**федеральное государственное бюджетное образовательное учреждение высшего образования
Ярославский государственный медицинский университет
Министерства здравоохранения Российской Федерации
ФГБОУ ВО ЯГМУ Минздрава России**

Фонд оценочных средств для проведения промежуточной аттестации по дисциплине

ИНОСТРАННЫЙ ЯЗЫК (АНГЛИЙСКИЙ)

Специальность 30.05.03 МЕДИЦИНСКАЯ КИБЕРНЕТИКА
Форма обучения ОЧНАЯ

Фонд оценочных средств разработан в соответствии с требованиями ФГОС ВО

Фонд оценочных средств для проведения промежуточной аттестации обучающихся по дисциплине Иностранный язык (английский) составлен в соответствии с требованиями федерального государственного образовательного стандарта высшего образования 3++ по специальности 30.05.03 Медицинская кибернетика и входит в состав оценочных средств Образовательной программы высшего образования – программы специалитета – по специальности 30.05.03 Медицинская кибернетика.

Фонд оценочных средств по дисциплине разработан на кафедре иностранных языков ЯГМУ.

Заведующий кафедрой – Бернгардт О.В., канд. филол. наук, доцент

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(подпись)

«15» июня 2023 года

Утверждено Советом по управлению образовательной деятельностью
«15» июня 2023 года, протокол № 6

Председатель Совета по
управлению образовательной
деятельностью, проректор по
образовательной деятельности
и цифровой трансформации,
доцент Смирнова А.В.
«15» июня 2023 года ____________________
(подпись)

1. Форма промежуточной аттестации – зачет.

2. Перечень компетенций, формируемых на этапе освоения дисциплины универсальных компетенций:

УК-4. «Способность применять современные коммуникативные технологии, в том числе на иностранном(ых) языке(ах), для академического и профессионального взаимодействия».

Содержание компетенций с указанием индикаторов достижения компетенций представлено в рабочей программе по соответствующей дисциплине (таблица 1).

3. Показатели и критерии оценивания сформированности компетенций, шкалы оценивания

Таблица 1

Этап промежуточной аттестации	Компетенции, сформированность которых оценивается	Показатели	Критерии сформированности компетенций
1. Тестирование	УК-4	Число ответов на задания тестового типа, соответствующих эталону ответа	Число ответов на задания, соответствующих эталону ответа, – более 70%
2. Оценка практических навыков	УК-4	Уровень освоения навыка	Число ответов на задания, соответствующих эталону ответа, – более 70%
3. Собеседование по теоретическим вопросам	УК-4	Правильность ответов на вопросы	***5 баллов:*** даны полные исчерпывающие ответы на все вопросы, в ходе ответов обучающийся продемонстрировал высокий уровень теоретических знаний, полученных в ходе изучения основной и дополнительной литературы; ***4 балла:*** даны ответы на все вопросы, в ходе ответов обучающийся продемонстрировал достаточный уровень знаний, в ходе ответов на отдельные вопросы (1-2) возможны несущественные ошибки и неточности; ***3 балла:*** даны безошибочные ответы на основные вопросы, в ходе ответа возможны отдельные несущественные ошибки и неточности; ***2 балла:*** ответы на основные вопросы содержат принципиальные ошибки; ***1 балл:*** обучающийся продемонстрировал отдельные малозначимые представления об обсуждаемом вопросе; ***0 баллов:*** отказ от ответа.

4. Примеры оценочных средств для проведения текущего контроля и промежуточной аттестации обучающихся по дисциплине

1. Примеры оценочных средств для проведения контроля текущей успеваемости

Письменный опрос

1.Translate the text.

Biology

Biology is the study of life and living organisms. For as long as people have looked at the world around them, people have studied biology. Even in the days before recorded history, people knew and passed on information about plants and animals.

Modern biology really began in the 17th century. At that time, Anton van Leeuwenhoek, in Holland, invented the microscope and William Harvey, in England, described the circulation of blood. The microscope allowed scientists to discover bacteria, leading to an understanding of the causes of disease, while new knowledge about how the human body works allowed others to find more effective ways of treating illnesses. All these new knowledge needed to be put into order and in the 18th century the Swedish scientist Carl Linnaeus classified all living things into the biological families we know and use today.

In the middle of the 19th century, unnoticed by anyone else, the Austrian monk Gregor Mendel, created his Laws of Inheritance, beginning the study of genetics that is such an important part of biology today. At the same time, while traveling around the world, Charles Darwin was formulating the central principle of modern biology – natural selection as the bases of evolution.

It is hard to believe, but the nature of viruses has become apparent only within the last half of the 19th century and the first step on this path of discovery was taken by the Russian botanist Dmitry Ivanovsky in 1892.

In the 20th century biologists began to recognize how plants and animals live and pass on their genetically coded information to the next generation. Since then, partly because of developments in computer technology, there have been great advances in the field of biology; it is an area of ever-growing knowledge.

During the past few hundred years biology has changed from concentrating on the structure of living organisms to looking more at how they work or function. Over this time biologists have discovered much about health and disease, about the genes which control the activities of our bodies and how humans can control the lives of other organisms. We need to understand how our activities affect the environment, how humans can take responsibility for their own health and welfare and how we must be careful to make appropriate rules for the use of our genetic information.

Nowadays biologists are making fantastic discoveries which will affect all our lives. These discoveries have given us the power to shape our own evolution and to determine the type of world we will live in. Recent advances, especially in genetic engineering, have dramatically affected agriculture, medicine, veterinary science, and industry, and our world view has been revolutionized by modern developments in ecology. There has never been a more exciting nor a more important time to study biology.

Biology is the scientific study of life. But what is life? When we see a bird on a rock it may seem obvious that the bird is alive and the rock is not, but what precisely makes the bird alive and the rock not? Throughout history, thinkers in many fields tried to define life. Although they have failed to provide a universally accepted definition, most scientists agree that all living things share certain basic characteristics:

Living things are made of organized structures. Living things reproduce. Living things grow and develop. Living things feed. Living things respire. Living things excrete and waste. Living things respond to their surroundings. Living things move. Living things control their internal conditions. Living things are able to evolve.

2. Decide if the following statements are true or false.

a) The earliest people must have known about plants or they would have died.

b) The microscope allowed biologists to treat illnesses.

c) Darwin`s theory was one of the most important in biology.

d) The study of biology has not changed at all over the centuries.

3. Fill in the missing words:

Term (verb)	Noun
Respond	....
Transform	....

Move	....
Develop	....
Respire	....
Create	....
define	....

4. Use monolingual English dictionary and write down what could the words given below mean:

nutrient; sunlight; poison; breakdown; harmful.

World Boreal Forests:

Task 1. Read and translate the text orally

In the uppermost Northern Hemisphere, North America, Europe, and Asia hav significant expanses of land. The boreal forests ring the regions immediately sout of the Arctic Circle in a vast expanse that easily rivals the rainforest regions of th world. The northern boreal ecoregion accounts for about one third of this planet total forest area. This broad circumpolar band runs through most of Canad Russia and Scandinavia.

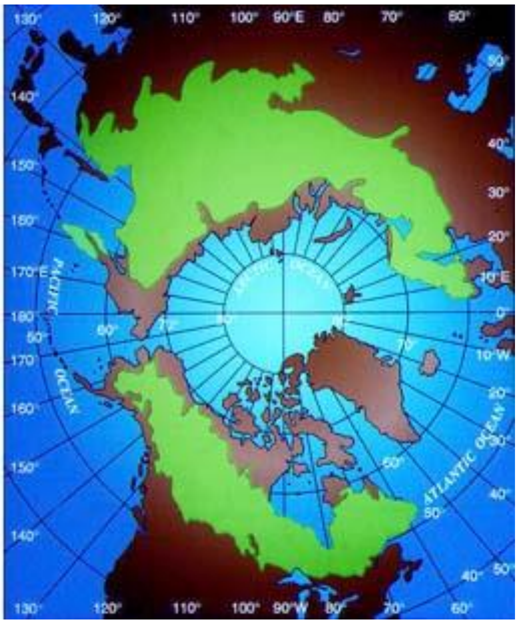


Fig. 1 The circumpolar range of the boreal forest. About two-thirds of the area is in Eurasia. The sector in Eastern Canada lies farthest from the North Pole. Map source, Hare and Ritchie (1972).

In North America, the boreal eco-region extends from Alaska to Newfoundland, bordering the tundra to the north and touching the Great Lakes to the south.

Known in Russia as the taiga, the boreal forest constitutes one of the largest biome in the world, covering some 12 million square kilometres. Overlying formerly glaciated areas and areas of patchy permafrost on both continents, the forest is mosaic of successional and subclimax plant communities sensitive to varying environmental conditions. It has relatively few species, being composed mainly of spruces, firs, and conifers, with a smattering of deciduous trees, mostly along waterways. The boreal forest seems associated with the location of the summertime arctic airmass - it begins generally where it reaches its southern limit, and it extends to the southern most extension during the winter. Thus, it lies between the summer and winter positions of the arctic front.

The boreal forest corresponds with regions of subarctic and cold continental climate. Long, severe winters (up to six months with mean temperatures below freezing) and short summers (50 to 100 frost-free days) are characteristic, as is a wide range of temperatures between the lows of winter and highs of summer. For example, Verkhoyansk, Russia, has recorded extremes of minus 90 F and plus 90 F. Mean annual precipitation is 15 to 20 inches, but low evaporation rates make this a humid climate.

Also characteristic of the boreal forest are innumerable water bodies: bogs, fens, marshes, shallow lakes, rivers and wetlands, mixed in among the forest and holding a vast amount of water. The winters are long and severe while summers are short though often warm.

Forests cover approximately 19.2 million square miles (49.8 million square kilometres) - (33%) of the world's land surface area. They are broken down as follows:

	mil. sq. mi.	**mil. sq. km.**
Boreal Forests	6.4	16.6
Other Forests	12.8	33.2

Forest area in selected countries

Country	Total forest area (millions of ha.)	Percentage of global forested area
Russia	764	22
Brazil	566	16
Canada	247	7
U.S.A.	210	6
China	134	4
Indonesia	116	3
Zaire	113	3
Nordic countries	53	2
All other	1,239	36

Source: The World Bank 1996

There are latitudinal zones within the boreal forest. Running north to south, one finds the tundra/taiga ecotone, an open coniferous forest (the section most properly called taiga) the characteristic closed-canopy needleleaf evergreen boreal forest; and a mixed needleleaf evergreen-broadleaf deciduous forest, the ecotone with the Temperate Broadleaf Deciduous Forest. In the US, this southern ecotone is dominated by white pine (Pinus strobus), sugar maple (Acer saccharum), and American beech (Fagus americanus).

Extensions of the boreal forest occur down the spines of mountains at high elevations. In eastern North America, this occurs at high elevation down to New Jersey, then West Virginia and again in the southern Appalachians. The trees are red spruce and balsam fir in the north, and Fraser fir in the south. Fir tends to grow at the highest elevations. Yellow birch becomes prominent also, with a smattering of eastern hemlock. In the southern Appalachians, these forests start at about 4,500 feet and in the north, where it is cooler, can be found at sea level (Maine and Canada). The boreal forest in the southern Appalachians is disjunct and, due to its relatively small areal coverage, is regarded as a highly endangered ecosystem.

Boreal forest soils

Soils in this forest are called podzols, from the Russian word for ash (the colour of these soils) and their development podzolization. Podzolization occurs as a result of the acid soil solution produced under needleleaf trees. This means that iron and aluminum are leached from the A horizon, and deposited in the B horizon. Clays and other minerals migrate to lower layers, leaving the upper one sandy in texture.

Because of the low temperatures, decomposition is fairly slow, and soil microorganism activity limited. The highly lignified needles of the dominant trees decompose slowly, creating a mat over the soil. Tannins and other acids cause the upper soil layers to become very acidic, and the permanent shade from the evergreen trees keeps evaporation to a minimum, and the soils are often wet. In some cases they are waterlogged nearly all year. This tends to limit nutrient cycling, compared to more southerly forests.

Major plant species

By far the most dominant tree species are conifers which are well-adapted to the harsh climate, and thin, acidic soils. Black and white spruce are characteristic species of this region along with Tamarack, Jack Pine and Balsam Fir. Needleleaf, coniferous (gymnosperm) trees, the dominant plants of the boreal biome, are a very few species found in four main genera - the evergreen spruce (Picea), fir (Abies), and pine (Pinus), and the deciduous larch or tamarack (Larix).

In North America, one or two species of fir and one or two species of spruce are dominant. Across Scandinavia and western Russia the Scots pine is a common component of the taiga.

Broadleaf deciduous trees and shrubs are members of early successional stages of both primary and secondary succession. Most common are alder (Alnus), birch (Betula), and aspen (Populus).

It is now recognized that so-called climax communities in the boreal undergo an approximately 200-year cycle between nitrogen-depleting spruce-fir forests and nitrogen-accumulating aspen forests.

The conical or spire-shaped needleleaf trees common to the boreal are adapted to the cold and the physiological drought of winter and to the short-growing season:

- **Conical shape** - promotes shedding of snow and prevents loss of branches.
- **Needleleaf** - narrowness reduces surface area through which water may be lost (transpired), especially during winter when the frozen ground prevents plants from replenishing their water supply. The needles of boreal conifers also have thick waxy coatings - a waterproof cuticle - in which stomata are sunken and protected from drying winds.
- **Evergreen habit** - retention of foliage allows plants to photosynthesize as soon as temperatures permit in spring, rather than having to waste time in the short growing season merely growing leaves.
- **Dark colour** - the dark green of spruce and fir needles helps the foliage absorb maximum heat from the sun and begin photosynthesis as early as possible.

In European and Asian boreal forests, the spruces are replaced by two other species, Norway and Siberian. Throughout the vast Siberian section of Russia, and in wet areas, larches predominate. Larches are deciduous conifers, and more abundant along the northern extremes.

The severe winters, and short growing season, favour evergreen species. These trees are also able to shed snow in the winter, which keeps them from breaking under the loads, and to begin photosynthesis early in the spring, when the weather becomes favourable.

Muskegs - low lying, water filled depressions or bogs - are common throughout the boreal forest, occurring in poorly drained, glacial depressions. Sphagnum moss forms a spongy mat over ponded water. Growing on this mat are species of the tundra such as cotton grass and shrubs of the heath family. Black spruce and larch ring the edge. Sphagnum moss may enhance the water logging - once established, it has the ability to hold up to 4000% of its dry weight in water. It often limits what species can establish once it gains a foothold. Some of the trees can reproduce by layering, since the probability of seeds germinating are low.

Pine forests, in North America dominated by the jack pine (Pinus banksiana), occur on sandy outwash plains and former dune areas. These are low nutrient, droughty substrates not tolerated by spruce and fir.

Larch forests claim the thin, waterlogged substrate in level areas underlain with permafrost. These forests are open with understories of shrubs, mosses and lichens. In Alaska, stands of Larix larichina are localized phenomena, but in Siberia east of the Yenesei River the extreme continentality and nearly continuous permafrost give rise to vast areas dominated by Larix dihurica.

History of Ecology

Task 1. Translate this text in a written form.

Ecology is generally spoken of as a new science, having only become prominent in the second half of the 20th Century. More precisely, there is agreement that ecology emerged as a distinct discipline at the turn of the 20th Century, and that it gained public prominence in the 1960s, due to widespread concern for the state of the environment. Nonetheless, ecological thinking at some level has been around for a long time, and the principles of ecology have developed gradually, closely intertwined with the development of other biological disciplines. Thus, one of the first ecologists may have been Aristotle or perhaps his student, Theophrastus, both of whom had interest in many species of animals. Theophrastus described interrelationships between animals and between animals and their environment as early as the 4th century BC.

18th and 19th century ~ Ecological murmurs

The botanical geography and Alexander von Humboldt

Throughout the 18th and the beginning of the 19th century, the great maritime powers such as Britain, Spain, and Portugal launched many world exploratory expeditions to develop maritime commerce with other countries, and to discover new natural resources, as well as to catalog them. At the beginning of the 18th century, about twenty thousand plant species were known, versus forty thousand at the beginning of the 19th century, and almost 400,000 today.

These expeditions were joined by many scientists, including botanists, such as the German explorer Alexander von Humboldt. Humboldt is often considered a father of ecology. He was the first to take on the study of the relationship between organisms and their environment. He exposed the existing relationships between observed plant species and climate, and described vegetation zones using latitude and altitude, a discipline now known as geobotany.

In 1804, for example, he reported an impressive number of species, particularly plants, for which he sought to explain their geographic distribution with respect to geological data. One of **Humboldt**'s famous works was **"Idea for a Plant Geography"** (1805).

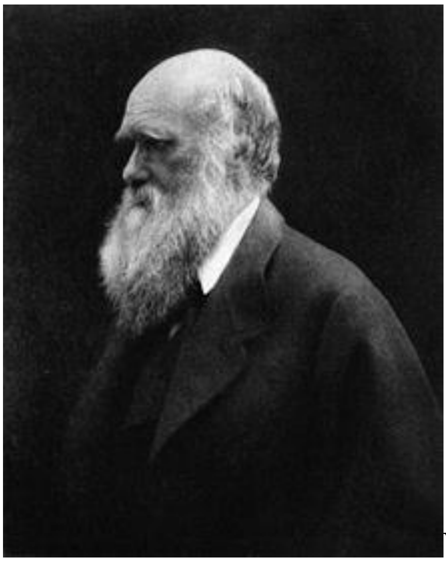
Other important botanists of the time included Aimé Bonpland.

In 1856, the Park Grass Experiment was established at the Rothamsted Experimental Station to to test the effect of fertilizers and manures on hay yields.

The notion of biocoenosis: Wallace and Möbius

Alfred Russel Wallace, contemporary and competitor to Darwin, was first to propose a "geography" of animal species. Several authors recognized at the time that species were not independent of each other, and grouped them into plant species, animal species, and later into communities of living beings or biocoenosis. The first use of this term is usually attributed to **Karl Möbius** in 1877, but already in 1825, the French naturalist **Adolphe Dureau de la Malle** used the term *societé* about an assemblage of plant individuals of different species.

Warming and the foundation of ecology as discipline



While **Darwin** focused exclusively on competition as a selective force, **Eugen Warming** devised a new discipline that took abiotic factors, that is drought, fire, salt, cold etc., as seriously as biotic factors in the assembly of biotic communities. Biogeography before Warming was largely of descriptive nature - faunistic or floristic. Warming's aim was, through the study of organism (plant) morphology and anatomy, i.e. adaptation, to explain why a species occurred under a certain set of environmental conditions. Moreover, the goal of the new discipline was to explain why species occupying similar habitats, experiencing similar hazards, would solve problems in similar ways, despite often being of widely different phylogenetic descent. Based on his personal observations in Brazilian cerrado, in Denmark, Norwegian Finnmark and Greenland, Warming gave the first university course in ecological plant geography. Based on his lectures, he wrote the book ‘Plantesamfund’, which was immediate translated to German, Polish and Russian, later to English as **‘Oecology of Plants’**. Through its German edition, the book had immense effect on British and North American scientist like Arthur Tansley, Henry Chandler Cowles and Frederic Clements.

Darwinism and the science of ecology

It is often held that the roots of scientific ecology may be traced back to Darwin. This contention may look convincing at first glance inasmuch as ***On the Origin of Species*** is full of observations and proposed mechanisms that clearly fit within the boundaries of modern ecology (e.g. the cat-to-clover chain – an ecological cascade) and because the term ecology was coined in 1866 by a strong proponent of Darwinism, **Ernst Haeckel**. However, Darwin never used the word in his writings after this year, not even in his most “ecological” writings such as the foreword to the English edition of Hermann Müller’s *The Fertilization of Flowers* (1883) or in his own treatise of earthworms and mull formation in forest soils (The formation of vegetable mould through the action of worms, 1881). Moreover, the pioneers founding ecology as a scientific discipline, such as **Eugen Warming, A. F. W. Schimper, Gaston Bonnier, F.A. Forel, S.A. Forbes** and **Karl Möbius**, made almost no reference to Darwin’s ideas in their works.This was clearly not out of ignorance or because the works of Darwin were not widespread, but because ecology from the beginning was concerned with the relationship between organism morphology and physiology on one side and environment on the other, mainly abiotic environment, hence environmental selection. Darwin’s concept of natural selection on the other hand focused primarily on competition.The mechanisms other than competition that he described, primarily the divergence of character which can reduce competition and his statement that "struggle" as he used it was metaphorical and thus included environmental selection, were given less emphasis in the Origin than competition.Despite most portrayals of Darwin conveying him as a non-aggressive recluse who let others fight his battles, Darwin remained all his life a man nearly obsessed with the ideas of competition, struggle and conquest – with all forms of human contact as confrontation.

Early 20th century ~ Expansion of ecological thought

The biosphere - Eduard Suess, Henry Chandler Cowles, and Vladimir Vernadsky

By the 19th century, ecology blossomed due to new discoveries in chemistry by **Lavoisier** and de **Saussure**, notably the nitrogen cycle. After observing the fact that life developed only within strict limits of each compartment that makes up the atmosphere, hydrosphere, and lithosphere, the Austrian geologist Eduard Suess proposed the term biosphere in 1875. Suess proposed the name biosphere for the conditions promoting life, such as those found on Earth, which includes flora, fauna, minerals, matter cycles, et cetera.

In the 1920s **Vladimir I. Vernadsky**, a Russian geologist who had defected to France, detailed the idea of the biosphere in his work **"The biosphere"** (1926), and described the fundamental principles of the biogeochemical cycles. He thus redefined the biosphere as the sum of all ecosystems.

First ecological damages were reported in the 18th century, as the multiplication of colonies caused deforestation. Since the 19th century, with the industrial revolution, more and more pressing concerns have grown about the impact of human activity on the environment. The term ecologist has been in use since the end of the 19th century.

The ecosystem: Arthur Tansley

Over the 19th century, botanical geography and zoogeography combined to form the basis of biogeography. This science, which deals with habitats of species, seeks to explain the reasons for the presence of certain species in a given location.

It was in 1935 that **Arthur Tansley**, the British ecologist, coined the term ecosystem, the interactive system established between the biocoenosis (the group of living creatures), and their biotope, the environment in which they live. Ecology thus became the science of ecosystems.

Tansley's concept of the ecosystem was adopted by the energetic and influential biology educator Eugene Odum. Along with his brother, Howard Odum, Eugene P. Odum wrote a textbook which (starting in 1953) educated more than one generation of biologists and ecologists in North America.

Ecological Succession - Henry Chandler Cowles

At the turn of the 20th century, **Henry Chandler Cowles** was one of the founders of the emerging study of **"dynamic ecology"**, through his study of ecological succession at the Indiana Dunes, sand dunes at the southern end of Lake Michigan. Here Cowles found evidence of ecological succession in the vegetation and the soil with relation to age. Cowles was very much aware of the roots of the concept and of his (primordial) predecessors. Thus, he attributes the first use of the word to the French naturalist **Adolphe Dureau de la Malle**, who had described the vegetation development after forest clear-felling, and the first comprehensive study of successional processes to the Finnish botanist **Ragnar Hult** .

Неличные формы глагола/ Non-Finite Forms of the Verb

1)Выберите правильный вариант ответа. Choose the correct variant:

1. **Is there anything in that new magazine worth _____.**
   - to read
   - reading
2. **Although I was in a hurry, I stopped _____ to him.**
   - to talk
   - talking
3. **I really must stop ______.**
   - to smoke
   - smoking
4. **Would you mind ______ the front door?**
   - to close
   - closing
5. **You should remember ______ him. He'll be at home.**
   - to phone
   - phoning
6. **Do you enjoy ______?**
   - to teach
   - teaching
7. **All parts of London seem ______ to different towns and epochs.**
   - to belong
   - belonging
8. **Why have you stopped? Go on ______.**
   - to read
   - reading
9. **The teacher asked us some questions and went on ______ us about the climate of England.**
   - to tell
   - telling
10. **When we had finished ______ the waiter brought the bill.**
    - to eat
    - eating

11. **My elder brother went to college, and I hope ______ there too.**
   - to go
   - going
12. **My car needs a service badly, and Tom offered ______ me with it.**
   - to help
   - helping
13. **Avoid ______ and you'll feel better soon.**
   - to overeat
   - overeating
14. **I can't help ______ about that awful accident.**
   - to think
   - thinking
15. **The Brains want ______ Boston this week.**
   - to leave for
   - leaving for
16. **I'll always remember ______ you for the first time.**
   - to meet
   - meeting
17. **I decided ______ my holiday in France.**
   - to spend
   - spending
18. **I enjoy ______ very much.**
   - to travel
   - travelling
19. **We might manage ______ a lot of interesting places there.**
   - to visit
   - visiting
20. **I dislike ______ around in the car.**
   - to tour
   - touring

2)Choose the correct answer.

1.I'd prefer **going/to go/go** travelling in Europe this summer.

2.Do you remember **meeting/to meet/meet** Julia last year?
3.We stopped at the side of the road **looking/to look/look** at the view.
4.You should **seeing/to see/see** the dentist as soon as possible.
5.Don't forget **bringing/to bring/bring** the passport!
6.They'd rather **buying/to buy/buy** souvenirs later.
7.He apologized for not **calling/to call/call** me for so long.
8.Mum really made me **crying/to cry/cry** with her story.
9.She wanted all her children **obeying/to obey/obey** the rules.
10. I never forget/to forget/forgetting to take my pills.

2)Underline the mistakes and correct the wrong word or phrase. Tick (V) the correct sentence(s).

1.I'm really looking forward to go ice-skating tomorrow. _______________
2.Sean's decided taking up skateboarding. _______________
3.I adore going to outdoor cinemas in the summer. _______________
4.Did you remember buying the tickets for the show? _______________
5.I don't really feel like seeing a film tonight. _______________

3)Fill in gaps using the correct form of the verb from the list.

be (x2), draw (x2), go, join, learn, paint, see, study, try, visit

Spare Time

Although I enjoy (1)____________ art galleries, I've never been very good at (2)____________ and I can't (3)____________ pictures myself. For a long time I've wanted (4)____________ some of the basic skills. At first, I considered (5)____________ on my own at home, but then a friend of mine suggested (6)____________ to evening classes and I realised that would be much more fun. So, I've decided (7)____________ an evening art class at the local Art college. I've met the instructor, Mr Phillips, and he seems (8)____________ really helpful. First, we'll practise (9)____________ very simple objects, and then we're going to move on to more difficult things, like people and buildings. I know it's not going (10)____________ easy, but I'm not going to give up (11)___________. And I hope by the end of the course I'll be able (12)____________ a real improvement in my artistic ability.

2. Примеры оценочных средств для проведения рубежного контроля
- Speak about Yaroslavl State Medical University.

- Dwell upon your classes at the Medical University.
- Darwinism and the science of ecology
- The botanical geography and Alexander von Humboldt
- Major plant species

Find synonims:

A day in the life of a medical student in India

Being a medical student was always my dream. Two years ago, after clearing the entrance examination I secured a medical seat but it was far away from my hometown. In the beginning, I was a bit nervous about joining my medical college. But, to my surprise, I adjusted well here. We had our first professional exam at the beginning of this year and then we went home for a short break.

After a month-long holiday and enjoying my social life a bit, I came back to my hostel. In my room, I found an old timetable still hanging on the wall. That refreshed memories of my first professional examination. Indeed, that time was full of challenges, but fortunately, I passed my examination with distinction. Now, it has been more than a month since my second professional year has started. The addition of clinical posting has been the most exciting part of the timetable for the second year.

However, my daily routine has not changed much. I am someone whose brain stops working when the clock strikes 11 at night, a trait probably inherited from my father. I try to compensate for that by getting up early in the morning at 5:00am. I take a few sips of water and spend some time with the voluminous textbooks of pathology and pharmacology. Of course, sometimes I feel a little drowsy in the morning, but my timetable does not allow me to go back to bed.

At 6:30am when I am fully awake, my basal ganglia starts planning to get ready for the morning class. A daily routine of taking a bath, wearing the uniform, and packing the bag, goes on as usual. On the way to mess, I agree I may sometimes forget my ID card or lab coat in the room but running back to the hostel to get them is the real thrill in my life. I usually take a heavy breakfast complimenting it with a glass of milk in the morning, as standing in the ward throughout the day requires a good amount of energy.

By 8:00am I reach the classroom, with my mask flinging in the air, and not forgetting to put it back before stepping inside. The morning class is often on clinical subjects where time slots are allotted for medicine, surgery, obstetrics and gynaecology, and preventive and social medicine. These lectures give us an insight into the clinical approach to various disorders which is quite helpful when we go for our clinical rotation.

Usually, the morning lecture is over by 9:00 am and then we have our clinical postings. In the first month, I was posted in the Medicine Department along with two of my friends. The initial few days were quite overwhelming as we had never seen so many patients lying in the ward. But gradually we started interacting with them to learn the art of history taking. During the ward round, we were given a format of history taking with some instructions to follow. History taking is indeed a skillful task. It became even more of a task for me because I did not know the local language much. Here patients come from various cultures and backgrounds, and they speak the same language in different accents and tones. But my local friends helped me with it. Some patients love to talk to us in great detail, so much so that we could end up writing an entire book on their chief complaints, while some only prefer direct closed-ended questions. Once a week we were also posted in the outpatient department where opportunities for patient interaction were plenty, though time was limited. But, even in the short period of time, listening to the concern of the patient was most gratifying.

Slowly, I learned the importance of demographic details, history of presenting illness, and family history of the patient. I saw many cases of clinical medicine, but anaemia, dyspnoea, ascites, and valvular heart diseases fascinated me the most. One day we were even posted in the neurology ward, a specialty my father practices. Taking the history of patients with acute ischaemic stroke and sudden onset paraplegia was nostalgic as it reminded me of all the in-house discussions I am so used to since my childhood. The faculty and residents posted in the ward were our teachers, but Hutchinson's textbook of clinical medicine was our 'Bible'.

The experience of my medicine posting can be summarised as:

By 9:20 you are in, with a white coat on, instruments in the pocket, excited to use them turn by turn. Doctors are busy in rounds, you have to wait, in the meantime, you can observe the patient's gait. An hour goes by while you finish the history in brief, every bit of the patient teaches you, even in his grief. The faculty is finally free and comes up with some new topic every day, to understand that, you have to read it the very same day.

My friends posted in other departments had a similar experience and they often shared their daily routines with me. The experience shared by my friends posted in Preventive and Social Medicine was unique as they got an opportunity to travel to nearby primary health centres. They got a chance to study the problems faced by people residing in remote areas and to find out ways to provide them with good healthcare facilities. It is great that our teaching curriculum gives early clinical exposure and this helps in developing empathy toward the patients.

After returning from my morning clinical posting, I rush to the mess to grab some food. Lunchtime is often used to catch up on the progress of the day and discuss the clinical experience with my friends. But we have to keep a close watch on the clock, as there is a lecture at 1:00pm at college. Everyone will agree that attending a class straight after lunch is so difficult. Taking notes in class helps me to stay awake and learn something from the lecture, which is very important.

At 2:00pm we have practical periods which are indeed more fun than lectures. In the Pathology lab, seeing gross specimens of different organs helps me understand how our body works in a well-coordinated manner. Exploring the different labs in the microbiology department is a unique experience. Additionally, every Saturday, we have training on the AETCOM (Attitude, Ethics, and Communication) module. This takes us through the major attributes of a physician and highlights the importance of empathy and ethics in medical practice.

The long day at college finally gets over at 4:00pm and I happily return to my room. With milk in a mug and some evening snacks, I sit along with my roommates and learn about their experiences of the day. Then we discuss assignments for the next day and plan out the topics to read. The evening routine usually varies with the degree of tiredness, but the only motivation is to learn something new for patient care. Every day I also spend some time indulging in physical activity like playing badminton or walking around while talking to my parents on the phone. This is very important because as doctors we are role models for society and we have to stay fit to help our patients.

At around 6:00pm, I head straight to the library where I spend around 2-3 hours and try to revise my textbooks and prepare for any assignment on the next day.

As medical students, we always have some seminar, group discussion, or test. By 9:00pm I come back to my hostel and have dinner with my friends. After dinner, all my roommates discuss different topics both academics and non-academics. The last hour of my daily routine is reserved for a video call to my parents and sister which gives me a detailed account of whatever is happening at my home. The day's activity finally comes to an end at 11:00pm when I place my books back on the rack, make my bed, and get ready to sleep.

The experience shared by me as a medical student may be different from that of other students. Medical life is a very relative experience and no two people would have the same experience. But, for me, the medical profession is a way of serving humanity and I thank God every day for allowing me to be a part of this noble profession.

SYNONIM MATCH:

1. Sip	a) sliding
2. Voluminous	b) pleasant
3. Drowsy	c) sleepy
4. Thrill	d) appointment
5. Flinging in	e) gulp
6. Slot	f) point
7. Allotted	g) highlited
8. Gratifying	h) massive
9. Postings	i) worry
10. Gait	j) gaps

3. Примеры оценочных средств для проведения промежуточной аттестации

Вопросы для собеседования

БИЛЕТ

1. Подготовьте устное высказывание на тему “YSMU”.
2. Подготовьте устный перевод текста.

Biological chemistry

Biochemistry, sometimes called biological chemistry, is the study of chemical processes in living organisms, including, but not limited to, living matter.
Biochemistry governs all living organisms and living processes. By controlling information flow through biochemical signaling and the flow of chemical energy through metabolism, biochemical processes give rise to the incredible complexity of life. Much of biochemistry deals with the structures and functions of cellular components such as proteins, carbohydrates, lipids, nucleic acids and other biomolecules although increasingly processes rather than individual molecules are the main focus. Over the last 40 years biochemistry has become so successful at explaining living processes that now almost all areas of the life sciences from botany to medicine are engaged in biochemical research. Today the main focus of pure biochemistry is in understanding how biological molecules give rise to the processes that occur within living cells which in turn relates greatly to the study and understanding of whole organisms.
Among the vast number of different biomolecules, many are complex and large molecules (called biopolymers), which are composed of similar repeating subunits (called monomers). Each class of polymeric biomolecule has a different set of subunit types. For example, a protein is a polymer whose subunits are selected from a set of 20 or more amino acids.

3. Выберите правильный вариант ответа.

What is biotechnology?

The term "Biotechnology" (sometimes shortened to "biotech") consists of two parts. *Bio* is a Greek word for "life" and *technology* gives an indication of human intervention. Biotechnology can be based on the pure biological sciences (genetics, microbiology, animal cell culture, molecular biology, biochemistry, embryology, cell biology).
Also its interests can be outside the sphere of biology (chemical engineering, bioprocess engineering, information technology, biorobotics). Biotechnology deals with brewing, manufacture of human insulin, interferon, and human growth hormone, medical diagnostics, cell cloning and reproductive cloning, the genetic

modification of crops, bioconversion of organic waste and the use of genetically altered bacteria in the cleanup of oil spills, stem cell research and much more.

As a matter of fact, biotechnology is very ancient. Six thousand years ago, micro-organisms were used to brew beers and to produce wine, bread and cheese.Yeast makes dough rise and converts sugars into alcohol. Lactic acid bacteria in milk create cheese and yoghurt. This application of biotechnology is the directed use of organisms for the manufacture of organic products (examples include beer and milk products). In this way, *classical biotechnology* refers to the traditional techniques used to breed animals and plants, as well as to the application of bacteria, yeasts and molds to make bread or cheese. *Modern biotechnolog*y came into being during the nineteen seventies. Ithas often been divided into several categories; every field of this science is sometimesconnected with the definite color. *Green biotechnology* is biotechnology applied to agricultural processes. An example would be the selection and domestication of plants via micro propagation.

Another example is the designing of transgenic plants to grow under specific environments in the presence (or absence) of chemicals. One hope is that green biotechnology might produce more environmentally friendly solutions than traditional industrial agriculture, although this is still a topic of considerable debate. *Red biotechnology* is applied to medical processes. Some examples are the designing of organisms to produce antibiotics, and the engineering of genetic cures through genetic manipulation. *White biotechnology*, also known as *industrial biotechnology*, is biotechnology applied to industrial processes. An example is using naturally present bacteria by the mining industry in bioleaching; so it is the designing of an organism to produce a useful chemicalor destroy hazardous/polluting chemicals. White biotechnology tends to consume less in resources than traditional processes used to produce industrial goods. *Blue biotechnology* is a term that has been used to describe the marine and aquatic applications of biotechnology, but its use is relatively rare. *Bioinformatics* is an interdisciplinary field which addresses biological problems using computational techniques, and makes the rapid organization and analysis of biological data possible. Bioinformatics plays a key role in various areas, such as functional genomics, structural genomics, and proteomics, and forms a key component in the biotechnology and pharmaceutical sector. In conclusion biotechnology can berefered to any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.

Тестирование

Choose the correct answer.

1. The vector (DNA carrier) we used to put the glowing gene into the bacteria is called a…
a) Chromosome
b) Virus
c) Pipet
d) Plasmid
2. During a gel electrophoresis experiment, the small segment of DNA will move….
a) Backwards
b) Fast
c) Slow
d) Sideways
3. What tool do you use in lab to take very small samples of a liquid?
a) A beaker
b) A graduated cylinder
c) A micropipette
d) Safety glasses
4. In electrophoresis, where do the DNA samples go?
a) Straight up into the air
b) They move through the gel
c) Nowhere
d) Into a micropipette
5. What do you need to use so that you can estimate the size of the DNA bands?
a) A micropipette
b) A meter stick
c) An electronic balance
d) A DNA standard
6. When doing gel electrophoresis, how do you know that your gel is running and the electricity is on?
a) You see bubbles
b) You see sparks
c) You hear a noise
d) The light flashes
7. What makes the DNA move during gel electrophoresis?
a) Electricity
b) Gravity
c) Water
d) Wind

8. All the cells in your body have the same DNA, even though they do not look the same or have the same job.

a) True b) False

9. Stem sells can be found in your heart.

a) True b) False

10. DNA fingerprinting can be used to identify a criminal.

a) True b) False