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Higher education reforms in Ukraine provide for a significant intensification of the educational process which should facilitate the formation of a highly-skilled specialist in the relevant area who can solve complex professional tasks and is fluent in English that is very important in the age of high technologies and rapid changes. At the same time, there is the optimization of the learning process, which reduces classroom activities and enhances the role of students' independent study. The abovementioned encourages English language teachers to search for optimal methods, techniques, tools and learning materials for the effective training of students.

The study guide is designed to facilitate the training process under the framework of extra curriculum discipline "Foreign language (English)" for students of the educational qualification level "Bachelor" of all training programmes of the higher education institutions and aimed at systemizing knowledge of English and preparing for the English entrance examination for the Master's course. It also can be used as an additional material for the preparation for international English tests.

The study guide consists of two essential parts: Reading and Grammar. The first part includes tests based on the texts for revising reading, grammar and lexical skills. The selected texts render currently relevant information and cover various topics both of everyday and professional focus. All tasks have a uniform structure, which is peculiar to the unified entrance exam in a foreign language, and consistent nature. The first part is completed with a final control test. The second part generalizes the grammar material necessary for the fulfilment of tasks from the first part and pursues to form and improve grammar skills concerning the relevant topics. As evidenced in practice, the presentation of theoretical material in a tabulated form simplifies its perception by highlighting the key points. The theory also involves practical tasks for the development of specific grammar skills. Every topic is completed with a control test. The order of the essential parts doesn't predetermine their consistent fulfilment.

The study guide's structure makes both classroom and independent learning activities of students possible.

READING

PART 1 IT TECHNOLOGIES IN THE MODERN WORLD

UNIT 1.1 IT TECHNOLOGIES

READING

Task 1

Read the text below. Match choices (A—H) to (1—5). There are three choices you do not need to use.

WHEN A COMPUTER ERROR IS A FATAL MISTAKE

Our lives depend on computers. They control our money, transport, our exam results. Yet their programs are now so complex that no one can get rid of all the mistakes.

Life without computers has become unimaginable. They are designed to look after so many boring but essential tasks – from microwave cooking to flying across the Atlantic – that we have become dependent on them.

1 _____

But as the demands placed on computers grow, so have the number of incidents involving computer errors. Now computer experts are warning that the traditional ways of building computer systems are just not good enough to deal with complex tasks like flying planes or maintaining nuclear power stations. It is only a matter of time before a computer-made catastrophe occurs.

2 _____

As early as 1889, a word entered the language that was to become all too familiar to computer scientists: a ‘bug’, meaning a mistake. For decades bugs and ‘de-bugging’ were taken to be pan of every computer engineer’s job. Everyone accepted that there would always be some mistakes in any new system. But ‘safety critical’ systems that fly planes, drive trains or control nuclear power stations can have bugs that could kill. This is obviously unacceptable.

3 _____

One way to stop bugs in computer systems is to get different teams of programmers to work in isolation from each other. That way, runs the theory, they won’t all make the same type of mistake when designing and writing computer codes. In fact, research shows that programmers think alike, have

the same type of training – and make similar mistakes. So even if they work separately, mistakes can still occur. Another technique is to produce back up systems that start to operate when the first system fails. This has been used on everything from the space shuttle to the A320 airbus, but unfortunately problems that cause one computer to fail can make all the others fail, too.

4

A growing number of computer safety experts believe the time has come to stop trying to ‘patch up’ computer systems. They say programmers have to learn to think clearly and to be able to demonstrate through mathematical symbols that the program cannot go seriously wrong. Until programmers learn to do this, we will probably just have to live with the results of computer bugs.

5

Of course, more often than not the errors are just annoying, but sometimes they can come close to causing tragedies. On the Piccadilly line in London’s Underground a driver who was going south along a track got confused while moving his empty train through a cross-over point. He started to head north straight at a south-bound train full of people. The computerized signaling system failed to warn him of impending disaster and it was only his quick human reactions that prevented a crash.

- A Experts say ‘Bring back math!’
- B Old methods are no longer satisfactory
- C We couldn’t live without computer
- D Hotels are carefully classified
- E An old problem with serious consequences
- F A potentially tragic error
- G Self-catering accommodation comes
- H Two new approaches, but they solve the problem? [17]

Task 2

Read the text below. For questions (6–10) choose the correct answer (A, B, C or D).

YOUR AMAZING BRAIN

You carry around a three-pound mass of wrinkly material in your head that controls every single thing you will ever do. From enabling you to think, learn, create, and feel emotions to controlling every blink, breath, and heartbeat – this fantastic control center is your brain. It is a structure so amazing that a famous scientist once called it “the most complex thing we have yet discovered in our univers”..

Your brain contains about 100 billion microscopic cells called neurons – so many it would take you over 3,000 years to count them all. Whenever you

dream, laugh, think, see, or move, it's because tiny chemical and electrical signals are racing between these neurons along billions of tiny neuron highways. Believe it or not, the activity in your brain never stops. Countless messages zip around inside it every second like a supercharged pinball machine. Your neurons create and send more messages than all the phones in the entire world. And while a single neuron generates only a tiny amount of electricity, all your neurons together can generate enough electricity to power a low-wattage bulb.

Neurons send info to your brain at more than 150 miles (241 kilometers) per hour. For example, a bee lands on your bare foot. Sensory neurons in your skin relay this information to your spinal cord and brain at a speed of more than 150 miles (241 kilometers) per hour. Your brain then uses motor neurons to transmit the message back through your spinal cord to your foot to shake the bee off quickly. Motor neurons can relay this information at more than 200 miles (322 kilometers) per hour.

Riding a bike seems impossible at first. But soon you master it. How? As you practice, your brain sends "bike riding" messages along certain pathways of neurons over and over, forming new connections. In fact, the structure of your brain changes every time you learn, as well as whenever you have a new thought or memory.

It is well known that any exercise that makes your heart beat faster, like running or playing basketball, is great for your body and can even help improve your mood. But scientists have recently learned that for a period of time after you've exercised, your body produces a chemical that makes your brain more receptive to learning. So if you're stuck on a homework problem, go out and play a game of soccer, then try the problem again. You just might discover that you're able to solve it.

6. According to the text, the work of brain neurons influences

A electricity production.

B our dreams.

C everything we do.

D character of messages we send.

7. The narrator compares the work of neurons with pinball machine to

A show the character of brain work.

B raise the awareness of the brain's nature.

C stress the amount of information that the brain processes.

D illustrate the shape of the neuron highways.

- 8. Comparing sensory and motor neurons, we can make a conclusion that**
A motor neurons transmit information faster.
B there are more motor neurons.
C sensory neurons transmit information faster.
D there are more sensory neurons.
- 9. The structure of brains changes when**
A our memory fails.
B new neurons appear.
C we are riding a bike.
D we acquire new knowledge.
- 10. Physical exercises proved to be good for**
A the production of brain chemicals.
B solving homework problems.
C giving the brain a rest.
D maintaining a good mood [38].

Task 3

Read the texts below. Match choices (A–H) to (11–16). There are two choices you do not need to use.

5 STEPS TO A GOOD PASSWORD

Before we begin, we must be clear on one major expectation: there is no such thing as a perfect password. A committed hacker can crack any password, given enough time and the right ‘dictionary’ or ‘brute force’ tools. But just like breaking into a car, if the protection is strong enough, the hacker will become discouraged and commonly give up before the protection fails.

- 11** A good password starts with a base word phrase. This means: choose two or more meaningful words, with the spaces removed. Choose a word phrase that says something about you (easier for you to remember). The phrase might reflect your hobby interests or a personal passion of yours. You could try using your nickname, your personal taste in music or food, or even a favourite saying. For example: Ilovecats; RedHonda; PuppyLovesCheese.
- 12** Passwords start to become strong at 6 characters long. While a long password can be annoying to type, a long password really helps to slow down brute force hacker attacks. You can do this by adding the website name or computer software name to the base phrase. For example: IlovecatsGmail; RedHondaWin7; PuppyLovesCheeseEbay.

- 13 Scrambling does not necessarily mean rearranging the letters. Rather, scrambling your password can effectively be achieved by swapping one or more of the password letters with a non-alphabetic character, and then purposely including uppercase and lowercase letters within the password. Scrambling creatively uses the shift key, punctuation marks, the @ or % symbols, and even semi-colons and periods. Using numbers as substitutes for letters is another strong scrambling technique. Examples of scrambling: !7ovecatsGmail; Red7ondaWin7; PuppyLovesCheese3bay.
- 14 At work, your network people will require you to change your password every several days. At home, you should rotate your passwords as a matter of good computer hygiene. If you are using different passwords for different websites, you can do yourself a favour by rotating portions of your passwords every few weeks. Note that rotating parts of the password, not the entire passwords, will help deter hackers from stealing your phrases. If you can memorize three or more passwords at the same time, then you are in good shape to resist brute force hacker attacks. Examples: !7ovecatsWin7; RedHonda3bay; PuppyLovesCheeseGmail.
- 15 There are several other resources for building strong passwords. You can employ a digital vault like Password Safe. This kind of software creates personal 'lockers' to keep all your passwords locked under a master password. Tools like KeyWallet Password Manager work well because you can avoid typing your passwords entirely, and just let your mouse do the data entry.
- 16 And remember! Don't leave notes with your passwords to various sites on your computer or desk. People who walk by can easily steal this information and use it to compromise your account. If you decide to save your passwords in a file on your computer, create a unique name for the file so people don't know what's inside. Avoid giving the file an obvious name, such as "my password".. If you have a difficult time remembering multiple passwords, a trusted password manager may be a good solution. Spend a few minutes checking out the reviews and reputations of these services.

To have a good password one should

- A Invent something extraordinary
- B Substitute your password regularly
- C Lengthen the phrase
- D Think of numbers
- E Use the key expression
- F Keep your passwords secure
- G Jumble the phrase
- H Follow some advanced password tips [43, p. 141].