomegranate to Northern Europe during the same century, and in the 17th century the prototype of the professional plant collector appeared — John Tradescant the Elder. As Gardener to Charles I he travelled overseas to collect plants, but he obtained many of his exotics from agents in Paris, Constantinople etc.

The end of the 17th century saw the arrival of the greenhouse in Europe and a keen interest in growing plants from tropical regions. "There is a vast number of East and West Indian seeds come over this year" wrote Sir Hans Sloane in 1684. An early collector, Herr Fagel, sent hundreds of new plants from the Indian subcontinent to be grown in the Hampton Court Orangery. These public displays of greenhouse plants helped to start the active quest for new varieties in the 1700s.

The 18th century saw the appearance of a new breed — the professional plant collector financed by a botanical garden, rich patron or learned society — in later years nurseries became important sponsors for such expeditions. An example of the early professional collector was James Harlow, sent by Sir Arthur Rawdon to the West Indies to collect new plants for his Irish garden.

In 1743 one of the immortals of botany was born — Joseph Banks. At 23 Banks was off on his first plant hunting expedition. The destination was Newfoundland — this was followed by

his voyage with Cook to Australia and with Dr Solander to Iceland. But Banks' great contribution was not as a collector — it was as a director of the efforts of others.

George III purchased Kew House and so Kew became a royal garden. Banks was Botanical Adviser to the King, and thus he became virtual dictator of the botanical garden. Kew's reputation was growing as the collection house for plants and seeds from overseas, and in 1772 Banks sent out the first of the Kew Collectors — Francis Masson.

Masson's expeditions yielded about 400 new species, and perhaps the most notable find was the *Senecio* species from which the present-day *Cineraria* was evolved. Masson never stopped collecting — he died still searching in North America in 1805.

The Kew Collectors organised by Banks continued to search for plants. Then it was all over. With the death of Banks in 1820 Kew declined and it was more than 20 years after his death before a collector was again sent out from Kew.

All of the collectors mentioned so far faced a common problem. Living plant specimens had to be transported back to Europe by sea, and the chance of survival was slim — perhaps 1 in 1000 from Australia. Plants were placed within slatted boxes on the deck. Here they had to withstand wide variations in temperature, irregular watering and shortage of light. They had also to face salt from the sea spray, jettisoning overboard when fresh water was short and the gnawing teeth of rats. So until a better method of transport came along the only reliable method of transporting plants was in the form of seeds or bulbs.

A better method did come along — the Wardian Case. In 1843 the Horticultural Society of London sent Robert Fortune to China and he took 18 Wardian Cases with him. As a result he was able to send thousands of Tea Plant seedlings from Shanghai to the Himalayas and so found the Indian tea industry. Plants sent by Fortune to Europe include many Primulas, Azaleas and Chrysanthemums.

At the start of the Wardian Case era a new breed of plant hunter appeared in Britain — the Veitch Collectors. The Royal Exotic Nurseries in Chelsea developed under James Veitch (1815—1869) into the greatest indoor plant nursery of the Victorian era. Between 1840 and 1905 they sent out 22 plant hunters to scour the tropical and sub-tropical region of the world — the 19th century hunger for new conservatory plants had to be fed.

With the arrival of the 20th century both the cultivation and search for house plants went into decline for many years, but there are still notable contributions. The Rochford Nursery was the 20th century equivalent in Britain of the Veitch Royal Exotic Nurseries in Victorian times. It was Thomas Rochford III (1904-) who led the modern revival of house plants in the U.K. and was responsible for the introduction of many varieties to Britain.

It is obvious that this century will not yield a crop of romantic names like John Tradescant, Francis Masson and Robert Fortune. This is the age of the hybridist rather than the discoverer. Still, there is a plant in some isolated tropical place waiting for the old-style hunter to bring it back to cooler shores and give us an exciting new house plant.

2. The following are the answers to the questions. Write suitable questions:

- 1) They were the soldiers in the army of Thothmes III, Pharaoh of Egypt.
- 2) Pineapples and other Bromeliads, Orange, Lemon and Pomegranate.
- 3) It caused the appearance of professional plant collectors sponsored by nurseries.
- 4) His great contribution was as an organizer of plant hunting expeditions for Kew.
- 5) In seeds and bulbs because of variations in temperature, irregular watering and lack of light during the voyage.
- 6) It was developed by James Veitch as the greatest indoor plant nursery of the Victorian era.
- 7) At the beginning of the 20th century.

3. Find additional information and write an essay on the following topics:

- 1) people who made a great contribution to collecting indoor plants;
- 2) my favourite house plant: its history and description;

3) world-famous nurseries, botanic gardens and parks.

Самостоятельная работа № 5

TOO MUCH CAN KILL A LITTLE CAN CURE

1. *Read the text and say:*

- 1) what the main idea of the text is;
- 2) in what paragraph this idea is expressed more precisely;
- 3) how you understand the title.

2. *Read the text again and find the facts to prove the statement "Too much can kill, a little can cure".*

Bad things come in small packages. On August 14, 1996, Karen Wetterhahn, a toxicologist and professor of chemistry at Dartmouth College, spilled a drop, a tiny speck, of dimethylmercury on her left hand. Wetterhahn was an expert on how toxic metals cause cancer once they penetrate cell membranes. When she spilled the poisonous droplet in her lab, she thought nothing of it; she was wearing latex gloves. What she didn't know killed her.

The dimethylmercury was volatile enough to penetrate the glove. Five months later Wetterhahn began stumbling into doors and slurring words. After three weeks in a hospital she slipped to a coma.

Karen Wetterhahn died five months later. She was 48 years old, a wife and mother of two. The mercury had devoured her brain cells "like termites eating away for months," one of her doctors said. How could such a brilliant, meticulous, world-class toxicologist come to such an end?

You might say that a toxicologist studies substances that lead to death. But toxicology is also about life. "What can kill, can cure," said Paracelsus, a 16th-century German-Swiss physician and alchemist. "All substances are poisons; there is none which is not a poison. The right dose differentiates a poison and a remedy." Poison is in the dose. Toxicology and pharmacology are intertwined, inseparable. A serpent coiled around a staff symbolizes Asclepius, the Greek god of medicine.

Consider arsenic, the poison of kings and king of poisons. Arsenic exploits certain pathways in our cells, binds to proteins, and creates molecular havoc. Small amounts taken over a long stretch produce weakness, confusion, paralysis. Take less than a tenth of an ounce at once, and the classic signs of acute arsenic poisoning ensue: nausea, vomiting, diarrhea, low blood pressure, then death.

Because it is colourless, tasteless and odourless, arsenic was the poison of choice for the Borgias, the Italian Renaissance family skilled at artful murder, as well as for Hieronyma Spara, a 17th-century Roman entrepreneur who ran a school that taught wealthy young wives how to dispatch their husbands and become wealthy young widows. Arsenic, the powder of succession, helped ambitious princes secure thrones. Fed in small amounts to a wet nurse, the poison could be expressed in breast milk and kill infant rivals.

From death to life: in the 5th century B.C., Hippocrates used arsenic to treat ulcers. It became an ingredient in Fowler's solution, created in 1786 and used for more than 150 years to treat everything from asthma to cancer. In 1910 an arsenic compound became the first effective remedy for syphilis (later to be replaced by penicillin). Arsenic derivatives are still used to treat African sleeping sickness. In 1890 William Osler, founder of modern medical education, pronounced arsenic the best drug for leukemia, and today it remains an effective chemotherapy agent for acute forms of the disease.

So is arsenic a poison or a drug? It's both. It depends: are you talking to a Borgia, or are you talking to a physician?

Poisons surround us. It's not just too much of a bad thing like arsenic that can cause trouble, it's too much of nearly anything. Too much vitamin A, hypervitaminosis A, can cause liver damage. Too much vitamin D can damage the kidneys. Too much water can result in hyponatremia, a dilution of the blood's salt content, which disrupts brain, heart and muscle function.

Even oxygen has a sinister side. Oxygen is the ultimate toxin. It combines with food to produce energy, but our bodies also produce oxygen radicals — atoms with an extra electron that damage biomolecules, DNA, proteins and lipids. We are oxidizing all the time. The biochemical price of breathing is ageing. Which is to say, we rust.

As if everyday poisons aren't enough to angst over, there are nature's more exotic hazards. It's a jungle out there. There are 1200 kinds of poisonous marine organisms, 700 poisonous fish, 400 venomous snakes, 60 ticks, 75 scorpions, 200 spiders, 750 poisons in more than 1000 plant species, and several birds whose feathers are toxic when touched or ingested.

Given the treachery of the world, why don't more of us die of poisoning? Because our bodies are designed to protect us from both natural and man-made toxins. The first line of defence, skin, is made of keratin — so waterproof, tough and tightly woven that only the smallest and most fat-soluble molecules can get through. Our senses warn us of noxious substances; if they fail there is vomiting as backup. Finally, there is the liver, which turns fat-soluble poisons into water-soluble wastes that can be flushed out through our kidneys. The balance tilts over to toxicity only when we step over the threshold of dosage.

Mike Gallo, a toxicologist, knows the principle of threshold from the inside out. Gallo is an associate director at the Cancer Institute of New Jersey in New Brunswick. In February 2004, at 64, he was diagnosed with non-Hodgkin's lymphoma.

Two weeks later he became both toxicologist and patient at the cancer institute. His oncologist put him on a four-month intravenous diet of toxins, also known as chemotherapy, and he began treatment in a clinic four floors down from his office.

The ingredients of his cocktail included cytoxan, adriamycin, vincristine, prednisone and Retuxan — toxic enough to cause side effects ranging from vomiting, diarrhea and weight loss, to liver, heart and bladder damage, to death from overwhelming infection due to a depressed immune system. In addition, as Gallo will cheerfully tell you, "Almost all cancer drugs are carcinogenic in their own right."

Gallo was lucky. His luxuriant mop of red hair fell out, and he took on the alien look of chemotherapy. But fatigue and the typical drop in blood-cell count aside, he continued working through the treatment.

"I did just fine," he says, "but in the room right next to me is the same person, the same age, the same physique, and he's getting the stuffing kicked out of him. Why? My drug-metabolizing enzymes must be slightly different from his."

It's these pieces of toxicology — the matter of difference, the question of how much or how little, the wavering line between killing and curing — that Gallo loves so much as a scientist. They are the heart of toxicology and thus of poison. "Toxicology gives you the chance to understand biology," he says.

Toxicology also saved his life. Six months and thousands of milligrams of toxic drugs later, Gallo's doctor gave him the all-clear. The lymphoma is in remission.

The tale of two toxicologists ends tragically for one, happily for the other. Karen Wetterhahn lost her life to poison. Michael Gallo owes his life to it. "I could have been a dead man. Thank God for toxicity," Gallo says.

3. Complete the questions with:

<i>what (5), why (2), when (2), how many (1)</i>
--

Answer the questions in written form.

- 1) ... killed K. Wetterhahn?
- 2) ... are toxicology and pharmacology inseparable?
- 3) ... is arsenic called the poison of kings?
- 4) ... is arsenic used as a drug?
- 5) ... other substances have a sinister side if taken too much?
- 6) ... natural hazards are there in the world?
- 7) ... protects us from poisoning?
- 8) ... does toxicity occur?
- 9) ... saved Gallo's life?
- 10) ... is the essence of toxicology and thus of poison?

Шкала оценивания входного тестирования и контрольной работы:

- «2» – выполнено менее 50% заданий.
- «3» – выполнено более 51% заданий.
- «4» – выполнено более 71% заданий.
- «5» – выполнено более 91% заданий.

Шкала оценивания беседы и устного опроса по теме:

- «2» – содержание не соответствует коммуникативной задаче, словарный запас ограничен, в речи представлены многочисленные грамматические ошибки, затрудняющие понимание, речь не воспринимается на слух.
- «3» – тема раскрыта в ограниченном объёме, имеются неточности в употреблении слов, в речи представлены грамматические ошибки, не затрудняющие понимание, в отдельных случаях понимание речи затруднено из-за наличия фонетических ошибок.
- «4» – тема раскрыта не в полном объёме, есть затруднения при подборе слов, практически нет грамматических ошибок, звуки в потоке речи в основном произносятся правильно.
- «5» – тема раскрыта полностью, словарный запас соответствует тематике задания, речь богата разнообразными грамматическими конструкциями, в речи отсутствуют фонетические ошибки.

Шкала оценивания диктанта:

- «2» – написано менее 50% слов и словосочетаний.
- «3» – написано более 51% слов и словосочетаний.
- «4» – написано более 71% слов и словосочетаний.
- «5» – написано более 91% слов и словосочетаний.

Требования к докладу

Студент получает «зачтено», если:

- доклад сделан в объёме, необходимом для раскрытия содержания темы;
- доклад написан в соответствии с правилами структурирования текста, с использованием вводных слов и выражений для логического изложения материала, с правильным лексическим и грамматическим оформлением мыслей;
- студент излагает доклад уверенно, допуская незначительное количество грамматических и фонетических ошибок, не затрудняющих понимание.

Студент получает «незачтено», если:

- объём доклада не раскрывает содержание темы;
- доклад написан с нарушением правил структурирования текста и с большим количеством лексических и грамматических ошибок, затрудняющих понимание;

- студент излагает доклад неуверенно, допуская большое количество грамматических и фонетических ошибок.

Шкала оценивания обзора по теме ЭУК в LMS Moodle:

Студент должен в указанный срок выложить в системе *Moodle* выполненное задание в соответствии со следующими требованиями:

1. объём темы должен составлять 20-25 предложений;
2. тема должна включать вступление (1-2 предложения), основную часть и заключение (2-3 предложения);
3. в теме необходимо использовать активную лексику и материалы всех изученных в рамках темы текстов.

Студент получает «зачтено», если задание предоставлено вовремя, содержание темы раскрыто полностью и в соответствующем объёме, соблюдено логическое изложение материала, использована активная лексика, могут быть допущены грамматические ошибки, не затрудняющие общего понимания темы.

Студент получает «незачтено», если задание предоставлено не в срок, содержание темы раскрыто не полностью и в ограниченном объёме, нарушена логика изложения материала, использование активной лексики недостаточное, допущены многочисленные грамматические ошибки, затрудняющие общее понимание темы.

Фонды оценочных средств по дисциплине предусматривают проверку индикаторов достижения компетенций.

2. Список вопросов и (или) заданий для проведения промежуточной аттестации

Промежуточный зачет (1 семестр)

Содержание зачета.

1. Лексико-грамматическая работа.

I. Make the following sentences plural:

- 1) Scientific analysis is very complex.
- 2) It is a very interesting phenomenon.
- 3) This datum is important for our experiment.
- 4) This stimulus is quite strong.
- 5) Is that woman a biologist?

II. Use the correct form of the verb “to be”:

1) John and Mary ... talking on the phone. 2) I hope it ... not ... raining tomorrow. It's our shopping day. 3) Where ... you going? – I ... going to the supermarket. 4) I couldn't get you on the phone last night, who ... you talking to so long? 5) He ... choosing an umbrella too long and didn't buy any. 6) I ... celebrating my birthday tomorrow. Can you help me to clean the flat? 7) We ... walking down the street when it began to rain. 8) What ... you looking for? – I ... trying to find a Christmas present for my wife. 9) What ... you ... doing when I come? 10) We ... driving too fast and didn't see the traffic lights.

2. Беседа по пройденным темам:

- 1) The way we study sciences. My routine.
- 2) P.G. Demidov Yaroslavl State University.
- 3) The biological faculty.
- 4) My future speciality.
- 5) The science of biology.
- 6) The value of biology to mankind.
- 7) Subdivisions of biology.

- 8) Animals and plants.
- 9) The beginning of life.
- 10) Classification of animals and plants.

3. Передача содержания текста по специальности без словаря (1500 печ. зн. – 15 мин.).
 Типовой текст для передачи содержания.

BIOLOGY

Biology is the study of living things. In studying them we learn the relations of plants and animals to one another, with the world about them and how we can control them. Biology is commonly divided into two branches — botany and zoology. Both animal and plant life is continually changing and there are great differences and likenesses between them.

In external appearance, plants are usually green. Some plants have varied and colourful flowers and others have no apparent blossoms. Among animals there is great variety of sizes, shapes and colours. The basic difference between plants and animals lies in the unit of structure and function of each, namely, the cell. Plant cells have a cell wall which is actually non-living in chemical nature. Animal cells do not have this.

All organisms are capable of responding to changes in the environment by reacting to external stimuli.

In animals this response to stimuli is accomplished by sense organs, the endocrine and nervous systems.

Plants lack the nervous system and specific sense organs, but they respond to external stimuli in somewhat analogous to that regulated by the endocrine system of animals.

Both plants and animals have hormones. Thus substances are produced in one part of the organism and in very small amounts, influence specific physiological processes when transported to another part of the organism. Plant hormones, however, are not produced in specific glands as animal hormones are, and they differ chemically from the hormones of animals, being in general simpler substances. Other substances which act like hormones are called plant regulators. The study of plant hormones and these synthetic substances is one of active fields of plant physiological research and their use in agriculture has become very important.

Экзамен (2 семестр)

Содержание экзамена.

1. Лексико-грамматическая работа.

I. Use the correct tense form of the verbs:

Mrs. Bruce: I (to be) tired, I (to need) a holiday.

Mr. Bruce: We (to go) to Egypt next month.

Mrs. Bruce: We (to go) to Egypt last year.

Mr. Bruce: Yes, we ..., and (to enjoy) it, ... you?

Mrs. Bruce: I (not to like) to see the same places more than once. Besides there (to be) so many other places to visit.

Mr. Bruce: Where exactly you (to want) to go?

Mrs. Bruce: Australia, or New Zealand, for example.

Mr. Bruce: Oh, no, I (to be) afraid we (not to go) there this year. We (not to have) enough money.

Mrs. Bruce: But a week ago you (to promise) me to have a good time in summer.

Mr. Bruce: All right, all right, we (to go) to Australia.

II. Insert suitable auxiliary verbs:

- 1) ... you usually go to the University by bus? 2) ... you visit the Art Gallery last Sunday? 3) ... he always travel by air? 4) ... I go to the Travel Agency next week? 5) How many exams ... you have a year ago? 6) Where ... we meet in the evening? 7) ... she often fly to the Caribbean?

- 8) ... you tell me how to get to the metro station? 9) ... you spend last weekend in the country?
10) ... you smoke?

2. Беседа по пройденным темам:

- 1) P.G. Demidov Yaroslavl State University.
- 2) The biological faculty and my future speciality.
- 3) The science of biology. Subdivisions of biology.
- 4) Similarities and differences between animals and plants.
- 5) The influence of living things on human life.
- 6) Classification of living things.
- 7) The environmental crisis.
- 8) Wildlife destruction.
- 9) Animals in danger.
- 10) Waste and recycling.

3. Передача содержания текста по специальности без словаря (1500 печ. зн. – 15 мин.).
Типовой текст для передачи содержания.

TROPICAL CYCLONES

Tropical cyclones are nature's most spectacular and most destructive storms. They begin as tropical depressions over the oceans between latitudes 5 and 20 degrees north and south. The sea surface temperature must be above 80 degrees Fahrenheit for strong convection to occur. The storms must also form some distance away from the equator in order for the Coriolis effect to provide the necessary spin. Therefore, tropical cyclones, or typhoons, usually occur in summer and autumn when the sun can heat the sea well to the north or south of the equator.

Only 1 out of 10 tropical depressions develop into a tropical cyclone, which typically has a life-span of 7 to 10 days. The majority of tropical cyclones have a diameter of 300 to 400 miles. Cyclones rotate counterclockwise in the Northern Hemisphere and clockwise in the southern Hemisphere.

When a tropical cyclone reaches land, it is deprived of its primary energy source, which is warm, moist air from the sea. Instead, it must generate energy from latent heat produced by heavy rainfall. Tropical cyclones are an important source of rainfall throughout many parts of the world. Once a cyclone reaches land, between 3 and 6 inches of rain is common and several tens of inches of rain, which is possible within a 24-hour period, can result in severe flooding.

Требования к зачету

К зачету допускаются студенты:

- 1) посетившие практические занятия;
- 2) выполнившие все домашние и самостоятельные работы в течение семестра;
- 3) набравшие 51 % и более по тестовым заданиям текущего контроля.

Студент получает «зачтено», если:

- в лексико-грамматической работе он выполняет более 51% заданий;
- он передаёт содержание текста в объеме не менее 10 предложений, излагает его достаточно бегло, допускает мало грамматических, лексических и фонетических ошибок, не затрудняющих понимание, использует опору в виде краткого плана и отвечает на вопросы преподавателя;
- он делает сообщение по теме в объеме не менее 15 предложений или принимает активное участие в обсуждении пройденных тем, используя активную лексику и не допуская грамматических и фонетических ошибок, затрудняющих понимание.

Студент получает «незачтено», если лексико-грамматические задания выполнены менее, чем на 50%; содержание устного ответа не соответствует коммуникативной задаче,

словарного запаса не хватает для выполнения задания, а большое количество грамматических и фонетических ошибок затрудняет коммуникацию.

Требования к экзамену

К экзамену допускаются студенты:

- 1) посетившие практические занятия;
- 2) выполнившие все домашние и самостоятельные работы в течение семестра;
- 3) набравшие 51 % и более по тестовым заданиям текущего контроля.

Экзамен состоит из:

1. лексико-грамматическая работа;

«2» – выполнено менее 50% заданий.

«3» – выполнено более 51% заданий.

«4» – выполнено более 71% заданий.

«5» – выполнено более 91% заданий.

2. передача содержания текста;

«5» - сделано сообщение в объеме не менее 12 предложений и более, студент излагает его достаточно бегло, не допускает грамматических, лексических и фонетических ошибок, использует опору в виде краткого плана или ведет свободное повествование, отвечает на вопросы преподавателя.

«4» - сделано сообщение в объеме не менее 10 предложений, студент излагает его достаточно бегло, допускает мало грамматических, лексических и фонетических ошибок, использует опору в виде краткого плана, отвечает на вопросы преподавателя.

«3» - сделано сообщение в объеме не менее 8 предложений, студент излагает его уверенно, допускает небольшое количество грамматических, лексических и фонетических ошибок, использует опору в виде подробного плана, испытывает затруднения при ответе на вопросы преподавателя.

«2» - сделано сообщение в объеме менее 8 предложений, студент излагает его недостаточно уверенно, допускает много грамматических, лексических и фонетических ошибок, не может ответить на вопросы преподавателя.

3. беседа по теме;

«5» – тема раскрыта полностью, словарный запас соответствует тематике задания, речь богата разнообразными грамматическими конструкциями, в речи отсутствуют фонетические ошибки.

«4» – тема раскрыта не в полном объёме, есть затруднения при подборе слов, практически нет грамматических ошибок, звуки в потоке речи в основном произносятся правильно.

«3» – тема раскрыта в ограниченном объёме, имеются неточности в употреблении слов, в речи представлены грамматические ошибки, не затрудняющие понимание, в отдельных случаях понимание речи затруднено из-за наличия фонетических ошибок.

«2» – содержание не соответствует коммуникативной задаче, словарный запас ограничен, в речи представлены многочисленные грамматические ошибки, затрудняющие понимание, речь не воспринимается на слух.

Требования к выполнению самостоятельной работы

Самостоятельная работа оценивается оценкой «зачтено/незачтено».

Выполняется самостоятельно к практическому занятию по соответствующей теме.

Для получения оценки «зачтено» студент должен выполнить все задания самостоятельной работы правильно и в срок.

Самостоятельная работа сдаётся в отдельной тетради после занятия по соответствующей теме.

После проверки при получении оценки «незачтено» студент выполняет работу над ошибками, которую сдаёт в течение недели после получения тетради.

При невыполнении самостоятельной работы, студент не допускается к зачёту в конце семестра.

Приложение №2 к рабочей программе дисциплины «Иностранный язык»

Методические указания для студентов по освоению дисциплины

В процессе изучения иностранного языка в вузе, студент должен:

- осуществлять серьезную, систематическую и упорную работу по овладению языком, ожидая успеха лишь при регулярных занятиях;
- помнить, что самостоятельная работа – неотъемлемая часть освоения дисциплины, без которой аудиторная работа под руководством преподавателя будет менее эффективна. Регулярное использование ресурсов Интернета и периодических изданий позволит повысить собственную языковую культуру.
- постоянно пополнять собственный словарный запас по специальности, заниматься составлением специализированного словника;
- читать художественную и специализированную литературу на иностранном языке, изыскивать возможности к общению с носителями языка (семинары и встречи в Домах дружбы, переписка, участие в Интернет-форумах);
- развивать в себе стремление к спонтанному, пусть и не безошибочному говорению, добиваясь ясного и четкого выражения мысли;
- проявлять уважение к своим преподавателям и поддерживать с ними деловой контакт, выполняя их советы и рекомендации;
- уметь работать в команде в рамках выполнения коммуникативных, проектных и пр. заданий.

Учебно-методическое обеспечение самостоятельной работы студентов по дисциплине

Для самостоятельной работы особенно рекомендуется использовать следующую учебную литературу:

1. Английский язык: развитие навыков чтения текстов по специальности для студентов-биологов и экологов.: практикум. / сост. Т.В. Чвягина, Е.А. Невская, Т.П. Шилова; Яросл. гос. ун-т им. П.Г. Демидова, Науч.-метод. совет ун-та - Ярославль: ЯрГУ, 2012. - 56 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20122104.pdf>
2. Английский язык для биологов: активная лексика и устная речь.: практикум. / сост. Т. В. Чвягина, Т. П. Шилова; Яросл. гос. ун-т им. П. Г. Демидова - Ярославль: ЯрГУ, 2016. - 46 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20162106%20.pdf>
3. Английский язык и экология: практикум. / сост. Е.А. Невская, Т.П. Шилова; Науч. - метод. совет ун-та ; Яросл. гос. ун-т им. П.Г. Демидова - Ярославль: ЯрГУ, 2008. - 46 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20082105.pdf>
4. Базовый курс грамматики и лексики английского языка: практикум. / сост. Д.И. Пермякова, Т.В. Шульдешова; Яросл. гос. ун-т им. П.Г. Демидова, Науч.-метод. совет ун-та - Ярославль: ЯрГУ, 2016. - 55 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20162101.pdf>

5. Биология на английском: метод. указания. / сост. Т.В. Чвягина, Е.А. Невская; Яросл. гос. ун-т им. П.Г. Демидова, Науч.-метод. совет ун-та - Ярославль: ЯрГУ, 2009. - 42 с.
<http://www.lib.uniyar.ac.ru/edocs/iuni/20092108.pdf>

Также для подбора учебной литературы рекомендуется использовать широкий спектр интернет-ресурсов:

1. Электронно-библиотечная система «Юрайт» <https://urait.ru/>
2. Электронно-библиотечная система «Лань» <https://e.lanbook.com/>
3. Электронно-библиотечная система «Консультант Студента»
<https://www.studentlibrary.ru/>