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# АНГЛИЙСКИЙ ЯЗЫК

Практикум  
по развитию навыков устной речи и чтения  
для студентов заочного обучения

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Практикум включает разговорные темы и технические тексты с учётом профессиональной подготовки студентов.

Каждая разговорная тема содержит базовый текст с тематическим словарем, а также ряд лексических упражнений.

Технические тексты представляют интерес с познавательной точки зрения. Объектом контроля чтения является понимание содержания текста.

Практикум предназначен для студентов I, II курсов Владимирского государственного университета.

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## ***ПРЕДИСЛОВИЕ***

Практикум предназначен для студентов заочного обучения неязыковых вузов и может быть использован как на групповых практических занятиях, так и при самостоятельной работе.

Практикум содержит материал для активации речи и чтения, выбранный в соответствии с программой по английскому языку заочных факультетов неязыковых высших учебных заведения.

Практикум состоит из 7 тем. Каждая тема включает специально подобранный (составленный) текст, ряд упражнений и диалог.

Практикум также содержит специальные технические тексты с учётом профессиональной подготовки студентов специальностей ТМС, АТ, РТ, ПГС факультета заочного обучения.

Составляя практикум, авторы стремились к максимальному повторению лексических единиц. В упражнениях используется только знакомый студенту лексический материал.

Практикум предназначен для студентов I и II курсов заочного обучения.



## Тема 1

### MY FAMILY AND MYSELF

**Задание 1. Прочитайте и запомните слова и словосочетания к теме:**

surname	- фамилия
first name	- имя
second name	- отчество
to be born	- родиться
I was born	- я родился
to move	- переезжать в
avenue	- проспект
to enter the university	- поступать в университет
to fail at the entrance exams	- провалиться на вступительных экзаменах
to serve in the army	- служить в армии
last year	- в прошлом году
to pass entrance exams	- сдать вступительные экзамены
successfully	- успешно
correspondence department	- заочное отделение
a first-year student	- студент первого курса
to do well at the university	- хорошо учиться в университете
to try	- пытаться
easy	- легкий
difficult	- трудный
to get married	- жениться, выйти замуж
she is 22 years old	- ей 22 года
to graduate from a pedagogical university	- закончить педагогический университет

chemist	- ХИМИК
to be fond of	- ЛЮБИТЬ
to be single	- БЫТЬ ХОЛОСТЫМ, БЫТЬ НЕЗАМУЖЕМ
to teach	- УЧИТЬ, ОБУЧАТЬ
to be united	- БЫТЬ ДРУЖНОЙ (о семье)
to prefer	- ПРЕДПОЧИТАТЬ
tactful	- ТАКТИЧНЫЙ
to respect	- УВАЖАТЬ
grandson	- ВНУК
granddaughter	- ВНУЧКА
grandchildren	- ВНУКИ
pensioner	- ПЕНСИОНЕР
nephew	- ПЛЕМЯННИК
housewife	- ДОМАШНЯЯ ХОЗЯЙКА

**Задание 2. Прочитайте и переведите текст, будьте готовы ответить на вопросы:**

### **My Family and Myself**

I am Sergeev Anton. Anton is my first name and Sergeev is my surname. I am 24 years old. I was born on April 8, 1978 in Vladimir. In June 1996 I finished the secondary school and wanted to enter Vladimir State University but failed at the entrance exams. I had to work at the plant as a worker. Then I served in the army in Siberia.

When I came back home I decided to become an engineer. Last year I successfully passed my entrance exams and entered Vladimir State University.

I study at the correspondence department. Now I am a first-year student of the university. I combine work and study and I must say it is not easy but I try to do well at the university.

My family is rather large. There are five persons in it. I have a wife, one child, a father, a mother and a sister. Two years ago I got married. My wife's name is Nina. She is 22 years old. Last year she graduated from the pedagogical university and now she works at school. She teaches history.

My little daughter was born one year ago. She is a nice child. My father is 52. He is a teacher of physics, he works at school number 10. My mother is 2 years younger than my father. She is a chemist. She works at the laboratory of the plant. I have a sister. She is 26. My sister graduated from Ivanovo medical academy and now she works at the regional hospital. She is single.

Our family is very united. In the evenings and on week-ends when we all are at home we talk about our work and life. We also like to watch TV or just to discuss everyday problems.

All of us like to spend our week-ends out of town. We often go to the village to see our grandparents. They are old-aged pensioners now and prefer to live in the country. It is very important to have a good family where all people are tactful and respect each other.

**Задание 3. Ответьте на следующие вопросы:**

1. Where and when was Anton Sergeev born?
2. When did he finish school?
3. Why did Anton have to work after finishing school?
4. Where did he serve in the Army?
5. What department of Vladimir State University did he enter?
6. Does Anton do well at the University?
7. Is it difficult to combine work and study?
8. How large is Anton's family?

9. Is Anton married? Has he got children?
10. What is his wife?
11. Has Anton brothers or sisters?
12. Do the members of Anton's family often visit their grandparents?

**Задание 4. Составьте предложения из следующих слов:**

1. Have, relatives, I, many.
2. My, doctor, a, is, mother.
3. She, at, regional, hospital, the, works.
4. In, was born, of, the city, St.Petersburgh, he.
5. Friend, my, and, work, study, combines.
6. Like, to spend, they, their, out of town, week-ends.
7. Brother, graduated, my, from, the, academy, military, last year.

**Задание 5. Заполните пропуски соответствующими словами и словосочетаниями:**

aunt, single, nephew, housewife, to take, grandchildren, difficult

1. My brother's wife does not work. She is a ... .
2. My mother's sister is my ... .
3. The students ... exams twice a year.
4. Grandparents are always fond of their ... .
5. My sister's son is my ... .
6. Oleg has no family of his own. He is ... .
7. It is ... to combine work and study.

**Задание 6. Прочитайте и переведите диалог. Сделайте обратный перевод диалога:**

N.: Pleased to meet you. My name is Nick and yours?

P.: My full name is Pavel Nosov. I am glad to live with you in the hostel. I think we'll make good friends.

N.: I hope so. What year student are you?

P.: I am a first-year student of the law faculty. And you?

N.: I am a second-year student. You see I entered the university after the army.  
So I'll be 22 in 3 days.

P.: My best congratulations, Nick. I wish you much success and luck in your studies and life.

N.: Oh, thank you very much.

**Задание 7. Составьте рассказ о Вашей семье и себе, используя следующие слова:**

**Trades and Professions:**

accountant	- бухгалтер, счетовод	lawyer	- юрист, адвокат
architect	- архитектор	locksmith	- слесарь
artist	- художник	miner	- шахтер, горняк
carpenter	- столяр	musician	- музыкант
chemist	- 1.химик 2.фармаколог, аптекарь	physician	- врач, терапевт
cook	- повар, кок (на судне)	physicist	- физик
dancer	- танцор, танцовщица	tailor	- портной
dentist	- зубной врач, дантист	seaman	- моряк
docker	- докер, грузчик	shoemaker	- сапожник
driver	- водитель, шофер	smith	- кузнец
engineer	- инженер	turner	- токарь
civil engineer	- инженер-строитель	pilot	- 1. пилот 2. лоцман
farmer	- фермер	translator	- переводчик (письменный)
collective farmer	- колхозник	steward	- стюард, буфетчик (на транспорте)
interpreter	- переводчик	weaver	- ткач

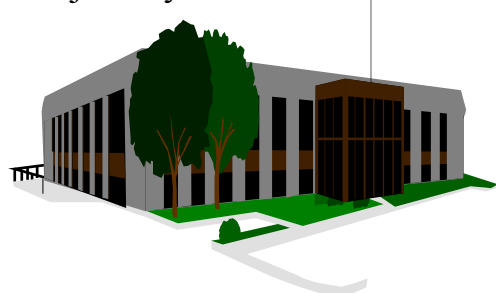


journalist - журналист

bricklayer - каменщик

fitter - слесарь

It's just my street - это по мне



## Тема 2

### THE UNIVERSITY I STUDY AT

**Задание 1. Прочитайте и запомните слова и словосочетания к теме:**

branch - филиал; отрасль

to establish - учреждать

to transform - преобразовывать

to get the status - получить статус

namely - а именно

a full-time student - студент дневного отделения

a part-time student - студент вечернего и заочного отделения

at the disposal - в распоряжении

to combine - сочетать

to occupy - занимать

teaching staff - преподавательский состав

highly qualified - высококвалифицированный

specialist - специалист

to do one's best - делать все возможное

to develop - развивать

skill - навык

creative abilities - творческие способности

according to - согласно

to accompany - сопровождать

to enter the university	- поступать в университет
curriculum	- учебный план
general educational subjects	- общеобразовательные предметы
specialized subjects	- специальные предметы
drawing	- черчение
undergraduate	- старшекурсник
to take final exams	- сдавать выпускные экзамены
to submit a diploma project	- представлять дипломный проект
academic year	- учебный год
term	- семестр
to last	- длиться, продолжаться
test-paper	- контрольная работа
teaching materials	- учебные материалы
to attend	- посещать
to take tests and exams	- сдавать зачеты и экзамены

**Задание 2. Прочитайте и переведите текст, будьте готовы ответить на вопросы:**

### **The University I Study at**

I study at Vladimir State University at the correspondence department. Our university is located in Gorky Street not far from the centre of the city. The history of the university is very interesting. The university was set up in 1958 as a branch of the Moscow Evening Mechanical Engineering Institute. In 1963 on the basis of that institute was established Vladimir Evening Polytechnic Institute which was transformed into Vladimir Polytechnic Institute in 1969. Later in 1993 it was renamed into Vladimir State Technical University. In 1996 our University was given the status of a classical university namely Vladimir State University.

At present the university has a liason for training specialists in 46 specialities at 9 faculties. Besides the day department for full-time students the university also has evening and correspondence departments for those who combine work and study.

The faculties of the university occupy 4 modern buildings. The students of our university have at their disposal all kinds of laboratories, good libraries, some reading halls. The teaching staff consist of highly qualified specialists, professors, lecturers, assistants. They do their best to develop the students' research skills and creative abilities. According to the programme at the university the theoretical study is accompanied by practical training at industrial enterprises and research institutions.

I entered the university last year. Now I am a first-year student. I study at the correspondence department. According to the curriculum the part-time students study both general educational and specialized subjects. Among them are higher mathematics, physics, chemistry, philosophy, drawing, history, a foreign language etc. At the end of the course of study the undergraduates submit diploma projects and take final exams.

The academic year is divided into 2 terms at the end of each term the part-time students have an examination session which usually lasts 3 weeks. The students attend lectures and seminars, do laboratory works, take tests and exams. At the end of every session the students are given different kinds of test-papers, the teaching materials for the next session.

**Задание 3. Ответьте на следующие вопросы:**

1. What university do you study at?
2. Where is it located?
3. When was it given the status of a classical university?
4. How many specialities does the university train students in?
5. What do the students have at their disposal for good studies?

6. Is your friend a full-time student?
7. What year student are you?
8. When did you enter the university?
9. What department do you study at?
10. What subjects are the part-time students taught?
11. Is a foreign language a compulsory subject at the university?
12. How many terms is the academic year divided into?

**Задание 4. Составьте предложения из следующих слов:**

1. Can, the students, books, at the library, take.
2. On chemistry, the lecture, delivered, on Friday, is.
3. Attend, his lectures, regularly, they.
4. His, was, experiment, made, in our laboratory.
5. Delivers, Professor Smirnov, on higher mathematics, lectures.

**Задание 5. Заполните пропуски соответствующими словами и словосочетаниями:**

Part-time student, entered, to attend, the academic year, according to, take tests and exams.

1. Petrov is a second-year student. He ... the Institute last year. He studies and works at a plant. He is a ... .
2. The students are ... lectures.
3. ... in all higher schools in Russia is divided into 2 terms.
4. ... the curriculum the students study both general educational and specialized subjects.
5. Twice a year the students ... .

**Задание 6. Прочитайте и переведите диалог. Сделайте обратный перевод диалога:**

Nick: Pavel, I have really enjoyed yesterday's lecture very much. The lecturer really knows his subject, doesn't he?

Pavel: I fully agree. He covered the subject from A to Z giving the audience arguments and examples.

Nick: We are lucky we can listen to such lecturers here at the university.

#### Dialogue

P.: Well, Nick, here we are. This is our university. Would you like to come inside and meet my new friends? Only three students in our group are from Vladimir, the others come from different parts of Vladimir region and other regions.

N.: I see, Peter, your university is a rather new one.

P.: Yes, it was founded 37 years ago.

N.: What is the total number of students involved in all forms of studies?

P.: You see, if I am not mistaken about 12 thousand students.

N.: The university covers a large area. I think you are lucky to study here.

#### Dialogue

V.: Hallo, Kate!

K.: Hi, Victor! Glad to see you. Are you also a student of our university?

V.: Yes, I am a student but only not of your university.

K.: Really? What higher school did you enter?

V.: I entered the correspondence department of the Pedagogical University.

K.: Oh, you are part-time student now, aren't you?

V.: Yes, just so.

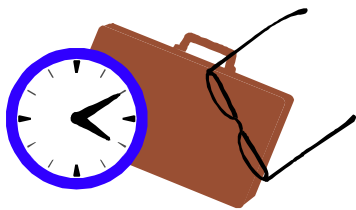
K.: What foreign languages do you study?

V.: I study English and French.

K.: Have you ever failed at examinations?

V.: Oh, yes, last month I failed in chemistry.

K.: If you are not good at chemistry I can help you.



### Тема 3

## MY WORKING DAY

**Задание 1. Прочитайте и запомните слова и словосочетания к теме:**

to get up	- вставать
to take a shower	- принимать душ
to listen to the radio	- слушать радио
to clean one's teeth	- чистить зубы
break for dinner	- перерыв на обед
canteen	- столовая
cabbage soup	- щи
course	- блюдо
test-paper	- контрольная работа
to go to bed	- ложиться спать
event	- событие
state tax inspection	- государственная налоговая инспекция
to make (to have) an appointment	договориться (назначить) о встрече
joint-stock company	- совместное предприятие

**Задание 2. Прочитайте текст, будьте готовы ответить на вопросы:**

### My Working Day

On my working day I usually get up at 6 o'clock. I make my bed, open the window and do my morning exercises. Then I go to the bathroom where I clean my teeth, wash or take a shower. At half past six I am ready for breakfast. It may be a cup of tea or coffee and a sandwich. During breakfast I listen to the news

over the radio. At half past seven I leave the house and go to my plant. The plant where I work is far from my house. I usually go there by bus. It takes me half an hour to get to my plant. I begin to work at 8 o'clock. At 12 o'clock I have a break for dinner. I usually have cabbage soup for the first course, some meat or fish with some vegetables for the second. Then I drink a cup of tea.

My working day lasts 8 hours. After work I go home or do some shopping. I come home at half past 4 and have a short rest. I read newspapers and make some telephone calls. I am a worker. I'd like to be an engineer. Therefore I study at the correspondence department of Vladimir State University. In the evening I write test-paper and read text-books. Sometimes I go to the library to write a report. Our family has supper at 8 o'clock p.m. At that time we all meet in the kitchen, have supper and discuss our problems. After supper I help mother to clear away the dishes and wash them up. After supper I go for a walk if the weather is fine. I go to bed at 11 o'clock.

On Sunday I don't go to bed early. I often go to see my friends and we discuss problems and events we are interested in. Sometimes I go to the cinema if an interesting film is on. In the evening I play the guitar or listen to a good classical music. If I have free time, I go in for sports. In spring I play football, in winter I like to ski.

Before going to bed I prefer to read an interesting novel.

**Задание 3. Ответьте на следующие вопросы:**

1. When do you usually get up on your working day?
2. What do you do in the morning?
3. What do you do during your breakfast?
4. Is your plant far from your house?
5. Do you go to the plant by bus?
6. How long does it take you to get to the plant?

7. Do you have dinner at home or at the plant?
8. How long does your working day last?
9. When do you usually come home?
10. What do you do in the evening?
11. What do you usually do on Sunday?
12. When do you go to bed?

**Задание 4. Составьте предложения из следующих слов:**

1. At, get up, usually, I, week-days, 7 o'clock, my, on.
2. My, is not, from, the plant, far, house.
3. My, hours, lasts, working day, seven.
4. Test-papers, I, in, write, the reading hall.
5. All, of, our family, the members, in, get together, the evening.
6. I, my mother, about, help, on the house, Saturday.
7. A break, have, I, for, at, dinner, 12 o'clock.
8. Bed, I, go, at, to eleven o'clock.

**Задание 5. Заполните пропуски соответствующими словами и словосочетаниями в нужной форме:**

To leave, an hour, canteen, bus, far, to last, test-papers, a lawyer.

1. He usually has dinner at our ...
2. After breakfast he puts on his coat and ... the house.
3. His working day ... 8 hours.
4. He goes to the plant by ...
5. It takes him ... to get to the plant.
6. His plant is not ... from his house.
7. In the evening he often writes his ... as he studies at the correspondence department of the university.
8. He is a student of the humanitarian faculty because he is planning to be ...



**Задание 6. Прочитайте и переведите диалог. Сделайте обратный перевод диалога:**

A. Hallo Bess! I have not seen you for ages! Nice to meet you. What do you do for a living?

B. Hallo, Ann! Glad to meet you. I work at the state tax inspection as a secretary.

A. What are your duties?

B. Oh, I have a lot of duties. I type different documents, answer telephone calls, make appointments, bring the mail and do a lot of other things.

A. Is your office far from your house?

B. Yes, it is. It takes me half an hour to get to the office.

A. Do you have to get up early?

B. Yes, I have to get up early. My husband helps me to cook breakfast. I think you know him. He works at a joint-stock company.

A. When do you usually come home after work?

B. I usually come home at 5 and have dinner. After dinner I have a short rest and then I write test-papers because I study at the correspondence department of the university.

A. What faculty do you study at?

B. As I am planning to be a lawyer I study at the faculty of humanitarian studies.

A. You are a busy woman.

B. Yes, I am. I am afraid I must go now. I have an appointment at 5. Good-bye.

A. Good-bye.



## Тема 4

### THE TOWN OF VLADIMIR

**Задание 1. Прочитайте и запомните слова и словосочетания к теме:**

to be proud of	-	гордиться
ancient	-	старинный
major	-	главный
fortress	-	крепость
in honor of	-	в честь кого-либо
prosperity	-	процветание
decline	-	упадок
church	-	церковь
cathedral	-	собор
to suffer	-	испытывать
to depart	-	отступать
to manufacture	-	выпускать, производить
consumer goods	-	потребительские товары
to boast	-	гордиться, хвастаться
to include	-	включать
route	-	маршрут
resident	-	житель

**Задание 2. Прочитайте и переведите текст, будьте готовы ответить на вопросы:**

#### The Town of Vladimir

Every city or town is proud of its own history. Vladimir is one of the ancient Russian towns that played the major role in the emergence of the Russian state.

Founded as a fortress by Vladimir Monomakh of Kiev in 1108, the town was named Vladimir in honor of its founder.

The town of Vladimir has enjoyed times of prosperity and known periods of decline.

In the 12<sup>th</sup> century under the rule of Andrei Bogolyubsky, the town became the political and cultural centre of ancient Rus.

In those years many beautiful churches and cathedrals were built – the Cathedral of Assumption (1158-1160), the Cathedral of St. Demetrius (1194-1197), the Golden, the Silver, the Copper, the Volga gates and some others.

In the 13<sup>th</sup> century Vladimir suffered heavy damage during the Mongol invasion. The Mongols departed after looting and burning the town. In spite of this disaster Vladimir was still the main political and religious centre of Russia for the next 200 years. Then Moscow was recognized as the centre of Russia.

In 1778 Vladimir became the centre of gubernia or province. Many monuments of civil architecture were built in the town during the 18<sup>th</sup> and early 20<sup>th</sup> centuries.

The present-day Vladimir is the administrative, industrial, educational and cultural centre of the Vladimir region.

With a population of nearly 370 000, Vladimir is a town of rather high industrial potential. Vladimir manufactures electrical motors, tractors, chemicals, consumer goods.

Today the town has two universities, the institute of Law of the Russian Interior, some colleges, children's musical and sports schools.

Vladimir can boast such cultural facilities as: the Museum of regional studies, the Museum of crystal and many other interesting expositions devoted to ancient culture, heroic history and modern life of our town. There are two theatres, a concert hall, a picture gallery, movie houses, Youth Centres, libraries, stadiums, swimming pools, parks.

Of importance to the town's history is a new monument to Andrei Rublev (1995) not far from the Cathedral of the Assumption.

Vladimir is a tourist centre and is included into the “Golden Ring of Russia” tourist route.

Vladimir residents are proud of the town they live in.

**Задание 3. Ответьте на следующие вопросы:**

1. When was the town of Vladimir founded?
2. Who founded the town of Vladimir?
3. What famous architectural monuments are there in Vladimir?
4. When did Vladimir become the centre of gubernia?
5. What cultural facilities are there in Vladimir?
6. Why is the town of Vladimir included into the “Golden Ring of Russia” tourist route?
7. What is your native town?
8. What is your native town famous for?
9. Are there any architectural monuments in your town? What are they?
10. Are there any industrial enterprises in your native town?
11. What goods do they produce?
12. Are you proud of your native town?

**Задание 4. Составьте предложения из следующих слов и словосочетаний:**

1. Vladimir, Russian, an ancient, is, town.
2. The Vladimir region, Vladimir, the educational and cultural centre, of, is.
3. In the central part of Vladimir, historical monuments, are, many, there.
4. A concert hall, a picture gallery, a Drama theatre, Youth Centres, in Vladimir, is, there.
5. A tourist centre, is, Vladimir.

**Задание 5. Заполните пропуски соответствующими словами и словосочетаниями:**

Ancient, modern life, emergence, tourist route, main, centre.

1. Vladimir played the major role in the ... of the Russian state.
2. Under the rule of Andrei Bogolyubsky Vladimir became the political and cultural centre of ... Russia.
3. In spite of the Mongol invasion Vladimir was the ... political centre of Russia.
4. Moscow was recognized as the ... of Russia in the 15<sup>th</sup> century.
5. There are many interesting expositions devoted to ... of our town.
6. As a tourist centre Vladimir is included into the "Golden Ring of Russia"...

**Задание 6. Прочитайте и переведите диалог. Сделайте обратный перевод диалога:**

"Good morning, Mr. Brown"

" Good morning, Mr. Ivanov"

"Is this your first visit to Vladimir?"

"Yes."

"How do you like it here?"

"It's nice here. I like it very much"

"Have you seen much of Vladimir?"

"Not yet, but I am going to."

"Would you like to have me as your guide?"

"I'd love to."

"Now let's discuss the programme of your stay in our town. On Saturday we are doing the town. On Sunday we are going to visit the Museum of regional studies, and the Museum of crystal."

"Splendid. See you tomorrow then at ten in the morning."



## Тема 5

### OUR COUNTRY

**Задание 1. Прочитайте и запомните слова и словосочетания к теме:**

to divide	- разделять(ся), делить(ся)
landscape	- ландшафт
various	- различный, разнообразный
desert	- пустыня
valley	- долина
to occupy	- занимать
to be rich in smth.	- быть богатым чем-либо
natural resources	- природные ресурсы
to supply	- удовлетворять
mineral reserves	- запасы полезных ископаемых
timber	- строевой лес
article	- предмет торговли
multinational	- многонациональный
to unite	- объединять
confession	- вероисповедание
to inhabit	- жить, населять
to elect	- избирать, выбирать
legislative body	- законодательный орган
chamber	- палата
Council of Federation	- Совет Федерации
supreme executive power	- высшая исполнительная власть
to belong	- относиться к

judicial power	-	судебная власть
court	-	суд
contribution	-	вклад
engineering	-	техника
art	-	искусство
worldwide	-	всемирно известный, мировой
peaceful purposes	-	мирные цели
achievements	-	достижения
outer space	-	космос
trend	-	тенденция
to believe	-	верить
prosperous	-	процветающий
world community	-	мировое сообщество

**Задание 2. Прочитайте и переведите текст, будьте готовы ответить на вопросы:**

### Russia

Russia is one of the largest countries in the world. Its territory is 17million square kilometres. The country is divided into the Western and Eastern parts by the Urals, so Russia is both a European and Asian country.

The landscape of Russia is various: from forests to deserts, from high mountains to deep valleys. Russia's territory occupies various climatic zones.

Russia is rich in natural resources. It is one of the countries that can supply itself with all the necessary mineral reserves. Such natural resources as gas, oil and timber are articles of Russian export.

The population of Russia is about 150 million people. Russia is a multinational country and unites people of different cultures and confessions. Today over 40 nations inhabit Russia.

Politically, Russia is a parliamentary state. The President is the head of the State and is elected once every four years. The highest legislative body is the Federal Assembly. The Federal Assembly consists of two chambers: the Council of Federation and the State Duma. The supreme executive power belongs to the Government with the Prime Minister at the head. The judicial power belongs to the system of courts. It consists of the Constitutional Court, Supreme Court and other courts.

Russia is a country of developed industry and agriculture. Russian cultural traditions and contribution to science, engineering, art and literature are recognized worldwide. Russia was the first to use atomic energy for peaceful purposes. The achievements of our scientists and engineers are greatest in the study of outer space, and the first space pilot was a Russian citizen Yuri Gagarin.

In spite of some negative trends that have recently taken place in economy, the Russians believe in their mother country. We are sure that our country will become a truly democratic and prosperous state of the world community.

**Задание 3. Ответьте на следующие вопросы:**

1. What is the territory and population of Russia?
2. What mountains divide Russia into the Western and Eastern parts?
3. Is Russia rich in natural resources?
4. What is the political structure of Russia today?
5. What is the official name of Russia?
6. How often is the President elected?
7. Who is the President of Russia today?
8. What are the highest bodies of state power in Russia?
9. What is the highest legislative body in Russia?
10. How many chambers are there in the Federal Assembly?
11. What body does the executive power belong to?
12. What does the system of courts consist of?



13. In what fields are the achievements of our scientists and engineers greatest?

**Задание 4. Составьте предложения из следующих слов и словосочетаний:**

1. Russia, a European, country, and, both, is, Asian.
2. Russia, people, of, confessions, and, unites, different.
3. Russia, a multinational, is, country.
4. Russian export, gas, oil, timber, of, are, articles.
5. The Federal Assembly, of, chambers, consists, two.
6. Yuri Gagarin, the first, was, space pilot.
7. Mother country, in, believe, the Russians, their.

**Задание 5. Заполните пропуски соответствующими словами и словосочетаниями:**

Various, articles, different, legislative body, executive power, a country, achievements

1. Russia's territory occupies ... climatic zones.
2. Gas, oil and timber are ... of Russian export.
3. Russia unites people of ... cultures and confessions.
4. The highest ... is the Federal Assembly.
5. The supreme ... belongs to the Government with the Prime Minister at the head.
6. Russia is ... of developed industry.
7. The ... of our scientists, engineers and workers are greatest in the study of outer space.

**Задание 6. Прочитайте и переведите диалог. Сделайте обратный перевод диалога:**

A.: We've been touring Russia for about two weeks and I must say it's a very large country.

B.: In fact, it's one of the largest countries in the world.

A.: I've read Russia is very rich in natural resources.

B.: That's right. Russia is rich in coal, oil, gas, non-ferrous metals, copper, zink, tin, lead, gold and some other minerals. As for oil and gas they are articles of Russian export.

A.: What is the political structure of Russia? Is it a federation?

B.: Yes, the Russian Federation was set up by the Constitution of 1993. Under the Constitution Russia is a parliamentary state.

A.: What are the prospects for the economic growth of Russia?

B.: Unfortunately some negative trends have taken place in its economy recently. But we are sure that our country will become a prosperous state in the near future.



## Тема 6 GREAT BRITAIN

**Задание 1. Прочитайте и запомните слова и словосочетания к теме:**

to border on	-	граничить
surface	-	поверхность
plain	-	равнина
to influence	-	влиять
mild	-	мягкий
humid	-	влажный

deposit	- залежь
the coal-mining industry	- угледобывающая промышленность
alloy	- сплав
vehicle	- средство (передвижения)
satellite	- спутник
ancient	- старинный
lack	- недостаток, отсутствие
requirement	- потребность
monarchy	- монархия
to reign	- царствовать
to rule	- править
chamber	- палата
to hold elections	- проводить выборы
voting	- голосование, выборы
ballot	- избирательный бюллетень
voter	- избиратель
hereditary	- наследственный
majority	- большинство

**Задание 2. Прочитайте и переведите текст, будьте готовы ответить на вопросы:**

### **Great Britain**

The official name for the country whose language we study is the United Kingdom of Great Britain and Northern Ireland. It consists of four parts: England, Wales, Scotland and the Northern Ireland. The territory of the United Kingdom is about 244 000 square kilometers. The population of Great Britain is more than 56 million people. The British Isles are separated from the European continent by the North Sea and the English Channel. The western coast of Great

Britain is washed by the Atlantic Ocean and the Irish Sea. Northern Ireland occupies one third of the Island of Ireland. It borders on the Irish Republic in the south. The surface of Great Britain varies greatly. The northern and western part of the country is mountainous and is called the Highlands. All the rest (south, east and centre) is a vast plain which is called the Lowlands. There are no high mountains in Great Britain. The highest mountain top, Ben Nevis, is only 1,343 m high.

There are many rivers in Great Britain but they are not very long. The most important of them are the Severn and the Thames. Most of the rivers flow into the North Sea. The mountains, the Atlantic Ocean and the warm waters of the Gulf Stream influence the climate of Great Britain. The climate is mild and humid. Great Britain is not very rich in mineral resources, it has some deposits of coal, iron ore, oil and gas.

Great Britain is a highly developed industrial country. Its main industries are coal-mining, machinery, textiles and clothing, shipbuilding, metal manufacture, electronics. Britain is a major producer of specialized alloys used by aerospace, electronic, petrochemical and other industries. Britain is the western world's largest producer of agricultural tractors, many of which are exported. It is also an important manufacturer of railway and motor vehicles. The products of the British aerospace industry include civil and military aircraft and satellites. The British clothing industry is one of the largest in Europe, and the woolen industry is one of the world's largest.

The main industrial centres of Great Britain are as follows: London, the capital of Great Britain, Glasgow, Birmingham, Manchester, Liverpool and others. Birmingham and Sheffield are the most ancient centres of British iron and steel industry. Manchester is the centre of cotton industry. English agriculture is also a developed industry, but because of lack of cultivated lands, it produces nearly two-thirds of British food requirements.

The state system of the country may be defined as a constitutional monarchy, though Britain has not any written constitution as one act and the monarchy is a mere formality. English kings reign but do not rule. The power of the Queen of Great Britain is limited by Parliament. It consists of two chambers: the House of Lords and the House of Commons. The members of the House of Commons are elected. General elections to choose MPs must be held at least every five years. Voting is by secret ballot and is from the age of 18. The peers of the House of Lords are not elected by voters. Their seats in the chamber are, as a rule, hereditary. The Prime Minister is usually the leader of the Party that has a majority in Parliament. There are three main political parties in Great Britain: the Labour, the Conservative and the Liberal Democratic. Britain heads the so-called British Commonwealth of Nations, whose members, among others, are Canada, Australia and New Zealand.

***Задание 3. Ответьте на следующие вопросы:***

1. What is the official name of Britain?
2. What parts does the United Kingdom consist of?
3. What is the territory of the United Kingdom?
4. What is the population of Britain?
5. What is the surface of the country?
6. Are there many rivers in Great Britain?
7. What is the climate of Great Britain?
8. Is Great Britain rich in mineral resources?
9. What are the main industries of Great Britain?
10. What can you say about the institute of monarchy in Britain?
11. What chambers does the British Parliament consist of?
12. Are seats in Parliament hereditary or elected?
13. What are the main political parties in Britain?
14. Who usually becomes the Prime Minister in Britain?

15. What countries-members of the British Commonwealth of Nations – do you know?

**Задание 4. Составьте предложения из следующих слов:**

1. Four, consists of, England, Wales, the United Kingdom, parts, Scotland, Northern Ireland, and.
2. The European continent, from, are separated, the North Sea, the English Channel, the British Isles, by, and.
3. Great Britain, greatly, of, varies, the surface.
4. The Severn, the Thames, of, rivers, Great Britain, the most important, are.
5. Shipbuilding, textile, steel, engineering industries, its, and, is, for, known, Great Britain.
6. The Prime Minister, the leader, usually, of, is, that, a majority, has, in, the party, the House of Commons.
7. England, Scotland, in the south, borders on.

**Задание 5. Заполните пропуски соответствующими словами и словосочетаниями:**

To separate, to rule, chambers, plains, the majority, shipbuilding, hereditary, the Lowlands, the House of Commons.

1. The English Channel ... England from France.
2. In Great Britain you can find the combinations of low- and highlands, ... and mountains.
3. ... are the low hills in the south of Scotland.
4. One of the chief industries of Great Britain is ... .
5. The British Parliament consists of two ...: the House Lords and House of Commons.
6. The seats are ... in the House of Lords, but as to the members of ..., they are elected every five years.

7. The Party which wins ... of seats at general elections forms the Cabinet.
8. In practice Great Britain ... by the elected government with a Prime Minister at the head.

**Задание 6. Прочитайте и переведите диалог. Сделайте обратный перевод диалога:**

A.: Hallo, Boris! I've not seen you for ages. Where have you been all this time?

B.: I have been to England.

A.: Is that so? I am very glad for you. Was it a tourist trip?

B.: Yes, it was.

A.: How long did it last?

B.: It lasted 15 days.

A.: Fine. Now you can give me some information on England, can't you?

B.: Yes, certainly.

A.: First of all tell me if there is any difference between England and Britain?

B.: You see, England is only a part of Britain. The official name for the country is the United Kingdom of Great Britain and Northern Ireland. In everyday use the word "Britain" is quite possible.

A.: What parts does the United Kingdom consist of?

B.: It consists of England, Wales, Scotland and Northern Ireland.

A.: And what is the territory of Great Britain?

B.: As far as I remember the territory is 244000 square kilometers. Great Britain is a densely populated country. The population of Great Britain is over 56 million.

A.: I know England is a highly developed industrial country. What are its main industries?

B.: England is well known for its shipbuilding, steel and textile industries. What else would you like to know?

A.: As far as I know Britain is a parliamentary monarchy. How is that?

B.: It's simple. There is the King, or the Queen, in Britain. However, the king's now the queen's power is limited by Parliament.

A.: How many chambers are there in the British Parliament?

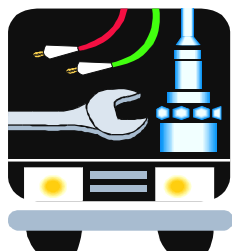
B.: There are two of them – the House of Lords and the House of Commons.

A.: Who forms the Government?

B.: The Prime Minister. He is usually the leader of the party that has a majority in the House of Commons.

A.: Thank you very much for your information.

B.: You are welcome.



## Тема 7

### THE PROFESSION OF AN ENGINEER

**Задание 1. Прочитайте и запомните слова и словосочетания к теме:**

tool	- инструмент, станок
applying	- применение использование
to invent	- придумывать, создавать, изобретать
to construct	- конструировать
to repair	- ремонтировать
to solve a problem	- решать проблемы
to discover	- обнаруживать, открывать
curiosity	- любознательность
skill	- способности, талант
essential	- основное, самое главное
to accept responsibility	- принимать ответственность
to be responsible for	- быть ответственным за что-либо
desire	- желание



success	- успех
goal	- цель
to meet a production schedule	- исполнять производственный план
quality	- качество
accuracy	- точность
employee	- рабочий, служащий
to encourage	- воодушевлять, поощрять
to perform	- исполнять, выполнять
quantity	- количество
aim	- намерение, замысел
to provide	- обеспечивать, предоставлять
to obtain	- приобретать, получать
solid	- прочный
to assist	- помогать
CAD Computer Aided Design	- САПР
wastewater	- сточные воды
traffic congestion	- перегруженность, затор (уличного движения)
urban	- городской
to expand	- развивать, расширять
to emphasize	- подчеркивать, придавать особое значение
to reinforce	- закреплять
maintenance	- содержание и техническое обслуживание
current	- современный
to experience	- испытывать
exhaust emission	- выделение (продуктов сгорания) с выхлопными газами
knowledgeable	- хорошо осведомленный

**Задание 2. Прочитайте и переведите текст, будьте готовы ответить на вопросы:**

### **The Profession of an Engineer**

If you enjoy working with tools, machines, technical systems, computer programs, and enjoy applying your knowledge and skills in inventing, constructing, repairing or problem solving, and if you enjoy discovering how this or that automatic system works, you may want to become an engineer.

Intellectual curiosity and skills in mathematics and science are essential for an engineer. Skills in these areas plus the ability to work hard, to communicate and work in harmony with people, to accept responsibility, and a desire to serve humanity will mean success for you.

As an engineer, one of your major goals is to help your enterprise or company meet a production schedule with a high quality, greater accuracy and operational precision, low-cost products or service.

To have a productive working environment you, as an engineer, must work in harmony with the employees you supervise that encourages them to perform well. You will need to know production methods and control systems, manufacturing processes and computer science.

To ensure that you have the right quantity and quality of product or service at the right time, you, as an engineer, must coordinate people, machines, information, and materials.

These aims for an engineer may be achieved by higher education in all its forms: full-time, part-time, and correspondence or extra-mural.

The system of correspondence education remains an important way to receive higher education.

Vladimir State University which is over 40 years old offers a correspondence course with a variety of interesting career areas. Among them are: Civil

Engineering, Radio Engineering, Engineering Technology, Automotive Technology and others.

The Department of Civil Engineering provides students with an opportunity to obtain a solid foundation of knowledge and skills that assist and will assist in their job.

The Department has modern laboratories in all of the major areas of civil engineering, a design office with the CAD facilities and computer rooms.

We needn't say how important the profession of a civil engineer is. Civil engineers plan, design, supervise and construct facilities essential to modern life such as: buildings and bridges, highways and tunnels, dams and water facilities, wastewater facilities and others.

Civil engineers solve problems resulting from: pollution, urban development, traffic congestion, energy needs and others.

Men and women entering civil engineering today can look forward to unlimiting range of career opportunities. They include design, construction, research, teaching, sales and management.

The Department of Radio Engineering provides training radio engineers in the following areas: radio communication, radio location and radio navigation, automation of radio measurements, electronic systems of control, television.

Radio engineering is one of the most rapidly developing and expanding of the modern technologies. This rapid development has created a great demand for radio engineers capable to serve as technicians in technical control departments of the industrial enterprises, design offices, computing centres, research institutes.

Fundamental concepts of Radio engineering circuits and signals, Microprocessors, Analogue and Digital devices, Antennas and ultra-high frequency devices, Computing technique. Fundamentals of the circuit theory are emphasized in lectures and reinforced with practical laboratory activities.

The facilities of the Department include laboratories with testing equipment and computer rooms. Besides the Department offers extensive CAD and analysis of circuits and control systems.

The Department of Engineering Technology trains mechanical engineers. The program of the Department provides students with an opportunity to obtain basic engineering knowledge in different spheres of machine elements, machine tool designing, automation of manufacturing processes, metal cutting, etc. The program starts with the basics, with lectures that give the theory and laboratories where you use that theory practically.

The facilities of the Department include laboratories in all the major areas of Engineering Technology, testing equipment, computer rooms.

Despite the transition period in which Russia is at present, there is a growing need for mechanical engineers that are familiar with new technological methods, new tools, machines and new materials.

The Department of Automotive Technology offers an opportunity to become a highly skilled automotive engineer in the following areas: engine operation and maintenance, engine repair and engine rebuilding, production technology and test equipment.

Current automotive trends indicate that the automobile will continue to experience changes that include expanded use of electronics and computerized controls for improving engine performance, fuel efficiency, exhaust emissions, and passenger comfort and safety. These changes will require service technicians who are knowledgeable and highly skilled in specialized areas of automotive technology.

Rapid growth in the number of vehicles operating in our country demands corresponding increase in the number of automotive engineers and mechanics to maintain and repair them.

**Задание 3. Ответьте на следующие вопросы:**

1. What qualities should an engineer possess?
2. What is an engineer responsible for?
3. Is it necessary for an engineer to know the computer science?
4. Does Vladimir State University offer a correspondence course?
5. What career areas does the correspondence course of Vladimir State University offer?
6. What is the name of the department you study at?
7. Why do many young people want to enter the correspondence department?
8. What career area will you go into after graduating from the university?
9. Do you agree that the qualification of an engineer is a stimulating and satisfying career?
10. What does the qualification of an engineer mean?

**Задание 4. Составьте предложения из следующих слов и словосочетаний:**

1. A correspondence course, offers, Vladimir State University.
2. Very important, of, the profession, a civil engineer, is.
3. Radio engineers, a growing need, there is, for.
4. Laboratories, and, include, the department, computer rooms, of, facilities.
5. Service technicians, growth, vehicles, of, demands, rapid.
6. A production schedule, this, is responsible for, engineer.
7. An engineer, to become, wants, he

**Задание 5. Заполните пропуски соответствующими словами и словосочетаниями:**

Essential, success, major areas, science, mechanics, need, correspondence education, goals.

1. Skills in mathematics is ... for an engineer.
2. The ability to work in harmony with people will mean ... for you.

3. The system of ... .. is one of the ways to receive higher education.
4. There is a growing ... for mechanical engineers.
5. Radio engineering is one of the most rapidly developing ... .
6. The Department of Civil Engineering has laboratories in all of the ... .. of civil engineering.
7. Rapid growth of vehicles demands ... to maintain and repair them.
8. One of the major ... of an engineer is to know manufacturing processes, control systems, and computer science.

**Задание 6. Прочитайте и переведите диалог. Сделайте обратный перевод диалога:**

George: Hello, Boris! Where have you been?

Boris: Hello, George! Glad to see you. I have just come from the Tractor plant. I have been working at the plant for two months.

George: How do you like the plant?

Boris: I have been greatly impressed by what I have seen. The plant's social facilities are fantastic!

George: And what about its equipment?

Boris: All the shops have modern machinery. The plant is highly mechanized and automated.

George: What shop do you work in?

Boris: I work in the mechanical and assembling department. There are hundreds of large machines there. That is where a tractor comes into being.

George: In what capacity do you work?

Boris: I work as an engineer. You know, I graduated from the correspondence course of Vladimir State University.

**Задание 7. Прочитайте текст и передайте его основное содержание на русском языке:**

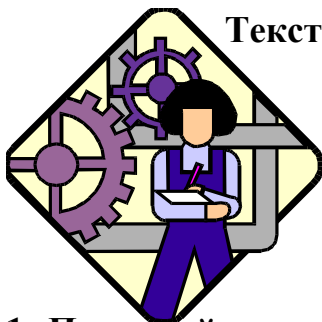
### **Engineering Education**

The education of an engineer extends over a wide range of knowledge: from pure science, and especially from what is known as engineering science, to technology. The major portion of the field is covered by the following branches: aeronautical, agricultural, chemical, civil, electrical, industrial, mechanical, metallurgical, mining and geological, and nuclear engineering.

A civil engineer may aim at highway engineering, structural engineering or some other branch, and his education will be influenced to some extent by the choice he has made. Similarly, a mechanical engineer may aim at automotive, machine-tool, aeronautical or general production engineering; an electrical engineer may aim at heavy current work, such as power supply, or at light current work, such as telephone communications, or at work in the field of electronics.

Modern engineering demands a sound training in general sciences particularly in physics, mathematics and chemistry. It may be added that for certain industries a basic knowledge of biology is also essential. One can easily understand that the relative importance of the fundamental sciences depends on the corresponding branch of engineering. For example, an electrical engineer who wishes to specialize in communications or electronics needs an extensive knowledge of physics and mathematics, whereas for an agricultural engineer training in chemistry and the biological sciences is more important.

Views on engineering education in the latter half of the 20-th century emphasizes the need for a broadening of the curriculum. It is recognized, too, that, especially in management, ability to deal skillfully with problems of human relations is sometimes as important as technical knowledge.



Тексты для чтения для студентов специальности ТМС  
(технология машиностроения)

Текст 1

**NICKEL AND ITS ALLOYS**

1. Прочитайте следующие слова и словосочетания. Они помогут Вам понять содержание текста:

- |                                 |   |
|---------------------------------|---|
| 1. alloying                     | - легирование, сплавление                       |
| 2. hardening agent              | - закаливающее средство, вещество               |
| 3. pure                         | - чистый, беспримесный                          |
| 4. to resemble                  | - походить, иметь сходство                      |
| 5. the former                   | - первый (из двух названных)                    |
| 6. melting point                | - точка (температура) плавления                 |
| 7. tensile strength             | - прочность на разрыв                           |
| 8. psi (pounds per square inch) | - фунтов на квадратный фут                      |
| 9. Brinell hardness             | - твердость по Бринелю                          |
| 10. tarnish                     | - лишать блеска, тускнеть, пленка окисла, налет |
| 11. to attack                   | - корродировать, разъединять                    |

**Nickel and its Alloys**

The use of nickel has grown more than that of the common metals during the past 30 years. Large quantities of nickel are used for alloying purposes both in ferrous and non-ferrous alloys. Although it is extensively employed as a hardening agent, nickel in its pure state is a ductile metal of light gray, almost white, appearance. The properties of nickel resemble those of iron in many respects, but the former is far more resistant to corrosion. Like iron, nickel is a heavy metal of high melting point (1,455 °C).



Nickel is the hardest and strongest of the common metals, unalloyed. Nearly pure deoxidized nickel is as strong as mild steel. When hot-rolled, or when cold-drawn and then annealed, its tensile strength is 50,000 to 80,000 psi, and its Brinell hardness 90 to 120.

The high ductility and malleability of pure nickel, however, may be markedly lowered by oxygen and certain impurities.

Nickel, like iron and cobalt, is ferromagnetic at ordinary temperatures. Its magnetism is lost on heating to 325 °C.

Nickel is chemically a rather inactive metal, and freedom from oxidation or tarnishing is one of its important properties. It is not attacked even in the presence of salt water. Sulphuric and hydrochloric acids attack it very slowly, but nitric acid dissolves it readily.

**2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. What purposes are large quantities of nickel used for?
2. What is nickel in its pure state?
3. What properties of nickel can you point out?
4. Is nickel a heavy metal of high melting point?
5. At what temperature does nickel lose its magnetism?
6. What acid dissolves nickel readily?

**Текст 2.**

**COPPER AND ITS ALLOYS**

**1. Прочитайте следующие слова и словосочетания. Они помогут Вам понять содержание текста:**

- |                            |                                       |
|----------------------------|---------------------------------------|
| 1. to rank                 | - занимать какое-либо место           |
| 2. commercial              | - технический, промышленного значения |
| 3. electrical conductivity | - электропроводимость                 |

4.	sufficient strength	-	достаточная прочность
5.	resistance	-	сопротивление
6.	weathering	-	эрозия
7.	to rate	-	считать, рассматривать
8.	with respect to	-	что касается
9.	respect	-	отношение
10.	pure copper	-	чистая, беспримесная медь
11.	deficiency	-	недостаток
12.	principal	-	главный, основной
13.	to apply	-	касаться, относиться
14.	to affect	-	влиять, воздействовать
15.	amount	-	количество
16.	light bulb	-	лампа накаливания
17.	socket	-	штепсельная розетка

### **Copper and its Alloys**

Copper is one of the most widely used of the non-ferrous metals and ranks next to iron and steel as a metal of commercial importance. Copper has the highest electrical conductivity, and in addition it has sufficient strength for many structural purposes, is easily rolled into sheet and drawn into wire, and has great resistance to weathering.

Copper may be rated as intermediate with respect to strength and cost. Two respects in which pure copper is unsatisfactory are in casting qualities and in welding qualities; these deficiencies, however, do not apply to the principal alloys, which in general have excellent casting properties and are more readily welded than copper.

Conductivity, strength, ductility and other properties of copper are greatly affected by the presence of small amounts of other elements.

Because of the predominance of electrical uses, copper is used more as the pure metal than in the form of alloys. Electrical conductivity is at maximum in the pure metal. Corrosion resistance may be either improved or lowered by alloying.

The automobile industry is one of the largest consumers of copper, normally taking about 10 per cent of the total amount used. Electrical uses include motors and generators, electric locomotives, telephones and telegraphs, light and power lines, in alloys such as brass for light bulbs and sockets, and many others.

**2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. What properties does copper possess as a metal of commercial importance?
2. What deficiencies of copper can you point out?
3. Why is copper used more as the pure metal than in the form of alloys?
4. How may corrosion resistance of copper be improved?
5. What industry is one of the largest consumers of copper?
6. What do electrical uses of copper include?

**Текст 3.**

**FIVE BASIC TECHNIQUES**

**1. Прочитайте следующие слова и словосочетания. Они помогут Вам понять содержание текста:**

- |              |   |  |
|--------------|---|--|
| 1. to mount  | - | устанавливать; насаживать; монтировать |
| 2. workbench | - | верстак                                |
| 3. to house  | - | помещать                               |
| 4. drilling  | - | сверление                              |
| 5. boring    | - | расточка                               |
| 6. reaming   | - | зенкование, развертывание              |
| 7. tapping   | - | нарезание резьбы                       |

8.	turning	-	точение, токарная обработка
9.	milling	-	фрезерование
10.	planing	-	строгание
11.	shaping	-	фасонирование
12.	broaching	-	протяжка
13.	grinding	-	шлифование
14.	honing	-	конигование
15.	single point tool	-	режущий однолезвийный инструмент
16.	to fix	-	зажимать, укреплять
17.	to revolve	-	вращать(ся)

### **Five Basic Techniques**

The variety and combination of machine tools are unlimited today. Some are small and may be mounted on a workbench. Others are so large that are housed in special buildings.

Large or small machine tools can be classified in five main groups according to the five basic techniques of shaping metal. These basic operations include drilling and boring (including reaming and tapping), turning, milling, planing (including shaping and broaching) and grinding (including honing). Each machine performs one or more of these operations. Variations of five basic techniques are used for special situations. There are, for example, machines that combine two of these techniques, as in a boring, drilling and milling machine or a combination of milling and planing machine.

In addition to the five basic techniques there are newer metal shaping methods developed during the past two decades. These new methods employ corrosion, erosion and force characteristics of chemicals, electricity, magnetism, liquids, sound and light.

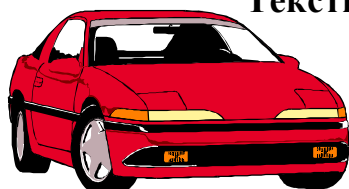
Drilling and boring. Drilling is a basic machine shop technique. It consists of cutting a round hole by means of a rotating drill. Boring, on the other hand, is the process of finishing a hole already drilled by means of a rotating single-point

tool. On some boring machines, the tool is in a fixed position and the work revolves; on others the work is held fixed and the tool revolves.

Under the classification of drilling and boring, there are two types of technique: reaming and tapping. Reaming consists of finishing a hole already drilled. Tapping is the process of cutting a thread in a hole.

**2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. How many groups can machine tools be classified?
2. What basic operations of shaping metal do machine tools include?
3. What new metal shaping methods were developed during the past two decades?
4. What do these new methods employ?
5. What is drilling?
6. What is boring?
7. What differs drilling machines from boring machines?
8. What is the difference between reaming and tapping?



**Тексты для чтения для студентов специальности АТ**

**(автомобильный транспорт)**

**Текст 1**

**THE POWER PLANT**

**1. Прочитайте следующие слова и словосочетания. Они помогут Вам понять содержание текста:**

- |                 |   |                           |
|-----------------|---|---------------------------|
| 1. ability      | - | способность               |
| 2. to demand    | - | требовать                 |
| 3. to present   | - | представлять, являться    |
| 4. to deal with | - | рассматривать, иметь дело |

5. to receive	-	получать; принимать
6. thrust	-	тяга
7. weight	-	вес
8. to include	-	включать, содержать в себе, иметь
9. weight/power ratio	-	отношение веса к мощности
10. output	-	мощность; производительность
11. low	-	низкий
12. fuel consumption	-	расход, потребление топлива
13. to obtain	-	получать, добиваться
14. flexibility	-	гибкость, всережимность; приспособляемость к определенным условиям
15. to run	-	работать
16. smoothly	-	плавно, гладко
17. to perform	-	выполнять, осуществлять
18. speed	-	скорость, число оборотов
19. reliability	-	надежность
20. overhaul	-	капитально ремонтировать
21. to carry	-	нести, держать, поддерживать
22. full	-	полный, максимальный
23. load	-	нагрузка, груз
24. heat	-	теплота; нагрев, тепло

### **The Power Plant**

Any kind of vehicle must be able to move. The ability to move demands power. A machine that produces mechanical power or energy is called an engine or a power plant.

It must be stated that engines present one of the most interesting groups of problems considered in the engineering field. The problems dealt with are dif-

ferent. One of the main problems worked at by the designers is receiving the maximum possible power or thrust for minimum weight.

If used for any vehicle the engine has to have the reduced weight per horse power of the engine. The weight is included in the factor called the weight/power ratio, which may be defined as the weight in pounds per horse power output. Another important problem dealt with is that of fuel. Both in the past and today the designers work at the problem of getting lower specific fuel consumption. Specific fuel consumption is obtained by dividing the weight of the fuel burned per hour by the horse power developed.

Another possible problem considered in any engine is its flexibility. Flexibility is the ability of the engine to run smoothly and perform properly at all speeds and through all variations of atmospheric conditions.

One more important problem worked at by the designers is the engine reliability. The engine is to have a long life, with maximum of time between overhaul periods.

It must be emphasized that in some cases the problem of balance is one of the main. Balance has several possible meanings but the principal factor is freedom from vibration.

Besides any engine must be started easily and carry its full load in a few minutes.

The necessity of carrying away excess heat developed by the engine has always been a problem of first importance too.

## **2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. What machine is called an engine or a power plant?
2. Name seven problems that engines present in the engineering field
3. How is the weight/power ratio defined?
4. How is specific fuel consumption obtained?
5. What is flexibility?

6. What does reliability of an engine mean?
7. What is the principal factor of balance?
8. Is the problem of carrying away excess heat of first importance?

## Текст 2.

### INTERNAL-COMBUSTION ENGINES

**1. Прочитайте следующие слова и словосочетания. Они помогут Вам понять содержание текста:**

1. inside – внутри
2. to exist – существовать, быть
3. advantage – преимущество
4. disadvantage – недостаток
5. mixture – смесь
6. to ignite – воспламенять, зажигать
7. by means of – при помощи, посредством
8. similar – схожий, подобный
9. to distinguish – различать, отличать(ся)
10. to feed – питать, снабжать
11. compressed air – сжатый воздух
12. to draw into – втягивать в
13. to mix – смешивать
14. efficiency – эффективность, коэффициент полезного действия
15. prime mover – источник движения
16. amount – количество
17. oxygen – кислород



## **Internal-Combustion Engines**

Most of the engines used today are called internal-combustion engines. It must be noted that they are called internal-combustion engines because of the fuel burnt inside the engine. There exist several types of internal-combustion engines: gasoline and diesel piston types, jet types and turbines. Each of them has certain advantages and disadvantages over other forms of power plants.

Gasoline engines are those in which a mixture of gasoline vapour and air is ignited by means of an ignition system. A gasoline engine performs its work by burning a mixture of gasoline vapour and air inside a cylinder which is a part of the engine.

A diesel engine is mechanically similar to a gasoline engine. As distinguished from gasoline engine diesels have no ignition system fed with electricity: the fuel ignites by itself from contact with highly compressed air.

A diesel engine draws into its cylinder air alone and it compresses this air before any fuel enters the cylinder. A gasoline engine mixes air with fuel in a carburetor outside the cylinder before it enters the engine. Therefore the efficiency of a gasoline engine, that is, the amount of power produced from a certain amount of fuel is limited by the compression ratio. The compression in a diesel engine is not limited by the possibility of pre-ignition because a diesel engine compresses air only.

The diesel engine is one of the most efficient heat-engines, that is, it gets more power out of the fuel it burns than any other ordinary prime mover. Besides its fuel consumption is much less than that of a gasoline engine. When started the diesel engine carries its full load in a few minutes. The amount of air required to supply a diesel engine with oxygen needed to mix with fuel is rather little.

Although applied for many purposes diesel engines have certain disadvantages. Their weight is more than that of a gasoline engine of the same power.

**2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. What engine is called an internal-combustion engine?
2. How does a gasoline engine perform its work?
3. What differs a gasoline engine from a diesel engine?
4. What are the advantages of the diesel engine over the gasoline engine?
5. What disadvantages of the diesel engine can you point out?

**Текст 3**

**INTERNAL-COMBUSTION ENGINES  
AND ENVIRONMENT**

**1. Прочитайте следующие слова и словосочетания. Они помогут Вам  
понять содержание текста:**

- |                             |   |                                  |
|-----------------------------|---|----------------------------------|
| 1. substantial contribution | - | существенный, значительный вклад |
| 2. pollution                | - | загрязнение                      |
| 3. noise                    | - | шум                              |
| 4. to create                | - | создавать                        |
| 5. poisonous                | - | ядовитые                         |
| 6. harmful                  | - | вредный                          |
| 7. to surround              | - | окружать                         |
| 8. unbreathable gases       | - | газы, которыми нельзя дышать     |
| 9. to emit                  | - | испускать                        |
| 10. to decrease             | - | уменьшать                        |
| 11. to remove               | - | удалять, устранять               |
| 12. afterburner             | - | форсунка                         |
| 13. source                  | - | источник                         |

**Internal -Combustion Engines and Environment**

Since the beginning the internal-combustion engine has played a major role among the movers. Now it is coming under criticism because of its substantial

contribution to air pollution and to noise pollution. When used the internal-



combustion engines all burn a fuel mixture and this burning creates poisonous gases that are exhausted from the engine. If not controlled the harmful

emissions may surround the Earth with unbreathable gases. Scientists and engineers are fighting the problem.

Perhaps in the future we will have newer, better forms of power which when “burnt” will no emit harmful materials.



Many scientists are working on ways to control the harmful emissions from today’s internal-combustion engines. They have developed workable devices which decrease the exhaust of gases from an engine. Some of these devices feed the gases back through the engine for reburning; other types remove harmful materials from the gases; some burn the materials from the gases by using an “afterburner” in the exhaust system of the engine.

## **2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

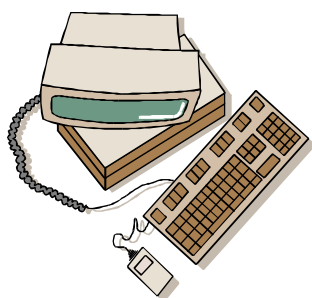
1. Is the internal-combustion engine the main source of substantial contribution to air pollution and to noise pollution?
2. What devices do scientists and engineers develop to control the harmful emissions from today's internal-combustion engines?

### **Тексты для чтения для студентов специальности РТ**

**(радиотехника)**

**Текст 1**

**INTEGRATION**



#### **1.Прочитайте следующие слова и словосочетания.**

**Они помогут Вам понять содержание текста:**

1. junction transistor - плоскостной транзистор
2. integrated circuit - интегральная схема (ИС)

3.	chip	-	кристалл (ИС)
4.	digital computer	-	цифровая вычислительная машина
5.	switch	-	переключатель
6.	relay	-	реле
7.	vacuum tube	-	электривакуумная лампа
8.	packaged transistor	-	транзистор в корпусе
9.	semiconductor	-	полупроводник
10.	flip-flop	-	триггер
11.	assembly	-	сборка; узел; блок
12.	unit	-	прибор; устройство; модуль; узел
13.	to compute	-	вычислять, подсчитывать
14.	term	-	термин

### **Integration**

The first transistor developed was the junction transistor. Nearly all transistors today are classed as junction transistors.

Through the years there were developed new types of junction transistors that performed better and were easier to construct. When first introduced the junction transistor was not called that; it was the "cat's whisker" used in the first radio receivers in the 1920s. Shockley and his crew resurrected (возродить) it, a mere imposing name sounded much more scientific. The junction transistor of 1948 was further modernized in 1951, with the development of the "grown" transistor. The technology for manufacturing transistors steadily improved until, in 1959, the first integrated circuit was produced – the first circuit-on-a-chip.

The integrated circuit constituted another major step in the growth of computer technology. Until 1959 the fundamental logical components of digital computers were the individual electrical switches, first in the form of relays, then vacuum tubes, then transistors.

In vacuum tubes and relay stages, additional discrete components such as resistors, inductors and capacitors were required in order to make the whole system work. These components were about the same size as packaged transistors. Integrated circuit technology permitted the elimination of some of these components and “integration” of most of the others on the same chip of semiconductor that contains the transistor. Thus the basic logic element - the switch, or 'flip-flop', which required two separate transistors and some resistors and capacitors in the early 1950s, could be packaged into a single small unit in 1960. That unit was half size of a pea.

The chip was a crucial (важный) development in the accelerating pace of computer technology. With integrated circuit technology, it became possible to jam (зд. размещать) more and more elements into a single chip. Entire assemblies of parts could be manufactured in the same time that it previously took to make a single part. Clearly, the cost of providing a particular computing function decreased proportionally. As the number of components on an integrated circuit grew from a few to hundreds, then thousands, the term for the chip changed to microcircuit.

**2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. When was the first junction transistor developed?
2. When was it further modernized?
3. What were the fundamental logical components of digital computers until 1959?
4. What did the improvement of the technology for manufacturing transistors result in (приводить к)?
5. What does the term "integration" mean?
6. What is a microcircuit?

## Текст 2

### INTEGRATED CIRCUITS (ICS)

**Прочитайте и запомните следующие слова и словосочетания.**

- |                                  |  |
|----------------------------------|--|
| 1. integrated circuit            | – интегральная схема (ИС)              |
| 2. monolithic integrated circuit | – монолитная ИС                        |
| 3. film integrated circuit       | – пленочная ИС                         |
| 4. hybrid integrated circuit     | – гибридная ИС                         |
| 5. wafer                         | – (кристаллическая) пластина; подложка |
| 6. substrate                     | – подложка                             |
| 7. evaporation technique         | – метод напыления                      |
| 8. silk-screen technique         | – метод шелкографии                    |
| 9. interconnection               | – межсоединение                        |
| 10. interconnection pattern      | – рисунок межсоединений                |
| 11. planar process               | – планарная технология                 |
| 12. to assemble                  | – собирать; монтировать                |

### Integrated Circuits (ICs)

The potential of integrated circuits is so wide that in addition to replacing similar discrete component circuits they are responsible for creating a completely new technology of circuit design.

There are two basic approaches to modern microelectronics - monolithic integrated circuits and film circuits.

In monolithic ICs all circuit elements, active and passive, are simultaneously formed in a single small wafer of silicon. The elements are interconnected by metallic stripes deposited onto the oxidized surface of the silicon wafer. Monolithic ICs are made by a diffusion process.

Film circuits are made by forming the passive electronic component and metallic interconnections on the surface of an insulation substrate. Then the active semiconductor devices are added, usually in discrete wafer form. There are two types of film circuits, thin film and thick film.

In thin film circuits the passive components and interconnection wiring are formed on glass or ceramic substrates, using evaporation techniques. The active components (transistors and diodes) are fabricated as separate semiconductor wafers and assembled into the circuit.

Thick film circuits are prepared in a similar manner except that the passive components and wiring are formed by silk-screen techniques on ceramic substrates.

There can be many instances where the microelectronic circuit may combine more than one of these approaches in a single structure, using a combination of techniques.

Hybrid ICs are combinations of monolithic and film techniques. Active components are formed in a wafer of silicon using the planar process, and the passive components and interconnection wiring pattern formed on the surface of silicon oxide which covers the wafer, using evaporation techniques.

## **2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. What is the potential of integrated circuits?
2. What are two basic approaches to modern microelectronics?
3. How are all circuit elements formed in monolithic ICs?
4. What types of film circuits do you know?
5. How are thick-film circuits (thin-film circuits) prepared?
6. What is a hybrid IC?

### Текст 3

#### RETURN OF THE VACUUM VALVE

**1. Прочитайте следующие слова и словосочетания. Они помогут Вам понять содержание текста:**

- |     |                           |   |                                    |
|-----|---------------------------|---|------------------------------------|
| 1.  | to survive                | – | продолжать существовать, выдержать |
| 2.  | environment               | – | окружающая среда                   |
| 3.  | to expose                 | – | подвергать действию (лучей)        |
| 4.  | failure                   | – | повреждение                        |
| 5.  | immune                    | – | устойчивый                         |
| 6.  | to enhance                | – | увеличивать усиливать              |
| 7.  | surface                   |   | поверхность                        |
| 8.  | to surmount               | – | преодолеть                         |
| 9.  | triangular                | – | треугольный                        |
| 10. | to enhance                | – | увеличивать, усиливать             |
| 11. | to take advantage of smth | – | воспользоваться чем-либо           |
| 12. | power consumption         | – | потребление энергии                |

#### Return of the Vacuum Valve

Until the 1950s, all active electronic functions were performed by the vacuum valve. They were made up of metal electrodes arranged in a vacuum glass envelope. Their sizes varied, but even one of the latest valves had a volume of more than one cubic centimetre. When solid state devices were invented, one of their main attractions was their small size. As the technology developed, individual elements became smaller and smaller, until complete circuits could be designed on a single piece of silicon. This development resulted in the replacement of vacuum valves by transistors in receivers and low-power electronic systems. In high power transmitters vacuum valves continue to serve; and thermionic emitters are still used where a free source of electrons is required



as in cathode-ray tubes. But semiconductor devices proved to be poorly equipped to survive certain environments.

For example, when semiconductor devices are exposed to ionizing radiation in space and defence systems, they are bombarded by both neutral and charged particles, which cause fluctuations in current leading to failure of the device. Vacuum tubes are far more immune to such environments. Vacuum tubes work at much higher voltages than semiconductors and they have the potential to provide high frequency operation. Therefore some research centres have developed research programmes for producing micron-sized vacuum electronic devices. It is the semiconductor fabrication technology which now offers the opportunity of producing vacuum tubes as small as transistors.

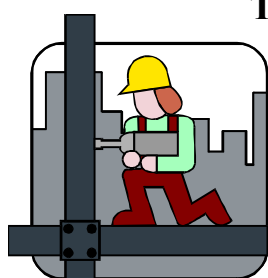
The operation of any vacuum valve depends on obtaining electrons from the cathode surface and attracting them to a positively-biased electrodes known as the anode. The old type of valve operated with a thermionic cathode which was heated to give the electrons sufficient energy to surmount the surface barrier, escape into the vacuum and be attracted to the anode by a positive potential. An alternative means of obtaining an electron discharge in vacuum is with field emission. This relies on a very high electric field being applied to a cold cathode. At high electric fields the surface barrier is distorted to a triangular shape. This allows electrons to tunnel through the barrier and be attracted by the anode. Electric fields of the order of  $10^9$  V/m are necessary before an observable current may be obtained; this is equivalent to 1000V across  $1\mu$  m ( $1 \times 10^{-6}$  m). Since most solid dielectrics can withstand little more than  $10^8$  V/m, some lithographic techniques are used to construct devices which enhance the electric field around the emitting area only.

There are many potential applications of vacuum microelectronics, but they all centre on the properties of field emitting devices. For many years a great deal of effort has been directed towards finding a cold electron source to replace

the thermionic cathode in such devices as cathode ray tubes and traveling wave tubes. Most research programmes have concentrated on cold cathodes to take advantage of the small device size, low power consumption and high current densities which in turn will lead to high operating frequencies and fast switching.

**2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. Why were vacuum valves widely used in radio and electronic systems?
2. What elements was the old type of valve made up of?
3. What does the operation of any vacuum valve depend on?
4. What cathode was used in the old type of valve?
5. When did solid state devices begin to replace vacuum valves in radio and electronic systems?
6. What was one of the main attractions of solid state devices?
7. What advantage have vacuum valves over solid state devices when they operate in hostile environments?
8. Why have most research programmes concentrated on cold cathodes as the source of electrons?



**Тексты для чтения для студентов специальности ПГС  
(промышленное и гражданское строительство)**

**Текст 1  
CEMENT**

**1. Прочитайте следующие слова и словосочетания. Они помогут Вам  
понять содержание текста:**

- |             |             |
|-------------|-------------|
| 1. concrete | - бетон     |
| 2. to bind  | - связывать |
| 3. clinker  | - шлак      |

4.	artificial	-	искусственный
5.	to invent	-	изобретать
6.	dependable	-	заслуживающий доверия
7.	to resemble	-	напомянуть
8.	rock	-	камень, горная порода
9.	to excavate	-	выкапывать
10.	Dorset Coast	-	побережье Дорсет
11.	squeezed concrete	-	сжатый бетон
12.	pre-stressed concrete	-	предварительно напряженный бетон
13.	to harden	-	затвердевать
14.	to bend	-	изгибаться, гнуть(ся)

### **Cement**

Cement is one of the oldest building materials. Concrete, first discovered by the Romans, is now more widely used in construction than all other materials together.

The magic ingredient that makes concrete possible is cement, about which, according to one expert, more has been learnt in the past three decades than in the preceding 2,000 years. Concrete is a synthetic stone, which can be formed while soft into practically any shape the builder wants. Portland cement mixed with water is the paste that binds sand, gravel, clinker into an artificial rock that becomes harder as the years pass. Portland cement does not come from a place of that name; it was called Portland because Joseph Aspdin, the English builder who invented the first dependable, scientifically made cement about 1824, thought it resembled the rock excavated on the Isle of Portland on the Dorset Coast.

What's so new about cement after all these years? Several things. One item is "squeezed" concrete, known technically as pre-stressed concrete. By giving concrete a big squeeze after it has hardened, builders can increase its elasticity ten times, so that it will bend under a heavy load without breaking. This is important in building bridges, viaducts, and floors of large buildings.

**2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. By whom was concrete first discovered?
2. What ingredient makes concrete possible?
3. Under what condition can concrete be formed into any shape the builder wants?
4. Is portland cement called after the name of the person who invented it?
5. What is the technical term for squeezed concrete?
6. How may the elasticity of pre-stressed concrete be increased?

**Текст 2**

**BUILDING MATERIALS**

**1. Прочитайте следующие слова и словосочетания. Они помогут Вам понять содержание текста:**

- |                             |                                   |
|-----------------------------|-----------------------------------|
| 1. structural               | - строительный                    |
| 2. to meet the requirements | - удовлетворять потребностям      |
| 3. hard                     | - твердый                         |
| 4. durable                  | - износоустойчивый                |
| 5. fire-resistant           | - огнестойкий                     |
| 6. to fasten                | - скреплять                       |
| 7. to differ                | - отличаться; различаться         |
| 8. fire-resistance          | - огнестойкость                   |
| 9. cheap                    | - дешевый                         |
| 10. to decay                | - гнить, разрушаться, разлагаться |
| 11. strength                | - прочность                       |
| 12. porosity                | - пористость                      |
| 13. insulation              | - изоляция                        |
| 14. foundation              | - основание, фундамент            |

15. mortar	- строительный раствор
16. weather resistant	- устойчивый против атмосферных влияний
17. skilled labour	- квалифицированный труд
18. acid	- кислота
19. organic derivative	- органические производные
20. resin	- смола
21. timber	- строевой лес
22. lime	- известь
23. plane	- плоскость

### **Building Materials**

Materials that are used for structural purposes should meet several requirements. In most cases it is important that they should be hard, durable, fire-resistant and easily fastened together.

The most commonly used materials are wood, stone, brick, concrete, steel, glass, plastics, etc. They differ in hardness, durability, and fire-resistance.

Wood is the most ancient structural material. In comparison with steel wood is lighter, cheaper, easier to work with and its mechanical properties are good. On the other hand, wood has certain disadvantages. First, it burns and is therefore unsuitable for fire-proof buildings. Second, it decays.

Stone belongs to one of the oldest building materials used by man. Stone is characteristic of many properties. They are mechanical strength, compactness, porosity, sound and heat insulation and fire-resistance. Stone is widely used for foundations, walls and steps of buildings, for the supports of piers, and bridges, for finishing and decorating all sorts of structures.

Bricks were known many thousand years ago. Bricks are hard and easily fastened together with the help of mortar. A brick building is strong, durable and weather resistant.

Concrete is referred to as one of the most important materials. Concrete is a mixture of cement, sand and crushed stone, made into a paste with water. It forms a hard, durable mass and is used largely for the foundations and walls of houses, and for structures under water.

Steel has come into general use with the development of industry. Its manufacture requires special equipment and skilled labour.

Glass and plastics are also widely used nowadays in the construction of different kind of buildings. Glass is unaffected by gasses and most acids. Plastics is a name for various organic derivatives of resin, cellulose, and protein.

All building materials are divided into three main groups:

1. Main building materials such as rocks and artificial stones, timber and metals.
2. Cementing or binding materials such as lime, gypsum and cements.
3. Secondary and auxiliary materials which are used for the interior parts of buildings.

We use the the main building materials for bearing structures: cementing materials are used for joining different planes.

For the interior finish of the building we use secondary materials.

## **2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. What properties should building materials possess?
2. What are the advantages and disadvantages of wood as the building material?
3. What are the principal applications of stone?
4. What properties does a brick building possess?
5. What components does concrete consist of?
6. What group do main building materials belong to?
7. What are cementing materials used for?
8. What materials are used for the interior parts of buildings?

### Текст 3

## PLASTICS – THE NEWER APPLICATION IN BUILDING

**1. Прочитайте следующие слова и словосочетания. Они помогут Вам понять содержание текста:**

- |  |   |
|--|---|
| 1. application                             | - применение                                |
| 2. to offer advantages                     | - (здесь) иметь преимущества                |
| 3. to replace                              | - заменять, замещать                        |
| 4. ease of handling                        | - легкость обработки; транспортировки       |
| 5. low maintenance costs                   | - низкие эксплуатационные расходы           |
| 6. available                               | - имеющийся в наличии, доступный            |
| 7. rapidity of assembly                    | - быстрота сборки                           |
| 8. range                                   | - диапазон, область применения              |
| 9. plastics laminates                      | - слоистый пластик                          |
| 10. interior and exterior design           | - проект интерьера и экстерьера             |
| 11. to withstand severe outdoor conditions | - противостоять плохим атмосферным условиям |
| 12. disadvantage                           | - недостаток                                |
| 13. to overcome                            | - преодолевать                              |
| 14. particularly                           | - в частности                               |
| 15. with respect to                        | - по отношению к                            |
| 16. laminate                               | - многослойный материал                     |
| 17. fading                                 | - потеря краски; обесцвечивание             |
| 18. to claim                               | - претендовать                              |
| 19. essential consideration                | - существенное соображение                  |
| 20. exceptional                            | - исключительный                            |
| 21. due to                                 | - благодаря                                 |

## **Plastics- the Newer Application in Building**

Plastics have now been developed to such an extent that they can be applied to almost every branch of building.

Plastics products offer many advantages over the materials they replace, such as ease of handling, lower maintenance costs and rapidity of assembly.

The large range of decorative plastics laminates now available to the architect and builder has brought about a revolution in interior and exterior design. These materials are no longer for decoration only but are made to withstand severe outdoor conditions for varying periods of time and are sufficiently rigid to stand on their own in certain cases without support. They can be worked by all the methods commonly employed by the builder. Many disadvantages have had to be overcome in the development of decorative laminates before they could be put on the market, particularly with respect to their weathering properties.

A laminate has been developed which is suitable for both inside and outside use. It is claimed to stand up to severe exterior conditions for at least ten years without serious fading. As a complete structural material in itself, it is recommended for exterior work on shopfronts, walls, entrances, doors, windows. Its chief advantage is that it needs no maintenance other than an occasional wipe down with a damp cloth, and another important property is that curved surfaces can be introduced and sharp corners eliminated in areas where hygiene is an essential consideration. For interior use it is recommended for surfacing – or sometimes as a structural material for kitchens, bathrooms, lavatory walls, for doors, staircase walls, window sills, etc.

New shapes in building are absorbing the attention of the architects. Plastics offer many of the properties for these designs and their application in exotic structures is an example.

The use of plastics in general industrial application has grown considerably in recent years. This growth has been due to their exceptional in-built qualities



and also because they are improvement of older materials for many purposes and have opened up new fields which were not previously possible.

**2. Прочитайте текст и найдите в нем ответы на следующие вопросы:**

1. Where can plastics be applied?
2. What advantages do plastics products offer?
3. What valuable properties do the decorative plastics laminates have?
4. What is the chief advantage of a laminate?
5. What purpose is the laminate recommended for interior use as a structural material?
6. Why has the use of plastics in general industrial application grown considerably in recent years?

## Оглавление

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