

МИНИСТЕРСТВО ОБРАЗОВАНИЯ РЕСПУБЛИКИ БЕЛАРУСЬ
Белорусский национальный технический университет

Кафедра английского языка № 1

**МЕТОДИЧЕСКОЕ ПОСОБИЕ
ПО ОБУЧЕНИЮ УСТНОЙ РЕЧИ
ДЛЯ СТУДЕНТОВ
ТЕХНИЧЕСКИХ ВУЗОВ**

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Методическое пособие по обучению устной речи для студентов
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Методическое пособие предназначено для студентов I и II курсов технических спе-
циальностей. Пособие состоит из шести разделов, каждый из которых включает аутентичный
текстовый материал, а также комплекс упражнений, направленных на развитие навыков моно-
логической и диалогической речи в ситуациях социально обусловленного и профессионально
ориентированного общения.

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Unit 1
Higher Engineering Education in Belarus

STARTING UP

Exercise 1.

Are you sure that engineering is the right course of study for you? Go through the list of points to decide whether to study engineering. Choose the statements which refer to you.

1. I enjoy practical projects – creating and investigating things.
2. I like finding out how things work.
3. **I'm interested in improving the environment.**
4. I enjoy solving problems.
5. I enjoy organizing activities.
6. I enjoy science programmes on TV.
7. I sometimes read articles on scientific or engineering topics.

If you have chosen most of these activities, engineering is the suitable course of study for you.

Exercise 2.

Study the meanings of the word 'engineering' in Russian. Then translate the phrases below.

Engineering– 1. инженерное дело 2. техника 3. технология 4. строительство 5. разработка, проектирование, конструирование 6. технический, инженерный, конструкционный.

Engineering education, engineering materials, production engineering, engineering students, electrical engineering, power engineering, highway engineering, mechanical engineering, environmental engineering, electronic engineering, military engineering, civil engineering, nuclear engineering, mining engineering, software engineering.

Exercise 3.

Match the branch of engineering to the products it deals with.

Use the model: *Mechanical engineering deals (is concerned) with machines.*

Branch of engineering	Products of the branch
1. automobile	a. roads and bridges
2. electrical	b. ships and boats
3. civil	c. excavators and loaders
4. medical	d. planes and helicopters
5. electronic	e. cars and trucks
6. marine	f. X-ray machines and body scanners
7. aeronautical	g. electricity generation and electrical installation
8. mining	h. computers and satellite communications

VOCABULARY

Exercise 1.

Match the English words (phrases) with their Russian equivalents.

1. environmentally friendly	a. студент
2. to apply	b. система зачетов
3. supervisor	c. идти на работу, службу
4. full-time	d. заочное обучение
5. undergraduate	e. производственная практика
6. to look for solutions	f. научный руководитель
7. curriculum (curricula – pl.)	g. оценивать
8. part-time	h. потребность непрерывного обучения
9. postgraduate	i. дневное обучение
10. pass-fail system	j. искать решения
11. academic guidance	k. экологически чистый
12. industrial placement	l. учебный план
13. hall of residence	m. применять
14. a habit of lifelong learning	n. магистрант, аспирант
15. to assess	o. наниматель
16. to go into employment	p. учебное руководство
17. scholarship	q. приносить пользу
18. graduate thesis (theses – pl.)	r. исследование
19. employer	s. жилье, проживание
20. to benefit	t. дипломная работа, диссертация
21. accommodation	u. стипендия
22. research	v. общежитие

Exercise 2.

Match the words to their definitions. Check any unknown words in a dictionary.

Scholarship, university, lecture, term, a graduate, curriculum, skill, research, placement

- a. a long talk on a particular subject that someone gives to a group of people, especially to students in a university
- b. the things that are studied in a particular subject
- c. an ability to do something well, especially because you have learned and practiced it
- d. serious study of a subject, in order to discover new facts or test new ideas
- e. an amount of money that is given to someone by an educational organization
- f. a job, usually as a part of a course of study, which gives you experience of a particular type of work
- g. an educational institution of the highest level
- h. one of the two periods of time that university year is divided into
- i. someone who has completed a university degree

Exercise 3.

Match the words with a similar meaning. Check any unknown words in a dictionary.

1. undergraduate	a. teaching staff
2. research	b. pollution-free
3. term	c. to perform
4. thesis	d. student
5. to integrate	e. vital
6. academic staff	f. investigation
7. outlook	g. field of study
8. essential	h. characteristic
9. to undertake	i. view
10. environmentally friendly	j. demand
11. feature	k. dissertation
12. need	l. to combine

13. subject area	m. semester
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Exercise 4.

Here is an extract from a speech made by a career advisor to a group of students choosing their future courses of study at university. Complete the speech by choosing one of the words from the box.

Develop, chemical, civil, highway, production, physics, electrical, mechanical, electronic

Engineering students should have **an understanding of maths**, ... and chemistry. Working with pharmaceuticals, food, mineral processing and **chemical manufacturing**, a ... **engineer is trained to understand, design**, control, and investigate materials flows. If you enjoy problem solving and find projects such as the National Library and Minsk Arena interesting, ... engineering may be for you. If your interest is in road building then you **may follow a specialized course in ... engineering**. **By studying ... and ...** engineering you learn about the design of complete systems, such as **computers, controllers, power and transport systems**. ... **engineers** plan, design and develop a wide range of things: washing machines, cars and **spacecraft**. ... **engineers work very closely with mechanical** engineers, to make new products at the right price, on time and in the correct quantity.

READING

Exercise 1.

Read the text carefully. Then discuss the questions below.

1. What products of engineers can you name?
2. What solutions are engineers constantly looking for?
3. What higher engineering institutions do you know in Belarus?
4. What fields of engineering is specialist training provided in?
5. Is engineering and technology education available on full-time or part-time basis?
6. What does the undergraduate curriculum of each engineering institution include?
7. What academic activities allow students to get theoretical and practical knowledge?
8. What is the key feature of all engineering and technology courses?
9. What investigative project do all students undertake in the final year?

10. Why is the habit of lifelong learning essential for students?
11. How long does it take to complete an engineering course at university?
12. What opportunities do students have after graduation?
13. What are postgraduate students engaged in?
14. Why do Belarusian universities continually revise their curricula?

Higher Engineering Education in Belarus

Engineering is an essential part of everyday life. The products of engineers are all around us – computers, cars, aircraft, roads, bridges, medical equipment and much more. Engineers are constantly looking for solutions that are faster, safer, stronger, more efficient, more environmentally friendly and more economical.

The education system of any country is responsible for producing new generations of engineers capable of applying scientific knowledge and practical experience to produce things that benefit people. Higher engineering education in Belarus is provided by a number of universities, including the Belarusian National Technical University, the Belarusian State University of Informatics and Radioelectronics, the Belarusian State Technological University, the Belarusian State University of Transport, Brest State Technical University and others. The universities offer specialist training in a wide range of fields – electronic and electrical engineering, mechanical, civil and nuclear engineering, chemical and environmental engineering and so on.

Engineering and technology education is offered on full-time and part-time basis. The undergraduate curriculum of each institution integrates fundamentals of natural sciences, engineering science and mathematics with engineering practice aspects. Lectures, seminars, practical and laboratory classes allow students to get scientific knowledge and practical skills in different subject areas. The teaching staff provide students with academic guidance and help to form a professional outlook.

An academic year begins in autumn and is divided into two terms. Students are assessed at the end of each term through a pass-fail system and examinations. Individual project work or a coursework in a particular subject area is also a key feature of all engineering and technology courses. In the final year considerable emphasis is placed on a major investigative project, a graduate thesis, undertaken by all students. As all engineering

and technology courses are industry oriented, students are regularly sent out on an industrial placement for training.

It is essential that students are taught a habit of lifelong learning to function productively as professional engineers over the full course of their careers. Belarusian universities offer a wide range of scholarships, summer placements, and employment opportunities. Standard university accommodation in the halls of residence is also available for many undergraduates.

Students normally graduate after 4 or 5 years with the Diploma of **Higher Education. However, today's employers want more than a diploma holder** – they want graduates who have developed a range of skills and qualities appropriate for modern industry. After graduation students may **go directly into employment or join one year Master's programme. This** is an important step for a career in research.

All universities in Belarus are research-based institutions and offer a wide range of postgraduate degree programmes. Postgraduate students undertake significant research working closely with a supervisor from the academic staff. By the end of the course they produce a thesis that makes an original contribution to knowledge.

As the needs of industry change Belarusian universities continually revise their curricula to reflect both the latest developments in engineering education and in technology.

SKILLS

Exercise 1.

Match the first part of the sentence (1-6) with the second part (a-f).

1. Higher engineering institutions offer a number of academic activities, including	a. a vital component of every student's professional development
2. Well-qualified and cooperative teaching staff	b. a graduate thesis, undertaken by all students
3. Industrial training and experience are	c. the ability to apply theoretical knowledge to real industrial problems
4. In the final year considerable emphasis is placed on	d. lectures, seminars, practical and laboratory classes in different subject areas

5. Today's employers value the graduates who have	e. to continuously improve their knowledge and competence
6. A habit of life long learning is essential for practicing engineers	f. provide students with academic support

Exercise 2.

Play a game with the class. One person thinks of a job from the list (*architect, truck driver, miner, electrician, software engineer, biologist, civil engineer*). Other students have to find out what the job is. They can only ask questions where the answer is *yes* or *no*.

Example:

1. Do you travel a lot?
2. Do you use a computer?
3. Do you need qualifications to do your job?
4. Do you need to wear special clothing?
5. Do you have to think a lot?
6. Do you work night shifts?
7. Do you work outside?
8. Do you work long hours?
9. Do you meet a lot of different people?
10. Do you have much responsibility?

Are you a ... ?

Exercise 3.

Work in pairs to discuss higher engineering education in Belarus. Put the words in the questions in the correct order and complete the dialogue below.

A: Engineering education is quite popular with young people in our country. Do you know, universities / engineering / what / provide / education / in Belarus?

B: If I'm not mistaken, these are ...

A: **different fields / is separated / engineering / in a number of / isn't it?**

B: Actually, you can study ...

A: engineering / available / basis / higher / only on full-time / education / is?

B: Not really, ...

A: disciplines / study / do / what / engineering students?

B: As I know, ...

A: students / project / do / undertake / work?

B: Certainly, ...

A: do / where / practical / gain / engineering students / experience?

B: You know, they ...

A: last / how / does / universities / an engineering course / long / in the Belarusian?

B: If I remember right, ...

A: opportunities / do / have / what / students / after graduation?

B: I think, ...

A: I see. Thanks. Now I'm clear about engineering education in Belarus.

B: It's OK.

Exercise 4. Translate the sentences below into English.

1. Одной из основных задач преподавателей университета является оказать поддержку студентам в развитии их личностных и профессиональных навыков.

2. В Республике Беларусь активно развивается атомная энергетика. Ряд высших технических учебных заведений нашей страны обеспечивают подготовку инженеров в этой области.

3. Преподаватели университета руководят учебной работой студентов и консультируют их при подготовке курсовых и дипломных работ.

4. Производственная практика приносит пользу будущим инженерам, так как они учатся применять полученные теоретические знания на практике.

5. Студентам дневного отделения предоставляется жильё в университетских общежитиях, расположенных недалеко от студенческого городка.

6. Преподаватели университета оценивают знания студентов очной и заочной форм обучения по системе зачетов и экзаменов в конце каждого семестра.

7. Сегодня работодатели нанимают на работу не просто дипломированных специалистов, а молодых людей, обладающих рядом навыков, необходимых для работы в различных отраслях современной промышленности.

8. Многие выпускники продолжают обучение по магистерской программе, которая является важной ступенью в их исследовательской карьере.

9. По окончании курса магистратуры студенты-магистранты представляют свои диссертационные исследования, которые определенно вносят вклад в научное знание.

UNIT 2
Higher Education in Great Britain

STARTING UP

Exercise 1.

Discuss the following questions:

1. If you had a chance to get higher education abroad, what country would you choose? Why?
2. Do you agree that the UK enjoys the reputation of a world leader in education?
3. What world famous British universities do you know?

Exercise 2.

Look through the list of the reasons to get higher education in Great Britain. Rank them in order of their importance. Explain your choice.

1. World reputation for high quality education
2. State-of-the-art study and research facilities
3. New educational experience
4. A good way of improving your knowledge of English
5. The opportunity to study alongside world-class teachers
6. Great employment opportunities worldwide

VOCABULARY

Exercise 1.

Match the English words (phrases) with their Russian equivalents.

1. admission	a. изучать, рассматривать
2. self-governing	b. практикум
3. tutorial	c. поддержка

4. assessment	d. индивидуальное обучение
5. medieval	e. прием в университет
6. to suit	f. назначать
7. to clarify	g. университетский городок
8. bachelor	h. автономный
9. to appoint	i. иметь много общего
10. to place emphasis on smth.	j. гуманитарные предметы
11. punting	k. средневековый
12. support	l. развлекательные мероприятия
13. practical	m. оценка
14. personal tuition	n. практическое занятие с преподавателем-консультантом
15. antiquity	p. происхождение
16. to explore	q. подходить, устраивать
17. arts subjects	r. катание на лодке с шестом
18. recreational activities	s. самостоятельно
19. to have a great deal in common	t. прояснять
20. origin	u. древность
21. independently	v. бакалавр
22. campus	w. придавать значение чему-либо

Exercise 2.

Match the English words (phrases) with their definitions. Check any unknown words in a dictionary.

Admission, tutorial, multimedia, degree, assessment, accommodation, content, origin

- a. involving computer programmes that use a mixture of sound,
- b. pictures, video, and writing to give information
- c. a place for someone to live or stay
- d. the evaluation or estimation of the nature, quality, or ability of someone or something
- e. the process of allowing people to enter a university, institution
- f. ideas, facts, or opinions that are contained in a speech, piece of writing, film, programme.
- g. an academic rank conferred by a university after examination or after completion of a course
- h. the place or situation in which something begins to exist

i. a regular meeting between a tutor and one or several students, for discussion of a subject that is being studied

Exercise 3.

Match the words with a similar meaning. Check any unknown words in a dictionary.

1. to found	a. dormitory
2. recreation	b. outstanding
3. hall of residence	c. to supply
4. rapid	d. range
5. prominent	e. to allow
6. to provide	f. autonomous
7. suitable	g. to set up
8. variety	h. without assistance
9. self-governing	i. to be situated
10. to enable	j. entertainment
11. independently	k. appropriate
12. to be located	l. fast

Exercise 4.

Match the words that go together. Check that you know the meanings of the phrases. Then complete the sentences below.

1. to place	a. activities
2. tutorial	b. learning
3. recreational	c. university
4. Master's	d. great emphasis
5. distance	e. technology
6. halls of	f. practicals
7. campus-based	g. politicians
8. laboratory	h. system
9. information	i. residence
10. prominent	j. degree

1. **Margaret Thatcher, Indira Gandhi, Bill Clinton and many other ...** studied at Oxbridge.

2. Good standard accommodation is available to all first-year students **in the University ...**

3. ... allow students to get practical experience applying material from their lectures.

4. **The University provides ... for every interest one could imagine.**

5. **The big advantage of living in a ... is that the majority of your needs are situated on one site.**

6. **Oxbridge... on personal tuition which provides students with the opportunity to get in-depth knowledge in their chosen subject.**

7. **...is a method of studying in which** students are provided with interactive teaching and multimedia materials.

8. At Oxford and Cambridge teaching is conducted primarily through the

9. Last year she completed a four-year course in economics to get a

10. **With the help of ... it is easy to provide audio visual education.**

READING

Exercise 1.

What facts do you know about higher education in Great Britain? Do the general knowledge quiz below and then check your answers by reading the text.

General Knowledge Quiz

- 1) Which is the largest university in the country?
 - a) Oxford University
 - b) London University
 - c) Bristol University
- 2) When were the first British Universities set up?
 - a) In medieval times
 - b) In the 19th century
 - c) In the 20th century
- 3) Which Universities are the oldest ones?
 - a) Oxford and Cambridge Universities
 - b) Glasgow and London Universities
 - c) Edinburgh and Manchester Universities
- 4) How many terms is the academic year divided into?
 - a) Two terms
 - b) Three terms
 - c) Four terms

- 5) Which University provides degrees only by distance learning?
- a) Cambridge University
 - b) Bristol University
 - c) Open University
- 6) How long do most courses last?
- a) Three or four years
 - b) Five years
 - c) Six years

Higher Education in Great Britain

Higher education in Great Britain is mostly provided by the Universities. At present there are more than 100 universities in Britain. All British universities are private institutions and enjoy complete academic freedom, appointing their own staff and deciding which students to admit. The admission to the universities is by examinations and interviews. The universities determine the length and the content of their courses. However they receive financial support from the state.

The first universities were set up in medieval times, including Oxford (1167), Cambridge (1209), St. Andrew's (1413), Glasgow (1451), Edinburgh (1582). The two oldest universities in the United Kingdom are Oxford and Cambridge. Both universities comprise many buildings of great beauty and antiquity, near slow-moving rivers suitable for rowing and punting. Oxford and Cambridge have a great deal in common. Each university has more than 30 self-governing colleges and over 20 000 students. The universities are world class in teaching and research in both arts and science subjects.

Central to academic life at Oxford and Cambridge is the tutorial, which is an hour-long meeting between one to three students and their tutor. A great advantage of the tutorial system is the individual attention that students receive. Although there may be one tutorial a week, students are required to spend many hours independently preparing for this and must come to the tutorial fully ready. Undergraduates are usually expected to present an essay, solutions to a set of problems, or some other project. The **tutor's role is to assess this work and, through discussion**, help undergraduates to think critically and creatively about their chosen subject. This personal tuition enables students to explore course material

in much greater depth than lectures allow and to clarify anything students are not clear about.

The Universities of Oxford and Cambridge (or Oxbridge, as they are **jointly called**) **have produced a large number of the world's most prominent** scientists, writers and politicians, including Charles Darwin, Isaac Newton, Oscar Wilde, Margaret Thatcher, Indira Gandhi, Bill Clinton and many others.

The largest university in the country is London University which was founded in 1828. It is made up of a great variety of colleges with 120,000 students.

The rapid growth of the cities in the nineteenth and the beginning of the twentieth century resulted in the establishment of the so-called **'red brick' universities**. **The origin of the word 'red brick' comes from the popular building material of that time.** Examples include Bristol, Manchester, Birmingham, Leeds, Sheffield and others. These universities were created to fill local needs, the emphasis was placed on the study of science and technology. Currently they offer a full range of courses.

Higher education in Britain considerably expanded in the 1960s. New campus-based universities were set up at Essex, York, Kent, Lancaster and other cities. The creation of the Open University in 1969 marked the new era in higher education. The Open University is a world leader in modern distance learning. It enables people to study at times and in places to suit them. Information and communication technology plays a big part in the OU study. Students are provided with interactive teaching and multimedia materials. Tutors offer support to students by e-mail and computer conferencing.

An academic year in Britain usually starts in autumn and is divided into three terms. A typical university consists of a number of faculties: Arts, Education, Social Sciences and Law, Engineering, Biological Sciences, Medicine and Health and others. At the head of each faculty there is a professor. All universities offer students a wide variety of accommodation in the halls of residence, located on the campuses and surrounding areas. **Every University has a Students' Union** which organizes recreational activities for students.

The main teaching and assessment methods in British universities are: lectures, laboratory practicals, seminars, tutorials, e-learning, projects and examinations. Engineering degree courses are available in the great ma-

majority of UK universities. Most courses last three or four years. The majority of undergraduate degrees are offered as a three-year BEng (Bachelor of Engineering) or four-year MEng (Master of Engineering). One-year postgraduate MSc (Master of Science) degree in specialist fields is also common. UK qualifications in engineering are recognized worldwide.

SKILLS

Exercise 1.

Discuss whether these statements are true or false. Correct the false ones. Use the expressions from the Useful language box below.

- 1) **Universities in Great Britain are private and they don't receive any financial support from the state.**
- 2) The first universities in Britain were founded in medieval times.
- 3) Cambridge University is older than Oxford.
- 4) Each tutor has from five to ten students.
- 5) London University is famous for its antique way of life and a great variety of colleges.
- 6) Bristol, Manchester, Birmingham, Leeds, Sheffield are known as **'red-brick' universities.**
- 7) New campus-based universities were set up in the 1960s.
- 8) The academic year in Great Britain starts in summer and is divided into three terms.
- 9) It takes five years to get a Bachelor of Engineering degree.
- 10) The only teaching and assessment methods in all British Universities are tutorials.
- 11) Information and communication technology is essential in the Open University study.
- 12) UK qualifications in engineering are recognized all over the world.

Useful language	
<i>I think so</i>	<i>I disagree</i>
<i>I'm quite positive about it</i>	<i>I'm of the opposite opinion</i>
<i>Absolutely right</i>	<i>Far from it</i>
<i>I agree only to some extent</i>	<i>It's false, I'm afraid</i>
<i>Certainly</i>	<i>I can't agree with it</i>

Exercise 2.

Work in pairs. Imagine that your friend is planning to study in Great Britain. Interview him (her) about the university he (she) wants to choose. Put the words in the questions in the correct order and then complete the dialogue.

A) town / or / you / Do / city / want / a small / to study / in a big?

B) Personally, I ...

A) Do / prefer / you / university /or /one / studying / at /a larger/ a smaller?

B) You know, ...

A) you / one / university / an ancient / Do / or / to choose / a new / want ?

B) Actually, I ...

A) What / will be / activities / to / available /you / academic?

B) I think, ...

A) like / What / you / the university / facilities / would / to have / at?

B) It would be great to have ...

A) prefer / in University accommodation / sector / Do / in the accommodation /or / you /to live/ in the private?

B) Well, you know, I'd rather live ...

A) need / an English / you / language / to study / qualification / Do/ at the UK university?

B) Sure, ...

A) is / in / What / the tuition fee/ the British universities?

B) As I know, ...

Exercise 3.

Work in groups of three or four to discuss in what ways the system of higher education in Great Britain is similar to, or different from that in our country? Use the headings below and the expressions from the Useful language box to help you.

- the admission to the universities
- the academic year
- the main teaching and assessment methods
- the degrees provided by the universities
- facilities and opportunities offered by the universities

BELARUS	GREAT BRITAIN
If I remember right higher education in Belarus is provided by...including...	As far as I know in Britain higher education is mostly provided by...
I know that in Belarus universities admit students after...	If I am not mistaken the admission to universities in Great Britain is by...
I know exactly that the academic year in Belarus starts in... and is divided into...	Unlike Belarus the academic year in Britain is divided into...
I think that the main teaching methods in Belarusian universities are... . And the students are assessed at the end of each term through...	It seems to me that British universities also use such teaching and assessment methods as... Moreover the most important teaching method of Oxford and Cambridge is...
Students in Belarus graduate after ... years with...	But in Great Britain most courses last ...
I am sure that all universities in Belarus offer a wide range of undergraduate and postgraduate degrees such as...	It seems to me that the majority of undergraduate and postgraduate degrees in the UK are offered as ...
As far as I know Belarusian universities support students providing them with...	And British universities offer their students a great variety of...

Exercise 4.

Work with a partner and prepare a five-minute presentation about your dream university using the questions below. Give your presentation to the class.

- 1) Where is the university located?
- 2) What courses does it run?
- 3) How much does the course cost?
- 4) What are the dates of the terms? Are they convenient?
- 5) What is the length of the course?
- 6) Is teaching carried out in small groups (tutorials) or large groups (lectures)?

- 7) How are the students assessed?
- 8) What facilities does the university offer?

Exercise 5.

Translate the sentences below into English:

1) Британские университеты являются автономными учреждениями, которые сами определяют продолжительность курсов обучения и содержание учебных программ.

2) Одним из главных условий приёма (поступления) в Британские университеты является соответствующий уровень академической подготовки.

3) Университеты Оксфорда и Кембриджа имеют много общего и знамениты своей индивидуальной системой обучения, которая позволяет студентам более глубоко изучить материал.

4) Знаменитая регата (boat race) по гребле между Оксфордом и Кембриджем – это уникальное спортивное событие, которое проводится на реке Темзе с 1829г.

5) «Краснокирпичные» университеты, построенные в промышленных городах из кирпича, заметно отличались (to look completely different from) от древних каменных стен Оксфорда и Кембриджа.

6) Открытый Университет Великобритании всегда являлся мировым лидером в области использования информационных технологий, что даёт возможность получать высшее образование в любой точке мира.

7) Открытый Университет применяет широкий спектр методов для дистанционного обучения, включая Интернет-конференции, сопровождаемые поддержкой преподавателя-консультанта.

8) Курс обучения на степень бакалавра в университетах Великобритании по большинству специальностей составляет три или четыре года.

9) Университеты Великобритании предоставляют студентам не только условия для учебы, а также для спорта и развлечений.

10) Британские университеты имеют всемирно признанную репутацию благодаря выдающимся академическим достижениям и высочайшему уровню научных исследований в различных областях знаний.

UNIT 3
The Belarusian National Technical University

STARTING UP

Exercise 1.

Learning at university is often different from school or college. Choose three things that impressed you greatly when you started learning at the University:

- the campus area
- a large number of students
- different kinds of classes
- the opportunity to feel part of campus life
- large library resources
- the opportunities to practice sports at all levels
- a variety of engineering laboratories
- numerous out- of-class social and sporting activities
- a wide range of clubs and societies

Use the model:

When I started learning at the University I was greatly (really) impressed by...

From my first days at the University I was surprised by...

Exercise 2.

Discuss these statements. Use the expressions from the Useful language box to help you.

1. Knowledge is power.
2. The roots of education are bitter, but the fruit is sweet.

Useful language

In my opinion, one of the most important things in our life is...

I consider that learning is always hard but...

From my point of view, many young people...

As I see it, it is necessary to ...

I believe getting higher education is a good way to find...

It seems to me education provides a good opportunity to...

I'm sure that deep knowledge in different fields helps to...

It is clear that in order to be successful you have to...

VOCABULARY

Exercise 1.

Match the English words and phrases with their Russian equivalents.

1. to be at the forefront	a. участвовать
2. department	b. спортивная площадка
3. recreation	c. поощрять
4. pitch	d. выполнять
5. state-of-the-art	e. признанный
6. trade union	f. сборная команда
7. proficiency	g. кафедра
8. to take charge of smth.	h. учеба
9. to undertake	i. ценить
10. to compete	j. современный
11. to get involved in smth.	к. многонациональное учебное заведение
12. ingenuity	l. быть на передовой
13. learning	m. профсоюз
14. ability	n. отдых, развлечение
15. industrially focused	o. взять на себя ответственность за что-либо
16. to encourage	p. мастерство, сноровка, умение
17. combined team	q. изобретательность
18. leadership characteristics	г. межуниверситетский
19. to value	s. соревноваться
20. inter-university	t. практико (промышленно) -ориентированный
21. multicultural institution	u. поездка
22. recognized	v. способность
23. ride	w. лидерские качества

Exercise 2.

Match the words to their definitions. Check any unknown words in a dictionary.

Multicultural, pitch, hall of residence, postgraduate, gym, proficiency, coursework, to be at the forefront, competition

- a. a university building where students live
- b. work students do during a course of study, and that forms part of their final mark
- c. a special building or room that has equipment for doing physical exercises
- d. **someone who is studying to get a Master's degree or a higher one**
- e. to be in a leading position in an important activity that is trying to achieve something or develop new ideas
- f. an organized event in which people or teams compete against each other
- g. involving or including people from many different countries, races or religions
- h. a marked out area of ground on which a sport is played
- i. a good standard of ability or skill

Exercise 3.

Match the words with a similar meaning. Check any unknown words in a dictionary.

1. a range of	a. entertainment
2. conveniently	b. extracurricular
3. to encourage	c. a number of
4. ingenuity	d. pioneering
5. out-of-class	e. to admit
6. innovative	f. comfortably
7. opportunity	g. to stimulate
8. to take part in smth.	h. to hold
9. to welcome	j. training
10. leading	k. inventiveness
11. teaching	l. to guarantee
12. to contain	m. top
13. recreation	n. to get involved in smth.
14. to ensure	p. chance

Exercise 4.

Check that you know the meanings of the phrases. Then complete the sentences below.

Academic staff, full-time and part-time basis, specialist skills, pass-fail system, to undertake research, state-of-the-art sports complex, indoor and outdoor sports facilities, out-of-class activities, combined teams, technical proficiency

1. **A ... offers modern ...**, such as training equipment and pitches to keep students fit and healthy.
2. The University is very proud of the successful activity of its 33 ... in 26 sports participating in inter-university and national competitions.
3. The BNTU academic programmes help students to develop a **range of ... appropriate for the working world.**
4. Students are assessed through a ..., oral and written examinations at the end of each term.
5. Student life is very active at the BNTU. **In students'** free time they can take full advantage of ... to demonstrate their abilities and interests.
6. supports students to develop the skills they need to do well in their studies.
7. Every year students are encouraged to in many engineering disciplines to develop their analytical and problem-solving skills.
8. A high level of gives students an opportunity to get an excellent job.
9. The University offers an opportunity for students to study on ... and

READING

Exercise 1.

What do you know about the Belarusian National Technical University?

Do the general knowledge quiz below and then check your answers by reading the text.

General Knowledge Quiz

1. **The BNTU was founded in ... on the basis of ...**

- a. 1820 . . . the College of Science
- b. 1910 . . . the College of Engineering
- c. 1920 . . . the Polytechnic College

2. The university consists of . . . faculties.

- a. 10
- b. 15
- c. 17

3. About ... students are taught on full-time and part-time basis in ... specialities at the BNTU.

- a. 20 000 . . . 70
- b. 25 000 . . . 78
- c. 35 000 . . . 88

4. The university provides the students with accommodation in ... halls of residence.

- a. 8
- b. 10
- c. 15

5. The university is an excellent ... centre.

- a. research
- b. recreation
- c. study, research and recreation centre

The Belarusian National Technical University

The Belarusian National Technical University was founded in 1920 on the basis of the polytechnic college. Now the BNTU is considered to be the leading university in the field of higher engineering education in the Republic of Belarus. The University offers a great choice of engineering courses along with excellent study and research facilities.

The BNTU not only welcomes students from all over Belarus, its reputation worldwide makes it a multicultural institution with students from 30 countries. The University is divided into 17 Faculties, including Mechanical Engineering, Power Engineering, Automobile and Tractor Engineering, Mining and Environmental Engineering, Information Technology and Robotics, Instrumentation Engineering, Military Engineering and

others. Each Faculty is subdivided into a number of departments and scientific research laboratories. About 35,000 students are taught on full-time and part-time basis in 88 specialities.

There are more than 2,000 highly qualified members of the academic staff at the University. Many of them have academic degrees and undertake fundamental and industrially focused research across a wide range of engineering disciplines. Through the programmes of study, students develop their intellectual abilities and specialist skills that employers value in **today's university** graduates. The BNTU students are encouraged to be organised, initiative and take charge of their learning.

Lectures, seminars, laboratory and practical classes make up the majority of teaching time. Students are usually assessed at the end of each semester through a pass-fail system, written and oral examinations, and through coursework in the form of projects.

The BNTU campus is regarded as one of the largest and most attractive in the country. Conveniently located in the city centre, the campus offers excellent facilities for teaching, learning, research and recreation. As a student at the BNTU you are able to use one of the largest university libraries in Belarus, containing over two million books, many reading halls with quiet study places, well-equipped engineering laboratories and computing centres.

The BNTU has always been one of the top sporting universities, providing opportunities for sports participation at all levels. A state-of-the-art sports complex offers indoor and outdoor sports facilities, including many sports halls, a gym, a stadium with high quality pitches for a variety of sports. 33 combined teams in 26 sports are involved in inter-university competitions. Handball and basketball teams compete at a national level.

Choosing a university is about choosing home. The University provides students with accommodation in 15 halls of residence, all located within a short walk or the underground ride from the campus. University life is more than just lectures and exams. To ensure that your years at the University are the **best of your life**, the **Students' Trade Union** offers a wide range of entertainment and support for students. Numerous clubs and societies provide the opportunity to get involved in different out-of-class activities, from learning a foreign language to dancing.

The University is internationally recognized for its research, development and innovation. Every year both academic staff and students take part in scientific and technical conferences. The University is one of the

main centres of postgraduate teaching in the country. All research degree courses offer research skills training to help postgraduate students realise their potential as researchers. The BNTU is developing strong links with industrial enterprises, academic and research institutions in Belarus and abroad.

The BNTU graduates stand at the forefront of Belarusian industry, possessing strong leadership characteristics, ingenuity and technical proficiency. The University provides educational experience that encourages students for lifelong learning and to continuously improve their knowledge and competence.

SKILLS

Exercise 1.

Answer the questions about the text.

1. When was the University established?
2. What status does the University have in Belarus?
3. How many faculties does the BNTU consist of? What are they?
4. Is the academic staff numerous at the University?
5. **What skills and qualities do employers value in today's university graduates?**
6. What is the University campus like?
7. What study facilities does the University offer?
8. Why is the BNTU considered to be one of the top sporting universities in the country?
9. Does the BNTU provide students with accommodation?
10. What recreation activities are available for the BNTU students?
11. In what way is research work organized at the University?
12. What are the advantages of the BNTU educational experience?

Exercise 2.

Discuss whether you think these statements are true or false.

1. The BNTU was founded in 1922 on the basis of the polytechnic college.
2. The University only welcomes students from Belarus.
3. About 35 000 students study on full-time and part-time basis.
4. Highly qualified academic staff are only involved in teaching.

5. Study programmes are designed to develop students' intellectual abilities and specialist skills which are very important in the job market.
6. Lectures and seminars make up the majority of teaching time.
7. A state-of-the-art sports complex offers indoor sports facilities.
8. All University's halls of residence are located far from the campus.
9. The Students' Trade Union offers social and sporting activities organized by students for students.
10. The BNTU is developing national and international partnerships with other leading universities and industry.

Exercise 3.

The University Open Day is a day to **discover what it's really like** at the University. Have you attended the Open Day? If yes, then was the visit useful? **Describe your general impressions. If you haven't attended the Open Day, describe what can applicants (абитуриенты) find out on this day using your general knowledge and expressions from the Useful language box.**

Useful language

to have the opportunity to look around the campus, to find out detailed information about the admission process and career prospects, to take part in a number of talks on many aspects of life and study at the University, to find information on issues such as scholarships and fees (оплата за обучение), accommodation and extracurricular activities, to gain impression of a student life at the University, to have the chance to talk to the current students and hear a firsthand account (мнение из первых рук) of the student experience, to learn more about courses and facilities, to have the opportunity to ask the Faculty staff any questions about the Faculty and the courses it offers

You can begin like this: The Open Day as a whole was an amazing experience because it gave me an idea of what to expect if I were to study at the BNTU. I learnt more about ...

Exercise 4.

Work in groups of three or four. Do you agree or disagree with these statements? Give reasons for your answers. Use expressions from the Useful language box to help you.

1. Your years at the University are the best of your life.
2. Students need to be organized, initiative and take charge of their learning.

Useful language

1. *to get the most out of your university life, to have the opportunity to get involved in a wide range of academic, social and sporting activities, to meet people with a common academic interest, to make a lot of new friends, to create lasting friendships, the University allows both to learn and have fun, numerous clubs and societies provide a place to meet like-minded (имеющий схожие пристрастия) people or simply socialize*

2. *the University offers an educational experience designed to help... , students need to get used to different kinds of learning required in certain subject areas, it's a different sort of atmosphere from school, to be far more independent, to be responsible for one's own learning, to come to the classes fully ready, to spend many hours independently preparing for studies*

Exercise 5.

Put the words in these questions in the correct order. Then match them with the answers to make a dialogue about the University.

1. it / for you / hard / university life / to settle down / was / into?
2. any / there / difference / is / university and school / between?
3. you / feel / any / do / support / the teachers / from?
4. take part / do / in the events / **you / by the Students' Union** / organised?
5. have / in the halls of residence / you / **accommodation** / **don't you?**
6. what / available / are / sports / to students?

a. There are 26 different sports societies within the sports complex. We have sports like football, volleyball and lots of martial arts (**боевые искусства**) as well.

b. There are really good teachers. They really give a lot of help. It **might seem there's no support there, but as soon as you just ask for it, it's always available.**

c. **Actually, I do. It's a good standard accommodation, just a short walk from the campus.**

d. Well, it was a bit scary, to be honest, leaving home for the first time, going to live in a new place, but I quickly settled in and found it very friendly.

e. Sure. You know, university life is more than just lectures and exams. The Union really tries to encourage any student to be active and participate in a wide range of social and sporting activities. It makes our life here more enjoyable.

f. **I think there's a big difference between university and school. Here you're far more independent** and responsible for your own learning.

Exercise 6.

Role-play the University Open Day. Work in pairs to complete the dialogues below. Discuss university life at the BNTU. Student A - an applicant who wants to learn more about university life. Student B – a current BNTU student who offers firsthand advice based on his/her experience of life at the University.

Dialogue 1

A: Excuse me, are you a BNTU student?

B: Yeah, I'm a ...-year student of ... Faculty.

A: You know, I'm going to enter the BNTU this year. Do you have any idea if all the Faculties are ...?

B: Sure, many Faculties including ... are located on campus, others are ...

A: The campus is really large. Are the classes held in one ... or in ...?

B: Actually, we have classes in different buildings. It usually takes us ... minutes to ...

A: What kinds of classes ... ?

B: We have ..., ..., ..., and laboratory classes as well. You'll have to spend many hours independently to ...

A: Was it hard for you to settle down into university life?

B: Well, ...

A: I see, thanks. Your advice is really helpful.

B: No problem.

Dialogue 2

A: Excuse me, **I'm looking for the Automobile and Tractor Faculty?**

B: Yeah, it's situated in ...

A: Oh, the campus is so large! Is there a library and a sports complex?

B: Actually, there are all these facilities on the campus. The BNTU library is **A state-of-the-art sports complex offers**

A: You know, **I'm just interested, as I'm going to enter the BNTU this year.**

B: I see, go ahead.

A: **How many classes a day ... ?**

B: You know, our **timetable is really busy!** There are ... a day. We study a large number of subjects like ...

A: **Do you have any time for ... activities?**

B: **Yes, I usually take part in the events organized by our Students' It's always fun!**

A: **Thanks, you've been very helpful.**

B: **It's OK.**

Dialogue 3

A: Excuse me, is there a café on the campus?

B: Sure, there is a café or a canteen in each building. They serve a wide range of hot meals, snacks, ...

A: Thanks. **By the way, don't you live in the halls of residence? I'm just interested, as I'm going to enter the BNTU this year.**

B: I see. Yeah , **I have the University's ...**

A: Is it far from the campus?

B: **No. it's just ...**

A: Is it difficult to study at the BNTU?

B: Quite difficult. During the term we ... **At the end of the semester ...**

A: Do you feel any support from the teachers?

B: **Yeah, they really give you a lot of help, but you have to take ... learning as well.**

A: I see, thanks. Your advice is really useful.

B: No problem.

Dialogue 4

A: Excuse me, is there a photocopy centre on the campus?

B: Yes, the nearest one is in the library.

A: What other facilities are available at the library? I'm just interested, as I'm going to enter the BNTU this year.

B: Oh, I see. As I know, there is a Wireless Access Point, a lot of ...

A: Do you use any of these resources?

B: Sure, especially when I get ready for ... or write a ...

A: Do all the Faculties study on the first shift?

B: Not really. Some Faculties ... the others ...

A: I was told that many students receive How much is it?

B: It depends. It's from ... to ... a month.

A: I see. Thanks, you've been very helpful.

B: That's all right.

Exercise 7.

Translate the sentences below into English:

1. Во время учебы в университете студенты развивают свои интеллектуальные способности и профессиональные навыки, а также становятся более инициативными и организованными.

2. Университет включает в себя 17 факультетов. Более 35000 студентов из разных уголков Беларуси и зарубежных стран учатся в БНТУ.

3. БНТУ предлагает студентам как очную, так и заочную формы обучения.

4. Ежегодно студенты и преподаватели проводят практико-ориентированные исследования в области инженерного дела, а также представляют результаты исследований на научно-технических конференциях БНТУ.

5. Университет предоставляет студентам не только широкий круг технических специальностей, а также благоприятные условия для обучения и развития личностных качеств студентов.

6. Каждый факультет предоставляет студентам возможность приобретать практические навыки в хорошо оборудованных технических лабораториях и вычислительных центрах.

7. БНТУ обеспечивает многих студентов жильём в общежитии, которые расположены в шаговой доступности от университетского городка.

8. Спорт очень популярен среди студентов БНТУ. Современный стадион с большим количеством площадок для различных видов спорта, спортивные залы, тренажёрный зал доступны студентам университета.

9. Знания и навыки, полученные в университете, позволяют студентам быть востребованными на рынке труда.

10. Профессорско-преподавательский состав постоянно поддерживает студентов в их стремлении (*aspiration*) к непрерывному образованию и к улучшению своих знаний и компетенций.

UNIT 4

The University of Manchester

STARTING UP

Exercise 1.

What do you know about the city of Manchester?

Do the general knowledge quiz below to find out more about Manchester.

General Knowledge Quiz

1. Manchester is situated in
 - a) Scotland
 - b) England
 - c) Wales
2. Museum of Science and Industry in Manchester is
 - a) a place for tourists where you can buy various pieces of art
 - b) a great place to learn more about the city's industrial beginnings and amazing scientific achievements
 - c) the only historical place in the UK left after the World War II
3. Manchester United is
 - a) a textile company
 - b) a hotel
 - c) a football club
4. The University of Manchester is
 - a) a medieval University
 - b) a red brick University
 - c) a new campus-based University
5. The University of Manchester is the place where scientists first
 - a) split the atom

- b) invented the radio
- c) designed the first space shuttle

Exercise 2.

Discuss these questions:

1. Do you know any world-famous British universities?
2. What do you know about these universities?

VOCABULARLY

Exercise 1.

Match these words and phrases with their Russian equivalents.

1. to establish	a. решение задач
2. Faculty of Humanities	b. школы с высоким рейтингом
3. multicultural community	c. обеспечивать, гарантировать
4. current staff	d. применять, употреблять
5. to award	e. учитывать, удовлетворять требованиям
6. Faculty of Life Sciences	f. факультет гуманитарных наук
7. to undertake in-depth study	g. гражданские ценности
8. to cater for	h. логическое мышление, рассуждение
9. cutting-edge	i. виртуальная среда обучения
10. forward-thinking	j. самый современный
11. to apply	k. соединять, объединять
12. virtual learning environment	l. проводить глубокое исследование, анализ
13. to ensure	m. устная коммуникация
14. reasoning	n. действующий преподавательский состав
15. problem-solving	p. основывать, учреждать, устанавливать
16. civic values	q. многонациональное сообщество
17. verbal communication	r. факультет медицинских и социальных наук
18. highly-rated Schools	s. факультет биологических наук
19. bring together	t. прогрессивно мыслящий

20. Faculty of Medical and Human Sciences	v. награждать, присуждать
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Exercise 2.

Complete these sentences with the words and phrases from the box. Use a good dictionary to help you.

Forward-thinking, current, staff, values, tutorials, diverse, research, cutting-edge, created, catering for

1. The University of **Manchester** was ... in 1824.
2. The University of Manchester is a highly selective 'elite' UK institution which comes 3rd in terms of ... after Cambridge and Oxford.
3. **Our academic ... are leaders in their field and their research** directly improves their teaching.
4. Faculty of Engineering and Physical Sciences brings together nine ... **Schools**.
5. There are four **Nobel Laureates among ... staff**.
6. The main teaching and assessment methods in British universities are: **lectures, ... laboratory practicals, projects, seminars, e-learning** and exams.
7. **The University has ... scientific facilities**.
8. **The Athletic Union is made up of 46 sport clubs, ... all levels**.
9. The university courses equip students with not only academic knowledge, but also personal skills such as critical thinking, reasoning and **analysis, civic ... and responsibilities**.
10. These skills will be useful across a ... range of careers.

Exercise 3.

Match the words with a similar meaning.

1. staff	a. to guarantee
2. to establish	b. to contain
3. to apply	c. to devote
4. to allow	d. contemporary, state-of-the-art
5. to include	e. to permit
6. to dedicate	f. detailed and thorough
7. to ensure	g. to combine
8. to conduct research	h. to found
9. in-depth	j. personnel

10. cutting-edge	k. to carry out investigations
11. to bring together	l. to utilize, to use

READING

Exercise 1.

Before you read the text, discuss these questions:

1. Would you like to study in a foreign country?
2. In your opinion, is it difficult to enter a British university?
3. Do you know the entrance requirements for overseas universities?
4. Would it be difficult for you to join the multicultural community?

Exercise 2.

Go through the text to find this information:

- a) the number of students at the University of Manchester
- b) the number of Noble Prize winners of the University
- c) cutting-edge scientific facilities
- d) the name of the virtual learning environment
- e) the most important inter-university sporting event

Exercise 3.

Read the text carefully and do the exercises after the text

The University of Manchester

The University of Manchester **is one of Britain's most forward**-thinking universities. It was established in 1824. The University has always been at the forefront of new discoveries in science and engineering. Manchester is the place where scientists first split the atom and invented the modern computer.

The University of Manchester is divided into four Faculties. These include Faculty of Engineering and Physical Sciences, Faculty of Humanities, Faculty of Life Sciences, Faculty of Medical and Human Sciences. Each Faculty is divided into a number of Schools. For instance, Faculty of Engineering and Physical Sciences brings together nine highly rated Schools, each with a powerful reputation for teaching and research success. There is, School of Mechanical, Aerospace and Civil Engineering, School of Electrical & Electronic Engineering, School of Computer Science, School of Materials, School of Mathematics, etc.

The University's campus is home to more than 37,000 students from around 150 countries, creating a diverse and multicultural community. More than 5,600 academic and research staff provide stimulating learning environments and excellent standards of teaching.

The University of Manchester is one of the country's major research universities. There are 50 specialist research centres, conducting pioneering research in areas ranging from nanomaterials to artificial intelligence. 25 Nobel Prize winners have worked or studied here and there are four among current staff. Professors Andre Geim and Konstantin Novoselov were awarded the Nobel Prize for Physics in 2010. These scientists invented graphene – **the world's thinnest, strongest and most conductive material.**

The University offers a wide range of undergraduate and postgraduate degrees. A postgraduate research degree allows students to undertake in-depth study in a specific area, which is then written up as a thesis.

Students at the University of Manchester have access to world-class study facilities. They include one of the largest university libraries in the UK, with more than four million books, a large collection of electronic resources, and more than 3,200 computers across campus. There are a lot of Wireless Access Points across the University campus. These allow **students to use their own laptops on the University's high-speed network** and connect to the internet quickly.

The University has cutting-edge scientific facilities, like Jodrell Bank Observatory, Manchester Interdisciplinary Biocentre, the Photon Science Institute, and the Integrative Centre for Molecular Cell Biology.

Many programmes of study include online components. The University of Manchester has a virtual learning environment (VLE) called Blackboard. This means you might study online using material created by your lecturers, download papers and take online tests, or access relevant audio and video material.

World-class sports facilities give students plenty to do outside lectures. The Athletic Union is made up of 46 sport clubs, catering for all levels, from beginners up to elite athletes. Most compete in the British Universities and Colleges Sport Leagues against other universities.

The Students' Union has its own shops, cafes and bars, and it provides everything that students need to enjoy their time at Manchester University to the full.

At university a strong emphasis is placed on teaching students to apply information. Students are encouraged to read widely, to question and analyse what they have read, and to discuss openly their own ideas in seminars and tutorials.

This ensures that university courses equip students with not only academic knowledge, but also personal skills that will be useful across a diverse range of careers. These include: critical thinking, reasoning and analysis, advanced written and verbal communication, problem-solving and teamwork, civic values and responsibilities as citizens of the future.

SKILLS

Exercise 1.

Match the first part of the sentence (1-6) with the second part (a-f).

1. Thousands of Manchester students are now benefiting from ...	a. provides teaching, learning and assessment materials and activities online, as well interactive discussions with teaching staff;
2. Blackboard Learning System ...	b. teaching students to apply information;
3. The University of Manchester	c. access to the University's Blackboard Learning System;
4. At university a strong emphasis is placed on ...	d. invented the world's thinnest, strongest and most conductive material;
5. University courses transfer academic knowledge, as well as ...	e. enjoys a global reputation for both pioneering research and problem-based approach to learning;
6. Professors Andre Geim and Konstantin Novoselov ...	f. some useful skills such as critical thinking, problem-solving and teamwork, civic values etc.

Exercise 2.

Decide whether the following statements are true (T) or false (F).

1. The University of Manchester was created in the 18th century.
2. The University of Manchester consists of fourteen Faculties.
3. Each Faculty consists of a number of schools.

4. The University of Manchester enjoys a global reputation for both its pioneering research and problem-based approach to learning.

5. Blackboard is a virtual learning system created specially for part-time students.

6. Jordell Bank Observatory and the Photon Science Institute are cutting-edge sports facilities at Manchester University.

7. The library of the University of Manchester is the largest library in the UK.

8. Wireless Access points allow Manchester students to connect to the Internet quickly.

9. The University of Manchester is aimed at providing students with academic knowledge and developing civil values and responsibilities.

10. The Athletic Union consists of 46 sport clubs for professional athletes.

Exercise 3.

Work in groups of three or four to discuss in what ways your University is similar to, or different from the University of Manchester. Use the headings below and the expressions from the Useful language box to help you.

- date of creation
- number of students
- number of Faculties
- study facilities
- research facilities
- assessment system
- sports facilities

Useful language

In my opinion, both Universities have...

As far as I know, ...University is older than ...

I consider, the students of ...University have better access to ...

From my point of view, the largest University library is ...

As I see it, the students of ...University have more opportunities to...

I believe, the academic methods at ... are more innovative and encouraging than at ...

It seems to me, the Universities differ in...

I'm sure that the common features of both Universities are...

It is clear that both universities provide...

I'm positive that the University offers its students excellent... compared to ...

Exercise 4.

A group of students from the University of Manchester has arrived in Minsk to take part in the Prospects of Engineering Education Conference. The questions below were asked. Put the words in these questions in the correct order. Then match the questions with the answers below.

1. there/ of /what/ kinds/ at /classes/ are/ Manchester University?
2. the /what/ helpful/ in/ are/ ways / tutorials?
3. number/ people/ is/ average/ the/ of/ what/ in/ your/ lectures?
4. with/ students/ accommodation/ provided/ are/ first-year/ all/ University?
5. international/ come/ countries/ what/ from/ students/ do?
6. available/ you/ scientific/ are/ facilities/ Manchester/ what/ to/ at?
7. benefits/ Union/ what/ offer/ **the/ does/ Students'/ you?**
8. advantage/ activities/ what/ take/ of/ you/ out-of-class/ do?

a) What I really like about our tutorial system is that you can talk with **your personal tutor about specific parts of the lecture you don't understand.**

b) As I know, they come from all over the world including Russia, China, Hong Kong, Taiwan, India, Arabic and African countries.

c) Actually, we have access to outdoor and indoor sports facilities, social and entertainment events. Once a week practice swimming and go to the fitness centre.

d) Well, we have a wide range of classes such as lectures, laboratory **practicals, projects, seminars, tutorials and we have this ...er...what we call... e-learning system.**

e) For my course we have about 400 people in a big lecture theatre.

f) **The Students'** Union supports all kinds of social and sporting activities, various clubs and societies.

g) Sure, all first-year students are offered a place in the University halls of residence, located both on our campus and in surrounding areas.

h) **You know ... we have an impressive range of facilities to support our research. My group mates and I carry out research in electrical and mechanical workshops.**

What other questions would you like to ask the students of the University of Manchester? Think of two or three more questions.

Exercise 5.

Work in pairs to complete the dialogue below.

A: a BNTU student.

B: a Manchester student.

A: Are there many international students at Manchester University?

B: Sure. **There are What about your University?**

A: **As I know,**

B: By the way, how many Faculties are there at the BNTU?

A: **You know, there are ... such as Is the number of Faculties the same at your University?**

B: **No, we only have ...**

A: Oh, really? Why so few?

B: Yeah, but each Faculty includes ...

A: Is it difficult to study at Manchester?

B: **Certainly, but we get a lot of support from ... and it's a good thing that we have free access to Do you have any IT services?**

A: **Yes, we have some. For example,**

B: You look fit! Do you practice sport?

A: **Yes, I'm fond of Actually, we have plenty of sports facilities like Is sport popular with Manchester students?**

B: Yes, quite. We have ... as well . What do you do outside lectures?

A: **You know, our Students' Union organisers Do you have a similar organisation?**

B: Yeah, sure...

Exercise 6.

Translate the sentences below into English:

1. Манчестерский университет обладает высокой репутацией во всём мире благодаря эффективной работе действующего преподавательского состава, самым современным научно-исследовательским центрам, а также стимулирующей обучающей среде.

2. Университет всегда находился на передовой новых открытий и технологий.

3. Университет включает в себя различные факультеты: факультет технических и физических наук, факультет гуманитарных наук, факультет биологических наук и др. Такое разнообразие факультетов отвечает потребностям абитуриентов в приобретении знаний по различным предметным областям.

4. В университете обучается более 37 тысяч студентов из 150 стран мира, что придает учебному заведению статус многонационального сообщества.

5. Студенты-магистранты имеют возможность проводить углубленное исследование по широкому спектру технических дисциплин.

6. Преимущество учебной программы Манчестерского университета состоит в том, что основной упор делается на применение теоретических знаний на практике, что гарантирует качественную подготовку студентов к их профессиональной жизни.

7. Виртуальная обучающая среда позволяет студентам дневной и заочной форм обучения найти и скачать всю необходимую информацию с университетского сайта для подготовки к экзаменам.

8. Университет готовит прогрессивно мыслящих специалистов, способных к критическому мышлению и анализу информации, навыкам работы в команде, а также решению сложных задач.

9. Университетская программа обучения помогает не только сформировать у студентов навыки устной и письменной коммуникации, но и воспитать чувство ответственности и гражданские ценности.

Exercise 7.

Choose a British University. Work with a partner and prepare a five-minute presentation including the following items:

- the date of foundation
- the number of students and their origin
- Faculties and Schools
- degree courses
- study facilities
- **Students' Union**
- accommodation
- tuition fee

You can visit websites like

www.cam.ac.uk

www.ox.ac.uk

www.ed.ac.uk

www.leeds.ac.uk

www.bris.ac.uk

www.lon.ac.uk

www.birmingham.ac.uk

www.liv.ac.uk

Give your presentation to the class.

UNIT 5 *My Faculty*

STARTING UP

Exercise 1. Discuss these questions.

1. What Faculty do you study at?
2. What social or sporting activities organized by the Faculty did you get involved in?
3. Do you agree that your Faculty is friendly and supportive? Give reasons.

Exercise 2.

What do you know about the BNTU Faculties?

Do the general knowledge quiz below to find out more about the Faculties of the University.

General Knowledge Quiz

1. The oldest Faculty of the BNTU is
 - a) Information Technology and Robotics Faculty
 - b) Power Engineering Faculty
 - c) Mechanical and Technological Faculty
2. The youngest Faculty of the University is
 - a) Instrumentation Engineering Faculty
 - b) Military Engineering Faculty
 - c) Sports Engineering Faculty
3. The largest number of students is at
 - a) Mechanical and Technological Faculty
 - b) Automobile and Tractor Faculty
 - c) Mining and Environmental Engineering Faculty
4. The Faculty that trains engineers only on full-time basis is

- a) Mechanical Engineering Faculty
- b) Power Engineering Faculty
- c) Military Engineering Faculty
5. The Faculty that is situated in the 17th building is
- d) Instrumentation Engineering Faculty
- e) Information Technology and Robotics Faculty
- f) Automobile and Tractor Faculty

VOCABULARY

Exercise 1.

Match the English words (phrases) with their Russian equivalents.

1. research portfolio	a) декан
2. to rename	b) спрос, потребность
3. to establish	c) включать
4. to head	d) общий
5. to separate from	e) переименовывать
6. to give training	f) возглавлять
7. transformation	g) учреждать, основывать
8. to include	h) в тесном сотрудничестве
9. demand	i) исследовательское портфолио
10. in close consultation	j) отделять от
11. common	k) найти работу
12. dean	l) изменение, преобразование
13. to find employment	m) предоставлять подготовку

READING

Exercise 1.

Go through the texts and match each student with the Faculty he studies at. Then read the text about your Faculty to discuss the questions that follow it.

1. A student of Mining and Environmental Engineering Faculty
2. A student of Mechanical and Technological Faculty
3. A student of Information Technology and Robotics Faculty
4. A student of Automobile and Tractor Faculty
5. A student of Sports Engineering Faculty
6. A student of Mechanical Engineering Faculty
7. A student of Military Engineering Faculty

8. A student of Power Engineering Faculty
9. A student of Instrumentation Engineering Faculty

Text A. Our Faculty is one of the oldest and largest at the BNTU. It was established in 1951 on the basis of Mechanical Faculty of the Belarusian polytechnic institute. In the late 1940s there was a great demand for automotive engineers as many industrial enterprises including Minsk Automobile Plant, Minsk Tractor Works, the Belarusian Autoworks were built at that time.

At present the Faculty dean is V.V. Ravino, Candidate of Sciences, Associate Professor. The structure of the Faculty includes 12 departments **such as: ‘Automobiles’, ‘Tractors’, ‘Technical maintenance of automobiles’, ‘Economy and management on transport’ and others.** Education is provided both at undergraduate and postgraduate levels.

Today more than 2,000 full-time and 1,800 part-time students specialize in such engineering courses as **‘Tractor Engineering’, ‘Automobile Engineering’, ‘Internal combustion engines’, ‘Urban Electric Transport’, ‘Multipurpose Tracked and Wheeled vehicles’, ‘Transport Logistics’, ‘Organization of Road Traffic’ and others.**

Research work is carried out by a number of laboratories including the research laboratory of tractors, mobile systems and machinery, the research laboratory of vehicles, the scientific research centre of road traffic and others.

Text B. Our Faculty was established in 2002 while its origin goes back to 1933. It was called Peat and Melioration Faculty at that time. Today the Faculty provides high quality education in the field of Mining and Environmental Engineering, both at undergraduate and postgraduate levels. At present the Faculty dean is P.V. Tsybulenko, Candidate of Sciences, Associate Professor. Our Faculty includes four departments and trains more than 1000 students in such specialities as **‘Mining Machines and Equipment’, ‘Technology and Equipment of Peat Production’, ‘Mineral Deposits Development’, ‘Ecological Management and Audit in Industry’.** Our Faculty also trains mining engineers for the Republic of Turkmenistan. Graduates of the Faculty mostly work for the enterprises of the Belneftekhim Concern like ‘Belaruskaliy’, ‘Dolomit’ and others. Research work is performed in two **research laboratories ‘Ecoprom’ and ‘Technology and machines of potassium production’.**

Text C. Our Faculty is one of the oldest in the BNTU. It started in 1934 as Mechanical and in 1958 it was renamed into Mechanical Engineering Faculty. Today the dean of the Faculty is A.M. Yakimovich, Candidate of Sciences, Associate Professor. The Faculty consists of 8 departments including **‘Metal Cutting Machines and Tools’, ‘Theoretical Mechanics’** and so on. There are about 3,000 full-time and part-time students specializing in such engineering courses as: **‘Technology of Mechanical Engineering’, ‘Technological Equipment of Mechanical Engineering Production’, ‘Equipment and Technologies of Highly Effective Processes of Material Treatment’, ‘Integrated sensor systems’, ‘Economy and organization of production’, ‘Computer Mechatronics’** and others.

Research work is carried out by 6 laboratories including the research an innovative laboratory of plasma and laser technologies, the research laboratory of plasticity, the research laboratory of acoustics and special materials and others.

Text D. Our Faculty was established in 1958 by separating from the Mechanical Faculty. At present the Faculty provides engineering graduates for metallurgical industry, mechanical and instrumentation engineering. Since 2003 the Faculty has been headed by N.I. Ivanitskiy.

At present the Faculty consists of 8 departments including ‘Machines and Technology of Metal Treatment by Pressure’, ‘Metallurgical Technologies’, ‘Metallurgy of Foundry Alloys’ and others.

There are about 1600 full-time and part-time students specializing in such engineering courses as: **‘Material Science in Mechanical Engineering’, ‘Machines and Technology of Material Treatment by Pressure’, ‘Welding Equipment and Technology’, ‘Foundry Machines and Technology’, ‘Powder Metallurgy, Composite Materials and Coatings’**. Research work is carried out by 10 scientific-research laboratories and two research laboratories for students.

Text E. Our Faculty has been part of the BNTU from its very beginnings, since 1920. Today the Faculty provides high quality education in the field of power engineering, both at undergraduate and postgraduate levels. Since 1987 the Faculty has been headed by S.M. Siliuk, Candidate of Sciences, Associate Professor. Our Faculty includes eight departments. More than 3,500 full-time and part-time students specialize in the following engineering courses: **‘Power Stations’, ‘Power Systems and**

Grids’, Power Supply’, ‘Thermal Power Stations’, ‘Steam-Turbine Plants of Nuclear Power Stations’, ‘Economy and Industrial Management’ and others.

The current academic staff and students carry out in-depth research in 3 scientific-research and innovative laboratories as well as in the centre of automated control systems in heat power engineering.

Text F. Our Faculty was established in 1983 as the Faculty of Robotics. Since that time the Faculty has gone through numerous transformations. The number of specialities in which training was given became larger. At present the Faculty provides education in the field of information technology and robotics, both at undergraduate and postgraduate levels.

Since 2009 the Faculty has been headed by Y.Y. Trofimenko, Candidate of Sciences, Associate Professor. The Faculty consists of 6 departments including **‘Computer equipment and computer-aided systems software’, ‘Robotic systems’** and others.

The number of students studying on full-time and part-time basis is more than 2,000. **Training is given in the following specialities: ‘Software of Information Technology’, ‘Automated Systems of Information Processing’, ‘Automation of Technological Processes and Industries’, ‘Automated Electric Drives’, ‘Industrial Robots and Robotic Complexes’.** Research work is conducted in 2 laboratories and aims to develop information technology in education, science and production.

Text G. Our Faculty was established in 1976 as Optical and Mechanical Faculty. Since that time the Faculty has gone through numerous transformations. The number of specialities in which training was given became larger. In 1985 Optical and Mechanical Faculty was renamed into Instrumentation Engineering Faculty.

Since 2010 the Faculty dean has been A.M. Maliarevich, Doctor of Sciences, Professor. The structure of the Faculty includes 8 departments: **‘Design and Manufacture of Instruments’, ‘Standardization, Metrology and Information Systems’, ‘Laser Equipment and Technology’** and others.

Today the Faculty has about 1,600 full-time and 1,000 part-time students specializing in such engineering courses as: **‘Mechanical and Electromechanical Instruments and Apparatus’, ‘Biotechnical and Medical**

Apparatus and Systems’, ‘Technology and Equipment of Jewelry Production’, ‘Metrology, Standardization and Certification’, ‘Optical-Electronic and Laser Devices and Systems’, ‘Technical Maintenance of Safety’, ‘Micro- and Nanosystem Devices’, ‘Management’, ‘Economy and organization of production’ and others.

Research work is carried out by 3 laboratories: the research laboratory of optical-electronic instrumentation, the research laboratory of semiconductor devices, the scientific-research centre of optical materials and technologies.

Text H. Our Faculty was created in 2003. It prepares regular officers for the Armed forces of the Republic of Belarus. At present the head of the Faculty is the colonel N.M. Selivonchik. The structure of the Faculty **includes 5 departments: ‘Armoured Arms and Technics’, ‘Military Automobile Technics’, ‘Military Engineering Training’, ‘Organization of the financial activity of forces’ and others.**

The number of cadets studying at the Faculty is 455. Training is given on full-time basis in the following specialities: **‘Economy and Company Management’, ‘Technical Maintenance of Automobiles’, ‘Multipurpose Tracked and Wheeled Vehicles’, ‘Hoisting-and-Transport, Building and Road Machines and Equipment’, ‘Industrial and Civil Engineering’.** Graduates of the Faculty are awarded with the military rank of **‘lieutenant’**. The research base is being developed at the moment.

Text I. Our Faculty is the youngest Faculty of the BNTU. It was set up in 2010. The Faculty trains engineers for sports industry.

At present the dean of the Faculty is I.V. Belskiy, Doctor of Sciences, Professor. Our Faculty **includes 3 departments: ‘Sports Engineering’, ‘Physical Training’ and ‘Sport’.** ‘Sports Engineering Department’ is mainly responsible for the preparation of the specialists working in this field. Training is given on full-time basis in two specialities: **‘Technical Maintenance of Sports Complexes’ and ‘Sports Engineering’.** The research base is being developed at the moment.

Graduates of the Faculty are in great demand at the technical maintenance departments of the Belarusian sports and leisure complexes.

Questions to discuss:

1. When was your Faculty established?

2. Who is the dean of the Faculty?
3. What is the structure of the Faculty?
4. How many students study at your Faculty?
5. What specialities are offered at your Faculty?
6. What are you specializing in?
7. What industrial enterprises demand engineers of your speciality?
8. In what ways is research work performed at the Faculty?
9. Are you going to stay in education or go into employment after graduation?

Exercise 2.

Read the text about the similar features that all BNTU Faculties have. Complete the sentences with the words from the box.

portfolio, supervisor, courses, academic staff, project, conferences

The Faculty has high quality ... who are actively involved in teaching and research. A large number of them have academic degrees. **The Faculty staff has a substantial research ..., including much that is directly supported by industry.** They are also active in consultancy projects and **publication, in organizing national and international**

The first year is common to **many engineering In the second and third year students study more specific subjects to prepare for later specialization in a particular branch of engineering.** Students also carry out **... work. The work usually involves original research, and is done in close consultation with a ... from the academic staff.**

The Faculty offers high-quality academic programs designed to prepare students for a dynamic career in the chosen field of engineering.

SKILLS

Exercise 1.

Study the following abilities, knowledge areas and qualities that engineering students should develop. Which of these are the most important for you? Why? Use the expressions from the Useful language box to help you.

Abilities: *leadership characteristics, teamwork skills, communication skills, decision-making skills, critical thinking, ingenuity.*

Knowledge areas: *science & math, engineering fundamentals, analytical skills, problem-solving skills, design skills.*

Qualities: *to be innovative, to be entrepreneurial, to be creative, to have strong work ethic, to be adaptable in a changing environment, to be responsible in a social and technological context.*

Useful language

to be competitive in the labour market, to be able to construct effective engineering solutions, to meet the challenges of rapidly changing world, to have a successful career, to prepare for my professional career, to unlock my full potential.

Follow the model: *I think teamwork skills, engineering fundamentals and to be adaptable in a changing environment are the most important for me. These skills and qualities will help me to ...*

Which University courses provide you with these skills and experiences?

Exercise 2.

Work in pairs to discuss the opportunities students have after graduation. Complete the dialogue below.

A: a student interested in a career as a researcher

B: a student interested in a career in an industrial company

A: So, what are you going to do after graduation? Have you made up your mind?

B: Well, I'm not sure. I think I'll go And you?

A: You know, I'd rather stay in education to study at a... During the last two years I was involved into ... project.

B: Oh, personally, I'm not quite interested in I think it's too boring! Is your supervisor helpful?

A: Actually, **Have you already applied for ... ?**

B: Yes, I have. When I was sent out on an industrial placement I was offered

A: What does your company do exactly?

B: **It is engaged in I hope I'll gain a good practical experience.** Are there any interesting opportunities in your research career?

A: Sure. There **is an opportunity to get an academic ... but you know the most important thing for me is**

B: I see. Good luck in your research!

A: Thanks a lot. See you soon.

Exercise 3.

Many engineering students have a part-time job. It enables them to get practical experience and earn some money. Discuss this issue with your partner.

You can begin like this:

A: *You know, some of my friends have a part-time job. Do you?*

B: *No, not yet. But I'm planning It's not an easy thing, you know.*

A: *Sure You can apply to the Students' Union. They offer...*

Exercise 4.

Translate the sentences below into English.

1. Каждый факультет предлагает студенческие и аспирантские учебные программы для подготовки высококвалифицированных инженеров и молодых ученых.

2. Студентов поощряют в развитии потребности непрерывного обучения, чтобы быть конкурентно способными в быстроменяющемся технологическом мире.

3. Все инженерные курсы ориентированы на промышленность, поэтому студентов регулярно посылают на производственную практику.

4. Практический опыт – это одно из главных условий (requirement) для того, чтобы найти хорошую работу в различных отраслях промышленности.

5. Все студенты последнего курса выполняют индивидуальный исследовательский проект, который основывается на теоретическом и практическом анализе исследуемой проблемы.

6. Многие преподаватели факультета имеют ученые степени и проводят практико-ориентированную исследовательскую работу.

7. Все факультеты играют важную роль в подготовке нового поколения инженеров и ученых и активно сотрудничают с промышленными предприятиями.

8. Инженерное образование в БНТУ – это отличная база для успешной карьеры в крупных промышленных компаниях.

UNIT 6 *The Industry of Belarus*

STARTING UP

Exercise 1.

Think of one Belarusian brand in each of these categories

Vehicles, household appliances, food, clothing, construction materials

Exercise 2.

Study the list of goods made in Belarus. Which of them do you or members of your family make use of? Why?

Footwear, bags, fridges, microwave ovens, cookers, cotton (flax, woolen) clothes, freezers, tableware, cosmetics, TV-sets, bicycles, furniture, construction materials, confectionery, washing machines, meat and milk products.

Useful language

High(good)-quality, reliable, energy-efficient, fully automatic, practical, cheap, stylish, well-made, tasty, value-for-money (стоим своих денег), user-friendly (удобный для пользователя), hardwearing (износостойкий), economical

Use the model: *My family make use of an LCD TV-set made in Belarus because it's reliable. I often buy the Belarusian meat products because they are tasty.*

Exercise 3.

Do you agree or disagree with these statements? Give reasons for your answers.

1. A number of Belarusian products is world-known for their high quality.

2. **The geographic location of Belarus benefits country's economic development.**

VOCABULARY

Exercise 1.

Match the English words (phrases) with their Russian equivalents.

1) Gross Domestic Product	a) грузовой автомобиль с откидными бортами
2) household appliance	b) панель приборов
3) roll off the assembly line	c) машинное оборудование
4) extractive industry	d) черная металлургия
5) payload capacity	f) обрабатывающая промышленность
6) drop-side truck	g) седельный тягач
7) challenge	h) металлокорд
8) output	i) топливный мазут
9) machinery	j) сходить с конвейера (сборочной линии)
10) manufacturing industry	к) интегральная схема
11) dashboard	l) грузоподъемность
12) mining dump truck	m) внутренний валовой продукт (ВВП)
13) performance	n) сложная задача
14) steel cord	o) добывающая промышленность
15) labour force	p) продукция, выпуск изделий
16) integrated circuit	q) выполнение

17) fuel oil	r) бытовой прибор
18) fifth-wheel tractor	s) рабочая сила
19) iron and steel industry	t) карьерный самосвал

Exercise 2.

Match the words (phrases) to their definitions. Check any unknown words in a dictionary.

Payload capacity, assembly line, output, high-tech, mining, refinery, enterprise, energy-efficient, Gross Domestic Product

- a. a system for making things in a factory in which the products move past a line of workers who each make or check one part
- b. a company, organization or business
- c. the total value of goods produced and services provided in a country during one year
- d. the work or industry of getting gold, coal etc. out of the earth
- e. maximum amount of goods or passengers that can be carried by a vehicle
- f. using the most modern machines and methods in industry, business etc.
- g. working without wasting energy
- h. the amount of goods or work produced by a person, machine, factory etc.
- i. a factory for the purification of some crude material, such as ore, sugar, oil, etc.

Exercise 3.

Match the words with a similar meaning.

1. to deliver	a. equipment
2. customer	b. to produce
3. plant	c. manufacturer
4. machinery	d. energy efficient
5. complicated	e. petrol
6. production	f. consumer

7. energy-saving	g. zone
8. to manufacture	h. to supply
9. gasoline	i. workforce
10. area	j. complex
11. producer	k. works
12. labour force	l. output

Exercise 4.

Match the words that go together. Check that you know the meanings of the phrases. Then complete the sentences below.

1. raw	a. fertilizer
2. assembly	b. award
3. potash	c. bulbs
4. wheeled	d. materials
5. payload	e. maker
6. energy saving	f. circuits
7. correspond	g. line
8. tire	h. tractors
9. win	i. capacity
10. integrated	j. the requirements

1. A new Fiat rolls off the ... in Poland every 90 seconds.
2. Mogilev Steel Works manufactures competitive products which ... of the Belarusian and foreign customers.
3. **Manufacturing is the transformation of ... into finished products.**
4. Goodyear is Europe's second largest
5. ... **is a rich source of potassium and an effective means to improve crop rates.**
6. **An ... otherwise known as a chip is a small electronic device made out of a semiconductor material.**
7. **The ... of an SUV (Sport Utility Vehicle) is between a truck and a car.**
8. Belarus exports a wide range of agricultural machinery including combine harvesters, ... , potato planters and potato diggers.
9. You can save up to 80% in home energy costs by using

10. **When you ... an industry ... you're seen as a stable and high-quality company.**

READING

Exercise 1.

Before you read the text discuss the following questions.

1. What are the most developed branches of Belarusian industry from your point of view?
2. What are the most valuable products of Belarusian industry in your opinion?
3. What industrial cities of Belarus do you know?

Exercise 2.

Go through the text to find this information:

- a) the number of people employed in the Belarusian industry
- b) payload capacity of the Belarusian mining dump trucks
- c) the biggest producer of mineral potash fertilizers in Belarus
- d) MAZ vehicles
- e) the leaders of electrical engineering industry
- f) **'Naftan'** products
- g) the location of the Belarusian Steel Works

Exercise 3.

Read the text carefully. Then discuss the questions below.

1. How is industry defined?
2. What is the share of the **Belarusian industry in the country's GDP?**
3. What are the leading sectors of mechanical engineering?
4. What does the Belarusian Autoworks specialize in?
5. What industries is the production of BeLAZ used in?
6. What is Minsk Automobile Plant famous for?
7. Which enterprises are engaged in tractor and agricultural engineering?
8. Which position does Minsk Tractor Works rank in a list of the largest wheeled tractors exporters?
9. What does radio-electronic industry of Belarus produce?
10. What industry manufactures power transformers, energy- saving bulbs, lifts and lifting equipment?
11. What high-tech product does BMZ produce?

12. Why is the Belarusian Steel Works considered to be one of the largest exporters in Belarus?
13. **What is the structure of ‘Belaruskaliy’?**
14. What do the leading enterprises of chemical and petrochemical industry produce?
15. **What are the customers’ requirements to the Belarusian production?**
16. What should manufacturers do in order to produce market successful products?

The Industry of Belarus

Industry is the key element in the economic development of any country. Industry is defined as the large-scale production of goods from raw materials. This sector of economy is divided into extractive and manufacturing industries, covering a wide range of branches. The Belarusian industrial sector accounts for nearly 32% of the Gross Domestic Product (GDP) and employs nearly 1 million people (25% of the Belarusian labour force).

Mechanical engineering and metalworking are the largest and most developed branches of the Belarusian industry. The leading sectors of mechanical engineering are automotive industry, tractor and agricultural engineering and a range of allied high-tech industries like radio- electronics, electrical engineering, instrumentation engineering and optical-mechanical industry.

Belarus specializes in truck manufacturing. The Belarusian Auto-works (BELAZ) is a major world manufacturer of mining dump trucks with payload capacity from 25 to 360 tons, as well as the other heavy vehicles, being used in mining and construction branches. The products of BELAZ are supplied to more than 70 countries of the world.

Minsk Automobile Plant has won recognition of its vehicles not only in Belarus but also far beyond. Fifth-wheel tractors, drop-side trucks, buses, chassis under installation of various special equipment roll off the assembly line under MAZ trademark. Modern design along with high level of performance allows MAZ vehicles to compete with the world producers.

37 enterprises are engaged in tractor and agricultural engineering. The largest of them are Minsk Tractor Works, ‘**Gomselmash**’, ‘**Lidseimash**’, Minsk Motor Plant, and Minsk Bearing Plant. At present Minsk Tractor

Works ranks among the eight largest exporters of wheeled tractors in the world. The enterprise takes leading positions on the markets of more than 60 countries.

A number of companies like ‘Horizont’, ‘Atlant’, ‘Integral’, Instrument-making plant ‘Izmeritel’ dominate in radio-electronics, producing household appliances, consumer electronics, integrated circuits, semiconductor devices, dashboards for trucks, taximeters and other products.

In optical-mechanical industry **‘BelOMA’** company is particularly successful in the manufacturing of optical and laser products, aerospace and military equipment.

The enterprises of electrical engineering industry produce power transformers and transformer substations, lifts and lifting equipment, incandescent and energy-saving bulbs, and more. The leaders of this branch are **Minsk Electrotechnical Plant**, **‘Mogilevliftmash’** Works, Brest Electric Lamp Plant and others.

The Belarusian Steel Works (BMZ) in Zhlobin is one of the world’s leaders of iron and steel industry. The plant produces such a complicated and high-tech product as steel cord for global tire makers. About 85 % of its manufacturing output is exported to Russia, Poland, Germany, Sweden, the USA, the UK and other countries. The plant has won many national and international awards for its high quality products.

Chemical and petrochemical industry is formed by 70 enterprises of **the Belneftkhim Concern**. **‘Belaruskaliy’** is one of the biggest producers of mineral potash fertilizers in the world. There are six mines with the factories to produce potash fertilizers in the industrial area of Soligorsk. The production of **‘Belaruskaliy’** is delivered to Europe, East Asia, South and North America – in total to more than 50 countries. **Mozyr Refinery and ‘Naftan’** produce fuel oil, gasoline, diesel fuel and other petrochemicals. **‘Belshina’** is one of the largest enterprises in Europe, making over 200 nominal sizes of tires for cars, trucks, buses, tractors and agricultural machinery. **‘Grodno Azot’** is a major manufacturer of polyamide yarns and fibers in Belarus.

Today’s manufacturers face great challenges. Their production must be competitive, reliable and safe, corresponding to the customers’ requirements. To ensure marketplace success they need to increase efficiency and improve their industrial performance. This can be achieved with the use of innovative technologies and flexible, energy-saving production processes.

SKILLS

Exercise 1.

Match the companies to the products they manufacture. Think of adjectives that match the products.

Use the model: *The Belarusian Autoworks is the company that manufactures (produces, makes) reliable mining dump trucks.*

Company	Describing adjective	Product
Minsk Automobile Plant	well-made	fuel oil, gasoline, diesel fuel
Instrument-making plant 'Izmeritel'	reliable	power transformers, transformer substations
Minsk Motor Plant	high-quality	integrated circuits, semiconductor devices
'Naftan»' OJSC	competitive	incandescent bulbs, energy-saving bulbs
'Integral' JSC	high-tech	fridges, freezers, automatic washing machines
Minsk Bearing Plant	high-performance	fifth-wheel tractors, drop-side trucks, buses, chassis
Minsk Electrotechnical Plant	safe	dashboards for trucks, taximeters, relay-brakers
Brest Electric Lamp Plant	good-quality	diesel engines
'Atlant' CJSC	excellent	ball bearings, spherical roller bearings

OJSC – Open Joint Stock Company – **Открытое Акционерное Общество (ОАО)**

CJSC – Closed Joint Stock Company – **Закрытое Акционерное Общество (ЗАО)**

PA – Production Association – **Производственное Объединение**

Exercise 2.

Work in pairs. Your **friend has just read the text** ‘The Industry of Belarus’. Interview him about one of the leading branches of national economy (automotive engineering, tractor and agricultural engineering, radio-electronics, electrical engineering, chemical and petrochemical industry). Ask about:

- the leading enterprises in this sector ...
- the kinds of products the industry specializes in ...
- if the companies produce competitive products ...
- where the manufacturing output is exported ...

Useful Language

Do you happen to know...

I wonder if...

I'd like to know (if)...

Could you possibly tell me...

One more question to you...

As far as I know...

If I'm not mistaken...

If I remember right...

It seems to me...

Let me think...

Use the model:

- *Could you tell me what kinds of products light industry specializes in?*
- *If I'm not mistaken it specializes in clothes made of cotton, flax and wool.*

Exercise 3.

Have you ever been inside a factory? Describe what you saw and **your general impressions. If you haven't** been there yet describe what happens in the different areas of the factory using your general knowledge. Use expressions from the Useful language box to help you.

Useful language

A typical factory includes (consists of) ..., to be located, to be situated in an industrial zone, the main production area (line), a machine hall (workshop), an assembly shop, a warehouse, a packing line, the

gatehouse, large machinery, production process is fully (partially) automated, to roll off the assembly line, the conveyor belt transports goods around the factory, to run at full (half) capacity, some of the work is still done manually, to pack by hand, to wrap and load onto pallets

Exercise 4.

Put the words in these questions in the correct order. Then match them with the answers to make a dialogue.

1. your / does / exactly / what / do / company?
2. kind / are / company / what / of / you?
3. are / markets / your / biggest / where?
4. do / many / plants / you / how / have?
5. company / people / employ / your / many / does / how?
6. has / long / in / how / been / business/ the company?
7. business / well/ going / is?

a. We export to Eastern Europe. Our domestic market accounts for about 40% of our total sales.

b. We manufacture electric generators for hospitals and small factories. We are among the largest in the country.

c. Yes it is, the company is doing well. It has a growing position in the market.

d. **We're a Joint Stock Company.**

e. We have over 500 employees.

f. For over thirty years. The original company – NT Engineering – was founded in 1981.

g. We have five domestic plants and a number of technical support centers across Europe.

Exercise 5.

Role-**play. Work in pairs. Student A: company's executive. Student B: interviewer.** You are discussing the company Student A works for. Use the notes below and expressions from Exercises 2 and 4 to prepare for the conversation.

Company	Company's history	Products	Workforce	Markets
BeLAZ OJSC	1946 – the year of foundation; 1950 – the first trucks were produced	Mining dump trucks, special purpose vehicles, road building equipment	12000 people; four domestic plants	25% of the world mining dump trucks market, 70 countries, the largest consumers are Russia and the Ukraine
Minsk Tractor Works PA	1946 – the year of foundation; 1953 – the first wheeled tractors were produced	Wheeled tractors, caterpillar tractors, municipal vehicles, forestry vehicles, mini-tractors	30000 people, 8 domestic factories, technical support centers all over the world	10% of the world wheeled tractors market, 60 countries, such as Russia, the Ukraine, China, India
Belshina OJSC	1965 – the year of foundation; 1972 – the first tires were produced	Tires for cars, trucks, buses, tractors and agricultural machinery	12000 people	Russia, Europe, Middle East, North and South America
BMZ PA	1982 – the year of foundation; 1984 – the first steel products were made	Steel cord, pipes, cast-iron casting, wire production	12000 people, 3 domestic plants	Russia, Poland, Germany, Sweden, the USA

BelOMA OJSC	1957 – the year of foundation	Optical and opto-electronic devices, lenses, loupes, night vision devices	More than 1000 people	Russia, Germany, China, the USA, domestic consumers
Minsk Motor Plant PA	1963 – the year of foundation	Diesel engines for cars, buses, tractors, dump trucks	2000 people, 6 domestic plants	Russia, the Ukraine, domestic consumers such as MAZ, BeLAZ, Minsk Tractor Works
Minsk Automobile Plant OJSC	1944 – the year of foundation; 1947 – the first trucks were produced	Fifth-wheel tractors, drop-side trucks, buses, chassis	26000 people, 7 domestic plants, technical support centers all over the world	More than 30 countries the largest consumers are Russia and CIS-countries, Eastern European countries

Exercise 6.

Translate the sentences below into English.

1. Самый большой карьерный самосвал грузоподъемностью 360 тонн сошел с конвейера на Белорусском автозаводе в 2010 г.

2. Грузовики МАЗ, тракторы «Беларус», карьерные самосвалы БелАЗ оснащены панелями приборов, которые произведены заводом «Измеритель» в Новополоцке.

3. Минский автомобильный завод поставляет свою продукцию во многие страны мира.

4. Колесные тракторы под торговой маркой «Беларус» конкурируют с мировыми производителями на рынках 60 стран.

5. – Какие высокотехнологичные продукты выпускаются белорусскими предприятиями?

6. – Насколько я знаю, Белорусский металлургический завод производит высокотехнологичный металлокорд, который используется в производстве шин. Компания «Интеграл» особенно успешна в производстве интегральных схем и полупроводниковых устройств.

7. Замена одной традиционной лампы накаливания на энергосберегающую экономит ваши деньги в расходах на электричество.

8. – Какие белорусские компании заняты в производстве бытовой техники?

9. – Ряд компаний, таких как «Горизонт», «Атлант» являются лидерами в этой области, обеспечивая отечественных потребителей изделиями хорошего качества.

10. Калийные удобрения, различные виды топлива, шины, полиамидные нити и волокна являются конкурентно-способными продуктами химической и нефтехимической отрасли.

11. Крупные белорусские производители внедряют систему менеджмента качества, которая позволяет контролировать каждый этап производства и достигать желаемого качества, чтобы соответствовать требованиям покупателей.

Exercise 7.

Choose a Belarusian manufacturing company. Work with your partner and prepare a five-minute presentation about the company, including the tips below:

- company history
- company size
- products and markets
- quality improvement activities

You can visit the company website to help you.

Give your presentation to the class.

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ДЛЯ СТУДЕНТОВ ТЕХНИЧЕСКИХ ВУЗОВ**

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