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1. Guide to Better English Accent:
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[. - URL: <http://biblioclub.ru/index.php?page=book&id=462047>
2. Guide to Better English Accent:
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<http://biblioclub.ru/index.php?page=book&id=462047>
3. : -
/ - : , 2015. - 352 .
[. - URL: <http://biblioclub.ru/index.php?page=book&id=461807>
4. Steps in Speaking English: ():
/ . . . ;
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: , 2013. - 92 . [. - URL:
<http://biblioclub.ru/index.php?page=book&id=258749>

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1.	, . . . : / - : ; 2017. - 384 . [. - URL: http://biblioclub.ru/index.php?page=book&id=461809	C	1	1
2.	,English for Cross-Cultural and professional Communication: \ . . . , 4- ,, . - : , 2015. 192 . + 1 . . . (CD- ROM		15	1
3.	, . Test your communicative culture!: : / . . . ; « » - : , 2013. - 132 . [. - URL: http://biblioclub.ru/index.php?page=book&id=259155		1	1

4.	<p>... : / ... - / : , 2014. - 96 . - [...]. - URL: http://biblioclub.ru/index.php?page=book&id=271597</p>		1	1
5.	<p>- / ... : , 2016. - 240 . [...]. - URL: http://biblioclub.ru/index.php?page=book&id=462238</p>		1	1
6.	<p>... Develop your English-speaking skills : - / ... ; : ... , 2015. - 97 . [...]. - URL: http://biblioclub.ru/index.php?page=book&id=435427</p>		1	1
7.	<p>... A Focus on Communication Skills: / ... , ... ; ... , ... : ... , 2015. - . 1. - 170 . [...] [...]. - URL: http://biblioclub.ru/index.php?page=book&id=462000</p>		1	1
8.	<p>... A Focus on Communication Skills: / ... , ... ; ... , ... : ... , 2015. - . 2. - 139 . [...] - URL: http://biblioclub.ru/index.php?page=book&id=462001</p>		1	1
9.	<p>... : / ... ; ... , ... : ... , 2014. - 66 . [...] - URL: http://biblioclub.ru/index.php?page=book&id=276003</p>		1	1
10.	<p>/ (): ... , ... « - » ; ... , : , 2016. - 214 . [...]. - URL: http://biblioclub.ru/index.php?page=book&id=459228</p>		1	1

- « ... ».- URL: <http://biblioclub.ru/index.php?page=book&id=259155>
2. ... / ... URL: <http://biblioclub.ru/index.php?page=book&id=271597>
3. ... , 2016. - 240 . [...]. - URL: <http://biblioclub.ru/index.php?page=book&id=462238>
4. ... Develop your English-speaking skills: - / ... ; ... , 2015. - 97 . [...]. - URL: <http://biblioclub.ru/index.php?page=book&id=435427>
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6. ... A Focus on Communication Skills: / ... ; ... , 2015. - 2. - 139 . [...]. - URL: <http://biblioclub.ru/index.php?page=book&id=462001>
7. ... ; ... , 2014. - 66 . [...]. - URL: <http://biblioclub.ru/index.php?page=book&id=276003>

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.[. . .]. - URL: <http://biblioclub.ru/index.php?page=book&id=259155>

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<http://biblioclub.ru/index.php?page=book&id=271597>

3. - / : . . . , 2016. - 240 .
[. . .]. - URL: <http://biblioclub.ru/index.php?page=book&id=462238>

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 « Ergonomics»

:
 (1, 2, 3, 4 = 1st, 2nd, 3rd, 4th students),
 (= Reteller).

4. : ;
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 1 :
 «Ergonomics» (1400 . ., 45 .)

Ergonomics, also known as human engineering or human factors engineering, is the science of designing machines, products, and systems to maximize the safety, comfort, and efficiency of the people who use them. Ergonomists draw on the principles of industrial engineering, psychology, anthropometry (the science of human measurement), and biomechanics (the study of muscular activity) to adapt the design of products and workplaces to people's sizes and shapes and their physical strengths and limitations.

Ergonomists also consider the speed with which humans react and how they process information, and their capacities for dealing with psychological factors, such as stress or isolation. Armed with this complete picture of how humans interact with their environment, ergonomists develop the best possible design for products and systems, ranging from the handle of a toothbrush to the flight deck of the space shuttle.

Ergonomists view people and the objects as one unit, and ergonomic design blends the best abilities of people and machines. Humans are not as strong as machines, and machines cannot adapt to unexpected situations as well as humans. An ergonomically designed system provides optimum performance because it takes advantage of the strengths and weaknesses of both its human and machine components.

One of the primary goals of ergonomics is prevention of workplace illness and accidents. Ergonomists work to eliminate these problems by designing workplaces, such as offices or assembly lines, with injury prevention in mind. They position tools and machinery to be accessible without twisting, reaching, or bending. They design adjustable workbenches, desks, and chairs to comfortably accommodate workers of many different sizes, preventing the need to continuously lean or overextend the arms.

Ergonomists also determine and design safe workplace environmental conditions, such as correct temperature, lighting, noise, and ventilation to ensure that workers perform under optimal conditions. Ergonomists also seek to increase worker efficiency and productivity when designing workspaces. They place those pieces of equipment used most frequently in close "Voximity to the worker and arrange systems in ways that are convenient and easy to use.

Well-designed workspaces ensure that workers perform their jobs in optimal comfort, without experiencing the unnecessary physical and mental fatigue that can slow work performance, reduce accuracy, or cause accidents.

2 :

- ,
 :
1. I'd like (= should like) to tell you about... / Let me say some words of...
 2. The paper (article, text) I've translated (looked through) deals with, concerns, gives information of)...
 3. I have to (can, could) notice (emphasize)...

4. The main (central) idea is..., according to the te[t..., then I'm going to add that..., in conclusion I'd like to say....

5. f course..., Surely..., The matter is that..., Right you are!...,I should think....

3 :

- Reteller:

Let me give you some information of ergonomics. it is the science of designing machines, products, and systems to maximize the safety, comfort, and efficiency of the people who use them. we live, now, in the industrial world and to adapt the design of products and workplaces to people's sizes and shapes and their physical strengths and limitations it is necessary to know the principles of industrial engineering, psychology, anthropometry, and biomechanics.

I'd like (I should like) to tell you, that there are specialists engaged in this problems. They are ergonomists, who consider the speed with which humans react and how they process information, and their capacities for dealing with psychological factors, such as stress or isolation, of how humans interact with their environment.

I can, as well, say that, the paper I've looked through, states that the ergonomists view people and the objects they use as one unit, and ergonomic design blends the best abilities of people and machines. Humans are not as strong as machines, nor can they calculate as quickly and accurately as computers. Unlike machines, humans need to sleep, and they are subjected to illness, accidents, or making mistakes when working without adequate rest.

It is evident, only an ergonomically designed system provides optimum performance because it takes advantage of the strengths and weaknesses of both its human and machine components. That is why the ergonomists design adjustable workbenches, desks, and chairs to comfortably accommodate workers of many different sizes, preventing the need to continuously lean or overextend the arms.

Ergonomists also determine and design safe workplace environmental conditions, such as correct temperature, lighting, noise, and ventilation to ensure that workers perform under optimal conditions. Ergonomists also seek to increase worker efficiency and productivity when designing workspaces.

4.

«Ergonomics»:

-1st student: The information is rather interesting, but would you clear the origin of this word?

-Reteller: Of course. It was originated of two greece words: "ergon" that means: work and "nomos" that means: law.

-1st student: Oh, I understand. The laws that determine the working conditions, don't they?

-Reteller: The matter is that there is more complex notion which includes different aspects covering industrial engineering, psychology, anthropometry, and biomechanics.

-2nd student: I've read the ergonomists play an important role in workplace organization and they are to have wide knowledge in many fields.

-3rd student: Right you are! I believe not only the engineering ones but the humans being.

-Reteller: Surely, let me add that anthropometry (the science of human measurement), and biomechanics (the study of muscular activity) are quite significant.

-4th student: In my opinion this science is needed for solving a number of design tasks and the problems of operational comfort.

-1st student: I'd like to notice that operational comfort results in operational productivity.

-2nd student: And the problems, to say, deal with prevention of workplace illness and accidents.

-Reteller: Ergonomists work to eliminate these problems by designing workplaces both in the offices and assembly lines.

-4th student: Let's mention the differences between human beings and machines.

-Reteller: Unlike machines, humans need to sleep, and they are subject to illness, accidents, or making mistakes when working without adequate rest.

-3rd student: But machines are also limited.

-2nd student: I should think so! Cars cannot repair themselves, computers do not speak or hear as well as people do.

-1st student: I've got you. And machines cannot adapt to unexpected situations as well as humans.

-Reteller: It's the reason of seeking also to increase worker efficiency and productivity when designing workspaces.

-3rd student: Looks like that! The designers construct adjustable workbenches, desks, and chairs to comfortably accommodate workers...

-4th student: ...of many different sizes, weight, etc.

-Reteller: In conclusion, I quite agree with you, we can say that ergonomics has become one of the headlines to well-design workspaces ensuring the workers perform their jobs in optimal comfort, without experiencing the unnecessary physical and mental fatigue that can slow work performance, reduce accuracy, or cause accidents.

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1. English for Cross-Cultural and professional Communication: / . . .
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2. English for Cross-Cultural and professional Communication: / . . .
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 [URL: <http://biblioclub.ru/index.php?page=book&id=459228>]
4. , . . . 384 . [URL: <http://biblioclub.ru/index.php?page=book&id=461809>]
1. , . Test your communicative culture!: / . . . ;
 « » . - : , 2013. - 132
 [URL: <http://biblioclub.ru/index.php?page=book&id=259155>]
2. , . . . / :
 . . . - / : , 2014. - 96 . - [URL: <http://biblioclub.ru/index.php?page=book&id=271597>]
3. - / - : , 2016. - 240 .
 [URL: <http://biblioclub.ru/index.php?page=book&id=462238>]
4. , . . Develop your English-speaking skills: - /
 . . . ;
 , 2015. - 97 . [URL: <http://biblioclub.ru/index.php?page=book&id=435427>]
5. , . . A Focus on Communication Skills: / . . . ,
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 , 2015. - . 1. - 170 . [URL: <http://biblioclub.ru/index.php?page=book&id=462000>]
6. , . . A Focus on Communication Skills: / . . . ,
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 , 2015. - . 2. - 139 . [URL: <http://biblioclub.ru/index.php?page=book&id=462001>]

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Microsoft Windows Professional 7 Russian Upgrade Academic OPEN No Level;
 Microsoft Office 2007 Russian Academic OPEN No Level;
 Kaspersky Security;

RINEL-LINGO,

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		(16 .), Color LaserJet 2600n, «Panasonic» (1 .), «Panasonic» (1 .).	2
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1

1.1.

- a) ; :
- That 's all right. *You needn t apologise.*
 Never mind. *You are not to blame.*
 Forget it. *It's my fault.*
 Not at all. *No trouble at all.*

1. Excuse my back. 2. Excuse my troubling you. 3. Excuse my being late. 4. Apologise to Henry for me. 5. I'm afraid I'm taking up too much of your time. 6. Excuse my disturbing you.

- b) :
1. .- . 2. ,
 .3. .- , .4. ,
 ! .5. .-

- c) ; :
1. Tell her she has my sympathies. 2. You'll get over it. 3. Good for you. 4. Cheer up! 5. I sympathize with you. 6. Pull yourself together. 7. Things happen. 8. Don't get discouraged.

- d) , . : *On the contrary:*

1. It's very difficult, (easy) 2. The boy is clever, (stupid) 3. It's quite clear, (not clear at all) 4. The post office is very far. (quite near) 5. It'll be impossible, (quite possible)

e) \ . : *Right you are, I (don't) (quite) agree with you, I don't think so:*

1. We can't turn the clock back. 2. We have to know a foreign language if we want to know what people who use it mean or think. 3. The best way to learn to swim is to plunge into the water. 4. It is necessary for a diplomat to know foreign language. 5. It is easier to speak a foreign language than to understand it.

f) , - :
Don't worry. Let's hope for the best. Don't get upset about it. Everything will be all right.
Take it easy. Things happen. Don't get discouraged.

1. It's hard to believe she didn't keep her promise. It's unlike her. 2. Only think that the boy's been deceiving us all the time and we didn't even suspect it. I don't like the way he's treating his colleagues. 4. I'm afraid she'll do everything in the wrong way. 5. I've been told they haven't put me on the waiting list. 6. I didn't mean to hurt her but it looks like I'll have to. 7. I'm so worried about my daughter's health. 8. The child's getting so stubborn. 9. The information I gave him is all wrong. I'm afraid I'll get him into trouble. 10. Things are going from bad to worse. I really don't know what to do.

1.2.) , ;
: *About myself and my family, My studying, My native place, Geography and Political system of my country (Great Britain, the USA), Outstanding people.*

1. What is your first name? What is your surname?
2. How old are you? –
3. Where were you born? / What is your native place? –
4. What is your date of birth? –
5. Where do you live? / What is your home place? – I live in Bratsk/ My native place is Bratsk
6. What is your address? – Have you got a telephone? What is your phone number?
7. Is your family large or small? / How many of you are there in your family?
8. Have you got sister(s)/brother(s)? / Is she/he elder or younger than you? –
9. What are your parents?
10. Who are you like (in character)? Who do you look like?
11. Have you got a flat (a house)? Have you got a room of your own?
12. Can you describe it? –
13. What are your household duties?
14. Do you plan your day beforehand?
15. How do you usually spend the evenings? How do you usually spend your weekends? –
16. Are you fond of having friend in?
17. Are you a stay-at-home or do you like to go out?
18. Do you prefer to have parties or to go to the parties? –
19. Have you got a friend (friends)?
20. Who is your best friend?
21. Do you often spend free time together?
22. How long have you been friends? –
23. Do you have much in common or are you different?
24. What qualities do you most admire in your friend?
25. Is there something annoying you in him/her?
26. Is your friend easy to get along with?
27. Do you know your zodiac sign?
28. What are the good and bad characteristics associated with your attitude to astrology?
29. When did you leave school? What kind of school was it?
30. What subjects were you good/bad at?
31. What was/were your favorite subjects at school?
32. What out-of-class activities did you take part in?

2.

A: Hello.

B: Could I speak to Mr Ivanov?

A: Who's calling, please?

B: This is Brown from the Foreign Office.

A: Thank you. I'm putting you through.

B: Ivanov speaking.

3.

A: Russian Embassy. Good morning.

B: Good morning. Could you put me through to Mr Sokolov?

A: Sorry. The line is engaged. Can you hold on?

B: All right. Thank you.

4.

A: Five-seven-three; one-nine-oh-four.

B: Good evening. Can I speak to Mr Jones, please?

A: Sorry. Mr Jones is on the other line. I'm putting Mr Jones on the line

B: All right.

A: Sorry to have kept you waiting.

B: Thank you.

5.

A: Hello

B: Hello. David Black speaking. May I have a word with Mr Ivanov?

A: I'll see if he is in. I'm afraid Mr Ivanov is out at the moment.

B: Could you take a message?

A: Yes, of course.

)

:

1.

A: Hello

B: ... ?

A: Speaking.

B: ... , Mr .Stock. This is Surikov calling.

A: Good morning, Mr

2.

A:

B: Could I speak to Mr Ivanov?

A: ... , please?

B: ... Brown from the Foreign Office.

A: Thank you. I'm putting you

I: Ivanov speaking.

3.

A: Russian Embassy.

B: Good morning. Could you put me through to Mr Sokolov?

A: Sorry. The line is engaged. ... ?

B: All right. Thank you.

4.

A: Five-seven-three; one-nine-oh-four.

B: Good evening. ... to Mr Jones, please?

A: Sorry. Mr Jones is on the other line. I'm putting Mr Jones on the line

B:

A: Sorry ... you waiting.

B: Thank you.

5.

A: Hello

B: Hello. David Black speaking. May ... with Mr Ivanov?

A: I'll see if he is in. I'm afraid ... at the moment.

B: ... you take a message?

A: Yes, of

At the institute

) , ,

Vera: -Hello, Mike! What are you doing here?

Mike: -Hello, Vera! I am reading for my mathematics exam.

V.: -But your group has passed it already, hasn't it?

M.: -Yes, it has, but I was absent at this time. So I'll take this exam tomorrow.

V.: -Is it difficult for you to take this exam?

M.: -No, it is not. I have finished a specialized mathematical school where mathematics was studied more thoroughly () than at other schools. Besides, I have taken part in a mathematics contest of our city.

V.: -Really? Have you? When was it?

M.: -It was last year.

V.: -Were you the first at this contest?

M.: -No, I was the second. The first one was the boy from one of the Novosibirsk mathematical schools.

V.: -Have you ever been to Novosibirsk?

M.: -Yes, I have been there this year with a group of students of our faculty.

V.: -What have you seen there?

M.: -Oh, I have seen a lot. But now I have no time to tell you about it. Well, Vera, what are you doing here? Are you reading for your exams too?

V.: -No, I am not. I've passed all my exams with good marks this term and so my holidays have already started. I'm waiting for my friend here. Good luck, Mike.

) , , .

Vera: -Hello, Mike! What are you ... here?

Mike: -..., Vera! I am reading for my mathematics exam.

V.: -But your group has passed it already, ... it?

M.: -Yes, it has, but I was absent at this time. So I'll ... this exam tomorrow.

V.: -Is it ... you to take this exam?

M.: -No, ... I have finished a specialized mathematical school where mathematics was studied more thoroughly () than at other schools. Besides, I have taken part in a mathematics contest of our city.

V.: -...? Have you? When was it?

M.: -It ... last year.

V.: -Were you the first at this contest?

M.: -No, I was the second. ... was the boy from one of the Novosibirsk mathematical schools.

V.: -Have you ... been to Novosibirsk?

M.: -Yes, I ... there this year with a group of students of our faculty.

V.: -What have you seen there?

M.: -Oh, I have seen a lot. But now I have no time to tell you about it. Well, Vera, what are you doing here? ... you reading for your exams too?

V.: -No, I am not. I've passed all my exams with good marks this term and so my holidays have already started. I'm waiting for my friend here. ..., Mike.

Broadband; clockwork; railroad; gunpowder; tramway; waterway; pipeline; railway; highway; airway; airplane; skateboard; low-pollution; air-resistance; troubleshooter; broadcast; dial-up; gateway; network; telnet; workstation

transceiver	acknowledgement	application	connectionless
driver	knowbot	multicast	multimedia
multiplexing	repeater	selector	catenet
Ethernet	Internet	modem	netiquette
netizen	broadcasting	subnetwork	carcinotron
cryotron	plasmatron	as-cast	as-controlled
as-welded	streamwise	slantwise	inductance
divergence	omposition	activation	treatment
filament	programming	amplifier	low-noise
turbogenerator	gasometer	radio-transmitter	video-gain
superpower	single-needle	voltage	navigation

1. a) settle, b) settlement, c) settler, d) settles
2. a) dependence, b) independent, c) depend, d) independence
3. a) builder, b) builds, c) building, d) build
4. a) restoration, b) restorative, c) restore, d) restores
5. a) promote, b) promoting, c) promotion, d) promotes
6. a) replacement, b) place, c) replace, d) replaced
7. a) mean, b) meaning, c) meant, d) means
8. a) slower, b) slowly, c) slow, d) slowest
9. a) flyer, b) fly, c) flight, d) flying
10. a) power, b) powerless, c) powerful, d) proper

2.2.

a) –Infinitive

1. For me to ask would be a treason, and for me to be told would be a treason.
2. The parish is not likely to quarrel with him for the right to keep the child.
3. The manuscript is believed to have been written in the 15 century.
4. They wanted them to take part in the competition
5. Nobody can make him believe that all these stories are true.

b) –Participle

1. While obtaining new materials the mechanical engineering gets new prospects.
2. When modeling process it is important to consider all the facts.
3. The military camp founded by Romans developed into a port.
4. There having been many people in the concert hall, we couldn't enter it.
5. Many men preceded Newton in the field of mechanics, perhaps the most outstanding being Galileo.

c)-Gerund

1. I really thank you heartily for taking all this trouble.
2. Her thoughts were interrupted at last by her door opening.
3. Perhaps you would not mind Richard's coming in?
4. The only remedy for such a headache as mine is going to bed.
5. Waiting for the Professor was a laws excuse for doing nothing.

2.3.

A

1. : Modern Engineering

The history of the concept of «engineering» stems from the earliest times when humans began to make clever inventions, such as the pulley, lever, or wheel, etc. The exact etymology of the word engineer, however, is a person occupationally connected with the study, design, and implementation of engines. Hence, an engineer, essentially, is someone who makes useful or practical inventions.

The first electrical engineer is considered to be William Gilbert, with his 1600 publication of *De Magnete*, who was the originator of the term «electricity». The first steam engine was built in 1698 by mechanical engineer Thomas Savery.

With the rise of engineering as a profession in the nineteenth century the term became more narrowly applied to fields in which mathematics and science were applied to these ends. Similarly, in addition to military and civil engineering the fields then known as the mechanic arts became incorporated into engineering. The first PhD in engineering (technically, applied science and engineering) awarded in the United States went to William Gibbs at Yale University in 1863; it was also the second PhD awarded in science in the U.S.

Now engineering science is among the world's top undergraduate engineering programmes. Its mission is to prepare the students for careers at the forefront of research, teaching, design and professional practice in applied science and engineering, or for careers in other professions to which they can bring their superior knowledge of applied science and engineering to bear.

Modern Engineering includes technology, but is also concerned with development and understanding of technological systems and the products. It is also concerned with non-technological approaches. Technical engineering is the activity of transforming and transporting (1) of materials and forces of nature and (2) of energy and information, which are technical measures of utility. This statement excludes reference to value and method. To complete the understanding of modern engineering, one should identify its values, its societal and environmental objectives and its tools. Scientific methods of engineering are applied in several fields not connected directly to manufacture and construction. Modern engineering is characterized by the broad application of what is known as systems engineering principles.

A related field of engineering, human-factors engineering, also known as ergonomics, received wide attention in the late 1970s and the '80s when the safety of nuclear reactors was questioned following serious accidents that were caused by operator errors, design failures, and malfunctioning equipment. Human-factors engineering seeks to establish criteria for the efficient, human-centered design of, among other things, the large, complicated control panels that monitor

and govern nuclear reactor operations. Engineering is the design, analysis, and/or construction of works for practical purposes. One who practices engineering is called an engineer.

The broad discipline of engineering encompasses a range of specialized subdisciplines that focus on the issues associated with developing a specific kind of product, or using a specific type of technology. The crucial and unique task of the engineer is to identify, understand, and interpret the constraints on a design in order to produce a successful result. It is usually not enough to build a technically successful product; it must also meet further requirements. Constraints may include available resources, physical, imaginative or technical limitations, flexibility for future modifications and additions, and other factors, such as requirements for cost, safety, marketability, and serviceability. Engineers use their knowledge of science, mathematics, and appropriate experience to find suitable solutions to a problem. Engineers typically attempt to predict how well their designs will perform to their specifications prior to full-scale production.

As with all modern scientific and technological endeavors, computers and software play an increasingly important role. Computers are increasingly used for solving complex problems as well as for handling, storing, and generating the enormous volume of data modern engineers must work with.

2.

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<i>Agreeing ()</i>	<i>Disagreeing politely()</i>
I agree with you.	Yes, but don't you think...?
Yes, that is what I think too.	True, but I think...
You are right!	I see what you mean, but...

1. Engineering science is among the world's top undergraduate engineering programmes.
2. Its mission is to prepare the students only for careers at the forefront of research, teaching, design and professional practice in applied science and engineering.
3. Modern engineering is concerned with development and understanding of technological systems and products.
4. To complete the understanding of modern engineering, one should identify its values, its societal and environmental objectives and its tools.

5. Scientific methods of engineering are applied in several fields connected to manufacture and construction.

6. The systems approach is a methodology of decision-making in design, operation or construction.

7. Human-factors engineering seeks to establish criteria for the efficient, human-centered design of the large, complicated control panels that monitor and govern nuclear reactor operations.

8. Among various recent trends in the engineering profession, licensing and computerization are the most widespread.

B

STRENGTH OF MATERIALS

1.

1. Why is the science of materials strength so important? 2. What are the achievements of chemists and metallurgists in the production of new materials? 3. Why is the problem of earthquake forecasting so important for our country?

2.

1. The great Galileo is considered the father of the science of materials strength, one of the basic engineering disciplines.

But before it could produce mechanisms capable of withstanding cosmic cold and vacuum, the strains and stresses of take off and return to the Earth, the science of materials had to cover a long and difficult path. Its progress accelerated markedly in the 19th century, when people began to lay thousands of miles of railway tracks, erect bridges and dig tunnels, build ocean-going ships and complex machines, dig into the earth in search of minerals.

2. In most cases our predecessors managed to cope with their tasks. Many structures they built centuries ago have not only survived to our day, but remain in use.

Of course, there were also errors and tragedies when buildings fell in, machines broke down or bridges collapsed. At one time it even became a matter of professional ethics for the designer of the bridge to stand under it during the first trial run of heavy-loaded wagons.

Yet more often the cause of mishaps was not any lack of knowledge on the part of experts. The problems of strength of materials are hidden deep in the mysteries of atomic and molecular structure. It was only at the beginning of this century that research began in the physics of strength. This was none too early: mankind was entering the age of electricity, electronics, aviation, automobiles, and physics and in any other fields that characterize the world we know today.

3. We are now in an age of high speeds, pressures, and temperatures which could be withstood only with the help of new and hitherto unknown materials.

In the 1920s the top speed of an airplane was not more than 200 kilometres per hour, the load per square metre of the wing area was about 50 kilograms. The main construction material was wood. In our day, the speed of aircraft, even passenger planes, is approaching 3,000 kilometres per hour, loads may be as high as 600 kilograms per square metre of wing. The turbine that drives such an aircraft is not only a miracle of design, it is also a miracle of materials strength. Its blades, for example, rotate at a tremendous speed and at the temperature greater than 1,000 Centigrade. The given examples are sufficient to indicate the complexity of materials studies today and the extent to which progress in the near or more

distant future depend on them. The problems confront experts all over the world, as well as in our country.

4. Of tremendous importance is creation of new materials. The chemists engaged in polymer research have produced the world's best synthetic rubbers. The tyres made of the country's synthetic rubbers can cover distances several times exceeding the distance from the Earth to the Moon.

The metallurgists studying a new class of aluminum alloys have produced a very durable alloy which is being used in aircraft and rocket engineering. The alloy helps reduce the weight of apparatus substantially, thereby effecting a considerable saving of materials.

5. Today everybody has to be in the know concerning new ideas and accomplishments in their field. They are of interest to science from the point of design, possibilities of modeling, including computer modeling they achieve flawless design and construction. When flaws do occur they are a consequence of gaps in theoretical knowledge or stress and strain unprovided in the original design and construction. An example of the latter is earthquake. This is a problem of immediate concern for us: we have many seismic localities we live in, build factories and houses, subways and nuclear power plants. Our country is planning work on earthquake forecasting.

At present many research establishments are engaged in these complex geological, geo-physical and engineering problems. Their experiences, methods and discoveries are used in many countries. Of course, it is nothing but a list of a few results of the scientists' work.

6. But what about problems? What does the 21st century require of us? Firstly, theoretical works based on a thorough understanding of the destruction of material as a process. A new discipline is being created. Called "the mechanics of destruction" it will enable us to design machines, structures and mechanisms that function reliably. Further development of the very old science of materials strength will ultimately result in delicate bridges light airy small but powerful machines and airplanes capable of carrying huge loads.

3.

1. What made the science of materials strength progress most rapidly in the 19th century?
2. What were the results of the errors the builders made because of the lack of knowledge materials strength?
3. What helped to solve the problems of materials strength at the beginning of the 20th century?
4. What was the main construction material at the beginning of our century?
5. What increased the requirements to the strength of materials in our day? Give examples.
6. What new important materials have chemists and metallurgists created?
7. What helps eliminate mistakes in design and construction today?
8. What are the reasons of errors which still occur in design and construction?
9. What problems are our research institutes solving concerning seismic.
10. New discipline is being created and why is it necessary?

4.

, :
cosmic, vacuum, mineral, tragedy, professional, wagon, expert, molecular, electricity, physics, airplane, kilometre, kilogram, synthetic, metallurgist, class, aluminum, rocket, idea, theoretical, original, seismic, geological geophysical, mechanism.

5.

1. Prove or disprove the author's statement «In most cases our predecessors managed to cope with their tasks»

2. Discuss the author's statement: Mankind was entering an age of high speeds, pressures, and temperatures which could be generated and withstood with the help of new and hitherto unknown materials."

3. What does the author want to underline saying that tyres made of the synthetic rubbers could cover distances several times exceeding the distance from the Earth to the Moon?

4. Discuss the author's statements: Today everybody has to be in the know concerning new ideas and in fact do occur they are a consequence of gaps in theoretical knowledge or stress and strain unprovided for in the original design and construction."

6.

destruction of materials; to be alike in colour; to be unable to approach nearer, to bring to destruction; to be of considerable dimensions; to approach the town; to exceed in strength; to exceed in height; to a great extent; fatigue limit; to hide treasure; better than hitherto achieved; the immediate future; the immediate aim; immediate contact; the latter half of the year; in the same locality; the marked pages, a marked strain pure white; pure air; search for lost thing, without strain, to strain one's eyes; satisfactory results; a satisfactory of experiment; thorough investigation; a direct ratio; in the ratio of to six; tremendous success; trial of strength; the ultimate load; the ultimate decision; to overcome difficulties; substantial argument; substantial improvement; the stress limit violent shock.

7.

markedly, rotation, tremendously, confrontation, substantially, immediately, locality, engagement, thoroughly, destruction, ultimately, purely, resistance substitution, displacement, complexity.

C BRITISH ECONOMY

1.

Britain lives by manufacture and trade. For every person **employed in agriculture** eleven people are employed in **mining, manufacturing** and building. The United Kingdom is one of the world's largest exporters of **manufactured goods** per head of population.

Apart from **coal and iron ore** Britain has very few natural resources and mostly depends on **imports**. Its agriculture provided only half the food it needs. The other half and most of the **raw materials** for its **industries** such as oil and various **metals (copper, zinc, uranium ore and others)** have to be **imported**. Britain also has to import **timber, cotton**, fruit and **farm** products.

Britain **used to be** richly forested, but most of the forests were cut down to make more room for cultivation. The greater part of land is used for **cattle and sheep** breeding and pig raising. Among the **crops grown on the farms are wheat, barley and oats**. The fields are mainly in the eastern part of the country. Most of the farms are small (**one third of them is less than one hundred acres**¹). Farms **tend** to be bigger where the soil is less **fertile**.

In the past century Britain secured a leading position in the world as manufacturer, merchant and banker. After World War I the world **demand for** the products of Britain's **traditional** industries — **textiles, coal and machinery** — fell off, and Britain began **expanding trade in new engineering** products and **electrical** goods.

The crisis of 1929—1933 **brought about** mass **unemployment**, which reached its peak in 1932. Britain's **share** in the world **industrial output** decreased. After the crisis, **production and employment** increased following some revival in world trade and as a result of the extensive armaments program.

During World War II Britain's economy was fully employed in the war effort. Massed raids of German planes on British industrial centres caused considerable damage to Britain's industry. World War II brought about a further weakening of Britain's might. Great Britain is no longer the leading imperialist power it used to be. It has lost its **colonies** which used to supply it with cheap raw materials.

Britain **produces** high **quality** expensive goods, which has always been **characteristic of** its industry. A shortage of raw materials, as well "as the high cost of production makes it unprofitable for British industry to produce semi-finished goods or cheap articles. Britain mostly produces articles **requiring skilled labour**, such as precision **instruments**, **electronic** equipment, **chemicals** and high quality **consumer goods**. Britain produces and **exports cotton and woollen** goods, **leather** goods, and articles made of various kinds of **synthetic materials**.

The original basis of British industry was coal-mining, and the early **factories** grew up not far from the main mining areas. Glasgow and Newcastle became great centres of engineering and shipbuilding. Lancashire produced cotton goods and Yorkshire produced woollens, with Sheffield concentrating on iron and **steel**. Birmingham **developed** light engineering. There appeared a **tendency for** industry and population to move to the south, particularly to the London area. (Britain's industry is now widely **dispersed**.) Great **progress was made** in the development of new industries, such as the aircraft, automobile, electronic industries and others. A number of atomic power reactors were made. Great emphasis was laid on the development of the war industry.

2. , :

1. What natural resources is Great Britain rich in?
2. What raw materials does Great Britain import?
3. What does Great Britain export?
4. What did the crisis of 1929 — 1933 bring about?
5. What is the characteristic feature of Britain's industry?
6. Why is it unprofitable for Great Britain to produce semifinished goods or cheap articles?
7. What are the main articles produced by British industry?
8. What are the main industrial centres of Great Britain?
9. What are Britain's main industries?
10. What can you say about Britain's agriculture?

3. , :

1. Great Britain is rich in ... (**oil; gold; copper; silver; iron ore; zinc; coal**).
2. Great Britain has to import ... (**coal; agricultural products; electrical goods; chemicals; electronic equipment; oil; various metals; products; cotton; timber; tobacco; wheat; fruit**).
3. When the world demand for the products of Britain's main industries ... (**textiles, coal and machinery**) decreased, it began seeking compensation in new engineering products, such as ... (**cars; atomic power reactors; electrical goods; electronic equipment**).
4. It is characteristic of Britain's industry to produce ... (**semi-finished goods; cheap articles; raw materials; high quality expensive goods; articles requiring skilled labour; precision instruments; electronic equipment**).
5. The main products of Britain's industry are ... (**high quality consumer goods; electronic equipment; chemicals; textiles; ready-made clothing; manufactured goods; petrol**).
6. A great number of new industries were added to the traditional ones such as... (**the aircraft industry; the textile industry; the electronic industry; the shipbuilding industry; the automobile industry; mining; engineering**).

4. , :

1. No, it isn't. Apart from coal and iron ore Great Britain has very few natural resources.
2. It imports raw materials for its industries such as oil and various metals. It also

imports agricultural products.

3. It is a shortage of raw materials that makes it unprofitable for British industry to produce semi-finished goods or cheap articles.

4. It produces articles requiring skilled labour such as precision instruments, transport engineering equipment, electronic equipment, chemicals and high quality consumer goods.

5. It's widely dispersed, not concentrated in one area.

6. Cattle, sheep and pigs.

7. Wheat, barley and oats.

8. Where the soil is less fertile.

9. No, it does not trade in timber.

10. It was laid on the development of the war industry.

5.

1. Does Great Britain live by agriculture or...?
2. Does Great Britain export raw materials or...?
3. Did the world demand for the products of Britain's main industries after World War I increase or...?
4. Did Britain's share in the world industrial output increase as a result of the crisis of 1929 — 1933 or...?
5. Does Britain's industry produce high quality goods or...?
6. Is Britain's industry located in one area or...?
7. Is Britain still the mighty colonial power it used to be or has it lost...?
8. Does Britain export cotton or...?
9. Was electricity or ... the original basis of British industry?
10. Newcastle or ... developed light engineering

6.

- 1) I'd like (I should like) to tell you about...
Let me say some words/facts/information of...
Let me give you some information of/about...

2)

The paper	I've (I have) translated...	...tells about/of...
The text	I've (I have) read...	...deals with...
The article	I've (I have) looked through...	...concerns.../considers...
The chapter	I've (I have) studied...	...gives information of...
The part		...is devoted to...
The paragraph		

3)

I have to/must	notice	
- could	emphasize	that...
- can	point out	

- 4) The title of the text is... / the text tells (runs) about ... / the main (central) idea is...
o put it in a few words .../ the aim of the text is to tell the reader(you, us) about ...
ccording to the text .../ to all appearances ()/ needless to say ...
hen I'm going to add(that) .../ I'd like to add (notice, point out) ...
in conclusion I'd like to say ...
I want to point out the following facts that new to me ...

«12» 2015 . 201

2015 :	«	»
«01» _____ 2015 . <u>587</u> ,		
2016 :	«	»
«06» _____ 2016 . <u>429</u> ,		
2017 :	«	»
«06» _____ 2017 . <u>125</u> ,		
2018 :	«	»
«12» _____ 2018 . <u>130</u>		

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«24» _____ 2018 .,

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«25» _____ 2018 .,

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