**1 2 3 4**

**5(нету ученых)**

**7**

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**Темы по английскому**

**1. Our University: brief historical survey.(краткий исторический обзор)**

Education is an important part of our life. People go to schools and universities, attend different courses and workshops(семинары).

The early history of the University began in 1859 on the 8th of December, when the Gory-Goretsky Agricultural Institute welcomed the first students of the Forestry program, who were trained for careers in agronomy and forestry.

In 1930, on the basis of the forestry faculty of the Belarusian State Agricultural Academy, the Forestry Institute was created, the grand opening of which took place on October 1 in Gomel. In 1946 he moved to Minsk. In 1961 it was renamed into the Belarusian Technological Institute named after S.M. Kirov. In 1993, the Government of Belarus decided to rename the institute to the Belarusian State Technological University.

Nowadays the University houses 10 faculties(***в унике насчитывается***). There are Forestry Faculty, Forestry and Wood Technology, Organic Substances Technology(***технология органических веществ***), Chemical Technology and Engineering, Faculty of Print Technology and Media Communications, Economic Engineering Faculty, Faculty of Information Technology, Faculty of Extra Mural(***заочная форма обучения***) Studies, Faculty of Pre-University Training, Faculty of Social Professions. Also university graduates have the opportunity to go in a master's degree(***магистратура***).

The total number of students and employees(***персонал***) annually(***ежегодно***) at the university is more than 10,000 people. Of these, 9000 students, 680 teachers, among whom 73% have scientific degrees and titles(***звания***).

BSTU cooperates with many Russian, Polish, Ukrainian universities, as well as with universities in Germany, Greece, Slovakia, Kazakhstan and others.

Students annually win prizes in various sports competitions, creative competitions(***творческие конкурсы***) and olympiads.

I am very glad that I have chosen this university. I do my best to make my university better and more popular.

**2. Our University: scientific and research work**

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**3. BSTU today. Student life.**

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**4. Science and Technology: the importance of inventions to the progress of humanity.**

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**5. Science and technology: inventions, famous scientists and inventions.**

**Нету ученых!!!**

Modern civilization is everything that has been achieved thanks to science. Science is very important and it develops our world. But what is science? Science is systemized knowledge based on experimentation, observation and study. The main goal of science to society is to produce useful models of reality.

Science subdivided into two categories: natural and social. There are also related disciplines that are grouped into interdisciplinary and applied(прикладные) sciences, such as engineering and health science.

As for pseudosciences, we can name astrology, palmistry, parapsychology, numerology and others.

One of the greatest inventions of all times is medicine. After millions of tests, doctors can now cure many fatal diseases. Thanks to science lifespan has increased. Besides, science has given the humanity a lot of useful machines, which have made our life easier. For example, cars, buses, microwaves, washing machines, air conditioners and even home robots. Most of these inventions work from electricity, which is also a scientific invention. There are hundreds of examples of the benefits of science, so let's talk about the downsides.

The Development of science has led to the emergence of atomic and nuclear weapons. Technological progress is also to blame for the negative effects of global warming and climate change.

In conclusion I'd like to say that nowadays people have everything they need for everyday life, but science never stops developing.

**6. Information technology industry in Belarus**

In sovereign Belarus, the IT industry is the most dynamically developing industry, and every year it turns into an increasingly powerful driver of the country's economy, a sphere of strategic importance. The High-Tech Park, created in 2005, has become the Belarusian "Silicon Valley". However, one of its main features is the principle of extraterritoriality, which allows residents to place an office in any locality of the country.

In the ranking of the International Telecommunication Union Measuring Information Society Report, which assesses the development of ICT, Belarus ranks 32nd (2017).

Belarus is one of the world leaders in the export of IT services per capita. From 2005 to 2016, the export of IT services and products increased 30 times, the share of IT exports in the total volume of exports of goods and services also increased significantly. In 2019, HTP exports amounted to a record $ 2 billion 195 million with a growth rate of 155%.

The main sales of Belarusian IT-companies are carried out in foreign markets. More than 90% of software produced by HTP is exported: 49.1% - to European countries, 44% - to the USA and Canada, 4.1% - to Russia and other CIS countries. Six HTP resident companies were included in the list of the best outsourcing service providers (2017 Global Outsourcing 100 rating): Bell Integrator, Ciklum, EPAM, IBA Group, Intetics and Itransition.

10 companies from the software 500 rating of the world's largest software companies have development offices in Belarus: EPAM (107), Bell Integrator (281), IBA (281), Itransition (368), Coherent Solution (393), SoftClub (409), Artezio ( 416), Intetics (419), Oxagile (456), IHS (482).

Also worth mentioning is the World of Tanks game developed by Wargaming (Belarusian development center - Game Stream JLLC) - one of the five most profitable MMO games in the world with more than 160 million (2020) registered users.

The annual graduation of IT specialists with higher education in Belarus is about 7 thousand. They are trained by 21 universities of the country.

The main suppliers of IT specialists in Belarus: Belarusian State University of Informatics and Radioelectronics, Belarusian State University, Belarusian State, Technological University, Belarusian National Technical University.

In 2018, an information technology company was created in the Armed Forces of Belarus. Its goal is the development of software, special and applied programs in cooperation with units of the Military Academy, other scientific and educational institutions.

In conclusion, I would like to say that in world and regional rankings that assess the achievements of the IT sector, Belarus, HTP and its resident companies are increasingly taking high positions.

**7. Information System and Technologies, types of computers, positive and negative impact of IT.**

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**8. Computer Essentials**

There are a lot of terms used to describe computers, for example: PC, laptop, tablet computer, smartphone, workstation, server, supercomputer and so on, but I want to tell you about the main parts of a computer.

A computer system consists of hardware and software that work together. Let's talk about hardware.

The hardware consists of CPU, memory and peripherals. The Central Processing Unit is also known as the computer processor. The CPU is an electronic circuit that executes computer programs. CPU operation can be divided into four basic steps: fetch, decode, execute, and write back.

A computer motherboard consists of sockets, memory slots, peripheral buses, a chipset, non-volatile memory chips and a clock generator.

A hard disk is stores data and provides computer users with quick access to large amounts of data. A hard disk is a set of disks that record data in concentric circles known as tracks.

Computer Memory retains digital data. It forms the core of a computer and makes up the basic computer model in collaboration with the CPU. There are also Random Access Memory, registers and read-only memory.

If we talk about peripherals, we can name a monitor, mouse and keyboard.

The monitor is a device for the visual reproduction of symbolic and graphic information.

A keyboard is an input device for a computer. The keys or buttons act as electronic switches with characters printed on them, with each keypress corresponding to a written symbol. A keyboard has its own processor and circuitry.

A computer mouse is a pointing device that detects two-dimensional motion. It translates the motion of your hand into signals that a computer can recognize and respond to. There are three basic types of mice: mechanical, opto-mechanical, and optical.

In conclusion, I would like to say that the structure of a computer is interesting and quite complex, and in my opinion, every modern person should know its main parts!

**9. The development of computers(generations). Artificial Intelligence.**

We are witnessing a rapid development of technologies based on artificial intelligence. Chatbots and voice assistants come as no surprise nowadays. And car manufacturers are already testing self-driving cars. Computer programs beat chess grandmasters. I think these achievements are very impressive. But, of course, the use of such technologies also carries certain risks.

Some people are concerned that the implementation of artificial intelligence technologies will cut jobs. I think it might actually happen. However, I consider routine tasks automation a positive trend.

But there is another aspect. Now artificial intelligence is able to carry out only those tasks for which it is programmed. No one knows for sure whether a computer will be able to acquire a human-like consciousness(коншиснес) in the future, and what the consequences will be. Will people be able to keep such machines under control?

If previously this matter was a subject of speculation of science fiction writers, now this is a concern of many people. It is likely that legal restrictions and security standards will be developed for the creation of such systems. But whether such measures will be effective is not yet clear.

In any case, technical progress cannot be stopped. So I guess we should hope for the best and enjoy the advantages AI provides.

**10. Computer networks and network topologies; LAN, WAN, MAN, etc.**

A Computer Network is a system of connected computers, peripherals and communication devices that can exchange data and share resources.

Computer networks provide:  
— fast data exchange;  
— sharing of resources (scanners, modems, printers, etc.);  
— sharing of software and databases;  
— collaboration of users on some task and project;  
— the ability to remotely control computers.

Depending on the functions server computers and client computers are distinguished (дистингвишд):  
1. A server is a computer that provides access to its own resources or manages the distribution of network resources.  
2. Client-a computer that uses server resources.

Networks are divided into local and global networks.  
Local area networks are networks consisting of closely located computers (building network, premises, etc.).  
Global networks are networks covering large territories and including a large number of computers.

By architecture, there are: peer-to-peer networks and networks with a dedicated server.  
Peer—to-peer networks are networks in which everyone can present their resources to other computers on the network and use others.  
Dedicated server networks are networks in which one or more computers are servers and all the others are clients.

Let's look at local networks. In many ways, most of the characteristics of local networks are determined by the configuration or topology of networks. Topology is a network configuration, a way to connect its elements to each other.

The following network topologies are most commonly used:  
1. Bus topology. All computers on the network are connected to the same cable.  
2. Ring topology. Data is transmitted through the ring from one computer to another.  
3. Radial topology. Each computer is connected via a special network adapter with a separate cable to the unifying device.  
4. Tree topology. It is formed by connecting several star-shaped topologies to each other.

The most impressive example of a global network is the INTERNET.

The Internet is a global network in which numerous scientific, corporate, government and other networks, as well as personal computers of individual users are interconnected by data transmission channels.Each computer node on the Internet has a fixed address, called an IP address.

In conclusion, I would like to say that the topic of computer networks is much more complicated, but at this level such an understanding is sufficient (сэффИшент).

**11. Internet, WWW.**

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**12. Software: classes (programming, system, application) and types (freeware, shareware, etc.). Programming Languages.**

Computer software is a general term used to describe a collection of computer programs, procedures and documentation that perform some tasks on a computer system. Software includes websites, programs, video games, etc. that are coded by programming languages like C, C++, etc.

In computers, software is loaded into RAM and executed in the CPU. Once the software is loaded, the computer is able to execute the software.

The term “software” was first used by John. W. Tukey in 1958. A software is a collection of programs that help one to communicate with the hardware of the computer. There are different classes of computer software which are useful for several purposes:  
  
1) System Software coordinates the complete system hardware and provides an environment or platform for all the other types of software to work in  
2) Application Software is software that help the user perform tasks of his/ her choice.  
3) Programming software is used to write, test, debug, and develop other software programs and applications. They are used for creating both the system as well as application software.

There are five additional subcategories of software. These are: Freeware; Shareware; Open Source Software; Closed Source Software; Utility Software.

1) Freeware software is any software that is available to use for free.  
2) Shareware, on the other hand, are software applications that are paid programs, but are made available for free for a limited period of time known as ‘trial period’.  
3) Open Source Software is a type of software that has an open-source code that is available to use for all users. It can be modified and shared with anyone for any purpose.  
4) Closed Source Software. These are the types of software that are non-free for the programmers.  
5)Utility software is considered a subgroup of system software.

**13. Operating Systems (definitions, classifications, types).**

An Operating System (OS) is a powerful program that manages and controls the software and hardware on a computing device. An OS acts an interface between a user and a device. In general sense, an OS is that software which helps a user to run other applications on his computing device.

All the computers and computer-like devices comprise Operating System, including laptop, desktop, or any other smart computing system like a smart phone. Some of the popular OS are Linux, OS X, WINDOWS, VMS, OS/400, AIX, z/OS, etc.

The OS performs multiple functions and management. It manages computer’s hardware resources by performing required services:  
1)Front end management of hardware resources.  
It manages Input and Output devices such as a mouse, keyboard, display monitors, scanners and printers  
2)Back end utilization of software applications for managing hardware resources. It manages the allocation of internal memory between multiple applications.

The functions of an OS include:  
1. Memory Management.  
2. Device Management.  
3. Processor Management.  
4. File Management.  
5. Controls System Performance.  
6. Security.  
7. Error Detection.  
8. Coordination among Software and Users.  
9. Job accounting.

The broad family of operating systems can be categorized in to four types based on their controlling and supporting systems. These types of Operating System are: Real Time Operating System (RTOS); Single User Single Task OS; Single User Multi Tasking OS; Multi User OS.  
1. A Real Time Operating System is a time bound operating system which has fixed time constraints.  
2. As the name indicates, Single User Single Task OS is a system in which only one program is executed at one time.  
3. Single User MultiTasking Operating System will allow a single user to operate several programs at the same time.  
4. Multi User Operating System allows various different users on different desktop or computer to access a single System.

In conclusion, I would like to say that the topic of operating systems is very voluminous and interesting, and every modern person should know the main operating systems and the functions that they perform.

**14. Computer Viruses and Computer Security.**

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