

**МИНОБРНАУКИ РОССИИ**

**Федеральное государственное бюджетное образовательное учреждение  
высшего профессионального образования  
«Тверской государственный технический университет»  
(ТвГТУ)**

**Кафедра иностранных языков**

**HIGHWAY CONSTRUCTION**

**Практикум для чтения на английском языке  
для студентов направления подготовки 270 800  
«Строительство»  
(профиль «Строительство автомобильных дорог»)**

Тверь, 2013

УДК 811. 111: 625.7 (075.8)  
ББК 81.2 Англ.39.3Ия7

Практикум для чтения на английском языке для студентов II курса направления подготовки 270 800 «Строительство» (профиль «Строительство автомобильных дорог») охватывает профессиональную сферу общения и включает комплекс специализированных текстов с обучающими и контролирующими упражнениями. В каждом разделе имеются упражнения по коррекции и развитию навыков использования основных грамматических форм и конструкций.

Для практикума использовалась современная английская литература, периодические издания, а также интернет-источники.

Составитель: Андрюхова Н.А.

© Андрюхова Н.А., 2013  
© Тверской Государственный  
технический университет, 2013

## Text 1

### REQUIREMENTS FOR BITUMINOUS ROAD-MAKING MATERIALS

The requirements for bituminous materials obviously arise from the requirement for the road pavement as a whole which may broadly be summarized as the provision of a running surface which permits traffic to proceed with safety, comfort, speed and economy. These broad aims may be stated more specifically as follows:

- 1) to provide a ridding surface which is sufficiently regular in the longitudinal direction to provide an acceptable standard of vehicle ride and in the lateral direction to prevent the ponding of rain. The former affects passenger comfort, damage to fragile goods, vehicle maintenance, vehicle noise, pavement life, and vibrational effects on people and buildings near the road.
- 2) to provide a surface with adequate resistance to skidding, preferably without excessive noise or tyre-wear, and with local drainage channels so that splash and spray are minimized.
- 3) to meet these operational requirements in the most economic way, taking into account the balance of initial construction costs with the maintenance and other running costs.

Although there are obvious interactions between these three aims they can respectively be identified broadly with the following engineering problems:

- I. the structural design of the pavement as a whole which determines the way in which the surface deforms;
- II. the specification of the surfacing materials and their consequent texture.
- III. the whole process of obtaining, mixing, transporting and laying materials which meet the performance and other requirements.

### WORD LIST

to require	—	требовать, приказывать
bituminous	—	битумный
to provide	—	снабжать, обеспечивать
longitudinal	—	продольный
lateral	—	горизонтальный
to prevent	—	предохранять, предотвращать
fragile	—	хрупкий, ломкий
relevant	—	уместный, относящийся к делу
skidding	—	занос (автомобиля)
tyre-wear	—	покрышка
to pond	—	запруживать

### EXERCISES

#### Ex.1 Give Russian equivalents for:

road pavement, running surface, acceptable standard, pavement life, vibrational

effects, operational requirements.

**Ex.2 State the part of speech of the following words and determine their meanings without using a dictionary:**

to specify, specification, specific

to require, requirement, unrequired

to economize, economic, economy, economically, economist

to maintain, maintenance, maintainability

to permit, permission, permissible, permittee

to operate, operation, operational

comfort, comfortably, comfortable

**Ex.3 Arrange the following in pairs of synonyms:**

obviously, stock, to provide, region, sufficiently, cost, to meet, enough, evidently, goods, price, area

**Ex.4 Read the text and say if the following statements:**

- true
- false
- there is no information in the text

1. The main aims of town planning are stated.
2. The whole process of mixing and laying materials should meet the requirements.
3. The requirements for the road pavements are not summarized.
4. Nothing affects passenger comfort.
5. The aims to provide a sufficient running surface are stated.

**Ex.5 Answer the following questions**

1. What permits traffic to proceed with safety, comfort, speed and economy?
2. What provides an acceptable standard of vehicle ride and prevents the ponding of rain?
3. What affects passenger comfort?
4. What determines the way in which the surface deforms?

**Ex.6 Match the word combinations with their Russian equivalents listed below:**

Surface deformation, meet the requirements, adequate resistance, construction costs, longitudinal direction, obvious interaction, process of transporting, vibrational effects, take into account, surfacing materials, climate conditions, life time.

Процесс транспортировки; продольное направление; деформация поверхности; очевидное взаимодействие; срок службы; климатические условия; соответствовать требованиям; воздействия вибрации; принимать во внимание; соответствующее сопротивление; материалы покрытия.

**Ex.7 Make up sentences using the phrases from Ex.6**

**Ex.8 Fill in the blanks with the words given below.**

1. One of the main aims of town planning is ... the condition of urban life.
2. Naturally we have ... our efforts to the planning and building of better roads.
3. Although as far as possible roads are designed so that soil from cuttings is utilized in the embankments and other materials have ... .
4. ... for the difficult soil conditions and the more than usually uncertain weather which may be met in Lancashire, the Ministry has decided that the contract period should be twenty-eight months.
5. The one modification made in the scheme is ... the plan of the bridge which will carry the motorway over the navigable waters.
6. It was decided to ask the Ministry ... a deputation.
7. It requested the Ministry ... to its own engineers and to others concerned with road construction that tarmacadam is a perfectly satisfactory material for base course work.
8. The Ministry would be prepared ... alternatives to asphalt for motorways and roads of that class of construction.
9. Reports of tests ... the flexibility of fibre pipes and pipelines have now been made.
10. Some time ago the Ministry decided ... the width of the central road.

(to increase, to improve, to receive, to determine, to devote, to be imported, to allow, to alter, to make clear, to use)

**Ex.9 Use prepositions where necessary.**

1. We are to take .... account these effects.
2. This device operates .... excessive noise.
3. Their requirements permit traffic to proceed .... safety.
4. This structural design determines the way ....which the surface deforms.
5. They took .... account the interaction .... these problems.
6. The process .... laying material is studied.

**Ex. 10 Translate the following sentences into Russian paying attention to the meaning of "it".**

1. It was realized that the erection of the road would take about 3 months.
2. It is essential for the highway engineers to be in the forefront of the struggle for a better environment.
3. The result is that it is now possible to travel from Bologna to Florence by car.
4. It should be noted it is not only the design of structure that matters, but the manner in which the pedestrian has not been forgotten.
5. In general it consists of a granular sub-base of varying thickness.
6. If a road becomes overloaded, as indicated by its density detector, it can be "closed".
7. It is hoped to start construction early in 2012.
8. It is intended that the whole motorway between Dunstan and Preston should be

completed in time.

**Ex. 11 Translate into English the following sentences.**

1. Два года исследований привели к выбору проекта.
2. Строительство моста, как ожидают, займет 2 года.
3. Экспериментально и технологически установлено, что это приспособление ускоряет процесс смешивания.
4. Эти цели могут быть достигнуты в ближайшем будущем.
5. Вибрационные воздействия на людей и сооружения нужно минимизировать.
6. Битумные материалы широко используются для дорожного покрытия.

**Ex.12 Study the dialogues, noting how people greet each other and ask about their health, etc. in formal, semi-formal and informal situations.**

*a) Choose the best answer.*

*b) Practise reading them aloud in class. Then learn two of them and reproduce them in class.*

1. When you meet someone whom you know only slightly (in the morning) you say:  
a. How do you do?    b. Good morning.    c. Hallo.
2. When you meet an acquaintance at about 12.30 p.m. you say:  
a. Good morning.    b. Good afternoon.    c. Good day.
3. When you come into a room where there is a group of your fellow-students, you say:  
a. Hallo.    b. Hallo, everybody.    c. Morning.
4. When a senior colleague asks "How are you?" You reply:  
a. Thank you.    b. Very well, thank you.    c. OK, thanks.
5. When your hostess says Nice to see you reply:  
a. The same to you.    b. It's a pleasure.    c. Nice to see you, too.

**Ex. 13 Greet the following people. The greetings may be used as the starting point for a short dialogue.**

1. a close friend called Andrew;
2. an elderly neighbor (Mrs. Elsie Watson), at 3 p.m.;
3. a colleague whom you know only slightly, at 10 a.m.;
4. your parents, on arriving home in evening;
5. your English teacher
  - a. at the beginning of a class
  - b. in the street
6. a group of fellow-students;
7. a group of tourists to whom you are acting as a guide;
8. your sister Helen;
9. a shop assistant.

**Ex. 14** *Work in pairs. Read the dialogue. Learn it by heart and act it.*

**At a Conference**

Mr. Cox: Mr. Steel, I'd like to introduce David Ward, a colleague of mine. (To Mr. Ward) Mr. Steel, from Bristol University.

Mr. Ward: How do you do?

Mr. Steel: How do you do?

Mr. W.: Are you finding the conference interesting?

Mr. S.: Yes, there have been some very good papers. I find the discussions very useful, too.

**Ex.15** *Fill in the blanks with the necessary phrases.*

**At Work**

Mr. Pratt: Good morning, Mr. Dawes. ....

Mr. Dawes: Very well, thank you. How are you?

Mr. P.: .... I don't think you've met my secretary. .... This is Mr. Dawes. (This is Miss Lloyd.)

Mr. D.: How do you do?

Miss Lloyd: ....

**Text 2**

**HIGHWAY ENGINEERING AND THE ENVIRONMENT**

**(Presidential Address to the Institution of Highway Engineering by Dr. O.A. Kerensky)**

Any study of history will show that political and sociological trends are largely the consequences of technological advances and that these advances are mainly due to our engineering skills. In fact, one can almost say that society is at the mercy of the engineers and we, the highway engineers, have from time immemorial been responsible for providing the means of communication between people, constructing roads in towns, between towns and out of towns to new lands and opportunities. In doing this we must inevitably intrude on the existing environment which we can either destroy or improve.

Although highway engineering is one of the oldest professions, for many centuries the art of road building remained stagnant.

The modern scientifically designed and built roads are really the achievement of this century, while the study of their effect on the environment is almost a post-war development. Today "environmental" considerations are one of the "musts" in any highway project.

The term "environment" includes many qualities, most of which are abstract, but in general it deals with appearance and convenience, qualities which can be complementary or in conflict.

One of the main aims of town planning is to improve the condition of urban life.

Transportation plays a crucial role in this since it is one of the main factors that determine where people live and work. Properly planned, it is a mean of achieving better urban environment.

It is essential for the highway engineers to be in the forefront of the struggle for a better environment. Naturally and unavoidably we have to devote most of our efforts to the planning and building of better roads for the safer use by all concerned: pedestrians, buses and lorries, cars and cyclists, but while doing this we must always ensure that these roads, on balance, improve our way of living.

## WORD LIST

advance	—	успех, прогресс, улучшение
technological	—	технический
communication	—	связь, коммуникация
environment	—	окружение, окружающая среда
stagnant	—	инертный, застойный
quality	—	качество
pedestrian	—	пешеход
to improve	—	улучшать
to destroy	—	разрушать
to design	—	проектировать, конструировать

## EXERCISES

### Ex.1 Give the Russian equivalents for:

political and sociological trend, the consequences of technological advances, engineering skills, from time immemorial, the means of communication, the achievement of the century.

### Ex.2 State the part of speech of the following words and determine their meanings without using a dictionary:

to design, designer, designed, designing  
to improve, improvement, improving, improver  
to destroy, destruction, destroyer  
to deal, dealer, dealership  
to achieve, achievement, achievable  
to build, builder, building  
to appear, appearance, disappeared  
to construct, construction, constructor, constructive

### Ex.3 Arrange the following in pairs of synonyms:

inert, construct, crucial, built, decisive, stagnant, way, destructive, technology, destroying, trend, road, design, tendency, engineering.

### Ex.4 Read the text and say if the following statements:

— true



— false

— there is no information in the text

1. The road construction industry now uses one hundred million tons of aggregate.
2. The lower-grade material is required as fill for road embankments.
3. The use of waste materials means low initial costs.
4. Ground level roads or roads on embankment are seldom practicable.
5. Urban highway constructions differ from rural work in many respects.

**Ex.5 Answer the following questions:**

1. What will any study of history show?
2. What is the main task for the highway engineers?
3. Highway engineering is one of the oldest professions, isn't it?
4. Why have we to devote most of our efforts to the planning and building of better roads?
5. What can you say about one of the main aims of town planning?

**Ex.6 Match the word combinations with the Russian equivalents listed below:**

Technological advances, engineering skills, highway engineers, in general, town planning, urban life, crucial role, way of living, means of communication, existing environment, sociological trends.

Существующая окружающая среда; технические навыки; городская жизнь; технологические улучшения; образ жизни; инженеры, строящие автотрассы; решающая роль; средства связи; вообще; городское планирование; социологические тенденции.

**Ex.7 Make up sentences using the phrases from Ex.6**

**Ex.8 Fill in the blanks with the words given below.**

1. The new road which will largely follow the line of existing roads will in itself improve the ... of local communities.
2. In doing this we must inevitably intrude on the existing ... which we can either destroy or ...
3. The choice of forms of construction in ... areas is limited.
4. The construction of roads should be taken as an ... for improving existing environments.
5. Noise and fumes produced by ... can be reduced.
6. From time immemorial the highway ... have been responsible for providing the means of communications between people constructing different kinds of roads.
7. ... research has been done into the use of white aggregates as means of improving road safety.
8. It has been found difficult to study the interaction between drivers, for example, when one ... follows another.
9. It has now been realized that road ... has proved a profitable national

investment.

(communication, environment, improve, urban, opportunity, busses, lorries and cars, engineers, essential, lorry, construction)

**Ex.9 Put the following sentences into the negative and interrogative forms:**

1. Ground level roads or roads on embankments are seldom practicable.
2. Tunnels appeal to many designers and planners because they are invisible.
3. Almost all forms of tunnelled roads are known to be very expensive.
4. The highway engineer can have a free hand in the location of the roads.

**Ex.10 Form questions on the following statements:**

1. In particular we should have the attack on noise and fumes produced by motor vehicles.
2. The construction of roads should be taken as an opportunity for improving existing environment.
3. One of the main aims of town planning is to improve the condition of urban life. Now an entirely new system of high speed roads and motorway standards is being designed.

**Ex.11 Use prepositions where necessary:**

1. Structural engineering is one ... the oldest professions.
2. Government promises to improve the way ... living.
3. This word includes many meanings, most ... them deal ... technology.
4. ... general this definition is used in computer sciences.
5. Art ... road construction remains an important one.
6. Communication ... people and countries is provided ... different means.
7. This company is responsible ... town planning.

**Ex.12 Translate into English the following sentences:**

1. Эта организация находится на переднем плане борьбы за охрану окружающей среды.
2. Реализация этой технологии требует комплексного подхода.
3. Увеличить эффективность этого метода – наша задача.
4. Эти материалы могут быть использованы в строительных технологиях.
5. Безопасное использование всех видов транспорта зависит от многих факторов.

**Ex.13 Study the illustrative examples, noting how people apologize in various situations and how to respond appropriately.**

**a) Choose the best answer.**

**b) Practise reading them aloud in pairs. Then learn some of them and reproduce in class.**

1. After wrecking your brother's car you say to him:

- a. Sorry, Jack.
  - b. I hope you don't mind, Jack. I've run the car into a wall.
  - c. I'm terribly sorry, Jack. I'm afraid I've damaged your car.
2. When you want to get to the front of the bus, past some standing passengers, you say:
    - a. Sorry.
    - b. I beg your pardon.
    - c. Excuse me.
  3. When you tread on someone's toe, you say:
    - a. I must apologize for treading on your toe.
    - b. I'm so sorry.
    - c. I beg your pardon.
  4. If a senior colleague apologizes for keeping you waiting, you say:
    - a. That's OK.
    - b. That's quite all right.
    - c. Don't mention it.
  5. If you have not heard what someone said, you say:
    - a. Sorry.
    - b. Excuse me
    - c. Repeat it, please.
  6. If you have to interrupt someone in his work because you need his help or advice, you begin by saying:
    - a. I beg your pardon.
    - b. I'm sorry to trouble you.
    - c. May I interrupt you?

**Ex.14 Reply to the following apologies, avoiding repetition as far as possible.**

1. I'm sorry.
2. So sorry.
3. I do apologize for keeping you waiting.
4. I'm sorry to be such a nuisance.
5. I'm terribly sorry but I burnt the collar of your shirt while I was ironing it.
6. I'm sorry, I didn't quite catch your name.
7. I'm sorry to disturb you.
8. Do excuse me for looking so untidy.
9. I'm sorry I'm late.
10. I must apologize for our secretary's rudeness.

**Ex.15 What would you say in the following situations? (Address your apology to another student, who then replies.)**

1. You've broken a vase while visiting an elderly aunt.
2. You are late for a class.
3. You forgot to ring a friend last night.
4. You didn't hear what your neighbour said.

5. You accidentally knock someone's arm in a shop.
6. You want to pass someone to get to your seat in the cinema.
7. A librarian has spent some time helping you to find a book the author of which you could not remember.
8. You have spilt coffee on a friend's dress.
9. You made a noise coming in late last night (and woke your parents up).
10. You let the shop door swing back in someone's face.
11. You leave your guests alone for some time (to finish getting the supper ready).

**Ex.16** *Work in pairs. Read the dialogue, learn it by heart and act it.*

**David has passed his driving test.**

Bob: Hallo, David. You look very pleased with yourself.

David: Well, I've just passed my driving test.

Bob: Congratulations! It's a big relief.

David: Thanks.

Bob: I suppose you'll soon be buying a car now.

David: Oh no. I can't afford one yet. But my father will let me use his sometimes.

**Ex.17** *Fill in the blanks with words and phrases.*

**Natasha has passed her exams.**

Irina: How did you get on in your exams?

Natasha: I ... .

Irina: ... What marks did you get?

Natasha: Three fives and a four.

Irina: Well done. Now you can relax and enjoy yourself for a bit.

Natasha: yes. ... .

### **Text 3**

#### **EXCAVATION OF ROADMAKING MATERIALS**

Road construction and maintenance have a permanent effect on the environment due to the excavation of materials for constructing or repairing the road. The road construction industry currently uses 49 million tons of aggregate for road construction and maintenance which is expected to rise to 85 million tons over the next ten years. In addition to the aggregates used in road pavement construction a large amount of lower-grade material is required as fill for road embankments and although as far as possible roads are designed so that soil from cuttings is utilized in the embankments, this is not always practicable and other materials have to be imported.

The use of such large quantities of materials inevitably means that a large amount of dereliction is caused as a result of road building and road maintenance. One method of reducing this dereliction would be to make greater use of the various waste and low-grade materials such as colliery waste, pulverized fuel ash and quarry wastes.

Recent research has shown that many of these can be used for bulk-fill and when stabilized with cement they can be used for base and subbase construction. It is clearly in the national interest to make use of low-grade and waste materials for road construction as this conserves the supplies of good quality road-making materials and assists in problems arising from the disposal of unwanted materials.

Whether or not they are used is partly a question of economics, the waste materials use means low initial cost, the release of land which can be used for other purposes and an improvement in the area where the waste is situated.

## **WORD LIST**

aggregate	—	скелетный материал, мелкий каменный материал
dereliction	—	оставление
maintenance	—	эксплуатация
colliery shale	—	каменноугольный сланец
ash	—	зола.
quarry waste	—	карьерные отходы
to excavate	—	разрабатывать месторождение
low-grade material	—	низкосортный материал

## **EXERCISES**

### **Ex.1 Give the Russian equivalents for:**

permanent effect, a large amount, large quantities, road building, road maintenance, low-grade materials, pulverized fuel ash, recent research, national interest, good quality, road-making materials

### **Ex.2 State the part of speech of the following words and determine their meanings without using a dictionary.**

derelict, dereliction

to construct, construction, constructor, constructed

to excavate, excavation, excavator, excavated

to repair, repairer, repairable

to add, addition, additional

to cut, cutting, cutter, to recut

to conserve, conservator, conservation, conservative

to assist, assistance, assistant

### **Ex.3 Arrange the following in pairs of antonyms:**

maintenance; reduce; low; new; good; seldom; good quality road-making material; export; increase; bad; improvement; initial; deterioration; lower grade material; old; often; many; import; break.

### **Ex.4 Read the text, say if the following statements:**

— true

— false

— there is no information in the text

1. A large amount of low-grad materials is always needed in the road construction process.
2. The contractor cannot take part in drawing up a program of construction.
3. The use of waste materials does not mean low initial cost.
4. To reduce dereliction we are to make greater use of various waste and low grade-materials.

**Ex.5 Answer the following questions:**

1. What effect has road construction and maintenance on the environment?
2. How many million tons of aggregate does the road construction industry use currently?
3. For what purpose is a large amount of lower-grade material required?
4. What is the method of reducing the dereliction?
5. It is clearly in the national interest to make use of low-grade and waste materials for road construction, isn't it?

**Ex.6 Match the word combinations with the Russian equivalents listed below.**

Road making materials; construction industry; road maintenance; pavement construction; large quantities of materials; low-grade materials; waste materials; question of economics; initial cost; general appearance.

Выполнение дорожного покрытия; вопрос экономики; первоначальная цена; низкосортные материалы; отходы; большое количество материалов; дорожно-строительные материалы; ремонт дороги; строительная индустрия; общий вид.

**Ex.7 Make up sentences using the phrases from Ex.6.**

**Ex.8 Fill in the blanks with the words given below.**

1. This problem of new roads was ... in White Paper "Review of Highland Policy" published in June.
2. After the ... design had been agreed, the Ministry of Works prepared the detailed design.
3. The bridge was opened to ... after 15 Months.
4. Before the road ... the results of a soil substance are made available to contractors.
5. .... was carried out by scrapers.
6. Various ... were used in the test road, including hot rolled asphalt and others.
7. The Citroen car test vehicle ... an extra wheel so arranged that it slides sideways while the car is moving forward normally.
8. Recent ... showed that many of the materials can be used for backfilling.
9. The date for starting ... on the progress made with these remaining processes.

(to discuss, material, initial, to depend, research, to use, excavation, construction,

traffic, to build)

**Ex.9 Form questions on the following statements.**

1. The bridge was opened to traffic after 15 months, but finishing work took further six weeks to complete.
2. Many of delegates from both home and overseas attended one or more of the 19 sessions of the Congress.
3. Work was carried out according to a carefully prepared plan.
4. The scheme follows the draft line published in January this year.
5. We have to devote most of our efforts to the road building.
6. Precast concrete has its definite advantages.

**Ex.10 Translate into English the following sentences.**

1. Низкосортные материалы как и карьерные отходы тоже могут быть использованы.
2. Вопросы экономики при строительстве должны быть приняты во внимание и решены.
3. Использование отходов ведет к уменьшению затрат.
4. Вопросы строительства дорог и охраны окружающей среды взаимосвязаны.
5. Строительство автострады требует высококвалифицированных рабочих групп.

**Ex.11 Work in pairs. Read the dialogue. Learn it by heart and act it.**

**Mr. Brown wants to see Mr. Fraser.**

Secretary: Good morning. Mr. Fraser's office.

Mr. Brown: Good morning. This is George Brown. I'd like an appointment with Mr. Fraser some time next Wednesday.

Sec.: Hold on, please, Mr. Brown, I'll consult Mr. Fraser. Yes, Mr. Brown, are you there? Mr. Fraser can see you on Wednesday next week between 10 and 12. What time would be convenient for you?

Mr. B.: Let's make it 10.30.

Sec.: All right, Mr. Brown, 10.30 next Wednesday.

Mr. B.: Thank you, good-bye.

Sec.: Good-bye.

**Ex.12 Work in pairs. Fill in the blanks with the necessary phrases. Next Tuesday Mr. Brown telephones again.**

Sec.: Good afternoon. Mr. Fraser's ...

Mr. B.: Good afternoon. This is George Brown. I have ... with Mr. Fraser for 10.30 tomorrow, but I'm ... can't make it. Could Mr. Fraser see me some other time later in the day?

Sec.: ... , he's fully booked for tomorrow. Could we make it next week ... ?

Mr. B.: I'm afraid not. I'm ... for the Continent the day after tomorrow. That's why

I'm particularly ... to see Mr. Fraser.

Sec.: I see. Will you ... , please, Mr. Brown? I'll consult Mr. Fraser. Are you there, Mr. Brown? We'll try to fit you in tomorrow after lunch between 2.30 and 3.00. Would that be ... ?

Mr. B.: Yes, thank you. I'll come at half past two. Good-bye.

Sec.: Good-bye, Mr. Brown.

**Ex.13 Study the dialogues, noting how appointments can be made and changed or cancelled. Practise reading them aloud in pairs. Make up similar dialogues for different situations if you can. Ask for an appointment using one item from each column and let another student reply to your request**

**a) agreeing b) disagreeing about the proposed time**

**Model:**

Mr(s). C.: I'd like an appointment with the manager some time towards the end of the day.

Secretary: a. That'll do very well. He's free in the afternoon.

b. Sorry, he's fully booked for today. Hold the line, please, I'll ask him when he can see you.

I'd like to	see talk to make an appointment with	you the Minister the manager the Chief Librarian the Chief Engineer the doctor	tomorrow tomorrow morning on Monday at 5 o'clock between 12 and 3 p. m. some time about noon tomorrow on Friday morning at 10 o'clock before lunch on Tuesday some time before the weekend at the end of the week
Can	you the manager Mr. Brown the Chief Editor	see me meet him introduce her	

#### **Text 4**

#### **URBAN HIGHWAY CONSTRUCTION**

The rural motorways programme of the late eighties and nineties provided the impetus and experience for the development of modern road construction techniques and many contracting firms engaged in this work have a high degree of proficiency. Generally speaking rural motorways are production jobs with highly-specialized teams carrying out trade sections of the work such as earthworks, drainage and structures impeded by only minor obstructions and with the minimum of disruption from public utility services. These circumstances permit the maximum flexibility of



programme and there is usually the facility to increase resources in order to spread up the work if it falls behind the programme.

Urban highway constructions differ from rural work in many respects.

First the alignment through built-up areas is much tighter, with frequent obstructions in the form of crossing roads and public utility services which often dictate the manner and sequence of operations.

The contractor can no longer plan execute the job to suit himself, the pre-planning and co-ordination required to draw up a programme is considerable.

Furthermore, planning and monitoring progress has to assume much greater importance than on rural construction. Nor is there the flexibility of programme. With so many restraints the initial programme has to be realistic and it has to be adhered to.

Management organization and attitudes are also different and control is more likely to be geographic than operational as the various operations are more intimately tied up with one another due to the restraints. It may seem that the work to be done is just the same as on rural work but it does require a different emphasis, a greater attention to detail, and an ability to keep under constant review a mass of detailed interests other than the works themselves.

It is necessary to create teams of skilled engineers and managers to carry out the complex urban highway projects successfully.

## WORD LIST

impetus	—	толчок
proficiency	—	опытность, умение, сноровка
impede	—	препятствовать, задерживать
obstruction	—	заграждение, помеха, препятствие
disruption	—	разрушение
flexibility	—	гибкость
alignment	—	трасса, направление
restraint	—	ограничение, стеснение
to adhere	—	твердо держаться, придерживаться
intimately	—	близко, тесно

## EXERCISES

### Ex.1 Give the Russian equivalents for:

late nineties; modern road construction techniques; high degree of proficiency; minor obstructions; built-up area; public utility services; sequence of operations; detailed interests; skilled engineers.

### Ex.2 State the part of speech of the following words and determine their meanings without using a dictionary:

to manage, management, manager, manageable  
to organize, organization, organizer

proficiency, profit, profitable  
to minimize, minimus, mini-  
to maximize maximum, maxi -  
flexibility, flexible, flex, flexure  
to differ, difference, different, differential  
frequent, frequency, frequentative

**Ex.3 Arrange the following in pairs of antonyms:**

flexible, rare, remote, simple, disruption, the same, construction, unlike, inflexible, inability, intimate, ability, complex, like, different, fall, frequent.

**Ex.4 Read the text, say if the following statements:**

- true
- false
- there is no information in the text

1. Rural motor ways construction requires highly specialized teams.
2. The work to be done does not need an ability to keep under constant review a mass of detailed interests.
3. The initial programme is realistic without any restraints.
4. Rural motorways are production jobs with highly specialized teams which permit the maximum flexibility of programme.

**Ex.5 Answer the following questions:**

1. What did the rural motorways programme of the late eighties and nineties provide?
2. These circumstances permit the maximum flexibility of the programme, don't they?
3. Does urban highway construction differ from rural work in many respects?
4. What are these respects?
5. Why is it necessary to create teams of skilled engineers and manages?

**Ex.6 Form questions on the following statements:**

1. There is usually the facility to increase resources in order to speed up the work.
2. Planning and monitoring progress has to assume much greater importance.
3. Management organization and attitudes are also different.
4. It is necessary to create teams of skilled engineers.
5. A sight line has been achieved without cutting down trees.

**Ex.7 Fill in the blanks wit the words and phrases given below.**

1. Those illustrations show the sections 19 years, ... .
2. If high temperature is necessary, therefore, during ... , the properties of the rubberized binder ... by keeping the time of beating within reasonable limits.
3. After blending, the material may be kept indefinitely but if the period ... to be several days or more, the temperature should be as low ... .

4. Continuing to a more detailed examination of the construction methods and materials used, some comments may be ....
5. The ... was linked with the permanent drainage by the method of installing the drainage when the earthworks had been completed to the first stage.
6. This sort ... should help in defining the road at night.
7. Casting concrete against plastic forms is ... that can be added to the variety of surface treatments.
8. In building the ... viaducts, various types of stressing systems have been employed.
9. After excavation of the top-soil, a sub- base ... by importing suitable mechanically stable material.  
(mixing and laying; after laying; was improved; is likely; may be controlled; as possible; of interest; construction drainage; prestressed concrete; of treatment; one more method)

**Ex.8 *Make up sentences using the phrases from Ex.7***

**Ex.9 *Translate in to English the following sentences.***

1. С этими ограничениями программа более реалистична.
2. Эта дорога обеспечивает прямое сообщение между двумя столицами.
3. Два года исследований привели к выбору этого проекта.
4. Строители, работающие на этой площадке, используют местные строительные материалы.
5. Современные методики дорожного строительства разрабатываются этой научной лабораторией.

**Ex.10 *Read the dialogue and retell it using indirect speech.***

Mr. Wilson: In my opinion we have spent long enough discussing this matter.

Mrs. Grant: I object. We need more reliable information on which to base a decision. I propose that the secretary presents a detailed account of the situation at the next meeting.

Mr. W: That will be too late. A decision has to be made this week.

Mrs. G: In that case I propose calling a special meeting on Friday.

Mr. W: I agree.

**Ex.11 *Work in pairs. Read the dialogue, learn it by heart and act it.***

**Student comes late for her English class.**

Student: Oh! Good morning, Mrs. Blueberry.

Teacher: Good afternoon, rather. Late again?

Student: Oh, yes... I'm ever so sorry, but I couldn't get on the bus.

Teacher: Well, perhaps you should have left home earlier?

Student: Yes, I think so. It won't happen again, I promise.

**Ex.12 *Study the illustrative examples and the dialogue, noting how people are***

*warned in various situations and how they respond to warnings.*

*a) Choose the best answer.*

*b) Practise reading them aloud in pairs. Then learn some of the examples, or the dialogue, and reproduce them in class.*

A boy has broken a window with his football.

Another boy with whom he has been playing will say to him:

- a. Be careful with your ball next time!
- b. Look out!
- c. You'll catch it!

Porters in a railway station will move through the crowd shouting:

- a. Mind your backs!
- b. Mind how you go!
- c. Look out!

Somebody is saying nasty things to you. You'll say to that person:

- a. Look out!
- b. Watch your step!
- c. Don't rush, take it easy!

You want to caution a fellow-student who has missed several lectures. You'll say to him/her.

- d. Mind you don't miss any more lectures!
- e. You're asking for trouble.
- f. Steady on!

## **Text 5**

### **URBAH HIGHWAY CONSTRUCTION FORMS**

Very often urban construction has to be carried out in congested areas where there is no way of getting rid of traffic and so disruption can be considerable. In these situations the only way to mitigate the disruption is to speed up construction even at the penalty of additional cost. One method is to use precast units which can be quickly fixed and brought into use.\

It would seem that pre-cast panels could be more widely used in urban schemes. Permanent high quality finishes can be obtained under the factory conditions associated with pre-cast construction, and if the panels are designed in conjunction with the retaining walls or abutments, they need not be expensive.

In situ concrete still forms the major portion of the structural content of urban projects and improved techniques have speeded up construction - shuttering, steel fixing and concreting. Shuttering traditionally was fixed in low lifts but is now often fixed in single high fits in order to speed up construction and improve surface finish.

Such shutters have to be substantial and designed for the "live" load of wet concrete. On long retaining walls gantry systems can be used and these give a very fast cycle in conjunction with pre-supported steel. Reinforcement can be prefabricated in cases for some work but there is limited scope for this. The movement of large heavy shutters is now more economical than previously when their use would have required a static crane. Now, with the advent of hydraulic lorry-mounted cranes which are fully mobile and can be set up in a few seconds, one such unit can service a lot of work.

Concrete placing has also undergone development with the more general introduction of mobile concrete pumps. While pumping is still relatively expensive it does away with cranes and can be economically placed with properly designed mixes. There has been a tendency to stick to the traditional crane-handled skip method which is economical if cranage is available, but elsewhere the use of pumps and conveyors for placing concrete has become much more common.

## WORD LIST

to congest	—	перегружать
mitigate	—	смягчать, уменьшать
finish	—	законченность, отделка
abutment	—	опора
in situ	—	на месте строительства
shuttering	—	опалубка
wet concrete	—	жидкий бетон
gantry	—	помост
to support	—	поддерживать, укреплять
concrete pump	—	насос, подающий бетонную смесь
mix	—	смесь
skip	—	вагонетка (с кузовом)
disruption	—	разрушение
cranage	—	крановое оборудование

## EXERCISES

**Ex.1** *State the part of speech of the following words and determine their meanings without using a dictionary:*

to add, additional, addition,  
 technique, technical, technician, technics  
 to finish, finish (n), final  
 to introduce, introduction, introductory  
 to consider, considerable,  
 to fix, fixation, fixative, fixer, fixity  
 scheme, schematic, scheming  
 permanent, permanence, permanently  
 common, commonly, commonness

**Ex.2 Read the text, say if the following statements:**

- true
- false
- there is no information in the text

1. Numerous plans were studied to mitigate the disruption.
2. It is economical to use the traditional crane-handled skip method.
3. High quality finishes can be achieved under the factory conditions.
4. Concrete does not form the major portion of the structural content.

**Ex.3 Answer the following questions:**

1. What is the text about?
2. Where could precast panels be widely used?
3. Permanent high quality finishing can be obtained under factory conditions, can't it?
4. What material forms the major portion of the structural content of urban projects?
5. What can you say about shuttering?
6. What can be used on long gantry systems?
7. The movement of large heavy shutters is now more economical, isn't it?

**Ex.4 Form questions on the following statements:**

1. One method is to use pre-cast units.
2. Very often urban construction has to be carried out in congested areas.
3. Concrete placing has also undergone development with the more general introduction of mobile concrete pumps.
4. There has been a tendency to stick to the traditional crane-handled skip method.

**Ex.5 Fill in the blanks with the words and phrases given below.**

1. The modern scientifically designed and built ... are really the achievement of the century.
2. All formwork for the new bridge was then supported from the old bridge by the system of roads and ... formwork panels.
3. The plastic ... used in this country are usually PVC or polystyrene.
4. With the much improved surface the brilliance and uniformity of the colour is far greater than could be ... with other types of forming and finishing.
5. Some surface ... carried out during the abnormally hot summer failed in the following winter.
6. Continuing to a more detailed examination of the construction methods and materials used some comments illustrating the experience of ... may be of interest.
7. Turning to the ... part of the work, the main difficulty and the factor which causes most worry to contractors and engineers is the delay in getting on with the work.
8. Mobile ... are used for concrete placing.

9. Large heave ... is more economical and requires a static ... .

(precast; earthworks; cast in situ; materials; highways; obtained; finishes; concrete pumps; crane; shutter)

**Ex.6 Match the word combinations with the Russian equivalents listed below.**

Urban construction; hydraulic crane; wet concrete; fast cycle; additional cost; reinforced concrete; precast units; retaining wall; to speed up construction; surface finish; improved techniques; concrete pump.

Подпорная стенка; железобетон; сборные узлы; отделка поверхности; бетононасос; городское строительство; жидкий бетон; дополнительная стоимость; гидравлический кран; ускорить строительство; улучшенные технологии; быстрый цикл.

**Ex.7 Make up sentences using the phrases from Ex.6.**

**Ex.8 Translate the following sentences into Russian paying attention to the meaning of "one".**

1. The new method of using pre-cast units could be more widely used than the old one.
2. In fact, one can almost say that society is at the mercy of engineers.
3. Although the highway engineering is one of the oldest professions, for many centuries the art of road building remained stagnant.
4. One of the main aims of town planning is to improve the condition of urban life.
5. One method of reducing this dereliction would be to make greater use of various waste and low-grade materials.

**Ex.9 Translate into English the following sentences.**

1. Улучшенные технологии ускорили процесс строительства.
2. Соединение идеи и практики может привести к решению проблемы.
3. На этой стадии строительства нет никаких ограничений по использованию низкосортного бетона.
4. Условия выбора фундамента едины и не представляют проблемы.
5. Недавние разработки в технологиях дизайна, материалах и строительных методах дают широкие возможности дорожному строительству.

**Ex.10 Make up statements of opinion, giving as many combinations as possible for each clause in the last column.**

I	think believe consider feel	that	she speaks English very well the shop closes too early he should give up smoking it was a brilliant performance you were wrong to interfere

In my opinion To my mind If you ask me	the lecture is in Room 25 he deserves the prize health is the most important thing in life Andrew works too hard Susan should be more tactful
--	--

**Ex.11** *Read the dialogue. Explain in English what you have known about Esperanto.*

**Esperanto as a World Language**

Adrian: What do you think about Esperanto?

Philip: I don't believe it will ever become a world language.

Adrian: Why? Lots of people are learning it.

Philip: Not compared with those who are learning real languages. It's too artificial.

Adrian: You've got a point there. But on the other hand, it's much easier to learn than other languages, much more systematic.

Philip: That's certainly an advantage, of course, but there's no incentive to learn it as long as so few people speak it. You can't use it at international conferences, for example.

Adrian: I think it should be taught in schools.

Philip: Do you really? To my mind there are quite enough subjects on the school curriculum already.

Adrian: I am studying Chinese now.

Philip: Are you really? They say it's very difficult.

Adrian: I can already speak five languages.

Philip: You can't, can you?

**Ex.12** *Work in pairs. Read the dialogue. Learn it by heart and act it.*

**In the Library.**

William: I'd like a good Russian-English dictionary of science and technology – I have to translate an article from the English journal.

Librarian: Sorry, but we haven't any.

William: How disappointing! I must have this article translated by the weekend.

Librarian: I can recommend a general Russian-English dictionary. At least it may be some help.

William: Yes, I'll take it, of course. It's a shame, though, that you haven't got a specialized dictionary.

**Ex.13** *Read the dialogue and say what your views on education are.*

**A TV reporter in England is interviewing young people about their views on education.**

Reporter: Some people say they remember their school days as the happiest time of their lives. What do you think about school and education in general?

A youth: I think something is wrong with the education we get. I left school a year



ago, but still haven't been able to find a job.

Reporter: Why? Perhaps you haven't tried hard enough?

A youth: You see, I specialized in traditional road construction technologies. I enjoyed them, but they are outdated, while most of jobs these days are on the modern technical side.

Reporter: And you blame your school for that?

A youth: Well, I certainly think they ought to keep up with the times and give more advice on careers.

## **ADDITIONAL EXERCISES**

### **Ex.1 Put the conversation in the correct order.**

***Elena phoned SAG to tell John Bird about the mistake. Number the lines of the conversation in the correct order.***

- S-A-G, can I help you?
- No, it's not your fault. Just ask John to phone me.
- Right, Elena, leave it with me. I'm terribly sorry about this.
- Oh, hello, Elena. I'm afraid John isn't here at the moment. Can I take a message?
- Yes, it says July the 7th, but the agreed delivery date was June the 22nd. It's really important.
- Yes, this is Elena Moretti from Stern Hydraulics. Could I speak to John Bird, please?
- Oh, dear. Can you give me the details?
- All right, then. Bye for now.
- Thank you. I'm not at all happy about this. A lot depends on this order.
- I see. Well, I'll tell him as soon as he comes in.
- Yes, he sent me an order confirmation – the reference is DH010601 – but the delivery date is wrong.
- Goodbye.

### **Ex.2 When John Bird got back to the office, he tried to phone Elena but couldn't get through. He decided to send an e-mail. Write his e-mail using the prompts below.**

answer / your fax / June the 1st / checked / correspondence / you / right / apologize / mistake spoken / production department / they / giving / order / top priority as a result / confirm / delivery date / June the 22nd  
once again / please accept / apologies  
best wishes/John Bird

### **Ex.3 Use the phrases in the box to complete the conversation so that it sounds more polite.**

*I'd take my own, of course, but it's being repaired. Nothing serious, I hope.  
What's the problem? Well, actually, I'm not very keen on the idea.*

*It's just that I don't feel happy about other people driving my car.  
Oh, all right. Not to worry.*

- A Richard, I wonder if I could ask you a favour?  
 B \_\_\_\_\_  
 A I've got to go over to the warehouse to do something, and I haven't got my car.  
 Would you lend me yours?  
 B \_\_\_\_\_  
 A \_\_\_\_\_  
 B \_\_\_\_\_  
 A \_\_\_\_\_  
 B \_\_\_\_\_  
 A It's just a minor scratch. Oh, don't worry. I'll think of something else.

**Ex.4 Put the conversation in the correct order.**

**Jeff**

- a ... but on the other hand, if you do it, I'll see it as a personal favour.
- b I know, but you can take the time later on.
- c No, there isn't. Look, I know it's inconvenient, but I can't think of any other solution.
- d Sandra, we need someone to answer the phone from 2.00 til 4.00 while Julia is off sick. Could you do it?
- e Yes, in principle, yes. But you never know. Your contract is up for renewal next month. Enough said?
- f No, it isn't and obviously I can't force you to do it, but ...
- g Not really. It creates such a bad impression. Listen, I'd do it myself but I've got to be somewhere else.

**Sandra**

- h From 2.00 to 4.00? It's not my hours.
- i Well, can't we just put the answer phone on for a couple of hours?
- j Yeah, enough said.
- k It's not the time. I'll have to get someone to pick the kids up from school. Isn't there anyone else?
- l I see. I don't really have much choice, do I? I hope it's just this time ...
- m But?
- n I'm sure you would, but it's not my problem, is it?

**Ex.5 Reorganize the words to make indirect questions or statements.**

- a tell if got my me cold you she message
- b know be back will do when he you
- c do long know takes you how it
- d remember the what bus time can leaves you
- e this know do what word you means
- f know think he wants what you to do
- g idea the is time I've no what

**Ex.6 Put the conversation below in the correct order.**

- Hello, ADH Graphics.
- Yes, please. Could you ask him to phone John Clarkson from Bellstone & Smith? He has the phone number.
- Just one moment ... I'm sorry, there's no answer. Yes, of course. Could I just check your name? John Clark from Bellstone & Smith.
- Thank you. Goodbye.
- Oh, dear. I'm phoning for some information. It's quite urgent. Do you know where I can contact him?
- Oh, good morning. Could I speak to Peter White, please?
- No, sorry, I'm afraid I don't. Can I take a message?
- No, it's Clarkson. He knows what it's about.
- Oh, sorry, Mr. Clarkson. I'll tell him as soon as he's available.

**Ex.7 Match the parts of the sentences below.**

- |  |  |
|--|--|
| a Tell her it's Mr. Jenkins. I'm returning ... | 1 ... on hold, and then forget about you.      |
| b Typical! I got cut ...                       | 2 ... back to me, just to check?               |
| c I have it when they put you ...              | 3 ... tone. Maybe his phone is off the hook.   |
| d I keep getting an engaged ...                | 4 ... her call this morning.                   |
| e Could you say ...                            | 5 ... that again, please? I didn't understand. |
| f Can you read that ...                        | 6 ... off in the middle of the call.           |

**Ex.8 Work in pairs. Read the dialogue, learn it by heart and act it.**

- A: Could I speak to Elena Moretti, please?  
B: Speaking. Is that John?  
A: Yes. Hello, Elena. I'm phoning back about your order.  
B: Yes, it's quite urgent.  
A: Don't worry. I've got all the details in your fax. No problem.  
B: That's good. I was worried about it.  
A: Well, can I help you with anything else?  
B: No, but I hope we get more business from this customer.  
A: Yes, of course. Okay, I'll be in touch. Bye for now.  
B: Goodbye.

**Ex.9 Work in pairs. Read the dialogue, learn it by heart and act it.**

- A: Hi!  
B: Hello. How are things with you?  
A: Great, You can be the first to congratulate me.  
B: Yes, you look very pleased. What's up?  
A: I'm a new head of the department.  
B: Really? Do you get a raise?

A: I have it made, I tell you. Fifty grand a year.  
 B: That's fantastic! Fifty thousand!  
 A: You're kidding! The dinner is on you. See you later.  
 B: Yes, bye.

### Библиографический список

- 1 Jane Povey. Hallow and Good-Bye / J. Povey. М.: Просвещение, 1998. 45с
- 2 Public Roads. March 2003.Vol.46 No.4. 60pp
- 3 Highways and Public Works. January 2008. Vol.48 1838. 192pp
- 4 [http://en.wikipedia.org/wiki/Norwegian\\_Public\\_Roads](http://en.wikipedia.org/wiki/Norwegian_Public_Roads)
- 5 <http://www.eslfast.com/easydialogs/>
- 6 <http://ru.savefrom.net/>

### Table of Contents

<b>Text 1 .....</b>	<b>4</b>
<b>REQUIREMENTS FOR BITUMINOUS ROAD-MAKING MATERIALS .....</b>	<b>4</b>
<b>Text 2 .....</b>	<b>8</b>
<b>HIGHWAY ENGINEERING AND THE ENVIRONMENT .....</b>	<b>8</b>
<b>Text 3 .....</b>	<b>13</b>
<b>EXCAVATION OF ROADMAKING MATERIALS .....</b>	<b>13</b>
<b>Text 4 .....</b>	<b>17</b>
<b>URBAN HIGHWAY CONSTRUCTION .....</b>	<b>17</b>
<b>Text 5 .....</b>	<b>21</b>
<b>URBAH HIGHWAY CONSTRUCTION FORMS.....</b>	<b>21</b>
<b>ADDITIONAL EXERCISES .....</b>	<b>26</b>