**План прохождения дисциплины «Иностранный язык (английский)»**

**и задания для студентов биологического факультета**

**специальности 1-33 01 01 «Биоэкология»**

**заочной формы обучения**

***1 семестр:*** 14 аудиторных часов

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| №№ | Название темы | Количество аудиторных часов |
| 1 | A New Stage in my Life. I am a Student Now. | **2** |
| 2 | Brest State University. My Studies at the University. | **2** |
| 3 | Youth Problems. | **2** |
| 4 | Social and Political Portrait of the Republic of Belarus. Brest. | **4** |
| 5 | The United Kingdom of Great Britain and Northern Ireland. Places of interest in Great Britain. | **4** |

1. *Подготовить устные высказывания по темам:*
2. Our University. My studies at the University.
3. The Republic of Belarus (general information: geographical position, population, political system, places of interest, outstanding representatives, etc.).
4. The United Kingdom of Great Britain and Northern Ireland (general information: geographical position, population, political system, places of interest, outstanding representatives, etc.).
5. *Прочитать и перевести тексты* “Global problems of today” *и* “Forest full of wonders...”*, составив словарь незнакомых слов. Ответить на вопросы после текстов.*
6. *Составить аннотацию текста* “Sequoyah”.

**Topic 1: OUR UNIVERSITY**

Brest State University was founded in 1945. It was called the Teachers’ Training Institute then. In 1995 it became a university. Its full name is Brest State Alexander Pushkin University.

The University occupies several academic buildings: an old building, the sports complex with gymnasiums, a swimming pool, several lecture halls and tutorial rooms, and a seven-storey building with a canteen, a library, reading halls, laboratories, lecture halls and subject rooms. At the disposal of students there are four hostels, a winter garden, a garden of successive blossoming, an agricultural and biological station. The University has museums of biology, of geology, and of the history of physical culture and sport.

The University educates about 3,500 students at the day-time department and about 3,000 students acquire higher education at the correspondence department. There are 11 faculties at the University: Philology, Foreign Languages, Psychology and Pedagogics, Social Pedagogics, Geography, Biology, Physics and Mathematics, Physical Education and Sport, History, Law, and Pre-University Education. Students are educated in 45 specialities.

Teaching is maintained at a high level. About 400 professors, associate professors and tutors teach students at the University.

The course of study lasts four-five years. Each year consists of two terms (autumn and spring) with examination periods at the end of each term. The term is divided between theoretical and practical work: students have a few weeks of lectures followed by seminars. When students have seminars, they spend a lot of time in the reading room revising the material. Fortunately, the Internet helps now a lot. The main form of work for external students is independent work at home.

Students do not only study, they are also engaged in various forms of research work. They write course papers and diploma theses, participate in scientific conferences and publish their articles. This work helps them to better understand the subjects they study and the current requirements of the national economy, to see the results of their work put into practice.

**Topic 2: THE REPUBLIC OF BELARUS**

Belarus is situated in Central Europe. The Republic borders on Russia, the Ukraine, Poland, Lithuania and Latvia. Its territory is 207,600 square kilometres and the population is about 10 million people. Most of the people live in cities, the largest of which are Minsk (the capital), Gomel, Brest, Vitebsk, Grodno and Mogilev.

Belarus is a bilingual republic: the official languages are Belarusian and Russian. The total population of the country is literate. The main religion is Eastern Orthodox (80 %), others include Roman Catholic, Protestant, Jewish and Muslim.

Belarus is a broad plain. One third of the territory is covered with woods and forests. The largest of them are called pushchas, the most famous are the Belovezhskaya and the Nalibockskaya. Other national reserves are Braslavsky and Narochansky National parks, Berezinsky Reserve, etc. They have rich flora and fauna some of which have survived only in Belarus.

There are about 20,000 rivers and brooks in the republic. They flow into the Baltic Sea or into the Black Sea. Seven rivers are more than 500 kilometres long each. They are the Dnieper, the Neman, the Western Dvina, the Pripyat, the Berezina, the Sozh and the Viliya. There are also more than 10,000 lakes in Belarus. The largest of them are Braslav Lakes and Lake Naroch, the pride of the republic. The swamps of Belarus deserve a special mention. These unique natural ecosystems take up nearly a quarter of the country. In general 6 % of the country is officially viewed as specially protected natural territories.

The climate in the republic is moderate continental with comparatively mild and humid winters, warm summers and rainy autumns. The breathing of the Baltic Sea is felt here.

Belarus has a well-developed industry and economy. The main sectors of the economy are industry, agriculture, services. Belarusian industry produces tractors, heavy trucks, combine-harvesters, automatic lines, metal-cutting machine tools, electronic equipment, computers, refrigerators, television sets, bicycles, motorcycles, watches, chemical fibres, fertilizers and textiles. Agriculture specializes in cattle breeding and crops growing. The main crops cultivated here are potatoes, grain, flax, medical herbs, sugar beets, vegetables and fruits. Our nation today faces a crucial task of how to compete in a global economy.

Since 1991 the Republic of Belarus has been a sovereign state, which independently carries out its domestic and foreign policy. The state system of the republic is very much like that of other European states. There are three branches of power – legislative (Parliament), executive (Council of Ministers) and judicial (Supreme Court). The bicameral Parliament, i.e. the National Assembly of the Republic of Belarus, consists of the Council of the Republic and the Chamber of Representatives. The Government, i.e. the Council of Ministers of the Republic of Belarus, is the central body of state management, the executive power in the Republic of Belarus. In its activities, the Government is subordinated to the President and reports to the Parliament. The judicial power in the Republic of Belarus belongs to courts. The control over correspondence of standard laws in the State to the Constitution is performed by the Constitution Court.

Belarus is a member of many international organizations including the United Nations organization.

**Topic 3: THE UNITED KINGDOM OF GREAT BRITAIN**

**AND NORTHERN IRELAND**

The United Kingdom of Great Britain and Northern Ireland is situated on the British Isles which contain more than 5,000 small islands. It consists of four parts: England, Wales, Scotland and Northern Ireland. The capital of Scotland is Edinburgh, the capital of Wales is Cardiff, the capital of Northern Ireland is Belfast, and the capital of England and the whole of the UK is London. England, Wales and Scotland occupy the territory of Great Britain. Northern Ireland is situated in the northern part of Ireland.

The territory of the United Kingdom is about 244,800 square kilometres. The population is more than 60 million. About 80 % of the population is urban.

Great Britain is surrounded by seas on all sides (the North Sea, the Irish Sea and the Atlantic Ocean). It is separated from the continent by the English Channel which is 34 km wide in its narrowest point.

The surface of Great Britain varies greatly. The northern and western parts of the country are mountainous and called the Highlands. All the rest (south, east and centre) is a vast plain which is called the Lowlands. The mountains are not very high. The highest mountain peaks are Ben Nevis in Scotland and Snowdon in Wales. The rivers are not long. The most important of them are the Thames, the Mersey, the Severn, the Clyde, the Trent. There are many beautiful lakes in the mountainous parts of the country.

The mountains, the Atlantic Ocean and the warm waters of the Gulf Stream influence the climate of Great Britain. It is mild the whole year round. The weather in Britain is very changeable and people like to say that they have no climate but only weather.

Great Britain is a highly developed industrial country. It is famous first of all for its heavy and textile industries. Britain is one of the world’s largest producers and exporters of iron and steel products, machinery and electronics, chemicals and textile, aircraft and navigation equipment. One of the chief industries of the country is shipbuilding. 7 % of the population is engaged in farming. The biggest industrial cities are London, Glasgow, Liverpool, Sheffield, Birmingham, Manchester.

Great Britain is a country of old cultural traditions and customs. It has the world known educational centres such as Oxford and Cambridge universities. They are considered to be the intellectual centres of Europe.

The United Kingdom is a parliamentary monarchy and the Queen is the head of the state (since 1952 – Elizabeth II). She summons and dissolves Parliament. She normally opens the sessions of Parliament with the speech from the throne. But in practice Britain is ruled by the elected government with a Prime Minister at the head. He/she has a great deal of power in contrast to that of Monarch. Number 10, Downing Street is the official residence of the British Prime Minister.

The legislative branch of power is the British Parliament which consists of two chambers: the House of Lords and the House of Commons. The Parliament sits in the House of Parliament in Westminster. It makes new laws, gives authority for the government to spend state money, keeps a close eye on the government activities.

There are three main political parties in Great Britain: the Labour, the Conservative and the Liberal parties. There’s no written constitution in Great Britain, they act only on precedents and traditions.

**Text for reading: GLOBAL PROBLEMS OF TODAY**

People have lived in our planet Earth for centuries and global problems have always existed. In ancient times the biggest global problem was wars. People have been fighting with each other since the beginning of the civilization mostly to get new territories and more land. Today, there are more global problems which can be divided into two categories: ecological problems and social, economic and political issues.

The first category includes issues relating to ecological destruction, pollution and global warming. The climate is changing and many people agree that climate change may be one of the greatest threats facing the planet. Global warming has already killed off some types of animals and plants. Rising sea levels are threatening whole nations on islands in the Pacific and Indian Oceans.

The second category of global problems deals with social, economic and political issues. They include global terrorism, poverty, human rights, health issues, racism and many others.

More and more countries are suffering from terrorism. It is difficult to catch terrorists and prevent their acts. Although much is done to fight against terrorism, new terrorist attacks are regularly committed.

Poverty is another global problem. The worst situation is in Africa where people (mostly children) die every day of hunger. The poor also have less access to health, education and other services. Incurable diseases and epidemics also are global challenge for humanity. Every year around ten million people in poorer countries die of illnesses that can be very cheaply prevented or managed, including malaria, HIV, tuberculosis and diarrhoea. Tens of millions more suffer from persistent undernutrition or parasitic diseases that cause them to be less mentally and physically capable than they otherwise would be.

Fresh water sustains human life and is vital for human health. There is enough fresh water for everyone on Earth. However, due to poor infrastructure, millions of people (most of them children) die from diseases associated with inadequate water supply, sanitation and hygiene. Water scarcity affects more than 40 per cent of the global population and is projected to rise. It is estimated that 783 million people do not have access to clean water and over 1.7 billion people are currently living in river basins where water use exceeds recharge. Access to safe drinking water and adequate sanitation services is vital to human health.

Another global problem is racism, when people of different races and different skin colour are humiliated and even killed.

Technologies are being rapidly developed. Many experts believe that there is a significant chance we will create artificially intelligent machines with abilities surpassing those of humans sometime during this century. These advances could lead to extremely positive developments, but could also pose risks due to catastrophic accidents or misuse.

Nuclear technology also poses risk. Nuclear safety is the responsibility of every nation that utilizes it. As of November 2016 more than 30 countries worldwide are operating 444 nuclear reactors for electricity generation and 66 new nuclear plants are under construction. Today, 439 nuclear power reactors produce approximately 16 per cent of the world’s electricity.

There are many organisations that fight social global problems, but this battle has lasted for a long time and it will take much time for the solution of all of them. Only cooperated efforts can guarantee the future of the earth.

*Answer the questions:*

1. What are the categories global problems can be divided into?
2. What ecological problems do we face today?
3. What political issues are of global concern nowadays?
4. What social problems do we face today?
5. Where is poverty most severe?
6. How are poverty and health interrelated?
7. What is racism?
8. What risks does the development of technologies impose?
9. What shall we do to fight global problems?

**Text for reading: FOREST FULL OF WONDERS...**

Every time you visit the Belovezhskaya Pushcha – a unique woodland reserve in the center of Europe – the beauty of its virgin forests overwhelms you and the senses seem to take command of mind. The Belovezhskaya Pushcha is the national symbol and pride of Belarus. In recognition of its unique properties, the Pushcha was inscribed on the UNESCO World Heritage List in 1972. In 1993 it was given the status of a biosphere reserve.

The Belovezhskaya Pushcha is a unique and the largest piece of ancient forestland which used to cover the entire Europe in prehistoric times. Gradually, however, those forests were cut down and a portion of them, more or less untouched, survives only in the Pushcha.

The Belarus-Poland national border divides the Pushcha in two parts. In Belarus some 150 thousand hectares of the woodland is occupied by the national park; in Poland, about 11 thousand hectares bear that status while the rest part (approximately 50 thousand hectares) is used for economic purposes.

The average age of the woodland is over 100 years, but some parts of it are much older with the age ranging between 250 and 350 years. The Pushcha is home to more than a thousand giant trees like 400-600-year-old oaks, 250-350-year-old ash-trees and pines, 200-250-year-old spruces.

The richness of species of plants and animals in the Belovezhskaya Pushcha is surpassed nowhere in Europe. 958 species of high vascular plants, 260 of mosses, more than 290 lichens and 570 of fungi do grow here. The Fauna List of Belovezhskaya Pushcha lists 59 species of mammals, 227 birds, 7 reptiles, 11 amphibian, 24 fish and more than 11,000 species of invertebrates.

Large herbivorous animals Red Deer, Wild Boar, Roe Deer and European Elk can be found and amongst predators Wolf, Fox, Lynx, Badger, Pine martin, Otter and other species can be met here. The Belovezhskaya Pushcha has also retained unique associations of invertebrates, inhabitants of bogs and fens. The flora and fauna include a great number of rare species of plants and animals which are listed in the national Red Data Book like Silver Fir, different species of Lily and many other grass plants as well as mammals and birds like European Bison, Lynx, Badger, White-tailed Eagle, Short-toed Eagle, Black Stork, Crane, Lesser Spotted Eagle, Eagle Owl, Great Gray Eagle, Pigmy Owl, White-backed woodpecker, Three-toed woodpecker, Roller, Aquatic Warbler and many others.

The Belovezhskaya Pushcha is well-known as home to the biggest population of aurochs (the European bison) which were saved from extinction, first of all, by self-less efforts displayed by scientists and specialists.

As archeologists say, the first hunters penetrated into the depths of the forest in between 7th and 6th centuries BC. The first recorded piece of legislation on the protection of the forest dates back to 1409. The woodland was mentioned by “the father of history” Herodotus; it is mentioned in the Ipatiev Chronicle (938 AD) as “lands of primeval forests with plenty of wild animals”. In the 13th century Prince Vladimir of Volyn built a town there with a watchtower. Following one of the legends, the Pushcha got its name after that tower – Belovezhsko-Kamenetskaya (‘a white tower made of stone’). Since the 15th century the Pushcha has been called simply Belovezhskaya. Today the watchtower Belaya Vezha houses a museum of local lore.

All the Dukes of the Grand Principality of Lithuania, all the Kings of the Rzecz Pospolita and all the Russian Emperors (since the 19th century) visited the Pushcha for hunting. The residence of Viskuli situated in became famous all over the world in 1991 when leaders of the former Soviet republics gathered there to sign the famous agreement on the disintegration of the Soviet Union and the setting up of the Commonwealth of Independent States.

Today the Belovezhskaya Pushcha is a large tourist center of Belarus with hotels, cozy guest-cottages, a restaurant with traditional cuisine.

Still, the residence of Belarusian Father Frost is probably the most attractive tourist facility in the Belovezhskaya Pushcha. The Father Frost’s estate is quite sizable – 15 hectares. On the New Year’s eve, the 40-meter-high 150-year-old spruce attracts everyone’s attention. Father Frost welcomes guests every day, in summer and winter, in spring and autumn. There are especially many tourists on the eve of winter holidays when rooms in hotels and guest-cottages are booked long in advance. Still it’s better to see everything with your own eyes.

adapted from Economy of Belarus Magazine

*Answer the questions:*

1. The Belovezhskaya Pushcha is the national symbol and pride of Belarus, isn’t it?

2. The Pushcha has been in the UNESCO World Heritage List since 1972, hasn’t it?

3. What is the average age of the woodland in the Pushcha?

4. What large animals can be found there? Which of them are inscribed on the endangered species list?

5. How were aurochs saved from extinction?

6. What year does the first law on the protection of the forest date back?

7. What do you know about the history of the Belovezhskaya Pushcha?

8. How large is the forest? What zones is it divided into?

9. Is hunting possible in the forest?

10. Why does the Pushcha attract tourists?

**Text for annotation: SEQUOYAH**

Sequoyah was a young Cherokee Indian, son of a white trader and an Indian squaw. At an early age, he became fascinated by “the talking leaf,” an expression that he used to describe the white man’s written records. Although many believed this “talking leaf” to be a gift from the Great Spirit, Sequoyah refused to accept that theory. Like other Indians of the period, he was illiterate, but his determination to remedy the situation led to the invention of a unique 86-character alphabet based on the sound patterns that he heard.

His family and friends thought him mad, but while recuperating from a hunting accident, he diligently and independently set out to create a form of communication for his own people as well as for other Indians, in 1821, after twelve years of work, he had successfully developed a written language that would enable thousands of Indians to read and write.

Sequoyah’s desire to preserve words and events for later generations has caused him to be remembered among the important inventors. The giant redwood trees of California, called “sequoias” in his honor, will further imprint his name in history.

***2 семестр:*** 14 аудиторных часов

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| №№ | Название темы | Количество аудиторных часов |
| 1 | Flora and fauna of Belarus.  | **2** |
| 2 | Anthropogenic threats to biological diversity. | **2** |
| 3 | Red data lists. National parks and reserves. | **2** |
| 4 | Biological diversity of the British Isles. | **2** |
| 5 | Biology as a science. Branches of biology. | **2** |
| 6 | Modern research in biology. | **2** |
| 7 | Outstanding scientists.  | **2** |

*I. Подготовить устные высказывания по темам:*

1. Flora and fauna of Belarus.

2. Biological diversity of the British Isles.

3. Biology as a science. Branches of biology.

4. Outstanding scientists.

*II. Прочитать и перевести тексты* “History of biology” *и* “Red data list”, *составив словарь незнакомых слов. Ответить на вопросы после текстов.*

*III. Составить аннотацию текста* “Lichens”

**Topic: FLORA AND FAUNA OF BELARUS**

About one third of the area of Belarus is covered by forests. The forests of Belarus sprawl over million hectares of land. These forests and the rivers and lakes are the habitats of different types of flora and fauna.

The flora of Belarus comprises 11,500 species. About 430 moss species, 477 lichen species, more than 2,200 algae species, about 7,000 fungi species are known. The flora of higher vascular plants contains 1,638 species. Around 111 different types of trees can be found in Belarus. They are the pine, fir, birch, ash, hawthorn, oak, chestnut, spruce, sycamore, spruce, aspen, alder, rowan, bird-cherry, willow and many others. There is an abundance of chamomiles, cornflowers, plantains, dandelions, mint, heather, willow-herb and others. Some of them are very rare, such as orchids and bluebells. One can also find the bramble, bilberry, bog whortleberry, currents, guilder-rose.

The fauna of Belarus is also noted for its diversity. Around 464 species of vertebrates and more than thirty thousand invertebrates make the fauna of Belarus. About 60 species of fish (with 46 of them being indigenous ones) and 316 species of birds (with 227 of them nestling) have been registered in Belarus. The most common birds are sparrows, crows, pigeons, starlings, rooks. There are also owls, hawks, pheasants, partridges. The symbol of the country is the white stork. The black stork is rare and under protection. The mammal family in Belarus is represented by elks, wild boars, roe deer, wolves, foxes, hares, beavers, hedgehogs and others. Some of the species, such as the brown bear and elk, are endangered.

The natural resources of the forests are being used at such rapid rates that lots of species are becoming extinct. During the recent century the Belarusian territory has lost about 70 indigenous species of wild plants. Nature reserves and national parks have been established to preserve and study the country’s flora and fauna. The largest is Belovezhskaya Pushcha National Park. It is the national symbol and pride of Belarus. The Belovezhskaya Pushcha is well-known as the major home of the biggest population of aurochs (the European bison).

Other reserves in Belarus include the Berezinsky Biosphere Reserve, the Braslav Lakes National Park, the Lake Naroch National Park and the National Park “Pripyatsky”.

**Topic: BIOLOGICAL DIVERSITY OF THE BRITISH ISLES**

Animal diversity is modest, as a result of factors including the island’s small land area, the relatively recent age of the habitats developed since the last Ice Age and the island’s physical separation from continental Europe, and the effects of seasonal variability. Great Britain has also gone through industrialization and increasing urbanization, which have contributed towards the overall loss of species. Study from 2006 suggested that 100 species have become extinct in the UK during the 20th century, about 100 times the background extinction rate. However, some species, such as the brown rat, red fox, and introduced grey squirrel, are well adapted to urban areas.

Rodents make up 40 % of the total number of mammal species in Great Britain. These include squirrels, mice, voles, rats and the recently reintroduced European beaver. There is also an abundance of rabbits, hares, hedgehogs, shrews, moles and several species of bat. Carnivorous mammals include the fox, badger, otter, weasel, stoat and elusive wildcat. Various species of seal, whale and dolphin are found on or around the British shores and coastlines. The largest land-based wild animals today are deer. The red deer is the largest species, with roe deer and fallow deer also prominent; the latter was introduced by the Normans. Habitat loss has affected many species. Extinct large mammals include the brown bear, grey wolf and wild boar; the latter has had a limited reintroduction in recent times.

There is a wealth of birdlife in Britain, 583 species in total, of which 258 breed on the island or remain during winter. Because of its mild winters for its latitude, Great Britain hosts important numbers of many wintering species, particularly ducks, geese and swans. Other well-known bird species include the golden eagle, grey heron, kingfisher, pigeon, sparrow, pheasant, partridge, and various species of crow, finch, gull, auk, grouse, owl and falcon. There are six species of reptile on the island; three snakes and three lizards including the legless slow worm. One snake, the adder, is venomous but rarely deadly. Amphibians present are frogs, toads and newts.

In a similar sense to fauna, and for similar reasons, the flora of Great Britain is impoverished compared to that of continental Europe. Great Britain’s flora comprises 3,354 vascular plant species, of which 2,297 are native and 1,057 have been introduced into the island. The island has a wide variety of trees, including native species of birch, beech, ash, hawthorn, elm, oak, yew, pine, cherry and apple. Other trees have been naturalized, introduced especially from other parts of Europe (particularly Norway) and North America. Introduced trees include several varieties of pine, chestnut, maple, spruce, sycamore and fir, as well as cherry plum and pear trees. The tallest species are the Douglas firs; two specimens have been recorded measuring 65 meters or 212 feet. The Fortingall Yew in Perthshire is the oldest tree in Europe.

There are at least 1,500 different species of wildflower in Britain. Some 107 species are particularly rare or vulnerable and are under protection. It is illegal to uproot any wildflowers without the landowner's permission. Various wildflowers represent specific counties. These include red poppies, bluebells, daisies, daffodils, rosemary, gorse, iris, ivy, mint, orchids, brambles, thistles, buttercups, primrose, thyme, tulips, violets, cowslip, heather and many more. There are also many species of algae, lichens, fungi and mosses across the island.

**Topic: BIOLOGY AS A SCIENCE. BRANCHES OF BIOLOGY**

Biology is the science of life. Its name is derived from the Greek words “bios” (life) and “logos” (study). Biologists study the structure, function, growth, origin, evolution and distribution of living organisms. There are generally considered to be at least nine “umbrella” fields of biology, each of which consists of multiple subfields.

Biochemistry is the study of the material substances that make up living things. Botany is the study of plants, including agriculture. Cellular biology is the study of the basic cellular units of living things. Ecology is the study of how organisms interact with their environment. Evolutionary biology is the study of the origins and changes in the diversity of life over time. Genetics is the study of heredity. Molecular biology is the study of biological molecules. Physiology studies the functions of organisms and their parts. Zoology is the study of animals, including animal behavior.

These fields overlap. It is impossible to study zoology without knowing a great deal about evolution, physiology and ecology. You can’t study cellular biology without knowing biochemistry and molecular biology as well.

All the branches of biology can be unified within a framework of five basic understandings about living things. Studying the details of these five ideas provides the endless fascination of biological research:

Cell Theory: There are three parts to cell theory – the cell is the basic unit of life, all living things are composed of cells, and all cells arise from pre-existing cells.

Energy: All living things require energy, and energy flows between organisms and between organisms and the environment.

Heredity: All living things have DNA and genetic information codes the structure and function of all cells.

Equilibrium: All living things must maintain homeostasis, a state of balanced equilibrium between the organism and its environment.

Evolution: This is the overall unifying concept of biology. Evolution is the change over time that is the engine of biological diversity.

Biology is often studied in conjunction with other sciences, such as mathematics and engineering, and even social sciences. Biophysics involves matching patterns in life and analyzing them with physics and mathematics. Astrobiology is the study the evolution of life in the universe, including the search for extraterrestrial life. Biogeography is the study of the distribution and evolution of life forms and the causes of the distribution. Biomathematics involves creating mathematical models to better understand patterns and phenomena within the biology world. Bioengineering is the application of engineering principles to biology principles and vice versa. Sociologists often study how biology can shape social structures, cultures, and interactions.

**Topic: OUTSTANDING SCIENTISTS. CHARLES DARWIN**

Charles Robert Darwin was born on February 12, 1809 in Shrewsbury, England. Darwin was the British naturalist who became famous for his theories of evolution and natural selection. Like several scientists before him, Darwin believed all the life on earth evolved (developed gradually) over millions of years from a few common ancestors.

From 1831 to 1836 Darwin served as naturalist aboard the H.M.S. Beagle on a British science expedition around the world. In South America Darwin found fossils of extinct animals that were similar to modern species. On the Galapagos Islands in the Pacific Ocean he noticed many variations among plants and animals of the same general type as those in South America. The expedition visited places around the world, and Darwin studied plants and animals everywhere he went, collecting specimens for further study.

Upon his return to London Darwin conducted thorough research of his notes and specimens. Out of this study grew several related theories: one, evolution did occur; two, evolutionary change was gradual, requiring thousands to millions of years; three, the primary mechanism for evolution was a process called natural selection; and four, the millions of species alive today arose from a single original life form through a branching process called “specialization.”

Darwin’s theory of evolutionary selection holds that variation within species occurs randomly and that the survival or extinction of each organism is determined by that organism's ability to adapt to its environment. He set these theories forth in his book called, “On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life” (1859) or “The Origin of Species” for short. After publication of Origin of Species, Darwin continued to write on botany, geology, and zoology until his death in 1882. He is buried in Westminster Abbey.

Darwin’s work had a tremendous impact on religious thought. Many people strongly opposed the idea of evolution because it conflicted with their religious convictions. Darwin avoided talking about the theological and sociological aspects of his work, but other writers used his theories to support their own theories about society. Darwin was a reserved, thorough, hard working scholar who concerned himself with the feelings and emotions not only of his family, but friends and peers as well.

It has been supposed that Darwin renounced evolution on his deathbed. Shortly after his death, temperance campaigner and evangelist Lady Elizabeth Hope claimed she visited Darwin at his deathbed, and witnessed the renunciation. Her story was printed in a Boston newspaper and subsequently spread. Lady Hope’s story was refuted by Darwin’s daughter Henrietta who stated, “I was present at his deathbed ... He never recanted any of his scientific views, either then or earlier.”

**Text for reading: HISTORY OF BIOLOGY**

Our fascination with biology has a long history. Even early humans had to study the animals they hunted and know where to find the plants they gathered for food. The invention of agriculture was the first great advance of human civilization. Medicine has been important to us from earliest history as well. The earliest known medical texts are from China (2500 BC), Mesopotamia (2112 BC), and Egypt (1800 BC).

In classical times, Aristotle is often considered to be the first to practice scientific zoology. He is known to have performed extensive studies of marine life and plants. His student, Theophrastus, wrote one of the West’s earliest known botanical texts in 300 BC on the structure, life cycle and uses of plants. The Roman physician Galen used his experience in patching up gladiators for the arena to write texts on surgical procedures in AD 158.

During the Renaissance, Leonardo da Vinci risked censure by participating in human dissection and making detailed anatomical drawings that are still considered among the most beautiful ever made. Invention of the printing press and the ability to reproduce woodcut illustrations meant that information was much easier to record and disseminate. One of the first illustrated biology books is a botanical text written by German botanist Leonhard Fuchs in 1542. Binomial classification was proposed by Carolus Linnaeus in 1735, using Latin names to group species according to their characteristics.

Microscopes opened up new worlds for scientists. In 1665, Robert Hooke, used a simple compound microscope to examine a thin sliver of cork. He observed that the plant tissue consisted of rectangular units that reminded him of the tiny rooms used by monks. He called these units “cells”. In 1676, Anton von Leeuwenhoek published the first drawings of living single celled organisms. Theodore Schwann added the information that animal tissue is also composed of cells in 1839.

Throughout the 19th century, “Natural Science” became something of a mania. Thousands of new species were discovered and described by adventurers and by backyard botanists and entomologists alike. In 1812, Georges Cuvier described fossils and hypothesized that Earth had undergone “successive bouts of Creation and destruction” over long periods of time. On Nov. 24, 1859, Charles Darwin published “On the Origin of Species”, the text that forever changed the world by showing that all living things are interrelated and that species were not separately created but arise from ancestral forms that are changed and shaped by adaptation to their environment.

While much of the world’s attention was captured by biology questions at the macroscopic organism level, a quiet monk was investigating how living things pass traits from one generation to the next. Gregor Mendel is now known as the father of genetics although his papers on inheritance, published in 1866, went largely unnoticed at the time. His work was rediscovered in 1900 and further understanding of inheritance rapidly followed.

The 20th and 21st centuries may be known to future generations as the beginning of the “Biological Revolution”. Beginning with Watson and Crick explaining the structure and function of DNA in 1953, all fields of biology have expanded exponentially and touch every aspect of our lives. Medicine will be changed by development of therapies tailored to a patient’s genetic blueprint or by combining biology and technology with brain-controlled prosthetics. Economies hinge on the proper management of ecological resources, balancing human needs with conservation. We may discover ways to save our oceans while using them to produce enough food to feed the nations. We may “grow” batteries from bacteria or light buildings with bioluminescent fungi. The possibilities are endless; biology is just coming into its own.

*from* What is Biology? *by* Mary Bagley, Livescience.com

*Answer the questions:*

1. Do early humans seem to have had any knowledge of biology?
2. What did Aristotle do for development of biology?
3. What is Galen’s contribution to biology?
4. What do you know about one of the greatest representatives of the Renaissance Leonardo da Vinci? What branch of biology did he contribute to?
5. Who is the author of one of the first illustrated botanical books?
6. What is the name of the book in which Charles Darwin proposed the idea that all species are interrelated and evolve?
7. What idea did Georges Cuvier, the founder of paleontology, propose?
8. Who is considered to be the father of genetics?
9. What did Watson and Crick become the Noble Prize laureates for?
10. What will the future of biology be like?

**Text for reading: RED DATA LIST**

The IUCN Red List of Threatened Species (also known as the IUCN Red List or Red Data List), founded in 1964, is the world’s most comprehensive inventory of the global conservation status of biological species. The International Union for Conservation of Nature (IUCN) is the world’s main authority on the conservation status of species.

Species are classified by the IUCN Red List into nine groups, set through criteria such as rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation.

Extinct (EX) – No known individuals remaining.

Extinct in the wild (EW) – Known only to survive in captivity, or as a naturalized population outside its historic range.

Critically endangered (CR) – Extremely high risk of extinction in the wild.

Endangered (EN) – High risk of extinction in the wild.

Vulnerable (VU) – High risk of endangerment in the wild.

Near threatened (NT) – Likely to become endangered in the near future.

Least concern (LC) – Lowest risk. Does not qualify for a more at-risk category. Widespread and abundant taxa are included in this category.

Data deficient (DD) – Not enough data to make an assessment of its risk of extinction.

Not evaluated (NE) – Has not yet been evaluated against the criteria.

The official term “threatened” refers to three categories: Critically Endangered, Endangered, and Vulnerable.

The Red List of the International Union for Conservation of Nature currently includes over 17,000 species of wild animals and plants, which have become rare or are under threat of extinction. 21 percent of mammals, 30 percent of amphibians, 12 percent of birds, 28 percent of reptiles, 37 percent of freshwater species of fish, 35 percent of the spineless and 70 percent of wild plants are under threat of extinction right now.

The Red Book of the Republic of Belarus contains rare and endangered species of wild animals and plants. At present, among them one can find 188 species of wild animals and 274 species of plants and mushrooms.

Among animals there are Golden Eagle (Aquila chrysaetos), Lesser Spotted Eagle (Aquila pomarina), Spotted Eagle (Aquila clanga), White-tailed Eagle (Haliaeetus albicilla), Osprey (Pandion haliaetus), Black and White Storks (Ciconia nigra) and (Ciconia ciconia), Woodgrouse (Tetrao urogallus),Common Crane (Grus grus), Corncrake (Crex crex), Aquatic Warbler (Acrocephalus paludicola), European Bison (Bison bonasus), Brown Bear (Ursus arctos), Lynx (Felis lynx), Eurasian Otter (Lutra lutra), European Mink (Mustela lutreola), etc. Three plant species such as King-fern (Osmunda regalis), Wild Tulip (Tulipa sylvestris) and Water Lobelia (Lobelia dortmanna) are subject to protection at the international level.

To provide conservation of populations of rare and endangered species of wild animals and plants their main biotopes are placed under control and protection. Belarus has 1 nature reserve (the Berezinsky Biosphere Reserve), 4 national parks (the Belovezhskaya Pushcha National Park, the Braslav Lakes, the Lake Naroch National Park and the National Park “Pripyatsky”), 433 partial reserves (85 republican and 348 local ones) and 847 natural monuments (305 republican and 542 local ones). The total area of specially protected natural territories is 1595.6 thousand ha or 7.7 percent of the territory of the country.

*Answer the questions:*

1. What is the IUCN Red List of Threatened Species? When was it founded?
2. How many groups are species classified into by the IUCN Red List? What are the criteria of classification?
3. What categories does the official term “threatened” refer to?
4. How many species of rare and endangered plants and animals does the Red Book of the Republic of Belarus contain? Which of them are subject to protection at the international level?
5. What is the role of nature parks and reserves in the protection of wildlife?

**Text for annotation: LICHENS**

Lichens are a unique group of complex, flowerless plants growing on rocks and trees. There are thousands of kinds of lichens, which come in a wide variety of colors. They are composed of algae and fungi which unite to satisfy the needs of the lichens.

The autotrophic green algae produce all their own food through a process called photosynthesis and provide the lichen with nutritional elements. On the other hand, the heterotrophic fungus, which depends on other elements to provide its food, not only absorbs and stores water for the plant, but also helps protect it. This union by which two dissimilar organisms live together is called “symbiosis.”

This sharing enables lichens to resist the most adverse environmental conditions found on earth. They can be found in some very unlikely places such as the polar ice caps as well as in tropical zones, in dry areas as well as in wet ones, on mountain peaks and along coastal areas.

The lichen’s strong resistance to its hostile environment and its ability to live in harmony with such environments is one example that humanity should consider in trying to solve its own problems.

***3 семестр:*** 12 аудиторных часов

|  |  |  |
| --- | --- | --- |
| №№ | Название темы | Количество аудиторных часов |
| 1 | Bioecology. | **2** |
| 2 | Levels of organization of life. | **2** |
| 3 | Ecological problems. | **2** |
| 4 | Environmental pollution. | **2** |
| 5 | Careers for biology students. | **2** |
| 6 | My future profession. | **2** |

*I. Подготовить устные высказывания по темам:*

1. Bioecology.

2. Ecological problems.

3. My future profession.

*II. Прочитать и перевести тексты* “Levels of organization of life” *и* “Acid water – a hidden menace”, *составив словарь незнакомых слов. Ответить на вопросы после текстов.*

*III. Составить аннотацию текста* “E-additives”.

**Topic: BIOECOLOGY**

*Ecology* is the science that deals with the interrelations of communities of animals and plants with their environment. The term *bio-ecology* has been proposed primarily for the sake of emphasis, but also for greater clarity and definiteness. Bio-ecology is considered to be ecology in the widest sense. The application of the term is largely restricted to the study of biotic communities. The main notions of bio-ecology are biomes, communities, competition, foraging behaviour, etc.

Populations of different organisms that live together in a particular place are called communities. A community together with the nonliving components of its environment is called an ecosystem. Biomes are major terrestrial assemblages of plants, animals, and microorganisms that occur together over wide geographical areas and have definite characteristics that distinguish them from other such assemblages. They include deserts, tropical forests, and grasslands.

Resources are scarce. Competition between individuals of two or more species for the same limiting resources, as well as the direct effects of predation or parasitism of one species on another, may limit population size. Two kinds of organisms that are each using a resource that is in short supply compete with one another. Interspecific competition is often greatest between organisms that obtain their food in similar ways; thus green plants compete mainly with green plants, herbivores with other herbivores, and carnivores with carnivores. Interspecific competition is to be distinguished from competition between individuals of a single species, which is called intraspecific competition. There is no clearly marked distinction between predation and parasitism. They are governed by similar principles.

Each species plays a specific role in its ecosystem; this role is called its niche.

Symbiotic relationships are those in which two kinds of organism live together. There are three principal sorts of symbiotic relationships: 1) in commensalism one benefits and the other is unaffected; 2) in mutualism each organism benefits; and 3) in parasitism one benefits and the other is harmed.

An ecosystem includes autotrophs and heterotrophs. The autotrophs, consisting of plants, algae, and some bacteria, are able to capture light energy and manufacture their own food. To support themselves, the heterotrophs, including animals, fungi, most protests and bacteria, and nongreen plants, must obtain organic molecules that have been synthesized by autotrophs.

Herbivores, or primary consumers, feed directly on the green plants. Secondary consumers, carnivores and the parasites of animals, feed in turn on the herbivores. Decomposers break down the organic matter accumulated in the bodies of other organisms.

Because all animals are heterotrophs, all of them must eat to survive, and many complex behaviours have evolved that influence what an animal eats, and how it obtains food. These behaviours are collectively called foraging behaviours. Some animals, like lions actively hunt prey. Others are sit-and-wait predators that ambush prey or set snares, like an ant-lion’s pit or a spider’s net, into which prey stumble or fly.

Some animals are specialists, feeding on only one kind of food, while others are generalists, feeding on many different kinds.

Living as a member of a group is actually selfish behaviour. A bird that joins a flock does so because it may have greater protection from predators. In fact as flock size increases, the risk of predation decreases because there are more individuals to scan the environment.

Altruism, or self-sacrificing behaviour, occurs in animals too. Altruistic acts are mutually reciprocated. For example, vampire bats roost in hollow trees in groups of 8 to 12 individuals. Because these bats have a high metabolism, individuals that have not fed recently may die. Bats that have found a host imbibe a great deal of blood; giving up a small amount has no great energetic cost to the donor and can keep a roost-mate from starvation. Vampire bats tend to share blood with past reciprocators. If an individual fails to give blood to a bat from which it had received blood in the past, then it will be “cut off” (that is discriminated against) from future blood sharing.

**Topic: ECOLOGICAL PROBLEMS**

Since ancient times Nature has served Man, being the source of his life. For thousands of years people lived in harmony with environment and it seemed to them that natural riches were unlimited. But with the development of civilization man's interference in nature began to increase.

Large cities with thousands of smoky industrial enterprises appear all over the world today. The by-products of their activity pollute the air we breathe, the water we drink, the land we grow grain and vegetables on.

Every year world industry pollutes the atmosphere with about 1000 million tons of dust and other harmful substances. Many cities suffer from smog. Vast forests are cut and burn in fire. Their disappearance upsets the oxygen balance. As a result some rare species of animals, birds, fish and plants disappear forever, a number of rivers and lakes dry up.

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 crises.

The most horrible ecological disaster befell Ukraine and Belarus after the Chernobyl tragedy in April 1986. About 18 % of the territory of Belarus were polluted with radioactive substances. A great damage has been done to the agriculture, forests and people’s health. The consequences of this explosion at the atomic power-station are tragic for many nations.

Environmental protection is of a universal concern. That is why serious measures to create a system of ecological security should be taken.

Some progress has been already made in this direction. As many as 159 countries – members of the UNO – have set up environmental protection agencies. The international organization Greenpeace is also doing much to preserve the environment.

However, these are only the initial steps and they must be carried onward to protect nature, to save life on the planet not only for the sake of the present but also for the future generations.

**Topic: MY FUTURE PROFESSION**

I am a first-year (second-year) student of Biology Faculty, Brest State University. I study Biology (Bioecology) by correspondence (internally), which is not easy, because I work, too. I do not always have enough time to work in libraries. However, the Internet and electronic databases have been very helpful lately.

A career in biology can be rewarding and exciting. Studying biology teaches us to ask questions, make observations, evaluate evidence, and solve problems. Biologists learn how living things work, how they interact with one another, and how they evolve. They may study cells under a microscope, insects in a rainforest, viruses that affect human beings, plants in a greenhouse, or lions in the African grasslands. Their work increases our understanding about the natural world in which we live and helps us address issues of personal well being and worldwide concern, such as environmental depletion, threats to human health, and maintaining viable and abundant food supplies.

There are several career paths you can follow as a biologist:

Research biologists study the natural world, using the latest scientific tools and techniques in both laboratory settings and the outdoors, to understand how living systems work. Many work in exotic locations around the world, and what they discover increases our understanding of biology and may be put to practical use to find solutions to specific problems.

Wildlife biologists study the biology, life cycles and habitats of wild animals. They spend a lot of time in the field observing and collecting samples as well as time back in the lab analyzing the samples.

Microbiologists are trained to study microscopic organisms such as fungi, bacteria and viruses. Many microbiologists are employed doing research to develop new products or treatments from microorganisms. Others, especially those who work in food production or health care settings, are responsible for identifying pathogens.

Biologists in management and conservation careers are interested in solving environmental problems and preserving the natural world for future generations.

Park rangers protect state and national parks, help preserve their natural resources, and educate the general public. Zoo biologists carry out endangered species recovery programs.

Biologists may work as educators. Professors and lecturers teach introductory and advanced biology courses. They may also mentor students with projects and direct research programs. Teaching younger students requires a general knowledge of science and skill at working with different kinds of learners. Educators in science museums, zoos, aquariums, parks, and nature centers may design exhibits and educational programs, in addition to teaching special classes or leading tours and nature hikes.

As for me, I consider teaching as a career. I think, it’s my cup of tea. I’ll do my best to become an expert in teaching biology. Perhaps, I’ll try my hand in education administration, too. Anyway, higher education means better career prospects for everybody.

**Text for reading: LEVELS OF ORGANIZATION OF LIFE**

Living things are highly organized and structured, following a hierarchy that can be examined on a scale from small to large. The atom is the smallest and most fundamental unit of matter. It consists of a nucleus surrounded by electrons. Atoms form molecules. A molecule is a chemical structure consisting of at least two atoms held together by one or more chemical bonds. Many molecules that are biologically important are macromolecules, large molecules that are typically formed by polymerization (a polymer is a large molecule that is made by combining smaller units called monomers, which are simpler than macromolecules). An example of a macromolecule is deoxyribonucleic acid (DNA), which contains the instructions for the structure and functioning of all living organisms.

Some cells contain aggregates of macromolecules surrounded by membranes; these are called organelles. Organelles are small structures that exist within cells. Examples of organelles include mitochondria and chloroplasts, which carry out indispensable functions: mitochondria produce energy to power the cell, while chloroplasts enable green plants to utilize the energy in sunlight to make sugars. All living things are made of cells; the cell itself is the smallest fundamental unit of structure and function in living organisms. (This requirement is why viruses are not considered living: they are not made of cells. To make new viruses, they have to invade and hijack the reproductive mechanism of a living cell; only then can they obtain the materials they need to reproduce.) Some organisms consist of a single cell and others are multicellular. Cells are classified as prokaryotic or eukaryotic. Prokaryotes are single-celled or colonial organisms that do not have membrane-bound nuclei or organelles; in contrast, the cells of eukaryotes do have membrane-bound organelles and a membrane-bound nucleus.

In larger organisms, cells combine to make tissues, which are groups of similar cells carrying out similar or related functions. Organs are collections of tissues grouped together performing a common function. Organs are present not only in animals but also in plants. An organ system is a higher level of organization that consists of functionally related organs. Mammals have many organ systems. For instance, the circulatory system transports blood through the body and to and from the lungs; it includes organs such as the heart and blood vessels. Organisms are individual living entities. For example, each tree in a forest is an organism. Single-celled prokaryotes and single-celled eukaryotes are also considered organisms and are typically referred to as microorganisms.

All the individuals of a species living within a specific area are collectively called a population. For example, a forest may include many pine trees. All of these pine trees represent the population of pine trees in this forest. Different populations may live in the same specific area. For example, the forest with the pine trees includes populations of flowering plants and also insects and microbial populations. A community is the sum of populations inhabiting a particular area. For instance, all of the trees, flowers, insects, and other populations in a forest form the forest’s community. The forest itself is an ecosystem. An ecosystem consists of all the living things in a particular area together with the abiotic, non-living parts of that environment such as nitrogen in the soil or rain water. At the highest level of organization, the biosphere is the collection of all ecosystems, and it represents the zones of life on earth. It includes land, water, and even the atmosphere to a certain extent.

*Answer the questions:*

1. What is the smallest fundamental unit of matter?
2. What is DNA?
3. Can you give examples of organelles?
4. What is the smallest fundamental unite of living organisms?
5. Why are viruses not considered to be living?
6. What is the difference between prokaryotic and eukaryotic cells?
7. What is the difference between organs and tissues?
8. Can you give examples of a human body’s organ systems?
9. What is a community? An ecosystem?
10. What is the highest level of organization of life?

**Text for reading: ACID WATER – A HIDDEN MENACE**

Many people are unaware of the pH of the tap water in their home until they are confronted with such phenomena as a blue ring materializing around a porcelain sink drain, a water heater suddenly giving out, or tropical fish that keep dying. Each of these events could be due to acidic water. Acidic water can also cause the amount of lead in the water to rise.

The possibility of lead poisoning from home water supplies is a concern. Many older homes still have lead pipes in their plumbing, though most modern homes use copper piping. Copper pipe joints, however, are often sealed with lead containing solder. Highly acidic water can leach out both the lead from the solder joints and copper from the pipes themselves, which turns the sink drain blue. In addition, people who are in the habit of filling their tea kettles and coffee pots in the morning without letting the tap run awhile first could be adding copper and lead ions to their tea or coffee.

Lead poisoning is of particular concern in young children. The absorption rate of lead in the intestinal tract of a child is much higher than in that of an adult, and lead poisoning can permanently impair a child’s rapidly growing nervous system. The good news is that lead poisoning and other effects of acidic water in the home can be easily prevented by following these tips:

1. Monitor the pH of your water on a regular basis, especially if you have well water. This can easily be done with pH test kits (see photograph) that are sold in hardware or pet stores – many tropical fish are intolerant of water with a pH that is either too high (basic) or too low (acidic). The pH of municipal water supplies is already regulated, but regularly checking your water’s pH yourself is a good idea.

2. In the morning, let your water tap run for about half a minute before you fill your kettle or drink the water. If the water is acidic, the first flush of water will have the highest concentration of lead and copper ions.

3. Install an alkali-injection pump, a low-cost, low-maintenance solution that can save your plumbing and lessen the risk of lead poisoning from your own water supply. The pump injects a small amount of an alkali (usually potassium carbonate or sodium carbonate) into your water-pressure tank each time your well’s pump starts. This effectively neutralizes the acidity of your water.

1. What is the source of lead contamination in water in the home?

2. Why does lead poisoning affect children more severely than adults?

**Text for annotation: E-ADDITIVES**

Food additives are substances added to food to preserve flavor or enhance its taste and appearance. Some additives have been used for centuries; for example, preserving food by pickling (with vinegar), salting, as with bacon, preserving sweets or using sulfur dioxide as with wines. With the advent of processed foods in the second half of the twentieth century, many more additives have been introduced, of both natural and artificial origin.

To regulate these additives, and inform consumers, each additive is assigned a unique number, termed as “E-numbers”, which is used in Europe for all approved additives.

E numbers are all prefixed by “E”, but countries outside Europe use only the number, whether the additive is approved in Europe or not. For example, acetic acid is written as E260 on products sold in Europe, but is simply known as additive 260 in some countries. Additive 103, alkanet, is not approved for use in Europe so does not have an E number, although it is approved for use in Australia and New Zealand. Since 1987, Australia has had an approved system of labelling for additives in packaged foods. Each food additive has to be named or numbered. The numbers are the same as in Europe, but without the prefix “E”.

**ГРАММАТИЧЕСКИЙ МАТЕРИАЛ**

**ДЛЯ САМОСТОЯТЕЛЬНОГО ИЗУЧЕНИЯ**

*Рекомендуемые учебники для изучения грамматического материала:*

1. Murphy, Raymond. English Grammar in Use / Raymond Murphy. – Cambridge University Press, 2003. – 350 с.
2. Практическая грамматика английского языка для среднего и продвинутого уровней. Под ред. Л.М. Лещёвой. В 3-х ч. – Минск: Акад. упр. при Президенте Респ. Беларусь, 2004.
3. Христорождественская, В.Н. Intermediate English (в 2-х ч.) / В.Н. Христорождественская – Минск : ООО «Плопресс», 1998.

Существительное: множественное число существительных, притяжательный падеж.

Определенный, неопределенный, нулевой артикль.

Личные, притяжательные, указательные, относительные, вопросительные, неопределенные местоимения.

Прилагательные, степени сравнения прилагательных.

Наречие, степени сравнения наречий.

Формальные признаки сказуемого: позиция в предложении (повествовательном, вопросительном).

Временная система изъявительного наклонения.

Согласование времен изъявительного наклонения.

Условное наклонение.

Неличные формы глагола: причастия настоящего и прошедшего времени, отглагольное прилагательное, деепричастие, герундий.

Строевые слова – средства связи между элементами предложения.

Побуждение к действию / просьба – глагол в повелительной форме.

Средства выражения долженствования / необходимости / желательности.

Структура сложноподчиненного предложения.

Причинно-следственные отношения – придаточные предложения (причины, следствия).

**GRAMMAR TEST**

**Active Voice Tense forms in comparison**

**1. Open the brackets putting the verbs into the appropriate form.**

**(A)**

I am a doctor and I have to drive a lot. I (1) (to drive) for twenty years. For all that time the police never (2) (to stop) me. But last Tuesday police officers (3) (to catch) me for speeding. It was afternoon. I (4) (to drive) fast because I (5) (to be) late. I (6) (to go) to the airport to meet a friend. I was late because a patient (7) (to telephone) before I (8) (to leave) the house. The police (9) (to wait) at the side road outside town. When they (10) (to see) me go past, they (11) (to follow) me and (12) (to stop) me. They (13) (to tell) me 1 was booked for speeding. I (14) (to try) to explain to them that my friend's plane (15) (to land) a few minutes before and he (16) (to wait) for me, but they (17) (not to want) to listen to my excuse. They (18) (to say) 1(19) (to have) to pay $50 the next day. I paid, of course. But since then I never (20) (to violate) traffic rules.

**(B)**

David William (21) (to have) such a terrible time this year that he ought to be in the Guiness Book of Records.

The trouble (22) (to start) one morning last January when David (23) (to find) that his car (24) (to disappear) from outside his house. He (25) (not to see) it ever since.

In March he (26) (to buy) a new car, but he (27) (not to have) it for more than a week when someone (28) (to crash) into the back of it. These disasters (29) (to continue) for more than a year right up to the present time. Two days ago David (30) (to sit) on a seat that someone (31) (to finish) painting only some minutes before. He (32) (to wear) a new suit he (33) (to buy) only the previous week.

The worst thing happened in August. David (34) (to spend) 3 days of his holiday at airports because of strikes. When he (35) (to arrive) home finally, he (36) (to discover) that someone (37) (to break) into his house. The burglars (38) (to steal) his video-recorder and TV-set. David doesn't know what he (39) (to do) to deserve all this bad luck. But he (40) (to hope) his luck will change soon.

**(C)**

1) Two days ago I (41) (to put) an ad in the local newspaper so that I could find a buyer for my old car. Yesterday I (42) (to sell) it. A man who (43) (to look) for an old car (44) (to buy) it. Today a friend of mine told me that he (45) (to want) to buy my old car, but he was too late. By the time he (46) (to talk) to me, I already (47) (to sell) my car.

2) After the teacher (48) (to return) the test papers to the students in class tomorrow, the students (49) (to receive) their next assignment.

3) Ever since they (50) (to build) the Taj Mahal three centuries ago, it has always been described as the most beautiful building in the world. A Turkish architect (51) (to design) it and it (52) (to take) 20.000 workers 20 years to complete it. Though it is so ancient, I'm sure, people always (53) (to like) it.

**(D)**

"Dear Sirs,

I (54) (to want) to complain to you about some fashion boots I (55) (to buy) from your Westborough branch last Wednesday. When I (56) (to put) them on for the first time at the weekend, it (57) (to rain) and after a few minutes the boots (58) (to let) the water in. The next day I took the boots to your shop and asked the assistant who (59) (to sell) them to me to replace the boots. But she said she (60) (not to replace) the boots because I (61) (to wear) already them. But how could I have seen the defect without wearing them? I can't believe that boots are made to wear in dry weather only! And I (62) (not to want) the boots which (63) (not to be) waterproof. I'll be grateful if you (64) (to send) me a replacement pair that will not let water in.

Look forward to your response.

Sincerely yours

Mary Crawford."

**(E)**

It (65) (to rain) when I (66) (to wake) up last Saturday. It always (67) (to rain) when I am not working. We (68) (to plan) to go to the seaside but in the end we (69) (to decide) to go to the theatre instead. We (70) (to miss) the bus and (71) (to arrive) late. We (72) (to arrange) to meet Joe outside the theatre and he (73) (to wait) for twenty minutes when we (74) (to get) there. The play already (75) (to start) when we (76) (to go) in.

It's Monday again today, and I (77) (to work) as usual. I (78) (to sit) here in the office for the last two hours, but I (79) (not to do) much work yet -1 (80) (to feel) I am fed up with work. I already (81) (to have) my holiday this year. I (82) (to go) to Scotland in July and, of course, it (83) (to rain) every day. Tomorrow I (84) (to book) a holiday for next April in Spain.

**(F)**

Will Kelogg, famous for Kelogg's cornflakes, was taken out of school at thirteen because he (85) (to be) a slow learner. Since he (86) (to fail) as a salesman, his brother, a doctor, (87) (to give) him a job in his hospital. He (88) (to shine) shoes for ten years when a fortunat» baking accident in the hospital kitchen (89) (to give) him an idea for Kelogg's cornflakes. This breakfast cereal already (90) (to become) one of the most successful business ideas. Every morning thousands of people (91) (to have) cornflakes for breakfast.

**(G)**

Mrs Winfred Weave (92) (to get involved) in politics ever since she (93) (to be) a student. She (94) (to go) to Hull University, where she (95) (to study) agriculture. She (96) (to have) a distinguished career in politics and (97) (to represent) her constituency for 30 years.

For the past few months she (98) (to write) her memoirs, although she insists her political career (99) (not to finish) yet. Who knows, maybe in some years she (100) (to become) a prominent politician.

**GRAMMAR TEST**

**Passive Voice Tense forms in comparison**

**1. Choose the correct variant:**

1) Nylon … since 1938 and today it … in many things.

A) has been produced; is being found

B) has produced; is found

C) has been produced; is found

D) has been produced; has been found

2) Wait for a while .He … now.

A) is being interviewed C) has been interviewed

B) is interviewed D) will be interviewed

3) She … about the results of the research as soon as it ….. .

A) will have been informed; is finished

B) will be informed; will be finished

C) will be informed; is finished

D) will have been informed; will have been finished

4) The Houses of Parliament … between 1849 and 1857.

A) were being built C) were built

B) was built D) had been built

5) Acid rain … by burning coal or oil

A) is caused C) has been caused

B) is being caused D) has caused

6) Boss says I ….. a pay-rise.

A) was giving C) will given

B) will be given D) was be given

7) Two million books ….. to America every year.

A) are being sent C) were being sent

B) will send D) are sent

8) The students of our Institute ….. every opportunity to master the language.

A) give C) had been given

B) was being given D) are given

9) The room ….. for a month.

A) hasn't lived in C) has not been lived in

B) is not lived in D) is not being lived in

10) By the time she comes, the problem ….. .

A) will have discussed C) will have been discussed

B) will being discussed D) will be discussed

11) By the time Mr. Brown returned, the old fireplace ….. .

A) had been taken out C) was taken out

B) had taken out D) has been taken out

12) The cats ….. hen Mary entered the room.

A) were fed C) had fed

B) fed D) were being fed

13) The new night club ….. by the council last week.

A) was closed C) closed

B) had been closed D) had closed

14) I'm going home now because all the work ….. .

A) is doing C) does

B) has been done D) has done

15) Jim's house is very modern. It …... only 2 years ago.

A) had been built C) was being built

B) built D) was built

16) This piece of music ….. yet. I have just composed it.

A) hasn't been recorded C) hasn't recorded

B) wasn't recorded D) wasn't being recorded

17) This tree is very old. It ….. in the 19-th century.

A) had been planted C) was planted

B) planted D) was being planted

18) The house ….. at this time yesterday.

A) was painting C) was being painted

B) had been painted D) was painted

19) A valuable painting ….. from the Art Gallery last night.

A) was stolen C) stole

B) had been stolen D) had stole

20) By the time I arrived, all the tickets ….. .

A) had been sold C) were sold

B) had sold D) sold

21) The garages ….. every day

A) are being cleaned C) are cleaned

B) clean D) will clean

22) Two hundred people ….. to the wedding last week.

A) were invited C) were being invited

B) invited D) have been invited

23) A new spaceship ….. by our scientists now.

A) is being examined C) has examined

B) is examined D) has been examined

24) After the work ….. , they went home.

A) was finished C) was being finished

B) had finished D) had been finished

25) This letter recently ….. by the secretary.

A) has brought C) is brought

B) has been brought D) was brought

26) The meal … now.

A) is preparing C) will prepare

B) has been prepared D) is being prepared

27) By the time I returned from work, my new washing machine ….. .

A) had been delivered C) has been delivered

B) was delivered D) was being delivered

28) We ….. all the time we were there

A) were watched C) watched

B) had been watching D) were being watched

29) A plan to build a helicopter near Westminster ... last year.

A) was considered C) had been considered

B) considered D) has been considered

30) The burglar ….. yesterday.

A) arrested C) was arrested

B) had been arrested D) was being arrested

31) They didn't leave the restaurant until the bill ….. .

A) was paid C) had been paid

B) had paid D) was being paid

32) When I entered the room, the politician ….. .

A) was being interviewed C) had been interviewed

B) interviewed D) has interviewed

33) The prisoners ….. to prison now.

A) are taken C) take

B) are being taken D) will be taken

34) When I returned, I noticed that the dog ….. yet.

A) wasn't fed C) hadn't fed

B) hadn't been fed D) fed

35) The window ... now.

A) is being replaced C) will have replaced

B) will replace D) will being replaced

36) Millions of pounds' worth of damage ….. by a storm which swept across the north

of England last night. (refer to the Present)

A) has been caused C) caused

B) had been caused D) were caused

37) Too many offices ….. in London over the last 10 years.

A) were built C) have been built

B) are building D) had been built

38) When she discovered that all the biscuits ….. she got angry.

A) were eaten C) had eaten

B) had been eaten D) ate

39) I hope that the missing money ….. soon.

A) will be found C) is found

B) has been found D) will find

40) The antique car ….. by an expert, at the moment

A) is restored C) is being restored

B) is restoring D) has been restored

**2. Open the brackets. Use the proper tense and voice form.**

41) The new proposal (to discuss) at our next meeting.

42) The man (to send) to prison for 6 months after he (to find) guilty of fraud.

43) Much of London (to destroy) by the fire in the 17-th century.

44) The Government is apparently winning the fight against inflation. A steady fall (to record) over the last 6 months.

45) The builders will start work as soon as the plans (to approve).

46) The motorist (to disqualify) some five years ago.

47) They say this book (to publish) next year.

48) The naughty boy (to teach) a good lesson by his friends.

49) The meat must be nearly ready. It (to cook) for nearly an hour.

50) I read in the paper a few weeks ago that Richard (to make) Vice-president of the company.

51) Their behaviour was so outrageous that we (to force) to leave the house.

52) The letter (to hand) to Lord Henry on the day of his departure.

53) Mind, you (to punish) if you disobey my orders.

54) The preparations for the party just (to finish) and the guests are arriving.

55) When I came into the kitchen I smelt something delicious. My favourite cookies (to bake) in the oven.

56) You can't use the fax now. It (to fix) at the moment.

57) Many towns (to destroy) by the earthquake in Japan last year.

58) You ever (to teach) how to play chess?

59) The exposition (to open) when we drove up to the picture gallery.

60) I can't believe my eyes! My book (to publish) already!

61) The helicopter (to construct) in Russia many years ago.

62) You'll have your copy soon, the contract (to type) now.

63) The sportsmen (to give) instructions before the match.

64) I'm happy as 1 just (to allow) to stay here for an extra day.

65) I wonder, when my project paper (to publish) (refer to the Future).

66) We felt happy that the car (to repair) the next day.

67) When they joined us, we already (to show) a lot of places of interest.

68) The house (to repaint) since they moved out.

69) She greatly (to impress) by the size and beauty of our capital every she visits Minsk.

70) He escaped when he (to move) from one prison to another.

71) They invited Jack, but Tom (not to invite).

72) The escaped convict (to arrest) in a few days.

73) After a million pounds (to spend) on the project, they decided that it impracticable and gave it up.

74) He said he (to involve) in an accident that month.

75) The bomb (to carry) to a safe place when it exploded.

76) The water level (to check) every week.

77) A whistle (to blow) if there is an emergency.

78) Your shoes (to mend) at the moment.

79) The children already (to tell) about the party.

80) The outside of the ship (to paint) when the accident happened.

**GRAMMAR TEST: MODAL VERBS**

**l. Supply the modal verbs *can*, *could*, *to be able to*,or *managed to*.**

1) A good 1500-metre runner ... run the race in under four minutes.

2) Bill is so unfit he ... run at all!

3) Our baby is only nine months and he ... stand up.

4) When I was younger, I ... speak Italian much better than I... now.

5) ... she speak German well? - No, she ... speak German at all.

6) He ... draw or paint at all when he was a boy, bat now he is a famous artist.

7) After weeks of training, I ... swim a length of the baths underwater.

8) It took a long time, but in the end Tony ... save enough to buy his car.

9) Did you buy any fresh fish in the market?- No, I ... get any.

10) For days the rescuers looked for the lost climbers in the snow. On the forth day they saw them and ... reach them without too much trouble.

**2. Rewrite these sentences using the modal verb *can/could*.**

11) Do you see that man over there?

12) I smell something burning.

13) I understood what he said.

14) Did you understand what he said?

15) I don't hear anything!

**3. Rewrite these sentences so that each sentence contains the modal verb *can* and the meaning remains the same.**

16) I knew how to skate before I was five.

17) I hope one day we will meet again in more favourable circumstances.

18) It is still very cold here in March.

19) Some supermarket beef tends to be rather tough.

20) In the end we managed to communicate with sign language.

21) If you don't feel you'll make a contribution, just say so.

**4. Fill in the gaps using the modal verbs *can* or *to be able to*.**

22) They asked if they ... go.

23) I ... solve her problems for her.

24) I'd like to ... write as well as that.

25) ... you speak Spanish?

26) I might... help you.

**5. Insert the modal verbs *may* or *can* into each gap.**

27) The engines don't seem to be working properly. There ... be some ice in them.

28) Planes flying in cold countries in winter ... have problems because of ice on the wings.

29) Both engines have failed. I'll try to find a place to land. We haven't much chance of surviving, but we ... be lucky.

30) The engines were not working properly. The pilot said he thought there ... be some ice on the wings.

31) He said there wasn't much chance of surviving, but we ... be lucky.

32) He told me that planes flying in cold countries in winter ... have problems because of ice on the wings.

**GRAMMAR TEST: CONDITIONALS**

**1. Choose the correct answer.**

1) If she ... not so slowly she would enjoy the party. A) were B) is C) will be

2) If you ... my library book I will have to buy a new one. A) will lose B) lost C) loose

3) If she ... you were in hospital she would have visited you.

A) had known B) knew C) would have known

4) I wish I ... rich. A) would be B) were C) had been

5) I wish I ... his opinion before. A) would know B) had known C) knew

6) I wish I ... to the Tower when I was in London. A) had gone B) went C) would go

7) I wish I ... much yesterday. A) didn't eat B) hadn't eaten C) were not eating

8) If she ... not so slowly she would enjoy the party. A) were B) is C) will be

**2. Match the two parts of the sentences.**

9) He wouldn't have become so strong;... a) ... I wouldn't be worried now.

10)They would have come... b) ... I would have gone to the library.

11) If they had been ready the day before... c) ... we wouldn't have come so early.

12) If I hadn't needed the book... d) ... unless he had done sports.

13) If they had had a city map... e) ... they wouldn't have been lost.

14) If you had warned us... f) ... if Jane had invited them.

15) He wouldn't know much... g) ... unless you had agreed with us.

16) We wouldn't have wasted so much time... h) ... unless he had read much.

17) If you had sent me a telegram... i) ... they would have taken their exam.

18) We had never done this ... j) if you have bought everything beforehand

**3. Correct the errors, if necessary.**

19) If I knew her well I will visit her.

20) If I were you I would have visited Jane yesterday.

21) If I have a computer I would learn Computer Studies.

22) If the weather would be nice tomorrow we'll go on excursion.

23) You did not miss the plane if you had taken a taxi.

24) I wish you have a car.

25) I wish things were different in the past.

26) I wish the weather were warmer.

27) I wish I did not decide to work in New York.

28) I wish I did not go to bed early yesterday.

**4. Complete the following radio programme by putting the verbs in brackets into the correct form.**

**Interviewer:** Welcome once again to our weekly programme in which we ask the questions "If you (29) \_\_\_ (be) alone on a tropical island for a month, what two items (30) \_\_\_ you \_\_\_ (choose) to take with you and why?" My two guests are racing driver Charles Brown and journalist Helen Howk, Charles?

**Charles:** Well, I think (31) \_\_\_ (get) very bored on this island if I (32) \_\_\_ (not have) anything to do. So, I (33) \_\_\_ (take) a knife and a ball of string. Then I (34) \_\_\_ (be able) to make useful things to catch food, and, maybe, build some kind of house to live in.

**Interviewer:** (35) \_\_\_ you \_\_\_ (try) to escape from the island?

**Charles:** If I (36) \_\_\_ (manage) to make a boat, I think I (37) \_\_\_ (try).

**Interviewer:** Helen, what about you?

**Helen:** Well, I definitely (38) \_\_\_ (not try) to escape. I'm totally impractical. So, if I (39) \_\_\_ (try) to make anything, I'm sure it (40) \_\_\_ (fall) to pieces very quickly. No, if I (41) \_\_\_ (have) to spend a month on the island, I (42) \_\_\_ (want) to have a good book and a pair of sunglasses.

**Charles:** But how (43) \_\_\_ you \_\_\_ (catch) things to eat if you (44) \_\_\_ (not have) any tools?

**Helen:** Oh, I expect there (45) \_\_\_ (be) plenty of fruit on the island. And I'm sure it (46) \_\_\_ (not hurt) me if I (47) \_\_\_ (not eat) meat or fish for a month.

**Interviewer:** (48) \_\_\_ either of you \_\_\_ (be) lonely?

**Charles:** Definitely. I (49) \_\_\_ (find) it very difficult if I (50) \_\_\_ (not speak) to anyone for a month.

**Helen:** I think (51) \_\_\_ (enjoy) the peace and quiet at first, but after a couple of weeks, yes, I (52) \_\_\_ (begin) to feel lonely.

**Interviewer:** Charles and Helen, thank you very much.

**5. Make up sentences.**

53) She / it / so / have / had / fallen / slippery / been / wouldn't / if/ not

54) had /1 / you / chosen / would /1 / have / If/ been / green / been / the / one

55) lot / if / would / trained / the / they / have / had / Our / won / a / team /

game

56) would / to / ill / place / have / your / if/ been / had / He / come / not / he

57) lay / would / gone /country / had / if / not / a / have / it / I / the / been / nasty / to

58) it / were / wish / now / summer /1

59) I / had /1 / been / wish / so / not / modest

60) redundant / been / made / If /1 / only / hadn't

**GRAMMAR TEST: VERBALS**

**1. Put in the correct form of the Infinitive choosing from А, В or С**

1) There was nothing now … for.

A) to wait B) to be waiting C) to be waited

2) She put on her wedding dress and turned round … .

A) to be admired B) to be abmiring C) to admire

3) He appeared to have plenty of money, which was said … for a couple of years at that company.

A) to be saved B) to save C) to have been saved

4) Stan seemed … silence intently, waiting for Susan to dismiss the subject.

A) to keep B) to be keeping C) to have been keeping

5) For the last few days she happened … to nobody but strange men.

A) to talk B) to be talking C) to have been talking

6) He is said … away a small fortune. So, he is safe.

A) to put B) to have put C) to be put

7) She couldn't help but … thankful for what her uncle had done for her sake.

A) to feel B)feel C) be feeling

8) You'd better … me back to my parents at once, or they' 11 be really angry with you.

A) take B) to take C) be taken

9) I'd rather … than ask him for another penny.

A) die B) to die C) to be dying

10) Jackie felt her blood in her veins when she saw what was left of the house.

A) to freeze B) freeze C) have frozen

**2. Complete the sentences choosing the verbs from А, В or С**

11) We … to leave the building as soon as possible.

A) hoped B) succeeded C) dreamed

12) Fred … in solving the problem.

A) failed B) succeeded C) looked forward

13) I … to going away next week.

A) hope B) am thinking C) am looking forward

14) Mary … to buy me a drink.

A) promised B) insisted C) objected

15) The police … the criminal lie on the ground.

A) forced B) allowed C) made

**3. Complete choosing the right preposition from A, B or С**

16) The President began his speech … explaining his point of view on the situation in the area.

A) in B) by C) with

17) Rachel seemed upset … hearing the news.

A) after B) before C) by

18) Melany left the company after her unsuccessful interview … being confused.

A) by B) without C) with

19) In many countries of the Middle East husbands prevent their wives … taking a job outside their homes.

A) against B) of C) from

20) Furious with his employees … turning up late each morning, the director decided to have a serious talk with them.

A) at B)for C) on

21) Nothing is gained … delaying.

A) without B) in C) by

22) The Foreign Minister was accused … interfering in the political affairs of another state.

A) of B)for C) with

23) Mary wouldn't dream … going to Spain.

A) of B) about C) on

24) We were warned … signing any contract with the company without a lawyer.

A) about B) against C) from

25) … discussing the future contract a lot of factors are to be taken into consideration.

A) in B) by C) at

**4. Complete with the correct form of the Verbals choosing them from A, В or С**

26) When Paul went out he remembered … the letter. He put it into the mail box.

A) posting B) having posted C) to post

27) Jane regrets … the firm after twenty years.

A) to leave B) leaving C) having been left

28) After approving the agenda we went on ... finance.

A) to discuss B) discussing C) discuss

29) Angela enjoys … tricks at people.

A) to play B) to have played C) playing

30) Julia has been ill but now she is beginning … better.

A) to get B) getting C) be getting

31) You are looking great. You seem … weight.

A) to lose B) losing C) to have lost

**5. Complete the sentences using the correct form of Participles from the verbs in brackets.**

32) … seven hundred miles, he was now near the border of the United States. (travel)

33) There was a silly smile … about the corners of his mouth. (play)

34) He had a beautiful house, and … a man of taste he had furnished it admirably. (be)

35) … him by his figure and his movements, he was still young. (judge)

36) … by the beauty of the twilight, he strolled away from the hotel. (stir)

37) For a moment the trio stood as if … to stone. (turn)

38) Cecilia had heard very little … in her own thoughts. (absorb)

39) … he went out. (dine)

40) If … to myself, I shouldn't lose my chance. (leave)

41) Thus absorbed, he would sit for hours … no interruption. (want)

42) She considered herself … to Mr Bennet. (engage)

43) It … now too dangerous to stay in the car any longer, Mark was waiting for a chance to escape. (be)

44) He sat with his feet … on the chair. (put)

45) If … , she slammed the door. (annoy)

46) When … , she never objected. (tell)

47) Douglas … to prove that he was right, reminded him of the promise. (determine)

48) She looked at Mike as if … of his manners. (disapprove)

49) While … the message she thought what she should tell the manager. (read)

50) Let them have the details … .(settle)

**ЛИТЕРАТУРА**

1. Иванюк Н.В. Английский язык = English : учеб. пособие / Н.В. Иванюк. – Минск : Вышэйшая школа, 2014. – 159 с.

2. Калилец, Л.М. Colours of My Native Country = Краски родной страны : пособие / Л.М. Калилец. – Брест : БрГУ, 2013. – 79 c.

3. Коваленко О.Н. Иностранный язык (английский) : ЭУМК для студентов биологического факультета специальностей 1-02 04 01 «Биология и химия», 1-31 01 01 «Биология», 1-33 01 01 «Биоэкология» : электронное издание / О.Н. Коваленко ; Брест. гос. ун-т им. А.С. Пушкина. – Брест : БрГУ, 2018.

4. Коваленко, О.Н. English for Chemistry Students = Английский для химиков : пособие / О.Н. Коваленко. – Брест : БрГУ, 2016. – 105 с.

5. Нестерчук, Г.В. Biology-Focused Reading = Читаем о биологии : учеб.-метод. пособие / Г.В. Нестерчук, Н.А. Паукова. – Брест : БрГУ, 2010. – 127 c.

6. Нестерчук, Г.В. English. Read, Speak and Discuss = Английский язык. Читаем. Говорим. Обсуждаем : пособие / Г.В. Нестерчук, Н.А. Паукова. – Брест : БрГУ, 2005. – 183 c.

10. Сатинова, В.Ф. Read and Speak about Great Britain / В.Ф. Сатинова. – Минск : Вышэйшая школа, 2004. – 334 с.

11. Троцюк Т.С. Advance Your English = Совершенствуйте свой английский : пособие / Т.С. Троцюк, Н.В. Иванюк. – Брест : БрГУ, 2014. – 148 с.

 Интернет-сайты:

1. www.wikipedia.org – Энциклопедия.

2. www.britanica.org – Энциклопедия Британии.

3. www.englishclub.net – Обучающие тесты.

4. http://biology.about.com – Образовательный сайт.