Министерство образования и науки Российской Федерации
Федеральное государственное бюджетное образовательное
учреждение высшего образования
«Томский государственный университет систем управления
и радиоэлектроники»

Л.Е. Лычковская, О.А. Смирнова

КОМПЛЕКТ КОНТРОЛЬНЫХ ИЗМЕРИТЕЛЬНЫХ МАТЕРИАЛОВ ПО ДИСЦИПЛИНЕ «ИНОСТРАННЫЙ ЯЗЫК»

Учебно-методическое пособие
для организации практических занятий и самостоятельной работы
студентов направления магистратуры
01.04.02 «Прикладная математика и информатика»

Томск
ТУСУР
2016

Аннотация

Настоящее учебно-методическое пособие разработано в соответствии с Основной Профессиональной Образовательной Программой по направлению 01.04.02 «Прикладная математика и информатика»; в соответствии с Рабочей Программой и Фондом Оценочных Средств для дисциплины «Иностранный язык», утвержденных 29 августа 2016 г. на заседании кафедры ИЯ (Протокол № 7).

Комплект контрольных измерительных материалов для организации практических занятий и самостоятельной работы студентов входит в состав УМКД «English for Master's Students» и предназначен для организации текущего и промежуточного контроля сформированности общекультурной профессиональной компетенции 4 (ОПК-4): готовность к коммуникации в устной и письменной формах на государственном языке Российской Федерации и иностранном языке для решения задач профессиональной деятельности.

Учебно-методическое пособие состоит из методических рекомендаций и 3-х разделов. В методических рекомендациях представлен алгоритм работы по использованию контрольных измерительных материалов на практических занятиях и для самостоятельной работы.

РАЗДЕЛ I (SELF-STUDY TESTS) предназначен для самостоятельной работы в 1-2 семестрах и состоит из 6 тестов (Units 1-6 в соответствии с РПД), позволяющих оценить уровень усвоения учебного материала.

РАЗДЕЛ II (CONTROL TESTS) используется во втором семестре и состоит из 6 тестов, содержащих идентичные по структуре и содержанию тестовые задания раздела I.

РАЗДЕЛ III (CREDIT AND EXAM TESTS) включает примерные тесты зачета и экзамена.

ПРИЛОЖЕНИЕ (APPENDIX) предназначено для самопроверки уровня сформированности ОПК-4 и состоит из ответов на контрольные измерительные материалы раздела I.

Содержание

Методические рекомендации

Учебно-методическое пособие «Комплект контрольных измерительных материалов по дисциплине «Иностранный язык» разработан для направления 01.04.02 «Прикладная математика и информатика» и предназначен для организации оценки и самооценки уровня сформированности общекультурной профессиональной компетенции (ОПК-4) в соответствии с ФГОС ВПО третьего поколения.

Контрольно-измерительные материалы учебно-методического пособия представлены в виде тестовых заданий. Максимальное количество баллов за каждый тест - 60 баллов (points). Оценка уровня сформированных знаний, умений и навыков по каждой теме на практических занятиях осуществляется преподавателем. Самооценка уровня сформированных знаний, умений и навыков по каждой теме осуществляется студентом в соответствии с представленными ниже критериями.

Самооценка знаний умений и навыков по темам семестра

1) По результатам теста вы набрали **от 54 до 60 баллов** (90% - 100%). Оценка ваших знаний, умений и навыков по теме - **5 (отлично)** и вы:

- имеете сформированные и систематические знания приемов оформления грамматически корректного устного высказывания;
- показываете успешное и систематическое умение выражать свое мнение (отношение) по какой-либо проблеме; формулировать свое отношение к различным фактам и событиям в социальной и профессиональной сфере;
- демонстрируете успешное и систематическое владение лингвистическими понятиями и языковым материалом, достаточными для оформления устного высказывания в предсказуемых бытовых и профессиональных ситуациях.

2) По результатам теста вы набрали **от 42 до 53 баллов** (70% - 89%). Оценка ваших знаний, умений и навыков по теме - **4 (хорошо)** и вы:

- имеете сформированные, но содержащие отдельные пробелы, знания приемов оформления грамматически корректного устного высказывания;
- показываете в целом успешное, но содержащее отдельные пробелы умение выражаете свое мнение (отношение) по какой-либо проблеме;
- формулируете свое отношение к различным фактам и событиям в социальной и профессиональной сфере;
- демонстрируете в целом успешное, но сопровождающееся отдельными ошибками владение лингвистическими понятиями и языковым материалом, достаточными для оформления устного высказывания в предсказуемых бытовых и профессиональных ситуациях.

Рекомендации: сравните свои ответы на задания с правильными вариантами, представленными в Приложении (Appendix), обратитесь к

теоретическому материалу по теме и содержанию в рекомендуемых учебных и учебно-методических пособиях и / или проконсультируйтесь с преподавателем.

3) По результатам теста вы набрали **от 36 до 41 баллов** (60% - 69%). Оценка ваших знаний, умений и навыков по теме - **3 (удовлетворительно)** и вы:

- имеете фрагментарные, неполные знания приемов оформления грамматически корректного устного высказывания;
- показываете фрагментарное, неполное умение выражать свое мнение (отношение) по какой-либо проблеме; формулировать свое отношение к различным фактам и событиям в социальной и профессиональной сфере;
- демонстрируете неполное, фрагментарное владение лингвистическими понятиями и языковым материалом, достаточными для оформления устного высказывания в предсказуемых бытовых и профессиональных ситуациях.

Рекомендации: сравните свои ответы на задания с правильными вариантами, представленными в Приложении (Appendix), обратитесь к теоретическому материалу по теме и содержанию в рекомендуемых учебных и учебно-методических пособиях, обратитесь к дополнительным источникам в интернете и / или проконсультируйтесь с преподавателем.

4) По результатам теста вы набрали **35 и менее баллов** (меньше 60%). Оценка ваших знаний, умений и навыков по теме - **2 (неудовлетворительно)** и вы:

- имеете существенные пробелы или отсутствие знаний норм, правил и приемов устной и письменной деловой коммуникации на английском языке;
- показываете отсутствие умений логично, аргументировано и грамматически корректно подготовить устные и письменные высказывания на иностранном языке и не готовы к участию в межличностном общении, межкультурном взаимодействии и профессиональной деятельности;
- демонстрируете отсутствие навыков чтения, перевода и анализа текстов профессиональной направленности; навыками обсуждения их содержания на английском языке.

Соответственно, вы:

- имеете существенный пробел в базовых, общих знаниях;
- не обладаете основными умениями, для выполнения элементарных задач;
- не владеете навыками работы с учебным материалом.

Рекомендации: проконсультируйтесь с преподавателем.

I. SELF-STUDY TESTS

SELF-STUDY TEST 1

(Unit 1. EARNING A DEGREE)

I. Vocabulary

a) Text A

MASTER OF ENGINEERING

A Master of Science degree in engineering is an academic degree to be differentiated from a Master of Engineering degree. A Master of Science degree in engineering can require completion of a thesis and qualifies the holder to apply for a program leading to a Doctor of Philosophy degree in engineering. A Master of Engineering degree requires completion of a project and does not qualify its holder to apply for a Ph.D. in engineering.

The types of engineering degree available to you will partly be determined by the country and the institution in which you have chosen to study.

For example, the Master of Engineering degree in Australia is a two- to three-year research degree with an end-of-year thesis, while in the US and Canada a Master of Engineering is a two-year professional degree taken after a four-year bachelor's degree in engineering. In the UK the four-year postgraduate Masters in Engineering (MEng) is designed to prepare students to become chartered engineers, and may extend to five years for students to spend a year in industry. Some universities in the UK now also offer Doctor of Engineering (EngD) programs. These lead to a qualification equivalent to a PhD, but take a research-focused industry approach, rather than the traditional academic approach.

There is huge variety in postgraduate courses within engineering, with each institution offering a range of highly specialized courses designed to create experts in the field in question. For example, Australia's University of Melbourne offers a master's program which explores innovative, sustainable solutions to environmental problems in engineering sectors, while the US's University of Texas at Austin provides a petroleum engineering degree focused on energy issues. Alternatively, the Netherlands' Eindhoven University of Technology offers an architectural engineering degree incorporating economic, legal, political and environmental perspectives, while the UK's Imperial College London offers an MSc in Biological Engineering with four separate streams: biomechanics, biomaterials, medical physics and neurotechnology.

Entry requirements will vary depending on the institution and the type of engineering degree and specialization you choose. Most master's in engineering degrees require strong grades at undergraduate level, preferably in a relevant science, mathematics, computer science or engineering discipline.

You may also be accepted on the basis of individual courses you have studied, with a particularly high value placed on mathematics, physical science and engineering modules. You may need to provide Graduate Record Examinations (GRE) results to prove you are ready for postgraduate-level study. Of course, if you're studying abroad, you'll need to prove your competency in the language of study.

Some master's degrees with a more professional focus may require candidates to have been employed in the relevant engineering field, while many offer opportunities to undertake workplace projects as part of the program.

Task 1. Match the terms with their definitions.

1. undergraduate	a) an official document gained by successfully completing a course at university or college
2. requirement	b) a person who has a first university degree
3. thesis	c) to have or give somebody the right to have or do something
4. competency	d) a long piece of writing on a particular subject that you do as part of a university degree
5. degree	e) a way of dealing with somebody / something
6. discipline	f) fully trained; qualified
7. to qualify	g) something that you need or that you must do or have
8. bachelor	h) a university student who has not yet taken their first degree
9. approach	i) a branch of knowledge, typically one studied in higher education
10. chartered	j) the fact of having the ability or skill that is needed for something

	10

Task 2. Choose the correct word to complete the sentences according to the information in the text.

1. A Master of Science degree in engineering is an … to be differentiated from a Master of Engineering degree.
   a) academic degree
   b) artistic degree
   c) anthropological degree

2. The types of engineering degree available to you will partly be determined by … and the institution in which you have chosen to study.
   a) the department
   b) the country
   c) the organization
3. You may need to provide Graduate Record Examinations results to prove you are ready for … study.
   a) extramural
   b) additional
   c) postgraduate level
4. The Master of Engineering degree in Australia is a … research degree with an end-of-year thesis.
   a) prolonged period
   b) two-to three-year
   c) five-to seven- year
5. Some universities in the UK now also offer … programs.
   a) Doctor of Engineering
   b) senior course
   c) junior course
6. Of course, if you're studying abroad, you'll need to prove your … in the language of study.
   a) capability
   b) ability
   c) competency
7. The UK's Imperial College London offers an MSc in Biological Engineering with four separate …: biomechanics, biomaterials, medical physics and neurotechnology.
   a) divisions
   b) streams
   c) subdivisions
8. A Master of Engineering degree requires completion of a project and does not qualify its … to apply for a Ph.D. in engineering.
   a) holder
   b) master
   c) owner

	8

b) Text B

MASTER OF INTERNET ENGINEERING

The Internet has significantly changed our lives. In the near future, most of the facets of our life will be "online". Our health, entertainment, security and social interactions will be done using Internet applications that only now are being envisioned. This new

environment will require people to design, manage and maintain the networks that will build the future Internet.

MSc Internet Engineering offers a course that explains all the fundamental parts of the Internet. The course is delivered by means of formal lectures, laboratory and project work. The lecture component is divided into core modules taking place in term one, to provide the students with the required background in communication technologies, and optional modules taking place in term two, in which the students are taught more specialized subjects.

Core modules:

- Introduction to IP Networks (IPN)
- Introduction to Telecommunications Networks (ITN)
- Mobile Communications Systems (MCS)
- Internet of Things (IOT)
- Software for Services and Network Design (SNS)

Optional modules:

- Wireless Communications Principles (WCP)
- Communication Systems Modeling (CSM)
- Network Planning and Operations (NPO)
- Network and Services Management (NSM)
- Optical Transmission and Networks (OTN)
- Telecommunications Business Environment (TBE)

All of the course lecturers carry out leading research in the subjects they are teaching. Modules are taught in 4 day blocks from Monday to Thursday a week (10am to 5pm). The examination and a tutorial are held a few weeks before.

The research project begins in term two and the completed results are reported in the students' dissertations, which must be submitted in September. The research work carried out by the students generally takes place within one of the research groups in the department and in many cases the work carried out by the student leads to advances in the department's research output in addition to giving the student good experience of research work.

Task 3. Match the Russian words with their English definitions.

1. диссертация	a) left to one's choice; not required
2. модуль	b) one part or particular aspect of something
3. необязательный; факультативный	c) one of the three periods in the year (especially in Britain) during which classes are held in schools, universities, etc.
4. требовать	d) to put into operation; execute
5. аспект	e) a long piece of writing on something that you have

	studied, especially as part of a university degree
6. выполнять	f) to give somebody lessons or instructions so that they know how to do something
7. консультация	g) to officially demand or order something
8. семестр	h) a unit that can form part of a course of study, especially at a college or university
9. утверждать; представлять	i) a lesson at a college or university for an individual student or a small group of students
10. обучать	j) to present for consideration

	10

Task 4. Choose the correct word or expressions to complete the sentences according to the information in the text.

1. The research work carried out by the students generally takes place within one of the research groups in the … .
   a) scientific club
   b) department
   c) scientific society
2. Modules are taught in 4 day blocks … a week.
   a) from Monday to Thursday
   b) twice
   c) from Wednesday to Saturday
3. Our health, entertainment, security and social interactions will be done using … that only now are being envisioned.
   a) Internet programs
   b) Internet characteristics
   c) Internet applications
4. The course is delivered by means of formal lectures, laboratory and … .
   a) project work
   b) seminars
   c) brain rings
5. The lecture component is divided into core modules taking place in term one, and … taking place in term two.
   a) postgraduate courses
   b) optional modules
   c) extramural assignments
6. All of the course lecturers carry out leading research … they are teaching.
   a) new technologies
   b) in the field of science
   c) in the subjects

7. MSc Internet Engineering offers a … that explains all the fundamental parts of the Internet.
   a) course
   b) curricular
   c) corporation

	7

II. Grammar

Present Simple and Present Progressive Tenses

Task 5. Complete the following sentences with the correct form of the verb.

1. Excuse me. ... you ... English? (*speak*)
2. Why ... you ... at me? (*look*)
3. Where ... you ... from? - From Canada. (*come*)
4. I can't talk to you at the moment. I ... . (*work*)
5. What ... he ... ? – He is a programmer. (*do*)
6. I ... an important meeting next Tuesday. (*have*)
7. Look! Joe ... to the dean of our faculty. (*talk*)
8. What book ... you ... now? (*read*)
9. Where ... you usually ... on holidays? (*go*)
10. What ... this word ... (*mean*)?
11. When ... your train ... at London? (*arrive*)
12. ... you ... to me? (*listen*)
13. I am sorry; I can't talk to you, I ... for tomorrow meeting. (*prepare*)
14. Don't waste time. We ... for you. (*wait*)
15. Who ... you ... about? (*think*)

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Conditionals I

Task 6. Choose the correct variant.

1. When I *come / will come* back, I *will ask / ask* you some important questions.
2. Your parents will worry, if you *don't pass / won't pass* session exams.
3. If you *come / will come* in time, we *won't be / aren't be* late for the concert.
4. You *get / will get* / *gets* a lot of knowledge if you *attends / attend / will attend* all the lectures.
5. What *will happen* / *happens* if he *miss* / *misses / will miss* this lecture?

	5

Present Perfect and Past Simple Tenses

Task 7. Choose the correct variant and complete the following sentences.

1. The computer which I *have bought / bought* yesterday is very expensive.
2. Look! Somebody *has left / left* the telephone.
3. When did you last phone your parents? – Yesterday my mother *has phoned / phoned* me and *told / has told* me about her new job.
4. When he was younger, he *did not like / haven't liked* sport.
5. Does anybody know the results of the test? I am sure I *have done / did* it without any mistakes.

	5

Total score:

	60

SELF-STUDY TEST 2

(Unit 2. MOST FAMOUS)

I. Vocabulary

a) Text A

STEVE JOBS

Steve Jobs was the Chairman, CEO and co-founder of Apple Inc., a leading manufacturer of electronic devices including the Macintosh Computer (MAC), iPod, iPhone, and the music and video software itunes. He was CEO of Pixar Animation Studios until it was acquired by Disney in 2006. Although he is known as a business and sales wizard, Steve Jobs is credited with many of the electronic inventions now patented by Apple.

Steven Paul Jobs was born in San Francisco to Joanne Carole Schieble and Syrian Abdulfattah John Jandali and adopted by Paul and Clara Jobs. He spent his childhood in the South Bay area, a region that would later become known as Silicon Valley. During high school Jobs held a summer job at the Hewlett-Packard Company in Palo Alto prior to attending college. His original association with Steven Wozniak began as a result of attending lectures and working at HP.

Although he attended Reed College in Portland, Oregon, Steve Jobs never graduated, having only spent about six months at college. He returned to California in 1974 and began attending meetings of the Homebrew Computer Club with his friend Wozniak. At the same time he took a job at Atari to save money for a spiritual retreat to India. While working there he discovered that a popular whistle recreated the tones needed to make long distance phone calls with AT&T. Jobs convinced Wozniak to go into business with him to create "blue boxes" and sell them to people wishing to make free long distance phone calls.

Jobs ended up backpacking through India but returned to work with Atari. He continued to work with Wozniak on other projects and finally convinced him to market a computer Wozniak had built for himself. On April 1, 1976, Apple Inc. was born. Although the business started with printed circuit boards, Steve Wozniak and Steve Jobs eventually created their first personal computer, the Apple I, and sold it for $666.66. They later followed it with the Apple II, a large success for their business. Apple Inc. began selling shares in December of 1980.

As the company grew, so did its merchandise and the hugely successful Macintosh was introduced to the public in 1984 and became the first personal computer with a graphical user interface (GUI) through which individuals could interact with the

items on the screen. As Apple grew even more, Jobs experienced tension with the board and the struggles led to Jobs leaving Apple in May of 1985.

Steve Jobs went on to create the company called NeXT in 1986. Although it began as a company designed around aesthetic interpersonal computing, it later focused more on software development. NeXT ended up playing a major role in the development of email and the world wide web.

Apple bought NeXT in 1996 and reinstated Jobs as the Chief Executive Officer. He consistently helped to grow Apple from a company bordering on bankruptcy in the 1990s to a very successful company today. Steve Jobs helped to establish the new electronic divisions and personally helped to create the ipod, iphone, and other personal devices.

Steve Jobs died on the 5th of October in 2011 after complications with pancreatic cancer.

Task 1. Guess what words from the text "Most Famous" are defined below.

1. leading	a) goods that are for sale
2. to reinstate	b) a person or company that makes something
3. share	c) to persuade somebody to do something
4. to convince	d) a fight in which somebody tries to do or get something when this is difficult
5. bankruptcy	e) best or most important
6. success	f) to communicate or mix with somebody, especially while you work, play or spend time together
7. to interact	g) to return something to its former position or role
8. merchandise	h) the state of being bankrupt
9. struggle	i) one of many equal parts into which the value of a company is divided, that can be sold to people who want to own part of the company
10. manufacturer	j) the fact that you have achieved what you want; doing well and becoming famous

	10

Task 2. Complete the following sentences with the words and expressions from the box (use the correct forms).

success	**go into business**	**convince**	**board**	**leading**	**share**
bankruptcy	**struggle**	**circuit boards**	**Chief Executive Officer**		

1. She played a … role in getting the business started.
2. The salesman … them to buy a new cooker.
3. The company filed for … in 2005.
4. Hard work is the key to … .
5. Printed electronic …. … have replaced the spiderweb of wires.
6. He will not give up the presidency without a … .
7. The … of directors is meeting to discuss the firm's future.
8. After 10 years, I at last decided to sign off and … by myself.
9. … prices are down in London.
10. With the new … arrived, the company was in trouble.

	10

b) Text B

THE FIVE "INVENTIONS" OF STEVE JOBS

Steve Jobs appears as the author of 346 patents in the US registry, but his actual role in all these innovations has been challenged, as he really had no skills as a designer or engineer. In fact, his official biographer, Walter Isaacson, describes him as a tweaker: someone who, rather than invent, was devoted to tweaking and refining already-invented devices and technologies in order to simplify their use.

Macintosh: A great leap in the career of Steve Jobs was the introduction of the original Macintosh (1984), the first consumer computer with a graphical user interface. In other words, it had an operating system with windows and icons, and a mouse to move between them. This idea did not originate with Steve Jobs. It's well known how he was inspired during a visit to the Xerox research centre, where all these ideas had already been developed. But Jobs managed to pack them all into a revolutionary computer, adding a few touches of his own.

Typography on screen: One of the major innovations of the original Macintosh was that it showed on the screen the font chosen for the text. Until then, what was drawn on computer screens was just like on a typewriter. It was on the insistence of Steve Jobs that the first Mac had the ability to display different fonts. As he explained in his famous speech at Stanford University, this effort was due to a fleeting period in college when he was bored and decided to take a course in calligraphy.

Mouse: Steve Jobs was not the inventor of the mouse, but during his career at the head of Apple, one of his obsessions was to perfect this device for communicating with computers. He first got it right with the simple one-button mouse for the original Macintosh, much simpler than the mice that he had discovered on his visit to Xerox PARC. Next, on the launch of the iMac, he insisted on the idea of a single-button

mouse, but with a circular design that made it much more uncomfortable and confusing to users. Finally, with his "Mighty Mouse" and "Magic Mouse," he corrected the mistake and took his idea even further: Apple mice no longer have any buttons.

Mac (1998) + iPod (2001) + iPad (2010): These three devices fall into the same category. With them, the Californian "tweaker" proposed reinventing three devices that seemed to him to be stagnant and/or useless: the personal computer, the MP3 player and the tablet PC. In all three cases his strategy was the same. He led teams of talented designers and software engineers and had them invent more and more prototypes. Then he eliminated the vast majority until he was left with one that did not upset him and, from that prototype, he had them start over, once again refining, looking for simplicity and beauty.

iPhone: This same "Jobs method" was the key to developing the iPhone, perhaps the technological work that definitively exalted the president of Apple in 2007. Rather than reinventing the smartphone, the iPhone integrated functions of other mobile devices such as MP3 players, GPS navigators or even cameras. The key to integrating all these capabilities into a single terminal was reinventing the operating system, again putting together pieces that already existed: icons, touchscreens and gesture control (like using two fingers to enlarge or reduce a picture on the iPhone, or swiping the screen to unlock the phone).

After the announcement of the iPhone in January 2007, the competitors of Apple began working on this same product line, and from there arose the disagreements of Jobs with executives from Google and Samsung. The great "tweaker" disliked that others were inspired by his creations. Thus he started a patent war in which he won a great battle posthumously: in October 2013, Apple won a patent that gathers together, in 364 pages, many details of the original iPhone. Apple had just passed two years from the death of its technological father, and that macro-patent became known as the "Steve Jobs Patent".

Task 3. Match the Russian words with their English definitions according to the meanings in the text.

1. повышать качество	a) to happen or appear for the first time in a particular place or situation
2. конкурент	b) a sudden large change or increase in something
3. ликвидировать; исключать	c) a person who has an important position as a manager of a business or organization
4. должностное лицо	d) the particular size and style of a set of letters that are used in printing, on a computer screen, *etc*.
5. возникать; создавать	e) to make somebody want to do or create something
6. патент	f) to improve something by changing little details

7. вдохновлять	g) a person or organization that is competing against others
8. скачок	h) the official right to be the only person to make, use or sell a product or an invention
9. устройство	i) to remove somebody / something that is not wanted or needed
10. шрифт	j) a tool or piece of equipment made for a particular purpose

	10

Task 4. Rewrite the underlined words and expressions in the sentences using the words given in the box in the correct form.

eliminate	**capability**	**patent**	**launch**	**executive**
competitor	**an announcement**	**originate**		

1. Two local companies are our main <u>rivals</u>.
2. We must try and <u>get rid of</u> the problem.
3. It is anticipated that he will make <u>a statement</u> on his inventions later this week.
4. She is a senior <u>chief</u> in a computer company.
5. Last year the country was granted 146 U.S. <u>licences</u> for various technologies and products.
6. He <u>invented</u> the idea of a negawatt, a unit electricity which is simply not used.
7. The official <u>starting</u> date is in May.
8. The device has the <u>capacity</u> of recording two television channels at once.

	8

II. <u>Grammar</u>

Tenses of the Active Voice

Task 5. Choose the correct variant.

1. The students … get any special knowledge during the first term.
   a) doesn't b) don't c) aren't
2. Where … students receive higher education?
   a) do b) does c) are
3. ... he discuss any problems with his colleagues?
   a) Is b) Does c) Do
4. … the students ask the lecturer many questions?
   a) Are b) Did c) Does
5. If you … much, you … good results.
   a) will work; will get b) works; will get c) work; will get

	5

Task 6. Put the verbs in the correct progressive form.

1. We … our tests at 10 o'clock tomorrow. (*to write*)
2. I … to the university when I met Ann. (*to go*)
3. Sorry, I can't go out. I … my homework. (*to do)*
4. I … on that report when Jane … . *(to work; to come)*
5. At this time tomorrow they … . (*to meet*)

	5

Task 7. Put the verbs in the correct perfect form.

1. Why aren't you writing the test? – But I … it! (*to do)*
2. When I turned on the TV-set, the program … already … . (*to start*)
3. Wow! I … just … the visa! (*to receive*)
4. Have you finished the translation yet? – No, I haven't. I … the translation by nine o'clock tomorrow morning. (*to finish*)
5. Have you already written your diploma work? – No, I … it by Monday. (*to write*)

	5

Passive Voice

Task 8. Rewrite the following sentences in simple passive, as in the model.

Model A: The teacher **explained** the rule to the students.
The rule **was explained** to the students by the teacher.

1. He often asks me to help them.
   I … often … to help them.
2. Steve will make a report at the conference.
   A report … at the conference by Steve.
3. Mendeleyev presented his table in 1869.
   The table … by Mendeleyev in 1869.
4. The professor is examining the students at the moment.
   The students … by the professor at the moment.
5. The secretary was sending the fax.
   The fax … by the secretary.
6. The President has opened the new research center.
   The new research center … by the President.
7. John will have received the papers by tomorrow.
   The papers … by John by tomorrow.

	7

Total score:

	60

SELF-STUDY TEST 3

(Unit 3. GADGETS)

I. Vocabulary

a) Text A

WHAT ARE THE DIFFERENT TYPES OF LAPTOP GADGETS?

The popularity of laptop computers has led to several types of laptop accessories. Some laptop gadgets are meant to protect the computer, such as laptop bags that protect the exterior and encrypted hard drives that keep the interior safe. Other types of laptop tools can extend the use of the computer, such as extended life batteries and car chargers. Some tools focus more on the user's comfort than portability, which is why external monitors, keyboards and mice are often made just for the typical laptop. They are particularly helpful for people who use a laptop in place of a desktop, because those users likely spend several hours on this type of computer.

Many laptop owners pay a lot of money for this small, portable type of computer, which is why protecting it is often among their top priorities. There are several kinds of laptop bags on the market, such as messenger bags, backpacks, briefcases and bags with wheels. Many users are more concerned about what is inside the notebook, prompting them to get a cable and a lock to prevent people from tampering with the data inside. Other laptop gadgets centered on security include an encrypted hard drive or thumb drive, both of which can restrict access to only the owner of the computer.

Laptop owners often take this type of computer with them everywhere they go, which means that a long battery life is important because an outlet is not always available. One of the most popular laptop gadgets is an extended-life battery, which allows laptops to work for several hours more than a standard battery permits. People who are going on long trips usually need to bring a charger to recharge their laptop after the extended battery runs out of power, but a traditional power cord might not be optimal if regular outlets are available. For this reason, one of the laptop gadgets on the market is a car adapter that allows laptop owners to charge their computer through their car's power outlet as they drive.

Some notebook users, however, treat their laptop like a desktop computer, so portability is not at the top of their list when shopping for laptop gadgets. They might, therefore, be interested in adding a mouse and ergonomic keyboard to the computer, which can provide a little more comfort for long-term use. Some users also prefer to attach a monitor to the notebook so they get more screen space, especially if they plan to watch movies from the computer. Of course, most notebooks have limited space for peripherals to plug in, which is why docking stations are often used. A docking station is a platform with plenty of space for peripherals to be plugged in, which means that the laptop itself only has to be connected to the station, allowing users to have a printer, mouse, monitor or other peripherals connected to the laptop at the same time.

Task 1. Match these terms with their definitions according to the text.

1. to encrypt	a) on the outside
2. accessory	b) to make changes to something without permission especially in order to damage it
3. portable	c) designed to improve people's working conditions and to help them work more efficiently
4. to tamper	d) to put information into a special form (code) especially in order to stop people being able to look at or understand it
5. exterior	e) to finish your supply of something; to come to an end
6. to restrict	f) something that is most important or that you must do before anything else
7. peripheral	g) an extra item that is added to something and is useful or attractive but not of great importance
8. priority	h) to put a limit on somebody / something
9. ergonomic	i) a piece of equipment that is connected to a computer, for example a printer
10. to run out	j) that can be moved or carried easily

	10

Task 2. Choose the correct question to the following answers.

1. A portable type of computer.

a) Which type of portable computer is the least expensive?
b) Which type of computer can be taken by the owners everywhere they go?
c) What can be restricted due to a thumb drive?

2. An extended-life battery.

a) What prolongs the outlet of the portable computers if the owners are going on long trips?
b) What do owners of the laptop computers take to recharge their computer if necessary?
c) What is used as desktop computer?

3. Like a desktop computer.

a) What do laptop bags look like?
b) How long does an extended-life battery work?
c) How do some notebook users treat their laptop?

4. A car adapter.

a) What allows laptop owners to charge their computer while travelling in a car?
b) What is not at the top of the list of some notebook users when shopping for laptop gadgets?
c) What laptop gadget restricts access to only the owner of the computer?

5. The user's comfort.

a) On what do laptop owners rely more in their choosing laptop bags?
b) On what does the work of the outlet depend?
c) On what do some tools focus more: the user's portability or comfort?

6. Because an outlet is not always available.

a) Why is the use of a long battery life important for the laptop owners?
b) What do people have to take for a long journey to recharge their laptop?
c) Why do some notebook users have to add a mouse and ergonomic keyboard to the computer?

7. They get more screen space.

a) What is helpful for watching movies from the computer on a more screen space?
b) Why do some users prefer to attach a monitor to the notebook?
c) Why are docking stations often used in the laptop operation?

8. Because they pay a lot of money for them.

a) What is the reason for buying laptop bags?
b) Why are thumb drive laptop gadgets most preferably used by computer owners?
c) Why is protecting portable types of computer among top priorities of many laptop owners?

	8

b) Text B

THE FIVE LAPTOP GADGETS

A **car charger** is a device that plugs into the 12-volt cigarette lighter outlet inside a vehicle, then connects to an electronic device such as a cell phone or MP3 player to charge the battery. The cell phone will typically connect to the car charger through a USB port or simple power cord. Though there are many "universal" car chargers available, unfortunately many cell phones use a proprietary design, and it is often necessary to purchase a new car charger with every new cell phone.

A **thumb drive**, also called a "flash drive" or "jump drive", is a portable solid-state data storage device. It is re-writeable and preserves information without a power supply. Thumb drives will fit into any USB port on a computer. They can also be "hot swapped," which means a user can plug the drive into a computer and will not have to restart it to access the thumb drive. The drives are quite small, about the size of a human thumb and can safely be tossed into a pocket or purse without fear of damage.

Lithium polymer (LiPoly) batteries are often used as an alternative to lithium ion batteries for several reasons. First, lithium ion batteries have lithium tightly contained within them and because they are so powerful, if a short occurs inside them, it can lead to flames. Cylindrical in shape, lithium ion batteries look more like a larger version of AA batteries rather than the narrow, flat, lithium polymer batteries. Both lithium ion and LiPoly batteries are available in rechargeable versions, but lithium polymer batteries are not as prone to flammability as lithium ion batteries are.

Zinc-based batteries are another alternative to lithium ion batteries as they are long lasting, not easily flammable, and are more environmentally friendly than lithium ion batteries. However, lithium is a popular battery choice as it gives the biggest amount of electric energy possible in energy per unit weight of all solid elements.

One of the more popular styles of an **ergonomic computer keyboard** is the split keyboard. A traditional keyboard has the keys arranged in a straight line while a split ergonomic computer keyboard has a gap in the middle of the keyboard that divides the keys into two separate halves. Many of these types of ergonomic keyboards arrange the key halves in the shape of a V, allowing the hand and wrist to move in a more neutral, less stressful way.

A **docking station** is a bridge to the past for many newer computers, but users might find that they need one even if they have the latest model. It's a device into which a person can plug a laptop in order to gain extra functionality, such as access to printers, mice, scanners, full-sized monitors and keyboards, and external hard drives. All of these peripherals can be plugged into the dock, and then, when the user connects the laptop, he can gain access to all of those peripherals without having to plug each one into the computer. This can be especially helpful if the laptop has a minimal number of USB or Firewire® ports.

Task 3. Put the letters in the correct order to make the word that is described.

1. fhasl ivred	a small device that you can carry around with you which is used for storing and moving data onto a computer
2. ptils	to divide or share something
3. resverpe	to keep something safe or in good condition
4. mabllfame	able to burn easily
5. oncimreog	designed to improve people's working conditions and to help them work more efficiently
6. rahcreg	a piece of equipment for loading a battery with electricity
7. ccssea	the chance or right to use or have something
8. htmuili	a soft, very light, silver-white metal that is used in batteries

9. wertalenirb supporting overwriting of previously recorded data
10. ckod a device in which a laptop, smartphone, or other mobile device may be placed for charging, providing access to a power supply and to peripheral devices or auxiliary features

	10

Task 4. Complete the following sentences with the words and expressions from the box (use the correct forms).

rechargeable	**docking station**	**thumb drive**	**dock**	**restart**
short	**plug into**	**FireWire**		

1. I use my USB … for file transfer because it's easier than a CD-R.
2. An internal … can cause the battery cells to overheat, posing a fire hazard to consumers.
3. I have a … next to my bed where my phone gets plugged – I also have another one at my computer desk.
4. The computer could not be … , so the programme returned to the national network.
5. Special features include a state-of the-art entertainment system and a … for notebooks and iPods.
6. The pocket charger is powered by a … lithium polymer battery and requires no electrical outlet.
7. The base station comes with two cables – one … your broadband router, the other into your landline phone socket.
8. This module enables connectivity with … storage devices and scanners.

	8

II. Grammar

Functions of the verbs *to be* and *to have (got)*

Task 5. Point out the function of the verbs *to be* and *to have* in the following sentences.

a) main verb b) part of predicate c) modal verb

1. They **are** carrying out a series of new experiments this month.
2. The main features of the latest smartphone **were** referred to in that email.
3. Most of the Internet host computers **are** in the USA.
4. He **was** to inform me about the results of his work.
5. This material **has** many valuable qualities.
6. The teacher **has** to send the text message.

7. She **had** worked as a secretary before she entered the university.
8. The students **had** to translate this text in time.

	8

Multifunctional words o*ne (ones), that (those) it*

Task 6. Match the sentences containing multifunctional word *one* with their sentence equivalents. (8 points)

1. ***One*** *must study a lot to become a specialist.*
   a) Task number one for a future specialist is studying much.
   b) It is necessary to study much to become a specialist.
   c) One thing to become a specialist is surely to study much.
2. *We must write only* ***one*** *exercise now.*
   a) The only exercise from this text-book is written by us.
   b) We needn't write any more exercises now, only one.
   c) The number of the exercise we have to do is one.
3. *The advanced method allows* ***one*** *to get good results.*
   a) One can achieve good results using this advanced method.
   b) One is not allowed to get good results because of this advanced method.
   c) The usage of the achieved results is possible due to this advanced method.
4. *Our old laboratory equipment was much worse than the new* ***one****.*
   a) The new laboratory equipment is one of the best.
   b) The new laboratory equipment is much better than the old equipment.
   c) Our old laboratory equipment is was bad.

	4

Task 7. Point out the function of *that (those)* in the following sentences.

a) demonstrative pronoun b) substitute c) relative pronoun d) conjunction

1. Mendeleev is a scientist **that** is known all over the world.
2. **That** computers and robots are important for industrial uses is well known to scientists and engineers.
3. **That** programmer works in our university.
4. This method of work is much more efficient than **that** of your team.
5. Machine code consists of the binary codes **that** are processed by the CPU.
6. The simplest materials are **those** which have only one kind of atoms.

	6

Task 8. Point out the function of the pronoun *it* in the following sentences.

a) personal subject; b) demonstrative subject; c) impersonal subject; d) personal object; e) emphasis

1. It is a new subject. **It** is very important for our future speciality.
2. **It** is the most interesting article on this subject.
3. **It** is this question that we are interested in.
4. The discussion was very interesting, but some students failed to take part in **it**.
5. **It** was obvious that something important had happened.
6. You have written a report. I've checked **it**.

	6

Total score:

	60

SELF-STUDY TEST 4

(Unit 4. THE INTERNET)

I. Vocabulary

a) Text A

THE INTERNET INVENTORS

In 1979 Paul Baran, Vint Cerf, Jon Postel and Bob Braden proposed the Internet conception.

Its prehistory dates back to the early 1970s when the RAND Corporation, America's foremost Cold War think-tank, faced a strategic problem. The question was: how could the US Army communicate under circumstances of nuclear war, in zones involved into military operations? It was the Internet that became the answer. Each message is split into data packets and sent out via the computer network. Then is goes to its destination by whatever route was available, passing through many other computers, each of them being a part of the global network. In case one packet is missing, a receiver asks a sender to send the missing packet again. The above mentioned individuals were carrying out that research.

In 1959 Baran joined RAND Corporation. He designed a "survivable" communications system that could keep working across long distances even if hit by nuclear weapons. Baran proved that by dividing communication into short packages, the packages could be easily rerouted when a part of the network was lost. Special computers (called "routers") would steer the packages around the network toward their final destinations. This later became the basic design of the Internet.

Vint Cerf, also known as the Father of the Internet, invented computer protocols for the DARPANet, which allowed communication between computers of various types.

Jon Postel was the Project Leader for one of the National Science Foundation Project and the Gigabit Network Communication Research Project. These two highly technical projects were completely incomprehensible to those who were not foremost scientists like Jon Postel. Postel had a M.Sc. degree in Engineering and a Ph.D. in Computer Science.

But the most relevant figure in Internet creating was a young Englishman who single-handedly made the World Wide Web. His name is Tim Berners-Lee. Actually, he did not participate in creating the Internet itself, but he designed the World Wide Web, the "killer application" of the Internet. The Web is the reason for which millions of people dive into the Net. Even though still in its infancy, the Web is fascinating, it's a global library. Once it's fully formed, it could be awesome. Tim Berners-Lee's Web is what transformed the Net from academic back-water into the global stream of fresh water it is today.

Tim Berners-Lee created the Web at the age of 32. At the same age Bill Gates was on his way to his first billion. Like Gates, Berners-Lee was introduced to computers while still a child - his parents were mathematicians. On graduating from Oxford, he developed the

first Web prototype in 1980 for his personal use. Nowadays, he expects the Web to become a place where one could find any fact about anything quickly and cheaply.

The Web let the Net be used in a logical way. It created a standard that everybody could - and did - follow.

Task 1. Guess what words from the text A are defined below.

1. a number of computers that are connected together so that they can share information;
2. the place to which one is going or directed;
3. most important or best; leading;
4. a piece of electronic equipment that connects computer networks to each other, and sends information between networks;
5. a unit of data that is sent over a computer network;
6. a group of experts brought together, usually by a government, to develop ideas on a particular subject and to make suggestions for action;
7. the first example of something, such as a machine or other industrial product, from which all later forms are developed;
8. connected with what is happening or being discussed.

	8

Task 2. Complete the following sentences with the words from the box.

message	**proposed**	**packet**	**network**	**relevant**
	foremost	**prototype**	**Web**	

1. We've just spent $1.9 million on improving our computer ... .
2. Creating different combinations of the ... is the next design challenge for this project.
3. She is one of the ... experts on child psychology.
4. I spent the afternoon surfing the ... .
5. The scientist ... a new theory.
6. Your information ... includes a map and a schedule of all the events at the conference.
7. For further information, please, refer to the ... leaflet.
8. Someone left you a ... .

	8

b) Text B

WEB BROWSERS

Internet or web browsers provide you the liberty to access the millions of sites and data all around the world. With just one click you can download content, view movies and photos and also have a look at websites which have a lot of graphics attached to it. However, many times it has been noticed that web browsers don't work the way they should be working. They get slow, take a lot of time downloading stuff and also opening up a page. Now there are so many types of web browsers in the world, that it becomes hard to choose the best one.

Choosing a good browser is really very important for your surfing time. Having a useful browser can save loads of time and headaches by giving you the correct websites and also ensuring you a good loading speed. Technology is advancing on a daily basis and it's also making sure that your system is provided with the latest updates regularly. So it's very necessary that you have the best web browser on your PC so that you can take full advantages of such services and also ensure strong Internet safety.

Internet Explorer

This is the most popular and the best Internet web browser for Windows. It was developed by Microsoft in 1994 and released in 1995 as a supportive package to Microsoft Windows line of operating systems. According to statistics, its usage share from 1999 to 2003-04 was around 95%. Microsoft occasionally releases updates for the previous versions of IE, which have some enhanced capabilities. IE has come up a preview release of Internet Explorer 10. The 'favicon', which is the short form of favorite icon, was introduced first in IE, and was later adopted by many other browsers. Initially, IE did not support tabbed browsing. But today, it can be used even in the older versions, by installing toolbars. There are regular Microsoft updates that IE supports. Favicon allows an image to be used as a bookmark. It supports Integrated Windows Authentication.

Mozilla Firefox

According to many critics Mozilla Firefox is the fastest browser in the world. It is owned by Mozilla Corporation and was the result of experimentation. 'Mozilla Firefox' was officially announced in February 2004. It was earlier named Phoenix, Firebird, and eventually Firefox. Until November 2008, 700 million downloads were recorded. Since the release of Firefox, the sale of Internet Explorer has gone down drastically. It has around 22% of the market share at present. It has undergone many updates and version changes that were made to improve usability to the universal users.

As it is an open source software, it allows everyone to access the code. It supports tabbed browsing that allows the user to open multiple sites in a single window. Session storage is also an important feature of Firefox, which allows the user to regain access to the open tabs after he has closed the browser window. It also supports all the modern features like HTML 5 and also blocks the sites which pose a potential threat to your operating system.

Opera

This browser was developed by Opera Software in 1996. It is a well-known browser that is mainly used in Internet-activated mobile phones, PDAs, and smartphones. Opera Mini and Opera Mobile are the browsers used in smartphones. It is compatible with many operating systems such as Solaris, Linux, Mac OS X, and Microsoft Windows. Not many people use it for computer operating systems, but Opera is very common in smartphones. Opera is fast, hardly crashes and is seldom attacked by viruses.

It has some common functions like zoom and fit-to-width, content blocking, tabs and sessions, download manager with BitTorrent, and mouse gestures.

Google Chrome

This web browser was developed by Google. Its beta and commercial versions were released in September 2008 for Microsoft Windows. The browser versions for Mac OS X are under development. People call the Google Chrome the "Light Weight Browser". It' been named that because of its ability to upload web-pages at a great speed and also handle JavaScript pages very effectively. Google Chrome offers you all the features which all the other web browsers have to offer. It uses a tab system for opening web pages and the browser also offers you a bookmark syncing manager to make sure that your bookmarks are always organized. Surely it is one of the best web browsers in the market today.

Task 3. Complete the following sentences with the words and expressions from the box (use the correct forms).

announce	**compatible**	**browser**	**features**	**download**	**update**
	bookmarks	**access**	**attach**	**click**	

1. You can ... this software free from their website.
2. This keyboard is ... with all of our computers.
3. Do you have Internet ... ?
4. This phone has several new ... .
5. Add this website to your ... .
6. The company has ... plans to open six new stores.
7. To start the program, ... on its icon.
8. I ... the file to the e-mail.
9. This ... supports frames.
10. I need to ... my address book.

	10

Task 4. Choose the correct word to complete the sentences according to the information in the text.

1. Internet or web browsers provide you the … to access the millions of sites and data all around the world.
   a) letters b) liberty c) laconism
2. Choosing a good ... is really very important for your surfing time.
   a) push b) browser c) code
3. According to many ... Mozilla Firefox is the fastest browser in the world.
   a) critics b) controversions c) contradictions
4. Opera Mini and Opera Mobile are the browsers used in ... .
   a) IPads b) smartphones c) Hi-Fi
5. Google Chrome offers you all the ... which all the other web browsers have to offer.
   a) gadgets b) instruments c) features
6. Mozilla Firefox was officially ... in February 2004.
   a) announced b) closed c) resumed
7. Microsoft occasionally releases ... for the previous versions of IE, which have some enhanced capabilities.
   a) messages b) updates c) surveys
8. Mozilla Firefox supports tabbed browsing that allows the user ... multiple sites in a single window.
   a) to shut up b) to postpone c) to open

	8

Task 5. Choose the best answer to the following questions.

1. For what browser does Microsoft occasionally release updates?
   a) Firefox b) Internet Explorer c) Google Chrome
2. By what was Opera browser developed?
   a) Opera Software b) Linux c) Opera Mobile
3. When were beta and commercial versions of Google Chrome released?
   a) in September 2004b) in September 2006c) in September 2008
4. What kind of system does Google Chrome use for opening web pages?
   a) a window system b) a tab system c) a beta system
5. What does Mozilla Firefox allow everyone to access as an open source software?
   a) the speed b) the keyboard c) the code
6. How did the release of Firefox effect the sale of Internet Explorer?
   a) it has gone up b) it has gone down c) it has stopped

7. For what is choosing a good browser really very important?
   a) for your downloading stuff b) for your enjoying the company
   c) for your surfing time

8. With what does technology make sure to provide your web browser?
   a) the latest updates b) the latest fashions c) the latest handwriting styles

	8

II. Grammar

Participle I and Participle II

Task 6. Choose the correct form of the participle.

1. **Receiving / Received** an e-mail message he always takes it to the manager.
2. The Internet **providing / provided** a new method of doing business must be capable of providing the reliability for the user.
3. Information **sent / sending** over the Internet takes the shortest and safest path available from one computer to another.
4. **Using / Used** the mouse you can do a number of things by clicking on different icons.

	5

Task 7. Match the following Russian parts of the sentences with their equivalents.

1. ***Получив электронное письмо…***

a. **Receiving emails** from his foreign friends he always tells us the news his friends write him.
b. **Having been received the email** was shown to everybody.
c. **Having received the email** from our foreign partners we showed it to our manager.

2. ***Когда я вхожу в Интернет…***

a. **Having entered the Internet** I found a lot of interesting information.
b. **Entering the Internet** I always find a lot of interesting information.
c. I **am entering the Internet** now.

3. ***Так как студента спрашивали…***

a. **The student was being asked** at 5 o'clock and so he couldn't go out.
b. **Being asked the student** couldn't go out.
c. **Having been asked the student** went home.

4. ***После того как статья была написана…***

a. **Having been written the article** was published in one of the scientific journals.
b. **The article was written** and published in one of the scientific journals.
c. **Having written the article** we published it in one of the scientific journals.

5. Что ты думаешь о ***методе, который используется*** *сейчас?*

a. What do you think of **the method used** now?
b. What do you think of **the method having been used** now?
c. What do you think of the **method being used** now?

	5

Absolute Participle Constructions

Task 8. Choose the English equivalents of the Russian phrases containing the absolute participle constructions.

1. ***поскольку инженеры использовали новые методы проектирования***
   a. **The engineers applying new methods of design**, good results were achieved.
   b. **The engineers** a**pplying new methods of design** had many controversial opinions on them.
   c. **Having applied the new methods the engineers** were dissatisfied finally with the design.
2. ***так как первые компьютеры были не очень надежными***
   a. **Not being very reliable the first computers**, nevertheless, proved to be a great invention of the mankind.
   b. **The first computers being not very reliable** were quickly replaced by a more reliable design.
   c. **The first computers being not very reliable,** scientists went on improving them.
3. ***причем изобрел его русский ученый Попов***
   a. **Having invented the radio, Popov** became famous.
   b. Radio was invented in Russia, **its inventor being the Russian scientist Popov.**
   c. **Popov's inventing the radio** revealed great knowledge of physics laws.

4. ***когда выполнил перевод***

a. **Doing the translation**, I looked up the new words in the dictionary.
b. **The translation having been done**, I gave it to the teacher.
c. **My brother having done translation**, we went home.

5. ***так как цель собрания была достигнута***

a. **The purpose of the meeting being achieved**, it was over.
b. **Achieving the purpose of the meeting**, those present at it were very active.
c. **Having achieved the purpose of the meeting**, the members' interest faded.

6. ***когда проблема была решена***

a. **Having solved the problem,** we finally gave our consent to take part in the conference.
b. **This problem having been solved,** we could conduct the necessary experiments.
c. **Solving the problem,** we had a heated discussion.

7. ***Когда опыты были проведены…***

a. **The experiments made,** we could discuss the results.
b. **The experiments being made** result in the discussion.
c. **The experiments made** were discussed in respect to their results.

8. ***Так как все оборудование убрали…***

a. **Having removed all the equipment,** the explorers stopped working.
b. **Removing all the equipment,** the explorers dusted each detail.
c. **All the equipment removed,** the explorers stopped working.

	8

Total score:

	60

SELF-STUDY TEST 5

(Unit 5. INFORMATION SECURITY)

I. Vocabulary

a) Text A

INFORMATION SECURITY

Information security is the process of protecting the availability, privacy, and integrity of data. While the term often describes measures and methods of increasing computer security, it also refers to the protection of any type of important data, such as personal diaries or the classified plot details of an upcoming book. No security system is foolproof, but taking basic and practical steps to protect data is critical for good information security.

Password Protection

Using passwords is one of the most basic methods of improving information security. This measure reduces the number of people who have easy access to the information, since only those with approved codes can reach it. Unfortunately, passwords are not foolproof, and hacking programs can run through millions of possible codes in just seconds. Passwords can also be breached through carelessness, such as by leaving a public computer logged into an account or using a too simple code, like "password" or "1234".

To make access as secure as possible, users should create passwords that use a mix of upper and lowercase letters, numbers, and symbols, and avoid easily guessed combinations such as birthdays or family names. People should not write down passwords on papers left near the computer, and should use different passwords for each account. For better security, a computer user may want to consider switching to a new password every few months.

Antivirus and Malware Protection

One way that hackers gain access to secure information is through malware, which includes computer viruses, spyware, worms, and other programs. These pieces of code are installed on computers to steal information, limit usability, record user actions, or destroy data. Using strong antivirus software is one of the best ways of improving information security. Antivirus programs scan the system to check for any known malicious software, and most will warn the user if he or she is on a webpage that contains a potential virus. Most programs will also perform a scan of the entire system on command, identifying and destroying any harmful objects.

Most operating systems include a basic antivirus program that will help protect the computer to some degree. The most secure programs are typically those available for a monthly subscription or one-time fee, and which can be downloaded online or purchased in a store. Antivirus software can also be downloaded for free online, although these programs may offer fewer features and less protection than paid versions.

Firewalls

A firewall helps maintain computer information security by preventing unauthorized access to a network. There are several ways to do this, including by limiting the types of data allowed in and out of the network, re-routing network information through a proxy server to hide the real address of the computer, or by monitoring the characteristics of the data to determine if it's trustworthy. In essence, firewalls filter the information that passes through them, only allowing authorized content in. Specific websites, protocols (like File Transfer Protocol or FTP), and even words can be blocked from coming in, as can outside access to computers within the firewall.

Codes and Cyphers

Encoding data is one of the oldest ways of securing written information. Governments and military organizations often use encryption systems to ensure that secret messages will be unreadable if they are intercepted by the wrong person. Encryption methods can include simple substitution codes, like switching each letter for a corresponding number, or more complex systems that require complicated algorithms for decryption. As long as the code method is kept secret, encryption can be a good basic method of information security.

On computers systems, there are a number of ways to encrypt data to make it more secure. With a symmetric key system, only the sender and the receiver have the code that allows the data to be read. Public or asymmetric key encryption involves using two keys — one that is publicly available so that anyone can encrypt data with it, and one that is private, so only the person with that key can read the data that has been encoded. Secure socket layers use digital certificates, which confirm that the connected computers are who they say they are, and both symmetric and asymmetric keys to encrypt the information being passed between computers.

Legal Liability

Businesses and industries can also maintain information security by using privacy laws. Workers at a company that handles secure data may be required to sign non-disclosure agreements (NDAs), which forbid them from revealing or discussing any classified topics. If an employee attempts to give or sell secrets to a competitor or other unapproved source, the company can use the NDA as grounds for legal proceedings. The use of liability laws can help companies preserve their trademarks, internal processes, and research with some degree of reliability.

Task 1. Match these words with their definitions according to the text.

1. malware	a) intended to do hard
2. encryption	b) the state of being free from public attention
3. foolproof	c) a part of a computer system or network which is designed to block unauthorized access while permitting outward communication
4. spyware	d) to obstruct (someone or something) so as to prevent them

	from continuing to a destination
5. firewall	e) software that enables a user to obtain covert information about another's computer activities by transmitting data covertly from their hard drive
6. malicious	f) not having official permission or approval
7. to intercept	g) incapable of going wrong or being misused
8. to reveal	h) the process of converting information or data into a code, especially to prevent unauthorized access
9. privacy	i) to make (previously unknown or secret information) known to others
10. unauthorized	j) software which is specifically designed to disrupt, damage, or gain authorized access to a computer system

	10

Task 2. Complete the following sentences with the words and expressions from the box (use the correct forms).

encryption	**security**	**firewall**	**unauthorized**	**destroy**
	antivirus	**decrypt**	**spyware**	
		encrypt	**monitor**	

1. Criminals who infect computers with … can be jailed for up to 5 years under the bill.
2. He is suspected of breaking Japanese laws prohibiting … computer access.
3. The software will … the message before it is sent.
4. Be sure to enable your computer's … .
5. All the files were deliberately … .
6. The computer can be used to encrypt and … sensitive transmissions.
7. Enter your … code to access the computer.
8. Most … software updates automatically when you connect to the web.
9. We need a better system for … what is going on.
10. I use … to protect sensitive information transmitted online.

	10

Task 3. Match the questions to the answers according to the text.

1. Through what kind of carelessness can passwords be breached?	a) They may be required to sign a non-disclosure agreements.

2. Is any security system foolproof?	b) It is through malware, which includes computer viruses, worms and other programs.
3. What else besides measures of increasing computer security does the term “information security” describe?	c) Encryption.
4. What should not people do to protect the availability privacy of their computer?	d) No, it isn’t.
5. Which is one of the ways of hackers’ gaining access to secure information?	e) They should not write down passwords on papers left near the computer.
6. What can a good basic method of information security be as long as the code method is kept secret?	f) It also describes the protection of personal diaries or the classified plot details of an uncoming book.
7. What may the workers at a company that handles secure data be required to sign?	g) They have the right to use non-disclosure agreements as grounds for legal proceedings.
8. What right can a company have in respect to an employee giving or selling secrets to a competitor?	h) By learning a public computer logged into an account.

	8

b) Text B

TYPES OF COMPUTER ATTACKS

Our computer systems are vulnerable to different types of attacks. In today's world, it has become an almost everyday situation where we hear about personal computer systems or the networks have been attacked. In this age of technology, there are different types of computer attacks from which one has to protect their precious data, systems and even networks. While some of the attacks may simply corrupt the data on the computer, there are other attacks, where the data from the computer system may be stolen, and others where the entire network may be shut down.

To put it simply, there are two main types of attacks, passive attacks and active attacks. Passive attacks are the ones where the data transaction on the computer is monitored and later utilized for malicious interests, while active attacks are ones where either changes are made to the data or the data is deleted or the network is destroyed completely. Given below are some of the common types of active as well as passive attacks that can affect the computers of today.

Active Types of Computer Attacks

Virus

Most famous computer attacks are viruses, which have been around for the longest time. They install themselves onto the computers and spread to the other files on the system. They often spread through external hard drives, or through certain internet sites or through email attachments. Once the viruses are launched, they become independent of the creator and aim to infect a number of files and other systems.

Root Kit

Hackers gain access into the system with the use of root kit drivers and take full charge of the computer. These are among the most dangerous computer attacks, as the hacker can gain more control over the system, than the owner of the system. In some cases, hackers have been able to also turn on the victim's webcam and watch the activities of the victim, without the victim knowing about it at all.

Trojan

In the list of computer attacks, Trojan horses rank right after the viruses. They often disguise themselves in a piece of software, in screen saver, or in a game, which appears to work normally. However, once they are copied onto the system, they will infect the system with a virus or root kit. In other words, they act as carriers of viruses or root kits, to infect the system.

Worm

Worms can be called the cousins of viruses. The difference between viruses and worms is that worms infect the system without any kind of assistance from the user. The first step that worms take is to scan the computers and exploit vulnerabilities. Then it copies itself onto the system infecting the system, and the process is repeated.

Passive Types of Computer Attacks

Eavesdropping

As the name suggests, hackers will sneakily listen to the conversation happening between two computers on the network. This can happen in a closed system as well as over the internet. The other names with which this is referred to is sniffing or snooping. With eavesdropping, sensitive data can make its way over the network and can be accessible to others.

Password Based Attacks

One of the most common types of cyber attacks are password based attacks. Here the hackers gain access to the computer and the network resources by gaining password control. It is often seen that the attacker changes server and network configuration and in some cases may even delete data. Data can also be passed onto different networks.

Compromised Key Attack

To store sensitive data, a secret code or number may be used. Obtaining the key is no doubt a real huge task for the hacker, it is possible that after intense research the hacker is indeed able to lay his hands on the key. Once the key is in possession of the hacker, it is known as compromised key. The hacker will now have access to the sensitive data and can make changes to the data. However, there are also chances that the hacker will try different permutations and combinations of the key to gain access to other sets of sensitive data as well.

Identity Spoofing

Every computer has an IP address, due to which it is considered as a valid and independent entity on the network. One of the common computer attacks is to assume the identity of another computer. Here IP packets may be sent from valid addresses and gain access to a particular IP. Once access is gained, the data on the system may be deleted, modified or rerouted. Alternately, the hacker can make use of this hacked IP and cause attacks on the other systems within or outside the network.

Application Layer Attack

The aim of the application layer attack is to cause fault in the server's operating system. Once a fault is created in the operating system, the hacker is able to gain access to the server controls. This in turn leads to the hacker modifying the data in various ways. A virus may be introduced into the system or may send numerous requests to the server, which can result in its crash or security controls may be disabled, due to which restoring the server back can become difficult.

Task 4. Put the letters in the correct order to make the word that is described.

1. atad - information in the form of a text, numbers, or symbols that can in used in a computer
2. xnlaerte - relating to the outside part of something
3. tiuzeit - to sue something in an effective way
4. tcretop - to keep someone or something safe from something dangerous or bad
5. ttametahcn - a computer file which is sent together with an email message
6. cerkah - someone who illegally gets into someone else's computer system
7. uvrsi - a program that is secretly put onto a computer in order to destroy the information that is stored on it
8. dletee - to remove something, especially from a computer's memory
9. ilsantl - to put software onto a computer
10. sorpawsd - a secret word that allows you to do something, such as use your computer

	8

Task 5. Complete the following sentences with the words and expressions from the box (use the correct forms).

valid	**delete**	**victim**	**destroy**	**utilize**	**a hacker**
virus	**infect**	**get access**	**attachment**		

1. We must consider how best to … what resources we have.

2. … had managed to get into the system.
3. I'll send the spreadsheet as an … .
4. He was the … of an administrative error.
5. The … will disable your computer.
6. He had represented himself as an employee in order to … … to the files.
7. Position the cursor before the letter you want to … .
8. All the computers in the office … … by the same virus.
9. You must present … identification.
10. All the files were deliberately … .

	10

II. Grammar

Gerund and Participle I

Task 6. Point out what parts of speech the words in bold are: gerund or participle I.

1. **Overcoming** these difficulties is not so easy as it may seem.
   Overcoming these difficulties the designers can increase the fuel efficiency.
2. **Setting** a problem the scientist makes the first step to its solution.
   Setting a problem is the first step to its solution.
3. Joystick is an input device especially helpful in **playing** computer games.
   They are **playing** computer games now.
4. **Covering** the distance between Tokyo and Moscow in less than two hours this superliner develops a speed five times above the speed of sound.
   Covering the distance between Tokyo and Moscow on board a superliner requires about two hours.
5. A fax machine is used for **sending** and receiving copies of original documents via a phone line.
   Don't forget to write down your address when **sending** a letter.
6. **Putting** the discovery into practice the engineers will solve a complicated technological task.
   Putting the discovery into practice sometimes requires more effort than making it.
7. He persisted in **trying** to solve that difficult problem.
   Trying to solve that difficult problem he came to an interesting conclusion.
8. **Using** the new method has brought very good results.
   Thousands of scientists **using** the most modern equipment are studying the atmosphere.

	8

Gerund Construction

Task 7. Choose the best translation.

1. They insisted on his being provided with all the necessary data.

a) Его владение необходимой информацией было одним из наших требований.
b) От него настоятельно требовалась вся необходимая информация.
c) Они настаивали на том, чтобы он получил все необходимые данные.

2. We know nothing of his inventing a new machine.

a) Мы знаем о том, что он изобретает новую машину.
b) Его новая машина не представляла для нас никакого интереса.
c) Мы ничего не знаем о том, что он изобретает новую машину.

3. We heard of our engineer having left for the international symposium.

a) Мы слышали, что наш инженер уехал на международный симпозиум.
b) Среди нас разнеслась новость, что наш инженер уехал на международный симпозиум.
c) Мы узнали эту новость только после того, как наш инженер уехал на международный симпозиум.

4. We learned of her having been awarded.

a) Мы узнали о том, что ее наградили.
b) Ее награждение не было для нас новостью.
c) Мы учили ее тому, как получать награждения.

5. His having made these experiments successfully caused a great sensation.

a) Его успешные опыты превзошли все ожидания.
b) То что он успешно выполнил эти опыты, было для всех большой сенсацией.
c) Проведение им опытов оказалось успешным, что вызвало большое недоумение.

6. The post-graduate student's having added some new formulas to the paper was written in the account.

a) Некоторые новые формулы, использованные аспирантом в своей работе, упомянуты в отчете.
b) В отзыве было написано, что этот аспирант дополнительно использовал несколько новых формул в своей работе.
c) Письменный отчет аспиранта о своей работе включал в себя также пункт об использовании в качестве дополнения новых формул.

	6

Total score:

	60

SELF-STUDY TEST 6

(Unit 6. COMPUTER AIDED DESIGN – CAD)

I. Vocabulary

a) Text A

COMPUTER AIDED DESIGN – CAD

Computer Aided Design-CAD is defined as the use of information technology (IT) in the Design process. A CAD system consists of IT hardware (H/W), specialized software (S/W) (depending on the particular area of application) and peripherals, which in certain applications are quite specialized. The core of a CAD system is the S/W, which makes use of graphics for product representation; databases for storing the product model and it drives the peripherals for product presentation. Its use does not change the nature of the design process but as the name states it aids the product designer. The designer is the main actor in the process, in all phases from problem identification to the implementation phase. The role of the CAD is in aiding him/her by providing:

- Accurately generated and easily modifiable graphical representation of the product.

The user can nearly view the actual product on screen, make any modifications to it, and present his/her ideas on screen without any prototype, especially during the early stages of the design process.

- Perform complex design analysis in short time. Implementing Finite Elements Analysis methods the user can perform:
- Static, Dynamic and Natural Frequency analysis, Heat transfer analysis, Plastic analysis, Fluid flow analysis, Motion analysis, Tolerance analysis, Design optimization
- Record and recall information with consistency and speed. In particular the use of Product Data Management (PDM) systems can store the whole design and processing history of a certain product, for future reuse and upgrade.

The technique initiated in the MIT from Ian Sutherland, when the first system the Sketchpad was created within the SAGE (Semi-Automatic Ground Environment) research project. The automotive and aerospace industries were the first users and the forerunners of development of CAD technology.

The first systems were very expensive, the computer graphics technology was not so advanced at that time and using the system required specialized H/W and S/W which was provided mainly by the CAD vendors. The first CAD systems were mainframe computer supported systems, while today the technology is for networked but stand alone operating workstations (UNIX or WINDOWS based systems). AUTODESK was the first vendor to offer a PC based CAD system the AUTOCAD (beginning of 1980). Today WINDOWS is the main operating system for CAD systems.

The first applications were for 2D-Drafting and the systems were also capable of performing only 2D modeling. Even today 2D-drafting is still the main area of application (in terms of number of workplaces). Later, (mid-1980), following the progress in 3D modeling technology and the growth in the IT H/W, 3D modeling systems are becoming very popular. Aerospace and automotive industries were using surface modeling systems for exact representation of the body of the product. At the same time solid modeling was recognized as the only system, which could provide an unambiguous representation of the product, but it was lacking adequate support for complex part representations. Today we are experiencing a merge of solid and surface modeling technology. Most solid modeling systems are capable of modeling most of industrial products. Systems sold today (especially for mechanical applications, which are the majority of systems sold world-wide) are characterized as NURBS (Non Uniform Rational B-Sline) based systems, employing solid modeling technology, and they are parametric and feature based systems.

The use of CAD systems has also been expanded to all industrial sectors, such as Electronics, Textiles, Packaging, Clothing, Leather and Shoe, *etc*. Today, numerous CAD systems are offered by several vendors, in various countries.

Task 1. Match the Russian words with their English definitions.

1. база данных	a) to be short of something
2. аппаратное обеспечение	b) a predecessor
3. предшественник	c) an auxiliary device, such as a printer, modem, or storage system, that works in conjunction with a computer
4. ядро	d) the act of representing something (usually on a smaller scale)
5. прогрессивный	e) a collection of organized information in a regular structure, usually, but not necessarily, in a machine-readable format accessible by a computer
6. ЭВМ	f) the central or innermost part
7. не хватать чего-л.	g) to execute; to do something
8. моделирование	h) a large digital computer serving 100-400 users and occupying a special air-conditioned room
9. внешнее устройство	i) highly developed or complex; progressive
10. выполнять	j) a computer and the associated physical equipment directly involved in the performance of data-processing or communication functions

	10

Task 2. Complete the following sentences with the words and expressions from the box.

forerunner	**to aid**	**implementation**	**database**	**hardware**
vendor	**computer aided design**		**peripherals**	

1. She bought some new … for her system.
2. You'll need a password to access the … .
3. Disk drives and printers are important … .
4. Most companies have moved over to … systems.
5. He said that we needed much better planning and … of all the stages in product presentation.
6. Babbage's engine was the …of the modern computer.
7. The Congress passed debt relief measures … poor countries.
8. The sale contract contains several representations by the … .

	8

b) Text B

ADVANTAGES AND DISADVANTAGES OF CAD

In the work place, technology has significantly changed the way we go about in our every day jobs, in design the introduction of computers and computer software has identified new and exciting ways to go about in the design process. Computers have contributed to design for quite a while by providing analysis tools, data-bases and computer-aided drafting tools.

Design is an intelligent human process activity which requires many skills and lots of knowledge. Design problems can be solved by individuals or by teams. They may take minutes or years. Design occurs in a wide variety of domains, ranging from the design of a Nuclear Power Plant to that of a simple glass bottle. The general design process is often characterized as mapping needs, functions and structures, this process is carried out by using many different types of analysis and different sources of information.

The value of a computer-aided design (CAD) programs depends entirely on what kind of jobs you do, how much design work they regularly involve and the expectations of your client base.

Many consumers can't envision the result of a 3D modelling project, and therefore have a hard time signing off on a contract. Programs that create realistic two dimensional or three-dimensional images of what the client or designer proposes down to the light at different times of the day can help make the sale. Other consumers might not see the charm of a hand-drawn design and consider CAD drawings more professional. CAD programs can definitely accelerate the design process, especially if you do a lot of design work or have clients who change their mind frequently during the design phase. With CAD programs you can change one element of the design, perhaps lengthening one wall of a room, and the proportions of the other walls, the materials list and other affected

elements update automatically. Even if your company doesn't create the design, the ability to share files electronically with suppliers, subcontractors and architects can improve productivity and smooth production.

Advantages in using CAD:

- Reduces conceptional time for new designs
- Products can be created more quickly.
- Costly mistakes in design or production can be avoided.
- Reduced manufacturing time.
- Documentation can be printed in various forms for multiple users.
- Ease of document reproduction and cloning
- Visualization of complex technical elements
- The quality of designs.
- Clarity of documentation.
- Easier to apply new ideas.

Disadvantages in using CAD:

- Training.
- Expensive start up costs (hardware, software, and training).
- Hard to get the conceptional form.

Task 3. Complete the following sentences with the words from the box (use the correct form).

consumer	**improve**	**domain**	**supplier**	**production**	**design**
	contribute	**tool**	**accelerate**	**require**	

1. Our ultimate aim is to increase the output of ... .
2. The project will ... a great amount of time and money.
3. This problem is outside the ... of medical science.
4. The machine has a complicated ... .
5. This ... is handy for various jobs.
6. The rate of economic growth has continued to ... .
7. The rights of a ... are protected by law.
8. I've ordered a new computer from the ... .
9. He ... greatly to the development of national music.
10. We suppose that the situation will ... soon.

	10

Task 4. Choose the correct word to complete the sentences according to the information in the text.

1. CAD programs can definitely ... the design process.
   a) activate b) accelerate c) accumulate

2. Design is an intelligent human process activity which requires many skills and ... .
   a) lots of knowledge b) lots of problems c) lots of domains
3. ... can be printed in various forms for multiple users.
   a) Results b) Changes c) Documentation
4. Design problems can be solved by individuals or by ... .
   a) consumers b) teams c) suppliers
5. Costly ... in design or production can be avoided.
   a) mistakes b) tools c) documents
6. Many ... can't envision the result of a 3D modeling project, and therefore have a hard time signing off on a contract.
   a) consumers b) architects c) sketchers
7. Design occurs in a wide variety of domains, ranging from the design of a Nuclear Power Plant to that of a ... .
   a) a simple glass door b) a simple bridge across a river
   c) a simple glass bottle

	7

II. Grammar

Infinitive forms

Task 5. Complete the following sentences with the correct infinitive forms, as in the model.

Model: The engineers are glad **to have obtained** such good results. *(что получили; **to obtain** - получать)*

1. He hates … . (когда его прерывают; *to interrupt*)
2. … computers more reliable transistors were used. (Для того (чтобы) изготовить; *to make*)
3. We must have all the data … the right answer. (чтобы дать; *to give*)
4. I am happy … . (что меня наградили; *to award*)
5. I am glad … it for you. (что сделал; *to do*)
6. … a message requires some energy. (Передача / Передать; *to transmit*)

	6

Infinitive Constructions

Complex Object

Task 6. Change the following complex sentences given below according to the model and translate them.

Model 1: Everybody knows **that Byron is** a great poet.
Everybody knows **Byron to be** a great poet.

Model 2: Our teacher likes **when we ask** questions.
Our teacher likes **us to ask** questions.

1. I want (that) this article will be published in tomorrow's newspaper.
   I want ... in tomorrow's newspaper.
2. I expect (that) the letter will come tomorrow.
   I expect ... tomorrow.
3. I hate when keys are lost.
   I hate ... lost.
4. I know (that) your father is an outstanding scientist.
   I know ... an outstanding scientist.
5. I want that you will do it yourself.
   I want ... it yourself.

	5

Complex Subject

Task 7. Change the following complex sentences given below according to the model and translate them.

Model 1: Scientists consider that his invention is of great importance.
His invention is considered to be of great importance.

Model 2: **It is said that this engineer has invented** a new machine.
This engineer is said to have invented a new machine.

1. It is supposed that that you will graduate in four years.
   You ... in four years.
2. It is known that many books are published in our country every year.
   Many books ... in our country every year.
3. They say that this experiment has been completed successfully.
   This experiment ... successfully.
4. We consider that he is one of the most promising nuclear physicists.
   He ... one of the most promising nuclear physicists.
5. It is reported that the expedition has reached its destination.
   The expedition ... its destination.

	5

Task 8. Change the following complex sentences given below according to the model and translate them.

Model: It seems **that they know** all about it.
They **seem to know** all about it.

1. It seems **that you have read** a lot before entering the university.
   You … a lot before entering the university.
2. It appears that the new methods of work are very effective.
   The new methods of work ... very effective.
3. It is very likely **that the software industry will see** great changes.
   The software industry ... big changes.
4. It happened **that I overhear** their conversation.
   I ... their conversation.
5. It turned out **that he was** a good specialist.
   He … a good specialist.

	5

Infinitive Construction with *for*

Task 9. Choose the best translation.

1. The equipment is too complex for any operator to control.
a) Слишком сложное оборудование предназначено не для любого оператора.
b) Это оборудование слишком сложное, чтобы любой оператор мог регулировать его.
c) Это оборудование – «крепкий орешек» для любого оператора.

2. A new way of mathematical analysis is the task for the group to solve.
a) Заданием для студентов является найти новый способ математического анализа.
b) Эту задачу студенты могут решить, используя новый метод математического анализа.
c) Новый способ математического анализа – вот задача, которую должны решить студенты.

3. He explained the scheme for the second time for us to understand it better.
a) Чтобы мы разобрались в схеме, мы попросили его повторить объяснение.
b) После того как он объяснил нам материал еще раз, мы уже лучше разбирались в нем.
c) Он объяснил схему второй раз, чтобы мы лучше ее поняли.

4. For the exam to be passed successfully you have to work at your English during the whole term.

a) Чтобы экзамен был сдан успешно, вам потребуется тщательно изучать английский язык в течение всего семестра.

b) Успешная сдача экзамена по английскому языку зависит от вашей посещаемости.

c) Если не будете регулярно работать над английским языком, не сдадите экзамен.

	4

Total score:

	60

II. CONTROL TESTS

CONTROL TEST 1 (60 points)

I. Vocabulary

Task 1. Match the words in the left column with their definitions on the right. (8 points)

1. approach	a) an academic title conferred by universities and colleges as an indication of the completion of a course of study
2. optional	b) any of the divisions of the academic year during which a school, college, etc. are in session
3. to require	c) a person who holds the degree of Bachelor of Arts, Bachelor of Science, etc.
4. degree	d) the method used or steps taken in setting a task, problem, etc.
5. tutorial	e) a branch of learning or instruction
6. bachelor	f) possible but not compulsory; left to personal choice
7. term	g) a period of intensive tuition given by a tutor to an individual student or to a small group of students
8. discipline	h) to have need of; want

Task 2. Match the synonyms. (7 points)

1. expert	a) perform
2. department	b) certified
3. carry out	c) dissertation
4. undergraduate	d) proficient
5. thesis	e) research
6. explore	f) freshman
7. chartered	g) faculty

Task 3. Translate the following words and word groups into English. (10 points)

1.ученая степень
2. доктор технических наук
3. исследовать; изучать
4. учиться за рубежом
5. магистр-инженер
6. проектирование сетей
7. Интернет вещей
8. факультативный
9. аспект, сторона
10. факультет

Task 4. Choose the phrases from the box to complete the sentences. (7 points)

thesis	undergraduates to study abroad	term	tutorial	approach
			postgraduate	

1. His ….. to any problem was to prepare an outline.
2. He was awarded his PhD for a …… on industrial robots.
3. After college, she spent her first …… years studying abroad.
4. We offer …… instruction for test preparation.
5. His grades have improved since last …… .
6. He was forced to work part-time …… .
7. Many of our students study as …… or post-graduates abroad.

Task 5. Match the words in the 2 columns to make word combinations. (8 points)

1. practical	a) output
2. Graduate Record	b) options
3. chartered	c) Engineering
4. postgraduate	d) engineer
5. IP	e) analysis
6. research	f) courses
7. advanced	g) Examinations
8. Master of	h) network

II. Reading

MASTER OF ENGINEERING VERSUS MASTER OF SCIENCE

Many holders of a Bachelor's degree in engineering start to consider graduate engineering education after a few years of engineering practice or in some cases immediately after completing the Bachelor's degree. One of the choices to be made is between a Master of Engineering degree or a Master of Science degree.

Master of Science Degree

The Master of Science degree is a widely recognized graduate degree, available in many science, engineering and technical fields of study. In a graduate engineering program for example, one might study for a Master of Science degree with a major in electrical engineering or mechanical engineering, *etc*. Most Master of Science programs have a research emphasis and require a completion of a thesis as a major degree requirement. Due to this research emphasis, Master of Science programs are, in general, good preparation for entry into a PhD program.

The requirements for an MS engineering (Master of Science with an engineering major) degree typically include about 30 semester hours of work beyond the B.S.

degree. A thesis that demonstrates original research, worth 4 to 8 credits is required for most Master of Science degrees. In many cases a comprehensive examination is also required. Some Master of Science programs have a non-thesis option with requirements very similar to those described below for a Master of Engineering degree. Due to the widespread prevalence of MS engineering programs the Master of Science degree with an engineering major is well accepted by employers.

Master of Engineering Degree

The Master of Engineering degree is not a part of all graduate engineering programs, but it is available at many universities. This type of engineering master's program is oriented toward advanced technical preparation for the practice of engineering. The emphasis in Master of Engineering degree programs is typically on coursework, rather than research. A Master of Engineering degree is well accepted by employers, but it is not typically accepted as preparation for entry into a PhD engineering program.

This type of graduate engineering program typically requires about 30 semester hours of coursework beyond the B.S. degree. Some Master of Engineering degree programs require some type of capstone paper or report, often based on an engineering design project. Some Master of Engineering programs allow or require credit for an internship or practicum. Some of them have a comprehensive examination requirement. Because thesis completion is often a time consuming portion for a Master of Science degree, a Master of Engineering program can often be completed in less time than a Master of Science program.

The primary consideration in deciding between a Master of Engineering and a Master of Science program for graduate engineering education, is the nature of your plans and goals upon completion of the engineering master's degree. If you are planning to, or even anticipate that you might want to, pursue a PhD degree, then an MS engineering (Master of Science with a major in your field of engineering) would be the best choice. Even if you expect to work primarily in engineering research, a Master of Science degree might be the best preparation.

If, on the other hand, you plan to spend your career working in the field of engineering, and are quite certain that you will not decide to go for a PhD degree, then the Master of Engineering degree provides an option, well accepted by employers of engineers, that you may be able to complete in less time than would be required for a Master of Science degree.

Task 6. Decide if the sentences are true (T) or false (F). (5 points)

1. The major requirement for a Master of Science degree is a comprehensive examination.
2. A Master of Engineering degree is poorly accepted by employers.
3. Preparation for entry into a PhD engineering program requires about 30 semester hours of coursework beyond the B.S. degree.

4. Many holders of a Bachelor's degree in engineering start to consider graduate engineering education after a few years of engineering practice.
5. The Master of Science degree is available in a very limited number of fields of study.

Task 7. Answer the questions. (5 points)

1. In what fields of study is the Master of Science degree available?
2. What is the content of most Master of Science programs?
3. What thesis is required for most Master of Science degrees?
4. What do some Master of Engineering degree programs require?
5. Which is less time consuming achievement: a Master of Science or Master of Engineering program?

III. Grammar

Task 8. Choose the correct variant. (10 points)

1. Who … you many questions after the seminar yesterday? – Mr. Black.
   a) asked b) have asked c) has asked
2. He usually … his office at 6.00 p.m.
   a) leave b) is leaving c) leaves
3. My sister Helen … from the university in 2012
   a) will graduate b) graduated c) has graduated
4. I … just …the report.
   a) have written b) has written c) am writing
5. If Dennis don't write / doesn't write / won't write soon, I phone / will phone him.
   a) doesn't write, will phone b) don't write, will phone
   c) won't write, will phone
6. She … the contract now.
   a) types b) is typing c) typing
7. He never … us about his plans.
   a) tell b) is telling c) tells
8. My sister … next Saturday.
   a) is coming b) comes c) come
9. The train … at 5 according to the time-table.
   a) will arrive b) is arriving c) arrives
10. Have you read my article yet? – No, I haven't. I … to read it tonight. I am writing an important report now.
    a) will plan b) am planning c) plan

CONTROL TEST 2 (60 points)

I. Vocabulary

Task 1. Translate the following words and word groups into English. (10 points)

1. акция
2. взаимодействовать
3. банкротство
4. генеральный директор
5. заниматься торговлей
6. скачок
7. конкурент
8. печатная плата
9. должностное лицо
10. фокусироваться на

Task 2. Match the words in column A with the words of the opposite meaning in column B. (5 points)

A	B
1. eliminate	a) worsen
2. integrate	b) admit
3. refine	c) success
4. launch	d) close
5. bankruptcy	e) break down

Task 3. Choose the odd word. (7 points)

1. merchandise	product	share	stuff
2. to interact	collaborate	communicate	collide
3. competitor	founder	rival	opponent
4. successful	profitable	prestigious	prosperous
5. patent	license	diploma	signature
6. struggle	knockout	conflict	battle
7. bankruptcy	loss	default	discount

Task 4. Fill in the gaps with the correct word or phrase. (8 points)

during his career	**executives**	**graphical user interface**	**leap**
struggles	**competitors**	**font**	**personal devices**

1. Steve Jobs helped to establish the new electronic divisions and personally helped to create the ipod, iphone, and other 1) _____.

2. As Apple grew even more, Jobs experienced tension with the board and the 2) _____ led to Jobs leaving Apple in May of 1985.
3. A great 3) _____ in the career of Steve Jobs was the introduction of the original Macintosh (1984), the first consumer computer with a 4) _____.
4. One of the major innovations of the original Macintosh was that it showed on the screen the 5) _____ chosen for the text.
5. After the announcement of the iPhone in January 2007, the 6) _____ of Apple began working on this same product line, and from there arose the disagreements of Jobs with 7) _____ from Google and Samsung.
6. Steve Jobs was not the inventor of the mouse, but 8) _____ at the head of Apple, one of his obsessions was to perfect this device for communicating with computers.

II. Reading

ENTREPRENEURS WHO DIDN'T NEED A COLLEGE DEGREE

However they found their success, the entrepreneurs on this list are the exceptions -

most dropouts end up in lower-paying employment, and the lack of a college degree is often a barrier to even getting a job interview. Please, pay attention to the fact that more than half of these guys quit school because they were already making money — the others all started their businesses before MTV went on air.

So if you're in school, contemplating leaving to start your own company, we officially advise you to try doing both. And if you don't have the energy or time management skills to do both, even for a little while to see if the business can be successful, it's probably a sign you should be concentrating on getting your degree.

Henry Ford. If you drive a car, you're in a machine which is, for the most part, much the same as the vehicles that Ford rolled off his assembly line in 1903. Ford didn't have much opportunity for formal schooling, but still managed to work his way up to Chief Engineer at the Edison Illumination Company before starting the Ford Motor Company.

Steve Jobs and **Steve Wozniak** both dropped out of college to found AppleComputer, Inc. in 1976. Jobs dropped out of Reed College in Portland, Ore., in 1973, while Wozniak left University of California, Berkeley, in 1975, without a degree. When Apple went public in 1980, they both became multi-millionaires. Wozniak finally returned to college and earned his degree in 1986.

Bill Gates dropped out of Harvard after a year, to work with his friend, **Paul Allen**, at Honeywell in Boston. Allen had dropped out of Washington State University in 1973. In 1975, Gates and Allen founded Microsoft. You know the rest.

Michael Dell dropped out of the University of Texas after starting Dell Computers in his dorm room. In 1992, Dell became the youngest CEO of a Fortune 500 corporation.

Ted Wait dropped out of the University of Iowa after one semester to start a company called Gateway Computers with his brother.

Mike Lazaridis was two months away from graduating from the University of Waterloo, in Ontario, Canada, when he responded to a request for proposal from General Motors. The pitch earned Lazaridis a half-million dollar contract, and allowed him to found Research in Motion, which introduced the BlackBerry smartphone to the cellular market in 2002.

One of the most startling success stories about college dropouts belongs to **Mark Zuckerberg** and **Dustin Muskovitz**, students at Harvard who created a social networking site for students in 2004. It was called *TheFaceBook* (then, it's just facebook.com now). When *Yahoo!* realized its potential, they offered Zuckerberg a check for a billion dollars (which he turned down). Facebook currently has about a half-billion registered users, and Zuckerberg's personal wealth is estimated to be about $4 billion.

So, those are the millionaire dropouts who routinely have a hand in what we do, almost all of us, whether we have Ph.Ds or HSE Certifications. Some can thank a little luck, others can thank their giant brains, but all of them have a determination and a desire to make a difference, do something that will change the world, and spend all day doing something they love. Sure, they're all rich. But the important thing is that, for all of them, it was their passion that drove their business.

Task 5. Decide if the sentences are true (T) or false (F). (10 points)

1. The lack of a college degree is seldom a barrier to even getting a job interview.
2. Making money is one of the reasons why many famous millionaires had to leave school before the due time.
3. It was in 1900 that Ford rolled the first vehicles off his assembly line.
4. Before starting the Ford Motor Company Ford worked as Chief Engineer at the Edison Illumination Company.
5. Steve Jobs dropped out of Reed College in Philadelphia.
6. When Apple went public in 1980, Steve Jobs became a multi-millionaire.
7. Ted Wait started a company called Gateway Computers with his sister.
8. Mike Lazaridis is the founder of Research in Motion which introduced the BlackBerry smartphone to the cellular market in 2002.
9. When "Yahoo!" realized the potential of TheFaceBook they offered Mark Zuckerberg a check for a million dollars.
10. For all the millionaire dropouts, it was their passion that drove their business.

III. Grammar

Task 6. Choose the correct variant (20 points)

1. На занятиях по английскому языку **уделяется** много внимания практике устной речи.
   a) was paid b) had been paid c) is paid
2. Я **разговаривал** с ним вчера вечером с 7 до 8 часов.
   a) am talking b) was talking c) talked
3. Я **буду ждать** вас в 5 часов завтра.
   a) will wait b) am waiting c) will be waiting
4. Я **закончил** работу до того, как он пришел.
   a) had finished b) has finished c) finished
5. Я сейчас **пишу** доклад, не беспокойте меня.
   a) write b) am writing c) writes
6. В теннис **играли** вчера в 5 часов.
   a) was being played b) is being played c) was played
7. Я **переведу** этот текст завтра до 2 часов.
   a) will have translated b) will translate c) will be translating
8. Нас **пригласят** к нему, я уверен.
   a) are invited b) will be invited c) will have invited
9. Какой вопрос сейчас **обсуждается**? – Обсуждается работа нашей группы.
   a) discusses b) is discussed c) is being discussed
10. Они **построили** новый университетский корпус к началу учебного года.
    a) built b) had built c) have built
11. Статью только что **опубликовали.**
    a) has been published b) had been published c) was published
12. Мы **изучаем** английский язык дважды в неделю.
    a) are studying b) study c) studies
13. Мы только что **провели** важный эксперимент.
    a) have made b) made c) has made
14. Он **начал** изучать английский язык два года назад.
    a) began b) has begun c) was beginning
15. Работу **закончат** завтра к 6 часам вечера.
    a) will be finished b) will have finished c) will have been finished
16. Доклад **был написан** к 1 декабря.
    a) had been written b) has been written c) will have been written
17. Он **выполнит** это задание, если вы ему **поможете.**
    a) will do, will help b) will do, help b) will do, helps
18. Я еще **не говорил** с ним об этом.
    a) didn’t speak b) don’t speak c) haven’t spoken
19. 8. Наш учитель **говорит** по-английски и по-французски.
    a) spoke b) speaks c) has spoken
20. Не ходите в ту аудиторию. Там студенты **проводят** эксперимент.
    a) making b) are making c) make

CONTROL TEST 3 (60 points)

I. Vocabulary

Task 1. Match the Russian words with their English definitions. (8 points)

1. переносной	a) a permission or the right to enter, get near, or make use of something
2. флэш-накопитель	b) something added to something else to make it more useful, attractive, or effective.
3. доступ	c) easy to carry or move around
4. перезаряжаемый	d) to keep something in its original state or in good condition
5. сохранять, сберегать	e) a data storage device that uses flash memory
6. аксессуар	f) an auxiliary device, such as a printer, modem, or storage system that works in conjunction with a computer
7. зарядное устройство	g) capable of being charged repeatedly
8. внешнее оборудование	h) a device that charges or recharges

Task 2. Match the words in column A with the similar meanings in column B. (7 points)

A	B
1. exterior	a) to limit
2. to encrypt	b) comfortable
3. ergonomic	c) device
4. flammable	d) external
5. tool	e) to split
6. to split	f) to encode
7. to restrict	g) burnable

Task 3. Translate the following words and word groups into Russian. (10 points)

1. data storage device
2. to run out
3. car charger
4. exterior
5. lithium ion battery
6. portability
7. tools
8. re-writeable
9. to tamper
10. external hard drive

II. Reading

AVOIDING AND DIAGNOSING LAPTOP HEAT PROBLEMS

Have you ever wondered if cooling the CPU in laptops makes a difference? Learn here how to make sure you don't cause your laptop to overheat during everyday use, especially at your home.

Laptop Cooling

Does CPU cooling make a difference in your laptop's performance? You better believe it does. The main reason why even the newest model laptop computers don't have the same processors as desktop computers is because of heat issues. Laptops are so compact in the way they cram all the components inside that they don't leave much room for ventilation and heat dissipation. This means you must be careful not to block the air flow to and from your laptop. In this article, we'll discuss some of the best methods for keeping your laptop computer cool.

Cooling Pads

Laptop cooling pads do work, but they work even better when you buy the right one that is made for your computer. What they do is provide an extra set of fans that blow or pull air away from the underside of your computer, and they can really make a difference with some model laptops.

When buying a laptop cooling pad, you need to pay attention to where the fans are located if you want the most effective pad. Look at the bottom of your laptop and see where its fans are, since sometimes they can be on the top or bottom or even in the middle. Then you can pick out a cooling pad based on fan location. The idea is to put the pads underneath where the laptop's fans are located. Otherwise, you might get the wrong kind of cooling pad and there just be blowing air against plastic and not getting as much use out of the device.

Use Compressed Air

Every responsible computer owner should keep cans of compressed air at their desk. They are great for blasting away dust and other debris that clog fans and disrupt the cooling process on your computer. Compressed air is especially helpful with laptops because you can't easily open up a laptop case like you can a desktop computer. I recommend flipping your laptop upside down and using compressed air cans to clean out any fans you see underneath. Not only will they help them to run better, but it'll also help keep them from wearing out too quickly and making noise.

Laptops and Pillows

It is not uncommon to see someone take a sofa pillow and put it in their lap, then place their laptop computer on top of the pillow. While this may be much more comfortable than putting the laptop on your legs, it is not good for the computer. The

reason for this is that the thick cushion and fabric of the pillow will block airflow from the underside of the laptop. Not only will this make the laptop get hotter, but that could have a negative impact on your hardware's stability as well as the lifecycle.

The ideal way to keep comfortable while using a laptop is to get a cushion with a hard surface on top. A variety of these are available in stores all over the country, with some actually being called laptop cushions while others might be called a lap desk or something similar. Whatever the name may be, the purpose is to provide a solid surface upon which the laptop may sit so that air can get in from underneath.

Task 4. Find the words in the text with the similar meanings. (10 points)

1. warmth
2. ventilator
3. compressed
4. cushion
5. acting
6. holder
7. below
8. dirt
9. light wind
10. to become worn

Task 5. Answer the questions. (7 points)

1. Why don't laptops have the same processors as desktop computers?
2. Why can laptops become overheated?
3. In what way can laptop overheating be overcome?
4. What recommendation should one follow when buying a laptop cooling pad?
5. What things can clog fans and disrupt the cooling process on your computer?
6. What is necessary to do for blasting away dust that clogs laptop fans?
7. Why is putting your laptop on top of a sofa pillow not recommended for the laptop owner to do?

III. Grammar

Task 6. Point out the function of the verb *to be* and *to have (got)* in the following sentences. (6 points)

a) main verb b) part of predicate c) modal verb

1. These students **were** at the conference last month.
2. I **haven't** got the latest edition of "Technical News".
3. They **have** given him all the necessary information.
4. There is no choice. You **have** to finish the work in time.
5. The summit meeting **was** followed by a press-conference.
6. The students **are** to read the text twice and then reproduce it.

Task 7. Point out the function of the word *one* in the following sentences. (4 points)

a) number b) empty subject c) empty object d) substitute

1. Studying a foreign language **one** has to learn grammar rules.
2. Electronics is not a static field of study, but a dynamic **one**.
3. **One** of the problems has been solved with the help of the electronics in space communications.
4. The experiment allows **one** to get good results.

Task 8. Translate the sentences paying attention to the functions of *that (those)*. (4 points)

a) demonstrative pronoun b) substitute c) relative pronoun d) conjunction

1. **That** the profession of an engineer requires a special training is a well-known fact.
2. These methods are much more advanced than **those** used in our laboratory.
3. The article **that** the student published in the journal concerned the advantages of the computer work.
4. **That** device is very good.

Task 9. Point out the function of the pronoun *it* in the following sentences. (4 points)

a) demonstrative subject; b) impersonal subject; c) personal object; d) emphasis

1. **It** is a viewpoint that I cannot describe in a few words.
2. **It** is in their calculation that the mistake is made.
3. **It** is possible that the problem will be solved.
4. A material which allows electricity to flow through **it** is called a conductor.

CONTROL TEST 4 (60 points)

I. Vocabulary

Task 1. Match the words in the left column with their definitions on the right. (10 points)

1. router	a) to load into a computer memory and run
2. foremost	b) a computer program that is used to find and look at information on the Internet
3. to launch	c) a row of icons on a computer screen that allows you to do various things when you are using a particular program
4. toolbar	d) an original or first model of something from which other forms are copied or developed
5. to download	e) to take part in an activity or event with others
6. to participate	f) most important
7. browser	g) to set up for use or service
8. compatible	h) an act of moving or copying a file, program, etc., from a usually larger computer system to another computer or device
9. prototype	i) a device that mediates the transmission routes of data packets over an electronic communication network
10. to install	j) designed to work with another device or system without modification

Task 2. Translate the following words and word groups into English. (7 points)

1. пакет данных
2. место назначения
3. скорость загрузки
4. пробная версия
5. доступ
6. увеличение (масштаба изображения)
7. электронная закладка

Task 3. Complete the following sentences with the words from the box in the correct form. (8 points)

access	**prototype**	**features**	**Web**	**launch**
	network	**compatible**	**install**	

1. You can … the program by double-clicking on the icon.
2. We have Internet … at the library.
3. The computer comes with the software already … .
4. This printer is … with most PCs.
5. He is developing a … for his invention.
6. I spent the afternoon surfing the … .
7. This camera has several … that make it easy to use.
8. He hooked up his computer to the … .

II. Reading

BEST MOBILE WEB BROWSERS FOR IOS

Today, iOS is the most preferred mobile platform for surfing the Internet. This article lists some of the best mobile browsers available on the platform, which further add to its dominance.

The rise of the on-the-go generation has seen more and more people take to smartphones to carry out their daily tasks. These range from setting an alarm to keeping a track of your health using fitness apps on your phone. One of such scenarios that has seen a radical change is web browsing. The smartphone has virtually replaced the PC when it comes to surfing the Internet, at least when it comes to basic surfing. iPhones are amongst the most popular phones out there which offer a fantastic web browsing experience, thanks to some great hardware supported by some nifty software tweaks. App developers, too, have realized the potential of this platform, and released browsers with some really amazing features. Here's our pick of the top mobile browsers for iOS.

Safari

The stock web browser for iOS, Safari, is arguably one of the best browsers available on any mobile platform. Besides, it is also the default browser for the phone, and is deeply integrated with most other apps on board. The latest version of the browser brings in a new rolodex-styled tab interface with some real nice features like easy access to private browsing, improved version of Reading List, better iCloud Keychain integration to easily save all your credentials and passwords to sites, better parental control options, and enhanced privacy features.

Google Chrome

Chrome is probably the closest rival of Apple's stock web browser. Chrome's greatest USP is its sign-in option, which saves the history and passwords of the user (if he chooses to do so), and the same can be retrieved the next time he/she logs in. What makes this feature even better is the fact that you can even transfer and sync webpages, bookmarks, and other files from Chrome on your PC to your mobile. It also enables you to open unlimited number of tabs simultaneously, which can be navigated through rather effortlessly. The browser also allows you to easily switch from the normal mode to the incognito mode where your history and other details do not get saved.

Opera Mini

Opera Mini is one of the fastest browsers available on the platform. The browser preloads the web pages on its servers, compresses it, and sends it to your iPhone where they open with lightning speed. The Speed Dial feature lets you pin your favorite web pages on to the home screen of the browser for easy access. Your Speed Dial and other settings can also be synchronized between your phone and other devices. Other useful features like Share everywhere (lets you easily share data with your friends as you surf the Internet) and Read offline (lets you save pages offline to be read later) also add to the overall appeal of this very capable browser.

Dolphin

This is probably the most feature-rich web browser available in the market today. Dolphin features a very clean and minimalistic UI and is very light as well. It has quite a few neat tricks up in its sleeve, the most impressive being the support for gestures. Drawing gestures on the home page of the browser triggers some preset actions within the app. Dolphin also integrates with note-taking apps like Evernote and Box, and lets you save webpages on to them. There's also the option to sync all your data from the browser across other devices.

Atomic Browser

Atomic Browser is light and easy to use and chooses speed over eye candy. The browser has scores of customization options and support for loads of themes, which can actually get a little overwhelming for most users. Nonetheless, the simple gesture support option for navigating through pages, to import bookmarks from Safari, and a good download manager make it a very good choice as a web browser. Although Atomic browser may not be as fast as its competitors, it more than covers up for it with frequent updates and a good developer base.

Task 4. Choose the correct variant. (6 points)

1. The smartphone has virtually … the PC when it comes to surfing the Internet.
a) reconstructed b) replaced c) reformed
2. App developers released browsers with some really amazing … .
a) features b) price c) appearance
3. Chrome is probably the closest … of Apple's stock web.
a) image b) partner c) rival
4. Atomic Browser may not be as … as its competitors.
a) fast b) bulky c) small
5. A good download manager makes Atomic Browser a very good … as a web browser.
a) delay b) opportunity c) choice
6. Dolphin is the probably most feature-rich web browser … in the market today.
a) interesting b) available c) exceptional

Task 5. Answer the questions based on the text. (6 points)

1. Do more and more people nowadays take to smartphones to carry out their duty tasks?
2. What unusual apps can you find on your smartphone?
3. What has the smartphone virtually replaced when it comes to surfing the Internet?
4. What are the most popular phones which offer a fantastic web browsing experience?
5. What is the latest version of the Safari browser notable for?
6. What does the Chrome browser allow you to do?

III. Grammar

Task 6. Choose the correct form of the participle. (5 points)

1. Commercial users can communicate over the Internet with the rest of the world **doing / done** it very cheaply.
2. The peripherals are the physical units **attaching / attached** to the computer.
3. In many **developed / developing** countries the Internet may provide businessmen with a reliable alternative to the expensive and unreliable telecommunication systems of these countries.
4. The computer device **testing** / **tested** showed good properties.
5. A smart card is a plastic card **containing / contained** a processor and memory chip.

Task 7. Complete the following sentences with the correct variant. (10 points)

1. The man ... at the board is our Computer Science teacher.
   a. is standing b. standing c. stood
2. They spent all day ... the PC to the local network.
   a. being connected b. having been connected c. connecting
3. I looked through the article ... into Russian.
   a. translating b. translated c. having translated
4. ... an addition the computer displayed the results.
   a. Having been performed b. Performed c. Having performed
5. ... in laboratory's research team he was very happy.
   a. Being invited b. Inviting c. Having invited
6. The devices ... in our work are up-to-date.
   a. using b. being used c. having used
7. ... in action the device was greatly modified.
   a. Having been seen b. Having seen c. Being seen
8. ... this text I found a lot of interesting expressions.
   a. Read b. Having read c. Having been read
9. ... the new device was recommended for mass production.
   a. Having tested b. Having been tested c. Being tested
10. Be careful ... unknown files.
    a. being downaloaded b. downloading c. downloaded

Task 8. Match the sentences containing the absolute participle constructions with their complex sentences equivalents. (8 points)

1. ***The energy sources of the work decreasing, scientists must find a new one.***
   a. As the sources of working energy decrease, scientists must find a new one.
   b. Scientists are in need to find new sources of energy as the known ones are limited.
   c. The exhaustion of the energy sources makes scientists find new ones.
2. ***This material being a dielectric, no current can flow through it.***
   a. Current cannot run through this dielectric material.

b. Flowing through this dielectric material is impossible for the current.
c. No current can flow through this material as it does not conduct electricity.

3. ***A great deal of attention has been devoted to problems generated by the "information explosion", computers being the reliable means of solving them.***
a. Nowadays there is information boom which can be solved due to the work of computers.
b. Computers are reliable means of solving the problems generated by the "information explosion" which a great deal of attention has been devoted to.
c. Computers are trying to solve the problem of too much information falling upon people.

4. ***The workers having applied a new method of constructing, good results were achieved.***
a. To achieve good results the workers intended to apply new construction methods.
b. Construction requires new technology application and the workers often resort to it.
c. After the workers had applied a new method of constructing, good results were achieved.

5. ***The article being written, they sent it to the journal.***
a. When ready, the article was sent to the journal.
b. They wrote the article and sent it to the journal.
c. When the article was written, it was sent by them to the journal.

6. ***The experiment having been finished, the students left the laboratory***.
a. After the experiment had been finished, the students left the lab.
b. The students did not leave the laboratory till they finished the experiment.
c. The students stopped carrying out the experiment as they wanted to leave the laboratory.

7. ***The necessary information delivered, the computer processed it quickly.***
a. After the computer processed the information, the necessary data were delivered quickly.
b. After the necessary information was received, the computer processed it quickly.
c. The necessary information underwent quick processing on the computer

8. ***The program prepared and stored in the computer, the machine was capable of performing the calculations.***
a. Storing the program in the computer the machine was made to perform the calculations.
b. The machine began to perform calculations because the program was stored in it.
c. As soon as the program was prepared and stored in the computer, the machine was capable of performing the calculations.

CONTROL TEST 5 (60 points)

I. Vocabulary

Task 1. Translate the following words into Russian. (10 points)

1. spyware
2. foolproof
3. worm
4. to disguise
5. firewall
6. eavesdropping
7. to spread
8. attachment
9. to destroy
10. to install

Task 2. Match the words in the columns A and B to make phrases. (10 points)

A	B
1. to encrypt	a) horse
2. to gain	b) program
3. proxy	c) attack
4. Trojan	d) data
5. cyber	e) hard drive
6. password	f) access
7. a secrete	g) server
8. root	h) control
9. antivirus	i) kit
10. external	j) code

Task 3. Match the words with the words of similar meanings. (8 points)

1. access	a) sensitive
2. external	b) infection
3. virus	c) to encode
4. to delete	d) to remove
5. vulnerable	e) entry
6. to encrypt	f) to make use of
7. to utilize	g) snooping
8. eavesdropping	h) exterior

Task 4. Complete the following sentences with the words from the box in the correct form. (8 points)

install	**valid**	**hacker**	**delete**	**attachment**	**viruses**	**snoop**	**infect**

1. The software checks your hard drive for …… .
2. We thought about …… a new phone system.

3. The agreement is no longer …… under international law.
4. I'll send the document as an ……. to my next e-mail.
5. Government agencies have been ……. on them for years.
6. …… this name from the list.
7. The virus has ……. many computers.
8. The company's security experts spent days trying to figure out how a …… could have gotten past the firewall.

II. Reading

MOST DESTRUCTIVE COMPUTER VIRUSES

Computer viruses are harmful programs created by anti-social elements (hackers) which can self-duplicate itself in the computer system to harm its smooth functioning. These viruses are not only a big cause of worry for casual computer users but they have also created problems for governments, hospitals, schools and huge organizations by infecting their systems. Computer viruses spread faster than a cold virus thanks to the Internet which connects almost every computer in the world through its amazing technology. Almost every computer virus is capable enough for major destruction, here are some of those that have made history.

Most Damaging Computer Viruses

Computer viruses have caused damage worth billions of dollars, some have wiped out top secret documents from hard disks which could never be recovered again and most of them have affected the market by shutting down businesses for hours. Computer viruses are nothing but an online threat distributed through the Internet by hackers who like creating havoc in today's corporate world. Here are the names which have become immortal in the world of computers due to the amount of destruction caused by them.

Storm Worm

This virus came to the fore in the year 2006 and the public began speculating about it when it was sent to millions of computers in the form of an email saying, '230 dead as storm batters Europe'. Different companies called this virus by different names. Basically Storm Worm is a Trojan horse program which makes computers into zombies or bots. As the machines become infected, they can be controlled by the person who actually sent this worm. This virus is widespread, it is not very difficult to detect. Updating the computer anti-virus system is probably the best way to keep Storm Worm away.

ILOVEYOU aka Love Letter Virus

The ILOVEYOU virus is still known as the most dangerous virus ever written by a hacker. It is still regarded the most deadliest computer virus of all time which caused companies a loss of more than $10 billion. The virus expanded by spreading itself through email. Once the user opened the email, the virus attached itself to the memory and infected all important files and folders. Once in the computer the virus

tries to reach other users by scanning all the addresses in the Microsoft Outlook List of the current user. The virus was originally written by a Filipino programmer who was still pursuing his college education at that time. This virus spread through the entire world in just 24 hours and affected system of multinational companies and the Pentagon resulting in losses worth billions of dollars.

Leap-A

Leap-A gathered a lot of press attention because it is one of those few viruses which have been successful in corrupting MAC systems. Yes, Apple is known to make software and hardware systems which are resistant to viruses, the company protects their systems by sending regular updates to their users. MAC computers are protected from virus attacks with the help of a concept called Security through Obscurity. However, due to the recent popularity of MAC system, in 2006 a hacker created the Leap-A virus which uses the iChat messaging system to travel through various vulnerable MAC computers.

Melissa

Another destructive virus which made worldwide headlines, Melissa virus was a type of mass-mailing malware which affected more than 20% of computers worldwide. Computers who worked on Microsoft, Intel were the worst sufferers and companies who used Microsoft Outlook for their emails also incurred heavy losses. The Melissa virus traveled through email with an MS Word attachment and when users opened it, the virus immediately mailed itself to the first 50 people in the Outlook list.

CIH aka Chernobyl Virus

Not only the name but the virus itself was so destructive that its release made international headlines all around the world. CIH was the most dreaded computer virus because it had the ability to remain undetected in a computer's memory for a very long time. Once in the system, it used to hamper every program that was run. The virus first debuted in 1998 and affected various Windows systems of 95 and 98. This virus was also equipped with a trigger date and once the date was reached, the virus overwrote the files on the hard drive and destroyed its original contents. Even though technology today is highly advanced and secure, systems and networks keep getting infected again and again. This is because people don't spend enough money on a good anti-virus software and most of them are too lazy to update their anti-virus software after regular intervals.

Task 5. Decide if the sentences are true (T) or false (F). (10 points)

1. Computer viruses may cause damage worth billions of dollars.
2. Storm Worm virus came to the fore in the year 2000.
3. As the computers become infected, they can’t any longer be controlled by the person who actually sent the virus.
4. Storm Worm virus is very difficult to detect.
5. The ILOVEYOU virus is regarded the most deadliest computer virus of all time.
6. The virus ILOVEYOU was originally written by a Filipino programmer who was still pursuing his college education at that time.

7. Networks keep getting infected again and again because people don't spend enough money on a good anti-virus software.
8. Virus Melissa affected more than 60% of computers worldwide.
9. Updating the computer anti-virus system is probably the best way to keep viruses away.
10. Computer viruses do not spread faster than a cold virus.

III. Grammar

Task 6. Translate the sentences paying attention to the functions of the gerund and participle I. (8 points)

1. **Describing** the experiment he gives every detail of the process.
   a) Описывая b) Описываемый c) Описав
2. Physical parts **making** up a computer system are hardware.
   a) составляя b) составив c) составляющие
3. **Describing** the phenomenon is the aim of her research.
   a) Описание b) Описывая c) При описании
4. Perhaps the most important component of a standard computer system is the central **processing** unit.
   a) обработав b) обрабатывая c) обрабатывающее
5. **Making** a list of all computer devices took me five minutes.
   a) Составлять b) Составление c) Составляя
6. My work involves **testing** the final product.
   a) тестирование b) тестирующий c) тестирую
7. We have no experience in **using** Linux OS.
   a) пользуясь b) использовании c) пользующийся
8. **By doing nothing** we won't reach the solution.
   a) Не делая ничего b) Сделав мало c) Никем не сделанный

Task 7. Choose the best translation. (6 points)

1. ***The professor insisted on the student's checking up the obtained results once more.***

a) Профессор настаивал, чтобы студент проверил полученные результаты еще раз.
b) По настоятельной просьбе студента профессор проверил полученные результаты еще раз.
c) Профессор еще раз проверил результаты, полученные студентом, так как последний очень настаивал на этом.

2. They know of his having published the results of his last investigation.

d) Они знают о том, что он опубликовал результаты своего последнего исследования.
e) Им сообщили об опубликовании результатов его последнего исследования.
f) Известно, что он уже опубликовал результаты своего последнего исследования.

3. We heard of his having been offered the post of the laboratory head.

d) Мы слышали, что ему предложили пост заведующего лабораторией.
e) Его выдвижение на пост заведующего лабораторией было предложено сделать нам.
f) Мы слышали, как заведующий лабораторией предлагал ему этот пост.

4. Their having done the work saved us much time.

a) Сделав работу, у них оставалось еще много свободного времени.
b) То, что они уже сделали эту работу, сэкономило у нас много времени.
c) Много времени ушло на завершение этой работы.

5. Einstein's being awarded the Nobel Prize in physics soon became widely known.

a) Всем известно, что Нобель вручил Эйнштейну премию за открытия в области физики.
b) То что Эйнштейн награжден Нобелевской премией в области физики, вскоре стало широко известно.
c) Новость о том, что Эйнштейну присудили Нобелевскую премию за открытия в области физики, вскоре разнеслась по всему свету.

6. Mankind is interested in atomic energy being used only for peaceful purposes.

a) Человечеству интересно только использование атомной энергии в мирных целях.
b) Человечество заинтересовано в том, чтобы атомная энергия использовалась только в мирных целях.
c) Только атомная энергия, использованная в мирных целях, представляла интерес для человечества.

CONTROL TEST 6

I. Vocabulary

Task 1. Match the words in the left column with their definitions on the right. (7 points)

1. vendor	a) an area of knowledge or activity
2. surface	b) to be short or have need of something
3. database	c) the programs that run on a computer and perform certain functions
4. domain	d) one that sells something
5. software	e) to make something more modern
6. to update	f) an outside part or layer of something
7. to lack	g) a collection of pieces of information that is organized and used on a computer

Task 2. Match the words with the words of the opposite meaning. (5 points)

1. to reduce	a) to deteriorate
2. to improve	b) to disconnect
3. consumer	c) to destroy
4. to merge	d) seller
5. to design	e) to increase

Task 3. Translate the following words and word groups into English. (10 points)

1. аппаратное обеспечение	6. инструмент
2. ядро	7. субподрядчик
3. автономный	8. ускорять
4. предшественник	9. воспроизведенный от руки
5. проектировщик изделия	10. автоматизированное проектирование

Task 4. Choose the odd word. (6 points)

1. stand-alone	independent	included	separated
2. to accelerate	to slacken	to hasten	to increase
3. supplier	provider	distributor	customer
4. socket	tool	instrument	device
5. to merge	to console	to combine	to integrate
6. core	center	matter	gist

II. Reading

DIFFERENT TYPES OF CAD

There are several different types of CAD, each requiring the operator to think differently about how to use them and design their virtual components in a different manner for each.

There are many producers of the lower-end 2D systems, including a number of free and open source programs. These provide an approach to the drawing process without all the fuss over scale and placement on the drawing sheet that accompanied hand drafting, since these can be adjusted as required during the creation of the final draft.

3D wireframe is basically an extension of 2D drafting (not often used today). Each line has to be manually inserted into the drawing. The final product has no mass properties associated with it and cannot have features directly added to it, such as holes. The operator approaches these in a similar fashion to the 2D systems, although many 3D systems allow using the wireframe model to make the final engineering drawing views.

3D "dumb" solids are created in a way analogous to manipulations of real world objects (not often used today). Basic three-dimensional geometric forms (prisms, cylinders, spheres, and so on) have solid volumes added or subtracted from them, as if assembling or cutting real-world objects. Two-dimensional projected views can easily be generated from the models. Basic 3D solids don't usually include tools to easily allow motion of components, set limits to their motion, or identify interference between components.

There are two types of *3D Solid Modeling*

1. *Parametric modeling* allows the operator to use what is referred to as "design intent". The objects and features created are modifiable. Any future modifications can be made by changing how the original part was created. If a feature was intended to be located from the center of the part, the operator should locate it from the center of the model. The feature could be located using any geometric object already available in the part, but this random placement would defeat the design intent. If the operator designs the part as it functions the parametric modeler is able to make changes to the part while maintaining geometric and functional relationships.
2. *Direct or Explicit modeling* provides the ability to edit geometry without a history tree. With direct modeling once a sketch is used to create geometry, the sketch is incorporated into the new geometry and the designer just modifies the geometry without needing the original sketch. As with parametric modeling, direct modeling has the ability to include relationships between selected geometry (e.g., tangency, concentricity).

Top end systems offer the capabilities to incorporate more organic, aesthetics and ergonomic features into designs. Freeform surface modeling is often combined with solids to allow the designer to create products that fit the human form and visual requirements as well as they interface with the machine.

Task 6. Decide if the sentences are true (T) or false (F). (10 points)

1. Basic three- dimensional geometric forms have liquid volumes added or subtracted from them.
2. 3D "dumb" solids are created in a way analogous to manipulations of real world objects.
3. Freeform surface modeling is often separated from solids to allow the designer to create products that fit the human room and visual requirements as well as they interface with the machine.
4. Direct or Explicit modeling provides the ability to edit geometry without a history tree.
5. If the operator designs the part as it functions, the parametric modeler can't make changes to the part while maintaining geometric and functional relationship.
6. Two-dimensional projected views can easily be generated from the models.
7. The objects and features created by parametric modeling are stereotyped.
8. With direct modeling once a sketch is used to create geometry, the sketch is excluded from the new geometry.
9. With direct modeling the designer just modifies the geometry, using the original sketch by all means.
10. There are many producers of the low-end 2D systems, including a number of free and open source programs.

III. Grammar

Task 7. Choose the right variant. (8 points)

1. I am glad **to have finished** this important experiment.
   a) закончить b) что закончил c) закончил
2. I was the first **to apply** this method.
   a) применить b) применил c) что применил
3. The information **to be used** is taken from the journal.
   b) использована a) которая будет использована c) которую используют
4. They were happy **to have been sent** to the international conference.
   a) отправиться b) что их отправили c) что отправились
5. **To complete** this experiment he spent much time in the laboratory.
   a) закончить b) для того чтобы закончить c) заканчивать
6. A problem **to be solved** by a digital computer must be expressed in mathematical terms that the computer can work with.
   a) которую решили a) которую решают b) которую нужно решить
7. **To use** atomic energy for peaceful purposes is the task of our scientists.
   a) Чтобы использовать b) использовать c) Для того чтобы использовать
8. The devices **to be used** in this experiment will be very effective.
   a) которые будут использовать b) используемые c) использовали

Task 8. Choose the best translation. (10 points)

1. The professor wanted me to read my paper at the conference.
a) Профессор предложил, чтобы я не читал доклад на конференции, а рассказывал устно.
b) Профессор хотел, чтобы я выступил с докладом на конференции.
c) Профессор хотел прочесть мне свой доклад для конференции.

2. They are said to test the equipment every year.
a) Говорят, что они тестируют это оборудование каждый год.
b) Они говорят, что необходимо проводить испытание на этом оборудовании каждый год.
c) Каждый год оборудование подвергается испытанию с их помощью.

3. They are likely to change the position of this device.
a) Чтобы изменить положение этого прибора, им следует установить подходящий режим.
b) Вероятно, они изменят положение этого прибора.
c) Они полагают, что следует изменить положение этого прибора.

4. They expect this discovery to produce great changes in the field of electronic machines.
a) Ожидают, что это открытие внесет большие изменения в область использования электронных машин.
b) Это открытие, как и ожидалось, внесло огромные изменения в создание электронных машин.
c) Ожидается, что в использовании электронных машин будут большие изменения благодаря этому открытию.

5. The laser beam seems to have almost unlimited industrial possibilities.
a) Казалось, что лазерный луч имеет почти неограниченные возможности применения.
b) Кажется, что лазерный луч имеет почти неограниченные возможности применения в промышленности.
c) Употребление лазера в промышленности почти безгранично.

6. We consider these errors to be of no importance.
a) Важность этих ошибок поставлена под сомнение.
b) Мы считаем, что эти неточности не имеют особого значения.
c) Как мы и предвидели, ошибки играли второстепенную роль.

7. We know a modem to be an electronic device that makes possible the transmission of data from one computer to another.

a) Мы знаем, что модем – это электронное устройство, которое осуществляет передачу данных от одного компьютера другому.
b) Известно, что модем – это такое электронное устройство, которое передает данные одного компьютера другому.
c) Именно модем делает возможным передачу информации от одного компьютера к другому.

8. The computer is expected to save the scientists a lot of time.
a) Работа на компьютере помогает ученым экономить много времени.
b) Ожидают, что компьютер сэкономит у ученых много времени.
c) Ожидают, что много времени будет затрачено этими учеными при работе с компьютером.

9. This device was known to have been designed in that laboratory.
a) Известно, что этот прибор был сконструирован в той лаборатории.
b) Конструирование этого прибора в данной лаборатории стало известно всем.
c) Об этом приборе известно только одно – что он был сделан в этой лаборатории.

10. We assume these operations to be performed by the computer.
a) Эти операции, производимые компьютером, нами одобрены.
b) Мы полагаем, что эти операции будут сделаны с помощью компьютера.
c) Мы взяли на себя ответственность за проведение этих операций с помощью компьютера.

Task 9. Match the sentences containing the infinitive construction with *for* with their sentence equivalents. (4 points)

1. He brought a few articles for us to use the data in our research.
a) The research was based on the articles brought by him.
b) The articles brought by him contained information necessary for us.
c) A few articles were brought for us by him so that we could use the data in our research.

2. Much experimental work is needed for these phenomena to be explained.
a) Experimental work is necessary before making any conclusion about these phenomena.
b) Much experimental work confirms explanation of these phenomena.
c) To explain these phenomena one needs to do much experimental work.

3. It is believed that more time is meant for the programmers to correct their programmes than to write them.

a) Finding the programmers who could correct the programmes took much more time than meant.
b) Many programmers find that more time is spent in correcting their programmes than in writing them.
c) The programmers were sure that correcting programmes was a more time-consuming process than writing them.

4. For the problem to be solved it must be stated clearly.
a) The statement of the problem is an urgent requirement.
b) The explanation of the problem helps you to solve it.
c) It is necessary to state the problem clearly to solve it.

III. CREDIT AND EXAM TESTS

CREDIT TEST (60 points)

Text

TEN INNOVATIONS THAT COULD CHANGE THE WORLD

Since 2001, the MIT Technology Review has released their list of the 10 most important technological innovations that emerged each year. The editors selected each item based on its potential to change the world. Previous years the lists included agricultural drones, ultraprivate smartphones, brain mapping, neuromorphic chips, wireless sensor networks, grid computing, additive manufacturing, smart watches, and mobile 3-D. The 2016 list is just as exciting.

IMMUNE ENGINEERING

Scientists have developed a gene-editing method called TALENs which can make changes to DNA in living cells. These genetically engineered immune cells are saving the lives of cancer patients and could lead to new treatments for HIV and autoimmune diseases like arthritis and multiple sclerosis. Scientists discovered that they could gain control over T cells in a person's blood stream and, by using a virus, could add new DNA instructions to aim them at the type of blood cell that goes awry in leukemia. Scientists are now looking at creating a "universal" supply of T cells made from blood donors but edited to exclude receptor that T cells use to seek out foreign molecules.

PRECISE GENE EDITING IN PLANTS

A new gene-editing method called CRISPR provides a precise way to modify crops to yield more food and more effectively resist drought and disease. Research showed that the plant genomes can be edited without leaving foreign DNA behind, which could avoid existing regulations governing genetically modified organisms. This innovation could increase agricultural productivity to feed the world's growing population.

CONVERSATIONAL INTERFACES

China's leading Internet company *Baidu* has developed powerful speech technology called Deep Speech 2 which makes using a smartphone much easier. Deep Speech 2 learns to associate sounds with words and phrases as it is fed on millions of examples of transcribed speech. It can recognize spoken words with impressive accuracy–researchers found that it can sometimes transcribe Mandarin speech more accurately than a person. This type of technology matters because it can be time-consuming and frustrating to interact with devices by typing, especially in a language like Chinese with thousands of characters.

REUSABLE ROCKETS

Before 2015, expensive rockets were only functional for one flight before burning up. Now they can make an upright landing and be refueled for another trip. If more rockets can land safely and be reused, the cost of spaceflight could be lowered, providing incredible opportunities for more space travel in the future. The first two successful companies at landing a rocket, SpaceX and Blue Origin, bring their rockets down on fold-out legs, a trick that requires onboard software to fire thrusters and manipulate flaps that slow the rockets at precise moments.

ROBOTS THAT TEACH EACH OTHER

Before robots can perform advanced jobs, they need to learn how to recognize and handle common objects. They need access to reams of data on how to grasp and manipulate objects. Typically, these data come from painstaking programming. But this process could become much easier if robots that learn tasks then send that knowledge to the cloud for other robots to access later. Capabilities of robots could accelerate dramatically if each type of machine didn't have to be programmed separately.

DNA APP STORE

Genomes hold information about our health, traits, and relatives. Helix will collect a saliva sample from anyone who buys a DNA app, sequence and analyze the customers' genes, and then digitize the findings so they can be accessed by software developers who want to sell other apps. An online store for information about your genes would make it cheap and easy to learn more about your health risks and predispositions. Keith Stewart of the Mayo Clinic says that most apps that return real medical information would need to include a doctor and potentially receive regulatory agency approval. The U.S. Food and Drug Administration keeps close tabs on gene tests and will decide how much information Helix apps can reveal.

SOLARCITY'S GIGAFACTORY

Built and paid for by the state of New York, a $750 million solar facility in Buffalo will produce one gigawatt of solar capacity per year and make the technology far more attractive to homeowners. SolarCity's factory will begin producing some of the most efficient solar panels available commercially. Solar rooftop panels have become increasingly popular in households due to federal solar subsidies and "net metering" rules that allow homeowners in many states to sell excess power back to the grid at retail prices. The drop in SolarCity's installation costs could make residential solar even more popular.

SLACK

Slack is an intra-office messaging system that can be used on mobile devices and desktops to share files and sort through past conversations. It gives colleagues a centralized place to communicate through instant messages and chat rooms. Unlike e-mail, Slack funnels messages into streams visible to everyone who works together, which can enhance productivity.

TESLA AUTOPILOT

Since 2014, the electric-vehicle maker has been building their cars with ultrasonic sensors, camera, front radar, and digitally controlled brakes for an extra fee. In 2015, Tesla sent a software update to the 60,000 cars built with these features to enable autonomous driving. The car can now manage its speed, steer, change lanes, and park itself. The autopilot can be activated or shut off from a touch screen and can also turn off by pressing the brakes. This could limit the number of car crashes caused by human error every day.

POWER FROM THE AIR

Wireless devices could draw power and communicate through nearby radio signals, such as Wi-Fi. This could eliminate the need for batteries or power cords. Internet devices powered by Wi-Fi and other wireless signals could make small computers and sensors more pervasive. In the future, security cameras, temperature sensors, and smoke alarms might never need to have their batteries changed.

I. Reading

Task 1. Decide if the sentences are true (T) or false (F). (10 points)

1. The editors of the 10 innovation list chose the ones based on their potential to change the world.
2. China's leading Internet company *Baidu* has developed powerful writing technology called Deep Writing 2.
3. A new gene-editing method called CRISPR provides a precise way to modify crops to yield more food and more effectively resist drought and disease.
4. The MIT Technology Review has released the list of 10 most important technological innovations since 2011.
5. The drop in SolarCity's installation costs could make residential solar even more popular.
6. The U.S. Food and Drug Administration keeps distant tabs on gene tests.
7. Helix will collect a blood sample from anyone who buys DNA app, sequence and analyze the customers' genes.
8. Now expensive rockets can make an upright landing and be refueled for another trip.
9. Deep Speech 2 can recognize written words with impressive accuracy.
10. Before robots can perform advanced jobs, they need to learn how to recognize and handle common objects.

Task 2. Make up the questions to which the following statements are the answers. (20 points)

1. Some of the most efficient solar panels available commercially.
2. It can be used on mobile devices and desktops to share files and sort through past conversations.
3. Unlike e-mail, Slack funnels messages into streams visible to everyone who works together.
4. It can enhance productivity.
5. Since 2014.
6. It has developed powerful speech technology called Deep Speech 2.
7. They need to learn how to recognize and handle common things.
8. The need for batteries or power cords.
9. Space X and Blue Origin.
10. About our health, traits, and relatives.

II. Vocabulary

Task 3. Find the words in the text with a similar meaning. (10 points)

1. microorganism
2. to change
6. progressive
7. to advance

3. medication
4. precision
5. booster
8. householder
9. payment
10. to provide

III. Grammar

Task 4. Define if the tense forms are wrong or right, and correct the wrong ones. (20 points)

1. Since 2001, the MIT Technology **is releasing** their list of the 10 most important technological innovations.
2. These innovations **were emerging** each year.
3. Up to now scientists **have developed** a gene-editing method called TALENs which can make changes to DNA in living cells.
4. Previous years the lists **have included** agricultural drones, brain mapping, wireless sensor networks, mobile 3D and other innovations.
5. The TALENs **are saving** the lives of cancer patients.
6. Scientists **were** now **looking** at creating a "universal" supply of T cells made from blood donors.
7. This type of technology **is mattering** because it may be time-consuming to interact with devices by typing.
8. Before 2015, expensive rockets **were** only functional for one flight before burning up.
9. Genomes **are held** information about our health, traits, and relatives.
10. In 2015, Tesla **is sending** a software update to the 60.000 cars built with these features to enable autonomous driving.

EXAM TEST (60 points)

I. Written translation (30 points)

Translate the following text paying attention to participle, gerund and infinitive forms.

3D OPTICAL MEMORY

Holographic memories store information in special types of crystals. The information is **written** in and **read** out **using** laser beams. The information of such memories is enormous, and large quantities of information can be **written** and **read** in parallel **using** one flash of a laser beam.

The most promising way **to write** the information into the crystals is to use the photorefractive effect. This effect is the change in the refractive index of the crystal by **absorbing** the light in it. Experimental holographic memories **using** the photorefractive effect have been **built**, but the information **stored** in the memory is usually **erased** when the memory is **read**.

Professor Yacoby proposed a new mechanism for a photorefractive effect which has been experimentally **demonstrated** and **investigated** by the *Agranat Commission*. The new photorefractive effect is as efficient as the classical effect and holograms **written** into the crystal are not **erased** when the information is **read**. Thus, this new effect has **opened** a new way **to use** holographic computer memories.

II. Grammar (30 points)

Task 2. Point out what parts of speech the words in bold are:

a) Participle I b) Participle II c) Gerund d) Infinitive
e) Absolute Participle Construction f) Complex Subject g) Complex Object

A **computer** is known **to be** (1) a very specific kind of counting machine. We know **it to do** (2) arithmetic problems faster than any person alive. By means of electric circuit it can find the answer to a very difficult and complicated problem in a few seconds.

A computer can remember information **given** (3) to it. It stores the information in its memory until it is **needed** (4). When you are ready to solve a problem, you can get the computer to sort and use only the proper ones. It works the problem with lightning speed. Then it checks its work to make sure there are no mistakes.

Traditionally, a **computer** was considered **to be** (5) a large machine with many buttons and flashing lights that took up a whole room. But today computers are

becoming (6) smaller and smaller and are even **being put** (7) inside other devices. In spite of these small devices **being called** (8) microcomputers and minicomputers they are still true computers.

There are several advantages in **making** (9) computers as small as possible, **one of them being weight** (10). But weight is not the only factor**, the others being higher reliability, higher speed and requiring less power to run the computer** (11)**.**

The computer industry **being one** (12) of the largest in western countries and especially in the USA is widely known. It includes companies that manufacture, sell and lease computers, as well as companies that supply products and services for people **working** (13) with computers.

A computer cannot think. We know **a human operator to put data** (14) into the computer. The operator writes instructions which determine the mathematical operations on information, **a computer solving mathematical problems very rapidly** (15).

Traditionally, **the computer** in business is known **to be used** (16) for processing data. **Having taken** (17) on many new kinds of jobs a computer has **become** (18) more **involved** (19) **in** business operations as the essential tool in **making** (20) decisions at the highest administrative level.

APPENDIX

KEYS TO SELF-STUDY TESTS

SELF-STUDY TEST 1

I. Vocabulary

c) Text A

MASTER OF ENGINEERING

Task 1

1.h
2.g
3.d
4.j
5.a
6.i
7.c
8.b
9.e
10.f

Task 2

1.a
2.b
3.c
4.b
5.a
6.c
7.b
8.a

d) Text B

MASTER OF INTERNET ENGINEERING

Task 3

1.e
2.h
3.a
4.g
5.b
6.d
7.i
8.c
9.j
10.f

Task 4

1.b
2.b
3.c
4.a
5.b
6.c
7.a

II. Grammar

Present Simple and Present Progressive Tenses

Task 5

1. do … speak
2. are … looking
3. do … come
4. am working
5. does… do
6. am having
7. is talking
8. are … reading
9. do … go
10. does … mean
11. does … arrive
12. Are … listening
13. am preparing
14. are waiting
15. are … thinking

Conditionals I

Task 6

1. come, will ask
2. don't pass
3. come, won't be
4. will get, attend
5. will happen, misses

Present Perfect and Past Simple Tenses

Task 7

1. bought
2. has left
3. phoned, told
4. didn't like
5. have done

SELF-STUDY TEST 2

I. Vocabulary

a) Text A

STEVE JOBS

Task 1

1.e 6. j
2.g 7. f
3.i 8. a
4.c 9. d
5.h 10.b

Task 2

1. leading 6. struggle
2. convinced 7. board
3. bankruptcy 8. go into business
4. success 9. share
5. circuit boards 10. Chief Executive Officer

b) Text B

THE FIVE "INVENTIONS" OF STEVE JOBS

Task 3

1.f 6.h
2.g 7.e
3.i 8.b
4.c 9.j
5.a 10.d

Task 4

1. competitors
2. eliminate
3. an announcement
4. executive
5. patents
6. originated
7. launch
8. capability

II. Grammar

Tenses of the Active Voice

Task 5

1. b
2. a
3. b
4. b
5. c

Task 6

1. will be writing
2. was going
3. am doing
4. was working, came
5. will be meeting

Task 7

1. have done
2. had … started
3. have … received
4. will have finished
5. will have written

Passive Voice

Task 8

1. am … asked
2. will be made
3. was presented
4. are being examined
5. was being sent
6. has been opened
7. will have been received

SELF-STUDY TEST 3

I. Vocabulary

a) Text A

WHAT ARE THE DIFFERENT TYPES OF LAPTOP GADGETS?

Task 1

1.d 6.h
2.g 7.i
3.j 8.f
4.b 9.c
5.a 10.e

Task 2

1.b 5.c
2.a 6.a
3.c 7.b
4.a 8.c

b) Text B

THE FIVE LAPTOP GADGETS

Task 3

1. flash drive 6. charger
2. split 7. access
3. preserve 8. lithium
4. flammable 9. rewritable
5. ergonomic 10. dock

Task 4

1. thumb drive
2. short
3. dock
4. restarted
5. docking station
6. rechargeable
7. plugs into
8. FireWire

II. Grammar

Functions of the verbs *to be* and *to have (got)*

Task 5

1. b
2. b
3. a
4. c
5. a
6. c
7. b
8. c

Multifunctional words o*ne (ones), that (those) it*

Task 6

1. b
2. b
3. a
4. b

Task 7

1. c
2. d
3. a
4. b
5. c
6. b

Task 8

1. a
2. b
3. e
4. d
5. c
6. d

SELF-STUDY TEST 4

I. Vocabulary

a) Text A

THE INTERNET INVENTORS

Task 1

1. network
2. destination
3. foremost
4. router
5. packet
6. think-tank
7. prototype
8. relevant

Task 2

1. network
2. prototype
3. foremost
4. Web
5. proposed
6. packet
7. relevant
8. message

b) Text B

WEB BROWSERS

Task 3

1. download
2. compatible
3. access
4. features
5. bookmarks
6. announced
7. click
8. attached
9. browser
10. update

Task 4

1. b
2. b
3. a
4. b
5. c
6. a
7. b
8. c

Task 5

1. b
2. a
3. c
4. b
5. c
6. b
7. c
8. a

II. Grammar

Participle I and Participle II

Task 6

1. Receiving
2. providing
3. sent
4. Using

Task 7

1. c
2. b
3. b
4. a
5. c

Absolute Participle Constructions

Task 8

1. a
2. c
3. b
4. c
5. a
6. b
7. a
8. c

SELF-STUDY TEST 5

I. Vocabulary

a) Text A

INFORMATION SECURITY

Task 1

1.j	6.a
2.h	7.d
3.g	8.i
4.e	9.b
5.c	10.f

Task 2

1. spyware	6. decrypt
2. unauthorized	7. security
3. encrypt	8. antivirus
4. firewall	9. monitoring
5. destroyed	10. encryption

Task 3

1.h	5.b
2.d	6.c
3.f	7.a
4.e	8.g

b) Text B

TYPES OF COMPUTER ATTACKS

Task 4

1.data	6.hacker
2.external	7.virus
3.utilize	8.delete
4.protect	9.install
5.attachment	10.password

Task 5

1. utilize	6. get access
2. A hacker	7. delete
3. attachment	8. were infected
4. victim	9. valid
5. virus	10. destroyed

II. Grammar

Gerund and Participle I

Task 6

1. gerund / participle I
2. participle I / gerund
3. gerund / participle I
4. participle I / gerund
5. gerund / participle I
6. participle I / gerund
7. gerund / participle I
8. gerund / participle I

Gerund Construction

Task 7

1. c
2. c
3. a
4. a
5. b
6. b

SELF-STUDY TEST 6

I. Vocabulary

a) Text A

COMPUTER AIDED DESIGN – CAD

Task 1

1. e
2. j
3. b
4. f
5. i
6. h
7. a
8. d
9. c
10. g

Task 2

1. hardware
2. database
3. peripherals
4. computer-aided design
5. implementation
6. forerunner
7. to aid
8. vendor

b) Text B

ADVANTAGES AND DISADVANTAGES OF CAD

Task 1

1. production
2. require
3. domain
4. design
5. tool
6. accelerate
7. consumer
8. supplier
9. contributed
10. improve

Task 4

1. b
2. a
3. c
4. b
5. a
6. a
7. c

II. Grammar

Infinitive forms

Task 5

1. to be interrupted
2. To make
3. to give
4. to have been awarded
5. to have done
6. To transmit

Infinitive Constructions

Complex Object

Task 6

1. this article to be published
2. the letter to come
3. keys to be
4. your father to be
5. you to do

Complex Subject

Task 7

1. are supposed to graduate
2. are known to be published
3. is said to have been completed
4. is considered to be
5. is reported to have reached

Task 8

1. seem to have read
2. appear to be
3. is likely to see
4. happened to overhear
5. turned out to be

Infinitive Construction with *for*

Task 9

1. b
2. c
3. c
4. a

Рекомендуемая литература

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