"O’zbekiston temir yo’llari"DATK
Toshkent temir yo’l muhandislari instituti

ENGLISH FOR ENGINEERING SPECIALITIES

Barcha texnika yo’nalishdagi 3-bosqich bakalavriat talabalari uchun
amaliy mashg’ulotlarini bajarishga doir
uslubiy qo’llanma

Toshkent-2012

UDK 4I(Angl.)(07)

Mazkur uslubiv qo’llanma ingliz tilida ishlab chiqilgan va fan dasturga mos ravishda bakalavriat texnika yo’nalishlari uchun mo’ljallangan.

Ushbu uslubiy qo’llanmada talaba o’zining kelajakdagi mutaxassislik faoliyatida ishlab chiqarish va ilmiy maqsadlar uchun zarur bo’lgan axborotni topishi, mutaxassisligi bo’yicha berilgan maxsus matnlarni o’qishi va shu bilan birga og’zaki nutqni rivojlantirishi mumkin.

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Toshkent temir yo’l muhandislari instituti 2012y

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G.X. Mamajanova

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"Nashrga ruxsat etaman"
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dots. M.X. Rasulov_____
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UNIT 1.

Exercise I. Write the missing letters and complete the new words using the text *A*. Pronounce the following words correctly:

Ob**….**le, ac**…….**te, em**……**nt, car**….l**y, c**….**rt, c**….**ng, d**…**gn, dr**…**ng, eq**…**ly, f**….**ly, s**..**vey, st**…..**re, es**….t**e, tem**….**ry, in**…**ve, st**…**m, c**…**ly, per**….**nt, g**..**ds, tr**….**c, tr**….**se, vi**…**ct, s**…..**le.

Exercise 2. Find international words from the text given below and match the Russian or Uzbek equivalents .

Express-скорый-tez yurar
Special-специальный-mahsus
Test-
Station-

Exercise 3.Translate the following word-combinations into native language.

Временный путь	temporary track
Vaqtinchalik yol	
Вақтинчалик йўл	

to be traversed by , carefully surveyed , suitable route, drawings and plans, total cost, marking out the railway, to accommodate hundreds of workmen, construction of cuttings and embankments, culvert may be built, to be crossed by bridges of a special design, permanent rails, goods traffic, slow passenger trains.

Exercise 4. Read the text "How to make a railway" and put signs given below if you:

Sentence	**V**-know the translation of the sentence partly	+ - know the translation of full sentence	_ do not understand the sentence	**?** - do not know the translation of the sentence
1				
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Read and translate the text *A* into native language.

HOW TO MAKE A RAILWAY

A great deal of work must be done before a new railway is made. First of all the country to be traversed by a railway has to be carefully surveyed in order to find out the best and most suitable route. Then drawings and plans showing the course of the railway stations and other structures must be prepared and the total cost must be estimated.

The next thing to be done is marking out the railway and clearing away all the obstacles that may be in the way. Equally important is to accommodate hundreds of workmen and to transport machinery and materials.

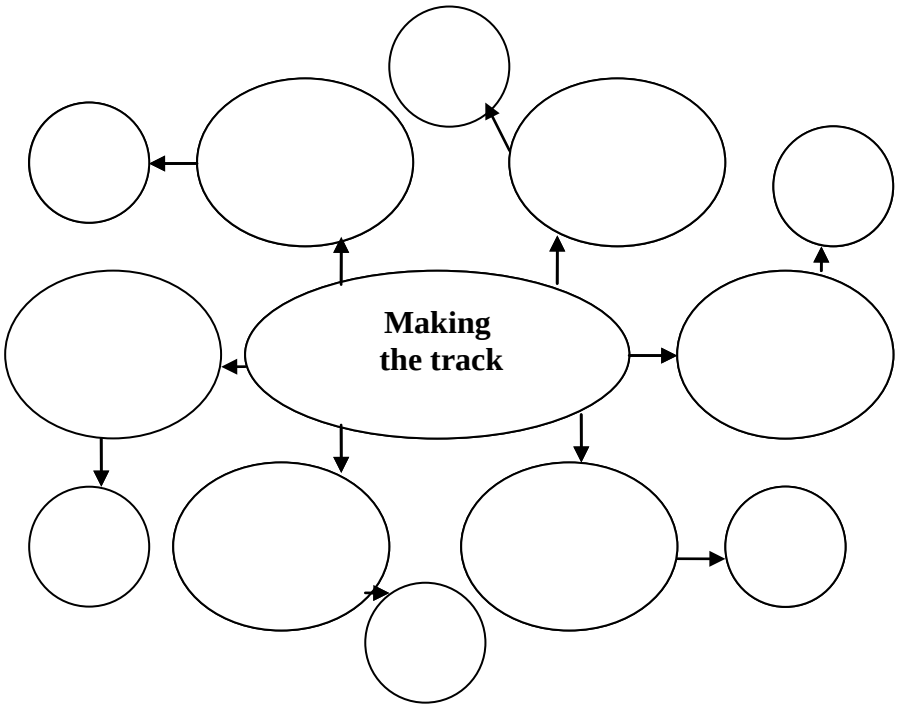
The work usually begins at several places at the same time and as soon as possible temporary tracks, on which small locomotive can run, are laid.

An essential part of any railway is construction of cuttings and embankments (in Northern America - cuts and fills), Cutting are usually made in hills while embankments have to be built in low places. Construction of both involves the use of road building machines.

Over streams a culvert may be built but wide rivers are to be crossed by bridges of a special design. Viaducts are made where wide valley has to be crossed and these are always costly and difficult to construct.

When all the structures are completed permanent rails can be laid and station buildings erected. Then the railway line is tested and used for goods traffic first, then for slow passenger trains and finally, if it is a main line, for express trains.

Exercise 5. Fill in the cluster.



Exorcise 6. Answer the questions:

1. What must be done before a new railway is made?
2. Why has the country to be traversed by a railway, to be carefully surveyed?
3. What works have to be done after surveying the country?
4. What do we do after marking out the railway?
5. How does the construction work begin?
6. What are the cutting and embankments?
7. Where is a culvert built and why?
8. What are the wide rivers crossed by?
9. Why is the construction of viaducts very costly?
10. What is the permanent way used for after testing?

Exercise7. Write an annotation of the text *A*.

Exercise8. Fill in T-scheme and complete the sentences with modal verbs and their equivalents. Translate into native language.
{Can, may. must, should, have to. has to, had to, is to, was to}

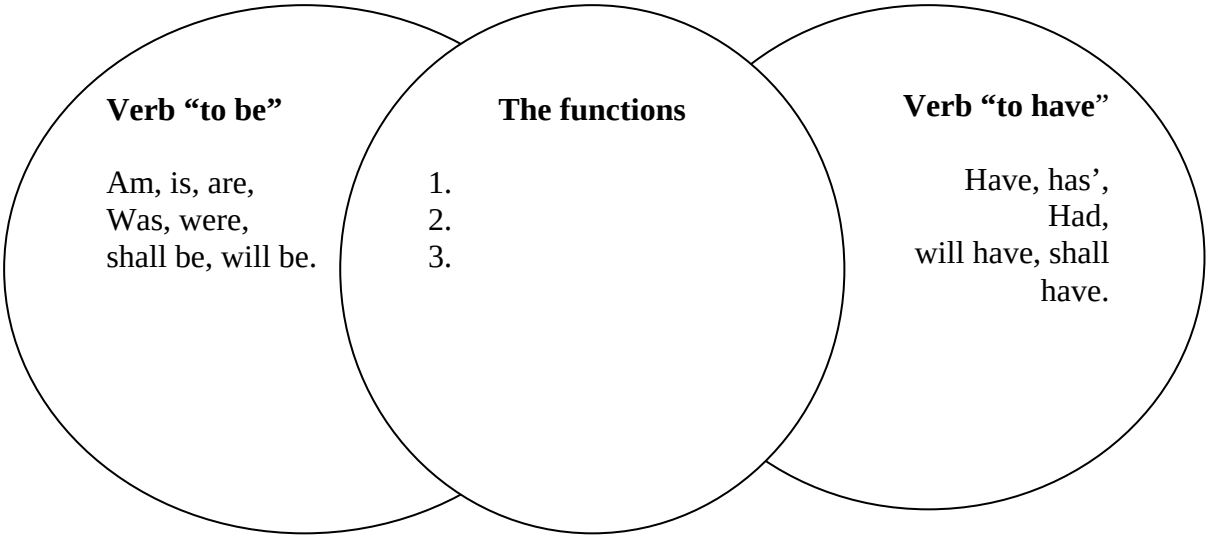
T-scheme	
Modal verbs	**equivalents**
a) **can**	**a)** _____
b) **may**	**b)** _____
c) **must**	**c)** **should, have to, has to, had to, is to, was to**

1. A great deal of work: **...** be done before a new railway is built, 2.First of all, you **...** prepare drawings and plans showing the course of the railway. 3.There **...** be different sorts of obstacles in the course of the future railway. 4. Various kinds of road building machines **...** be used for making cuttings and embankments. 5. Railway construction work **...** be started at several places at the same time. 6. Wide rivers **...** be crossed by bridges. 7. After the new line has been tested it **...** be used for goods traffic. 8. The first public railway line in Russia **...** to connect St-Petersburg and Tsarskoye Selo, 9. When constructing the Baikal-Amur Railway builders **...** make a number of tunnels.

Exercise 9. Speak about functions of the verbs "to have" and "to be".

Translate the sentences into native language.

1. The first stage is to survey the territory of a future railway. 2. At first, temporary railway tracks are laid.
3. Wide valleys are to be crossed by viaducts. 4. After being tested, a railway is used for freight trains and then for passenger ones. 5. Computers are wide used in traffic operation control. 6. At this stage the workers are making the cuttings. 7. The construction work is directed by local civil engineers.



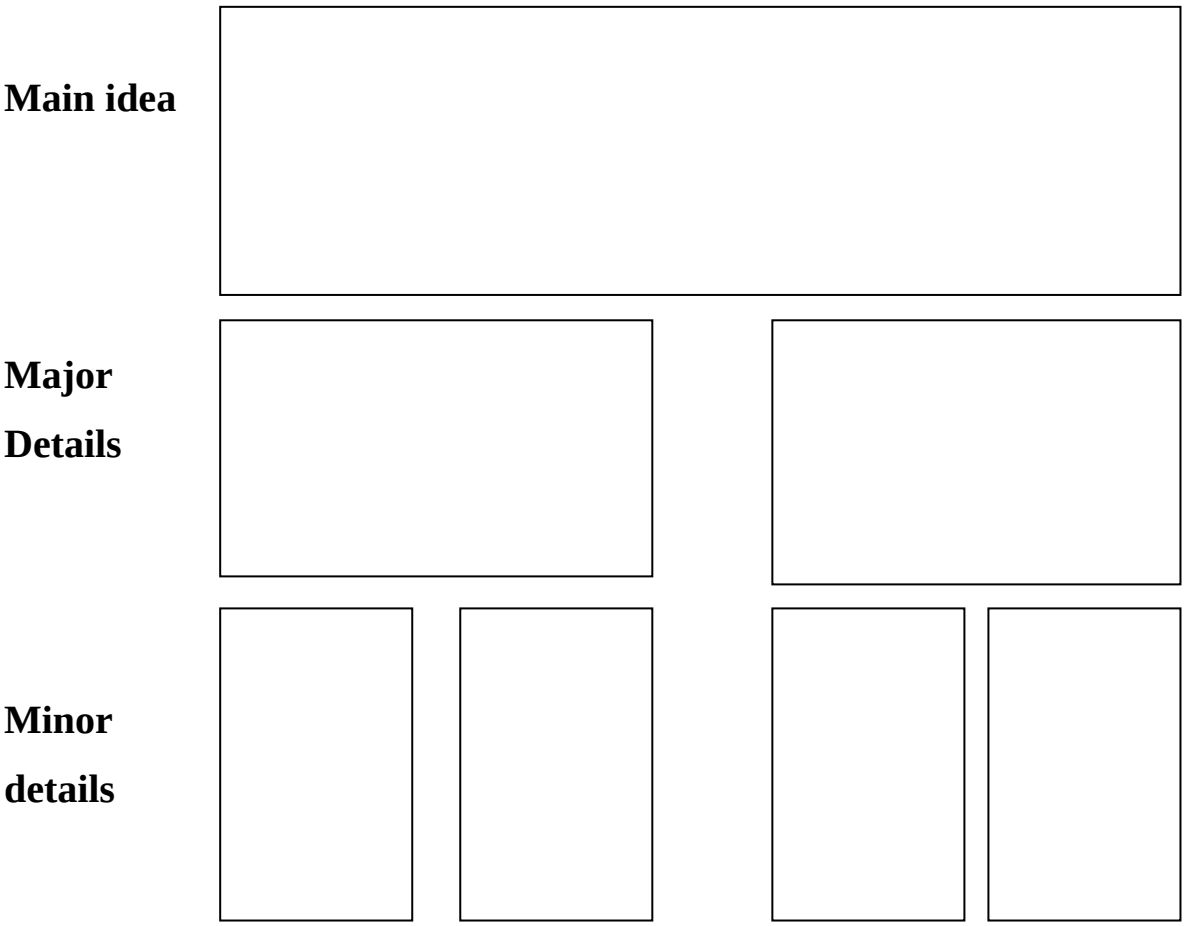
Exercise 10.Read and translate the text without a dictionary. Suggest a headline to the text:

Railways are built for many reasons. For example, railways are to connect coal basins in one part of the country with the other or some materials are to be conveyed from distant mines to the places where they are converted into metals. First country where the line will be laid must be surveyed. The survey party finds the best route so that the line should have as few gradients as possible, because steep gradients require more fuel for the locomotives and fewer wagons in one train. Second, it must be as short as possible, and third, it must be as cheap as possible - without long tunnels, bridges, viaducts and cuttings which are very expensive. The reports of the survey parties are discussed and the best possible route is chosen. Sometimes the decisions are very difficult: whether the river must be crossed with the help of bridges, or a tunnel must be made, or the line should go round deposits of some minerals or a high mountain. When all these problems have been solved, the work may be started.

Exercise 11. Speak on the main functions of a survey party using the following phrases:

1. This text is about... 2. It is interesting to note that.., 3. The author of the article speaks about... 4. Some facts were not familiar to me, for example ... 5. One should mention that... 6.In conclusion, we can say that...

Exercise 12. Complete the table using the facts from the text.



Exercise 13. How many new words do you know from Unit 1?

I know Биламан Bilaman	I have just known Билиб олдим Bilib oldim	I want to know Билишни хохлайман Bilishni hohlayman

UNIT 2

Exercise I. Write the missing letters and complete the new words using the text *A*. Pronounce the following words correctly:
Dis……sh, d…….te, e…h, f…l, g…e, m……..re, p……nt, s…th, v….le, t….d, th….h, th…….t, v…..s, a..a, sl…er (t.e), t……ry , f…..gs, . for.....n.

Exercise 2. Find international words from the text given below and match Russian or Uzbek equivalents:
Combination-комбинация- kombinatsiya
Distance-дистанция -masofa
Correct-
Economical-

Exercise 3. Translate the following word combinations into native language according to the model :

Подвижной состав	rolling stock
Harakatlanuvchi sostav	
ҳаракатланувчи состав	

Smooth passage, exact distance, heavily loaded vehicles, resilient bed, correct position, distribute the load, various types, standard length, track bolts, critical part, poor behavior, long continuously welded rails, final layout, temporary tracks.

Exercise 4. Read the text "Railway track" and put signs given below if you:

Sentence	**V**-know the translation of the sentence partly	+ - know the translation of full sentence	**_** do not understand the sentence	**?** - do not know the translation of the sentence
1				
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Read and translate the text *A* into native language.

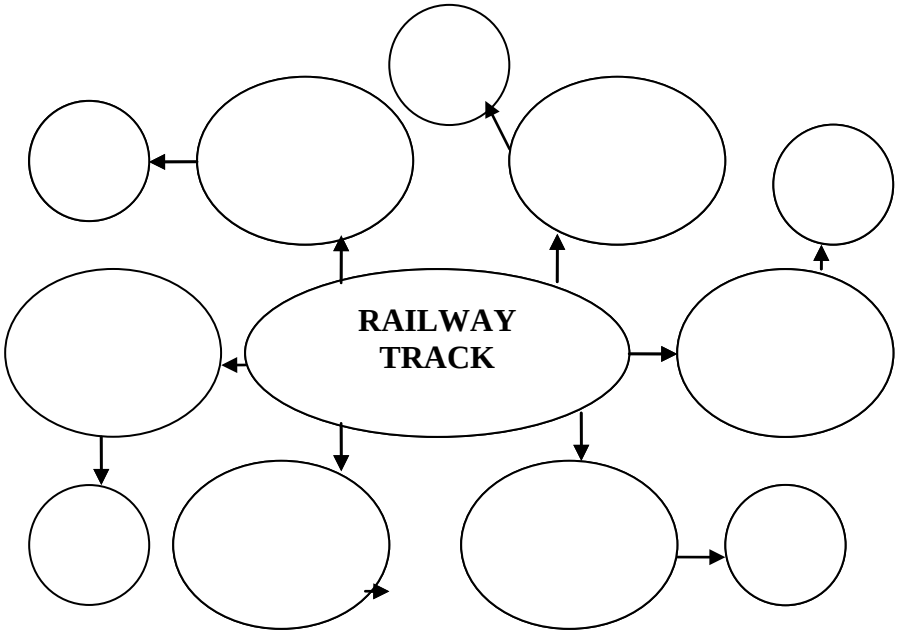
RAILWAY TRACK

The two rails of a track produce a most economical path for the smooth passage of heavily loaded vehicles at great speed. Sleepers or ties hold the two rails at the exact distance or gauge throughout and transfer the loads from the rails to the ballast.

The ballast provides a resilient bed, keeps the sleepers in the correct position and at the correct level, distributes the load from the sleepers to a large area on the roadbed or formation of the track and drains off rainwater. The rails are fixed to the sleepers with various types of fittings that depend on the type of the rail used and on some other considerations. The rails, which are manufactured in standard length, are joined together with fishplates or joint-bars through which track bolts are threaded. Joints between rail sections, however, have always been a critical part of the track; the poor behavior of fish plated joints causes both rail and track to deteriorate, wears out rolling stock, and is uncomfortable for the passengers. The solution to this problem was to manufacture long continuously welded rails, which results in the saving on the track maintenance.

The combination of rails, sleepers, fittings, ballast, etc., is known as the track or permanent way. In some countries, temporary tracks were laid for conveyance of earth for building up the formation (a subgrade) of a railway, and permanent way was so called to distinguish the final layout from these temporary tracks.

Exercise 5. Fill in the cluster.



Exorcise 6. Answer the questions:

1. What provides smooth passage of heavily loaded vehicles?
2. Why is it necessary to transfer the loads from rails to the ballast?
3. What is the main function of ballast?
4. Why must the track be drained off rainwater?
5. How are the rails fixed to the sleepers?
6. What are the rails joined together with?
7. What is the critical part of the track?
8. How was the problem of track deterioration solved?
9. What is the permanent way?
10. Why was the permanent way so called?

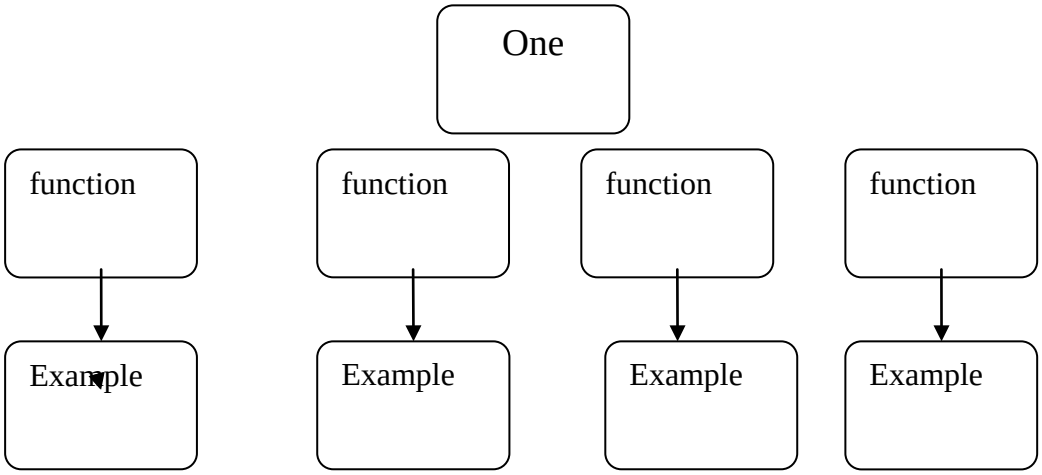
Exercise7. Write an annotation of the text A.

Exercise 8. Translate the sentences paying attention to the verbs "to have" and "to be":

"to be"			**"to have"**		
Function 1.	Function 2.	Function 3.	Function 1.	Function 2.	Function 3.

1.A railway track is steel rails on wooden sleepers. 2. Each railway has one or more tracks. 3. Everyone who has ever traveled by train is familiar with the main components of a track. 4. A railway track has to be tested before running trains over it. 5. Train number 30 is to arrive at platform two. 6. The duty of a road master is to maintain the track in good order. 7. Since 1950s many railways in Russia have been electrified. 8. Rails are fixed to sleepers with various types of fittings. 9. Nowadays various machines have replaced hard manual labor.

Exercise 9. Explain the function of the word “one”. Fill in the table below and translate the sentences.



1. One of the most important railway construction machines is a track-laying train, 2. This modern sleeping car is more comfortable than the old one. 3. One cannot speak about a railway track without mentioning various track structures. 4. Concrete sleepers last longer than wooden ones. 5. One must be careful crossing a railway track. 6. One can expect more high-speed railway lines to be built in the near future.

Exercise 10. Read and translate the text without a dictionary. Suggest a headline to the text:

The first railroads were not much like the railroads we know today. The word "railroad" was originally written as two words "rail road" to distinguish it from other kinds of roads.

The first rails were made of wood and had grooves* in which the flat wheels of the coal wagon fitted*. A horse could carry a much heavier load on such a railroad than on the ordinary road.

The first railroads in the United States were horsepower railroads. One of the early ones, the Quinsy tramway*, was built in 1826 and was used for carrying stone. This road, which was three miles in length , had wagons pulled by horses.

One year after the Quinsy tramway was built, another short railroad was constructed in Pennsylvania to carry coal to the canal over which it was transported to Philadelphia.

The fact that a horse or a mule could carry a much heavier load on a railroad than on an ordinary road, led some men to believe that railroads could be built for general use in trade and travel. But horsepower railroads did not last long. In 1829 George Stephenson, an English inventor and engineer, built a successful steam locomotive. The invention of the steam locomotive made the railroad the most important of all modes of transportation.

Notes; tramway- вагонеточная дорога, groove -канавка, бороздка
fit (v) -подгонять, подходить, помещаться

Exercise 11. Complete the table using the facts from the text.

Main idea		
Major Details		
Minor details		

Exercise 12. How many new words do you know from Unit 2?

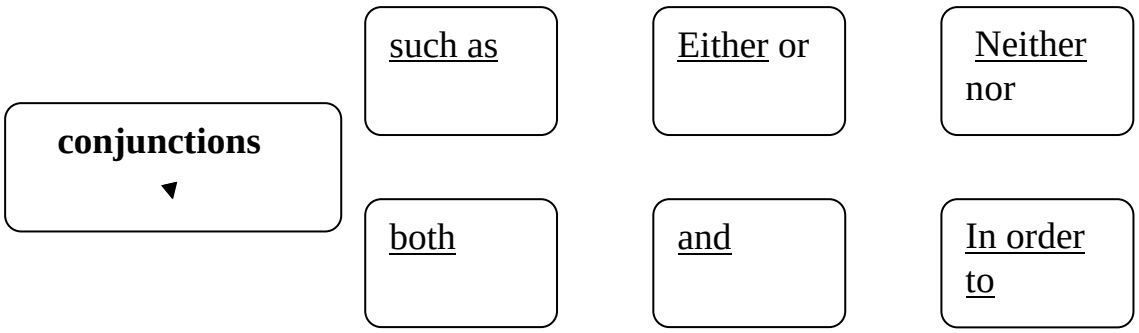
I know Биламан Bilaman	I have just known Билиб олдим Bilib oldim	I want to know Билишни хохлайман Bilishni hohlayman

UNIT3

Exercise I. Write the missing letters and complete the new words using the text *A*. Pronounce the following words correctly:

C**….**rs, cr**….**d r**.** ck, d**…..**ge, d**….**le, e**..**th, e**.**ge, en**…**h, f**….**ce, h**..**vy, othe th**…..**re, y**..**d.

Exercise 2. Speak about functions of conjunctions and translate the sentences paying attention to the underlined words.



1.There are many kinds of materials used for ballast **…. ..** gravel, crushed rock, cinders and others. 2. **……** crushed rock or gravel is used for ballast on main lines. 3. **…….** cinders nor sand can be used on main tracks of railways as ballast, 4. The main function of ballast is to provide **….** good

drainage and even distribution of loads over the track. 5. **..** **…..** **..** keep a railway track in good condition ballast must be regularly cleaned.

Exercise 3. Translate the word combinations into native language according to the model :

Служить долго	lasts long
Ko'p vaqt xizmat qilmoq	
Кўп вақт хизмат қилмоқ	

Railroad track, **t**o distribute the load, should not collect, over the track, to provide needed drainage, drain away, sharp edges, iron furnaces, volcanic cinders, crushed seashells, railroad yards, durable enough, laid directly, carry much traffic, traffic intensity.

Exercise4. Read the text "BALLAST"and put signs given below if you:

Sentence	**V**-know the translation of the sentence partly	+ - know the translation of full sentence	**_** do not understand the sentence	**?** - do not know the translation of the sentence
1				
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Read and translate the text *A* into native language.

BALLAST

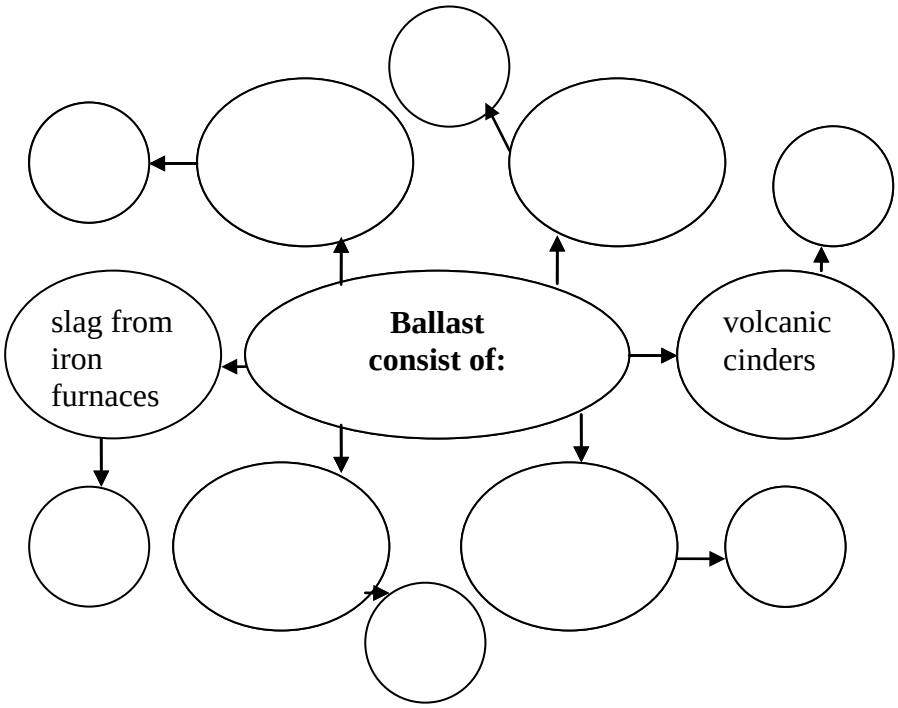
The ties of the railroad track are not laid upon the soft earth of the roadbed, but rest upon a bed of crushed rock or gravel, which is called ballast. The main function of ballast is to drain the water away and to distribute the load evenly over the track. In wintertime water should not collect in the ballast and freeze. Ballast helps to provide needed drainage.

The best kind of ballast is crushed rock, because it lasts long and is not dusty, it lets water drain away freely and its sharp edges keep it from rolling out from under the ties. Next to crushed rock, gravel is the best ballast. Other materials such as slag from iron furnaces, volcanic cinders, crushed seashells and even sand are used as ballast. Cinders are used both alone and in combination with other materials, especially on sidetracks and in railroad yards, but cinders are neither heavy nor durable enough to make good ballast.

A few railroads are unballasted, that is, their tracks are laid directly on the earth, but such roads do not carry much traffic.

The thickness of the ballast layer depends upon the category of the railway and, therefore, upon the traffic intensity as well as upon the soil used for the formation.

Exercise 5. Fill in the cluster.

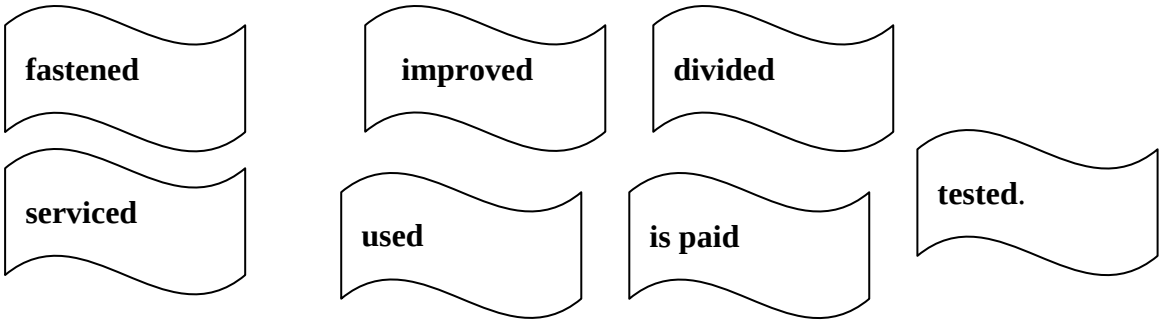


Exorcise 6. Answer the questions:

1. Why are the ties of the railroad track not laid upon the soft earth ?
2. What is the main function of ballast?
3. Why should the water be not collected in the ballast in wintertime?
4. What is the best kind of ballast?
5. Why is the crushed rock the best kind of ballast?
6. What other materials can be used as ballast?
7. Where are the cinders used?
8. Why are the cinders not able to make good ballast?
9. Why are some railroads unballasted?
10. What does the thickness of the ballast layer depend upon?

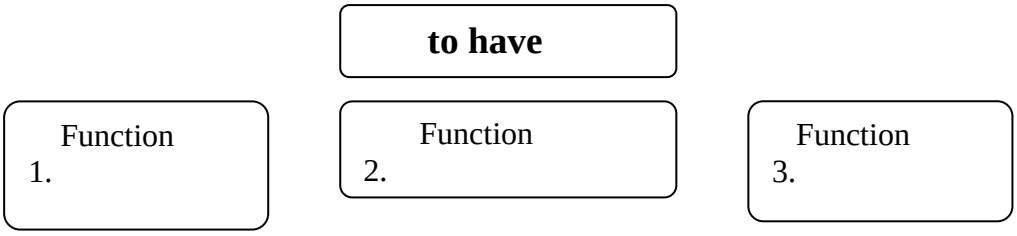
Exercise7. Write an annotation of the text A.

Exercise 8. Translate the sentences into native language paying attention to the predicates:



1. Rails are **……..** to ties with fastenings. *2.* Methods of railroad building have been considerably **……..** lately. 3. A railroad is **……..** into sections, usually four to six miles in length, and each section is looked after by a section gang. 4. New types of rail fastenings are being carefully **……** . 5. The line will be **……..** by powerful locomotives, 6. Some materials now commonly **…..** in civil engineering were not even thought of thirty years ago. 7. The development of new types of rail fastenings **.. ….** much attention to.

Exercise 9. Translate the sentences into native language paying attention to the translation of the verb *to have:*



1. The Tsarskoeselo railway had seven locomotives on the line. 2. Culverts are made where minor streams have to be crossed. 3. Scientists have found out that permafrost zone is unsuitable for railway construction.
4. Locomotives and cars for the first Russian railway had to be ordered from abroad. 5. Most of the construction work has been completed. 6. In low places railway embankments have to be built.

Exercise 10. Read, translate the following text without using a dictionary :

RAILWAY TRANSPORT IN RUSSIA

Russia stretches across two continents, from the Pacific Ocean to the Baltic Sea. Because of the large territory and population, developed industry and agriculture, great variety of climatic zones, the country needs a widely developed transport system.

Railway is the most important from of transport in the Russian Federation. There are geographic and economic reasons for that. 80 per cent of the population live in the West, while 80 per cent of natural resources are in the East. In the Russian Federation there are no seas or rivers that are navigable all through the year. Building motorways and pipelines is expensive because of the large territory of the country. In some parts climatic conditions so severe that only railways can operate in any season of the year. In addition to these factors railways have greater efficiency compared to motor and air transport.

Exercise 11. Speak about railway transport in the Russian Federation using the following phrases:

1.This text is about... 2. It is interesting to note that.., 3. The author of the article speaks about... 4. Some facts were not familiar to me, for example ... 5. One should mention that... 6. In conclusion, we can say that...

Exercise 12. How many new words do you know from Unit 3?

I know **Биламан** **Bilaman**	**I have just known** **Билиб олдим** **Bilib oldim**	**I want to know** **Билишни хохлайман** **Bilishni hohlayman**

UNIT 4

Exercise 1. Number game. Use English alphabet in completing the following words and translate into native language:

a) 2.5.8.1.22.9.15.21.18. **b)** 3.5.14.3.18.5.20.5. **c)**3.21.18.22.5. **d)**4.5.19.9.7.14.**e)** 4.5.20.5.18.13.9.14.5. **f)** 5.9.20.8.5.18. **g)** 8.9.7.8. **h)**8.15.23.5.22.5.18.**i)**9.14.3.18.5.1.19.5.**j)**12.5.14.7.20.8.23.9.19.5. **k)**12.15.14.7.9.20.21.4.9.14.1.12. **l)**16.18.15.16.5.18.20.25. **m)**17.21.1.12.9.20.25.**n)**18.5.9.14.6.15.18.3.5.4.**o)**18.5.17.21.9.18.5.13.5.14.20.**p)**19.5.22.5.18.5.**q)**19.21.16.16.15.18.20 **r)**20.18.1.14.19.22.5.18.19.1.12.**s)**22.1.18.9.15.21.19**. t)**23.5.9.7.8.20. **u)** 23.9.4.5.19.16.18.5.1.4

Exercise 2. Translate the following phrases into English according to the model:

скорость поезда	speed of the train
Poyezd tezligi	
Поезд тезлиги	

Рельсы пути; длина рельса; функция шпал; применение старых рельсов; распределение нагрузки; качество балласта; конструкция пути; строительство железной дороги; свойства материала; срок службы шпал.

Exercise 3. Read the text "Sleepers" and put signs given below if you

Sentence	**V**-know the translation of the sentence partly	+ - know the translation of full sentence	_ do not understand the sentence	**?** - do not know the translation of the sentence
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Read and translate the text *A* into native language.

SLEEPERS

The two lines of steel rails of a track have to be fastened to supports resting on a bed of broken-stone ballast spread over the "formation" or "subgrade". These supports art called sleepers (in Northern America a "tie" or a "crosstie") and have an important function in determining the behavior of the track. Various stresses caused by the passage of trains have to be transmitted to the formation. In the first period of railway construction these sleepers were designed simply to keep the rails apart from each other

so the quality requirements to these supports were not very high. With the growing speed of trains and loads on the track these quality requirements also increased. The material of which sleepers are made must have a large number of different properties.

Wooden sleepers are easy in handling, naturally elastic and robust, have good insulation and low cost. They are traditionally appreciated in Africa and around the Mediterranean.

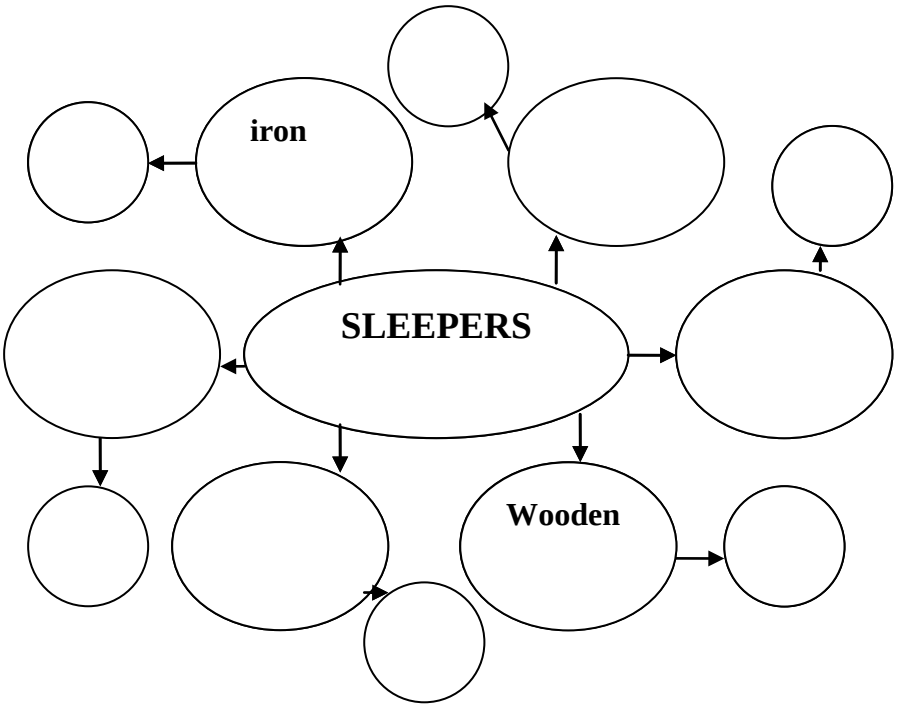
Metal sleepers have been used for more than a century, and certain railways in Switzerland and Germany have large numbers in service. These sleepers are mostly suitable for mountain regions as they anchor well into the ballast and resist transverse and longitudinal stresses, which are often severe on lines with sharp curves and steep gradients.

For new upgraded tracks, concrete sleepers are coming more and more into demand. Being heavier than wooden sleepers, they have higher transverse stability and greater resistance to the stresses arising from long-welded rails. Concrete sleepers have a lifespan of approximately 40 years. The use of twin-block sleepers made of iron and concrete (two reinforced concrete blocks joined by a metal bar) has become widespread. These composition sleepers are most economic as it is possible to reprofile old rails.

Exorcise 4. Answer the questions:

1. How are the two rails fastened ?
2. What is the function of sleepers?
3. How were the sleepers designed in the first period of railway construction?
4. What materials are the sleepers made of?
5. What properties do wooden sleepers have?
6. What countries are wooden sleepers traditionally appreciated in?
7. When did the metal sleepers come into use?
8. What sleepers come into use for new upgraded tracks?
9. How long is the lifespan of concrete sleepers?
10. How are the twin-block sleepers made of?

Exercise 5. Fill in the cluster.



Exercise6. Write an annotation of the text A.

Exercise 7. Translate the sentences paying attention to the modal verbs.

T-scheme	
Modal verbs	**equivalents**
a) can	**a) to be able to**
b) may	**b)** _____
c) must	**c)** _____

1 .Very long rails cannot be laid by manual labor. 2. Rails have to be of such lengths that they can be earned in the longest standard wagons. 3. There are several methods that may reduce rail wear. 4. A railway track has to be kept in such condition that trains way run over it safely. 5. A

track gang should inspect a railway track and track structures all year round, 6. The ballast of crushed rock or gravel must be cleaned regularly, 7. Switches are necessary where vehicles have to be moved from one track to another. 8. Faults in steel rails may not appear on the surface. 9. A rail with a hidden defect may break suddenly. 10. Hidden defects in rails can be detected with the help of a new device.

Exercise 8. Explain the function of Participles and Gerunds. Add one or more table if it is needed and fill. Translate the sentences into native language:

Participle	**function**	**function**	**function**
Gerund	**function**	**function**	**function**

1 .Welding the ends of adjacent rails overcomes many of the disadvantages of long rails. 2. Rails are welded together after laying in the track. 3. The type of a road is considerably influenced by the traffic expected. 4. Long-welded rails having many advantages, they are widely used in every country of the world. 5. Wooden sleepers cannot be put on the track without treating. 6. The types of the fittings depend on the type of the rail used. 7, Mobile cranes having a great lifting capacity are used for loading, unloading and laying track units, 8. Having laid the last length of the line the railway men started a test train over it. 9. High speed trains will run over the Moscow- St. Petersburg line, their maximum speed being about 200 km per hour. 10. Sleepers may be made of wood, concrete, prestressed concrete or steel, wooden sleepers being still used.

Exercise 9. Read, translate the following text without using a dictionary and give a title to the text:

It is not an easy job to build a railway. A railway is built on a strip of land that is called the right-of-way (полоса отвода). The right-of-way must be carefully prepared for laying down the tracks. At first, it must be cleared from trees, bushes and then graded (выравнивание) by means of graders.

After the right-of-way has been cleared and graded the permanent way is constructed. Ties and rails are laid upon the ballast foundation and the ballast is packed between the ties and on each side of the track to hold the ties in place.

A lot of machines are used in railway construction such as powerful bulldozers, huge excavators, scrapers, graders and track-laying trains. The latter is a wonderful machine that lays pre-assembled lengths of track in a few minutes.

Exercise 10.Complete the table using the facts from the text.

Main idea		
Major details		
Minor details		

Exercise 11. How many new words do you know from Unit 4?

I know Биламан Bilaman	I have just known Билиб олдим Bilib oldim	I want to know Билишни хохлайман Bilishni hohlayman

UNITS 5

Exercise 1. Number game. Use English alphabet in completing the following words and translate into native language:

a) 3.1.19.20.9.18.15.14. **b)** 7.1.7.5. **c)** 8.5.9.7.8.20 **d)** 8.15.18.19.5. - 4.18.9.22.5.14. **e)** 12.5.14.7.20.8. **f)** 12.15.3.15.13.15.20.9.22.5.
g) 13.9.14.9.14.7.9.14.4.21.19.20.18.25. **h)** 19.20.18.1.7.8.20.
i) 20.8.18.15.21.7.8.15.21.20.

Exercise 2.Speak about numerals. Read aloud the following numbers and dates:

1835, on November 13, 1837,27 km, 3 m, 6 ft, 3 in, 650.5 miles, 65 kg/m, 3,50 km, 200 km.ph, 180 mph, ¼ ½ ¾, 0.6.0.025.

Exercise 3. Translate the following attributive groups into native language:

a) steam traction; steam traction railway; steam traction railway construction
b) train speed; train speed limit; train speed limit introduction
c) repair work; repair work schedule; repair work schedule changes
d) steel rails; steel rail standard; steel rail standard adoption

e) track construction; track construction methods; track construction method improvement.

Exercise 4. Read the text "Railway construction in Russia" and put signs given below if you:

Sentence	**V**-know the translation of the sentence partly	+ - know the translation of full sentence	_ do not understand the sentence	**?** - do not know the translation of the sentence
1				
2				
3				
4				
5				
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8				
9				
10				

Read and translate the text *A* into native language.

RAILWAY CONSTRUCTION IN RUSSIA

The beginning of railway construction in Russia may be traced as far back as the second half of the 18th century. Road building is known to be closely connected with the development of mining industry. The first tramway in Russia was built in 1788 to link the mines and the steel works. A lengthy horse-driven railway was constructed using cast-iron rails by R.K. Frolov, a Russian engineer, in 1806-1809, its length being 1,867 m.

Railway construction for public use was begun in 1835 when Russian railway engineers began surveying the country in order to build a railway to connect St.Petersburg with Tsarskoye Selo. In 1836 workmen started laying the rails and on November 13, 1837 the fist train passed over the 27 km line. The average height of the embankment was 3 meters; the gauge was 6 ft, which is one foot broader than the European one. Rails, cars and locomotives were ordered from abroad.

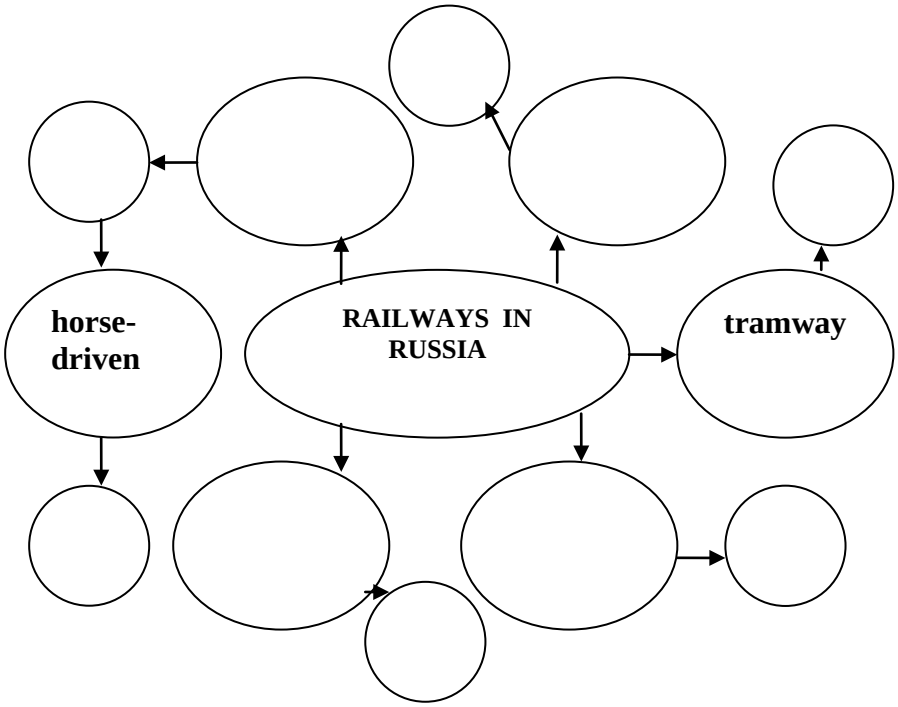
The Tsarskoselskaya railway was soon followed by the St.Petersburg - Moscow railway, which was under construction from 1843 to 1851. The work was directed by two prominent engineers, P.P.Melnikov and

H.O.Kraft; Throughout 650 km of its length, 185 bridges and 19, viaducts were built in order to make the line as straight as possible. It was on this line that flat-bottom rails were first used in Russia and the standard gauge was introduced.

Exorcise 5. Answer the questions:

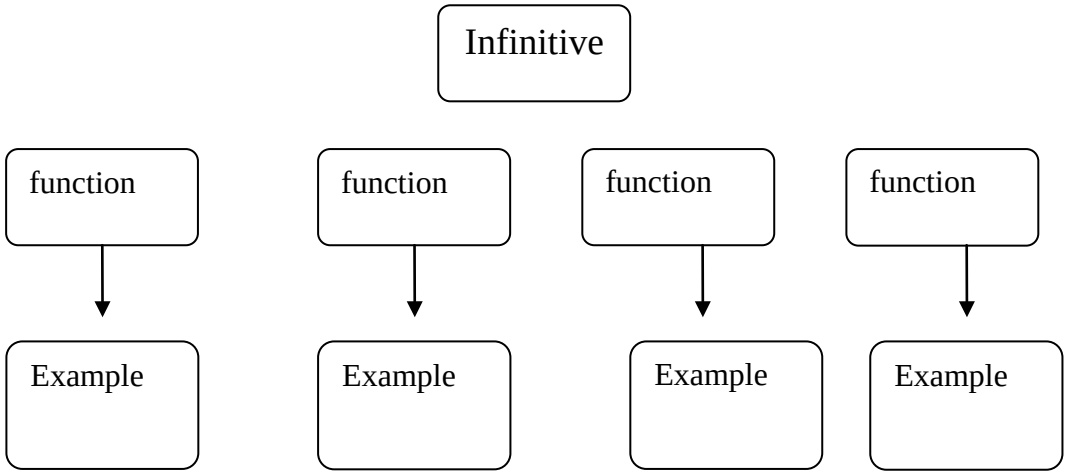
1. When did the construction of railways begin in Russia?
2. What was road building connected with in Russia?
3. When was the first tramway in Russia built ?
4. Whom was horse-driven railway constructed by ?
5. When and where was the first railway for public use constructed ?
6. What was the average height of the embankment and gauge ?
7. Where were the rails, cars and locomotives ordered from?
8. What was constructed between 1843 – 1851 years?
9. Whom was the work directed by?
10. Where was the standard gauge introduced in?

Exercise 6. Fill in the cluster.



Exercise7. Write an annotation of the text A.

Exercise 8. Form the Infinitives from the following nouns and translate them into Russian:



Development; equipment; design; connection; construction; support; link; inauguration; treatment.

Exercise 9. Translate the sentences paying attention to the Infinitives and Infinitive Constructions:

1. The type of the road to be selected is considerably influenced by the traffic expected. 2. A railway track is required to carry very heavy loads and to permit such loads to move in safety at high speeds, 3.In order to achieve this economically; certain standards of loads, speeds and gauges have been established. 4. The life of wooden sleepers in India is considered to be 15 years. 5. Welding rails is known to result in great economy. 6. Concrete sleepers are found to have all the advantages of a material that is not subjected to corrosion. 7. The St.Petersburg-Moscow railway was the first to introduce the standard gauge. 8. To repair a railway track modem efficient machines and mechanisms are widely used. 9. The country to be crossed by a new railway is first to be surveyed. 10. The Finland terminal in St.Petersburg is believed to have the highest traffic capacity among other terminals. 11. Many railway lines are known to have been damaged during WW II.

Exercise 10. Translate the sentences paying attention to the emphatic construction and explain its function according to the model:

Именно на железной дороге Петербург Москва была введена стандартная колея.	
Aynan Moskba-Peterburg temir yollarida	

relslar orasidagi masofa standartlashtirilgan.	It was on the Petersburg-Moscow R-s that the standard gauge was introduced.
Айнан Москва-Петербург темир йўлларида релслар орасидаги масофа стандартлаштирилган.	

I. It was due to the long-welded rails that traveling became more comfortable. It is with the development of railways that the weight and speed of trains have steadily increased. 3. It was at the Nizhny Tagil Works that the first steam railway was put into operation. 4. It was R.K.Frolov who constructed the lengthy horse-driven railway in 1806-1809. 5. It is since 1960s that many railways have begun, using welded rails on main tracks. 6. It is mechanization of work in track laying, maintenance and repair that our scientists and engineers are engaged in.

Exercise 11. Read, translate the following text without using a dictionary and give a title to the text:

The Trans-Caspian railway construction started in the eighties of the 19th century. The job was especially difficult because of lack (недостаток) of drinking water. For the first 177 km the Caspian water had to be taken to the builders in large tanks.

Other difficulties the workers had to face were diseases (болезни) and sandstorms. The sand in mobile dunes was carried from place to place by strong winds. It took great efforts to overcome the difficulties. The workers built fences (заграждения) of wood to arrest the dunes. It was a hard and time-consuming job.

The railway was planned as a standard gauge line. The rails and sleepers were all Russian-made. Over 22.000 people were employed in the construction. The builders worked in six-hour shifts. The building materials and equipment were delivered by trains that ran twice daily from the base. Everyday four miles of track were laid down. It was an unheard-of speed for those days.

Exercise 12. Speak about construction of the Trans-Caspian railway using the following phrases:

1. This text is about... 2. It is interesting to note that.., 3. The author of the article speaks about... 4. Some facts were not familiar to me, for example ... 5. One should mention that... 6. In conclusion, we can say that...

Exercise 13. How many new words do you know from Unit 5?

I know Биламан Bilaman	I have just known Билиб олдим Bilib oldim	I want to know Билишни хохлайман Bilishni hohlayman

UNIT 6

Exercise 1. Match the following new words with their translation and add Uzbek translation:

1.	perform	a. сборка	a.
2.	involve	b. рельсовое звено	b.
3.	assembly	c. строительная площадка	c.
4.	rail-length	d. доставка	d.
5.	rolling stock	e. использовать	e.
6.	delivery	f. земляное полотно	f.
7.	site	g. подвижной состав	g.
8.	formation	h. условие, состояние	h.
9.	condition	i. включать	i.
10.	employ	j. выполнять	j.

Exercise 2. Translate the following word-combinations into native language according to the model:

Структура пути	track structures
Yo’l tuzilishi	
Йўл тузилиши	

1. track laying; track laying work; track laying work completion 2. track structures; track structure condition; track structure condition improvement 3.rail lengths; prepared rail lengths; prepared rail length transportation
4. formation drainage: formation drainage surface; formation drainage surface preparation

5. formation construction; formation construction requirements

Exercise 3. Speak about ed-forms of the verb and translate the sentences into native language:

1. Rails heated by the sun become longer. *2.* The machine used performed its work satisfactorily. Some railways in Russia formerly used a broad gauge.4. The standard gauge used on the Russian Railways now is 1,524 mm. 5. The steam locomotive invented by G. Stephenson developed a low speed.

Exercise 4. Read the text "Track laying" and put signs given below if you:

Sentence	**V**-know the translation of the sentence partly	+ - know the translation of full sentence	_ do not understand the sentence	**?** - do not know the translation of the sentence
1				
2				
3				
4				
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7				
8				

Read and translate the text *A* into native language

TRACK LAVING

Track laying is one of the main jobs to be performed among the works involved in the construction of new lines and second tracks. Laying a railway track consists of the following main processes:

a) assembly of the rail lengths and loading them on rolling stock, sorting the track materials and loading them also on rolling stock (for laying the track by elements);

b) delivery of the prepared rail lengths to the construction site for mechanized track laying, and of the track materials (sleepers, rails, fastenings) from the material stores to the head of the construction site, if the track is laid by elements:

c) track laying proper with preliminary preparation of the formation drainage surface;

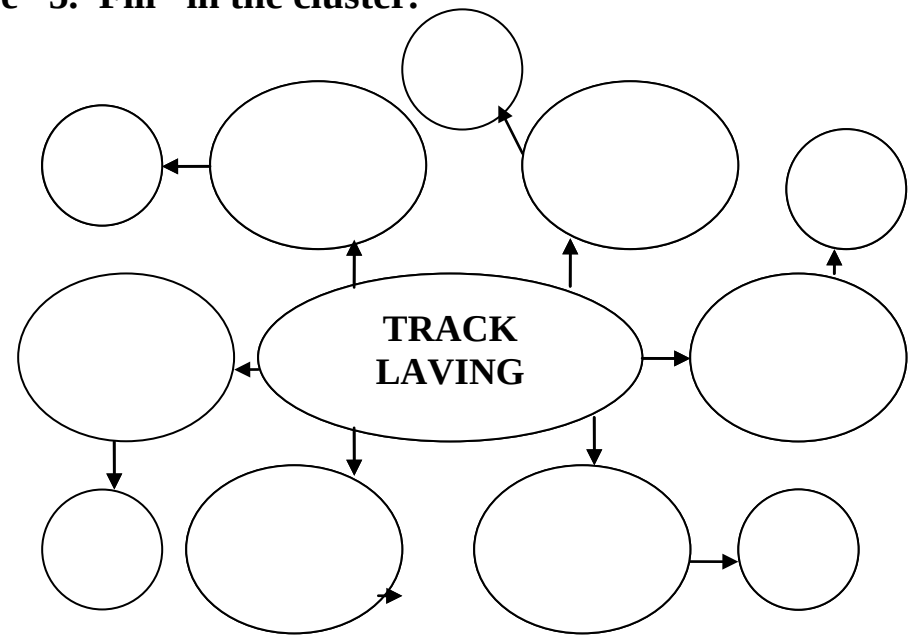
d) bringing the laid track to the condition that will provide safe running of the work trains with the track materials (for further laying the track), as well as of

trains with ballast and construction materials for other construction, sites along the line.

The rails are welded first electrically in the workshop to form sections 240m in length, and then on the track site the-sections are thermal welded to whatever length of rail is required.

The track should be laid, as a rule, over a finished formation, constructed according to the specification and over completed permanent or temporary structures.

Exercise 5. Fill in the cluster.

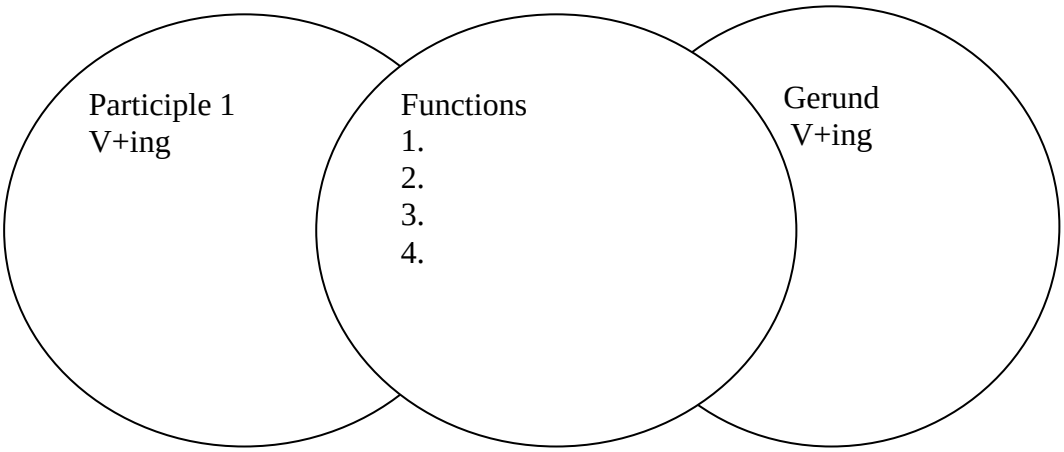


Exorcise 6. Answer the questions:

1. What is the main job in the construction of new lines and second tracks?
2. What are the main processes of track laying work?
3. What work must be done for laying the track by elements?
4. How do we deliver prepared rail lengths to the construction site?
5. What can you say about the formation drainage surface?
6. What do the workers do for further laying the track?
7. Where are the rails welded?
8. What is the length of the rails which are welded in the workshops ?
9. What is the length of the rails in permanent way?
10. Why should the track be laid over the finished formation?

Exercise7. Write an annotation of the text A.

Exercise 8. Explain the function of ing – forms of the verb and translate the sentences into native language:



1 .Rails varying in length from 20' to 42' are in use in India. 2. Welding the ends of adjacent rails overcomes many of the disadvantages of long rails. 3. Special machines are used for removing old sleepers from the track, preparing ballast bed and placing new sleepers. 4. The journals contained a number of articles, one of them dealing with new track laying machines. 5. Being divided into divisions railways handle the traffic more efficiently. 6. The material used for ballast on main lines must be of good quality. 7. Hard manual labor having been replaced by machines, construction work takes less time and money. 8. Ballast supporting the track structure is made of broken stone.

Exercise 9. Translate the following sentences into native language

paying attention to the Infinitives and Infinitive Constructions :

1. To carry more goods and people railways have to raise their efficiency and improve the quality of work. *2.* The most difficult problem to be solved by a survey party is to find a suitable strip of land for building a railway. 3. This type of fastening was found lo be the most effective. 4. To fasten rails to ties different types of fastenings are used. 5. The ties to be used in the track must be treated with creosote. 6. Long-welded rails are considered lo improve the track riding qualities. 7. To last long in the track the ties must be made of the best wood.

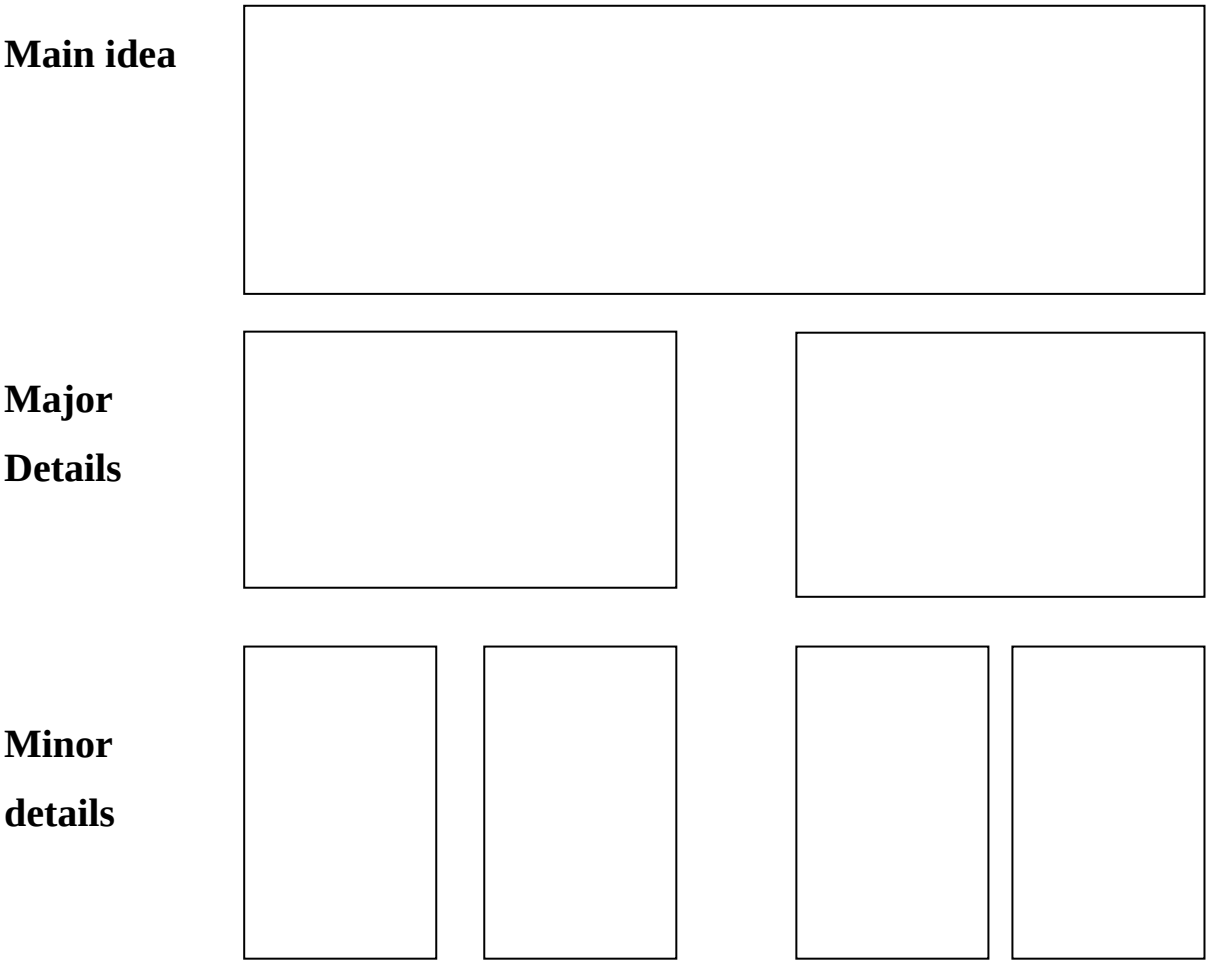
Exercise 10. Read, translate the following text without using a dictionary and give a title to the text:

As the Tokaido main line had been overburdened with passenger and freight trains, a new line had to be constructed to take over some part of its traffic and for running trains at higher speeds.

To meet this necessity, the Shinkansen Sine was planned for construction. It was completed and opened to service in 1964 between Tokyo and Shin-Osaka. This new main line for super-high-speed trains is 553 km long and has the 1,435 mm gauge. The Shinkansen Rys has no level crossings throughout the whole route and its minimum radius of curvature as a rule is 2,500 mm. Train sets of 16 cars run at the top speed of 2 10 km/h with the Automatic Train Control system in operation covering the distance between Tokyo and Shin-Osaka for only 3 hours and 10 min.

The opening of this line was, indeed, an event of great importance in the country's railway history.

Exercise 11.Complete the table using the facts from the text.



Exercise 12. How many new words do you know from Unit 6?

I know Биламан Bilaman	I have just known Билиб олдим Bilib oldim	I want to know Билишни хохлайман Bilishni hohlayman

UNIT 7

Exercise 1. Match the antonyms and translate the following new words into native language :

1. rising gradient	a. low	1.
2. advantage	b. impossible	2.
3. possible	c. descend	3.
4. ascend	d. gentle	4.
5. steep	e. different	5.
6. come	f. falling gradient	6.
7. high	g. return	7.
8. the same	h. disadvantage	8.

Exercise 2. Learn the following words and word combinations:

a) to climb up - to rise - to ascend - to run up;
b) a rising gradient- a falling gradient -a ruling gradient

Exercise 3. Complete the following sentences according to the text *A*:

1 . On a falling gradient the weight of the train is...
a) a disadvantage to its running;
b) an advantage to its running.
2. A train is able to climb a rising gradient more easily if...
a) this rising gradient follows a falling gradient;
b) this rising gradient is followed by a falling gradient.
3. A ruling gradient is...
a) the steepest slope on the track section;

b) the most gentle slope on the track section.

Exercise 4. Read the text "Gradients" and put signs given below if you:

Sentence	**V**-know the translation of the sentence partly	+ - know the translation of full sentence	_ do not understand the sentence	**?** - do not know the translation of the sentence
1				
2				
3				
4				
5				
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7				
8				
9				
10				
11				
12				

Read and translate the text *A* into native language

GRADIENTS

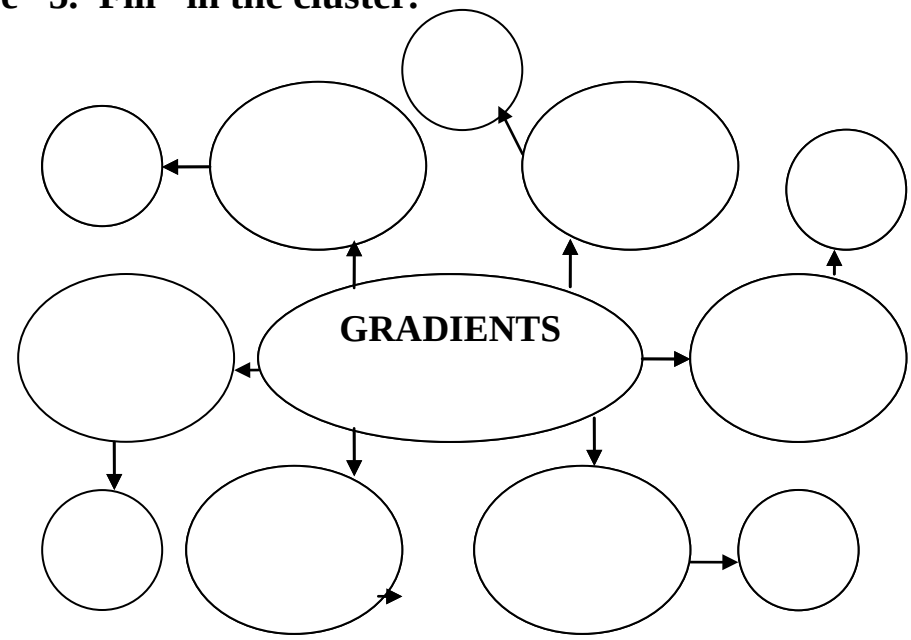
When a train moves along a rising slope of gradients, the locomotive has to exert a greater pull, the additional force being the same as that which would be required to lift the train up the height through which it raises in every foot it traverses. Steep gradients necessitate more powerful locomotives, smaller trainloads, lower speeds and costly haulage. It is therefore desirable that a slope should be as gentle as possible.

As a rule, rising gradients are followed by falling gradients. On the falling gradients the weight of the train is an advantage to its running. The amount of energy, which was used up in climbing, is, so to say, returned in descending. Also if trains in either direction over the same track, a rising gradient more easily if this rising gradient in the opposite, and vice versa.

A train is able to climb a rising gradient more easily if this rising gradient follows a falling gradient, as the train has an opportunity of attaining high speed over the falling gradient before reaching the rising gradient.

If a track rises, 1 foot in 100 feet, the gradient is called 1 in 100 or 1.% (per cent) gradient. A rise of 2 foot in 200' is therefore equivalent to a 2 in 200 or 2% (per cent) gradient. For each length of a railway the steepest slope at which a track is laid is fixed and is known as the ruling gradient. A ruling gradient is so called because it limits the maximum weight of a train that can be hauled over the section by a locomotive. l'=1 foot

Exercise 5. Fill in the cluster.

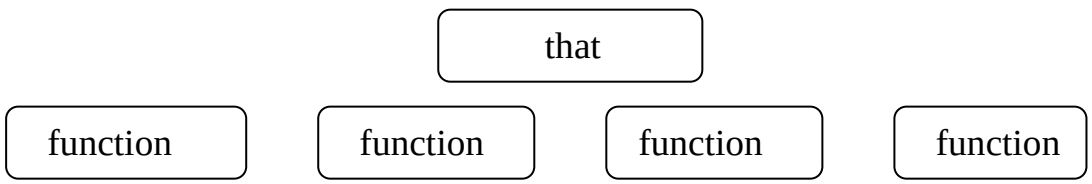


Exorcise 6. Answer the questions:

1. Why is the train has to exert a greater pull along a rising slope of gradients?
2. Why is the haulage of trains on steep gradients very costly ?
3. Should the track be as gentle as possible?
4. What is followed after falling gradient?
5. What is the weight of the train on a rising and falling gradients?
6. When is the train able to climb a rising gradient easily?
7. What slope of the track is known as the ruling gradient ?
8. What is a ruling gradient?

Exercise 7. Write an annotation of the text A.

Exercise 8. Explain the function of the word "that" and translate the sentences into native language

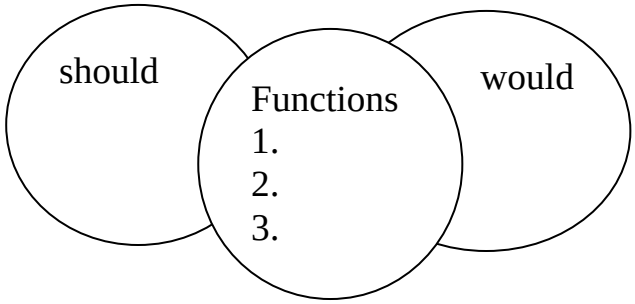


I. A ruling gradient limits the maximum weight of a train that can be hauled over the section. 2. Wooden ties that are used in the track must be treated. 3. The number of cars forming a passenger train is much smaller than that of a freight

train. 4. Everybody knows that the importance of railways is great. 5. The freight hauling capacity of the Russian railways exceeds that of the railways in most other countries. 6. The initial cost of steel sleepers is higher than that of all other types of sleepers.

Exercise 9. Translate the sentences into Russian paying attention to should and would:

.



l. An ideal railway should not have steep gradients. 2. An ideal railway would be the one without steep gradients and sharp curves. 3. If ballast were not renewed from time to time, the track would sink in many places. 4. The road master ordered that the track should be repaired as soon as possible. 5. When approaching bridges, the grade should be made gentler. 6. If longer rails were used, wear and tear of vehicles would be-reduced and comfort of passengers would increase. 7. It is necessary that railway track should be regularly inspected. 8. The porter said that the train would leave from platform four. 9. Had the track been in order, the accident would not have taken place. 10. If there were no railways, it would be much more difficult to travel.

Exercise 10. Read, translate the following text without using a dictionary and give a title to the text:

When you first think of what a railroad does, you probably think of how it carries people from place to place, taking men and women to their work, taking them on journeys with their children to see friends or relatives, or to visit places of interest, or to spend vacations in the country and at the seaside. That is what you think of railroads as a means of travel. It is true that railroads are used a great deal for travel, but their most important function is to carry goods from place to place. Today, using our buses and airplanes and automobiles, it would be possible for us to get along without passenger trains, but it would be difficult to do without the busy freight trains that pass to and fro day and night, throughout the year, on all our railroads.

It can be said that practically all the things we use in our daily life are carried by rail before we get them. Our bread and meat, our butter, milk and eggs, and alt the rest of our food generally come to us, at least a part of the way, by railroad. The limber, the stone, the bricks, the cement, out of which our houses are made, are delivered in a railroad freight car.

Our furniture chairs, tables, beds, the coal and wool of which are clothing is made, and the clothing itself too - nearly all we have was transported by railway before it reached our homes. The railroads still remain our most important carrier of goods, although there are today other means of transportation.

Exercise 11. Speak about railways using the following phrases:

1. This text is about... 2. It is interesting to note that.., 3. The author of the article speaks about... 4. Some facts were not familiar to me, for example ... 5. One should mention that... 6. In conclusion, we can say that...
2.

Exercise 12. How many new words do you know from Unit 7?

I know **Биламан** **Bilaman**	**I have just known** **Билиб олдим** **Bilib oldim**	**I want to know** **Билишни хохлайман** **Bilishni hohlayman**

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Мундарижа