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АНГЛИЙСКИЙ ЯЗЫК

*Методические рекомендации к практическим занятиям
для студентов всех специальностей
и всех направлений подготовки
очной и заочной форм обучения*

Задания по развитию навыков устной речи

Часть 2

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Составители: ст. преподаватель Е. С. Вербицкая;
ст. преподаватель Е. Н. Мельникова;
ст. преподаватель А. А. Размахнина

Рецензент А. В. Карпенко

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Часть 2

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| Корректор | Т. А. Рыжикова |
| Компьютерная верстка | Н. П. Полевничая |

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I. THE CONTEMPORARY WORLD

Unit 1. GLOBAL PROBLEMS

1. Discussion.

1. What are the world's biggest and most urgent problems?
2. What is the most important issue facing the world today? Why?

2. Study the following words.

| | | |
|----|---------------|------------------------------|
| 1 | affect | воздействовать (на что-либо) |
| 2 | contaminate | загрязнять |
| 3 | deprive | лишать (чего-либо) |
| 4 | interaction | взаимодействие |
| 5 | impact | влияние, воздействие |
| 6 | famine | голод |
| 7 | joint efforts | совместные усилия |
| 8 | outcome | последствие, результат |
| 9 | prosperity | процветание, благополучие |
| 10 | unify | объединять |

3. Read the following text.

GLOBAL PROBLEMS

Globalization is a process of **interaction** between people, companies and governments of different nations. It is driven by international trade and the development of information technology. It has a great influence on our environment, culture, political and economic systems. Globalization can be described as a process by which the people of the world are **unified** into a single society and function together. It is impossible to define whether globalization is good or bad. Some people believe that free trade between countries offers **prosperity** and economic growth for all nations. Others think that globalization threatens the environment as well as national cultures.

Global problems are those which **affect** the whole mankind. As the world grows smaller, events in one area have a greater **impact** on other parts of the world. These problems can't be solved in one day and require organized efforts of the world community. Some of the global problems that affect the modern world are environmental pollution, resource issues, overpopulation, **famine**, and others.

Currently, the environment is so **contaminated** that urgent measures should be taken. A single person cannot be blamed for the world pollution; however, everyone should take care of their environment. It is vital that environmental issues are treated

internationally. **Joint efforts** can help to avoid a global environmental disaster. For instance, governments should offer support to companies and organizations involved in manufacturing, industry or agriculture in order to find eco-friendly approaches.

At present, a lot of people live in poverty. They are **deprived** of common necessities such as food, clothing, shelter and safe drinking water. They do not have access to education, health care and employment. Poverty in some areas affects other areas because of migration and its impact on the world economy.

Another problem is overpopulation. Overpopulation is associated with negative environmental and economic **outcomes** ranging from environmental pollution and depletion of natural resources to intensive farming practices and unemployment.

Growing population means more demand for energy. Countries must find ways to reduce fossil fuel consumption and take action to promote a greater use of renewable energy resources.

If these problems are not recognized and the appropriate actions are not taken to slow down or put an end to them, the consequences can be extremely serious. Not only the government, but also all people are in charge. People and the governments should get together and try to solve these problems in order to make this planet a safe place to live.

4. Match the words from the text (A) with the definitions (B).

| A | B |
|----------------|--|
| 1. approach | a) work |
| 2. depletion | b) to find an answer to a problem |
| 3. employment | c) medical services |
| 4. health care | d) damage to the environment |
| 5. in charge | e) a reduction in something |
| 6. pollution | f) a way of considering or doing something |
| 7. poverty | g) to help something become successful |
| 8. promote | h) responsible for |
| 9. solve | i) extremely important |
| 10. vital | j) the condition of being extremely poor |

5. Find the word in the text that means the following.

- a) energy that is produced using fuels such as coal or gas, etc., rather than using the sun, wind;
- b) energy produced using the sun, wind, etc., rather than using gas or coal;
- c) say that someone did something wrong and is responsible for something bad happening;
- d) a need for something to be supplied;
- e) the process of people travelling to a new place usually in order to find work and live there;
- f) very important and needing attention immediately;

- g) to make something become smaller in size, amount, etc.;
- h) the population of an area in too large numbers;
- i) try to prevent something bad from happening;
- j) a result of an action or situation.

6. Match words in Column A with words in Column B. Skim the text and see how these word combinations are used in the text. Use these words in sentences of your own.

| A | B |
|----------------------|--|
| 1. offers | a) the modern world |
| 2. require | b) eco-friendly approaches |
| 3. urgent measures | c) education, health care and employment |
| 4. promote | d) fossil fuel consumption |
| 5. avoid | e) prosperity |
| 6. find | f) a greater use of renewable energy resources |
| 7. have access to | g) a safe place to live |
| 8. affect | h) global environmental disaster |
| 9. reduce | i) should be taken |
| 10. make this planet | j) organized efforts |

7. Match the sentence beginnings with the correct endings.

| | |
|---|--|
| 1. The world is becoming increasingly interconnected as a result | a) benefits and challenges. |
| 2. Globalization has grown due to advances | b) the quality of life for many people. |
| 3. Information technology | c) from globalization, including new customers and partners. |
| 4. Globalization offers both | d) of increased trade and cultural exchange. |
| 5. It can improve | e) in transportation and communication technology. |
| 6. Increased global interactions have led | f) has been a major driving force behind globalization. |
| 7. Global economic growth and industrial productivity are | g) cultural exchanges. |
| 8. Globalization has opened | h) foreign markets and provided various ways to access them. |
| 9. Businesses gain a great deal | i) both the driving force and the major consequences of globalization. |
| 10. Globalization has increased | j) to growth of international trade. |
| 11. Globalization has made it easier than ever | k) thanks to the development of the digital world and the power of the internet. |
| 12. Books, movies, and music are now instantaneously available all around the world | l) to access foreign culture, including food, movies, music and art. |

| | |
|--|--|
| 13. Globalization is responsible | m) on the environment as it contributes to the depletion of natural resources and the destruction of ecosystems. |
| 14. Globalization has negative effects | n) for serious environmental problems such as greenhouse gas emissions, global warming or air pollution. |
| 15. The worldwide distribution of goods is also creating | o) should find eco-friendly approaches. |
| 16. Global problems | p) of the opportunities that globalization offers. |
| 17. Appropriate actions | q) must be taken to slow down negative effects of globalization. |
| 18. Environmental issues | r) must be treated internationally. |
| 19. Companies involved in manufacturing, industry or agriculture | s) a big garbage problem. |
| 20. People should take advantage | t) require organized efforts of the world community. |

8. Complete the gaps using words from the box.

water shortages, hunger, poverty, impact, environmental, habitat, population, recurring problem, food, overpopulation, unemployment

1. It is estimated that ___ destruction from human activity is the primary cause of risk for 83% of endangered plant species.
2. Economic growth has long been seen as the key to reducing ___.
3. World hunger and food insecurity is a ___ in most parts of the developing world.
4. The current ___ problems pose a lot of risk to health of humans and animals.
5. Humans continue to have a large ___ on the environment.
6. The Earth's ___ may grow by three billion in the next 50 years or so.
7. Experts warn that in the next 20 years, half of the world's population could face ___.
8. Each advance in producing more ___ is often met with a corresponding increase in population.
9. In the past fifty or so years, the growth of population has boomed and has turned into ___.
10. ___ is the biggest hallmark we see when talking about overpopulation.
11. When a country becomes overpopulated, it gives rise to ___ as there fewer jobs to support large number of people.

9. Agree or disagree with the following statements.

1. Global problems are those which affect developing countries.
2. Nowadays we have much more problems than our ancestors had.
3. Introduction of new technologies is a result of globalization.
4. Globalization leads to losing national integrity.
5. A single person cannot be blamed for the environment pollution.
6. Poverty in some areas affects other areas.

7. Overpopulation is closely connected with the problem of food shortage.
8. All efforts should be made to solve the world's problems.

10. Discuss the following questions with a partner.

1. What should we do to raise awareness about the world's problems?
2. How should global problems be approached?
3. What is the role of science in solving the world's problem?

Unit 2. ENVIRONMENT AND PEOPLE

1. Discuss the following quotes.

1. "Because we don't think about future generations, they will never forget us."

Henrik Tikkanen

2. "There's so much pollution in the air now that if it weren't for our lungs there'd be no place to put it all." *Robert Orben*

3. "Modern technology owes ecology an apology." *Alan M. Eddison*

2. Read the text and find the words which mean the following.

Paragraph 1: 1. to get or gain something; 2. unwanted or unnecessary involvement in something; 3. a solid, powder, liquid, or gas matter with particular properties; 4. to have an effect on something esp. negative;

Paragraph 2: 1. requiring immediate action or attention; 2. reduction in the number or quantity; 3. likely to lead to a negative outcome; 4. a kind, sort, or variety;

Paragraph 3: 1. site for depositing garbage; 2. waste water conveyed in sewers;

Paragraph 4: 1. to make worse or more serious; 2. radioactive particles that are carried into the atmosphere after a nuclear explosion.

ENVIRONMENT AND PEOPLE

The Earth is the only planet in the solar system where there is life. For centuries man had lived in harmony with nature until industrialization brought **human society** into conflict with **natural environment**. Today the conflict between man and nature has **acquired** a dramatic character. With the development of civilization man's **interference in** nature has increased. Every year the world industry **pollutes** the atmosphere **with** millions of tons of dust and other **harmful substances**. The seas and rivers are poisoned with **industrial waste**, chemical and **sewage discharge**. People who live in big cities are badly **affected** by harmful discharge from plants and city transport. The increased noise level is as bad for human health as **lack of** fresh air and clean water.

Among the most **urgent problems** are the **depletion** of the ozone layer, acid rains and global warming that lead to **unfavorable changes** in the world climate. Another serious problem is disappearance of forests. Some of them die from acid rains, others

are cut down. Rain forests disappear at an **alarming rate**. If man continues to cut down rain forests, more than one million **species** of plants and animals will **become extinct**.

Water is often looked upon as a **dumping place**, where sewage and **industrial wastes** can be washed away. As a result some rivers and lakes are so badly polluted that they are **unfit** for bathing.

There are a lot of places on our planet that need **immediate help**. Our country is no exception. The **nuclear accident** at Chernobyl power plant has seriously **aggravated** the ecological situation in Belarus. The Chernobyl disaster in 1986 was the world's worst nuclear accident. More than 60 % of the **fallout** from the plant affected Belarusian territory.

Today people **are aware** that our life **depends on** the state of the environment. So **nature protection** should become **everybody's concern**.

3. Match a word in Column A with a word in Column B. Skim the text and see how these word combinations are used in the text. Use these words in sentences of your own.

| A | B |
|----------------|----------------|
| 1. human | a) substance |
| 2. natural | b) place |
| 3. harmful | c) discharge |
| 4. industrial | d) help |
| 5. sewage | e) environment |
| 6. noise | f) plant |
| 7. urgent | g) accident |
| 8. alarming | h) protection |
| 9. unfavorable | i) safety |
| 10. dumping | j) level |
| 11. immediate | k) changes |
| 12. nature | l) problems |
| 13. nuclear | m) waste |
| 14. power | n) rate |

4. Fill in the gaps with prepositions where necessary.

1. People had lived ___ harmony with nature before development of civilization brought them ___ conflict with nature.

2. Man's interference ___ nature has acquired ___ a dramatic character.

3. City traffic pollutes the atmosphere ___ harmful discharge.

4. Plants poison rivers ___ sewage and industrial waste and look ___ them as dumping places, which makes water unfit ___ consuming.

5. Pollution leads to lack ___ fresh air and water.

6. Species of plants and animals become extinct ___ an alarming rate.

7. Fallout ___ the plant after the nuclear accident ___ Chernobyl power plant aggravated ___ the ecological situation in Belarus.

8. The future of the planet depends ___ us being aware that natural environment is affected ___ the actions of the society.

5. Agree or disagree with the following statements.

1. The ecological problems we observe today are the results of the development of civilization and man's interference in nature.

2. Today the state of the environment is better than it was centuries ago.

3. Industrial discharge is one of the major pollutants of the environment.

4. Noise pollution is not an urgent environmental issue.

5. Deforestation leads to a number of other ecological problems.

6. The only environmental issue on the territory of Belarus is the consequences of the nuclear accident at Chernobyl power plant.

6. Discuss the following questions with a partner.

1. Have human society and nature ever lived in harmony with each other?

2. Modern industry affects the atmosphere, rivers and seas, doesn't it?

3. How does the state of the environment threaten people living in big cities?

4. What are the most urgent ecological problems nowadays?

5. What makes rivers and lakes unfit for bathing?

6. How did the nuclear accident at Chernobyl power plant aggravate the ecological situation in Belarus?

7. Why is it important that nature protection becomes everybody's concern?

8. Do you know of any measures that are now being taken around the world to protect nature and save it for the future generations?

UNIT 3. SCIENCE AND TECHNOLOGY

1. Discussion.

1. What is the role of science and technological innovations?

2. What are the most important technological advances of the past decade?

2. Study the following words.

| | | |
|----|-------------------|-------------------------------------|
| 1 | revolutionize | радикально изменить |
| 2 | back up | поддерживать |
| 3 | advance | прогресс, достижение |
| 4 | investigate | исследовать |
| 5 | put into practice | применять на практике, осуществлять |
| 6 | contribute to | способствовать |
| 7 | result in | привести к (чему-либо) |
| 8 | productivity | производительность |
| 9 | access | доступ |
| 10 | apply | применять |

3. Read the following text.

SCIENCE AND TECHNOLOGY

Over the years, technology has **revolutionized** the world and **affected** every aspect of life. Technological progress has always been **backed up** by scientific **advances**. Scientists continually **investigate** new topics and **put** their knowledge and experience **into practice** improving people's life. Advances in science have led to innovative products and technologies and **contributed** greatly to economic growth.

Innovations have **resulted in** huge changes in agriculture and manufacturing. Machines and technological systems replaced ancient agricultural practices such as working animals and manual labor. Manufacturing robots automated repetitive tasks and increased **productivity**.

Today, people have better ways to communicate and travel, better medical care and better **access** to information and education. Technology has dramatically changed the teaching and learning process. Students find information on the Internet, make use of different educational apps or take online courses covering different subjects.

Examples of technological changes include new kinds of media, communication systems, fuel-efficient cars, innovative construction technologies, computer and information technology. In general, technological advances have made humans more productive and improved standards of living.

Technology clearly has done a lot to make human life easier, more enjoyable and convenient. However, technological advances can have negative impacts on the environment and society if they are not **applied** in a smart and responsible way. Some of the most troubling issues associated with the increasing use of technologies are pollution caused by industrialization, depletion of natural resources, health problems, etc.

4. Match the words from the text (A) with the definitions (B).

| A | B |
|------------------------|--|
| 1. technology | a) repeated or customary actions |
| 2. scientist | b) practical use of scientific discoveries |
| 3. experience | c) the process of developing industry within a country |
| 4. practices | d) an expert who studies or works in one of the sciences |
| 5. economic growth | e) physical or mental effort |
| 6. labor | f) the level of wealth and comfort people have in a particular society |
| 7. robots | g) the internet, newspapers, magazines, television, etc., considered as a group |
| 8. standards of living | h) a machine controlled by a computer that is used to perform jobs automatically |
| 9. media | i) an increase in the economy of a county or an area |
| 10. industrialization | j) the process of getting knowledge from doing, seeing or feeling things |

5. Find the word in the text that means the following.

- a) make or become better;
- b) greatly;
- c) using new methods or ideas;
- d) to put something in the place of something;
- e) very old;
- f) available through the internet;
- g) done with the hands;
- h) repeated many times and are therefore boring;
- i) clever and effective;
- j) causing worry or anxiety.

6. Match words in Column A with words in Column B. Skim the text and see how these word combinations are used in the text. Use these words in sentences of your own.

| A | B |
|--------------------------|--|
| 1. put | a) to information and education |
| 2. resulted | b) into practice |
| 3. make use | c) on the environment and society |
| 4. take | d) to innovative products and technologies |
| 5. led | e) in huge changes |
| 6. have negative impacts | f) to economic growth |
| 7. contributed | g) with the increasing use of technologies |
| 8. better access | h) in a smart and responsible way |

| | |
|----------------|----------------------------------|
| 9. applied | i) online courses |
| 10. associated | j) of different educational apps |

7. Match the sentence beginnings with the correct endings.

| | |
|---------------------------|---|
| 1. Technology | a) have better access to information and education. |
| 2. Technological progress | b) has affected every aspect of life. |
| 3. Advances in science | c) have improved standards of living. |
| 4. Innovations | d) has always been backed up by scientific advances. |
| 5. People | e) can have negative impacts on the environment and society. |
| 6. Technological changes | f) have helped to increase business opportunities and have resulted in the production of new products and services. |
| 7. Technological advances | g) have contributed greatly to economic growth. |

8. Complete the gaps using words from the box.

| |
|---|
| <i>responsibly average effects advancements tasks automation businesses developments technology innovations</i> |
|---|

- From the first metal tools, to the wheel and the printing press, ... have changed the course of history.
- The advancement in ... has been exceptionally fast in the 20th and 21st century.
- Technology has helped people to carry out complex ... in a simpler and quicker manner.
- ... in information technology specifically set the stage for more technological evolution.
- The IT revolution of recent years is the culmination of many ... in computer technology.
- Technologies have changed the way ... operate.
- Medical technologies have greatly increased ... life expectancy.
- In spite of concerns that ... would cause mass unemployment, technology has continually led to the creation of new jobs.
- Technology has had both positive and negative ... on society.
- Technology can be a powerful tool for change, especially when used

9. Agree or disagree with the following statements.

- Technology increases efficiency and gives us safer machines which do not have a negative effect on the environment.
- Recent advances in artificial intelligence and machine learning mark the beginning of a seismic shift in the world.
- Developments in IT are likely to have more negative effects than positive in the future.
- Progress in technology is not bad because it gives us new communication technologies, medical breakthroughs and economic growth.

5. Green energy solutions are possible thanks to technology.

6. Technological progress and innovations are bringing humans into a new era of prosperity and well-being (economy, healthcare, telecommunications).

7. Technology may be dangerous as there are a lot of processes which scientists cannot control and one mistake can destroy the entire ecosystem.

Unit 4. THE INTERNET

1. Discussion.

1. The Internet is making the world smaller by bringing people together.

2. Nowadays, anyone who cannot speak English and is incapable of using the Internet is regarded as almost illiterate.

2. Read the following text.

THE INTERNET AND ITS IMPACT ON SOCIETY

The Internet is one of the most important inventions in history. One of the biggest advantages of the Internet is “communication”. Nowadays, with the use of the Internet people can communicate with others from any part of the globe. Through the presence of the social networking sites, people can **communicate** with their families regardless of their distance from each other. With the help of the World Wide Web, you may get to know people you might have never met in person.

Many universities and research institutions are linked. They are able to exchange **experience**, **novelties** and often they start new projects together. Articles can be co-authored, business deals can be **finalized**, degrees can be earned and medical advice can be given.

With the Internet, it has also become much easier to search for jobs, business opportunities, etc. as there are many forums, communities and services which offer great **assistance** in this regard.

The Internet has also made lives comfortable. One doesn't have to wait for hours in the queues to pay bills, taxes or withdraw money and buy tickets or book hotels. With the help of online services, all of these can be quite conveniently done using computers or mobile phones. Apart from business and communication, the Internet has also gradually become the biggest **entertainment** medium.

One more major **benefit** of the Internet is information. It provides lots of information that people need. It has lots of search engines that can give different kinds of information. But, like all the technological innovations of the modern era, there are certain negative aspects of the Internet which pose great threat to its users and society as a whole.

Some Web services may be **harmful** because of the ways in which they offer students alternatives to doing their work. There are numerous sites on the Web that

offer term papers and book reports for sale, or even for free. This raises numerous issues concerning **plagiarism** and work ethic.

Spammers and hackers can **invade** your privacy and get personal/confidential information, which otherwise they will never get access to.

With social networking sites, people are getting more and more **engrossed** in the virtual online world. As a result, social and family ties are getting thinner by the day.

Though the Internet has become a lifeline of modern economy and is an indispensable part of our daily lives, its **hazards** are also significant. But with **moderation** and **discretion**, people can reduce the negative impacts of the Internet.

3. Match the words from the text with the definitions.

| | |
|------------------|---|
| 1. communicate | a) something new and unusual; |
| 2. experience | b) performances that people enjoy; |
| 3. novelties | c) the process of taking another person's work, ideas, or words, and using them as if they were your own; |
| 4. assistance | d) to express thoughts, feelings, or information to another person, for example by speaking or writing; |
| 5. entertainment | e) so interested or involved in something that you think about nothing else; |
| 6. benefit | f) help given to someone or help that allows something to be done; |
| 7. harmful | g) something that can be dangerous or can cause damage or accidents; |
| 8. plagiarism | h) the quality of being careful about what you do; |
| 9. invade | i) knowledge and skill that is gained through time spent doing a job or activity; |
| 10. engrossed | j) to get involved in someone's life without their permission; |
| 11. hazards | k) actions, that are not excessive or extreme; |
| 12. moderation | l) careful and sensitive behavior; |
| 13. discretion | m) an advantage you get from a situation. |

4. Skim the text and see how the following word combinations are used in the text. Use these words in sentences of your own.

| | |
|-------------------------------------|--|
| a) important inventions | h) plagiarism and work ethic |
| b) social networking sites | i) invade your privacy |
| c) exchange experiences | j) make a conscious decision |
| d) to search for jobs | k) the virtual online world |
| e) the biggest entertainment medium | l) an indispensable part of our daily lives |
| f) search engines | m) reduce the negative impacts of the Internet |
| g) technological innovations | n) engrossed in the virtual online world |

5. What do you like most? Rank these and share your rankings with your partner.

finding out information; reading online books and e-books; shopping; e-mail; downloading music; watching online videos; looking for holidays; keeping up-to-date with news and sporting events; playing games; social networking; online education; taking photos.

6. Are you dependent on the Internet? Ask your partners and complete this table. Present the results of the interview.

| How often do you... | Answer | Is this a problem? |
|--|--------|--------------------|
| really want to get online? | | |
| lie about how much time you spend online? | | |
| check your e-mail before doing other things? | | |
| choose the Internet to going out with friends? | | |
| say "just a few more minutes" when online? | | |

7. Discuss the following questions with a partner.

1. How is the Internet different from other types of media?
2. What are its strengths and weaknesses as a communication medium?
3. How has the Internet changed the way people work or study over the past five years?
4. How have our shopping habits changed over the past years?
5. How might the Internet affect our real-life relationships?
6. Do you think the Internet affects your relationships with others?
7. Does using the Internet make you feel happier?
8. How would you feel about having no Internet access for a couple of days?
9. What do you most enjoy about the Internet and why?
10. What do you least enjoy about the Internet and why?
11. What would life be like without the Internet?

II. CAREERS IN ENGINEERING AND ECONOMICS

Unit 1. CAREERS IN ENGINEERING

1. How would you answer the following questions? Discuss them in pairs.

1. Why engineering is a good career?
2. Who makes a good engineer?
3. Why do you think that the career in engineering is the right one for you?
4. Are you scrupulous and interested in making technologies and production more efficient?
5. Are analyzing and evaluating your strong points?
6. What are the job chances for engineers in the near and far future?

2. Match the following words and word combinations with their definitions.

| A | B |
|------------------------|--|
| 1. career | a) eager to know or learn something |
| 2. challenge | b) who invented a process or device or who invents things as an occupation |
| 3. inventor | c) a duty to deal with something or to have control over someone |
| 4. communication skill | d) something new and difficult which requires great effort and determination |
| 5. team player | e) the job or profession someone does for a long period of their life |
| 6. curious about | f) ability to share or exchange information by speaking or writing |
| 7. job opportunities | g) a person who works well with other people in order to achieve things |
| 8. responsibility | h) a chance for employment/promotion |

AN ENGINEER CAREER

Who makes a good engineer? Well, if you're innovative and like a **challenge**, then engineering may just be the right **career** field for you. The best engineers really like to solve complex problems. They are also typically true **inventors**. Math and science is an engineer's playground. So if you struggled through your algebra, this career may not be the right fit for you.

Most engineers work as a team, therefore you should be a **team player** and possess great **communication skills**. This will be highly important when planning and creating new projects. Engineers are also practical, innovative, creative and **curious about** how things work. So many innovative technologies created by engineers help make the world safer and healthier. They help people and improve the environment.

Engineering Specialties of the Belarusian-Russian University

Careers in engineering are popular among young people. Engineering contains a large number of **job opportunities** and specialties but it isn't for everyone. It requires the ability to perform complex computations quickly, to be creative and innovative and

to be ready to take **responsibility** for the safety of others. If you are good at science and math, have creative thinking and want to really make a difference in the world, an engineering career is the right one for you and the Belarusian-Russian University is a good institution for getting a University and Engineer diploma.

All industries today need well-trained and qualified professionals. Our University offers courses that teach the skills necessary for a managerial role in the specific industry. Students learn the latest practices and specialize in one or more areas. Before graduation, an engineering student will also have firm knowledge of computer applications to be used in the engineering career field.

There is a number of engineering fields to choose from, like mechanical engineering, electrical engineering, civil engineering, computer engineering, automotive engineering, welding engineering and quality control engineering, depending on somebody's interests and abilities.

3. Fill the blanks with the words from the box.

computers, deals, electricity, homes, concerned, maintenance, makes, machinery

Engineering is about putting ideas into action. Civil engineering is ___ with building roads, bridges, airports, etc. Mechanical engineering ___ with the manufacture of cars, trains, planes, ___ of all kinds and the tools needed to construct them. A mechanical engineer designs, develops and ___ the machines and different processing equipment. Electrical engineering is about the generation and distribution of ___ and its many applications. Electrical engineers provide all the services we need in our ___ and places of work, including lighting, heating, air-conditioning, ventilation, and lifts. Electrical engineers are also concerned with the production and distribution of electricity to homes, offices, industry, hospitals, Universities and schools, and the installation and ___ of the equipment involved in these processes. Computer engineering is concerned with developing ___ and their components.

4. Choose the right answer.

A MECHANICAL ENGINEER is

1. an engineer who designs and builds machinery and supervises its maintenance
2. an engineer who designs and builds towers and bridges
3. an engineer who is responsible for personnel
4. a voluntary worker who helps disabled people.

A CIVIL ENGINEER is

1. an engineer who designs and builds ships and supervises their maintenance
2. an engineer who designs computerized equipment and programs
3. an engineer who is concerned with the production of electricity
4. a person who designs and builds roads and bridges.

AN ELECTRICAL ENGINEER

1. an engineer who is responsible for building tunnels and motorways

2. an engineer who deals with the production and distribution of electricity to homes and businesses
3. an engineer who designs and manufactures machinery of all kinds
4. an engineer who develops and tests the software to make our computers work.

5. Questions and tasks.

1. Can you say now that the career in engineering is the right one for you?
2. Describe various aspects of the work of an engineer.
3. Write a paragraph about the duties of an engineer using about 30 words.

Unit 2. AUTOMOTIVE ENGINEERING

1. a) Ask your partner the following questions to evaluate his potential to become an automotive engineer.

1. Are you interested in a career in engineering?
2. What engineering field are you most interested in?
3. Are you a natural problem solver?
4. Do you communicate well with others?
5. Can you work productively in a team environment?
6. Are you able to multi-task and meet deadlines?
7. Are you willing to constantly learn new things?
7. Are analyzing and evaluating your strong points?

b) If the answers are “yes” and your partner does not struggle in math and science, can he pursue a career in automotive engineering? Say what you think about it. Write down your arguments.

AN AUTOMOTIVE ENGINEER CAREER

2. Match the following words and word combinations with their Russian equivalents.

| A | B |
|-----------------------------|--|
| 1. challenging | a) техническое обслуживание и текущий ремонт |
| 2. rewarding | b) смазочный материал, смазка |
| 3. supplier | c) сложный; требующий усилий |
| 4. maintenance | d) антиблокировочная система (система противоскольжения) |
| 5. repair | e) демонтировать |
| 6. fault | f) приносящий удовлетворение; стоящий |
| 7. anti-skid braking system | g) регулировка установки колёс (развал-схождение) |
| 8. dismantle | h) ремонт |
| 9. lubricant | i) смазочно-охлаждающая жидкость |
| 10. coolant | j) поставщик |
| 11. wheel alignment | k) неисправность; выход из строя |

Automotive Engineer Careers are exciting, **challenging, rewarding** and good careers to pursue. Automotive engineers design and develop vehicles and their subsystems. They work with complex technologies and bring the freedom of mobility to the world.

Automotive engineers with University Diplomas are in high demand by automotive manufacturers and **suppliers** because the number of vehicles grows.

They may work in two major areas - automaking plants and businesses which deal with **maintenance and repair** of vehicles. Automotive engineers may work with such **vehicles** as cars, buses and heavy machines, like trucks, bulldozers and tractors. They may be involved in sales of vehicles and their parts.

It is important for an automotive engineer to know engines of motor vehicles, their different parts and systems, including electronic systems, and safety standards. An automotive engineer needs to keep up with new technologies that come with each vehicle. More and more electronic components are used in vehicles. Vehicles today are designed and developed in a virtual world and are basically “computers on wheels”. It is a real advantage to be good at computer science.

Automotive technology is continually changing and it requires good diagnostic and analytical skills. Automotive engineers must have skills to develop new automotive technologies, to diagnose mechanical **faults**, etc. They must have practical skills to use tools and equipment, and good management skills. Communication skills are also important if they work with customers.

Automotive engineers may do the following: test drive and inspect vehicles to diagnose faults; diagnose what is causing these faults. They need skills in the diagnosis and repair of **anti-skid braking systems**, complex electronic components and onboard computers. Also, experience in using computer diagnostic equipment is very important and now computers are widely used in automotive workshops. Automotive engineers must know how to **dismantle** or repair faulty engines or other parts and systems; how to change vehicle **lubricants** (such as oil) and **coolants** (such as radiator water). They may tune engines so that vehicles run smoothly or may specialize in **wheel alignment**, air conditioning, transmissions and **exhausts**.

3. Complete the sentences using the words from the box.

challenging, rewarding, vehicle, maintenance, repair, supplier, fault, dismantle, anti-skid braking system, lubricant, wheel alignment, coolant, exhaust

1. The purpose of ____ ____ is to ensure that the vehicle travel is straight and true (without "pulling" to one side).
2. An old car expelled a black cloud of ____.
3. A ____ experience is difficult but interesting or enjoyable and a ____ experience is the one that gives you satisfaction.
4. We are the leading manufacturer and ____ of high grade engine ____ and ____ which provide extended service life to all petrol and diesel vehicles.
5. He could predict ____ behavior under various conditions and diagnose any ____
6. To ____ an engine is a hard job.

7. An automobile safety system that allows the wheels to maintain contact with the road surface while braking is called ____ ____ ____ (ABS).

8. Good ____ helps to avoid having to make numerous ____.

4. Speak about the career of an automotive engineer using the following phrases to describe duties involved in this job.

- 1) to design, develop, produce new products;
- 2) to modify existing ones;
- 3) to predict, troubleshoot, analyze and solve problems;
- 4) to have a deep interest in motor vehicles;
- 5) to understand safety standards and to keep to them.

5. Can you say now that this career is the right one for you? Prove it. Make a dialogue with your partner and discuss why you have chosen this career.

Unit 3. MECHANICAL ENGINEERING

1. a) Ask your partner the following questions to evaluate his potential to become a mechanical engineer.

1. Are you interested in machines and equipment of any kind and in the way they operate?

2. Answer the questions given in Ex. 1, p. 8.

b) If the answers are “yes” and your partner does not struggle in math and science, can he pursue a career in mechanical engineering? Say what you think about it. Write down your arguments.

A MECHANICAL ENGINEER CAREER

2. Match the following words and word combinations with their Russian equivalents.

| A | B |
|------------------------------------|--|
| 1. to design | a) пользоваться спросом, быть востребованным |
| 2. maintenance ['meɪnt(ə)nəns(t)s] | b) руководить; наблюдать; управлять |
| 3. drawing | c) поломка; неисправность; сбой; авария |
| 4. to supervise ['s(j)u:pəvaɪz] | d) воздействие; влияние |
| 5. breakdown | e) проектировать; конструировать |
| 6. to estimate | f) производство; изготовление |
| 7. manufacturing | g) техническое обслуживание и текущий ремонт |
| 8. impact | h) изготавливать опытный образец |

| | |
|------------------|--|
| 9. in demand | і) моделирование; имитация (процессов) |
| 10. simulation | ј) чертёж |
| 11. to prototype | к) оценивать; рассчитывать; составлять смету |

Mechanical Engineering careers are very important. Mechanical engineering is one of the broadest engineering disciplines. Mechanical engineers deal with the **design**, installation, operation and **maintenance** of anything that has moving parts. They develop new ideas, improve designs, prepare **drawings**, manufacture and maintain mechanical systems and machinery.

They create machines that improve the quality of people's everyday life. The task is to make this equipment more productive and less wasteful. They create assembly lines to help with manufacturing processes. They **supervise** production in factories, determine the causes of **breakdowns**, test products to maintain quality, **estimate** the time and cost to manufacture these products. Mechanical engineers help to organize the **manufacturing**.

Mechanical engineers develop new materials. They also analyze the **impact** of these materials on the environment and people. Many mechanical engineers are in management positions.

Good engineers are **in demand**, and jobs are plentiful.

To be successful, mechanical engineers must know math, mechanics, kinematics, thermodynamics and energy well. Computer science is also an important area of study for them.

Computers are used widely in machine building for designing and testing. CAD (Computer Aided Design) and CAM (Computer Aided Manufacturing) are real aids to design! Instead of designing a part on paper and then writing the program to manufacture it, CAD/CAM software does the two stages directly on the computer. This software designs the part on the computer screen, and then, by inputting a command, the software writes the CNC program to produce the part. With these tools models and analysis take place before a product is **prototyped**. With computers, a design can be put through **simulations** with different stresses, to determine how a device would react to the situation.

Mechanical engineers need to do their job well in order to keep the civilized world safe and moving smoothly.

3. Complete the sentences using the words from the box.

*designs, maintenance, in demand, supervise, simulation, breakdown (2),
prototype, impact*

1. There is a shortage of qualified professionals which occupations are ___ ___ in some industries and regions in Germany.
2. A failure of a machine to function when it stops working is called a ___.
3. They expect the meeting to have a marked ___ on the future of the company.
4. ___ is a first or preliminary version of a device or vehicle from which other forms are developed.

5. To ___ is to observe and direct the work of someone or something.
6. Good ___ helps to avoid having numerous ___.
7. When someone ___ a machine, or other object, he makes a detailed drawing of it from which it can be built or made.
8. The production of a computer model of something, especially for the purpose of study, is called

4. Speak about the career of a mechanical engineer using the following phrases to describe duties involved in this job.

1. to design, develop, produce and install new products, equipment and systems;
2. to modify existing ones;
3. to read technical drawings, to analyze specifications and maintenance requirements;
4. to analyze breakdowns and faulty operation, to provide technical information;
5. to be familiar with CAD/CAM software;
6. to understand safety standards and to keep to them.

5. Can you say now that this career is the right one for you? Prove it. Make a dialogue with your partner and discuss why you have chosen this career.

Unit 4. CIVIL ENGINEERING

1. a) Ask your partner the following questions to evaluate his potential to become a civil engineer:

1. Are you interested in designing and constructing various types of structures?
2. Answer the questions given in Ex. 1, p. 8.

b) If the answers are “yes” and your partner does not struggle in math and science, can he pursue a career in civil engineering? Say what you think about it. Write down your arguments.

A CIVIL ENGINEER CAREER

2. Match the following words and word combinations with their Russian equivalents.

| A | B |
|------------------------|--|
| 1. employment | a) коммунальные предприятия; инженерные сети |
| 2. to maintain | b) жилой; жилищный |
| 3. sewage ['s(j)u:ldʒ] | c) многозадачная работа; многозадачный режим |
| 4. placement | d) занятость; работа |
| 5. facility | e) сточные воды, канализация |

| | |
|----------------------------|--|
| 6. residential | f) отыскивать, устранить неисправность |
| 7. utilities [ju:'tɪlɪtɪz] | g) повреждать, разрушать; наносить ущерб |
| 8. multitasking | h) выдерживать (неблагоприятные условия среды) |
| 9. to troubleshoot | i) обслуживать; поддерживать в работоспособном состоянии |
| 10. to damage | j) сооружение |
| 11. to withstand | k) трудоустройство |

A Civil Engineer career is a very good career to pursue. Construction engineering is one of the oldest engineering specialties and construction is one of the most important industries in any country. It is, perhaps, the only sector in the economy in which **employment** is projected to grow. As the population grows with the need to build more structures, more civil engineers are needed. Also, more professionals will be required to construct, **maintain**, or repair water and **sewage** systems. New graduates can expect 100% **placement**.

Civil engineers plan, design and construct many types of **facilities**: commercial (office buildings and shopping centers), institutional (hospitals and schools), industrial (factories and refineries), **residential** (homes and apartments), civil (highways, bridges and **utilities**).

Although construction may be regarded as a single activity, in fact it is **multitasking**. Civil engineers usually work in offices creating designs and structural plans. However, they also work at construction sites to monitor workers and **troubleshoot**.

Construction engineers must do their job well as they are directly responsible for the health of people. They should build things that won't **damage** the planet. Buildings and structures should **withstand** outside forces like wind and their own weight and they should be safe. Becoming a good construction engineer isn't simply getting a Diploma in construction.

Civil engineering, like all engineering disciplines, is a science. Therefore, the student who wants to be a civil engineer needs to study math and the sciences. A civil engineer needs to understand materials science and to have the ability to calculate the stresses on that material.

3. Complete the sentences using the words from the box.

employment, sewage, placement, utilities, troubleshoot, damage, withstand

1. The project could seriously ___ the environment.
2. The structure was designed to ___ winds of more than 100 mph.
3. A fall in full-time ___ has been observed.
4. Public ___ such as gas, electricity and phones are an important part of any city's infrastructure.
5. ___ is waste matter from homes and factories, flowing away through sewers.

6. We speak about a job ___ program to help those who are unemployed when we mean finding them a job.

7. To ___ means to find and correct faults in a mechanical or electronic system.

4. Speak about the career of a civil engineer using the following phrases to describe duties involved in this job.

1. to plan, design and construct different facilities;
2. to create designs and structural plans;
3. to monitor workers and troubleshoot;
4. to understand safety standards and to keep to them.

5. Can you say now that this career is the right one for you? Prove it. Make a dialogue with your partner and discuss why you have decided to go into this career? Are job chances for civil engineers good in the near and far future?

Unit 5. COMPUTER ENGINEERING

1. a) Ask your partner the following questions to evaluate his potential to become a computer engineer:

1. Are you interested in Information Technology? 2. Are you interested more in computer engineering or in computer science? 3. Which of two focuses on software, which one is more about the hardware? 4. Do you have good analytical skills? 5. Does the future of computer engineering look very bright? 6. Is it the fastest growing sector of the economy?

2. Answer the questions given in Ex. 1, p. 8.

b) If the answers are “yes” and your partner does not struggle in math and science, can he pursue a career in computer engineering? Say what you think about it. Write down your arguments.

A COMPUTER ENGINEER CAREER

2. Match the following words and word combinations with their Russian equivalents.

| A | B |
|----------------------|--|
| 1. expect | a) связанный с чем-либо |
| 2. in demand | b) инженер по аппаратуре (по аппаратной части) |
| 3. related to | c) быть хорошо осведомленным; быть в курсе |
| 4. hardware engineer | d) честолюбивый; стремящийся (к чему-л) |
| 5. software engineer | e) связанный с применением компьютера |
| 6. aspiring | f) режим работы, режим рабочего времени |
| 7. keep up | g) непрофессионал; неспециалист; любитель |

| | |
|------------------------|---|
| 8. computer-related | h) ожидать, предполагать |
| 9. schedule ['fedju:l] | i) инженер-программист; системный программист |
| 10. layman | j) пользоваться спросом, быть востребованным |

Careers in Computer Engineering are very hot right now and they look like they will only get hotter. The future of computer engineering looks very bright. Computers have really blown-up during the last decades and they are expected to continue to grow in popularity. So computer engineers are **in demand** and can pretty much expect to be in demand. Careers in computer science are great. They pay well and they are interesting jobs. Since the popularity of computers continues to grow, the need for computer engineers will exist for a very long time, if not forever.

As you may guess, computer engineering careers deal with computers and software. Computer engineers develop and improve software programs and hardware that make computers run. They learn both the technical side and the theoretical side of working with computers. They focus on the design, development, and integration of everything that is **related to** computer software and hardware. **Hardware engineers** develop the hardware of computers, including motherboards, graphics and audio cards and drives, later programmed by software engineers. From operating system software, such as Windows and Linux, to individual computer programs, such as Photoshop and Microsoft Office, **software engineers** turn piles of hardware into functional computers.

Computer engineers work in a variety of places from corporate offices to government laboratories or may work on a freelance basis. In addition to a formal education, **aspiring** computer engineers should use their free time to **keep up** on the latest trends and changes in software and hardware development. To know recently developed software programs, patches, and computer chips is essential as the knowledge base of computer engineering is constantly evolving.

3. Do you agree that a successful computer engineer.

- a. should be detailed-oriented;
- b. should have critical thinking and strong analytical skills;
- c. should be a strong communicator and an excellent problem solver;
- d. should be able to identify, analyze, and solve complex problems?

Discuss it with your partner and give your grounds for each statement.

4. Fill the missing words into the sentences.

software, applications, schedule, layman's, developing, clients, operating, skills, team, computers, tasks, computer-related, office, engineers.

A computer engineer, also called a ___ engineer, is responsible for ___, testing and evaluating the software that makes our ___ work. They may develop new computer games, business ___ or even entirely new ___ systems. A computer engineer may also be responsible for constructing and managing an organization's computer system and providing technical support. A computer engineer typically works in an ___ or

laboratory environment as part of a ___ and enjoys a traditional work ___. People who enjoy a career in computer engineering usually have strong analytical ___ and are able to focus on many ___ at once. Because computer ___ must work with customers and ___, the ability to express ___ information in ___ terms is also valued.

5. Can you say now that this career is the right one for you? Prove it. Make a dialogue with your partner and discuss why you have chosen this career. Are job chances for IT specialists good in the near and far future? What is the difference between Computer Science and Computer Engineering?

Unit 6. CAREERS IN ELECTRICAL ENGINEERING

1. a) Ask your partner the following questions to evaluate his potential to become an electrical engineer:

1. Are you interested in electrical devices and how they work?
2. Are you interested in making technologies and production more efficient?
3. Answer the questions given in Ex. 1, p. 8.

b) If the answers are “yes” and your partner does not struggle in math and science, can he pursue in electrical engineering? Say what you think about it. Write down your arguments.

ELECTRICAL ENGINEER CAREERS

2. Match the following words and word combinations with their Russian equivalents.

| A | B |
|---------------------------------|--|
| 1. power supply | a) электропроводка |
| 2. electric drive | b) электрическая цепь |
| 3. wiring ['waɪərɪŋ] | c) строительство; сооружение; строение; здание |
| 4. electric circuit | d) отыскивать, устранить неисправность |
| 5. digital | e) электропитание; энергоснабжение |
| 6. to supervise ['s(j)u:pəvaɪz] | f) электропривод |
| 7. construction | g) возобновляемый |
| 8. manufacturing | h) руководить; наблюдать; управлять |
| 9. design | i) цифровой; дискретный |
| 10. challenging | j) производство; изготовление |
| 11. to troubleshoot | k) проектировать; конструировать |
| 12. renewable | l) приносящий удовлетворение; стоящий |

Electrical Engineering is one of the biggest engineering fields. The future of electrical engineering looks very bright. Every industry deals with electricity and it means that electrical engineers will always be needed. So this is a great career to go into and it will be for many, many years to come.

Electrical engineers are experts in electricity, electro-magnetism and electronics. They learn how to use and control electricity. They specialize in **power supply** and generation. They create and maintain electrical devices of all kinds, including large scale electrical systems, different motors, **electric drives**, etc. They are also trained how to handle **wiring** and lighting installations in buildings, automobiles and different equipment. So they study **electric circuits**, electric machines, electronics, **digital** systems, etc. They also **design**, develop, test and **supervise** manufacturing of electrical equipment.

The job will require the electrical engineer to use science and technology to solve problems. What is great about being an electrical engineer is that graduates may find a job in many different industries such as **construction, manufacturing** and design. The electrical engineer may also do research and come up with new ideas.

Some of the tasks can and will be very **challenging** but with the proper education an electrical engineer will be able to perfectly solve every problem. Electric engineers perform their duties in offices and laboratories but may also be sent to work sites to supervise and **troubleshoot**. This is especially true for those who work in companies that manufacture complex equipment.

3. Complete the sentences using the words from the box.

power supply, electric drive, wiring, electric circuit, digital systems, supervise, challenging, troubleshoot, renewable

1. The invention concerns electric ___ for homes and industrial areas by using ___ power sources.
2. ___ ___ represent information using a binary system, where data can assume one of only two possible values: zero or one.
3. A ___ experience is difficult in a way but interesting or enjoyable.
4. ___ is a set of devices to convert electric energy into mechanical energy.
5. To ___ is to observe and direct the work of someone or something.
6. The membrane is connected to an external ___ through copper wire.
7. A system of wires providing electric circuits for a building is called ___.
8. To ___ means to find and correct faults in a mechanical or electrical system.

4. Speak about the career of an electrical engineer using the following phrases to describe duties involved in this job.

1. to design, develop, test and supervise electrical equipment;
2. to create and maintain different electrical devices;
3. to deal with wiring and lighting systems in buildings, automobiles and different equipment;

4. to supervise and troubleshoot;
5. to understand safety standards and to keep to them.

5. Can you say now that this career is the right one for you? Prove it. Make a dialogue with your partner and discuss why you have decided to go into this career. Are job chances for electrical engineers good in the near and far future?

Unit 7. WELDING ENGINEERING

1. a) Ask your partner the following questions to evaluate his desire and potential to become a welding engineer:

1. Do you agree that welding offers many career opportunities?
2. Do you understand that the importance of welding grows with increases in construction, and manufacturing, and discoveries of new sources of energy that require pipelines?
3. Answer the questions given in Ex. 1, p. 8.

b) If the answers are “yes” and your partner does not struggle in math and science, can he pursue a career in welding engineering? Say what you think about it. Write down your arguments.

WELDING ENGINEER CAREERS

2. Match the following words and word combinations with their Russian equivalents.

| A | B |
|--------------------------|---|
| 1. rewarding [rɪ'wɔːdɪŋ] | a) прибор; приспособление, устройство |
| 2. structural steel | b) делать, выполнять |
| 3. vehicle | c) все возрастающий |
| 4. appliance [ə'plaɪəns] | d) приносящий удовлетворение; стоящий |
| 5. ever-increasing | e) конструкционная сталь |
| 6. assembly line | f) новейший; отвечающий современным требованиям |
| 7. antique [æn'tɪ:k] | g) транспортное средство; автомобиль |
| 8. to perform | h) искать, диагностировать неисправности |
| 9. reliable [rɪ'laɪəbl] | i) старый; старинный |
| 10. up-to-date | j) надежный |
| 11. troubleshoot | k) сборочный конвейер |

3. Match English and Russian names of welding procedures.

| A | B |
|--|---|
| 1. oxy-acetylene gas welding | a) сварка металлическим электродом в среде инертного газа |
| 2. MIG (wire-fed) welding | b) сварка вольфрамовым электродом в среде инертного газа |
| 3. TIG (heli-arc) welding | с) дуговая сварка под флюсом |
| 4. submerged arc welding [səb'mɜ:dʒd] | d) кислородно-ацетиленовая сварка; газовая сварка |

Careers in Welding Engineering are very **rewarding**. Welding is a process very important to technical progress, though we don't understand how much we depend on welding even in our everyday life. Welding is an important part of construction, repair and maintenance work. All large buildings are built with a "skeleton" of welded **structural steel**. Welding is a fundamental part of building bridges, **vehicles**, houses, **appliances** and a lot more.

Welding has been compared to playing a musical instrument. In the same way that anyone can make sounds with a harmonica, anyone with a little practice may use modern welding equipment for non-critical jobs. But to make music with the harmonica or to make good, strong, clean welds with welding equipment will take time. The more you practice, the better your results will be.

Welding has **ever-increasing** usage in industry now. Welders are employed in pipeline work, construction of buildings and bridges, **assembly lines** welding at automaking plants, vehicle repair, race car fabrication and **antique** car restoration. Welding is used in nuclear power industry, aviation, and aerospace work. And it is impossible to make **household appliances** without welding.

There is a real difference between a weld that looks good and a weld that **performs** well. The task of any welding engineer is to get a weld that will be strong and **reliable**. There are lots of welding procedures and the **up-to-date equipment** for them. The main procedures are **oxy-acetylene gas welding** and cutting, **arc welding**, **MIG (wire-fed) welding**, **TIG (heli-arc) welding**, **submerged arc welding**, plasma-arc welding and cutting, electron-beam welding. Each process requires special knowledge, special skills and special equipment.

4. Match the words to make phrases from the text.

| 1A | 1B | 2A | 2B |
|---------------|----------------|-----------------|-------------|
| 1. up-to-date | a. appliances | 1. power | a. in use |
| 2. household | b. line | 2. fail | b. jobs |
| 3. take | c. equipment | 3. engineer | c. industry |
| 4. assembly | d. repair | 4. non-critical | d. work |
| 5. vehicle | e. for granted | 5. automotive | e. training |

5. Speak about the career of a welding engineer using the following phrases to describe duties and responsibilities involved in this job.

- 1) to know how to weld different metals;
- 2) to perform welding using different types of welding equipment;
- 3) to know what technology to use;
- 4) to know what amount of heat is required and for how long;
- 5) to evaluate welds;
- 6) to supervise welding operations in accordance with codes, contracts or drawings.
- 7) to troubleshoot;
- 8) to understand safety standards and to keep to them.

6. Can you say now that this career is the right one for you? Prove it. Make a dialogue with your partner and discuss why you have decided to go into this career.

Unit 8. NON-DESTRUCTIVE TESTING AND QUALITY CONTROL

1. a) Ask your partner the following questions to evaluate his potential to become a quality control engineer:

1. Are you scrupulous and interested in making technologies and production more efficient?
2. Are analyzing and evaluating your strong points?
3. Are you keen on making this world better and cleaner?
4. Answer the questions given in Ex. 1, p. 8.

b) If the answers are “yes” and your partner does not struggle in math and science, can he pursue a career in quality control engineering? Say what you think about it. Write down your arguments.

2. Match the following words and word combinations with their Russian equivalents.

| A | B |
|----------------------------------|---|
| 1. evaluation [ɪ, vælju'eɪʃ(ə)n] | a) материально-производственные запасы; производственные ресурсы |
| 2. reliability | b) сточные воды |
| 3. accuracy | c) опасный |
| 4. measurement | d) оценка; анализ |
| 5. inventory | e) водоснабжение |
| 6. wastewater | f) безотказность; надёжность |

| | |
|-------------------------|----------------------------|
| 7. hazardous [ˈhæzədəs] | g) измерение; размер |
| 8. water supply | h) удаление отходов; сброс |
| 9. waste disposal | i) точность; достоверность |

3. Match the following words and word combinations with their definitions.

| A | B |
|-------------------|---|
| 1. evaluation | a) the quality of being correct or precise, even in details |
| 2. reliability | b) results, expressed in numbers, you obtain by measuring |
| 3. accuracy | c) a list of materials, components and finished products |
| 4. measurements | d) a judgment about the quality, amount or value of things |
| 5. inventory | e) something good in quality that can be trusted to work well |
| 6. wastewater | f) action or process of getting rid of something (wastes) |
| 7. hazardous | g) water that has been negatively affected in quality by a combination of domestic, industrial and other activities |
| 8. water supply | h) something dangerous, esp. to people's health or safety |
| 9. waste disposal | i) water which is passed through pipes to buildings for people to use |

Quality Control and Non-Destructive Testing Engineer Jobs

Careers in quality control (QC) and non-destructive testing (NDT) are good careers to pursue. Many companies want to manufacture their products more efficiently, at a lower cost, and with better quality. They need engineers for quality control and non-destructive testing and even more jobs will be available. This is a great career to go into and will be for many years to come.

These engineers are responsible for the development and application of quality standards for industrial processes, materials, and products. They monitor the quality of a product, analyze what affects its quality, and choose the best techniques for the optimal end results. QC and NDT engineers use quality standards for inspection, testing, and **evaluation**. For this they need knowledge in chemical, electrical, or mechanical engineering fields.

They also develop instructions for recording, evaluating, and reporting quality and **reliability** data. They develop programs to evaluate **accuracy** of production equipment, **measurements** and testing. These engineers may specialize in such areas of quality control engineering, as process control, product **evaluation**, product **reliability**, **inventory** control, metrology, automated testing, and research and development.

One more field where we can work after finishing the University is the environment protection. This includes **wastewater** control, **hazardous wastes** and toxic materials control, **water supply** protection, air pollution control, industrial hygiene, radiation protection, solid **waste disposal**, and public health.

Here is one of the reasons why the career I have chosen is a good idea. We are going to help people and to make the environment, in which we live, better and cleaner.

4. Match the words to make phrases from the text.

| 1A | 1B | 2A | 2B |
|--------------|---------------|--------------------|---------------|
| 1. water | a. evaluation | 1. inventory | a. engineer |
| 2. waste | b. wastes | 2. quality control | b. testing |
| 3. public | c. supply | 3. automated | c. control |
| 4. hazardous | d. disposal | 4. industrial | d. protection |
| 5. product | e. health | 5. radiation | e. hygiene |

5. Speak about the career of a quality control engineer/non-destructive testing engineer using the following phrases to describe duties involved in this job.

- 1) to examine structures or vehicles such as aircraft, trains, nuclear reactors, bridges, dams, and pipelines, using non-destructive testing (NDT) techniques;
- 2) to test the safety of structures, vehicles, or vessels using x-ray, ultrasound, fiber optic or other equipment;
- 3) to interpret test results in accordance with codes, standards, specifications, or other procedures;
- 4) to interpret the results of all methods of non-destructive testing (NDT), such as acoustic emission, electromagnetic, magnetic particle, neutron radiographic;
- 5) to identify defects in solid materials using ultrasonic testing techniques;
- 6) to monitor how materials perform and evaluate how they deteriorate;
- 7) to determine causes of product failure.

6. Can you say now that this career is the right one for you? Prove it. Make a dialogue with your partner and discuss why you have chosen this career.

Unit 9. ECONOMICS

1. Discuss the following quotes.

1. "The curious mind embraces science; the gifted and sensitive – the arts; the practical – business; others become economists." *Nassim Nicholas Taleb*
2. "An economist is an expert who will know tomorrow why the things he predicted yesterday didn't happen today." *Laurence J. Peter*
3. "There is one rule for the industrialist and that is: make the best quality goods possible at the lowest cost possible, paying the highest wages possible." *Henry Ford*
4. "In all recorded history there has not been one economist who has had to worry about where the next meal would come from." *Peter Drucker*
5. The curious task of economics is to demonstrate to men how little they really know about what they imagine they can design. *Friedrich von Hayek*

2. Read the following text.

CAREERS IN ECONOMICS

Nowadays the profession of an economist has become one of the most useful, modern and interesting. Economists find a **wide range** of careers open to them. They are **employed** in **banking, finance, accountancy, commerce, marketing, logistics, management and business administration**.

There is a place for an economist at every **institution**, plant or international company. Economist **exercises different functions**. A good specialist can determine the structure of an **enterprise** and calculate **costs** and probable **profits**. An economist analyses the conditions of the market and prospects of its development in the future. **Having a good command** of the economic situation in the region and the **demands** of the market, a person with economic diploma may start his own business or join a multinational firm.

To become a good economist one must work hard and get not only theoretical knowledge but also great practical skills. **Working knowledge** of computer and good **level of competence** in any foreign language, esp. English, **is a must**. Students **majoring** in Economics study principles of micro- and macroeconomics, statistics, math, finance and banking, economics theory and history of economic thought, etc. Some students major in economics because it is a good chance to get a **well-paid job**, some find it interesting and stimulating, others consider it to be a good **application** of their mathematical and analytical skills.

3. Match a word in Column A with a word in Column B. Skim the text and see how these word combinations are used in the text. Use these words in sentences of your own.

| A | B |
|------------------|---------------------|
| 1. wide | a) of the market |
| 2. international | b) functions |
| 3. business | c) company |
| 4. structure | d) knowledge |
| 5. exercise | e) of skills |
| 6. have a good | f) range |
| 7. demand | g) of competence |
| 8. working | h) of an enterprise |
| 9. level | i) administration |
| 10. application | j) command |

4. Match the names of different economy fields with their definitions.

| | |
|----------------------------|--|
| 1. banking | a) promoting and selling products or services, including market research and advertising |
| 2. finance | b) process or activity of running a business, organization, etc. |
| 3. accountancy | c) activity comprising all forms of the purchase and sale of goods and services |
| 4. commerce | d) planning, organizing and controlling of a company and its employees |
| 5. marketing | e) theory or practice of keeping financial accounts |
| 6. logistics | f) business conducted or services offered by a bank |
| 7. business administration | g) management of large amounts of money, especially by governments or large companies |
| 8. management | h) commercial activity of transporting goods to customers |

5. Complete the gaps using words from the box.

enterprise, well-paid, must, majoring, costs, employed, institutions, profits

1. Graduates of the Economics faculty are ___ as accountants and managers by such ___ as schools, sport centers and public authority offices.
2. Marketing department of this ___ offers a ___ job to an experienced marketing manager.
3. Job description of a financier includes knowledge of calculating ___ and ___ of the production.
4. For students ___ in logistics advanced foreign language skills is a ___ .

6. Agree or disagree with the following statements.

1. Careers in economy are very popular nowadays.
2. Any economist exercises a wide range of functions.
3. Starting one's own business is possible without having a good command of the local market.
4. Knowledge of any foreign language is a must for any economist.
5. Good computer skills are a must for an economist.

7. Discuss the following questions with a partner.

1. What sphere of economics would you like to be employed in? Why?
2. Why are economists in demand today?
3. What functions do economists perform? Can you think of any other functions besides the ones mentioned in the text?
4. Would you like to join a multinational company when you graduate from the university? What skills do you need to become an asset to the company?
5. What subjects do students of economics study? Which ones do you consider the most important ones for your future career?
6. What were your reasons to major in economics?

Unit 10. SAFETY AT WORK

1. Discussion.

1. Can you understand safety warnings? Can you mention some of them?
2. What equipment are you supposed to wear when working with machinery?
3. What types of precautions are you expected to take?

2. Read the following text.

SAFETY IN THE WORKPLACE

Now much attention is being paid to accident **prevention** and **safety** procedures in the workplace. Health and safety **hazards** exist in any workplace. So, employers have a responsibility to protect workers against health and safety hazards at work and implement safety solutions in the workshop and the office.

What are the main aspects that should be taken into consideration when we think about workplace safety? The first step is to carry out a full risk **assessment**, evaluating possible risks and hazards. Making a proper assessment of risks is a complex process, and many companies employ professional safety experts to help them develop an appropriate safety policy.

When working in a workshop with tools or machinery you must always be aware of the possible danger of either breaking or ruining something, or even being **injured** yourself. Regular inspection and **maintenance** should be carried out on all machines. It is important to wear the right clothing and to follow the safety instructions.

Electrical equipment should be designed and constructed so as to prevent danger from shock and fire and should always be maintained in a safe and good condition. All gas supply must be automatically interrupted in the case of system **failure**. Welding is another potentially hazardous process. Many materials and coatings give off toxic fumes during welding. Appropriate equipment suitable for the safe removal of **fumes** or dust must be used during the process of welding.

The work area temperature, the amount and quality of light and the levels of noise are common factors of the workplace environment that should be taken into consideration. These factors can strongly influence how a task is performed and affect productivity. For example, hot, humid conditions add to **fatigue** and cause potential health risks, and noise makes hearing of warnings impossible, causes **misunderstanding** and can lead to permanent loss of hearing. Techniques to regulate temperature, provide adequate lighting and reduce noise are constantly being developed.

Some jobs are more dangerous than others, and many organizations have a special team that monitors safety in order to minimize the risks of accidents. The necessary preventive measures should be taken to reduce risks of occupational diseases, injuries and illnesses.

3. Match the words from the text with the definitions.

| | |
|----------------------|---|
| 1. prevent | a) the condition of being safe |
| 2. safety | b) evaluation; estimation |
| 3. hazard | c) a failure to understand someone or something correctly; |
| 4. assessment | d) work done to keep something such as a building, machine, or equipment repaired and in good condition |
| 5. injure | e) avoid, stop |
| 6. maintenance | f) a situation in which something such as a machine stops working correctly |
| 7. failure | g) to hurt someone and cause damage to their body |
| 8. fumes | h) risk, danger |
| 9. fatigue | i) smoke or gas that has an unpleasant smell, especially harmful smoke or gas |
| 10. misunderstanding | j) a feeling of being extremely tired, either physically or mentally |

4. Write the names of hazards and protective equipment in two columns.

Welding helmet, fire, ear protection, chemicals, fumes, gloves, hard hat, falling object, corrosive or irritant products, goggles, sparks, respirator, dropped tools or objects, dirt, work boots, overalls, noise, fire extinguisher.

| Hazard | Equipment |
|--------|-----------|
| ... | ... |

5. Complete the safety instructions.

| | |
|--|------------------------------------|
| 1. Avoid ____. | a) fire extinguisher |
| 2. Read all ____ carefully. | b) gloves |
| 3. Wear ____ when welding. | c) guards |
| 4. Wear ____ when you work with sheets of metal or glass. | d) goggles |
| 5. Watch out for ____ on the floor of the gangways. | e) the mains |
| 6. Take care that ____. | f) a mask or a handshield |
| 7. Don't forget to wear your ____. | g) slippery oil |
| 8. Position the ____ of your machine tool correctly. | h) safety rules |
| 9. Switch off ____ in case of emergency. | i) safety boots |
| 10. Put on your ____ before you start grinding. | j) loose clothing |
| 11. Take care that the ____ is always in good working order. | k) emergency exits are not blocked |

6. Read the guidelines for preventing fires and explosions and complete them using the following words.

instructions, fire, smoking, printers, put out, stand, rules, defective, mount, extinguisher, checked, store, familiar, pull, trigger

PREVENTION OF FIRES AND EXPLOSION

(1) ___ is not allowed in the work area. Computers and (2) ___ must be turned off at the end of each workday. (3) ___ computers must be turned off before they are repaired. Fire extinguisher must be (4) ___ monthly. In the event of a fire or explosion, keep calm. All workers must be (5) ___ with the correct method of using a fire (6) ___. Most extinguishers have (7) ___ printed on the canister. The following are some basic (8) ___ for using a fire extinguisher:

- a. Do not (9) ___ fire extinguisher close to the area where a fire might occur.
- b. To ensure that the extinguisher will be accessible (10) ___ it near a door.
- c. For best results, (11) ___ as close to the fire as is safely possible to use the extinguisher.

The recommended method of using the extinguisher is the following:

- a. (12) ___ the top ring or pin out, while holding the canister vertically;
- b. aim the extinguisher hose and nozzle at the (13) ___;
- c. squeeze the extinguisher (14) ___;
- d. sweep toward the base of the fire using fluid movements until the fire is (15) ___ .

7. You are a safety officer of a manufacturing company; write down safety instructions for your workers.

Avoid ___ .

Don't forget ___.

Wear ___ when ___.

Switch off ___ before you open the casing.

Put on ___ when you ___.

Read the instructions carefully before ___.

Never ___.

Always use protective ___.

Make sure ___ before ___.

8. Look at the floor plans on the wall of the classroom and give your partner directions in case of evacuation using the following words:

1. go out; 2. go up/down; 3. take the stairs; 4. turn right/left; 5. go along the corridor; 6. the exit.

9. Read the following text. Then discuss safety measures in an office, using these words and phrases:

*size and layout of the office; furniture; equipment; air quality;
health problems; safety measures*

The office has been considered a relatively safe and healthy place to work. Despite this common belief, there can be a lot of hazards, which cause thousands of injuries and health problems among office workers. Accidents that occur in offices are frequently due to poorly designed office environments and improper office procedures. The size and layout of office areas should be flexible and suit the needs of the users and the jobs they perform. Poor design can lead to crowding, lack of privacy, slips and falls. Walkways and exits must never be used for temporary storage of things. Furniture should be positioned so that sharp edges corners do not create hazards. In addition to obvious hazards such as a slippery floor or an open file drawer, a modern office may also contain hazards such as poor lighting, noise, poorly designed furniture and equipment. Air quality is an important factor in work areas. If printing or copying machines are present, an exhaust ventilation system should be installed in the office. Insufficient fresh air may lead to employees suffering from tiredness, headache, dry itchy skin and eye irritation. Here are some preventive measures for office workers:

- a) learn about how to avoid pain or injury from repetitive or physically awkward tasks, take breaks as needed;
- b) learn safe lifting techniques;
- c) keep all work areas clear of clutter;
- d) set up your workstation ergonomically;
- e) know how to relax strained body parts by doing correct stretching exercises;
- f) know emergency evacuation plan.

10. Discuss the following questions with a partner.

1. Why is it necessary to know emergency procedures?
2. What are the factors to consider for a proper safety strategy?
3. Who usually carries out assessment of risks and hazards in a company?

11. What is your opinion on the following statements?

1. A danger foreseen is half avoided.
2. Alert today. Alive tomorrow.
3. At work, at home, let safety be known.
4. Danger never takes a vacation.
5. Don't learn safety by accident.
6. Expect the unexpected. Gear up for safety.
7. Good habits will normally keep you out of bad trouble.
8. Learn from the mistakes of others, don't have others learn from you.

12. Write a safety slogan for your company.

e.g. "Our first priority is the health and well-being of our employees"
 "Safety on the Job is Everyone's Business".

Unit 11. ETHICS

1. Discussion.

1. What are common unethical behaviors in the working place?
2. Can you think of any specific examples of unethical behavior?
3. Are there any jobs that require you to be an ethical person?
4. What can be unethical about the following jobs?

shop assistant, teacher, doctor, car salesman, plumber, accountant, construction engineer

2. Read the following text.

ETHICS

Workplace ethics and behavior are a crucial part of employment. Generally, being ethical involves conducting yourself in accordance with accepted principles of right and wrong. Being ethical means acting morally right, being honest, not **cheating** your **employer**, co-workers, or customers and generally treating your co-workers well. Unethical workplace behavior can include inappropriate use of the Internet, outside-of-work activities, etc.

Companies specify what behaviors are acceptable, and they see high morale and teamwork as key ingredients for success. When hiring employees they usually address topics, such as work **schedule**, dress code and language, and summarize what kind of attitude is expected. Workers who fail to follow the code of **conduct** receive written and verbal warnings and can be **fired**.

It is absolutely necessary to keep professional knowledge and skills up-to-date. Besides possessing the necessary skills, being honest, doing the right thing at all times, taking responsibility for one's actions is another key factor of workplace behavior. That means showing up on scheduled workdays, as well as arriving on time and doing one's best in any **assignment** an employee gets.

Working well with others is necessary as well. It includes everyone from **peers** to **supervisors** to customers. Not all employees will like each other, but they do need to set aside their personal or even work-related differences to reach a larger **goal**. In many cases, those who are not considered "team players" can face **demotion** or even **termination** of their employment. You should not allow **bias**, conflict of interests or undue influence of others to **override** your professional judgments. On the contrary, those who work well with others often can **advance**, because teamwork can even **enhance** their **performance**.

Both bosses and employees should **refrain from** accepting any gifts or benefits from other organizations or customers that may have impact on their decision or performance of their duties.

3. Match the words from the text with the definitions.

| | |
|-----------------|---|
| 1. cheat | a) to improve |
| 2. employer | b) a person (a business) that employs workers |
| 3. schedule | c) to dismiss from employment |
| 4. conduct | d) to improve one's position, be promoted |
| 5. fire | e) an act of dismissing someone from employment |
| 6. assignment | f) the manner in which a person behaves, behavior |
| 7. peer | g) an unreasoned feeling, opinion |
| 8. supervisor | h) a task |
| 9. goal | i) to outweigh, be more significant than |
| 10. demotion | j) a target, an aim |
| 11. termination | k) action or process of carrying out an action, task, or function |
| 12. bias | l) to stop oneself from, avoid |
| 13. override | m) to deceive, especially for one's own gain |
| 14. advance | n) a person who manages or supervises |
| 15. enhance | o) reduction in rank or status |
| 16. performance | p) a list of times, esp. of arrivals and departures, timetable |
| 17. refrain | q) a person who is an equal in social standing, rank, age, etc. |

4. Match the sentence beginnings with the correct endings.

| A | B |
|---|---|
| 1. Ethics and behavior | a) can advance |
| 2. Being ethical | b) can be fired |
| 3. High morale and teamwork | c) that may influence performance of your duties |
| 4. Employees who don't follow the code of conduct | d) maintaining professional knowledge and skills at a high level |
| 5. Those who work well with others | e) means behaving in accordance with accepted principles of right and wrong |
| 6. Those who are not considered "team players" | f) are the main elements of success |
| 7. You should refrain from taking benefits from other companies | g) can face demotion |
| 8. One of the key factors of ethical behavior is | h) are an important part of employment |

5. Fill the missing words into the sentences.

honest, warning, gifts, reliable, performance, mistakes, morale standards, boss, terminate, trustworthy, colleagues, fire, accepted, cheating

1. Pay increases are now being linked more closely to ____.
2. Some people are not always as ____ or as ____ as we would like.
3. This department is making too many ____ at the moment.

4. You've made the right decision to ___ him.
5. My ___ and several other managers warned the company about possible risks.
6. Head Office have decided to ___ the employment of some workers.
7. The manager of the purchasing department ___ cash from suppliers in return for buying large volumes at high prices.
8. He was given a verbal ___ for being late to work.
9. Don't disclose information about ___ obtained in the course of professional service.
10. Don't accept any ___ that might impair or appear to influence professional decisions or actions.
11. Being ethical means not ___ your employer or co-workers.
12. Would you describe yourself as being ___ and having high ___?

6. Discuss the following questions with a partner. Share your ideas with the class when finished.

1. Do you think it is your responsibility to report unethical behavior to your boss?
2. Could you quit a job for ethical reasons?
3. If you and two other members of a five-person team did all the work on a project, would you tell management about this? Is it okay to put the other co-workers in a negative light?
4. What are the values of the company you would like to work for?

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