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КАФЕДРА ИНОСТРАННЫХ ЯЗЫКОВ

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ИНОСТРАННЫЙ ЯЗЫК В СФЕРЕ ПРОФЕССИОНАЛЬНЫХ КОММУНИКАЦИЙ

Учебное пособие
35.04.06 АГРОИНЖЕНЕРИЯ
(УРОВЕНЬ МАГИСТРАТУРЫ)

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Учебное пособие предназначено для обучающихся по направлению подготовки 35.04.06 Агроинженерия. Основной целью пособия является овладение студентами магистратуры необходимым и достаточным уровнем коммуникативной компетенции, который позволит пользоваться иностранным языком в различных областях официально-деловой сферы, профессиональной деятельности, в научной и практической работе, в общении, для самообразовательных и других целей.

Рекомендовано к изданию решением методической комиссии инженерно-технологического института Брянского ГАУ, протокол № 11 от «18» июня 2024 года.

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Введение

Учебное пособие Иностранный язык в сфере профессиональных коммуникаций для студентов направления подготовки 35.04.06 Агроинженерия состоит из двух разделов: Раздел 1. Научная сфера деятельности. Академическое письмо. Раздел 2. Профессиональная сфера общения. Первый раздел содержит материал, раскрывающий особенности чтения текстов академической направленности, специфические черты академического чтения и академического письма, академического монологического высказывания и академической презентации. Во втором разделе представлены тексты профессиональной направленности.

Цель каждого раздела - развитие умения чтения и адекватного перевода академических текстов и текстов по направлению подготовки; написания эссе, тезисов, докладов, рефератов и аннотаций, коммуникативных навыков.

Пособие рекомендуется к использованию как для аудиторной, так и для самостоятельной работы студентов-магистрантов всех форм обучения.

Работа с данным пособием способствует формированию у обучающихся следующих компетенций:

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

УК-4.1. Демонстрировать интегративные умения, необходимые для написания, письменного перевода и редактирования различных академических текстов (рефератов, эссе, обзоров, статей и т.д.)

УК-4.2. Представлять результаты академической и профессиональной деятельности на различных научных мероприятиях, включая международные.

УК-4.3. Демонстрировать интегративные умения, необходимые для эффективного участия в академических и профессиональных дискуссиях.

РАЗДЕЛ 1. НАУЧНАЯ СФЕРА ДЕЯТЕЛЬНОСТИ. АКАДЕМИЧЕСКОЕ ПИСЬМО

1. Высшее образование в России и за рубежом

1. Read and discuss the texts

Study in Russia: education in Russia

Higher education in Russia is similar in structure to the central European system, with a few key differences. The system is divided into four main sections – primary, secondary, higher and postgraduate education. 776 higher education institutions across 82 regions in Russia accept international students, and choosing Russia as your study abroad destination will give you a wide variety of choices in finding the right higher education for you!

It takes 11 years to complete a secondary education in Russia before students can enter the higher education system. After successfully finishing their ninth year of schooling, students will receive a certificate of Basic General Education with the option of pursuing two more years of secondary education. After finishing the two additional years, a Certificate of Complete Secondary Education will then be awarded. This certificate serves as proof that the student is eligible to pursue their higher education.

Three kinds of higher education institutions in Russia

1. **Universities** offer a broad range of programs on all levels.

2. **Academies** place a larger emphasis on research and practical skills, normally dedicated to specific subject areas such as art, architecture or science.

3. **Institutes** are independent branches of universities or academies which offer professional educational courses.

The higher education system in Russia is renowned for its achievements and emphasis in the field of science and technology. Many of the courses offered at state-funded institutions are focused around the sciences, but a large variety of humanities and social sciences programs are offered as well! In recent years, private higher education institutions have emerged to complement these traditional Russian institutions, offering programs in other fields such as economics, business and law.

Degree Structures in the Russian Education System

While education in Russia is largely based on the Bologna principles, education in Russia structures degrees slightly differently than other countries in Europe.

- Upon completion of secondary education, students can pursue either a Bachelor's or Specialist's degree, both qualifying students to later pursue a master's degree. Bachelor's degrees are given after four years of full-time study at a university. Specialist degrees are awarded after a minimum of five years of study and are more focused on practical education in a student's chosen field. Both qualifications require students to successfully defend a thesis and pass examinations. This degree is conferred in all fields except medicine, where the first stage of education lasts for six years.
- Master's degrees are awarded after two years of study with one year dedicated to research which includes practice and preparation for a thesis defense.
- Students who possess a master's degree are eligible to pursue their PhD studies. Postgraduate education is divided into two parts in Russia, and two degrees are required to confirm students' status as a scientist. Postgraduate studies can only be pursued at a university or scientific institute. After successful completion of the first part of their postgraduate education, students are awarded a Candidate of Sciences degree.
- The final Doctoral degree is obtained after an additional 2-4 years of study in postgraduate education. This certification then leads to a Doctorate degree. As there is a 10-year gap between both degrees, the final Doctorate qualifications are often awarded to Candidates of Science after they're well into their careers in academia.

Neither Bachelor's or Master's degrees existed in the Soviet system and were introduced to conform the Russian education system with international standards in accordance with the Bologna Process.

In addition, an MBA in Russia is becoming more and more popular among international students, since Russia is considered a financial superpower in the energy and gas sectors.

This change has helped Russian higher education qualifications receive recognition and acceptance abroad, which was a previous problem for international alumni, and explains the rising number of international students choosing Russia as their study abroad destination!

Higher education in the world

2. Answer the questions:

- Are systems of higher education different from country to country?
- What are their special features?

3. Complete the table with specific features of different systems of higher education. Match the specific feature to the country it belongs to.

France	a) This country consisted of strong principalities in the past and even now, the regional universities have autonomy in determining their curriculum under the direction of rectors.
Germany	b) Through colonial influence and through the work of missionaries, this country introduced many aspects of their system in North and West Africa and the Caribbean.
	c) The doctoral degree, or Ph.D., invented in this country, has got popularity all around the world.
	d) Its universities have almost complete autonomy from national or local government in their administration and the determination of their curricula, but the schools receive their funding from the state.
UK	e) In this country there is a national idea that students who have completed secondary school should have at least two years of university education.
	f) For most undergraduates of this country it is possible to complete a degree course in three years rather than the standard four years.
	g) This model of higher education has been copied to varying degrees in Canada, Australia, India, South Africa and New Zealand.
USA	h) The curriculum in this country is uniform and each university has little to distinguish itself.
	i) A marked feature of this education is the de-emphasis on lecture and examination. Students are evaluated according to their performance in individual courses where discussion and written essays are important.

	j) Higher education in this country is free and open to all students who have passed examination.

4. Read and discuss the texts

Systems of higher education in France and Germany

Both France and Germany have systems of higher education that are basically administered by state agencies. Entrance requirements for students are also similar in both countries. In France an examination called the *baccalauréat* is given at the end of secondary education. Higher education in France is free and open to all students who have passed this examination. A passing mark admits students to a preparatory first year at a university, which finishes in another, more strict examination. Success in this examination allows students to attend universities for other three or four years until get the first university degree, called a *licence* in France.

Basic differences, however, distinguish these two countries' systems. French educational districts, called *academies,* are under the direction of a rector, who is appointed by the national government and is in charge of the university. The uniformity in curriculum in the country leaves each university with little to distinguish itself. That is why many students prefer to go to Paris, where there are better accommodations and more entertainment for students. Another difference is the existence in France of higher-educational institutions known as great school, which give advanced professional and technical training. Different great schools give a scrupulous training in all branches of applied science and technology. Their diplomas have higher value than the ordinary *licence*.

In Germany, a country made up of what were once strong principalities, the regional universities have autonomy in determining their curriculum under the direction of rectors. Students in Germany change universities according to their interests and the strengths of each university. In fact, it is a custom for students to attend two, three, or even four different universities in the course of their studies, and the professors at a particular university may teach in four or five others. This mobility means that schemes of study and examination are free and individual, what is not typical for France.

Each of these countries has influenced higher education in other nations. The French, either through colonial influence or through the work of missionaries, introduced many aspects of their system in North and West Africa, the Caribbean, and the Far East. In the 1870s Japan's growing university system was remodeled along French lines. France's *great schools* have been copied as models of technical schools. German influence has come in philosophical concepts regarding the role of universities. The Germans were the first to stress the importance of universities in the sphere of research. The doctoral degree, or Ph.D., invented in Germany, has gained popularity in systems around the world.

The system of higher education in Great Britain

The autonomy of higher-educational institutions is important in Great Britain. Its universities enjoy almost complete autonomy from national or local government in their administration and the determination of their curricula. However, the schools receive nearly all of their funding from the state. Entry requirements for British universities are rather difficult. A student must have a General Certificate of Education (corresponding to the French *baccalauréat*) by taking examinations in different subjects. If they have greater number of "advanced level" passes, in contrast to General Certificate of Secondary Education ("ordinary level") passes, then the student has better chances of entering the university of his choice. This selective admission to universities, and the close supervision of students by a tutorial system, makes it possible for most British students to complete a degree course in three years instead of the standard four years. Great Britain's academic programs are more highly specialized than the same programs in other parts of Europe. Great Britain's model of higher education has been copied to different degrees in Canada, Australia, India, South Africa, New Zealand, and other former British colonial territories in Africa, Southeast Asia, and the Pacific.

The system of higher education in the United States

The system of higher education in the United States differs from European in certain ways. In the United States, there is a national idea that students who have completed secondary school should have at least two years of university education. That is why there is a great number of "junior colleges" and "community colleges". They give two years of undergraduate study. Traditional universities and colleges, where a majority of students complete four years of study for a degree.

Universities that provide four-year study courses can be funded privately or can have state or city foundations that depend heavily on the government for financial support. Private universities and colleges depend on students payments. The state governments fund the nation's highly developed system of universities, which give qualified higher education.

In the American system, the four-year, or "bachelor's" degree is ordinarily given to students after collecting of course "credits," or hours of classroom study. The quality of work done in these courses is assessed by continuous record of marks and grades during a course. The completion of a certain number (and variety) of courses with passing grades leads to the "bachelor's" degree. The first two years of a student's studies are generally taken up with obligatory courses in a broad range of subjects, also some "elective" courses are selected by the student. In the third and fourth years of study, the student specializes in one or perhaps two subject fields. Postgraduate students can continue advanced studies or research in one of the many graduate schools, which are usually specialized institutions. At these schools students work to get a "master's" degree (which involves one to two years of postgraduate study) or a doctoral degree (which involves two to four years of study and other requirements).

A distinctive feature of American education is the de-emphasis on lecture and examination. Students are evaluated by their performance in individual courses where discussion and written essays are important. The American model of higher learning was adopted wholesale by the Philippines and influenced the educational systems of Japan and Taiwan after World War II.

5. Read and discuss the text.

Academic Degrees Abroad

A degree is an academic qualification awarded on completion of a higher education course (a first degree, usually known as Bachelor's degree) or a piece of research (a higher/further degree, doctorate and so on). There exists considerable diversity of degrees in various countries. But in spite of the lack of equivalence of degrees some similarities can be found among certain groups of countries, particularly those of the British Commonwealth, continental Europe, America and the Far East.

One can distinguish the principal types of academic degrees – bachelor, master, and doctor which represent different levels of academic achievements. The naming of degrees eventually became linked with the subject studied, arts is used for the humanities, science – for natural and exact sciences.

The Bachelor's Degree is the oldest and best-known academic degree. Some varieties of bachelor's, or baccalaureate, degrees are Bachelor of Arts (BA) degree and Bachelor of Science (BSc). Abbreviations vary between institutions. Other baccalaureate degrees offered by most universities are Bachelor of Education, Bachelor of Music, Bachelor of Business Administration, Bachelor of Divinity, Bachelor of Home Economics.

The Bachelor's degree can be attained by students who pass their university examinations, or in some cases other examinations of equivalent level.

This normally involves at least three years of full-time study after passing the advanced level certificate of education at the age of about eighteen, so most people who become BA, BSc, etc. do so at the age of at least twenty-one. First degrees in medicine require six years of study, some others four.

It is now quite usual for students in subject such as engineering to spend periods during their degree courses away from their academic studies, in industrial location so that they may get practical experience. A student of a foreign language normally spends a year in a country where that language is spoken.

Bachelors' degrees are usually awarded on the basis of answers to several three-

hour examinations together with practical work or long essays or dissertations written in conjunction with class work. Degrees are classified. About a tenth (or less) of candidates win first-class, honors degrees, three quarters - second-class, and the rest - third class, or pass without fail. A person studying for a degree at a British university is called an ***undergraduate.***

About 33 per cent of students continue to study for ***degrees of Master*** (of Arts, Science, Education, Business Administration, Music, Fine Arts, Philosophy, etc.). About 45 varieties of Master of Arts and 40 varieties of Master of Science degrees are reported. The degree of Master in general requires one or two further years of study, with examination papers and substantial dissertation.

Bachelors' and Masters' degree can be conferred "with honors" in various classes and divisions, or "with distinction". This is indicated by the abbreviation "(Hons") and is often a prerequisite for progression to a higher level of study.

A minority (about 15 per cent) goes on further, preparing theses which must make original contributions to knowledge, for the most advanced degree of **Doctor of Philosophy (Phd) or Doctor of Science (DSc)**. Abbreviations for degrees can place the level either before or after the faculty or discipline depending on the institution. For example, DSc and ScD both stand for the doctorate of science.

Doctor's degrees in many foreign countries are of two distinct types: **professional or practitioner's degrees, and research degrees.**

The former represent advanced training for the practice of various professions, chiefly in medicine and law. The principal ones are Doctor of Sc. Medicine, Doctor of Dental Science of Dental Surgery, Doctor of Veterinary Medicine, Doctor of Pharmacy, and Doctor of Jurisprudence. These degrees carry on implication of advanced research.

Quite different in character are the research doctorates which represent prolonged periods of advanced study, usually at least three years beyond the baccalaureate, accompanied by a dissertation designed to be a substantial contribution to the advancement of knowledge. The most important of these is the Doctor of Philosophy, which represents advanced research in any major field of knowledge.

Second in importance and much more recent as a research degree is the Doctor of Sc. Education (Ed.D.) It was first awarded by Harvard in 1920, but was preceded by the equivalent Doctor of Pedagogy first conferred by New York University in 1891. The only other earned doctorates of the research type currently conferred by 10 or more institutions are the Doctor of the Science of Law and the Doctor of Business

2. Сфера моих научных интересов. Великие учёные

1. ***Read and retell the text.***

Science and technology in agricultural development

Science and technology have played a significant role in agricultural development. Through innovative research, technological advancements, and the application of scientific knowledge, the agricultural sector has witnessed substantial improvements in productivity, efficiency, and sustainability.

These roles include:

1. **Modern farm machinery and automation:** – Modern agricultural equipment such as tractors, harvesters, and planters have become more efficient, precise, and technologically advanced. Automated systems and robotics are also being increasingly used in various farming operations, ranging from planting and harvesting to milking and sorting. These technologies increase productivity, reduce labor requirements, and enhance overall farm management.

2. **Agro-climatology**: – Science has been able to explain the ideal climatic conditions for plants and animals. Farmers are equally helped to understand the weather and climate of their area and are able to determine the type of crops to grow and animals to rear.

3. **Pests and disease control**: – Chemicals inform of pesticides, fungicides, nematicides, fumigants have been developed by science and technology to combat the problems caused by pests and disease.

4. **Crops and animals' improvement**: – Through genetics and breeding, improved crop varieties and animal breeds which possess desirable qualities such as disease resistance, fast growth, early maturity, high yield has been developed.

5. **Soil fertility**: – The development and application of organic manure and inorganic fertilizers by science and technology has been able to solve the problem of soil infertility and also increase crop yield. Farmers can also test the soil; determine the nutrient deficiencies and the type of crop to plant on a farm land.

6. **Animal health management**: – Feeds are formulated to meet the nutritional needs of farm animals, other factors such as ventilation, sanitation, immunization and medication has been put in place by science and technology to ensure good health and productivity of farm animals.

7. **Storage and processing facilities**: – In order to preserve excess farm produce and to avoid wastage, modern storage facilities such as silos, cold rooms and processing facilities such as millers, shellers has been developed by science and technology.

8. **Transportation network**: – Science and technology has been able to develop roads, railways and water ways linking food producing areas to urban centers.

9. **Soil and water conservation**: – Through irrigation, drainage and erosion control, the soil is preserved from losing its fertility and water is made available at optimum level required for plant growth.

10. **Land surveying:** – Surveying equipment is made available by science and technology and with this equipment, the physical feature and size of a farmland can be determined. This help to determine the suitability of a farm location for various uses and input requirement of a given farmland.

11. **Agricultural system**: – Improved farm management system such as crop rotation, mixed farming, rotational grazing has been put in place by science and technology to maintain soil fertility, increase yield and maximize land use.

12. **Agricultural Education and Extension: -** Science and technology support agricultural education programs and extension services, disseminating knowledge,

best practices, and innovative techniques to farmers, empowering them with up-to-date information.

13. **Genetic Engineering and Biotechnology:** - Genetic engineering techniques and biotechnology have revolutionized agriculture. Genetically modified organisms (GMOs) have been developed to enhance crop yields, improve resistance to pests and diseases, and increase tolerance to adverse environmental conditions.

14. **Food Security:** - Science and technology contribute to increased agricultural productivity, improving the availability and access to food, thus enhancing food security at local, national, and global levels.

15. **Economic Growth:** - Technological advancements in agriculture drive economic growth by improving farm incomes, creating employment opportunities, and fostering the development of agribusiness and related industries.

16. **Rural Development:** The application of science and technology in agriculture helps in the development of rural areas by providing better infrastructure, access to markets, and improving living standards for farming communities.

17. **Agro-Industry Innovation:** - Science and technology support the development of value-added products, processing techniques, and post-harvest management practices, promoting innovation and diversification in the agricultural sector.

18. **Sustainable Energy Solutions:** - Technology enables the adoption of renewable energy sources, such as solar-powered irrigation systems and biomass energy, reducing dependence on fossil fuels and mitigating greenhouse gas emissions.

19. **Global Food Trade: -** Science and technology play a vital role in meeting the demands of an interconnected global food market, ensuring quality, safety, and compliance with international standards, facilitating agricultural exports and imports.

2. Read and translate the text

The early days of the Automobile

1. One of the earliest attempts to propel a vehicle by mechanical power was suggested by Isaac Newton. But the first self-propelled vehicle was constructed by

the French military engineer Cugnot in 1763. He built a steam-driven engine which had three wheels, carried two passengers and run at maximum speed of four miles. The supply of steam lasted only 15 minutes and the carriage had to stop every 100 yards to make more steam.

2. In 1825 a steam engine was built in Great Britain. The vehicle carried 18 passengers and covered 8 miles in 45 minutes. However, the progress of motor cars met with great opposition in Great Britain.

3. In Russia there were cities where motor cars were outlawed altogether. When the editor of the local newspaper in the city of Uralsk bought a car, the governor issued these instructions to the police: «When the vehicle appears in the streets, it is to be stopped and escorted to the police station, where its driver is to be prosecuted».

4. From 1860 to 1900 was a period of the application of gasoline engines to motor cars in many countries. The first to perfect gasoline engine was N. Otto who introduced the four-stroke cycle of operation. By the time motor cars got a standard shape and appearance. In 1896 a procession of motor cars took place from London to Brighton to show how reliable the new vehicles were. The cars of that time were very small, two-seated cars with no roof, driven by an engine placed under the seat. Motorist had to carry large cans of fuel and separate spare tyros, for there were no repair or filling stations to serve them. After World War 1 it became possible to achieve greater reliability of motor cars, brakes became more efficient. Multi-cylinder engines came into use; most commonly used are four-cylinder engines.

5. Gradually the development of vehicles driven by international combustion engine – cars, as they had come to be known, led to the abolition of earlier restrictions. Huge capital began to flow into the automobile industry. From 1908 to 1924 the number of cars in the world rose from 200 thousand to 20 million; by 1960 it had reached 60 million!

3. There are about 3,000 Americans who like to collect antique cars. They have several clubs such as Antique Automobile Club. Collectors can also advertise in the magazine published by their clubs. The best collection-100 old cars of great rarity – is

in possession of William Harrah. He is very influential in his field. The value of his collection is not only historical but also practical: photographs of his cars are used for films and advertisements.

3. Translate the following words and phrases into Russian:

Vehicle, mechanical power, self-propelled, was constructed, a steam-driven engine, wheels, passengers, motor cars, issued, prosecuted, of gasoline engines, introduced the four-stroke cycle of operation, two-seated cars, efficient, international combustion engine, abolition, automobile industry, collect antique cars, advertisements.

4. Finish the sentences by selecting them from the text

1) In … a steam engine was built in Great Britain.

2) From 1860 to 1900 was a period of the application…

3) The cars of that time were very small…

4) Multi-cylinder engines came into use, most commonly used are…

5) The best collection-100 old cars of great rarity –…

5. Choose the correct answer to the statements

1. To make more steam the engine of engineer Cugnot

a) had to stop very often;

b) had to use more gasoline;

c) had to run at maximum speed.

2. The progress of motor cars in Great Britain

a) developed the car industry;

b) met with opposition;

c) lasted about 15 years.

3. In some cities of Russia the motor cars

a) were quickly developed;

b) were restricted;

c) were outlawed altogether.

4. By the time, when the four-cycle of operation was introduced

a) the car got a standard shape and appearance;

b) the car had a high speed;

c) the car used petrol as a fuel.

5. A procession of motor cars in 1896

a) showed new models of the automobiles;

b) tested new fuel;

c) showed the reliability of the car.

6. The motor car is the product of

a) a single laboratory;

b) a single inventor;

c) many inventors and engineers.

6. Match the English combinations with the corresponding Russian ones:

1. mechanical engineer	a. долгий срок службы
2. deal (with)	b. запустить в массовое производство
3. designing cars	c. подвергать испытаниям
4. put into mass production	d. плавное сцепление
5. long service life	e. отвечать современным требованиям
6. driving safety	f. иметь дело (с кем-л., чем-л.)
7. meet up-to-date demands	g. надежные тормоза и рулевое управление
8. smooth-acting clutch	h. безопасность езды (вождения)
9. silent gearbox	i. бесшумная коробка передач
10. dependable brakes and steering system	j. инженер-механик
	k. конструирование
11. subject to tests	

7. Read the text.

Automobile production

Specialists in automobile industry deal with designing and manufacturing cars,

so they should know that the production of the automobile comprises the following phases:

1) Designing,

2) Working out the technology of manufacturing processes,

3) Laboratory tests,

4) Road tests,

5) Mass production (manufacturing).

Why is it necessary to know all these facts?

It is important to know them as before the automobile (car or truck) is put into mass production, it should be properly designed and the automobile must meet up-to-date requirements.

What are these requirements?

The automobile must have high efficiency, long service life, driving safety, ease of maintenance and pleasant appearance.

In order to obtain all these qualities engineers should develop up-to-date methods of designing cars, using new types of resistant to corrosion light materials. Also it is important to know computer science because it is intended to shorten the time between designing and manufacturing. Computers offer quick and optimal solutions of problems.

But before the car is put into mass production all its units and mechanisms are tested, first in the plant's laboratory, then the car undergoes a rigid quality control in road tests. Only then the car is put into mass production. Why are these tests required? What qualities are required of the automobile? The modern automobile must be rapid in acceleration, must have smooth acting clutch, silent gearbox, dependable brakes and steering system, as well as pleasant appearance. Also, it must be comfortable and have all conveniences.

8. Find the answers to the following questions. Write down the questions in the order they are asked.

1. Why is it important for the specialists in automobile industry to know computing methods?	a. It must have high efficiency, long service life, driving safety, ease of maintenance and pleasant appearance.
2. What qualities are required of the automobile?	b. They should be able to develop up-to-date methods of designing cars and shorten the time between designing and manufacturing.
3. Why are cars subjected to road tests?	c. Because they must meet up-to-date requirements.
4. What requirements must the automobile meet?	d. Designing, working out technological processes, laboratory and road tests, mass production.
5. What phases does the production of the automobile comprise?	e. It must be rapid in acceleration, must have smooth acting clutch, silent gearbox, dependable brakes and steering system.

9. Complete the sentences using the information from the text:

1. The cars are subjected to road tests in order…
2. The car must have the following units...
3. The car must have the following qualities...
4. The production of the automobile comprises the following phases…
5. Engineers should develop up-to-date methods of…

10. Read the text

11. Find out the approximate meanings of the following English words by comparing them to the corresponding Russian ones.

Specialist, automobile, industry, production, phase, technology, process, test, mass, fact, service, comfortable, ecological, method, type, corrosion, material, optimal, problem, mechanism, control, system

12. Give derivatives.

To construct, to produce, to design, to develop, to manufacture, to require, to maintain, to consume

13. Give synonyms.

A great deal, to promote, to replace, earth, to suppose, boat, to solve, to design, to supply, invention

14. Give antonyms.

Complicated, to remain, to destroy, huge, shallow, gradually, repair, the same, wide, strength

15. Suggest the Russian equivalents.

Low fuel consumption, to deal with designing cars, mass production, long service life, driving safety, to work out, ease of maintenance, the technology of manufacturing processes, to put into mass production, to subject to tests, a rigid quality control, to meet up to-date demands, rapid acceleration, smooth-acting clutch, silent gearbox, dependable brakes, steering system, ignition system.

16. Translate into Russian. 1. After graduating from the university I will become an engineer. 2. I shall deal with repairing cars but I must know how cars are produced. 3. The production of the automobile comprises five phases, such as: designing, working out the technology of manufacturing processes, laboratory tests, road tests, mass production. 4. The automobile of today must have high efficiency, long service life, driving safety, ease of maintenance and be stable on the road. 5. The automobile must meet up-to-date demands, that is, it must have rapid acceleration, smooth-acting clutch, silent gearbox, dependable braking and steering systems, dependable ignition system. 6. Before the car is put into mass-production it must be subjected to laboratory and road tests. 7. Technicians should know the technology of manufacturing processes.

17. Complete the sentences using the words and expressions from the text.

1. An automobile specialist deals with .... 2. The production of the automobile comprises .... 3. The cars are subjected to tests in order .... 4. The qualities required of

the automobile are .... 5. The car must have the following units: 6. It is necessary to know these facts because the automobile of today must meet.....

18. Translate into English.

1. Я учусь в инженерно-технологическом институте БГАУ. 2. После окончания университета я стану инженером. 3. По моему мнению, каждый специалист должен знать, что автомобиль должен пройти стендовые и дорожные испытания. 4. Эти испытания необходимы, чтобы автомобиль отвечал современным требованиям. 5. Современный автомобиль должен обладать следующими качествами: быть приёмистым, иметь плавное сцепление, бесшумную коробку передач, надежные тормозную и рулевую системы, быть легким в управлении. 6. Двигатель автомобиля также должен иметь небольшой расход топлива и быть экологически чистым.

19. Are these statements true or false?

1. I study at the university, at the Engineering Institute. 2. The engineering institute trains specialists for the agriculture. 3. The production of the automobile comprises three phases. 4. The automobile must have rapid acceleration. 5. Technicians shouldn’t know the technology of manufacturing processes. 6. The car undergoes a rigid quality control only in laboratory tests. 7. To meet up-to-date demands a car must have high efficiency, long service life, driving safety, ease of maintenance and so on.

20. Read and translate the text

Different kind of land transport

What was the reaction of the people after the invention of the steam engine?

In Washington the story is told of the Patent Office who in the early thirties of the last century suggested that the Office be closed because «everything that could possibly be invented had been invented». People experienced a similar feeling after the invention of the steam engine.

But there was a great need for a more efficient engine than the steam engine, for one without a huge boiler, an engine that could quickly be started and stopped. This problem was solved by the invention of the international combustion engine.

Who introduced the first cheap motor car?

The first practical internal combustion engine was introduced in the form of a gas engine by the German engineer N. Otto in 1876.

Since then, motor transport began to spread in Europe very rapidly. But the person who was the first to make it really popular was Henry Ford, an American manufacturer who introduced the first cheap motor car, the famous Ford Model «T».

When did diesel-engine Lorries become general?

The rapid development of the internal combustion engine led to its use in the farm tractors, thereby creating a revolution in agriculture. The use of motor vehicles for carrying heavy loads developed more slowly until the 1930s when diesel-engined Lorries became general.

The motor cycle steadily increased in popularity as engines and tyres became more reliable and roads improved. Motor cycles were found well suited for competition races and sporting events and were also recognized as the cheapest form of fast transport.

When were the trams introduced first?

Buses were started in Paris in 1820. In 1828 they were introduced in London by George Shillibeer, a coach builder who used the French name Omnibus which was obtained from the Latin word meaning «for all». His omnibuses were driven by three horses and had seats for 22 passengers. Then in the 20th century reliable petrol engines became available, and by 1912 the new motor buses were fast replacing horse-driven buses.

Trams were introduced in the middle of the 19th century. The idea was that, as the rails were smoother than the roads, less effort was needed to pull a tram than a bus. The first trams were horse-drawn but the later trams were almost all driven by electricity. The electric motor driving the tram was usually with electric current from overhead wires. Such wires are also used by trolleybuses, which run on rubber tyros and do not need rails.

Another form of transport used in London, Paris, Berlin, Moscow, St. Petersburg, and some other crowded cities is the underground railway. London's first underground railway of the «tube» type was opened in 1863, the Moscow underground in 1935.

What do the longest oil pipe-lines connect?

The pipe-lines, which were in use by the ancient Romans for carrying water supplies to their houses, are now mainly used to transport petroleum. The first pipe-line of this kind was laid in Pennsylvania, the United States, in 1865.

Some of the longest oil pipe-lines connect oil-fields in Iraq and near the Persian Gulf with ports on the Mediterranean coast. A famous Pipe-line Under the Ocean was laid across the English Channel in 1944.

What are the cableways used for?

A form of transport which is quite common in some mountainous parts of the world, especially in Switzerland, is the aerial cableway. Cableways are used at nearly all winter sport centers to pull or carry skiers to the top of the slopes. Cableways are used by many Alpine villages which lie high up the mountain-sides for bringing up their supplies from the valley below.

21. Distribute words correctly, in accordance with the development of transport

Omnibus, cableway, steam engines, pipe-lines, motor cars, diesel engines

22. Finish sentences by selecting them from the text

1. People experienced a similar feeling after the….
2. The first practical internal combustion engine was introduced in the form of a gas engine by…
3. The use of motor vehicles for carrying heavy loads developed more slowly until…
4. The first trams were horse-drawn but the later trams were…
5. The first pipe-line of this kind was laid…

6. A form of transport which is quite common in some mountainous parts of the world, especially in Switzerland, is…

23. Read and retell the texts about great scientists

Henry Ford

Henry Ford was an American industrialist and entrepreneur who is best known for his contributions to the development of the automobile industry. Born in 1863, Ford was the founder of the Ford Motor Company and is credited with revolutionizing the way cars were manufactured and sold. Ford is known for his development of the assembly line, which allowed them to start mass production of automobiles at a lower cost. This innovation made it possible for more people to afford cars, and it helped to increase the growth of the automobile industry in the 20th century. In addition to his work in the automobile industry, Ford was also a philanthropist and a social reformer. He was a strong believer in the value of education and supported numerous charitable causes throughout his life. Ford died in 1947 at the age of 84.

Karl Benz

In 1885, a German mechanical engineer named Karl Benz designed and built the world's first practical automobile powered by an internal-combustion engine. A year later, Benz received the first patent (DRP No. 37435) for a gas-fueled car on January 29, 1886. It was a three-wheeler called the Motorwagen or Benz Patent Motorcar.

Benz built his first four-wheeled car in 1891. He started Benz & Company and by 1900 became the world's largest manufacturer of automobiles. He also became the first legally licensed driver in the world, when the Grand Duke of Baden granted him the distinction. What's especially remarkable was that he was able to achieve these milestones despite coming from a relatively modest background.

Benz began his work on a two-stroke engine in hopes of establishing a new source of income. He had to invent many parts of the system as he went along, including the throttle, ignition, spark plugs, carburetor, clutch, radiator, and gear shift. He received his first patent in 1879.

In 1883, he founded Benz & Company to produce industrial engines in

Mannheim, Germany. He then began designing a motor carriage with a four-stroke engine based on Nicolaus Otto's patent. Benz designed his engine and the body for the three-wheel vehicle with electric ignition, differential gears, and water-cooling.

In 1885, the car was first driven in Mannheim. It achieved the speed of eight miles per hour during a test drive. After receiving a patent for his gas-fueled automobile (DRP 37435), he began selling his automobile to the public in July of 1886. Parisian bicycle-maker Emile Roger added them to his line of vehicles and sold them as the first commercially-available automobile.

Rudolf Diesel

Rudolf Diesel designed many heat engines, including a solar-powered air engine. In 1892 he applied for a patent and received a development patent for his diesel engine. In 1893 he published a paper describing an engine with combustion within a cylinder, the internal combustion engine. In Augsburg, Germany, on August 10, 1893, Rudolf Diesel's prime model, a single 10-foot iron cylinder with a flywheel at its base, ran on its own power for the first time. He received a patent there for the engine that same year and a patent for an improvement. Diesel spent two more years making improvements and in 1896 demonstrated another model with the theoretical efficiency of 75 percent, in contrast to the 10 percent efficiency of the steam engine or other early internal combustion engines. Work continued on developing a production model. In 1898 Rudolf Diesel was granted U.S. patent #608,845 for an internal combustion engine.

Thomas Savery

In 1698, Thomas Savery patented a machine that could effectively draw water from flooded coal mines using steam pressure. Fourteen years later, Thomas Newcomen designed and installed the first practical and successful steam engine. In 1775, James Watt developed a reliable engine that was a refinement of Newcomen’s work.

At first, steam engines led to the development of locomotives and ship propulsion before being refined for use in cars in the late 1800s. The car engine evolved further when it was replaced by the less-expensive internal combustion engine.

Alfred Horner Munro

The story of the automatic transmission tells of a lost opportunity for Alfred Horner Munro, a Canadian. He originally developed it in 1921, patented his design in 1923 and received UK and U.S. patents in 1924 and 1927, respectively.

Munro's early design used compressed air rather than hydraulic fluid, as used by modern systems. But he was unable to find a commercial application for his invention.

In 1932, Brazilian engineers José Braz Araripe and Fernando Lely Lemos developed a hydraulic fluid version. They sold their design to General Motors in 1940, and driving was changed forever.

3. Жанры и особенности академического письма: эссе, аннотация, реферат, рецензия, академическое резюме. Деловая и научная презентация

1. Read, translate and discuss the text

What is Academic Writing and Why Do We Need It?

The term academic writing refers to the forms of expository and argumentative prose used by university students, faculty, and researchers to convey a body of information about a particular subject. Generally, academic writing is expected to be precise, semi-formal, impersonal, and objective.

The skill of writing is required throughout our life for various purposes. Academic writing is the writing you have to do for your university courses. So, academic writing skill is of utmost importance as it enables the students to communicate their ideas well in an organized and structured manner.

Academic writing is a formal type of writing and it's usage throughout the academic career also makes it easy for the students to cater to professional writing environment after completing their degrees. Academic writing differs in nature than the personal form of writing. Within the realm of personal writing, no rules and defined structure is followed. People use slangs and abbreviations in personal writing.

Also, you are open to point out and refer to your own experiences like in writing a personal diary. On the other hand, academic writing is totally opposite as it follows a strict set of rules and structured practices. You are also not allowed to depict any personal experiences. Use of slangs is strictly forbidden. In academic writing, ideas are presented through taking reference from already published data and reports. The theories presented should be supported through properly citing the author and their published literature. The writer also needs to adhere to the defined rules of grammar, spelling and punctuation.

All academic writings own a particular tone that caters to the style related to a particular discipline. The academic tone wants writers to depict ideas objectively, concisely and in a formal way.

Academic writing does not only aim to be presented to the lecturer. It also aims to inform the target audience or the readers about the topic in a way which has a solid backing and proper argument for enhancing their knowledge. Readers will easily understand writing that involves clarity and avoids ambiguity at all levels. Academic writing skills are important to be learned and developed due to their on-going need in an academic environment. Regardless of your study discipline and the field of subjects, you will get to complete the assignments and the final reports as a course requirement.

These assignments and reports are basically marked upon the understanding of the topic or issue and how the topic is being handled by the students. Following are the main reasons to develop the good writing skills:

- The written assignments can only be best represented to the course instructor/marker through good writing and communication skills.

- Good communication skills are required to persuade the audience about your argument to be an objective one that is based on the ideas gathered from different literature and have solid formation.

- Development of sound writing as well as research skills is the key of attaining the good grades in academic environment.

- At tertiary level education, these skills are must to cope up with the dynamic

environment of university were writing reports and presenting them hold much worth.

Through writing, you have more opportunities to get exposed to the underlying facts and exploring them will enhance your knowledge as well as thinking sphere.

Your instructors may have different names for academic writing assignments (essay, paper, research paper, term paper, argumentative paper/essay, analysis paper/essay, informative essay, position paper), but all of these assignments have the same goal and principles. Academic writing differs from other types of writing such as journalistic or creative writing. In most forms of academic writing a detached and objective approach is required. An academic argument appeals to logic and provides evidence in support of an intellectual position. It is important to present your arguments in logical order and to arrive at conclusions. However, academic writing can take many forms. You may be asked to write an essay, a report, a review or a reflective article. Different styles adhere to each of these types of academic writing, so always check with your lecturer. In academic writing, writers always interact with each others' texts and so there will be frequent references to the ideas, thinking or research of other authors writing in this field. You must give credit to those with whom you are interacting and there are structured guidelines for referencing and citation.

Main features of academic writing:

1. Complexity

Written texts are shorter and have longer, more complex words and phrases. They have more noun-based phrases, more nominalizations, and more lexical variation. Written language is grammatically more complex than spoken language. It has more subordinate clauses, more long sequences of prepositional phrases, more attributive adjectives and more passives than spoken language. There are eight main features of academic writing that are often discussed. Academic writing is to some extent: complex, formal, objective, explicit, hedged, and responsible. It uses language precisely and accurately.

2. Formality

Academic writing is relatively formal. In general, this means that in an essay

you should avoid colloquial words and expressions. Academic writing avoids informal two-word verbs. This is done by replacing them with a more formal equivalent - bring up / raise, set up / establish.

3. Precision

In academic writing, facts and figures are given precisely. In academic writing you need to be precise when you use information, dates or figures. Do not use «a lot of people» when you can say «50 million people».

For example: Chemists had attempted to synthesize quinine for the previous hundred years but all they had achieved was to discover the extreme complexity of the problem.

The volatile oily liquid beta-chloro-beta-ethyl sulphide was first synthesized in 1854, and in 1887 it was reported to produce blisters if it touched the skin. It was called mustard gas and was used at Ypres in 19I7, when it caused many thousands of casualties.

4. Objectivity

This means that the main emphasis should be on the information that you want to give and the arguments you want to make, rather than you. This is related to the basic nature of academic study and academic writing, in particular. Nobody really wants to know what you «think» or «believe». They want to know what you have studied and learned and how this has led you to your various conclusions. The thoughts and beliefs should be based on your lectures, reading, discussion and research and it is important to make this clear.

In general, avoid words like «I», «me», «myself». A reader will normally assume that any idea not referenced is your own. It is therefore unnecessary to make this explicit. Don't write: «In my opinion, this a very interesting study». Write: «This is a very interesting study».

5. Accuracy

Academic writing uses vocabulary accurately. Most subjects have words with narrow specific meanings. Linguistics distinguishes clearly between «phonetics» and «phonemics»; general English does not. Choose the correct word, for example,

«meeting», «assembly», «gathering» or «conference». You also need to be accurate in your use of grammar.

6. Responsibility

In academic writing you must be responsible for, and must be able to provide evidence and justification for, any claims you make. You are also responsible for demonstrating an understanding of any source texts you use. This is done by paraphrasing and summarizing what you read and acknowledging the source of this information or ideas by a system of citation.

2. Familiarize yourself with the information about the essay

ESSAY

General info

What?

- 250 words
- 4-5 paragraphs
- linking devices to connect points
- no contractions
- no informal punctuation
- no informal vocabulary

How?

First paragraph is an introduction to the topic; it should restate the situation in *general* (2-3 sentences).

for ex.: *It is well-known that..., it is a common belief that..., most people suppose that..., etc.*

Second and third paragraphs introduce arguments in order to express your opinion, compa**re** two points of view, or to come to a certain conclusion. Each paragraph should start with a top sentence that states the main idea of it. Other sentences provide supporting details and examples.

for ex.: *in contrast, however, similarly, moreover, on top of that...*

Final paragraph should be a summary or conclusion that outlines your final judgment (1-2 sentences).

for ex.: *in conclusion, to conclude, to sum up, judging by..., it is clearly seen (that)... Using...*

Passive voice

for ex.: *Gunpowder was invented by the Chinese.*

Participles

for ex.: *She was the only person asking questions; The option chosen was the least expensive*

Modals

for ex.: *Governments should have done more to tackle climate change.*

Gerunds & Infinitives

for ex.: *She avoided answering the question; To study abroad seems to be the aim of many* ***young*** *people in Russia.*

Relative clauses

for ex.: *The College, which was founded in 2005, has over a thousand students.*

Conditionals

for ex.: *If you had worked hard, you would have passed the exam last year.*

What is an essay?

An essay is a group of paragraphs written about a single topic and a central main idea. It must have at least three paragraphs, but a five- paragraph essay is a common length for academic writing.

What is a thesis statement?

The thesis statement is the sentence that tells the main idea of the whole essay. It can be compared to a topic sentence, which gives the main idea of a paragraph. It usually comes at or near the end of the introductory paragraph.

Writing a strong thesis statement

- A thesis statement gives the author's opinion or states an important idea about the topic. It should give an idea that can be discussed and explained with supporting ideas:

The qualifications for getting into university in my country are unreasonable.

When studying a foreign language, there are several ways to improve your use of the language.

These are strong thesis statements. They can be discussed or explained.

- A thesis statement should not be a sentence that only gives a fact about the topic:

In the Northern Hemisphere, the summer months are warmer than the winter months.

This is not a strong thesis statement. It cannot be discussed or argued about.

- A thesis statement should not state two sides of an argument equally:

There are advantages and disadvantages to using nuclear power.

This could be a topic sentence, but it is not a thesis statement. It gives two sides of an argument without giving a clear opinion of support or disagreement. It could be revised like this:

Although there are some advantages, using nuclear power has many disadvantages and should not be a part of our country's energy plan.

This is a strong thesis statement. It clearly gives the writer's opinion about nuclear power.

How to connect the thesis statement and the essay.

The paragraphs in the main body of an essay should always explain the thesis statement. In addition, each paragraph in the main body should discuss one part of the thesis. Look at the following thesis statement. The topics to be discussed are underlined:

To create a successful advertisement, it is necessary for advertisers to answer three questions: What are we selling? Whom are we selling it to? And how can we make people want to buy it?

Possible topic sentences for each paragraph in the main body:

- The first step in creating a successful advertisement is to completely understand the product that is being sold and how it can be used.
- A second important part of creating an advertisement is deciding who is expected to buy the product.
- Finally, a way must be found to create an ad that will make people want to buy the product.

How to format an essay

1. Use double spacing (leave a blank line between each line of writing).

2. Leave 2.5 centimeters (1 inch) of space on the sides, and the top and bottom of the page. This space is called the margin.

3. If you type your essay, start the first line of each paragraph with five spaces (one tab). This is called indenting. If you write by hand, indent about 2 centimeters (3 /4 inch). Alternatively, paragraphs can begin at the left-hand margin with no indentation. However, you must then leave one line space between each paragraph.

4. Put the title of your essay at the top of the first page in the center.

Words and word combinations

to begin / start with ... - Для начала

according to... - Согласно...

Some people think... - Некоторые считают, что...

first... firstly... first of all... - Во-первых, ...

Secondly, ... - Во-вторых, ...

Moreover ... - Более того, ...

In addition... - К тому же, ...

In other words... - Другими словами

More importantly... - Еще более важно...

also... - Также

apart from this... - Не смотря на это

as far as I'm concerned ... - Насколько я понимаю...

to my mind ... In my view... - По моему мнению

for example... for instance ... - Например

like ... Such as ... - Такие как, например

on the one hand, ... on the other hand... - С одной стороны..., с другой стороны

Not only ... - Не только...

although... - Хотя

Instead... - Вместо

In contrast to this ... - Напротив

In spite of ... / despite ... - Несмотря на

Nevertheless - Тем не менее

to sum up ... In conclusion... - В заключение

thus... therefore... - Таким образом, ...

finally... - Итак.

Essay organization

Title (hidden question)

1. Introduction

1.1. Background.

1.2. Thesis.

2. Paragraph 1

2.1. Paragraph leader (topic sentence).

2.2. Main body (fact(s) and example(s)).

3. Paragraph 2

3.1. Paragraph leader.

3.2. Main body (facts and examples).

4. Paragraph 3

4.1. Paragraph leader.

4.2. Main body (facts and examples).

5. Conclusion.

5.1. Summary.

5.2. Prediction.

Types of essays

Persuasive / argumentative. Makes a claim or takes a position and backs it up with statistics, expert opinions, and other evidence you may review an opposing review and explain why it is wrong and you are right.

Comparison demonstrates similarities and differences between two topics.

Descriptive explains the what, why, how, when, and where of a topic. for example, a descriptive essay about a tree would explain what it is made of, why it grows, when it grows, and so on.

Evaluation describes a thing or event and explains its importance, value, and / or relevance. Did you like this thing? Why?

Narrative tells a story in a sequence of events. There should be some point, lesson, or idea gleaned from this narrative to make the essay meaningful.

Expository. The purpose of an expository essay is to present, completely and fairly, other people's views or to report about an event or a situation. Expository writing, or exposition, presents a subject in detail, apart from criticism, argument, or development; i.e., the writer elucidates a subject by analyzing it. The writer must present the evaluation of the issue and the conclusion based on the findings. Very close to expository is Research essay.

Strategies for writing an essay (algorithm)

1. Analyze the title.
2. Collect all the ideas you have (brainstorm your ideas).
3. Draw a diagram to show which ideas and evidence to use.
4. Write your plan.
5. Write your first draft.
6. Ask for feedback on your first draft.
7. Write your final draft.

Speech clichés for writing essays

Образцы клишированных аннотаций на английском языке

The article deals with …

As the title implies the article describes ...

The paper is concerned with…

It is known that…

It should be noted about…

The fact that … is stressed.

A mention should be made about …

It is spoken in detail about…

It is reported that …

The text gives valuable information on…

Much attention is given to…

It is shown that…

The following conclusions are drawn…

The paper looks at recent research dealing with…

The main idea of the article is…

It gives a detailed analysis of…

It draws our attention to…

It is stressed that…

The article is of great help to …

The article is of interest to …

3. Familiarize yourself with the information about the abstract

What is an abstract?

An abstract is a self-contained, short, and powerful statement that describes a larger work. Components vary according to discipline. An abstract of a social science or scientific work may contain the scope, purpose, results, and contents of the work. An abstract of a humanities work may contain the thesis, background, and conclusion of the larger work. An abstract is not a review, nor does it evaluate the work being abstracted. While it contains key words found in the larger work, the abstract is an original document rather than an excerpted passage.

Speech clichés for writing abstracts

The plan for rendering the text	Some expressions for rendering the text
I. The title of the article (text)	The title of the article (text) is … The article (text) is headlined (entitled) … The head-line of the article (text) I have read is … The text / article under review ... (gives us a sort of information about...) The article deals with the problem... The subject of the text is...

II. The author of the article, where and when the article was published	The author of the article (text) is … The article (text) is written by … It is (was) published in … It is (was) printed in …
III. The main idea of the article (text)	The main idea of the article (text) is … The article (text) is about …
IV. Contents, some facts, names, figures	The author writes about (touches on the problem, describes, underlines, mentions …) The author describes ... (dwells on ...; explains ...; touches upon ...; analyses ...; comments ... ; characterizes ... ; underlines ... ; reveals ... ; gives account of...) The article begins with the description of..., a review of..., the analysis of... In the first (next, last) part we read about … At the beginning of the text, we read about… The article opens with... The article (text) is devoted to … The article (text) deals with … Great attention is paid to … The article touches upon … There are some interesting details of … Then (after that, further on, next) the author passes on to ..., gives a detailed (thorough) analysis (description), goes on to say that...
V. The conclusion of the author	To finish with, the author describes... At the end of the article the author draws the conclusion that ...; the author sums it all up (by saying ...) In conclusion the author writes… The author comes to the conclusion that …
VI. Your opinion of the article	I found the article interesting (important, dull, of no value, too hard to understand) I consider the text very informative

4. Read and translate the text.

Preparing research presentation

Presenting research results is a vital aspect of postgraduate work. It is an exciting time in a postgraduate student's degree program because it represents the culmination of many hours of hard work. The communication of research findings provides a valuable opportunity to inform others of a current investigation and it can lead to future speaking opportunities at conferences, grants for future research projects, school and business meetings and offer natural connections to new job opportunities.

Presenting academic material requires careful preparation and planning to effectively communicate to your audience. It is important to consider the diversity of expertise within a group of educators. Audiences will usually contain people who are experts in your subject area, others who have a general knowledge of the topic and the remainder who have basically little or no knowledge. How do you plan to effectively reach such a wide range of knowledge levels within one group? A popular communication strategy is to directly address the experts while integrating relevant and interesting illustrations and ideas into the presentation that make the results accessible to entire audience. It is a multidimensional speaking technique that demonstrates respect for those who attend your presentation. Some essential elements for research presentations are as follows.

Problem description and documentation. The problem statements should be presented in descriptive language that the audience can easily understand. The presentation should include several key studies from the literature review to provide solid support for the rationale for pursuing your research problem. There is a real temptation to share a host of studies but it tends to distract people who generally are more interested in understanding why an individual has undertaken a particular study.

Solution strategy. Presenting possible solutions to the problems under study is a vital part of the research process. It is important to present information in a concise manner. Therefore, stress three or four aspects that will help you keep your presentation focused and reduce potential resistance to your ideas.

Analysis of results (anticipated and otherwise). Interpretation of qualitative and quantitative data is always a very challenging task. Reviewing your results in light of the concepts of significance, generalizability, reliability and validity is recommended. The generalizability of a research project requires you to ask specific questions which examine the degree of broader applicability of your particular study.

Recommendations for change. As you prepare your presentation, take the time to consider the questions for those who might be skeptical of your findings, and share recommendations for changes. A research project may:

- address gaps in knowledge by investigating an area of research that fills a void in existing information;

- expand knowledge by extending research to new ideas and practices;

- replicate knowledge by testing old results with new participants or new research sites;

- add voices of individuals to knowledge, individuals whose perspectives have not been heard or whose views have been minimized in our society.

Solicitation of audience feedback. The audience can be a good resource for advice and feedback on your presentation and a forum to enhance professional knowledge and practices. Naturally, researchers are somewhat anxious about the personal risks involved having their project being scrutinized by others. Audience feedback can help individuals identify shortcomings or flaws in their research project which can be addressed in a future journal article or in future investigations. Dialogue over research results can provide the basis for a deeper understanding about current interpretations of educational practices and theories. Postgraduate students should be encouraged by the fact that their presentations will give others the opportunity to publicly affirm the positive elements and educational contributions of your work. The research project can be a good resource for sharing valuable knowledge with the academic community. It is wise to investigate potential speaking opportunities at your school, national and international conferences. Today's technology and educational conferences often provide websites with specific details about their expectations for papers. As you explore various speaking opportunities, it is a good

time to examine publication of your research results in journals, magazines and newsletters (print and online).

Research presentations are excellent opportunities to demonstrate originality and inform others of valuable investigation findings. Contemporary educators appreciate quality work because it encourages improvement in educational practices and refinement of research skills [Muirhead, 2004].

5. Complete the following sentences with details from the Text.

1. Presenting research results provides valuable information for others, some speaking skills at conferences, and_____.

2. Audiences usually contain people who have a general knowledge of your subject area,_____, and those who have little or no knowledge of the same.

3. It is recommended that you should review your research findings in terms of reliability, validity, and _____.

4. Audience feedback can help researchers identify _____shortcomings, and some risks to be involved.

5. It is important to study potential speaking opportunities at international and national conferences, and _____.

6. Underline the detail that is NOT mentioned in the Text in each of the sentences below.

1. The audience can be a good forum to enhance professional knowledge, practices, and experience.

2. Postgraduate students' presentations give others the opportunity to affirm the educational contributions, developments and positive elements of your research.

3. Research presentations are good opportunities to inform others of valuable investigation findings and demonstrate originality and novelty of your study.

7. Answer the following detail questions.

1. According to the Text, the presentation should include the literary review

a. to do your research.

b. to provide support for the audience.

c. to support your research problem.

2. According to the Text, the information should be presented

a. in full.

b. to the point.

c. in a wordy manner.

15. According to the Text, the generalizability of a research project requires you to ask specific questions which examine

a. the use of research results.

b. the significance of your research.

c. the qualitative and quantitative data of your research.

16. According to the Text, the research project can be a good resource for sharing valuable knowledge with

a. your school.

b. international conferences.

c. academy

17. According to the Text, contemporary educators appreciate quality work because it improves

a. research skills

b. practices in education

c. investigation findings.

Phrases for presentation

1. Greeting:

1. Good morning/ afternoon ladies and gentlemen - Доброе утро/добрый день, дамы и господа.

2. It’s my pleasure to welcome you here today - Я очень рад приветствовать всех вас сегодня здесь.

3. It’s good to see you all here - Я очень рад видеть вас всех сегодня.
4. Introducing yourself - Немного о себе
5. Let me introduce myself. I’m… - Я хотел бы представиться. Я…
6. Let me start by introducing myself. My name is… - Позвольте представиться. Меня зовут…
7. I’m the… in charge of… — Я являюсь… и отвечают за…

2. Introduction:

1. What i’d like yo present to you today is… - Сегодня я хотел бы представить вашему вниманию следующее…
2. Today’s topic is… - Тема сегодняшнего выступления…
3. The subject/ topic of my presentation/ talk is… - Тема/предмет сегодняшнего моего выступления / презентации
4. In my presentation i would like to report on… - В моей презентации я хотел бы рассказать о…
5. Today I’m going to talk about… - Сегодня я хотел бы поговорить о следующем…
6. I plan to say a few words about…- Я планирую сказать несколько слов о…
7. The theme of my presentation is… - Тема моей презентации
8. Today’s topic is of a particular interest to those of you who… - Тема моего выступления сегодня будет особенна интересна для…
9. My talk will be in… parts - Мое выступление будет состоять из… частей.
10. In my presentation I’ll focus on three major issues…- В моей презентации я буду рассматривать три основных вопроса…

3. Final part

1. I’m now approaching/ nearing the end of my presentation - А сейчас я приближаюсь к концу моей презентации.
2. That covers just about everything I wanted to say about…- Я рассказал вам практически обо всем…

3. As a final point, I'd like to…- И наконец, я хотел бы…

4. Finally, I'd like to highlight the key issue - И в конце я хотел бы указать на основной момент.

5. Just to summarise the main point of my talk…— И если подытожить, основная тема моей презентации…

6. I'd like to run through the main points of my talk again…- А сейчас я хочу еще раз вернуться к основным моментам моей презентации…

7. To conclude/ In conclusion/ To sum up, I'd like to… - И в заключении / хочу подытожить / и наконец, я хотел бы…

4. Answers to questions

1. Right. Now, any questions or comments? - Хорошо. А теперь, если ли у вас какие-либо вопросы или комментарии?

2. So, now I'd be very interested to hear your comments - А теперь мне очень интересно услышать ваши комментарии.

3. And now I'll be happy to answer any questions you may have -А теперь я счастлив ответить на любые вопросы, которые у вас возникли.

4. I'm sorry, could you repeat your question, please? - Вы не могли бы повторить ваш вопрос, пожалуйста.

5. Does that answer your question? - Я ответил на ваш вопрос?

4. Моя магистерская диссертация и научные статьи

1. Read and translate

Thesis

Your dissertation should state the objectives of your investigation, describe your research methods, and present and discuss your results.

(Generally, this is achieved using the *structure* below:

1. Title

You should state:

- the title of the dissertation: *Potassium uptake in potatoes*
- your full name and any academic qualifications you may have: *Hamah Turner B.Sc. (Hons)*
- *a statement in this format:* A dissertation submitted in partial fulfilment of the requirements for *fie* degree of Master of Science in Environmental Geotechnology
- *institution:* The University of Bolton Place: Bolton
- date submitted: *May, 2005*
- name of supervisor (if required): *Supervisor: Joe Bloggs*

2. Abstract

I his is a summary of your thesis condensed into a short paragraph. You should include a brief outline of the following:

- the issues that you have researched and why
- research methods chosen and why
- your results
- your conclusions

3. Introduction

- Introduce the subject of your dissertation and describe your aims and objectives. You should explain the significance and relevance of what you are trying to prove, how you are going to prove it and what methods you will use in the process.
- You should outline the content of each section:
- Chapter 1 will examine the development of Robert Frost s poetry and the factors that influenced it...
- Chapter 2 will analyse the poems that concentrate on Nature being unfriendly and expand upon the theme of darkness....
- Chapter 3 is concerned with the darker side of Frost himself.
- The Conclusion will show that Frost and his poems are one.

4. Literature review

You must critically review relevant past research. Listing summaries of articles in chronological order is not appropriate. You must identify research themes in the

literature or analyze papers according to alternative methodologies for comparison. A good literature review is comprehensive, critical, and informative. You should conclude it by identifying your intended contribution to the current literature.

5. Methodology

Development and description of your research framework. This is where you describe the research methods, date collection and date analysis methods that you have chosen and explain why these methods are appropriate for your research. Its content will differ depending on the particular research undertaken.

6. Results and Discussion

You must describe, display, interpret and evaluate your results. You must also identify and limitations and discuss the strengths and weaknesses of your reported research.

7. Conclusion

This is where you combine all the strands of your argument to give a convincing answer to the question you originally posed. You should be able to justify your conclusion and show how the stages in your reasoning are connected. You should identify any potential future developments for your research topic and if there are any practical implications for management or government policy.

8. Bibliography and references

Your thesis must contain either a bibliography or a bibliography and a reference list according to the expectations of your supervisor. Failing to cite your sources correctly could result in accusations plagiarism and the failure of your dissertation.

9. Appendices

This section should include examples of items you have used to gather evidence for your research as questionnaires, surveys, letters, illustrative material, statistical tables etc.

Similar materials should be included in the same appendix and should be numbered accordingly *e.g.* two different questionnaires should be in the same appendix numbered *Ia* and *Ib.*

2. Before you read Text "Thesis", discuss these questions with your group mates or teacher.

1. What is a thesis?
2. What is the most important part of a thesis?
3. Does a thesis require approval?
4. What is the purpose of the review chapter?

3. Read and translate the Text.

Thesis

Thesis (dissertation) is a monograph, i.e. a self- contained piece of work written solely by the Master's degree student and no-one else. It sets out a certain problem that the candidate has worked on, possibly within a larger team, under guidance of one or more academic advisors. It motivates and defines the problem, reviews existing approaches to the problem, identifies through critical analysis a clear gap for a possible novel academic contribution, and spells out a so-called hypothesis, which is a proposed explanation for the problem or a proposed solution to the problem. The thesis also explains in sufficient detail, and justifies the work undertaken to decide on the hypothesis (or hypotheses as the case may be). This work typically involves a combination of further literature studies, theoretical analysis, experimental design, data collection, carrying out the experiments, data analysis, and drawing conclusions. A good thesis also delineates the limitation of the work done or the conclusions drawn and outlines possible future research directions.

The format of a thesis is not very different from any other formal research dissertation or study paper. However, a thesis requires much more research and evaluation on the topic.

To start a thesis, you will need to submit a written proposal in to your advisor. The length of this proposal will vary, and is dependent upon your advisor's specifications and the topic that the paper is written on. The body of the proposal contains certain elements that must be included.

The most important part of your thesis proposal is coming up with a hypothesis

for your research questions. This is where your successful for your research study will begin. In most cases this requires the researcher to do background work ahead of time in order to choose a direction for which his or her thesis should go, as well as the research will need to be done to prove his or her point.

The second stage of the process is actually beginning your thesis. This requires approval of your proposal first. The first chapter will be the basic introduction to your subject, including the reasons why you decided on this topic for your research. The introduce on also takes a look at other work that a researcher has done that is pertinent to the thesis, and what new achievements he or she is trying to do through the study.

The second chapter looks at the literature that deals with the same subject matter. Keep in mind that the literature should only be high quality, and include items such as journals and books. While the review chapter does not directly relate to the thesis work-itself shows the reader what the researcher was thinking when he or she began working on the research topic.

The third chapter looks at the research question with a detailed discussion of the thesis statement. It will also include the information like the statement of the problem, and the hypothesis and predictions. It summarizes what the researcher is trying to accomplish through the course of the study.

The fourth chapter of your thesis takes a look at your research and the method that you used when coming up with the data. This chapter can be very different from one thesis to another, as it will depend on what method the research used, including comparative analysis, scientific technique, regression analysis and more. This chapter also includes information such as the variables that used, as well as why you used them and the theories you had behind choosing them.

The fifth chapter looks at the study that has been done so far and what results were obtained during this study. It also looks at what methodology was applied during the study.

The sixth chapter looks at the results in greater detail. It will also evaluate the results against the previous information already known or what the researcher has discovered. The limitations of the study are also discussed in this chapter, which

includes the factors that the study did not look at or incorporate. It can also include the information about the research that the author discovered that was not related to the original thesis and hypothesis because it was not addressed with the original specifications of the variables.

The seventh chapter is the critical analysis. This includes the information that was discovered during the research, as well as the areas of the study that may be open to further research in the future.

The final chapter sums up the results of the research and allows the author to give his or her interpretations and thoughts on the study itself.

Writing your thesis is not the end of the study. You will also be required to put together a defense of your research, which entails being able to verify all of the information that is included in your thesis. To do this, you will be put in front of a panel of experts who will question your research. Therefore, you need to make sure that your evidence is accurate, proves what it needs to, is relevant to the issue, can be easily understood, and that it is convincing enough that the readers will believe what you have to say.

4. Complete the following sentences with details from the text.

1. The thesis sets out _____.
2. You will need _____ to begin a thesis.
3. The introduction chapter studies _____.
4. The methodology you applied is discussed in _____.
5. The critical analysis chapter includes the information _____.

5. Locate the following details in the Text. Give the line numbers.

1. In which lines does the author explain what dissertation writing involves?
2. Where in the Text does the author mention the statement of the problem in the dissertation?
3. At what point in the Text does the author discuss the research methods to be used in a dissertation?
4. Where in the Text does the author explain what scientific evidence is characteristic of?

6. Underline the detail that is NOT mentioned in the Text in each of the sentences below.

1. A dissertation motivates and defines the problem that the candidate has worked on independently, defines the hypothesis, and outlines future research directions.
2. The chapter studying the thesis statement includes the hypothesis, predictions, and literature review.
3. The factors that the study did not incorporate and the results obtained are discussed in the sixth chapter.

7. Answer the following detail questions.

1. According to the Text, a hypothesis is

a) a possible academic contribution.

b) a proposed solution to the problem.

c) a theoretical analysis.

2. According to the Text, the length of a written proposal depends on

a) the number of certain elements to be included.

b) the topic specifications.

c) your advisor's recommendations.

3. According to the Text, what does the first chapter look at?

a) the reasons for choosing a particular topic for the research

b) the achievements the candidate has done

c) the details of the research

4. According to the Text, the second chapter relates to

a) the thesis work itself.

b) the information discovered during the research.

c) the researcher's ideas at the initial stage of the research.

5. According to the Text, what does the eighth chapter include?

a) the research methods applied

b) the research summary

c) the critical analysis

8. Useful tips

Plan your topic as follows:

First, let me introduce myself.

My name is…

I am a master degree student at the department of …

My scientific advisor is Prof….

I work under the guidance of professor...

My tutor is ....

The **field** which you major in and the title of your future thesis

I work in the field of ....

My major interest is in the field of....

I am currently doing my masters degree in ……. studies

I major (*specialize*) in the field of …

The **title** of my future thesis is....

The subject of my research is …

The object of my research is the operation (behavior/ processes) of ….

(Объект исследования – это носитель проблемы, на который направлена исследовательская деятельность. Предмет исследования – это конкретная часть объекта, внутри которой ведётся поиск (явления, отдельные их стороны, некоторые аспекты и т.д.))

Let me now go into some detail regarding the subject I have mentioned.

I began with the study of **literature** on the subject including some basic works written by…

I have used many different sources of information, such as ...

These problems … are widely discussed (treated) in literature.

There are many papers discussing the state of the art in the development of…

The theory of …. was constructed and developed by ….

The immediate **aim (goal/purpose)** is to examine the function (behavior/ dynamics) of …

The main aims of your research work and the tasks to fulfill

The main purpose/goal/aim of it is...to find out/to define/to characterize/explore/ to investigate/to analyze/to gain/....

It is aimed at ....

A current study in our laboratory is addressing the question of ….

The focus of my research is on the relationship between …. and ….

It is very important and interesting to examine (analyze/ evaluate/ describe) the complex interaction between … and …

I set myself a **task/ objective** to/of...

the tasks that face us /that we are faced with/are as follows....

Its objectives are the following:

The **methods and techniques** we apply in this research include experiments (observations, laboratory tests, field and pilot plant study ….)

The experimental part of my research will mostly consist of tests to be conducted on …

It is therefore quite encouraging that these methods may be used to solve a number of problems in this instance and get an insight in …

This work is devoted to an important **problem** into which too few scientists have researched until now.

The most challenging problems I have faced with are ...

My study deals in the problems of.../is devoted to the investigation of...

It touches upon the problems of...

Earlier studies of this subject show that the problem has not been yet properly explored.

I consider my work to be **relevant** nowadays because ...

Some of most recent **results** of the research in … make use of the …. and the theory of….

The results may be constructed into a theoretic framework that I am going to describe by systemizing the data obtained in the experiments (observations).

I think they will be of considerable **practical significance**, because …

I expect to obtain the following **results** ...

In the future I'm going to continue my studies and take a postgraduate course

In conclusion I would like to say that ...

9. Answer the questions. Use the following cliché

CLICHÉ (stereotype block of expressions and patterns) for a research work story

1. I'm a Master's degree student ...	1. Я магистрант...
2. My scientific adviser (supervisor) ...	2. Мой научный руководитель...
3. The subject of my research is...	3. Предмет моего исследования...
4. The reasons for my choice are...	4. Причины моего выбора, следующие...
5. My investigation has both theoretical and practical parts...	5. Моя научно-исследовательская работа включает в себя как теоретическую, так и практическую части...
6. I'm going to deal with...	6. Я планирую заниматься...
7. I'll make use of... methods...	7. Я собираюсь использовать ... методы...
8. My work requires the collection of a good deal of material...	8. Мне требуется собрать большое количество материала для моей работы...
9. Currently I'm busy with collecting theoretical data on my subject.	9. В настоящее время я занимаюсь подбором теоретических данных по моей теме.
10. I have to read articles (monographs, journals) of our and foreign authors.	10. Мне приходится читать статьи (монографии, журналы) наших и зарубежных авторов.
11. One of the main aims of my research work is...	11. Одной из главных задач моей научной работы является...
12. The subject of your research work.	12. Предмет вашего исследования.
13. Results already achieved and the aim of your own research.	13. Цель вашей работы.
14. Significance of your research work in case it is completed successfully.	14. Каково практическое значение конкретно вашей работы?

10. Answer the questions:

List of questions

1. What institute did you graduate from and when?

2. What faculty did you study at?

3. What is your specialty?

4. Have you got a diploma with honors?

5. Are you a Master's degree student?

6. When did you decide to take a Master's degree course?

7. When did you enter (join) the Master's degree course?

8. Why are interested in research work?

9. What personal characteristics do you think are necessary for success in the chosen field?

10. Are you going to take a full time or a correspondence course?

11. Are there any scientists in your family or among you relatives?

12. What do you think will be more difficult for you – to write a theoretical or an experimental chapter? Why?

13. What is the subject of your research? What do you research? What do you study?

14. Do you work at your thesis already?

15. What is the subject of your thesis?

16. Is your research work individual or is it group research?

17. Where do you take experimental material?

18. Do you know how many parts does a thesis consist of?

19. What scientific degree will you get?

20. Have you read your scientific supervisor's research papers? What are they about?

21. Do you think they will be useful for your dissertation?

22. Is your scientific supervisor helpful? How often do you get to see him?

23. How does your scientific supervisor help you in your research?

24. Have you got any publications? Tell us about the one that you think is the best.

25. Is your investigation (research work) an experimental or theoretical one?

26. What are the main problems in your area of research?

РАЗДЕЛ 2. ПРОФЕССИОНАЛЬНАЯ СФЕРА ОБЩЕНИЯ

1. Моя карьера. Планирование карьеры. Презентация и выступление по изучаемой специальности. Подготовка резюме, письма заявления, оформление заявки на конференцию

Planning your career

1. Read and translate

JOB INTERVIEW IN ENGLISH

- Have you ever gone through a job interview? What questions were you asked?
- Have you ever gone through a job interview in English? How did you manage? What questions were you asked?

Study the most common sample questions at the job interview and the answers to them (pay attention to comments given in brackets).

1. How would you describe yourself?

(Also: What are your strengths / positive traits? Why should we hire you?)

• I consider myself hardworking / reliable / dependable / helpful / outgoing / organised / honest/ cooperative.

• I'm a team-player /an experienced team-leader /a seasoned (experienced) professional / a dedicated worker.

• I'm good at dealing with people / handling stress.

• I pay attention to details.

• I understand my customers' needs.

• I learn quickly and take pride in my work.

• I love challenges and getting the job done.

2. What kind of qualifications do you have?

• I *graduated in* IT *from* the University of London.

• I *hold a* master's *degree* (MA) / a bachelor's degree (BA) in Modern Languages from the University of New York.

• I *took* a one-year accounting *training program* at Oxford College.

• *I* haven't done any formal training *for this job, but I have worked in similar positions and* have ten years of experience in this field.

3. Why did you leave your last job?

• I was laid off/ made redundant, because the company relocated / downsized / needed to cut costs.

• I resigned from my previous position, because I didn't have enough room to grow with my employers.

• I wanted to focus on finding a job that is nearer to home / that represents new challenges / where I can grow professionally / that helps me advance my career.

4. What do you do in your current role?

• I'm responsible for the day-to-day running of the business/for recording and conveying messages for the departments.

• I ensure that high standard of customer care is maintained.

• I liaise with the Business Development and Business Services Units.

• I deal with incoming calls and correspond with clients via e-mails.

• I'm in charge of the high-*priority accounts.*

5. What relevant experience do you have?

(It might be a good idea to revise Present Perfect Simple and Continuous to talk about experiences you've had/ actions that you started in the past and are still in progress.)

• I have worked as a Sales Representative for several years**.**

• I have good organizational skills as I have worked as an Event Organizer / Personal Assistant for the last six years.

• I have great people skills**:** I've been working in Customer Service and been dealing with complaints for five years.

6. Why would you like to work for us?

• I would like to put into practice what I learned at university.

• I would like to make use of the experience I have gained in the past ten years.

• I believe that your company will allow me to grow both professionally and as a person**.**

• I've always been interested in E-Commerce /Marketing / Computer Programming and your company excels (is one of the best) in this field.

7. What are your weaknesses / negative traits?

• I'm a perfectionist and I may be too hard on myself or my co-workers sometimes.

• I might need to learn to be more flexible when things are not going according to plan. This is something I'm working on at the moment.

• I occasionally focus on details instead of looking at the bigger picture. I'm learning how to focus on the overall progress as well.

8. When can you commence employment with us?

(When can you start work?)

• I will be available for work in January, next year.

• I can start immediately.

• I have to give three weeks' notice to my current employer, so the earliest I can start is the first of February.

9. Do you have any questions?

• What would b**e** the first project I 'd be working on if I was offered the job?

• Who would I report to? Who would I be working closely with**?**

• Are there any benefits your company offers its employees?

• When will I get an answer? How soon can I start**?**

2. Additional sample questions

Questions about your Qualifications

What can you do for us that someone else can't do?

What qualifications do you have that relate to the position?

What new skills or capabilities have you developed recently?

Give me an example from a previous job where you've shown initiative. What have been your greatest accomplishments recently?

What is important to you in a job?

What motivates you in your work?

What have you been doing since your last job?

What qualities do you find important in a coworker?

Questions about your Career Goals

What would you like to being doing five years from now?

How will you judge yourself successful? How will you achieve success? What type of position are you interested in?

How will this job fit in your career plans?

What do you expect from this job?

Do you have a location preference?

Can you travel?

What hours can you work?

When could you start?

Questions about your Work Experience

What have you learned from your past jobs?

What were your biggest responsibilities?

What specific skills acquired or used in previous jobs relate to this position?

How does your previous experience relate to this position?

What did you like most/least about your last job?

Whom may we contact for references?

Questions about your Education

How do you think your education has prepared you for this position?

What were your favorite classes/activities at school?

Why did you choose your major?

Do you plan to continue your education?

Watch the video where you will be given some tips about going through a job interview in English. What tips will be mentioned?

3. Read and translate the text using a dictionary.

If you want to apply for a job, you should present the information about yourself correctly. You can do this with the help of CV.

Writing a Resume

When you are looking for a new job, you must prepare a short-written account

of your education and work experience. It is called ‘curriculum vitae’ (also C.V) in British English and resume in American English. Many companies expect all your personal information to be entered on a standard application form. Unfortunately, no two application forms are alike, and filling in each one may present unexpected difficulties. Some personnel departments believe that the resume (CV) and application letter give a better impression of a candidate than a form. The resume that accompanies the letter provides an overview of what you have already done. The resume should create one dominant impression: that you are a highly motivated person who has the ability and maturity to do a job well. Before you compose your resume list all of the pertinent information about your education, your job experience, your goals and your personal interests. Then select the information that is appropriate for the job you want emphasizing the accomplishments that differentiate you from other candidates. If you have received academic honors or awards, or you have financed your own education, include this information as well. Remember, the resume is a screening device. Big corporations get hundreds of thousands of them every year. The personnel manager or the staff officer has to read a lot of them a day. So you have gotten, may be twenty seconds, to show him/ her that your resume is worth a second look. There is no single correct format for a resume (curriculum vitae). Whatever its layout it should be brief – one or two pages are sufficient - easy to read, and well organized. An employer should be able to see at a glance what your qualifications are. Many resumes contain the following sections: personal information, education, languages you speak (if necessary), work experience, interests, referees.

1. a short written account	a) отличия и награды за успешную учёбу
2. work experience	b) подходящий, соответствующий требованиям
3. personal information	c) стандартная форма анкеты
4. personal manager	d) опыт работы
5. personnel department 6. to create an impression	e) высокомотивированный f) краткое описание/информация в письменном виде

7. to list	g) создать впечатление
8. appropriate	h) сотрудник отдела кадров
9. maturity	i) перечислить
10. accomplishments	j) письмо-заявка об устройстве на работу
11. academic honors/awards	k) зрелость/опыт
12. a screening device	l) отдел кадров
13. application letter	m) анкетные данные соискателя
14. highly motivated	n) средство отбора/проверки
15. standard application form	o) достижения

4. Familiarise yourself with the sample CV, translate it

5. Write your CV

Sara Anne Green Address (home): 47 Gerrard Street Manchester, M20 4LZ Telephone: 0121 423170 Email: sara.green@gmail.com	A well-organized and outgoing Business Economics student graduating in June 2007 with good communication and analytical skills, looking to develop a career as an economist within an international business environment. Fluent Spanish speaker experienced in the use of spreadsheets, databases, and similar business software.
Education and qualifications:	September 2004 – June 2007 BA (Hons) in Business Economics City University, Bristol September 1996-June 2003 Manchester School 4 A Levels: Economics (A), Information and Communication Technology (A), English (A), Spanish (B) 9 GCSEs (including A* grades in Economics, Spanish, English, Mathematics, ICT, and German)

Work experience: .	July-September 2006 Administrative Assistant MKL Smith & Co (Accountants), Manchester Duties included: using spreadsheets to sort and chart financial information assisting PA with routine admin tasks July-September 2005 English Language Teaching Assistant EFL International, Seville, Spain Duties included: assisting teachers in preparing lessons administering student database liaising with local companies to organize student activities July 2003-August 2004 Various jobs (including voluntary and hotel work) and travel in Spain and Latin America, gaining a valuable insight into the culture and spoken language of those countries
Skills:	Advanced Certificate in MS Word, MS Excel, and MS Access (evening course, September-July 2006) Full driving license
Interests & extra information:	Netball, travel, swimming
References:	Dr Thomas Clark Senior Lecturer in Business and Management Department of Business Organization and Strategy City University Bristol BS1 2ER Ms Susan Hunter Senior Partner MKL Smith & Co (Accountants) 231 Parker Street Manchester M20 6QR

6. Translate the text. Compose an invitation to a conference

Dear Colleagues,

You are cordially invited to participate in the upcoming World Conference on Information Technology. The aims of the conference are to bring together researches and practitioners in an effort to lay the ground for future collaborative research, advocacy, and program development as well as to educate the adequate professionals in information industry. The World Conference is scheduled to take place from October 14th – 16th 2018 in… (the venue, the city and the country) under the auspices of…Foundation. Note that all interested delegates that require entry visa to enter… (the country) to attend this conference will be assisted by the organizational committee. Free air round trip tickets will be provided to all registered participants.

The Workshop welcomes paper presentations from any interested participant willing to present papers during the meeting.

For any further information you are to contact the conference Registrar at:
E-mail:
Phone:
Sincerely,
Michael Faraday
Activities Coordinator
E-mail:
Phone:

Conference Invitation letter

Last Updated On January 2, 2020 By Letter Writing

A conference is a formal meeting of people who “confer” about an issue or a topic. The practicality of the discussion vary concerning the domain of their occurrence, but regardless, conference meetings have multi-dimensional merits. Conference meetings bring together specialists, and staff who are adept in their positions, for planning, networking, and educational opportunities, which meets the organization’s needs.

A Conference Invitation Letter is written to send an invitation to special guests

and participants to an organized conference. The letter ought to be formal, explanatory, and factual about the upcoming conference that will motivate the prospective chief guest or speaker to make a quick and favorable decision about attending the conference.

These letters ought to be detailed with well-structured layouts and should include every relevant section – like the venue of the meeting, the date, the time of the meeting, and the company's name. You can add the directions to the conference in a separate section. Most importantly, the invitation letter should mention the theme/topic of the conference that is being held.

Tips for writing a Conference Invitation Letter

- The letter should mention the details of the conference clearly and correctly.
- The letter should be concise and comprehensive.
- The letter should mention the purpose of the conference and the theme of the meeting.
- Sometimes, such letters are addressed personally to individual prominent personalities.
- Avoid any grammatical or spelling mistakes.

Template

Use our free Conference Invitation Letter to help you get started. If you need additional help and more examples, check out some of the sample letters that are given below.

From,

_____

_____

_____

Date: _____ (Date on Which Letter is Written)

To,

_____

_____

_____

Subject: A Conference Invitation Letter

Dear _____(Sir or Madam),

We cordially invite you to our business conference meeting that will take place at _____(venue) on _____(date) at _____(time).

The conference will include, _____(purpose of the conference) . But this is not it. You will also be directed as for how to_____(beneficial teachings), thus helping you grow economically. Apart from this, you will be given the chance to learn _____.

By taking a prominent part in this conference, you will _____(mention the merits of attending this conference). Your presence at this conference will be highly appreciated.

Our best regards,

Name,

Signature,

Designation.

Sample Letter

The following is a Sample of a Conference Invitation Letter.

From,

Cecil Dawson,

Conference Representative,

Motivate Tech Growth Conference

1234-Sylvia Street, NE 02939

Date- March 20, 2016

To,

Drake Wingly,

1722 Lincoln Drive

Rose Park, FL 07662

Subject: Invitation to Motivate Tech Growth Conference

Dear Mr. Wingly,

As a representative of the Motivate Tech Growth Conference, I am pleased to invite you to our inaugural technology conference that will be taking place on August 30, 2016.

This conference brings together the 5 top Technology firms in the country to bring in light the best of Technological nerds for some discussions on the direction and growth of technology for the nation and the world in the upcoming two decades.

We would be thrilled to have you present at this conference and to hear from you about a few new technology advancements and their impact on different business markets and daily lives. We would also love to hear your thoughts and opinions in this direction.

Please respond to our invitation to you before July 1, 2016, to secure a place before passes are open to the public by July 10, 2016.

We look forward to your positive response to the Motivate Tech GrowthConference.

Regards,

Cecil Dawson

Conference Representative,

Motivate Tech Growth Conference.

Email Format

The following is the Email Format to be followed for a Conference Invitation Letter.

To: AllColeaguesGroup@email.com

From: Martin@email.com

SUBJECT: Invitation to Conference

Dear _____(Sir or Madam),

We cordially invite you to our business conference meeting that will take place at _____(venue) on _____(date) at _____(time).

The conference will include, _____(purpose of the conference) . But this is not it. You will also be directed as for how to_____(beneficial teachings), thus helping you grow economically. Apart from this, you will be given the chance to learn _____.

By taking a prominent part in this conference, you will _____(mention the merits of attending this conference). Your presence at this conference will be highly appreciated.

Our best regards,

Name

2. Технологии в моей профессии. Преимущества и недостатки технологий. Практикум по обзору, переводу, аннотированию профессиональных текстов

1. Read and translate the text

Components of the Automobile

The automobile is made up of three basic parts: the power plant, or the engine, the chassis and the body. The engine is the source of power that makes the wheels rotate and the car move. It includes fuel, cooling, lubricating and electric systems. Most automobile engines have six or eight cylinders.

The chassis includes a power train (power transmission), a running gear, steering and braking systems as well. The power train carries the power from the engine to the car wheels. The power transmission, in turn, contains the clutch, gearbox, propeller or cardan shaft, final drive, differential, rear axle and axle shafts. The running gear consists of a frame with axles, wheels and springs. The body has a hood, fenders and accessories: the heater, stereo tape recorder, windshield wipers, conditioner, speedometer and so on. 1. Read the text, write down the underlined words, transcribe and pronounce them correctly.

2. Find out the approximate meanings of the following English words by comparing them to the corresponding Russian ones.

Automobile, chassis, electric, system, control, differential, ventilator, cylinder, conditioner, speedometer.

3. Give derivatives.

To cool, to lubricate, to drive, to heat, to place, to fly, to build, to protect

4. Give synonyms.

To complete, to take an examination, to attend a lecture, important, to receive, to return, usually, to consist of, to leave, way

5. Give antonyms.

To repair, to load, simple, gradually, narrow, shortage, weakness, slowly, small, the same

6. Suggest the Russian equivalents.

Fuel system, axle shaft, accessories, cooling system, frame with axles, running gear, lubricating system, steering system, heater, propeller shaft, power transmission, final drive, windshield wiper, clutch, wheels and axle shafts, gearbox, electric system, differential.

7. Find in the text English equivalents close in meaning to the following. Сделан из; шасси; кузов; включать в себя; топливная, охлаждающая, смазывающая и электрическая системы; трансмиссия; ходовая часть; рулевая и тормозная системы; карданный вал; главная передача; дифференциал; задний мост; полуоси; капот; крылья; вспомогательные устройства; стеклоочистители.

8. Translate into Russian.

1. The automobile is made up of three basic parts. 2. The engine is the source of power that makes the wheels rotate and the car move. 3. Most automobile engines have six or eight cylinders. 4. The body has a hood, fenders and accessories. 5. The power transmission contains the clutch, gearbox, propeller or cardan shaft, final drive, differential, rear axle and axle shafts. 6. The power train carries the power from the engine to the car wheels. 7. The engine includes fuel, cooling, lubricating and electric systems.

9. Complete the sentences using the words and expressions from the text.

1. Mechanism which is used to stop the car … . 2. Mechanism which is used to guide the car … . 3. Mechanism which engages or disengages the engine and the car wheels … . 4. Mechanism which is used to change the speed of the car … . 5.

Mechanism which is used to guide the car in one or the other directions … . 6. Device which is designed to measure the speed of the car … .

10. Are these statements true or false?

1. The automobile is made up of four basic parts. 2. The engine is the source of power that makes the wheels rotate and the car move. 3. The power transmission contains the clutch and gearbox. 4. The power train carries the power from the engine to the car wheels. 5. Most automobile engines have three or five cylinders. 6. The chassis includes power transmission, a running gear and doesn't include steering and braking systems. 7. The heater, stereo tape recorder, windshield wipers, conditioner, speedometer are accessories.

11. Translate into English.

1. Автомобиль состоит из трех основных частей: двигателя, шасси и кузова. 2. Двигатель — это источник энергии. 3. Двигатель включает в себя топливную, охлаждающую, смазывающую и электрическую системы. 4. Шасси включает в себя силовую передачу, ходовую часть, рулевую и тормозную системы. 5. Силовая передача (трансмиссия), в свою очередь, состоит из сцепления, коробки передач, карданного вала, 12 главной передачи, дифференциала, заднего моста и полуосей. 6. Ходовая часть включает в себя раму с осями, колеса и рессоры.

12. Complete the sentences by selecting the appropriate option

1. The mechanism used for stopping the car is…

a. clutch

b. gearbox

c. brakes

2. The mechanism used for changing the speed is…

a. clutch

b. gearbox

c. brakes

3. **The mechanism used for connecting the engine from the gearbox is…**

a. brakes

b. clutch

c. steering system

4. **The unit carrying the power from the engine to the car wheels is…**

a. power plant

b. power train

c. chassis

5. The instrument measuring the speed of the car is…

a. heater

b. lights

c. speedometer

13. Read and translate the text

Vocabulary: to make – заставлять

to be referred to as – именоваться, называться

to term – называть

to cause – заставлять, вызывать, причинять

although – хотя

to create – создавать

shaft – вал

engine – двигатель

source – источник

wheel – колесо

internal combustion

engine – двигатель внутреннего сгорания

combustion chamber – камера сгорания

to take place – происходить

14. Read and translate the text.

Engine

The engine is the source of power that makes the wheels go around and the car move. it is usually referred to as an internal combustion engine because gasoline is burned within its cylinders or combustion chambers. This burning, or combustion, takes place at a high speed termed as an «explosion». The high pressure thus created causes a shaft to turn or rotate. This rotary motion is transmitted to the car so the wheels rotate and the car moves. Most automobile engines have four or six cylinders, although some eight-, twelve- and sixteen-cylinder engines are in use.

15. Fill in missing words:

1. This burning, or combustion, takes place an (большая скорость).
2. gasoline is (сгорает внутри цилиндров) or combustion chambers.
3. power that makes the (колёса вращаются) and the car move.
4. The high pressure thus created causes a (вал поворачивается) or rotate.
5. Most (автомобильные двигатели) have four or six cylinders.

16. Translate into Russian:

car moves
high pressure
internal combustion engine
wheels go around
source of power
rotary motion
sixteen-cylinder engines
transmitted to the car
most automobile engines
within its cylinders

17. Answer the questions:

1. What is transmitted to the car so the wheels rotate?
2. How many cylinders have most automobile engines?
3. What is the source of power?
4. What can you say about internal combustion engine?

18. Read and translate the text.

Vocabulary:

steam chest – паросборник

to invent – изобретать

to boil – кипеть pipe – труба

steam – пар valve – клапан

piston – поршень

to reach – достигать pressure – давление

stroke – ход

speed – скорость

opening – отверстие

Steam engine

The steam engine was the first high-speed engine ever invented. The principle of the steam engine is simple. When water is boiled, it changes in to steam. The more the steam is heated, the more pressure it has. A steam engine has some important parts. one is a boiler where fire turns water into steam. The steam goes through a pipe to the other important part - the steam chest with a cylinder and a piston in it. There are valves, or openings, in the steam chest. As the piston moves in the cylinder, it opens and closes the valves automatically, so that fresh steam enters just when the piston has reached the end of its stroke. A rod from the piston is connected to a wheel. now steam engines are mostly used in locomotives.

19. Fill in missing words:

1. One is a boiler where _____water into steam.
2. A rod from the piston _____to a wheel.
3. The steam engine was the first _____ever invented.
4. As the _____in the cylinder, it opens and closes the_____, so that fresh steam enters just when the piston has reached the end of its stroke.

Missing words: fire turns, valves automatically, high-speed engine, is connected, piston moves.

20. Translate into English:

пар нагревается поршень движется важные части огонь превращает воду высокоскоростной двигатель паросборник с цилиндром окончание хода соединяется с колесом большее давление

21. Answer the questions:

1. What is connected to a wheel?
2. What are some important parts of a steam engine?
3. What can you say about the principle of the steam engine?
4. Are there are valves, or openings, in the steam chest?
5. How now steam engines are mostly used?

22. Read and translate the text.

1. Vocabulary: gallon – галлон – англ. (4,54 л); амер. (3,78 л)

screw – винт

spray – брызги, струя, разбрызгивать, распылять

fuel – топливо

spark plug – искра свечи

charging – загрузка

to inject – впрыскивать

to ignite – зажигать

Diesel engine

A diesel engine is like a gasoline engine but simpler. Diesel engines are usually larger and can do more work. The fuel used in a diesel engine is oil. in diesel engines only air is blown into the cylinder. it does not need spark plugs. Diesel engines can be four - stroke ones and two - stroke ones.

Diesel engines use a cheaper kind of fuel and give more power for each gallon of fuel burned than gasoline engines. Besides they last much longer. In new trains and ships diesel engines run large generators which make electricity. The electricity runs motors which are connected to the wheels of the train or to the ship's screws.

The diesel engine is an internal combustion engine. It uses oil as a fuel. The fuel is introduced in the form of spray and the engine requires no special ignition device. In the four-stroke cycle diesel engine air alone is drawn into the cylinder on the charging stroke. This air is being compressed on the return stroke to a very high pressure. The result of the combustion is that the air is heated to a high temperature.

The heavy oil injected into the air at the end of the stroke will be immediately ignited by it. The oil burns rapidly, but without explosion. The compression pressure is much higher than that in any other oil or gas engine.

23. Fill in missing words:

1. The _____is an internal combustion engine.

2. This air is being _____on the return stroke.

3. The electricity _____which are connected to the wheels of the train or to the _____.

4. Diesel engines use a cheaper _____and give more power for each gallon of _____than gasoline engines.

5. In diesel engines only air _____into the cylinder.

Bank of words: compressed, fuel burned, diesel engine, ship's screws, runs motors, kind of fuel, is blown.

24. True or false:

In new trains and plane diesel engines run large generators which make electricity. The fuel used in a diesel engine is petrol. In the four-stroke cycle Diesel engine air alone is drawn into the cylinder on the charging stroke. The oil burns slowly, but without explosion. in new trains and ships diesel engines run large generators which make electricity.

25. Answer the questions:

1. What happened at the end of the stroke?
2. Is in the four-stroke cycle Diesel engine air or petrol drawn into the cylinder on the charging stroke?
3. What is the result of the combustion?
4. What is fuel used in a diesel engine?
5. A diesel engine is like a gasoline engine but simpler, isn't it?
6. How diesel engines are used in new trains and ships?

26. Read and annotate the text

How diesel engines differ from gasoline engines

If you know something about ordinary gasoline engine, such as those in automobiles, you will have noticed that diesel engines, in many respects, work in the same way.

Both types of engines run on liquid fuels. Gasoline engines have been made to run on kerosene, and so have diesel engines. Gasoline, kerosene, and diesel oil are all produced from natural petroleum (crude oil), and are distinguished mainly by their volatility, i.e. the ease with which they can be changed from a liquid to a vapor. Gasoline is quite volatile, i.e. it evaporates at a low temperature. Kerosene needs more heat to make it vaporize, while diesel oil requires still more heat.

Both types of engines are internal-combustion engines, i.e. they burn the fuel inside their cylinders. Most gasoline engines and many diesel engines work on the four-stroke cycle, i.e. the piston makes a suction (down), a compression stroke (up), a power stroke (down), and the exhaust stroke (up).

What, then, are the main differences between diesel engines and gasoline engines?

FIRST. A diesel engine has no ignition system – it has no spark plug. None of this is needed on a diesel engine because the fuel is ignited simply by the contact with very hot air which has been highly compressed in the cylinder.

SECOND. A diesel engine draws into the cylinder air alone, and it compresses this air on its compression stroke before any fuel enters the cylinder. On the other hand, a gasoline engine mixes air with fuel in the carburetor outside the cylinder before it enters the engine through the inlet valve during the suction stroke.

THIRD. Diesel engines use greater compression than gasoline engines. In a gasoline engine, the amount of compression or compression ratio is strictly limited because fuel, as well as air, is being compressed. If the combustible fuel-air mixture is compressed too much, it gets so hot, that it will ignite by itself. In other words the mixture will pre-ignite before the piston has completed its compression stroke, and will try to stop the piston.

The compression in a diesel engine is not limited by the possibility of pre-ignition because the diesel engine compresses air only.

FOURTH. Diesel engine use less volatile, heavier liquid fuels than gasoline engines. These heavier fuels are generally cheaper than gasoline. Gasoline engines must use this highly volatile fuels because only a fuel which evaporates at low temperature will form a uniform mixture with the rapid current of air flowing through the carburetor.

FIFTH. Diesel engines use fuel pumps and injection nozzles to inject the oil into the cylinder in the form of a fine spray. Gasoline engines, on the other hand, mix the fuel and air in a carburetor.

SIXTH. Diesel engines are heavier than gasoline engines of the same size because they work against greater pressure, and consequently their parts must be stronger. The greater strength is obtained by making the parts thicker and therefore heavier.

27. Find in the text the common features of gasoline and diesel engines.

28. Read the second paragraph of the text and answer the following questions.

1. What is the common feature of all kinds of fuels?
2. What kinds of fuel are mentioned in the paragraph?
3. How are the fuels distinguished?
4. What is volatility?

a. The change from a solid to a liquid.

b. The change from a liquid to a gas.

c. The change from a liquid to a vapor.

29. Find in the text all the features that differ diesel engines from gasoline engines.

30. Read the text again and explain the meaning of the term «pre-ignition».

31. Study the terms and find the meanings of them in the dictionary.

Inlet valve, exhaust valve, rod, crankshaft, bearing, fresh air, to descend, top, bottom, to deliver, oil spray, spent gases, to release, to force.

32. Translate the text from English into Russian. 16. Write an essay of the text and render it in English

Principle of Operation of the Four-Stroke Petrol Engine

The internal combustion engine is called so because fuel is burned directly inside the engine itself. Most automobile engines work on a 4-stroke cycle. A cycle is one complete sequence of 4 strokes of the piston in the cylinder. The operating cycle of the four-stroke petrol engine includes: inlet stroke (intake valve opens), compression stroke (both valves closed), power stroke (both valves closed), exhaust stroke (exhaust valve is opened). To describe the complete cycle, let's assume that the

piston is at the top of the stroke (top dead center) and the inlet and the exhaust valves are closed.

When the piston moves down the inlet valve opens to intake a charge of fuel into the cylinder. This is called the inlet (intake) stroke. On reaching the lowest position (bottom dead center) the piston begins to move upward into the closed upper part on the 15 cylinders, the inlet valve is closed and the mixture is compressed by the rising piston. This is called the compression stroke. As the piston again reaches the top dead center the spark plugs ignite the mixture, both valves being closed during its combustion. As a result of burning mixtures the gases expand and great pressure makes the piston move back down the cylinder. This stroke is called the power stroke. When the piston reaches the bottom of its stroke, the exhaust valve is opened, pressure is released, and the piston again rises. It lets the burnt gas flow through the exhaust valve into the atmosphere. This is called the exhaust stroke which completes the cycle. So the piston moves in the cylinder down (intake stroke), up (compression stroke), down (power stroke), up (exhaust stroke). The heat released by the fuel is transformed into work so that the reciprocating movement of the pistons is converted into rotary movement of a crankshaft by means of connecting rods.

33. Find out the approximate meanings of the following English words by comparing them to the corresponding Russian ones.

Principle, cycle, piston, center, cylinder, atmosphere, operation, petrol, compression, position, mixture, tank, absolutely

34. Give derivatives.

To ignite, to begin, to rotate, to compress, to move, to reciprocate, to describe

35. Give synonyms.

To wish, to grow, to need, each, to make, hard, to build, state, land, to pass an exam

36. Give antonyms.

Always, early, free, hard, to fail, possible, to send, to return, after, to graduate

37. Suggest the Russian equivalents.

Bottom dead center, charge of fuel, connecting rod, combustion, compression stroke, crankshaft, diesel engine, combustion chamber, exhaust stroke, four-stroke cycle, ignition, pressure, internal combustion engine, fuel injection, intake (inlet) stroke, reciprocating movement, recharge, burn

38. Find in the text English equivalents close in meaning to the following.

Клапан, топливный бак, закончилось топливо, свеча зажигания, верхняя мертвая точка, сесть (об аккумуляторах), вращательное движение, достигать, рабочий ход, подзарядить (аккумулятор), бензиновый двигатель, рабочий цикл, цилиндр, нижняя мертвая точка, подниматься, давление, преобразовывать, гореть, искать (проследить) неисправность

39. Translate into Russian.

1. During the inlet (intake) stroke the inlet valve opens and a charge of fuel (mixture) flows into the cylinder. 2. During the compression stroke the inlet valve is closed and the fuel is compressed by the rising piston. 3. During the power stroke both valves are closed, pressure rises in the combustion chamber, and the spark ignites the mixture. 4. During the exhaust stroke the exhaust valve is opened, pressure is released and the residual gases flow into the atmosphere through the exhaust valve. 5. Fuel is burned directly inside the engine itself. 6. A cycle is one complete sequence of 4 strokes of the piston in the cylinder. 7. The heat released by the fuel is transformed into work so that the reciprocating movement of the pistons is converted into rotary movement of a crankshaft by means of connecting rods.

40. Complete the sentences using the words and expressions from the text.

1. The internal combustion engine is called so because … . 2. The inlet stroke is called so because … . 3. The operating cycle of the four-stroke petrol engine includes … 4. When the piston reaches the bottom of its stroke … . 5. The piston moves in the cylinder … . 6. When the piston moves down … . 7. The heat released by the fuel …

41. Translate into English.

1. Большинство автомобилей работает в четыре такта. 2. Различают следующие такты: впуск, сжатие, рабочий ход и выпуск. 3. Достигнув нижней мёртвой точки, поршень начинает двигаться вверх, и смесь сжимается (уплотняется). 4. Возвратно-поступательное движение поршня через шатун превращается во вращательное движение коленчатого вала. 5. Когда поршень вновь достигает верхней мёртвой точки, искра воспламеняет топливную смесь. 6. Поршень движется вниз, и через впускной клапан в цилиндр впрыскивается топливо.

42. Are these statements true or false?

1. During the inlet stroke the inlet valve closes and a charge of fuel exhaust from the cylinder. 2. Fuel is burned directly outside the engine itself. 3. During the power stroke the spark ignites the mixture. 4. A cycle is one complete sequence of three strokes of the piston in the cylinder. 5. The heat released by the fuel is transformed into work. 6. Great pressure makes the piston move back down the cylinder. 7. The exhaust stroke completes the cycle.

43. Read the text again and ask as many questions about it as you can. Let your group-mate(s) answer the questions.

5. Many diesels look like gasoline engines.
6. Diesel engines are sometimes called spark-ignition engines.
7. High-compression, self-ignition engine intended to burn liquid fuel.
8. The diesel is built heavier because it must withstand higher pressures.
9. Compression ignition engine was named after Rudolf Diesel.
10. Internal-combustion engine was patented in 1892.
11. A spark plug is used in a diesel engine for ignition.

44. Read and annotate the text

Internal combustion engine

The gasoline engine is that type of machine where power generated within the

cylinders. The engine is set in motion by the explosions of a mixture of gasoline and air. Combustion takes place above the pistons. The detachable head is secured to the top of the cylinder block. it encloses the cylinder block and forms the combustion chamber. When the fuel is burnt within the cylinders the expansion of gases is used for producing piston movement. such a type of engine is called the internal combustion engine. in any internal combustion engine, the gas charge is drawn into the cylinder. The internal combustion engine converts heat into mechanical energy by burning a mixture of oil fuel and air within its cylinder or cylinders. The internal combustion engine consists of the following: 1. A cylinder (there may be several). 2. A piston which moves up and down inside cylinder. 3. A crankshaft connected to the piston by a rod known as a connecting rod. The connecting rod turns the up-and-down motion of the piston into a rotary motion of the crankshaft. 4. A flywheel which keeps the crankshaft moving when the pressure is exerted upon the top of the piston. 5. Two valves known as the inlet valve and the exhaust valve. 6. A camshaft which is used to open and close the valves. 'Combustion engines may be divided into types according to the duration of the cycle on which they operate. By a cycle is meant the succession of operations in the engine cylinder which constantly repeats itself. The great majority of modern automobile engines operate on the four-stroke cycle. it is completed in four strokes of the piston, or during two revolutions of the crankshaft. engines are also being built to operate on a cycle which is completed in two piston strokes. The four-stroke cycle comprises the following four phases or operations, which succeed one another in the order in which they are given: Admission of the charge to the cylinder. Compression of the charge. Combustion of the charge. expulsion of the products of combustion.

45. Fill in missing words:

1. It is completed in (четыре хода) of the piston, or during two revolutions of the crankshaft.

2. In any internal combustion engine the (топливо) charge is (всасывается) the cylinder.

3. The detachable head is secured to the top of the (блок цилиндров).

4. The (двигатель) is set in motion by the explosions of a (смесь) of gasoline and air.

5. A (маховик) which keeps the (коленвал) moving when the pressure is exerted upon the top of the piston.

6. It is completed in four strokes of the (поршень) or during two (поворота) of the crankshafts.

46. Translate into Russian:

the inlet valve and the exhaust valve gasoline engine combustion chamber air within its cylinder close the valves two revolutions of the crankshaft in two piston strokes connecting rod. great majority the inlet valve and the exhaust valve duration of the cycle

47. Answer the questions:

1. What are the operations in the four-stroke cycle?
2. What can you say about gasoline engine?
3. Discribe the internal combustion engine.
4. A camshaft which is used to open and close the valves, isn't it?
5. Why is such a type of engine called the internal combustion engine?
6. What energy does the internal combustion engine convert?
7. How many valves are there in the internal combustion engine? What are they?

48. Choose the correct answer to complete each statement.

1. Combustion engines can be divided into types according to:

a) the number of cylinders;

b) the duration of the cycle;

c) the combustion inside the cylinder;

d) the expulsion of the combustion products.

2. The majority of modern engines operate on:

a) two-stroke cycle;

b) six-stroke cycle;

c) complete cycle;

d) four-stroke cycle.

3. The advantages of a two-stroke engine are:

a) low first cost;

b) low fuel economy;

c) lack of flexibility;

d) high productivity.

4. The fuel of low volatility is used in:

a) two-stroke engines;

b) six-stroke engines;

c) all engines;

d) four-stroke engines.

5. Six-cycle engines:

a) are widely used;

b) are not used at all;

c) have not reached the practical stage;

d) have very limited use.

6. The four-stroke cycle comprises four phases which:

a) proceed other phases;

b) succeed one another;

c) are simultaneous;

d) divide each other.

49. Match the definitions in column B with the terms in column A.

A	B
1. cycle	a) is the class of prime-movers
2. four-stroke cycle	b) is the succession of operations in the engine cylinder
3. phases	c) is the four strokes of the piston
4. heat engine	d) are operations which succeed one another

50. Answer the following questions.

1. What mechanically propelled road vehicles are mentioned in the text?
2. How are combustion engines divided?
3. What is the cycle?
4. What does the four-stroke cycle mean?
5. What does the two-stroke cycle mean?
6. What are the advantages and disadvantages of a two-stroke engine?
7. What are the remaining two strokes of a six-stroke cycle used for?
8. What can you say about the use of six-cycle engines?
9. What are the phases of the four-stroke cycle?

51. Read and translate the text

Chassis

The main units of the chassis are: the power transmission, the running gear and the steering mechanism. The power transmission includes the whole mechanism between the engine and the rear wheels. This entire mechanism consists of the clutch, gearbox, propeller (cardan) shaft, rear axle, final drive, differential and axle shafts. At the front end of the car is the engine. On the back of it is the flywheel. Behind the flywheel is the clutch. The clutch is a friction device connecting the engine with the gears of the gearbox. The main function of the gearbox is to change the speed of the car. The power is always transmitted by the cardan shaft to the back axle. The final drive reduces the high speed of the engine to the low speed of the driving wheels. The differential enables the driving wheels to turn at different speeds which is necessary when turning the car. The foundation of the automobile is the frame to which different chassis units are attached. The rear axle is capable of moving up and down about the frame. The rear axle is an important part of the transmission. It carries the greater portion of the weight of the car. The steering mechanism is designed for changing the direction of the car. The brakes are used for stopping the car, for decreasing its speed and for holding the car position.

52. Find in the text English equivalents close in meaning to the following words

вилка кардана, рулевая система, неисправность, крутящий момент, саморазъединение шестерен (саморасцепление), скорость езды, рулевое колесо (руль), силовая передача, рычаг коробки передач, картер, корпус, неполное отключение (сцепления), большая часть веса автомобиля, задние колеса, неполадки, (неисправная работа)

53. Translate into Russian

1. The chassis includes the running gear, the power transmission and the steering mechanism. 2. The power transmission consists of the clutch, gearbox, cardan shaft, rear axle, final drive, differential and axle shafts. 3. The clutch connects the engine with the driving wheels. 4. The gearbox changes the speed of the car movement. 5. The steering mechanism changes the direction of the car. 6. At the front end of the car is the engine. 7. The rear axle is an important part of the transmission.

54. Complete the sentences using the words and expressions from the text

1. The power transmission includes … . 2. This entire mechanism consists of … 3. The power is always transmitted … . 4. The foundation of the automobile is … . 5. The steering mechanism is designed for … . 6. The differential enables … . 7. The final drive reduces … .

55. Translate into English.

1. Основными узлами шасси являются: трансмиссия, ходовая часть и рулевой механизм. 2. Радиатор расположен в передней части автомобиля. 24 3. Маховик крепится на задней части двигателя. 4. Сцепление соединяет двигатель с коробкой передач. 5. Коробка передач предназначена для изменения скорости движения автомобиля. 6. Главная передача снижает высокие обороты двигателя до невысоких оборотов ведущих колес. 7. Дифференциал позволяет ведущим колесам вращаться с разной скоростью при повороте автомобиля. 8. Рулевой механизм предназначен для изменения направления движения автомобиля.

56. Are these statements true or false?

1. The rear axle isn't an important part of the transmission. 2. The gearbox changes the speed of the car movement. 3. The driving wheels are connected with the engine by the clutch. 4. There should be some vibration in the operation of transmission mechanism within the range of travelling speeds. 5. The foundation of the automobile is the frame. 6. On the back of the car is the engine. 7. The power is always transmitted by the cardan shaft to the live back axle

57. Translate the text from English into Russian.

58. Write an essay of the text and render it in English.

Frame

The foundation of the automobile chassis is the frame which provides support for the engine, body and power-train members. Cross members reinforce the frame. The frame is rigid and strong so that it can withstand the shocks, vibrations, twists and other strains to which it is put on the road. The frame provides a firm structure for the body, as well as a good point for the suspension system. There are two types of frames, namely: conventional frames and integral (unibody) frames (frameless constructions). Conventional frames are usually made of heavy steel channel sections welded or riveted together. All other parts of the car are attached to the frame. In order to prevent noise and vibrations from passing to the frame and from there to the passengers of the car, the frame is insulated from these parts by rubber pads. It is also important to insulate the frame in order to prevent metal-to-metal contacts. Frameless (unibody) constructions are called so because they are made integral with the body. The body parts are used to structurally strengthen the entire car. Some unibody frames have partial front and rear frames for attaching the engine and suspension members.

59. Find out the approximate meanings of the following English words by comparing them to the corresponding Russian ones:

Chassis, structure, system, integral, construction, steel, vibration, passenger, metal, contact.

60. Give derivatives.

To think, to decide, to accept, to insist, to resist, to signify, to differ

61. Give synonyms.

Many, total, to happen, essential, usual, although, everywhere, to get, to store, strong

62. Give antonyms. To receive, south, to open, good, black, successful, exact, easy, to manage, loud

63. Suggest the Russian equivalents.

Rigid, conventional frame, to insulate, suspension, rubber pad, channel section, longitudinal members, unibody construction, to get into trouble, to find out the damage, alignment, suspension system, to fasten, to strengthen, power-train members, to prevent vibration, to provide support, to reinforce

64. Find in the text English equivalents close in meaning to the following. Лонжероны, поперечины, жесткий, прочный, выдерживать нагрузки, подвеска, обычная (общепринятая) рама, безрамная конструкция, полые секции, сваренные или заклепанные, прикреплять к раме, резиновые прокладки, укреплять

65. Translate into Russian.

1. The frame is a structural center of any car as it provides support for the engine, body, wheels and power-train members. 2. Cross members reinforce the frame and provide support for the engine and wheels. 3. The frame is extremely rigid and strong. 4. The engine is attached to the frame in three or four points and insulated in these points by some rubber pads to prevent vibration and noise from passing to the frame and thus to the passengers. 5. There are two types of frames: conventional construction and unibody one. 6. The foundation of the automobile chassis is the frame which provides support for the engine, body and power-train members. 7.

Conventional frames are usually made of heavy steel channel sections welded or riveted together.

66. Complete the sentences using the words and expressions from the text.

1. The frame provides support for .... 2. Conventional frames are made of ... . 3. Frameless constructions are made ... . 4. The frame is insulated from other parts in order to ... . 5. The frame is reinforced by ... . 6. Frameless constructions are called so … . 7. The frame is insulated from some parts by rubber pads … .

67. Translate into English. 1. Рама обеспечивает опору для кузова, двигателя и узлов силовой передачи. 2. Она состоит из лонжеронов и поперечин, которые усиливают раму. 3. Рама должна выдерживать вибрацию, кручения и другие нагрузки (напряжения). 4. Рамы бывают двух типов: обычные (стандартные) и выполненные воедино с кузовом. 5. Стандартные рамы изготовлены из стальных полых секций, сваренных или заклепанных вместе. 6. Безрамные конструкции выполнены воедино с кузовом. 7. Рама изолируется от кузова резиновыми прокладками, чтобы шумы и вибрации не проходили к пассажирам автомобиля.

68. Are these statements true or false?

1. In order to prevent noise and vibrations the frame is insulated by rubber pads. 2. The frame can’t withstand the shocks, vibrations, twists and other strains to which it is put on the road. 3. The engine is attached to the frame in five or six points. 4. The frame provides a firm structure for the body and a good point for the suspension system. 5. Cross members reinforce the frame. 6. The frame mustn’t be rigid and strong. 7. Conventional frames are usually made of heavy steel channel sections.

69. Read and translate the text

Clutch

The clutch is a friction device. It connects the engine to the gears in the gearbox. It is used for disconnecting the engine from the gearbox, for starting the car and for

releasing the engine from the car wheels. The clutch is fixed between the flywheel of the engine and the gearbox and consists of two plates (discs): the friction disc and the pressure disc. The friction disc is situated between the flywheel and the pressure plate and has a hard-wearing material on each side. The basic principal operation of the clutch is a frictional force acting between two discs. The clutch is controlled by the clutch pedal. When the pedal is at rest the clutch is engaged and the running engine is connected to the gearbox. When the pedal is pressed down the clutch is disengaged and the engine runs idle.

70. Find out the approximate meanings of the following English words by comparing them to the corresponding Russian ones:

Start, disc, friction, frictional, material, base, principal, control, pedal, accumulation, technology, group, locomotive, automatic, transport, signal, constant, element, problem, experiment, apparatus, industry

71. Give derivatives.

To connect, to press, to operate, to fix, to rotate, to generate, to contribute, to cool

72. Give synonyms.

Wood, stone, earth, invention, to provide, to construct, quantity, to change, ship, to solve 6. Give antonyms. Seldom, excellent, never, useless, full, easy, never, to come back, poor, to close

73. Suggest the Russian equivalents.

Friction device, clutch, gearbox, to free, to start, to release, flywheel, pressure plate, basic principle of operation, to fix, hardwearing material, to consist of, to be controlled by, running engine, to run idly, to engage, to disengage, to press down, to be at rest

74. Find in the text English equivalents close in meaning to the following. Функция сцепления, для отключения двигателя от коробки передач, крепится между маховиком и коробкой передач, фрикционный (ведомый) диск, нажимной диск, фрикционная сила, сцепление включено, педаль в исходном положении, педаль сцепления нажата

75. Translate into Russian.

1. The clutch connects the engine to the gears in the gearbox. 2. The clutch is fixed between the flywheel of the engine and the gearbox. 3. The friction disc is situated between the flywheel and the pressure plate. 4. The clutch is controlled by the clutch pedal. 5. The clutch is used for freeing the engine from the gearbox, for starting the car and for freeing the engine from car wheels. 6. The clutch usually consists of two discs: the friction disc (driven disc) and the pressure disc. 7. When the clutch is fully engaged the frictional force makes discs rotate at the same speed.

76. Complete the sentences using the words and expressions from the text.

1. The clutch is a device … . 2. The clutch is situated … . 3. The clutch is controlled by ... . 4. The clutch is engaged ... . 5. The clutch is disengaged .. .. 6. The clutch is used for ... .

77. Translate into English.

1. Сцепление — это фрикционное устройство. 2. Сцепление соединяет двигатель и коробку передач. 3. Сцепление расположено между маховиком двигателя и коробкой передач. 4. Как правило, сцепление состоит из двух дисков: ведомого и нажимного. 5. Сцепление управляется педалью сцепления. 6. Когда педаль сцепления находится в покое, диски сцепления соединены и работающий двигатель соединен с коробкой передач и колесами. 7. Когда водитель нажимает на педаль сцепления, диски отходят, сцепление отсоединятся и двигатель работает вхолостую.

78. Are these statements true or false?

1. The clutch connects the engine to the gears in the gearbox. 2. The clutch mustn't be fixed between the flywheel of the engine and the gearbox. 3. The pressure disc is situated between the flywheel and the pressure plate. 4. The clutch is controlled by the clutch pedal. 5. When the pedal is at rest the clutch is disengaged and the engine runs idly. 6. When the pedal is pressed down the clutch is engaged and the running engine is connected to the gearbox. 7. The clutch usually consists of two discs: the friction disc 35 and the pressure disc.

79. Translate the text and say "What is the speech about"

Gearbox

The gearbox is placed between the clutch and the propeller shaft. The principal function of the gearbox is to vary the speed of the car movement to meet the road conditions. The gearbox provides four forward speeds and one reverse, as follows: 1) first or low gear; 2) second gear; 3) third gear; 4) fourth or top gear; 5) reverse gear. There are many constructional arrangements of gearboxes, which can be classified as follows: 1) sliding-mesh type; 2) constant-mesh type; 3) epicyclic (planetary) type. The sliding-mesh type is the simplest one and is the oldest historically. The constant-mesh type is the most widely used type. They are termed "ordinary" gearing, the characteristic feature of which is that the axes of the various gears are fixed axes. The gears simply rotate about their own axes. The characteristic feature of epicyclic (planetary) gearing is that one gear rotates about its own axis and also rotates bodily about some other axis. To secure the several speeds of the car the clutch shaft is mounted in direct line with the gearbox shaft. The gearbox shaft carries on it the sliding gears which are used for shifting to secure the forward speeds and the reverse drive.

80. Find out the approximate meanings of the following English words by comparing them to the corresponding Russian ones:

Principal, function, construction, constructional, class, classify, type, planet, planetary, history, historical

81. Give derivatives.

To construct, to classify, to repair, to work, to lubricate, to drain, to use, to rotate

82. Give synonyms. Much, to return, also, to do, ground, powerful, twice, numerous, to determine, to take place

83. Give antonyms.

Empty, shallow, to destroy, huge, complicated, to assemble, to remain, strength, always

84. Suggest the Russian equivalents. Ordinary gearing, road conditions, gearbox, top gear, sliding mesh gearbox, reverse drive, epicyclic (planetary) gearbox, forward speed, characteristic feature, rotate bodily, fixed axes, gearing, low gear, secure, shifting, gear, axle, constant-mesh gearbox

85. Find in the text English equivalents close in meaning to the following. Шестерня (передача), коробка передач, зубчатое соединение, дорожные условия, передняя скорость, обратный (задний) ход, первая передача, четвертая (прямая) передача, коробка передач со скользящими шестернями, коробка передач с постоянным зацеплением шестерен, эпициклическая (планетарная) коробка передач, стандартное зубчатое соединение, зафиксированные (неподвижные) оси

86. Translate into Russian.

1. Gearboxes are assembled and disassembled on special stands using special mechanisms. 2. In case of trouble in change-speed gearbox it can be repaired only in the workshop. 3. But in order not to get into trouble you should check the oil level in the gearbox casing. 4. In order not to get into trouble you should wash the breather channel. 5. One must change the oil in accordance with the lubrication schedule. 6. The driver has to wash the gearbox with a thin mineral oil. 7. One has to drain the used oil through the drain hole.

87. Complete the sentences using the words and expressions from the text.

1. The principal function of the gearbox is ... . 2. The gearbox provides ... . 3. Gearbox can be ... . 4. The sliding-mesh gearbox is … . 5. The constant-mesh gearbox is ... .

88. Translate into English.

1. Коробка передач предназначена для изменения скорости движения автомобиля. 2. Коробка передач обеспечивает четыре передние скорости и задний ход. 3. Коробки передач могут быть: со скользящими шестернями, с постоянным зацеплением шестерен и планетарного типа. 4. Самыми простыми являются коробки передач со скользящими шестернями. 5. Коробки передач с постоянным зацеплением шестерен используются наиболее часто. 6. Скользящие шестерни на валу коробки передач используются для обеспечения передних скоростей и обратного хода.

89. Are these statements true or false?

1. In order to get into trouble you should check the oil level in the gearbox casing. 2. One must change the oil in accordance with the lubrication schedule. 3. In case of trouble in change-speed gearbox it can be repaired by the driver himself. 4. The gears are used for shifting to secure the forward speeds and the reverse drive. 5. The gearbox provides four reverse speeds and one forward. 6. The characteristic feature of planetary gearing is that one gear rotates about its own axis and also rotates bodily about some other axis. 7. There are four constructional arrangements of gearboxes.

90. Translate the text from English into Russian

91. Write an essay of the text

Brakes

Brakes are used to slow or stop the car where it is necessary. Fig.1. Brake System a) piston A b) piston B c) brake shoe d) wheel It is one of the most important

mechanisms of the car as upon its proper performance the safety of passengers depends. Car brakes can be divided into two types, namely: drum brakes and disc brakes. The drum type may be either a band brake or a shoe brake. Depending on their functions, the automobile has foot brakes and hand brakes (parking brakes). According to their mode of operation, the brakes are classified as: mechanical brakes, hydraulic brakes, air brakes, electric brakes. Brakes are controlled by the brake pedal. Most braking systems in use today are hydraulic. This system consists of a master cylinder mounted on the car frame and wheel cylinders. When the driver pushes down on the brake pedal, it forces the piston to move in the master cylinder and brake fluid is delivered from it to the wheel cylinders. The piston movement causes brake shoes to move and the brakes are applied (the brake shoes are pressed against the brake drums). The air brake uses compressed air to apply the braking force to the brake shoes. Electric brakes use electromagnets to provide the braking effort against the brake shoes. Formerly brakes were applied only to the two rear wheels, but now all cars are equipped with all-wheels brakes. Today many improvements are being made in brakes. The basic troubles of the braking system are as follows: 1) poor braking action; 2) sticking brake shoes which would not return to the initial position after a brake pedal is released; 3) non-uniform braking of the left and the right wheels on a common axle; 4) leakage of brake fluid and air leakage in the hydraulic brake; 5) poor air tightness of the pneumatic brake control. If you have such troubles, you must: 1) check the action of the foot and hand brakes and leak proofness of the brake hoses connections, components of the hydraulic and pneumatic controls of the brakes, as well as of the vacuum-power system. 2) inspect the friction linings, wheel-brake springs, master and wheel cylinders of the hydraulic brake and the air compressor of the pneumatic brake using a test manometer to check it

92. Find out the approximate meanings of the following English words by comparing them to the corresponding Russian ones:

Mechanism, passenger, type, hydraulic, cylinder, vacuum, function, classify, classification, mechanical, electric, electromagnet.

93. Give derivatives. To press, to safe, to develop, to depend, to differ, to equip, to improve, to contribute

94. Give synonyms.

To have an examination, to come to the lecture, to finish, country, road, to require, difficult, essential, to construct, to get

95. Give antonyms.

Damage, different, expensive, narrow, weakness, simple, to lend, to restore, at once, to sell

96. Suggest the Russian equivalents.

Performance, the safety of passengers, to depend upon, drum brakes, disc brakes, brakes are applied, hydraulic assisted brakes, power assisted brakes, to press down on the brake pedal, under pressure, braking effort, push down on the brake pedal, brake shoes, force the fluid, master cylinder, band brake

97. Find in the text English equivalents close in meaning to the following. Тормоза, безопасность пассажиров зависит от правильной работы тормозов, барабанные тормоза, дисковые тормоза, тормоза с усилителем, гидравлический привод тормозов, жидкость под давлением, тормоза срабатывают, тормозное усилие, нажать на тормозную педаль.

98. Translate into Russian.

1. Brakes are the most important mechanism of the car. They are used to slow or stop the car where it is necessary. 2. The clutch is a friction device. It connects the engine to the wheels in the gearbox. It is used for freeing the engine from the gearbox, for starting the car and for releasing the engine from the car wheels. 3. It is fixed between the flywheel of the engine and the gearbox. 4. They are divided into 2 types, namely: drum brakes and disc brakes. 5. Most cars of today use hydraulic or

power assisted brakes. 6. They may be of 2 plates: friction disc and pressure disc. The friction disc is situated between the flywheel and the pressure disc.

99. Complete the sentences using the words and expressions from the text.

1. Brakes are used for … . 2. Brakes are one of ... . 3. Brakes may be of 2 types … . 4. Brakes are applied by ... . 5. Brakes are applied when … . 6. Car brakes can be divided into … .

100. Translate into English.

1. Тормоза являются наиболее важным механизмом автомобиля. 2. Они используются для замедления движения или остановки автомобиля. 3. Тормоза можно разделить на два типа, а именно: барабанные тормоза и дисковые тормоза. 4. На большинстве автомобилей используется гидравлический привод или пневматический привод. 5. Тормоза срабатывают, когда водитель нажимает на тормозную педаль.

101. Are these statements true or false?

1. Formerly brakes were applied to all wheels. 2. Most cars of today use power assisted brakes. 3. Brakes are not very important mechanism of the car. 4. Brakes are used to slow or to stop the car where it is necessary. 5. The hydraulic system consists of a master cylinder mounted on the car frame and wheel cylinders. 6. When the driver pushes down on the brake pedal, it forces the car to run faster. 7. The piston movement causes brake shoes to move

102. Translate the text from English into Russian.

103. Write an essay of the text

Steering System

To guide the car, it is necessary to have some means of turning the front wheels so that the car can be pointed in the direction the driver wants to go. The steering

wheel in front of the driver is linked by gears and levers to the front wheels for this purpose. The front wheels are on pivots so they can be swung to the left or right. They are attached by steering knuckle arms to the rods. The tie-rods are, in turn, attached to the pitman arm.

When the steering wheel is turned, gearing in the steering gear assembly causes the pitman arm to turn to the left or right. This movement is carried by the tie-rods to the steering knuckle arms, and wheels, causing them to turn to the left or right. The steering system incorporates: the steering wheel and column, steering gear, pitman arm, steering knuckle arm, front axle, steering knuckle pivot, tie-rods. There are several different manual steering gears in current use, as the rack and pinion type and the recirculating ball type. The rack and pinion steering gear is widely used. Another manual steering gear which is popular in imported cars is the worm and sector type. The steering wheel and column are the source of injury to the driver, air bags and other devices being developed now to save the life of a driver. Energy-absorbing columns must stop the steering wheel and column from being pushed to the rear as the front of the car is crushed in an impact. Energy-absorbing columns must also provide the driver with a tolerable impact as he moves forward and strikes the wheel with his chest. Steering gear and linkage may have the following basic troubles: excessive steering-wheel free play, bending of steering rod, oil leakage from the steering-gear case, disadjustment of steering gear. If there are some of them one must check the steering-wheel free play and steering gear performance while the car is running. Then you must check the steering-gear case for oil leakage by visual inspection and adjust the steering gear. Steering gear of the worm and roller type is adjusted by end playing in the steering worm shaft bearings.

104. Find out the approximate meanings of the following English words by comparing them to the corresponding Russian ones:

column, spindle, system, hydraulic, pump, reservoir, popular, type, effective, effectiveness, effectively, energy, function, to deform, deformation

105. Give derivatives.

To perform, to manufacture, to drive, to attach, to move, to safe, to steer, to leak

106. Give synonyms.

Much, to make, to consider, to care, to return, also, quantity, too, big, to come back

107. Give antonyms.

Free, similar, to offer, ordinary, strong, easy, empty, outside, early, always

108. Suggest the Russian equivalents.

To guide the car, steering wheel, steering column, steering mast, steering gear, steering arm, steering lever, (steering) pitman arm, steering knuckle, steering knuckle lever, steering knuckle arm, single tie-rod, drag link, steering gear connecting rod, steering drag rod, to turn to the left or right, energy-absorbing columns

109. Find in the text English equivalents close in meaning to the following. Чрезмерный свободный ход, картер коробки передач, типы рулевых механизмов, система рулевого управления, реечно-шестеренчатый тип, механизм с шаровой гайкой, механизм с червяком и сектором, рулевая сошка, рулевое колесо, рулевая колонка, зубчатое соединение, рулевая сошка, рычаги поворотного кулака, шарнирные соединения, рычаги и поперечные тяги

110. Translate into Russian.

1. To guide the car it is necessary to have some means of turning the front wheels. 2. The steering wheel in front of the driver is linked by gears and levers to the front wheels for turning the car in the direction the driver wants to go. 3. Without using the steering system the car moves only in the direct position. 4. Manufacturers can use rack and pinion type steering gear without choosing another type because "rack and pinion" type steering is very dependable. 5. Energy-absorbing columns must stop the steering wheel from being pushed to the rear when the front of the car

is damaged in an impact. 6. To turn the car you must have some means of turning the front wheels. 7. For this purpose the steering wheel and steering column are linked to the front wheels.

111. Complete the sentences using the words and expressions from the text.

1. The front wheels are on pivots so ... . 2. When the steering wheel is turned ... . 3. The steering wheel is linked ... . 4. Most manufacturers use ... . 5. Steering gear may be ... . 6. Steering knuckle arms and wheels are turned ... .

112. Translate into English.

1. Для управления автомобилем необходима система рулевого управления. 2. Рулевое управление включает в себя: рулевое колесо и рулевую колонку, зубчатое соединение, рулевую сошку, рычаги поворотного кулака и шарнирные соединения, рычаги и поперечные тяги. 3. Существуют различные типы рулевых механизмов, а именно: реечно-шестеренчатый тип, механизм с шаровой гайкой, механизм с червяком и сектором. 4. Когда водитель поворачивает руль влево или вправо, то рулевой механизм заставляет рулевую сошку поворачиваться влево или вправо. 5. Это движение передается поперечными тягами к рычагам поворотных кулаков и к колесам, заставляя их поворачиваться влево или вправо.

113. Are these statements true or false?

1. To guide the car it is necessary to have some means of turning the front wheels. 2. The steering wheel in front of the driver is linked by gears and levers to the front wheels for turning the car in the direction the driver wants to go. 3. With using the steering system the car moves only in the direct position. 4. Steering gear and linkage may not have any troubles. 5. Energy-absorbing columns don’t provide the driver with a tolerable impact. 6. The front wheels are on pivots and can be swung only to the right.

114. Translate the text from English into Russian.

115. Annotate the text

Lubricating System

Lubricants may be supplied to rubbing surfaces by splashing, by gravity or under pressure. Modern engines generally have lubrication systems in which all the three methods are simultaneously employed.

The lubrication systems of various engines and how they work differ but little at present. Pressure is used to lubricate main and crankpin bearings of crankshafts, piston pins, crankshaft bushes, timing gears and valve rocker arms. The rest of the parts are splash lubricated.

Gear oil pump delivers oil through channel and oil line to coarse-mesh filter. After passing through the coarse-mesh filter the oil passes under the cap of fine-mesh filter. With the engine warmed up, the oil flows farther along oil line to oil cooler mounted in front of the water cooler. The cooled oil returns to the filter unit and then to central main.

Oil pumps employed in engines can be subdivided into three types – gear, rotary and plunger. Gear pumps are the simplest and most reliable in operation and are therefore the most widespread. They are mounted on all modern Soviet engines.

Filters remove the products of wear, particles of carbon, resin and dust and other mechanical impurities from the lubricant. Three types of filters – gauze, coarse-mesh and fine-mesh – are installed in modern engines.

Oil coolers are used in many automotive engines. They are mounted outside as a rule, near the water cooler, and serviced by a common fan. In this case the design of the oil and water coolers is almost identical.Control instruments indicate the condition of oil in the system.

116. Translate words and phrases into Russian:

Lubricants, splashing, gravity, pressure, lubrication systems, piston pins, timing gears, valve rocker, Gear oil pump, coarse-mesh filter, plunger, widespread, fine-mesh, carbon, condition

117. Finish the sentences by selecting them from the text

1. Modern engines generally have ….
2. Gear oil pump delivers oil through channel and oil line to…
3. Oil pumps employed in engines can be subdivided into three types…
4. Oil coolers are used in…

118. Translate the text from English into Russian.

119. Annotate the text

Cooling system

Then an internal-combustion engine operates, the parts coming in contact with hot gases are strongly heated. If the temperature of the pistons, cylinder heads, valves and cylinders become too high, undesirable effects appear such as deterioration of cylinder filling, power reduction ignition of fuel. Very often the oil burns out and loses its lubricating properties.

If the engine is excessively cooled, the portion of heat that goes for useful work diminishes and the power of the engine drops.

The cooling system consists of the aggregate of all the devices ensuring the required thermal duty of the engine.

A water-cooling system operates in the following manner: the water present between the cylinder walls and the cylinder heads cools the heated inner walls and become heated itself in the process. It often flows to the radiator, where it is cooled down by air. The cooled water is again redirected to the engine water jacket.

Forced cooling, when the water is circulated by a pump, is most common in modern engines. Cooling systems may be open or closed. In the first case, the volume of the system is not closed tightly. In the second case the plug of the cooler is provided with two-way steam-air valve, which is opened by an excess pressure of steam in the system and also when the pressure in the cooler drops below atmospheric by 0.05-0.02 kg/cm2.

To enable the engine to operate normally, the temperature of the cooling water

should be maintained at 80-90 irrespective of the load and the temperature of the environment. For this purpose and also to speed up the warming of the engine in starting, provision is made for adjusting the cooling rate which can be varied by changing the volume of the air stream passing through the cooler and also by changing the rate of water circulation.

In addition to water cooling, modern international-combustion engines, especially low-power types, often air-cool the ribbed cylinder surfaces with the aid of fans.

120. Translate words and phrases into Russian:

internal-combustion engine, the pistons, undesirable effects, lubricating properties, diminishes and the power of the engine drops, ensuring, the heated inner walls, the plug, a two-way steam-air valve, the cooler drops, circulation, low-power types, cooling system.

121. Finish the sentences by selecting them from the text

1) The cooling system consists of the aggregate of all the devices…
2) Cooling systems may be open or closed. In the first case, the volume of the system is…
3) Cooling systems may be open or closed. In the first case, the volume of the system is…
4) To enable the engine to operate normally, the temperature of the cooling water should be…
5) In addition to water cooling, modern international-combustion engines, especially…

122. Translate the text from English into Russian.

123. Annotate the text

Fuel System

The fuel System is designed to store liquid gasoline and to deliver it to

the engine cylinders on the intake stroke in the form of vapor mixed with air. The fuel system must vary the proportions of air and gasoline vapor to meet the requirements of the various operating conditions. Thus, for initial starting with a cold engine a very rich mixture of about 9 pounds of air to 1 pound of gasoline is needed. After the engine has warmed up, it will run satisfactorily on a leaner mixture of about 15 pounds of air for each pound of gasoline. For ensuring acceleration and full load or high-speed operation, the mixture must again be enriched.

The fuel system consists of a tank in which the liquid gasoline is stored, a fuel line, or tube, through which the gasoline can be brought from the tank to the engine, a pump, which pulls the gasoline through the fuel line, and a carburetor, which mixes the gasoline with air. The carburetor is designed to mix each pound of gasoline with 9 to 15 pounds of air under various operating conditions. The richer mixtures of about 9 pound of air per pound of gasoline are for starting, initial warm-up, and acceleration, while the leaner mixtures of about 15 pounds of air per pound of gasoline are for normal over-the road operation.

124. Translate words and phrases into Russian:

The fuel System, store liquid gasoline, engine cylinders, vapor mixed, initial starting, acceleration, or tube, pulls the gasoline, the carburetor is designed

125. Finish the sentences by selecting them from the text

1. The fuel System is designed…
2. After the engine has warmed up, it will run satisfactorily on a leaner mixture of about...
3. The fuel system consists of a tank in which…
4. The carburetor is designed to mix each pound of gasoline

3. SUPPLEMENTARY READING

The technology of maintenance of the machines in the agricultural-industrial complex

The agricultural-industrial complex is taking now one of the first places in the agriculture. The well-timed cultivation of fields, sowing and harvesting greatly depend on the technological readiness of the agricultural machinery and auto transport. Machinery stoppage because of the technical defects causes big losses in the agriculture. It is worth saying that the ill-timed and low-quality maintenance of the agricultural machinery increases the level of the air pollution because of the waste gases. The agricultural-industrial complex has got the technical maintenance service that has the following goals: the constant maintenance of the high technical preparedness of the agricultural machinery, providing its work. In order to fulfill these goals, it is necessary to use the means of technical diagnostics, to mechanize the industrial sectors and the sections of technical maintenance, to provide them with the lifting machines and control devices, to improve the technology of technical maintenance, to create for repairers the necessary industrial and sanitary labour conditions. These factors help to increase the labor productivity when maintaining the agricultural machines, provide the shortening of labour and financial expenses. The main reasons of the agricultural machinery defects are wear of the rubbing surface, deformation and breakage of the parts, breach of the seat and coaxial parts, burning of the work surfaces of the engine parts because of the exceeding of the heat mode, formation of scale in the cooling system, formation of scale in the combustion chamber, precipitation of resinous substances in the absorbing manifold of the carburetor engine and etc. The parts that work in the conditions of high temperatures are subjected to wear because of the abrasion and also to the chemical corrosion and warping. Most of the defects in the power and other sets and in the agricultural machinery appear because of the wear of the parts – cylinders and pistons, crankpins and main journals of the crankshaft, the working surfaces of the valves of the engine and so on. That’s why in order to prevent these defects they shouldn’t allow the appearance of the limiting wears. It is reached by the creation of planned-precaution

system of maintenance of the agricultural machinery, the application of the operating materials-oils, lubrications, cooling and special liquids and by qualified technical maintenance.

Active Vocabulary

technological preparedness - техническая готовность

maintenance - обслуживание

technical defects - технические неисправности

labour productivity – производительность труда

mechanize – механизировать

financial expenses – финансовые издержки, расходы

rubbing surface – трущаяся поверхность

work surface – рабочая поверхность

coaxiality – соосность engine – двигатель, мотор

exceeding – чрезмерный, безмерный

heat mode – тепловой режим

cooling system – охлаждающая система

combustion chamber – камера сгорания

absorbing manifold – всасывающий трубопровод

warping – коробление crankpin – шатунная шейка

main journal – коренная шейка

crankshaft – коленчатый вал

limiting wear - предельный износ

planned-precaution system – планово-предупредительная система

Classification of tractors

The term tractor is applied to a self-propelling vehicle on wheels or tracks capable of hauling trailing or mounted agricultural implements, earth-moving equipment, various machinery, and load-carrying body.

The tractor is also a source of power for various stationary machines which are operated by means of a belt pulley.

Tractors are used in multitude of power applications in agriculture, construction, logging, trucking, irrigation and land reclamation.

Modern agricultural tractors can be classed in the following way:

1) By application, into:

a) standard tractors, designed to propel and power tillage, sowing, cultivation, and harvesting implements used on cereal crops;

b) all-purpose tractors, primarily adapted for intertillage and harvesting of row crops, such as beet, cotton, maize, etc., but useful in other field works;

c) orchard tractors, also employed on tea plantations and vineyards.

2) By means of obtaining traction, into:

a) wheel-type tractors;

b) track-type tractors and crawlers.

The wheel-type tractor is cheaper to buy and operate than its track-type counterpart and weighs less than the latter. It is also a more versatile power unit, as compared with the crawler, and finds its application in row and truck crops, orchards, berry plantations and as a highway tractor.

But where efficient operation on soils either water-logged or unstable is of primary concern, the crawler is a better alternative. The crawler is also less vulnerable to skidding and compresses the soil to a lesser extent than is the case with the wheeled tractor.

Orchard tractors are predominantly design adaptations of basic models.

The tractor is a complex vehicle made up of various assemblies which interact with one another in a certain way. The assemblies may vary from tractor to tractor as to their design and arrangement, but the principles of construction and operation are always the same.

The main tractor assemblies are: the engine, power-transmitting system, traction mechanism, controls power take-off attachments and accessories.

The engine serves to convert the heat energy of fuel into mechanical work.

The power-transmitting system is intended to transmit the rotary motion of the crankshaft to the drive sprockets.

The traction mechanism serves to transform the rotary motion of the drive sprockets into forward motion of the tractor. The power take-off attachments include a hydraulic lifting and control mechanism. The accessories include the cab with a cushioned seat, hood, lighting equipment, horn, dashboard, toolbox, etc.

The operator's comfort depends to a great measure on cab design. This is why it should meet special requirements. These vary with tractor type, seasonal and climatic conditions. General requirements may be summed up as follows.

The layout and internal dimensions of the cab should give the operator ample freedom of movement, easy access to controls, convenient and safe exit through the door.

Good visibility from the cab is also essential. The cab must be well sealed against ingress of dust, exhaust gases and fuel vapors. Cab ventilation should provide for sufficient air exchange and filtration of incoming air.

Choose the correct answer to complete each statement.

1. The term tractor is applied to

a) self-propelled vehicle on wheels or tracks;
b) a source of power;
c) various assemblies;
d) power-transmitting system.

2. Tractors are used in:

a) agriculture;
b) construction;
c) irrigation;
d) all of the above.

3. The wheel-type tractor is:

a) less versatile power units;
b) cheaper;

c) heavier;

d) more difficult to operate.

4. Crawler is used:

a) in row crops;

b) on berry plantations;

c) on water-logged soils;

d) in orchards.

5. Orchard tractors are:

a) conventional tractors;

b) design adaptation of basic model;

c) highway tractor;

d) complex vehicles.

6. The power transmitting system is used:

a) to transmit the rotary motion of the crankshaft to the drive sprockets;

b) to convert the heat energy of fuel into mechanical work;

c) to transform the rotary motion of the drive sprockets into forward motion of the tractor;

d) to perform a hydraulic lifting.

7. The comfort of a driver depends on:

a) climate conditions;

b) conditions of soil;

c) cab design;

d) type of a tractor.

8. The cab must be protected from:

a) insect pests;

b) dust and exhaust gases;

c) other tractor drivers;

d) vibration.

THE TRACTOR

Speaking of farm machines, the tractor must necessarily be mentioned in the first place. Today one cannot imagine practically any agricultural work done without a tractor. This steel horse is always ready for a job, day and night in any weather. With ease and grace it cuts through hard soil, sand and snow, bogland and marshes. Having a mighty pulling power, a tractor can pass through any difficult ground.

No other vehicle is better adapted to haul and work all kinds of agricultural machinery and implements than a tractor. It is a machine usually powered with a gasoline or Diesel engine and is used to draw and work agricultural implements for ploughing, sowing, harvesting, mowing and a large variety of other jobs. A tractor is also used to cut roads, dig ditches and pits, uproot stumps, cut the bush, etc. The tractor can be wheel or caterpillar type. The former is more powerful. Versatile and economic as it is, the tractor finds in fact no end of useful applications in farming, not to speak of lumbering where skidding tractors are the best means of bringing cut timber from out of the forest. Tractors can be used both for stationary and field work. Many agricultural machines are tractor-propelled, that is to say there is a power take off (PTO) to the tractor-hauled implement; or else, the farming devices are tractor-borne. On virgin and long-fallow lands heavy tractors with breaker ploughs are essential.

Land reclamation on boglands, calling for drainage, requires heavy-type tractors to which bog-and-brush ploughs are attached. Of course, as other machines, the tractor is being constantly improved and is highly adapted to everyday jobs on every farm.

Choose the correct answer to the following questions.

1. Which of these farm machines must be mentioned on the first place?

a) combine;

b) cotton picker;

c) tractor;

d) harrow.

2. What time is tractor ready for a job?

a) day;

b) night;

c) afternoon;

d) day and night.

3. What engine is used to power a tractor?

a) steam;

b) diesel;

c) diesel or gasoline;

d) gasoline.

4. What agricultural implements is a tractor used to draw?

a) only for harvesting and ploughing;

b) for moving;

c) for sowing and harvesting;

d) ploughing, sowing, harvesting and mowing.

5. What kinds of tractors are mentioned in the text?

a) wheel tractors and tracks;

b) skidding tractors and wheel;

c) caterpillar tractor and track;

d) wheel tractor, caterpillar, skidding tractor.

6. What tractors are of primary importance on long-fallow lands?

a) wheel tractor;

b) tractors with breaker ploughs;

c) caterpillar;

d) skidding tractors.

7. What tractors are widely used on lumbering?

a) high way tractors;

b) skidding;

c) wheel tractors;

d) track.

TRENDS IN TRACTOR DESIGN

It is known that the need for more food, feed and industrial crops regularly grows. Farmers usually meet these ever increasing demands by increasing crop yields. This largely depends on the quality of the machinery supplied by tractor and agricultural engineering industry. The most important machine used on farms is the tractor. The heart of the tractor is its power unit, that is, the engine.

The main trend adopted in designing new tractors and other farm machinery is as follows:

– to increase the capacity of an engine, mainly by increasing its power and field speed;

– to improve the design of transmission, chassis and the engine;

– to reduce fuel consumption and maintenance time;

– to improve labour conditions for tractor operators, etc.

The designers said that this trend result in basic improvements in tractor design. As a result, for example, both the wheeled and track-type general purpose tractors T-

150 used in conjunction with trailing or mounted machines and implements are now able to perform not only the number of routine operations, such as soil cultivation, sowing and harvesting, but also land reclamation, earth-moving and other jobs. Of great importance now is that both the wheeled and the crawler models have up to 70% of standardized parts, which is of great importance.

The most important feature of the T-150 is its high power which provides higher field speeds as compared to other general-purpose tractors. Its other important feature is the dual transmission system. The tractor is equipped with an all-metal cab which may be heated and ventilated. The cab had greatly improved labour conditions.

The basic technical data (specifications) of the T-150 crawler-type tractor are as follows:

engine power – 150 hp, at 2000 r.p.m.

fuel consumption per brake horse power – 185 gph

range of speeds – 2.68 to 15.89 km/h

average soil compacting pressure – 0,44 kg/cm²

mass (weight) – 7400 kg.

HILLSIDE TRACTOR

It is a general purpose crawler. It is intended for performing various agricultural and forestry jobs in conjunction with mounted machines and implements. The tractor operates by a shuttle method on mountaneous slopes with gradient up to 20°.

The shuttle method of soil cultivation means that the tractor with front- and rear-mounted implements moves back and forth without turning at the end of the plots. On the forward run the rear-mounted implement is in the working position, while the front-mounted implement is in the transport position. During the reverse run the front-mounted implement is in the working position, while the rear-mounted one is in the transport position.

Choose the correct answer to complete each statement.

1. Cultivation of row crops refers to tillage operations performed … .

a) before seeding;

b) after seeding;

c) after plowing;

d) after harrowing.

2. Cultivation … the growth of weeds.

a) retards;

b) fasten;

c) eliminates;

d) stops.

3. Tillage implements are adjusted … .

a) by hands;

b) by hydraulic controls;

c) by hitch;

d) by spring release.

4. Secondary tillage can … .

a) plow the soil;

b) refine the soil;

c) connect the soil;

d) adjust the soil.

5. Tractor-drawn plows are … with lifting mechanism.

a) prevented;

b) leveled;

c) provided;

d) retarded.

6. This weeder is effective in killing … .

a) insect pests;

b) weeds;

c) field crops;

d) seeds.

7. Horse-drawn … has now been replaced by tractor-mounted units.

a) tractor;

b) engine;

c) cultivator;

d) combine.

TILLAGE AND TILLAGE IMPLEMENTS

As you know tillage is used to prepare the ground for seeding or planting, to retard weed growth and to improve the physical condition of soil. Tillage includes various operations: plowing (primary tillage), harrowing (secondary tillage), deep tillage, cultivation, fertilizing, etc.

Primary tillage or plowing may be done by various kinds of plows, such as two-way plows, disc plows, rotary plows, etc. The plows may be both tractor-mounted and tractor-drawn.

Tractor-drawn plows are attached to the tractor by an adjustable hitch which permits horizontal adjustment of the plow and prevents «nosing» of plow points. The hitch incorporates a spring release or some other device which disconnects the plow when it strikes an obstacle. In some plows each bottom is held in working position by a heavy spring which permits the bottom to raise and pass over the obstacle. Tractor-drawn plows are provided with a lifting mechanism which raises them from or lowers them to their working position. The lifting mechanism may be either mechanical or hydraulic. There are also two levers: one for regulating the depth of plowing, the other for leveling the plow. A tractor-mounted plow is a compact unit of high

maneuverability which is adjusted by means of hydraulic controls. Due to hydraulic controls the tractor operator can quickly connect and disconnect the implements without leaving the cabin. Tractor-mounted plows, like tractor-drawn plows, have two levers – one is used for regulating the depth, the other – for leveling the plow. Secondary tillage, or harrowing is done to refine the ground after plowing. Depending on the physical condition of soil and other factors various kinds of harrows must be used, such as, disc harrow, spike-tooth harrow, spring-tooth harrow, etc. It goes without saying that all types of harrows, like plows, are either tractor-mounted or tractor-drawn. There are other implements intended for retarding weed growth, such as row-crop cultivators, spring-tooth weeders, etc.

Choose the answers given bellow to complete each statement.

1. Tillage is used

a) to prepare the ground for seeding;
b) to retard weed growth;
c) to improve the physical conditions of soil;
d) for all of the above.

2. Primary tillage is done by

a) different types of harrows;
b) various kinds of plows;
c) different kinds of implements;
d) different tools.

3. The plows may be

a) self-propelled;
b) tractor-mounted;
c) tractor-drawn;
d) tractor-mounted and tractor-drawn.

4. A spring release is used

a. to turn the plow;

b. to lift the plow;

c. to disconnect the plow;

d. to raise and low the plow.

5. The lifting mechanism of a tractor-drawn plow may be

a) mechanical;

b) manual;

c) hydraulic;

d) mechanical or hydraulic.

6. By means of hydraulic controls the operator can

a) propel the tractor;

b) lift implements;

c) low implements;

d) connect and disconnect implements.

7. Secondary tillage is used

a) to plow the soil;

b) to refine the soil;

c) to fertilize the soil;

d) to seed plants.

THE COMBINE

We shall now consider the most comprehensive and versatile machine: the combine. It has been very properly named «The Ship of the Fields».

The combine is an agricultural machine – usually operated by one man – which cuts the corn, then threshes out the grain and winnows it. The cleaned grain is

gathered in the bin of the combine and then taken away by lorries. The straw is returned to the field and made into bunches.

No end of other specialized harvesters are in existence, each of them specially designed for purpose intended. Thus, we find cotton harvesters, pea harvesters, tomato harvesters, and even cherry and orange harvesters.

For harvesting root and tuber crops there exist various diggers, such as potato diggers, carrot diggers, onion diggers, even up to special sweet-potato diggers. But perhaps the best labour-saving devices are tuber and root harvesting combines among which the potato harvester stands out with particular prominence.

Cotton takes perhaps the leading place among all industrial crops. For the harvesting of cotton up to quite recent times manual methods alone were used.

But today, with the advent of comprehensive mechanization, most, if not all, labour-consuming kinds of labour are being taken care of by labour-saving devices. The cotton picker is usually tractor-mounted. Sometimes its working mechanisms operate from a PTO. During one pass this machine gathers cotton from two rows of the cotton plant. The cotton picker is manned by a single operator and it replaces the need to have twenty manual pickers.

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